



European
Commission

ISSN 2315-2540

Employment and Social Developments in Europe

Young Europeans: employment
and social challenges ahead



2022

Annual review

Employment and Social Developments in Europe 2022

European Commission

Directorate-General for Employment, Social Affairs and Inclusion

Directorate F

Manuscript completed in June 2022

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The report has benefited from comments and suggestions received from many colleagues in various Directorate-Generals of the European Commission, including Alfonso Arpaia and Anais Gradinger. It also benefited from conscientious editing by Gráinne Murphy, as well as from diligent clerical support from Evita Grzibovska.

For the data presented in this report, the cut-off date for the extraction was 8 June 2022 unless otherwise specified. Calculations on microdata collected through the EU Labour Force Survey (LFS) were made using the User Database (UDB) that Eurostat made available on 11/11/2021. Calculations on microdata collected through the EU Survey on Income and Living Condition (SILC) were made using the User Database (UDB) that Eurostat made available on 31/01/2022.

Comments on the publication are welcome and should be sent to the email address EMPL-F4-UNIT@ec.europa.eu

Manuscript completed in June 2022



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Luxembourg: Publications Office of the European Union, 2022

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Print ISBN 978-92-76-54212-4 ISSN 1977-270X doi: 10.2767/094828 KE-BD-22-001-EN-C

PDF ISBN 978-92-76-53679-6 ISSN 2315-2540 doi: 10.2767/229768 KE-BD-22-001-EN-N

Foreword



The exceptional response of solidarity to the COVID-19 pandemic has helped to mitigate some of the socio-economic impact of the crisis, keeping income inequality and poverty in the EU at bay. This year's edition of the Employment and Social Developments in Europe (ESDE) confirms the tentative findings of the previous one in this respect and provides further insights on the recovery. Nevertheless, during the last two years, some groups - such as young people - were more affected than others. These inequalities risk to be reinforced by the consequences of Russia's war of aggression against Ukraine, particularly given the recent price spikes.

In this context, and in the spirit of the European Year of Youth, the 2022 ESDE review provides further evidence of the challenges and opportunities young Europeans from different socio-economic backgrounds face in the aftermath of the COVID-19 pandemic and in light of the digital and green transitions:

- First, school closures during the pandemic caused learning loss, particularly among disadvantaged students. If not appropriately addressed, this will likely lead to increases in education inequalities and may negatively affect young people's prospects of finding good jobs in the future.
- Second, young people who have already finished their education often face difficulties in finding their first job, which has potentially negative effects on their career prospects. This has also led to worsening mental well-being among young people.
- Third, young people already in the labour market were strongly affected by the reduction of working hours or even job losses during the pandemic, notably due to their higher share of fixed-term contracts.
- Increasing housing prices over the last 6 years raise concern regarding the prospects of young Europeans to become economically independent or to be able to buy their own home.

What the report also shows is that many young people are highly educated, digitally skilled and have an awareness of ecological issues which can help them seize opportunities of the recovery and of the digital and green transitions.

It is therefore crucial that we take the necessary steps at all levels to implement solutions that create a thriving environment for young Europeans and actively involve them in shaping the political agenda, as seen in the framework of the Conference on the Future of Europe. We know through the Conference proposals and debates that social issues are a strong concern of European citizens. Social and employment policies adapted to the individual needs can help combat youth unemployment and inactivity. They support the younger generation when starting their first job after education, when leaving their parental home, and when entering in partnerships and starting family life.

The EU is working with Member States on many levels to support young people. The reinforced Youth Guarantee for instance supports young people that have difficulties in finding employment or training that would suit their needs. The new ALMA programme (Aim, Learn, Master, Achieve) will give young people even further away from the labour market an opportunity to participate in a work-related training experience in another Member State, receive tailored mentoring and training, and finally find their way back to education or employment back home.

We also need to ensure that young people have access to adequate social protection. A high-level expert group is currently looking into the future of the welfare state, its financing and interconnections. Its conclusions will help to ensure fairness across generations, gender, age and income groups so that we can adapt our social protection systems to the new realities of the twin transitions and geopolitical tensions.

Just like previous editions, this ESDE review provides crucial analytical input to shape our policies in support of an inclusive COVID-19 recovery, to increase our resilience and make the green and digital twin transitions socially fair. I invite you to discuss the evidence presented in this report to create jointly a strong social Europe and deliver on our collective commitment to implement the European Pillar of Social Rights Action Plan.

Nicolas Schmit

Commissioner, Jobs and Social Rights

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Executive Summary

YOUNG EUROPEANS: EMPLOYMENT AND SOCIAL CHALLENGES AHEAD

In 2021, the European economy rebounded strongly from the severe contraction triggered by the outbreak of the COVID-19 pandemic, but that recovery followed an uneven pattern. Some Member States that experienced the biggest drops in 2020 (Italy, France, Greece, Croatia) recorded strong Gross Domestic Product (GDP) growth, while Member States with robust pre-crisis growth resumed those growth trends (Estonia, Hungary). Others showed more moderate growth, such as Germany, whose GDP expanded by 2.9% (after a fall of 4.6% in 2020).

In 2021, the EU economy and the labour market recovered from the COVID-19 pandemic. This rebound was slower for some groups, such as young people, with the Russian aggression in Ukraine and rising prices posing additional challenges for economic growth and an inclusive recovery.

Russia's military invasion of Ukraine in early 2022 brought war back to the European continent, causing many deaths and precipitating a humanitarian crisis. Around six million people, most of them women and children, have fled from Ukraine to the EU, constituting the largest single movement of displaced persons in Europe since the Balkan wars three decades ago.

Having barely recovered from the impact of the COVID-19 pandemic, the EU economy now faces new disruptions caused by the conflict in Ukraine. These developments are impacting the European economy and citizens through instability of trade flows and export market losses, supply-chain bottlenecks, and increased costs of energy and other commodities. Accordingly, the economic outlook has been revised downwards and real GDP growth in both the EU and the euro area is now predicted at 2.7% in 2022 and 2.3% in 2023, with considerable heterogeneity across the Member States. Sharply rising inflation (at the highest levels recorded since the introduction of the euro) risks a deterioration in the social situation in the EU, with the purchasing power of low-income and middle-income households expected to be particularly affected.

1.4 pp increase in the EU employment rate in 2021, to 73.1%

The labour market recovered in 2021, with a pick-up in economic activity and the phasing-out of containment measures in the wake of successive

COVID-19 waves. Employment increased by 1.2% and returned to pre-crisis levels towards the end of the year. Despite the slowdown in economic activity, the medium and longer-term outlook for the European labour market is anticipated to continue to improve, with employment expected to increase by 1.2% in 2022 and by 0.7% in 2023.

Labour market outcomes varied by age group, with young Europeans facing the largest disruptions to their labour market prospects. Despite improvements towards the end of the year, youth unemployment in 2021

remained 1 percentage point (pp) higher than pre-crisis levels (in 2019), compared to a 0.2 pp difference for total unemployment. When in work, young people were more often employed on temporary contracts (45.9%, compared to 10.2% for the general population).

Youth employment has yet to return to pre-pandemic levels. The employment rate among 15-24-year-olds declined by an average of -2.1 pp in 2020 (to 31.4%) compared to 2019, a loss that was only partially compensated by a rise of 1.3 pp in 2021. Young people were more concentrated in non-critical jobs that did not have to be performed during the pandemic, even though the ability to telework and the need for social interaction in the job was similar across age groups.

The EU-level at-risk-of-poverty (AROP) rate was broadly stable in 2021, according to initial simulations

Poverty and inequality seem to have remained fairly stable despite the shock of the pandemic, an outcome likely linked to exceptional public intervention. Simulations for 2021 indicate that inequality and risk of poverty remained broadly steady, but data limitations mean that these results should

be interpreted with caution. The risk of poverty and social exclusion in 2020 (most recent official information available) rose slightly. At EU level, the number of people in severe material and social deprivation increased to 28.85 million in 2020 (compared to 28.03 million in 2019), with considerable variation across Member States. Government intervention helped to mitigate these social impacts, especially early in the pandemic.

The social impacts of the crisis also depended on age, with young people experiencing a slight deterioration in living conditions. Minors and the working age population were more affected by severe material and social deprivation (+0.7 pp and +0.2 pp in 2020, most recent official data available), while this risk fell for the over-65s (-0.9 pp). These groups also faced a higher risk of poverty in most Member States in 2020.

In light of the particular challenges faced by young people due to the COVID-19 pandemic, and in the spirit of the European Year of Youth, this year's Employment and Social Developments in Europe (ESDE) focuses on people under 30 years of age. It reviews the difficulties and opportunities faced by young Europeans from different socioeconomic backgrounds in the aftermath of the COVID-19 crisis and in light of the digital and green transitions. Chapter 1 presents the main economic and social developments in the EU, with a focus on outcomes for young people. Chapter 2 asks *who* young people are and what they care about: it looks at key transitions defining the period of youth (e.g. entrance to the labour market) and reports young people's chief concerns and priorities for the future. Chapter 3 presents an analysis of young people's labour market outcomes, with a particular focus on how they cope with the challenges associated with transforming labour markets in Europe. Chapter 4 focuses on the living conditions of young people, their income trends and volatility, and the gender pay gap. Chapter 5 addresses the role of education from the very early years through to the transition into adulthood.

Today's 61-75-year-olds entered the labour market almost two years earlier than today's 31-45-year-olds

The key transitions defining youth, such as exiting education and finding their first job, are changing and taking longer. The average age at which people obtain their highest level of education has increased across generations: at EU level, the cohort of people now aged

Key transitions characterising youth, such as exiting education, finding their first job, and moving out of the parental home, are being delayed across generations.

61-75 left education more than one year earlier than their younger counterparts (today's 31-45-year-olds) and entered the labour market almost two years earlier.

Young people reported facing particularly difficult labour market and financial conditions during the pandemic, and their mental health came under strain. They were disproportionately affected by job loss and reductions in working hours, with some reporting difficulties in meeting their usual expenses, such as bills and rent. This situation created considerable worry among young people about their future prospects, particularly in relation to finding or maintaining adequate housing in the longer term (61% stated this concern in the context of the next 10 years) and ensuring their financial security in old age (70%). They also reported worsening mental health, with 17% of respondents in the 18-29 age group self-assessed as being subject to anxiety or depression, compared to 11% in the 30-34 age cohort.

Nevertheless, surveys show that younger respondents show higher levels of optimism and trust in government compared to other age groups. In spring 2021, less than half (40%) of young people reported feeling optimistic about their future, but this share was still far higher than that of people aged 30+. A similar pattern was evident in their relationship with institutions, with young people reporting higher levels of trust in their national governments and especially in the EU.

Poverty and inequality are top concerns for young people, followed by climate change and environment

Top priorities for young Europeans are the need to address poverty and social inequality, as well as climate change and the environment.

More than 40% identify tackling poverty and social inequality as their top political concerns, closely followed by combating climate change and protecting the environment. Risks associated with new technologies are not as high on their list of priorities, although they worry about the impact of the digital transition on jobs.

Employment and unemployment of young people react twice as strongly to GDP fluctuations compared to those of prime-age individuals

Entering and staying in employment is a challenge for young people, and their often precarious labour market position makes them especially vulnerable during recessions. Young people typically bear a disproportionate share of cyclical variations in employment.

During economic downturns, they are more likely to be laid off and less likely to be hired. Conversely, when the economy is booming, the demand for young workers generally increases more than for older generations. Empirical evidence suggests that employment and unemployment among young people both react about twice as strongly (80-140%) to GDP fluctuations as the corresponding labour market indicator for prime-age individuals.

Recessions or economic crises have particularly long-lasting adverse impacts on the labour market prospects of young people. During recessions, young people often experience difficulties in finding a job, which disrupts their early careers and can have long-term ('scarring') effects on their labour market prospects (e.g. employment rate, activity rate, unemployment rate, part-time employment, share of temporary contracts). These adverse effects are clearly visible for a period of at least five years after a recession.

Young people are often in a vulnerable labour market position, particularly during recessions, which can have long term scarring effects on their prospects. Long and mild recessions are more damaging than short and deep ones.

The length and severity of a recession is a crucial determinant of the extent of the scarring effects on young people. Mild and long recessions have a considerably more negative impact on young people compared to deep and short recessions. For example, the unemployment rate of young people

relative to the prime-age group peaks at 4.8 pp three years after mild and long recessions, and 3.8 pp the year following deep and short recessions. To date, the path of economic activity during and after the COVID-19 crisis is closest to the deep and short recession scenario. This suggests that if the EU economy continues to expand in the coming years, the gap between young people and prime-age individuals can be expected to narrow and eventually disappear in the medium term. However, should the EU economy plunge back into recession, labour market conditions for young people may remain subdued for a far longer period.

Socioeconomic disadvantages may prevent young people from entering the job market, ending up neither in employment nor in education and training (NEET). The probability of being NEET is estimated to be about 19 pp

Young people with highly educated parents are 10 pp less likely to be NEETs

lower for those in secondary education, and 28 pp lower for those in tertiary education, compared to less educated people. However, the impact of education is significantly reduced once parental and socioeconomic background is taken into account, with the strongest effect evident in southern Europe, while parental background plays a less important role in Nordic countries.

Young people's long-term labour market prospects depend not only on their ability to participate in the current job market but also on whether their skills can meet future market needs. The evolution of the digital skills intensity index reveals a steady increase in the use of digital skills at work in the EU, with the COVID-19 pandemic forcing businesses to further accelerate their digital transformation efforts. Young people seem relatively well-prepared for the increasing need for digital skills, although there are considerable differences between Member States. In 2019, young workers reached 120% of the EU digital intensity average in Estonia, but less than 90% in Romania, Greece and Cyprus. Young men typically work in more digitally intensive jobs than young women, with digital work intensity increasing strongly with educational achievement. This gender and educational divide is closely linked to the highly skilled nature of work and to male dominance in some particularly digitally intensive science, technology, engineering and mathematics (STEM) occupations. Young people could profit from job creation due to the green transition, particularly in sectors such as renewable energy, energy efficiency, sustainable transport water supply, sewerage and waste.

Prior to the COVID-19 pandemic, young people experienced significantly higher labour income volatility than other groups of workers. This likely reflected both growing labour market instability (notably due to the larger share of precarious employment among young workers) and increasing transitions out of employment and into training and education. Households headed by young people experienced higher rates of episodic poverty and chronic poverty in market income before tax benefit intervention, although with marked differences across EU countries. Ensuring smooth transitions and predictable income flows becomes particularly relevant in light of the increasing frequency of job-to-job and in/out of employment transitions. When exposed to economic distress, young people tend to rely more on family and friends as their coping strategy, and their options to draw on existing savings are more limited.

Higher income inequality and volatility contributed to a decrease in homeownership rates among young people. Housing affordability for young people has been worsened by increasing house prices and the tighter mortgage conditions introduced after the 2008-2009 financial crisis. Consequently, young people possess lower levels of accumulated wealth – of which housing is typically the largest asset – compared to older generations. In addition, wealth has become more unequally distributed among young adults in recent years.

Even during economic upturns, getting and keeping a job can be challenging for some young people: individuals with educational and socioeconomic disadvantages are at higher risk of becoming NEETs.

Young people experience higher income volatility notably due to their larger share of precarious contracts. This can lead to episodic or chronic poverty in market income, which is exacerbated by young people's limited savings and lower homeownership rates.

While incomes of young people are more volatile, gender inequalities in pay emerge even in the earliest stages of people's careers.

Women face a 7.2% unadjusted gender pay gap at the start of their professional careers in the EU labour market, in spite of their higher education levels, setting the stage for larger pay inequalities observed later in life (the pay gap for all workers is around twice as high). Differences in worker characteristics, such as educational achievement, job experience or type of contract, explain only a small share of pay differences between young women and men, although the situation varies between countries. The low proportion of explained pay gap hides certain differences that lead to sizeable gender disparities in pay: young women's higher educational achievement has a positive impact on wages, but, overall, young men tend to earn more because they work in higher-paid economic activities.

Women face a 7.2% pay gap at the start of their career, which grows substantially with age

Other circumstances outside individual control, particularly parental background, lead to unequal outcomes in labour and disposable income.

The contribution of parental background amounts to around three-quarters of the overall inequality of opportunity. Between 2005 and 2019, the inequality of opportunity determined by parental background, gender and migration status varied across the Member States, especially in the immediate aftermath of the financial crisis, although remaining fairly stable afterwards. In general, low inequality of opportunity countries tend to have relatively stable indicators over time, while countries where external factors determine larger income inequalities show a more volatile pattern.

Tax benefit systems supplement young people's market income to a significant extent.

Before the COVID-19 pandemic, the share of benefits in pre-tax income (plus pensions) was twice as high for the young cohort as for the overall population. The impact of benefits was also comparatively stronger for young people in 2020. On average, temporary dips in labour income for young workers during the pandemic were successfully cushioned by interventions such as short-time work schemes or within-household income support.

As regards education, the widespread closure of early childhood education and care (ECEC) facilities and schools at the outset of the COVID-19 pandemic impacted children and young people, resulting in learning loss in some Member States.

During the 2019/2020 school year, schools across the EU were fully open for only one-third of their regular instruction periods. School closures subsequently became less frequent, but continued to affect large shares of pupils and students. Traditional learning processes were replaced with distance and hybrid learning, which appear less effective than face-to-face teaching. The magnitude and persistence of the learning loss among pupils and students still needs to be assessed, as preliminary results vary considerably by country, subject and student age. The variation reflects differences in the extent of school closures, alternative forms of distance and hybrid learning adopted, digital readiness to implement online learning, measures to mitigate learning loss, and methodologies applied. Early studies suggest that students in some Member States lost a substantial part of a year's learning in certain subjects (e.g. Belgium in mathematics and Dutch), while in others, the learning loss amounted to several weeks (e.g. the Netherlands) or almost no loss at all (e.g. Sweden).

School closures during the COVID-19 pandemic caused some learning loss, particularly among disadvantaged children. This could exacerbate current inequalities in education and negatively affect future labour market prospects.

Learning loss tends to disproportionately affect children experiencing various socioeconomic disadvantages.

Even though the effect of these closures on learning loss is still unclear, empirical research at national level suggests that where losses occurred, these typically exacerbated educational inequalities. Students with parental support and a good learning environment at home were less affected, for example. This means that certain groups of children were particularly impacted, such as children living at risk of poverty or

social exclusion, children in single-parent households, children whose parents have lower educational attainment, or children with migrant backgrounds or special educational needs. The impacts of the pandemic may thus have exacerbated inequalities in educational outcomes.

The extent of the long-term consequences of learning loss is not yet clear but the empirical literature points to a strong positive impact of education on future employment opportunities, earnings and well-being.

Education in childhood and adolescence is a key enabler and is crucial to active participation in society and in the labour market. Educational and labour market prospects – as well as broader interests and aspirations – begin to be shaped from an early age. More broadly, education is a key determinant of economic growth, as it underpins labour productivity and affects the supply of relevant skills for the labour market.

Overall, the positive impact of education on children’s future labour market outcomes starts from the earliest years, but those who could profit most participate the least. Attending ECEC is associated with improved cognitive skills, school-readiness and later academic achievement, and,

Children at risk of poverty and social exclusion are 6-11% less likely to participate in ECEC

by extension, future employment prospects. These positive effects are stronger among children from socioeconomically disadvantaged backgrounds, suggesting that ECEC is a key factor in reducing inequality of opportunity. Unfortunately, children from those backgrounds are less likely to

participate in ECEC, particularly children under three years of age who are at risk of poverty or social exclusion, whose parents do not hold tertiary qualifications, and who live in large families. Low ECEC participation is often linked to limited availability, affordability and quality of childcare, certain cultural norms and attitudes towards childcare, and lack of work-life support for parents. In this context, implementation of the European Child Guarantee adopted by the Council of the European Union in June 2021 will play an important role.

The European Year of Youth is an occasion to raise awareness of the challenges, preoccupations and opportunities for young Europeans, giving them an active role in shaping post-COVID-19 recovery and the green and digital transitions to create a sustainable future for all. Under the European Pillar of Social Rights, a number of initiatives have been proposed to support young people to gain work experience and develop the right set of skills for the changing world of work. These include the Reinforced Youth Guarantee and the new flagship ‘Aim, Master, Learn, Achieve’ (ALMA) initiative, which specifically aims to provide first work experiences abroad for disadvantaged young NEETs, as well as the ‘Youth FIRST’ flagship project, which provides technical support to improve services offered to children and young people. The European Commission also intends to review the Council Recommendation on the Quality Framework for Traineeships, in order to improve their quality and ensure that they provide a successful pathway to the labour market.

Policy intervention can help to reduce the influence of factors such as socioeconomic background on young people’s opportunities and prospects.

Alongside policy action at government level, social partners play a fundamental role in supporting companies and workers, including young workers, in post-COVID-19 recovery. At EU and national level, they have developed dedicated campaigns, strategies and tools to support the integration of young people into the workplace. Sectoral social partners’ activities aim to promote their sectors and anticipate labour market needs, which is particularly relevant in view of the expected labour shortages. By adapting modes of organisation and communication – through the use of social media, for example – trade unions can increase their outreach to potential members, especially young workers. These activities are crucial to reverse the decreasing trend in collective bargaining.

All of these initiatives contribute to the three headline Porto targets on employment, training and poverty, and are underpinned by significant funding at EU level. Cohesion Policy funds, such as the European Social Fund (ESF+), and the Recovery and Resilience Facility (RRF) will support large-scale investments and reforms implemented by Member States in support of COVID-19 recovery and resilience, including enhanced access for young people to education, employment, health, nutrition, jobs and housing.

Main employment and social developments in the recovery

1. INTRODUCTION ⁽¹⁾

The Russian aggression in Ukraine in February 2022 has caused death, destruction and a humanitarian crisis in the country. It has also had an immediate impact on the European Union (EU), as millions of Ukrainians fled to the EU and other neighbouring countries, where they were welcomed and provided with humanitarian aid. Shortly after the start of the invasion, the EU activated the Temporary Protection Directive, which grants asylum to refugees and enables immediate access to the labour market and to the education system.

The European economy entered 2022 in a weaker position than expected, having just recovered from the COVID-19 crisis in 2021. That poorer performance was the result of supply disruptions and sharply rising energy, oil and food prices, which are expected to further deteriorate due to the war in Ukraine. EU GDP is forecasted to grow by 2.7% in 2022, which is significantly less than earlier predictions and inflation is expected to reach the highest levels ever recorded since the introduction of the euro in 1999.

In 2021, the European economy rebounded strongly from the most severe contraction ever recorded as a consequence of the COVID-19 crisis. However, the recovery was uneven among the Member States. Those who experienced the biggest drops in 2020 recorded strong growth in 2021, namely Croatia (+10.2%), Greece (+8.3%), France (+6.8%) and Italy (+6.6%), while those with robust pre-crisis growth

resumed their upward trends, e.g. Estonia (+8.3%), and Hungary (7.1%). Others showed more moderate growth, in particular Germany, at 2.9% (after a fall of 4.6% in 2020).

The economic growth had a positive impact on labour markets: employment recovered gradually having contracted less severely than general economic activity in 2020. The implementation of job retention measures contributed significantly to the resilience of the labour market and allowed for a swift rebound in working hours when economic activity resumed. However, young people were noticeably more affected than other population groups, as they tended to work in sectors that were hit particularly hard by the pandemic and were often employed through less stable contracts, making their dismissal easier in times of crisis. While the recovery in 2021 benefitted young workers, it did not reverse their disadvantaged situation in the labour market. The labour market is expected to perform well again in 2022 with a moderately optimistic outlook, despite the prediction of worsening economic conditions.

The social impacts of the shock triggered by the pandemic were partially mitigated by exceptional government intervention. Although conclusions on poverty indicators can only be drawn when more data become available, an initial analysis does not suggest a large negative impact: the risk of poverty and social exclusion in the EU increased slightly in 2020 while initial simulations for 2021 suggest a broadly stable trend. ⁽²⁾ At EU level, the rate

⁽¹⁾ This chapter was written by Fabio De Franceschi, Stefano Filauo, Gabor Katay, Luca Pappalardo, and Chiara Petrone.

⁽²⁾ The 2020 at-risk-of-poverty-and-social-exclusion (AROPE) indicator has important drawbacks, as it combines indicators of risk of relative poverty and work intensity using 2019 incomes (pre-pandemic) with material deprivation scores from 2020, an

of people living in severe material and social deprivation (SMSD) grew very slightly, reaching 28.85 million people in 2020 compared to 28.03 million in 2019. Preliminary results on inequality point to a stable trend throughout 2020 and 2021. These early (and as yet inconclusive) data seem to indicate that unprecedented government intervention helped to alleviate the worst potential effects of the pandemic. While in 2021 gross disposable household income (GDHI) recovered compared to the previous year (1.7% in Q3, 0.8% in Q4), with a recovery driven mainly by labour market income. The picture was quite different in 2020: in Q2 2020 GDHI plunged by -3.2% compared to the previous year, and the contribution of market income to GDHI plummeted, as it was largely supported by social benefits.

Social outcomes since the crisis differ markedly across age groups, with young people hardest hit. The young and working-age populations faced deteriorating living conditions in a number of EU countries, with a higher risk of poverty and material and social deprivation. On the other hand, the older population experienced generally improved living conditions in many countries, with fewer older people at risk of material and social deprivation in 2020 than previously. In fact, the SMSD rate in the EU fell by -0.9 percentage points (pp) for over-65s, while increasing by respectively 0.2 and 0.7 pp for both the working-age group (18-64) and minors. Similar findings across age groups emerged from Eurostat flash estimates on the risk of poverty.

Savings are likely to be more unequally distributed in the post-COVID-19 phase. During the pandemic, consumption declined most prominently for leisure activities, while the consumption of necessities – which form the bulk of low-income households' budgets – remained constant or even increased. In turn, disposable income trends and the distributional implications now and in the near future are uncertain, as prices are on the rise, especially those related to housing and transport, which weigh heaviest in the consumption baskets of low-income households.

To boost social recovery, the EU put forward its largest-ever stimulus package, worth EUR 2.018 trillion, coupling its long-term budget with NextGeneration EU (EUR 806.9 billion). This is intended to power significant investments to rebuild from the COVID-19 crisis and to underpin a just transition towards a greener and more digitalised Europe. To ensure that Europe will be equally social, green and digital, the European Pillar of Social Rights action plan was adopted in March 2021, setting out more than 60 policy actions on employment and social policy. It also proposed three EU 2030 headline targets: an employment rate of 78% for people aged 20-64; at least 60% of adults participating in training every

exceptional year. The box 1.1 gives more information on the limitations of the various results.

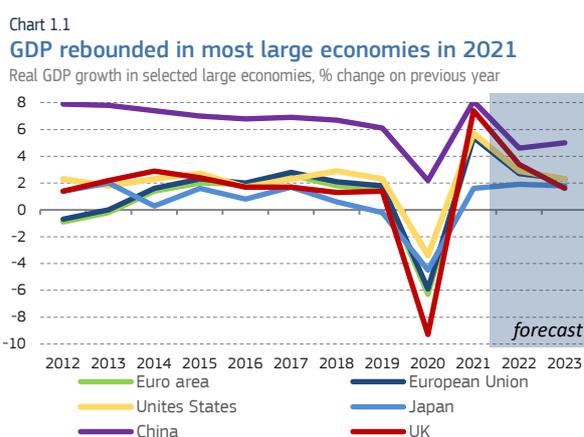
year; and 15 million fewer people living in poverty, including five million children. These targets were welcomed at the Porto Social Summit in May 2021.

This chapter reviews the latest socioeconomic developments in the EU and its Member States, with a focus on young people. It starts by reviewing the macro-economic outlook in the EU as well as main labour market indicators. It then turns to households' financial situations, poverty and inequality outcomes, and the role of social transfers in mitigating income inequality in the EU.

2. MACROECONOMIC ENVIRONMENT

Global Gross Domestic Product (GDP) rebounded in 2021, growing by +6.1%, according to International Monetary Fund (IMF) estimates. That followed a drop of 3.1% in 2020, triggered by the outbreak of the COVID-19 pandemic. However, the global economy entered 2022 in a more fragile position than expected due to further COVID-19 restrictions related to the fast-moving Omicron variant. In addition, rising energy prices and supply chain disruption prompted a surge in inflation, which is now forecast to increase to 5.7% in 2022 in advanced economies and to 8.7% in emerging markets and developing economies.

GDP grew in all advanced economies, including the EU and the euro area (+5.4% in both). The strongest growth was recorded in China (+8.1%), which returned to the high level of growth recorded in the past decade (after a modest increase of 2.2% in 2020), and in the United Kingdom (UK) (+7.4%), which had previously recorded the greatest contraction among advanced economies (-9.4%). The United States (US) grew faster than the EU in 2021 (+5.7%), after a smaller drop in 2020 (-3.4%).



In the EU, GDP rebounded by 5.4% in 2021, after a decline in 2020. This was the strongest growth recorded since the time series began in 1995, and followed the sharpest decline (-5.9%) experienced in 2020. The euro area recorded a similar pattern, with a rise of 5.4% in 2021 and a drop of 6.3% in 2020. Economic activity developed unevenly throughout the

year, with weaker growth in Q1 2021 (0.1% in the EU and -0.1% in the euro area) and Q4 2021 (+0.5% and +0.2%, respectively). A more robust increase (exceeding 2%) was evident in Q2 and Q3 2021, reflecting the containment measures adopted to control successive waves of the COVID-19 pandemic.

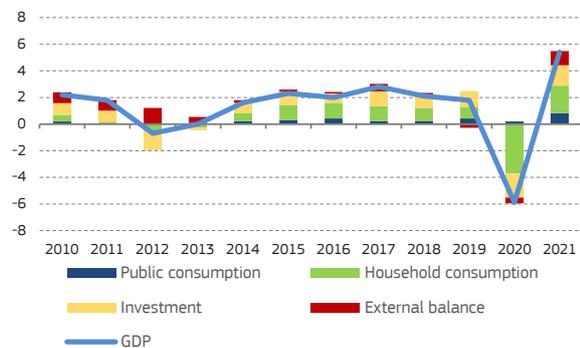
In its Spring 2022 Economic Forecast the European Commission revised the EU outlook downwards as the military aggression on Ukraine is exacerbating factors hindering economic growth that were otherwise expected to fade. Real GDP growth in both the EU and the euro area is now forecast at 2.7% in 2022 and 2.3% in 2023. There is considerable heterogeneity across the Member States, although all are expected to experience positive growth in 2022 and 2023. With this downward revision, the seven Member States that had not reached pre-pandemic level of quarterly output by the end of 2021, including Germany, Italy and Spain, will now reach this mark later than expected.

The rise in EU GDP can primarily be attributed to household consumption, followed by investment and the external sector. In 2021, household consumption accounted for slightly more than one-third of the increase, with investment at about 30%, and the external sector at about 20%. Public consumption made the smallest contribution, at about 15% (Chart 1.2).

Chart 1.2

Main contributors to EU GDP drop were household consumption and investment

Contribution to GDP real growth, EU, % change on previous year



Source: Eurostat, table [nama_10_gdp].

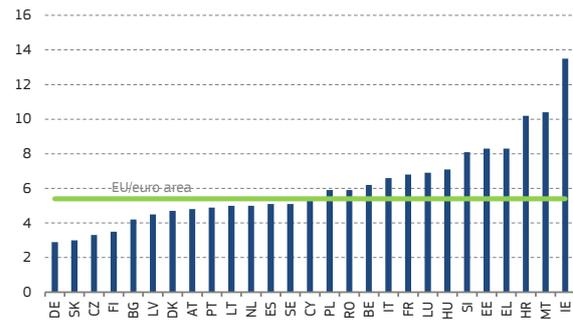
[Click here to download chart.](#)

In 2021, GDP grew in all Member States, albeit with considerable differences. In one-third of countries, the increase reached record levels and exceeded 7.0%, most notably in Malta (+10.4%), Croatia (+10.2%), Greece and Estonia (both +8.3%). On the other hand, growth was significantly lower than the EU average in Germany (+2.9%), Slovakia (+3.0%), Czechia (+3.3%) and Finland (+3.5%). In Ireland, GDP rose by 13.5%, while Modified Domestic Demand increased by 6.5%.⁽³⁾

Chart 1.3

Real GDP grew in all Member States

Real GDP growth in the EU, 2021, % change on previous year



Source: Eurostat, table [nama_10_gdp]

[Click here to download chart.](#)

Irrespective of the positive developments towards full recovery of the European economy in 2021, a number of factors weigh heavily on the EU's economic prospects. Firstly, the Russian invasion of Ukraine not only constitutes a severe humanitarian crisis but also endangers the positive expectations of a full recovery. Secondly, the rapid spread of the COVID-19 Omicron variant in late-2021 and early-2022 shows that despite relatively high vaccination rates, further confinement measures – and their associated economic consequences – may be needed to deal with new variants. This could exacerbate frictions and bottlenecks in global value chains, where shortages of raw materials, equipment and labour already hinder industrial production.

Futures markets suggested that the high levels of gas and oil prices seen in 2021 were likely to persist, even before the unfolding Ukrainian crisis further increased uncertainty. At the same time, prices of agricultural commodities are nearing their 2011 peak, due to higher input costs (fertilisers, energy, crops). These surges are resulting in high consumer inflation, despite some Member States' efforts to cap price adjustments in regulated markets. All of these developments are putting upward pressure on consumer prices.

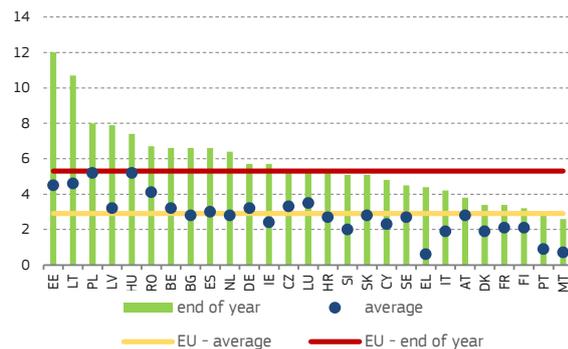
generally considered more meaningful than GDP in the Irish context (see the Irish Central Statistics Office press statement).

⁽³⁾ A broad measure of underlying domestic activity that covers personal, government and investment spending and is

Chart 1.4

Rising inflation in all Member States

Average inflation in 2021 (% change on 2020), and year-end inflation in December 2021 (% change on December 2020)



Source: Eurostat, tables [prc_hicp_aind] and [prc_hicp_manr]

[Click here to download chart.](#)

The 2021 year-end inflation reached a record level of 5.3% in the EU and 5.0% in the euro area, a sharp increase compared to 2020, when it was 0.2% and -0.3%, respectively. Average annual inflation saw its highest values since 2011, reaching 2.9% in the EU and 2.6% in the euro area. Estonia and Lithuania had the strongest increases, with year-end inflation above 10%, while Poland and Latvia saw increases of close to 8%.

This inflationary pressure was significantly higher than expected throughout 2021 and is anticipated to have a negative impact on the outlook for growth and labour market development. It also raises concerns about the social situation, as nominal wage increases are expected to stay significantly below inflation, thus reducing households' purchasing power, and transfers to low-income households to offset high energy prices are likely to compensate only partially the impact of inflation.

3. LABOUR MARKET DEVELOPMENTS

3.1. Employment trends

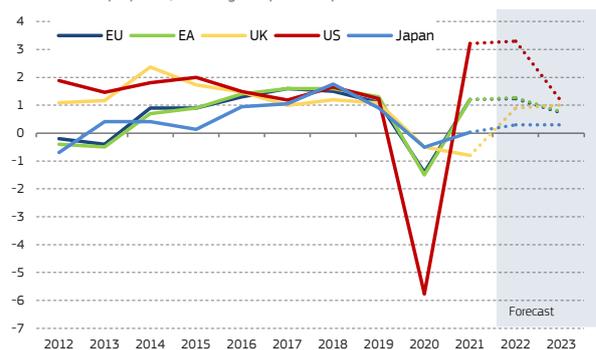
The employment headcount in the EU increased by 1.2% in 2021, following a decrease of 1.4% in 2020. Employment also rose in the euro area (by 1.2%) and in the US (+3.2%), while remaining stable in Japan and declining in the UK (-0.8%). The latest European Commission forecast expects that labour market conditions will further improve in the next two years: it projects an increase of 1.2% in employment for the EU and 1.3% in the euro area in 2022, followed by slower growth in 2023 (at +0.7% and +0.8%, respectively).⁽⁴⁾ Employment is expected to grow strongly in the US in 2022 (+3.3%), and more slowly in the UK (+0.9%) and Japan (+0.3%) (Chart 1.5).

⁽⁴⁾ European Commission Spring 2022 forecast available here.

Chart 1.5

Employment rebounded in the EU, euro area, and the US in 2021

Headcount employment, % change on previous year



Note: Shaded area is European Commission, Spring 2022 forecast

Source: Eurostat [nama_10_pe], European Commission Spring 2022 forecast

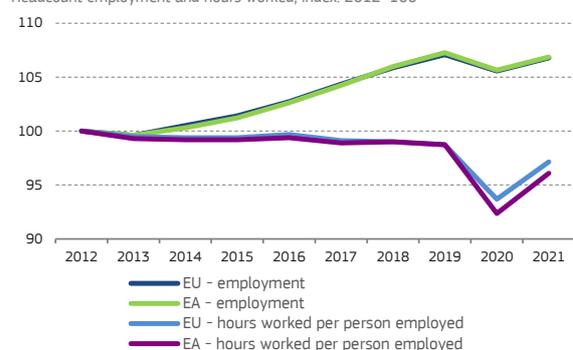
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The number of hours worked rebounded in 2021 after the sharp drop in 2020, due to the use of short-term work schemes to protect jobs during the crisis. In 2021, hours increased by 4.9% in the EU and 5.2% in the euro area, with a sharp upswing in the EU in Q2 (+2.6%) and Q3 (+1.7%) when restrictions were eased in most Member States. These developments followed a fall of 6.5% in the EU and 7.9% in the euro area in 2020. The level of hours worked in 2021 was 1.9% and 3.0%, respectively, lower than in 2019, indicating that the rebound in 2021 was not sufficient to compensate for the entirety of the drop during the crisis. As the number of people in employment decreased by less than the hours worked in 2020 and recovered almost completely in 2021, the number of hours worked per person remained at 1.6% and 2.7%, below the levels of 2019. It is important to note, however, that hours worked per person were already in a declining trend before 2020, at least partly due to the impact of automation⁽⁵⁾ (Chart 1.6).

Chart 1.6

Employment and hours worked rose in 2021

Headcount employment and hours worked, index: 2012=100



Source: Eurostat [nama_10_a10_e], DG EMPL calculations.

[Click here to download chart.](#)

In 2021, the number of people employed increased in almost all Member States and was, in most cases, higher than in 2019. The strongest increases were recorded in Ireland (+6.0%),

⁽⁵⁾ European Commission (2021a).

Luxembourg (+3.1%) and Malta (+2.8%), with falls recorded in Latvia (-2.6%) and Slovakia (-0.6%).

Chart 1.7
Uneven employment growth among EU Member States in 2021

Headcount employment in 2021, % change on 2020



Note: Dark green: >=+1.5%; light green >=+1%; blue >=+0.5%; orange >=0; red <0.
Break in series for Poland and Romania.

Source: Eurostat [nama_10_pe].

[Click here to download chart.](#)

3.2. Employment rates

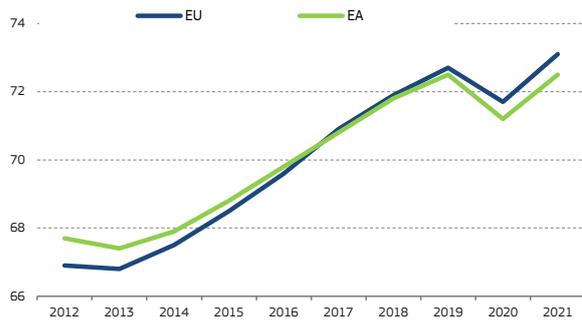
The employment rate⁽⁶⁾ for people aged 20-64 rose by 1.4 pp in 2021 in the EU (73.1%) and by 1.3 pp in the euro area (72.5%). Following the sharp decline in 2020, the employment rate was 0.4 pp higher in the EU and stable in the euro area, compared with 2019. The positive momentum of labour markets in the second half of 2021 should push the employment rate up further in 2022 and 2023, according to the European Commission Spring 2022 forecast.⁽⁴⁾ The EU 2030 headline targets set out to achieve an employment rate of at least 78% in the EU by 2030, and to halve the gender employment gap.⁽⁷⁾

⁽⁶⁾ The employment rate measures the number of employed people as a proportion of the population of the same age.

⁽⁷⁾ Data to measure progress towards the second Porto target (at least 60% of Europeans participating annually in training by 2030) will be available from 2023. See section 4.3 for the third Porto target, on poverty and social exclusion.

Chart 1.8
The employment rate in 2021 in the EU recovered from the decline in 2020

Employment rate, % of population 20-64



Source: Eurostat [lfsi_emp_a].

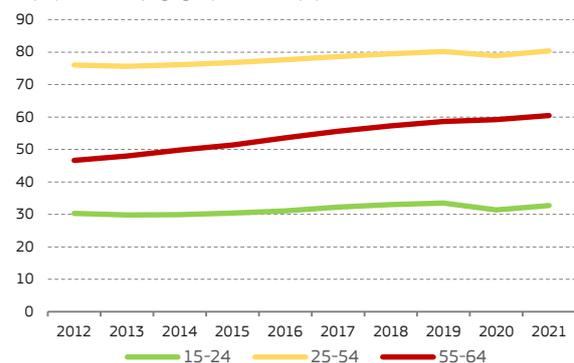
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Almost all Member States saw their employment rate grow in 2021. The highest rises were recorded in Greece (+4.3 pp), Ireland (+2.8 pp), and Poland (+2.7 pp), while the employment rate remained stable in Slovakia and contracted in Latvia (-1.6 pp).

The employment rate increased almost equally among different age groups: It grew by 1.3 pp for workers aged 15-24 (to 32.7%), by 1.5 pp for those aged 25-54 ('core' workers) (to 80.4%), and by 1.3 pp for those aged 55-64 (to 60.5%). Between 2012 and 2021, the employment rate for workers aged 15-24 rose by only 2.4 pp, a far lower increase than that for core workers (+4.4 pp) and older workers (+13.9 pp). This was due to a slower growth trend until 2019, and the much stronger impact of the crisis on younger workers (-2.1 pp) compared to core workers (-1.3 pp) and workers aged 55-64 (+0.6 pp).

Chart 1.9
Employment rate for young people increased modestly in the last 10 years

Employment rate by age group, % of total population



Source: Eurostat, EU-LFS [lfsi_emp_a].

[Click here to download chart.](#)

The gender employment gap (i.e. the difference between the employment rate of women and men aged 20-64) shrank in 2021, reaching 10.8 pp (-0.3 pp from 2020). The employment rate of women rose to 67.7%, while that of men grew to 78.5%. The gender employment gap was largest in Romania (20.1 pp), Greece (19.8 pp), and Italy (19.2 pp), and

narrowest in Lithuania (1.4 pp), Finland (2.0 pp), and Estonia (3.7 pp).

In 2021, the rate of temporary employment among workers aged 15-64 in the EU increased by 0.4 pp, but, at 12.1%, remained lower than pre-2020 rates. The proportion of young people employed on temporary contracts was far higher than among other age groups. The percentage of temporary workers aged 15-24 reached over 45% between 2012 and 2019, before falling to 43.3% in 2020. In 2021, ⁽⁸⁾ it was 45.9%, compared to 10.2% for workers aged 25-54 and only 5.1% for those aged 55-64. Almost half of young female workers (48.5%) and more than two out of five young male workers (43.7%) had a temporary employment contract in 2021. Also, many more young people than average were on temporary contracts involuntarily (9.9% of employees for people aged 15-24 versus 4.9% for people aged 15-64).

In 2021, part-time employment for workers aged 15-64 decreased by 0.1 pp in the EU (to 17.7%) and remained stable in the euro area (at 20.9%). The proportion of workers in part-time employment remained far higher for women (28.8%, -0.3 pp compared to 2020) than for men (8.1%, +0.1 pp compared to 2020). The incidence of part-time work was larger than average for young people (31.9%), in particular for young women (40.4%). The number of young self-employed people was in a declining trend (from 625 000 in 2012 to 552 000 in 2019), but picked up slightly in 2020 (to 571 000). In 2021, 578 000 young people were self-employed, out of 25.2 million in the 15-64 age group. ⁽⁹⁾

3.3. Unemployment rates

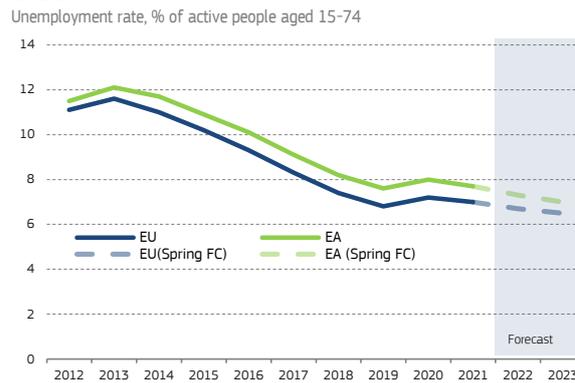
In 2021, unemployment receded as containment measures were relaxed and the economic recovery took hold. The unemployment rate (people aged 15-74) declined by 0.2 pp (to 7.0%) in the EU and by 0.3 pp in the euro area (to 7.7%). It shrank slightly more for men, by 0.3 pp (to 6.7%) than for women, by 0.2 pp (to 7.4%). The reduction in the unemployment rate began in Q2 2021, coinciding with rapid economic growth, and continued in the second half of the year (6.5% in Q4 2021).

The European Commission Spring 2022 forecast projects a decrease in unemployment also for 2022 (6.7%) and 2023 (6.5%). Favourable employment conditions are expected to be accompanied by both a reduction in the number of unemployed people and an expansion of the labour force.

⁽⁸⁾ 2021 temporary employment data for age brackets 15-24, 25-54 and 55-64, cannot be compared with previous years because of a break in the EU Labour Force Survey (EU-LFS) series.

⁽⁹⁾ 2021 self-employment data for young people cannot be compared with previous years because of a break in the EU-LFS series.

Chart 1.10
Unemployment rate trended down after an increase in 2021



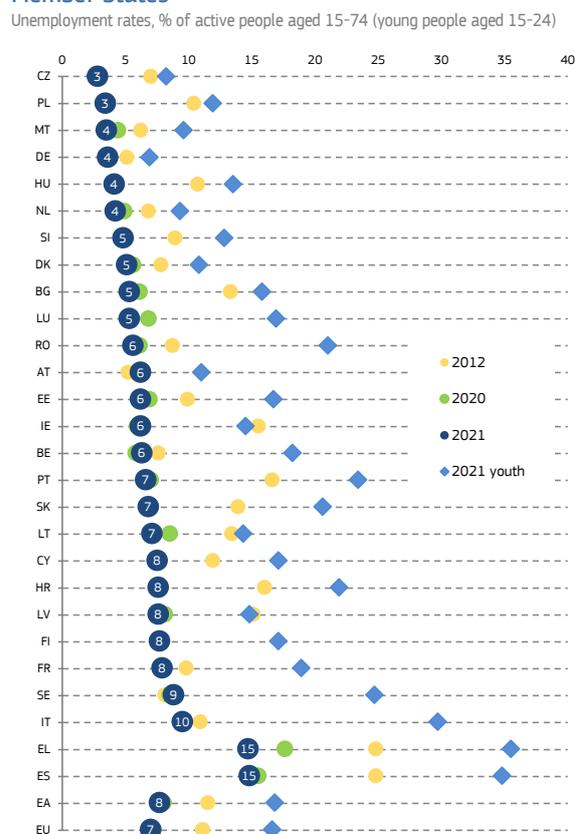
Note: Shaded area is European Commission Spring 2022 forecast.

Source: Eurostat, EU-LFS [une_rt_a], European Commission Spring 2022 forecast.

[Click here to download chart.](#)

Compared with 2020, the unemployment rate declined in most Member States, most notably in Greece (-2.9 pp, to 14.7%), Luxembourg (-1.5 pp, to 5.3%), and Lithuania (-1.4 pp, to 7.1%). It increased most prominently in Belgium (+0.5 pp, to 6.3%), Ireland (+0.3 pp, to 6.2%), and Sweden (+0.3 pp, to 8.8%).

Chart 1.11
Total unemployment declined almost everywhere, but youth unemployment remained very high in several Member States



Source: Eurostat, EU-LFS [une_rt_a].

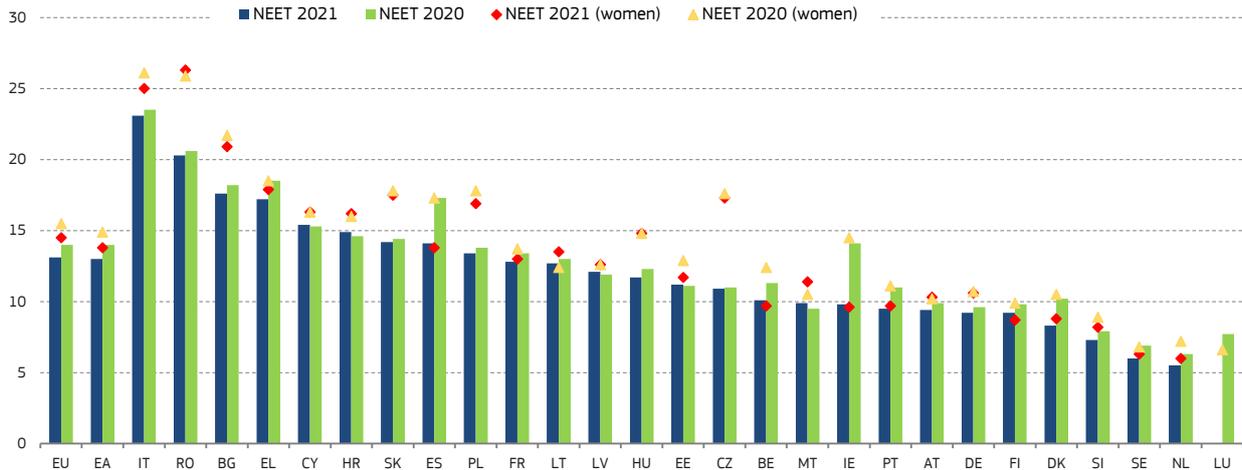
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In 2021, the youth unemployment rate declined by 1.0 pp in the EU (to 16.6%) and by 1.3 pp in the euro area (to 16.8%). Similar to total

Chart 1.12

NEET rate decreased in 2021, but not in all Member States

NEET rate, % of people aged 15-29



Source: Eurostat, EU-LFS [lfsi_neet_a].

[Click here to download chart.](#)

unemployment, the decline in the youth unemployment rate among young people began in Q2 2021 and accelerated in the second half of the year, reaching 14.8% in Q4. The sharpest annual declines were recorded in Luxembourg (-6.3 pp, to 16.9%) and Lithuania (-5.3 pp, to 14.3%), with the most substantial rises recorded in Belgium (+2.3 pp, to 18.2%) and Sweden (+1.2 pp, to 24.7%). In 2021, youth unemployment was on average slightly higher in cities (18.2%) than towns and suburbs (16.3%) or rural areas (14.6%). These differences were smaller for young women, with rates of 17.4% in cities, 16.3% in towns and suburbs, and 16.1% in rural areas.

The rate of people aged 15-29 who are neither in employment nor in education and training (NEET) rose to 14.0% in 2020 during the height of the COVID-19 crisis, but decreased in 2021, by 0.9 pp in the EU (to 13.1%) and by 1.0 pp in the euro area (to 13.0%). This rate was slightly higher (+0.2 pp) than that recorded in 2019 in both the EU and euro area. In the EU, the NEET rate for women exceeded that for men by 2.7 pp (14.5% and 11.8%, respectively).

In 2021, the NEET rate declined in almost all Member States, particularly in Ireland (-4.3 pp) and Spain (-3.2 pp), while rising most significantly in Malta (+0.4 pp) and Croatia (+0.3 pp).

The long-term unemployment rate increased in the second half of 2020 as a result of the COVID-19 crisis, but remained stable overall in 2021.⁽¹⁰⁾ Compared to the 2020 average, it increased in 2021 by 0.3 pp in the EU (to 2.8%) and by 0.4 pp in the euro area (to 3.2%). That increase was slightly higher for women, at +0.3 pp (to 2.9%), compared to +0.2 pp (to 2.6%) for men. The incidence of long-term unemployment rose in 2021 by 5.1 pp (to 39.2%) after

⁽¹⁰⁾ Long-term unemployment rate measures the share of active workers in unemployment for more than 12 months.

a decline of 5.7 pp in 2020. Very long-term unemployment stood at 1.4% in 2021, representing 20.6% of total unemployment.⁽¹¹⁾

3.4. Activity rates and extended labour force

The economic recovery in 2021 was accompanied by a strong rise in labour market participation, following the sharp drop in the early months of the COVID-19 crisis in 2020. In the EU, the activity rate (people aged 15-64) increased by 1.3 pp (to 73.6%), after declining by 0.9 pp in 2020. The increase was slightly stronger for women (+1.4 pp) than for men (+1.1 pp). However, women's activity rate remained more than 10 pp lower than that of men (at 68.5% and 78.7%, respectively). The activity rate for young people (aged 15-24) increased slightly less than average, reaching 39.3% (+1.2 pp), lower than the rate recorded in 2019 (-0.4 pp).

Labour market slack declined by 0.9 pp in 2021 and reached 14.0% of the extended labour force (aged 15-74).⁽¹²⁾ This rate was 0.4 pp higher than in 2019. The decline was similar for women and men, although the unmet need for employment remained far higher for women, at 16.2%, compared to 12.1% for men. The main driver for the reduction of labour market slack was the decrease in the proportion of people available to work but not looking for a job, which shrank by 0.6 pp, to 3.7%.

Labour market slack was much higher for young people than for the rest of population. It declined from 36.4% in 2012 to 27.3% in 2019 before spiking to 31.0% in 2020 as the COVID-19 crisis hit young workers strongly. It stood at 30.7% of the extended labour force in 2021, with its main components being

⁽¹¹⁾ Very long-term unemployment rate measures the share of active workers in unemployment for more than 24 months.

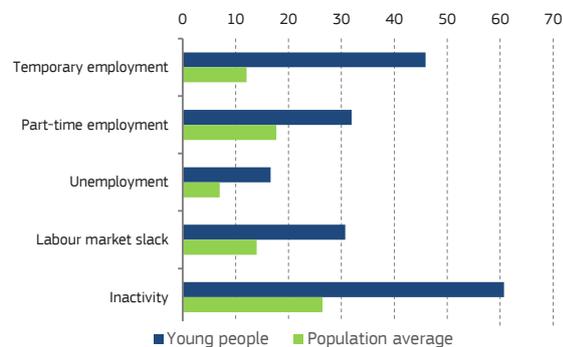
⁽¹²⁾ 'Labour market slack' indicators measure the unmet need or demand for employment. More details available here.

unemployment (14.8%) and people available to work but not looking for a job (8.1%).⁽¹³⁾

Chart 1.13

Situation of young people in the labour market is less favourable than average

Young people compared to the population average - selection of labour market indicators



Note: Young people are aged 15-24. Population average refers to people aged 15-64 except for unemployment and labour market slack (15-74). Temporary employment and part-time employment: % of employment; unemployment: % of active population; labour market slack: % of extended labour force; inactivity: % of total population.

Source: Eurostat, EU-LFS.

[Click here to download chart.](#)

4. SOCIAL SITUATION, INCOME AND POVERTY

This section presents recent income trends and social developments in the EU, with particular focus on the indicators included in the revised social scoreboard of the European Pillar of Social Rights' action plan. It describes the living conditions of EU households, particularly during the first phase of the COVID-19 crisis and the ensuing recovery. It documents income trends for the overall population and for different income groups, the role of social transfers in mitigating income inequality, and the multifaceted nature of poverty and social exclusion, with a focus on age-specific trends, in particular for young Europeans. As the official distributional indicators on inequality and risk of poverty are computed with survey data on income (with the latest available being 2020 data based on 2019 incomes), the figures presented here for 2021 and 2020 are based on simulations and modelling exercises.⁽¹⁴⁾ General trends in poverty and inequality should therefore be treated with caution and considered as indications of trends rather than point estimates. The exception is the indicator of severe material and social deprivation (SMSD) which is not based on income data and thus for which the 2020 observed figure is available. Finally, demographic trends are reported over a longer timeframe, with a focus on the last decade.

⁽¹³⁾ 2021 labour market slack data for young people cannot be compared with previous years because of a break in the LFS series.

⁽¹⁴⁾ They present newer evidence than other previous DG EMPL publications. For more information on the various data sources and caveats of each, see box 1.1.

4.1. Income and consumption trends

Gross disposable income per capita improved in 2021, peaking in Q2. This aggregate measure is an approximation of households' overall living conditions and focuses on the income that households are able to spend.⁽¹⁵⁾ GDHI per capita recorded increases of 4.7% (Q2), 1.7% (Q3) and 0.8% (Q4), compared to the same periods in 2020 as EU economies started to recover from the effects of the pandemic. GDHI growth was mostly driven by increases in labour income, with changes in the compensation of employees and the self-employed (*Chart 1.14*) showing as positive from Q2 2021, compared to the same time in 2020. On the other hand, government intervention contributed to household disposable income to a lesser extent in 2021: the year-on-year change in the weight of taxes and social benefits on GDHI was negative from Q2 2021 onwards, indicating a reduced contribution to households' disposable income. This inverted the trend seen in 2020, where high net social benefits were crucial in compensating for the loss in labour market income and mitigating the shock of the largest drop in GDP ever recorded in the EU. Overall, these government contributions were crucial in keeping GDHI stable in the second half of 2020, despite the sharp decline in Q2 2020 after the outbreak of COVID-19. These EU-wide trends in GDHI varied significantly across Member States, however.

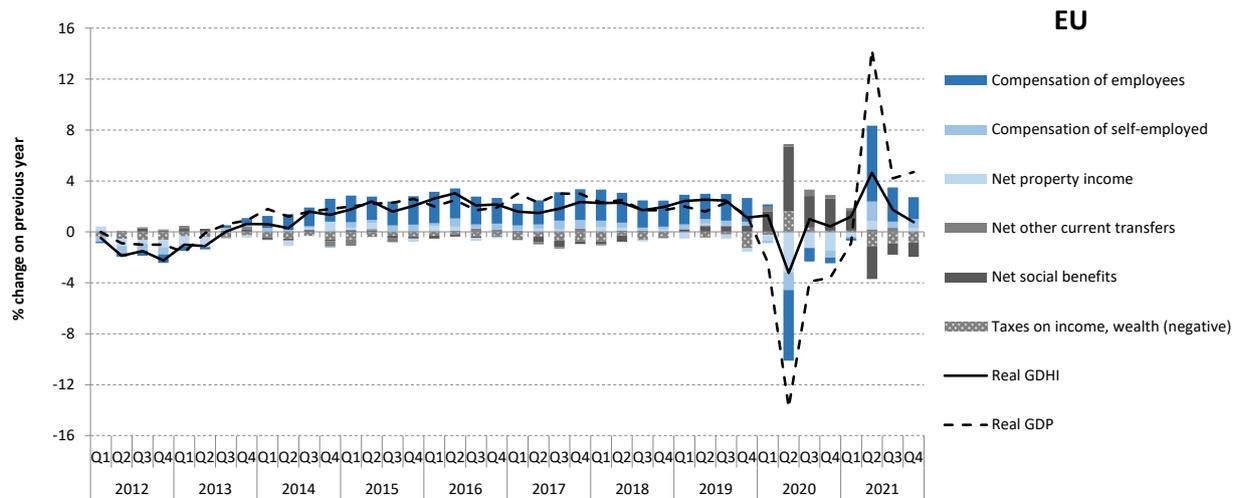
Consumption patterns changed significantly during the most dramatic period of the pandemic (2020), which may have an impact on savings in later years. In the wake of lockdown measures and restricted consumption opportunities, total EU household consumption expenditure declined by 8.1% in 2020 (*Chart 1.15*). That drop was particularly severe for 'leisure items' such as restaurants and hotels (-37.8%), clothing (-17.3%), and recreation and culture (-16.7%). Expenditure on fundamental items such as education and health declined to a slightly lesser extent, while consumption on 'necessities' such as housing, related bills and food either remained constant or increased. This shift in consumption away from spending on leisure and somewhat 'optional' goods and services towards essential needs raises concerns about inequality of savings.

⁽¹⁵⁾ Unlike GDP, GDHI per capita is net of capital depreciation and disregards the income of foreign residents.

Chart 1.14

Brisk recovery in EU households' gross disposable income in 2021

Real GDHI and real GDP (% change on previous year), and contribution of GDHI components (pp), EU



Note: Nominal GDHI is converted into real GDHI by deflating it with the price index of household final consumption expenditure [prc_hicp_aind].

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

[Click here to download chart.](#)

The drop in consumption expenditure was larger than the fall in GDHI, allowing for higher savings overall, but likely only among more advantaged groups. EU savings rates increased during the pandemic, hitting a record high since the beginning of the Eurostat time series (1999), standing at 25% in Q2 2020, then gradually decreasing to 15% in Q3 2021. That compared to a pre-pandemic level of 13% over the last decade.⁽¹⁶⁾ Although more detailed corroborating information is needed, historical savings patterns suggest that the increase in the savings rate is likely to have varied across income groups.⁽¹⁷⁾ In particular, it seems that the savings rate for high-income households increased more than that for low-income households, as the consumption expenditure for necessities declined less than spending on leisure activities.⁽¹⁸⁾ That difference was exacerbated by the fact that low-income households remained at risk of financial insecurity due to the pandemic shock.⁽¹⁹⁾ This raises concerns that savings inequalities have increased in the wake of the pandemic, disproportionately affecting low-income families' ability to invest and plan for the future.

⁽¹⁶⁾ Eurostat [nasa_10_ki].

⁽¹⁷⁾ Saving rates vary significantly across income groups. Experimental statistics from Eurostat show that in 2015, the 20% poorest income group had a negative savings rate in all Member States except Czechia, Estonia, Ireland, France, and Poland. Conversely, the 20% richest income group in at least 22 Member States saved more than 30% of their disposable income. Eurostat [icw_sr_03].

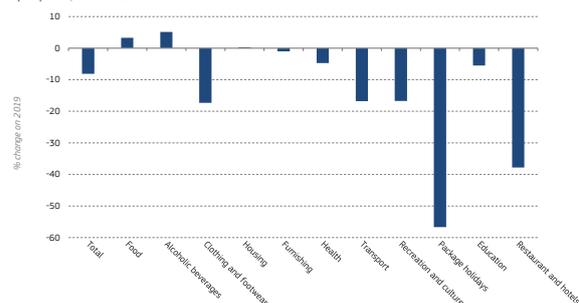
⁽¹⁸⁾ European Central Bank (ECB) (2021).

⁽¹⁹⁾ Organisation for Economic Cooperation and Development (OECD) (2021).

Chart 1.15

Lockdowns and restricted opportunities drove down consumption expenditure

Final consumption expenditure of households (year-on-year change), by consumption purpose, EU 2020



Note: Consumption items selected from the Classification of Individual Consumption by Purpose (COICOP). Housing includes water, electricity, gas and other fuel. Furnishing includes household equipment and routine household maintenance.

Source: Eurostat data [nama_10_co3_p3], values adjusted by price index of household final consumption expenditure.

[Click here to download chart.](#)

Inflation grew in 2021, particularly for energy-intensive items, putting further pressure on low-income households' finances. After decades of low inflation, the pandemic, coupled with supply-chain bottlenecks, caused prices to rise. That trend was reinforced by the Russian invasion of Ukraine and the resulting impact on energy and food markets, which presented new economic, political and social challenges across the EU.⁽²⁰⁾ Consumer price indices increased significantly in 2021 compared to the previous year for energy-intensive consumption items, such as housing and associated bills (water, electricity, gas, other fuels), as well as transport, all items that form a larger consumption share for low-income households (Chart 1.16).⁽²¹⁾ Prices in the EU grew by 5.3% in 2021, peaking at 9.8% growth for housing and 11% for transport. Inflation risks particularly affect

⁽²⁰⁾ ECB (2022).

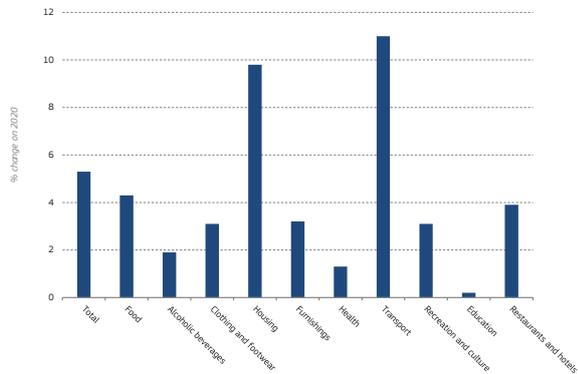
⁽²¹⁾ Joint Research Centre (JRC) (2021a).

low-income household budgets, as the price of the necessities predominant in their consumption basket is on the rise.

Chart 1.16

Inflation grew in 2021, particularly for energy-intensive consumption items

Price index of household final consumption expenditure (year-on-year change), EU 2021



Note: Consumption items selected from the COICOP.

Source: Eurostat data [prc_hicp_aind].

[Click here to download chart.](#)

4.2. Income inequality

Preliminary simulations suggest that income inequality remained broadly constant in the EU throughout the pandemic (clear conclusions can only be drawn once official data become available).⁽²²⁾ Preliminary estimates from the Euromod baseline report suggest that inequality in disposable income (as measured by the EU-27 Gini coefficient⁽²³⁾) remained broadly constant during the pandemic, varying from 0.288 in 2019, to 0.285 in 2020 and 0.287 in 2021. Some ad hoc studies even found that the Gini coefficients fell slightly in some Member States.⁽²⁴⁾ Eurostat flash estimates for 2020 suggested that another measure of inequality, the S80/S20 indicator (income share of the top 20% compared to the bottom 20%) remained stable in the EU, with no significant increases in most EU countries.⁽²⁵⁾

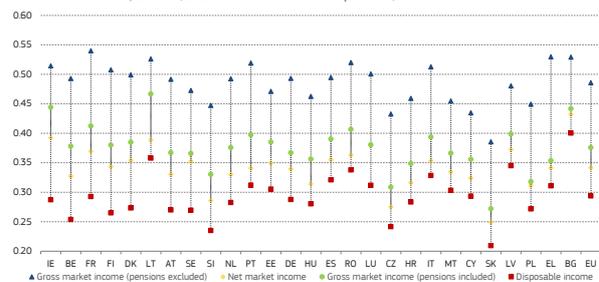
Generally, the aim of taxes and benefits is to redistribute income and wealth, thus mitigating market income inequality.⁽²⁶⁾ Chart 1.17 illustrates how Gini coefficients vary depending on the income used in calculations: in most Member States, inequality is higher when only gross market income is considered (especially if pensions are excluded), lower if net market income (including taxation) is considered, and

even smaller once benefits are taken into account (i.e. if we consider disposable income).⁽²⁷⁾ Existing tax-benefit systems and exceptional income support policies introduced during the pandemic might explain the seemingly stable inequality trend in 2020-21.⁽²⁸⁾ Taxes and benefits had a significant effect on households' disposable incomes – and thus economic recovery – in 2020 and 2021 (Chart 1.14), but that effect varied considerably across the EU, and the intensity of the reduction reflected the design of tax benefit systems. The 2021 ESDE report elaborates on this point, showing how lower-income households faced largest losses in market income during the pandemic but tax-benefit systems and monetary compensation schemes in particular helped stabilise the income of these households. Current and future trends in income inequality depend on the structure of labour markets and the intensity of redistribution in the recovery phase, as well as on price development, considering that inflation may impact more the purchasing power of households with lower incomes.

Chart 1.17

Taxes and benefits significantly reduce market income inequality

Gini coefficients, 2020 (2019 income reference periods)



Note: EU Member States are sorted by overall tax benefit reduction in gross market inequality (dotted line). The tax effect is approximated by the distance between gross market (yellow) and net market incomes (blue). Income data is adjusted for household size (equalisation). The scale of Gini coefficients is from 0 to 1 where 0 corresponds to perfect equality and vice versa. Germany and Italy were available only for 2019 at the time of analysis. Germany, Denmark, Ireland France and Luxembourg had a break in time series in this data.

Source: DG EMPL calculations based on EU SILC micro data.

[Click here to download chart.](#)

⁽²⁷⁾ Note this analysis uses Gini coefficients based on 2019 incomes because it looks at long-term trends in the impact of tax-benefit systems on inequality.

⁽²⁸⁾ Joint Employment Report (2021); JRC (2021)b; Cantó et al. (2021) used Euromod to simulate the effects of changes in equivalent household income by pre-pandemic income quintile groups in Belgium, Spain, Italy, and the UK, and found that a one-month lockdown alone produced larger losses in gross income for those at the bottom of the income quintile distribution. However, government income support measures more than compensated for that inequality.

⁽²²⁾ See box 1.1 for more information on the limitations of the Euromod simulations.

⁽²³⁾ The Gini coefficient is a single number that summarises the degree of inequality in a distribution. A Gini coefficient of 1 (or 100%) expresses maximum inequality among values (i.e. only one person has all the income or consumption and all others have none).

⁽²⁴⁾ Clark et al. (2021) present inequality trends for big European countries, such as Germany, Spain, France, Italy, and Sweden.

⁽²⁵⁾ Eurostat FE (2021), see box 1.1 for more information on the limitations of flash estimates.

⁽²⁶⁾ Market income sources are labour and capital income.

Box 1.1: Data on indicators of income inequality and poverty: some caveats

The indicators on income inequality and poverty in Sections 4.2 and 4.3 present new evidence on general trends in recent years, or trends by age group compared to previous European Commission publications. However, several indicators on inequality and risk of poverty in 2020 and 2021 are the result of model simulations rather than official statistics and should therefore be interpreted with caution.

Official statistics on these indicators are necessarily published with a delay. In fact, for any given reference year t , data are released at $t+1$ (e.g., for EU SILC 2020 in the second half of 2021), while these indicators refer to the latest available completed year ($t-1$, i.e. 2019 for EU SILC 2020). As 2021 survey data (reporting 2020 income) will not be published until around November 2022, the most recent statistics on inequality or poverty are based on pre-pandemic incomes (2019). In the absence of recent official statistics, sources of a more experimental nature were used in the analysis.

This includes the following simulations:

- Eurostat flash estimates
 - income quintile share ratio [S80/S20](#) referring to 2020 income year for disposable income (income share of the top 20% compared to the bottom 20%)
 - at-risk-of-poverty rate ([AROP](#)) referring to 2020 income year
- Simulations from the Euromod baseline report
 - AROP referring to 2021 income year
 - [Gini](#) coefficient of equivalised disposable income referring to 2020 and 2021 income years

Since official data on distributional indicators is published by necessity after a certain time lag, Eurostat produces Flash estimates to have early indicative results to be used for the EU's policy agenda. These simulations imply the use of models that allow the estimation of the entire distribution and capture the complex interaction between labour market developments, the effects of economic and monetary policies and the implementation of social reforms. The associated methodological note is available [online](#).

Euromod simulations result from applying tax benefit policies of the relevant year under analysis (2020 or 2021) to the EU-SILC survey income data available for before the pandemic in 2019 (input data). While mismatches between the timing of the data and tax benefit policies can easily be addressed in ordinary years, this was a challenge for 2020 and 2021, as all Member States suffered major economic shocks and labour market disruptions due to the COVID-19 pandemic, making the input data less representative of the overall population. This is partially addressed by using information from Eurostat on the loss of jobs and short-term work schemes to simulate a closer-to-reality labour market situation during the pandemic (version I4.0+, published in January 2022), but this cannot be fully accounted for so these statistics remain experimental and should be interpreted with caution.

Official data for [severe social and material deprivation](#) and [AROPE](#) are available for 2020 data collection. For material deprivation, this is because survey questions used to develop this indicator are not directly about income (which would be assessed as per the previous year), but instead refer to household current living conditions (eating meat, owning a mobile phone, etc.). The AROPE rate combines indicators of risk of relative poverty and work intensity (based on survey questions about outcomes in the previous year) with material deprivation scores which ask about current outcomes. Here, again, the combination of a pre-pandemic year (2019) with a pandemic year (2020) could be problematic and these figures should be interpreted with caution.

4.3. Risk of poverty and social exclusion

The EU 2020 Strategy foresaw that 20 million people should be lifted out of poverty and social exclusion in the EU (compared to 2008).⁽²⁹⁾ That target was not achieved, with only 11.95 million people lifted out of poverty by 2019 (the baseline year for the current set of 2030 targets).⁽³⁰⁾ Crucially, the overall improvement in the underlying indicator of material deprivation was not generally followed by improvements in the at-risk-of-poverty (AROP) rate.⁽³¹⁾ The EU target for poverty and social exclusion for 2030 was presented at the Porto Social Summit in May 2021. It aims to reduce the number of people at risk of poverty or social exclusion by at least 15 million, of which at least five million should be children, in comparison to the 2019 baseline.

The situation in 2020 already suggested that work remained to be done to reach the Porto headline target on reduction of poverty and social exclusion. In the short term, the uncertainty brought about by the pandemic posed challenges for the labour market and living conditions of EU households.⁽³²⁾ In 2020, 21.5% of the EU population was estimated to be experiencing poverty and social exclusion, representing some 94.7 million people, 19.32 million of whom were children under 18 years old. This implies a slightly increasing trend compared to 2019 when 92.2 million people were considered at risk of poverty and social exclusion (AROPE). However, in an exceptional year such as 2020 the AROPE rate should be interpreted with caution as it combines indicators of risk of relative poverty (AROP) and work intensity from 2019 with material deprivation from 2020. For this reason, it is useful to report the components of the AROPE separately.⁽³³⁾ The indicators forming the AROPE are themselves relevant

since they are also headline indicators in the revised Social Scoreboard of the European Pillar of Social Rights action plan.

Initial simulations indicate a broadly stable risk of poverty (AROP) in 2021.⁽³⁴⁾ The AROP trend in 2020 also seems somewhat stable, but conclusions on the post-pandemic trends in poverty risk can only be drawn once official data becomes available.

The AROP rate showed considerable variability across age groups, with young people the hardest hit.⁽³⁵⁾ The 2020 Eurostat flash estimates (used in the 2021 ESDE report) are broken down by age for a more in-depth view of the risk of poverty impact on young people (*Chart 1.18*). Given the uncertainty due to the experimental methods used, it shows ranges of possible changes in AROP compared to the previous year for each age group rather than point estimates. The results of interest are those for countries in the left-hand section of the graph (for which the year-on-year variations are statistically significant), and the indicators of interest are the dark orange bars, showing a range for each statistically significant result. For most countries, the AROP rate for minors (<18) increased in 2020 compared to 2019, with a fair degree of certainty, as all numbers in the range (dark orange bar) in the left section of the graph are positive. A similar pattern can be seen for the working age group (18-64), where all but one country in the left-hand section of the graph saw increases in the AROP rate. The opposite trend can be seen for the older age group (65+), where many of the countries with statistically significant year-on-year variations saw reductions in the AROP rate. For some countries, the range of this decrease was wholly above 2 pp (green bars), indicating a particularly large change. This effect might be due to the relative stability – or even growing trend – of pensions, which were largely immune to the labour shocks caused by the COVID-19 crisis.

⁽²⁹⁾ AROPE corresponds to the sum of persons who are either at risk of poverty, or severely materially and socially deprived or living in a household with a very low work intensity. People are included only once even if they are in more than one of the situations mentioned above.

⁽³⁰⁾ Eurostat [ilc_peps01]. This figure refers to the old AROPE indicator, as defined in the EU 2020 Strategy since we refer to 2020 and 2019 figures. The figure for the AROPE indicator in 2019 is estimated. The EU aggregate does not include the UK.

⁽³¹⁾ The at-risk-of-poverty rate is the share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers. Note that this indicator does not measure wealth or poverty per se, but low income in comparison to other residents in that country.

⁽³²⁾ Figures refer to the revised AROPE indicator, as defined in the Revised Social Scoreboard. The 2030 target for poverty and social exclusion considers a revised version of the underlying indicator of “severe material and social deprivation”, and “low work intensity”. The AROPE rates in 2019 and 2020 are estimated (Eurostat: ilc_peps01n).

⁽³³⁾ The AROPE indicator considers severe material deprivation of the current year and risk of poverty and work intensity of the preceding year. This time mismatch between the three sub-indicators may be problematic in a very exceptional year such as 2020, where the effects of labour market shocks on living conditions can materialise with a time lag. See box 1.1 for more details.

⁽³⁴⁾ Euromod (2022), see box 1.1 for more details.

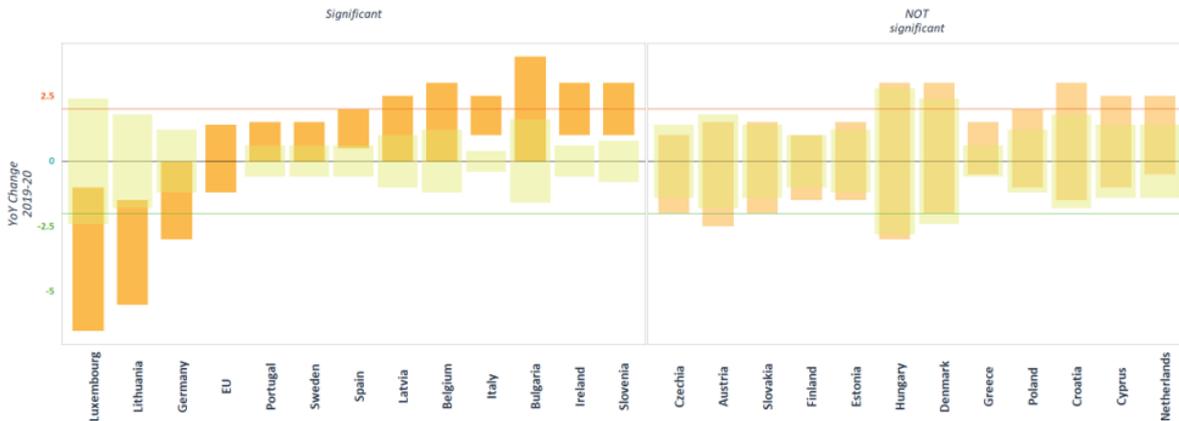
⁽³⁵⁾ Flash estimates differ from Euromod figures of the baseline report in 2020 and 2021 as they model individual labour transitions more comprehensively. In exceptional years, it may be useful to look at poverty lines anchored in past years, as the poverty line may have gone down following a decline in median income. However, the AROP rate is computed on the basis of a floating poverty line (i.e. for 2020 it is 60% of the median equivalised household income in 2020).

Chart 1.18
AROP rate increased among younger cohorts

Change in AROP rate (pp year on year change), 2020

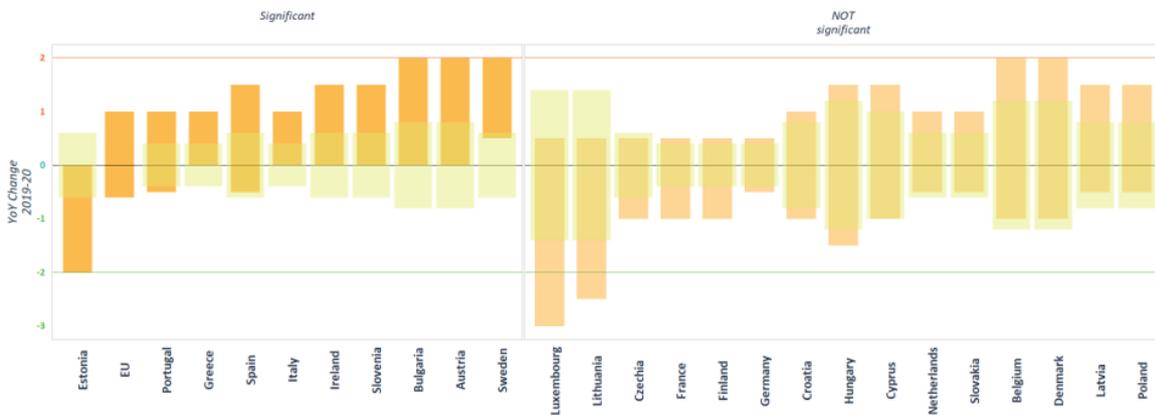
At-risk-of-poverty rate (AROP)
 - age <18

Flash Estimates (FE) for income year 2020 as Rounded Uncertainty Interval (RUI)



At-risk-of-poverty rate (AROP)
 - age 18-64

Flash Estimates (FE) for income year 2020 as Rounded Uncertainty Interval (RUI)



At-risk-of-poverty rate (AROP)
 - age 65+

Flash Estimates (FE) for income year 2020 as Rounded Uncertainty Interval (RUI)



■ YoY change : Range of Non-significant Values
■ [RUI] NON-Significant YoY Change
■ [RUI] Significant YoY Change
■ [Censored RUI]
■ YoY Change < 2pp (AROP) / >5% (quintiles)
■ [Censored RUI]
■ YoY Change >2pp (AROP) / < 5% (quintiles)

Note: Flash estimates not published for some countries. Given the uncertainty around these figures, Eurostat has chosen to show them not as point estimates but as rounded uncertainty intervals (RUI), to indicate a range of possible values. Flash estimates are calculated for income year 2020. In the left section of the graph, dark orange bars indicate the RUI for the FE 2019 in cases where the flash estimates for the year-on-year change point estimate are statistically significant. Extreme values, where the uncertainty interval is entirely beyond a certain threshold, are censored, and an open-ended interval bounded by the threshold is shown instead of the RUI (dark green bars), conveying the message that the changes are relatively large. The lower limit for what is considered an extreme value is 2 pp for AROP. In the right section, light orange bars indicate the RUI for the FE 2019 in cases where the flash estimates for the year-on-year change are not statistically significant. In both right and left sections of the graph, light green bars are the ranges of values which should be considered not significantly different from 0.

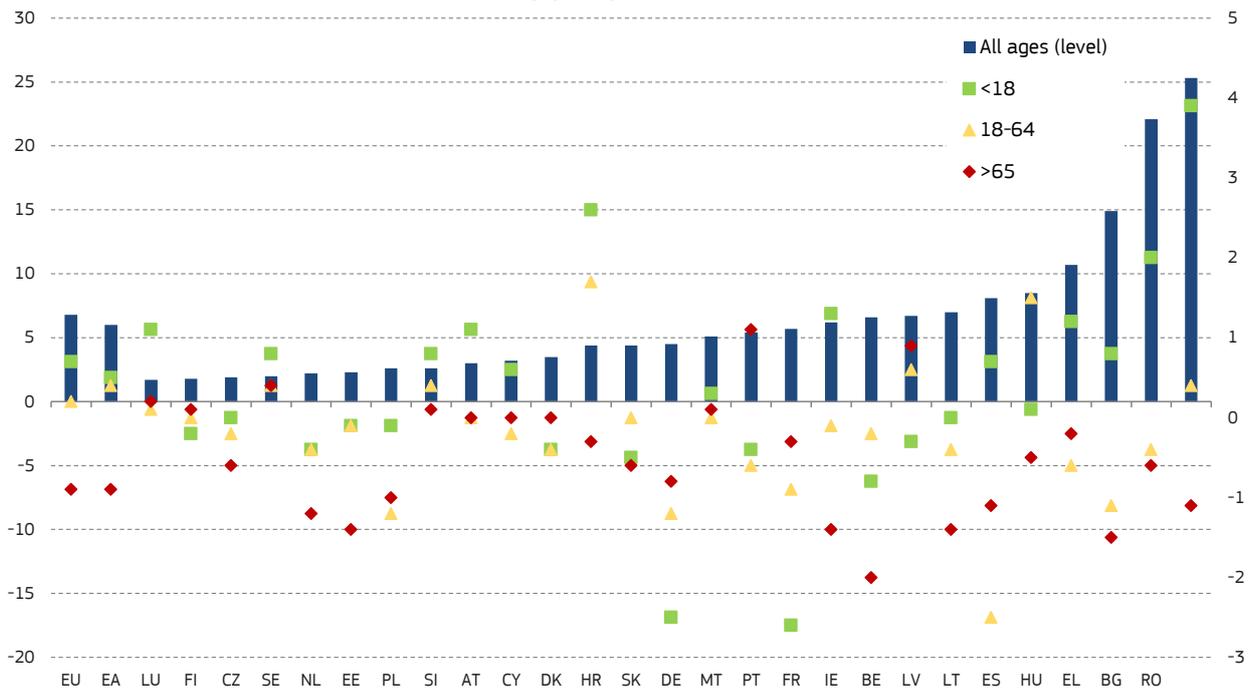
Source: Eurostat AROP flash estimates for income year 2020.

[Click here to download chart.](#)

Chart 1.19

Material and social deprivation improved for older age groups in 2020 and worsened for younger age groups

Severe material and social deprivation rate, 2020 (left axis, 2020 level), by age group (right axis, year on year difference)



Note: Germany has a break in time series.

Source: Eurostat, EU SILC [ilc_mdspd11].

[Click here to download chart.](#)

The proportion of the population living in severe material and social deprivation (SMSD) increased only slightly in 2020, but became more frequent among young people. At EU level, the number of people living in SMSD stayed fairly stable, at 28.85 million people in 2020 compared to 28.025 million people in 2019.⁽³⁶⁾ The analysis below relies on 2020 data, as material and social deprivation official data is already available for that year. Data are, however, broken down by age group (Chart 1.19). At EU level, the proportion of over-65s exposed to SMSD decreased at EU level (-0.9 pp), while the deprivation rate increased for the working-age (+0.2 pp) and young (+0.7 pp) populations. This varied greatly by country. For people under 18, this indicator increased in most countries compared to 2019, although it fell in 11 Member States (green marker). For the working-age group (18-64), the share of people in SMSD also fell in the majority of Member States, with slight

increases in 10 countries. Among the over-65s, the trend is clearer, with 25 countries seeing their rates improve (i.e. fall).⁽³⁷⁾

Young people were already exposed to social risks in the run-up to the COVID-19 crisis.

Experimental statistics from Eurostat highlighted that young cohorts were more vulnerable to the two-fold risk of poverty, implying income and consumption levels under the respective income and consumption poverty lines. In 2015, the proportion of under-35s was at higher risk of being both income and consumption poor than older cohorts in the majority of EU countries, except for the Baltic countries, Croatia and Slovenia. The gap was largest in Bulgaria, Romania and Slovakia, with a >3 pp gap in twofold poverty between the under-35s and older cohorts.⁽³⁸⁾ However, young people's worsening living conditions also depend on widely recognised lifecycle aspects, such as transition out of the parent/guardian household, lower labour income in early career, household formation and housing purchases. These areas are discussed in detail in Chapters 2 and 4 of this report.

4.4. Demographics

2020 and 2021 were marked by a large number of COVID-19 deaths, particularly during the spring and winter peaks of successive pandemic

⁽³⁶⁾ The SMSD rate measures enforced lack of necessary and desirable items to lead an adequate life. It is defined as the proportion of the population experiencing an **enforced lack** of at least **7 of 13 deprivation items**. Items at *household level*: i) Capacity to face unexpected expenses; ii) Capacity to afford paying for one week annual holiday away from home; iii) Capacity to be confronted with payment arrears (on mortgage or rental payments, utility bills, hire purchase instalments or other loan payments); iv) Capacity to afford a meal with meat, chicken, fish or vegetarian equivalent every second day; v) Ability to keep home adequately; vi) Having access to a car/van for personal use; vii) Replacing worn-out furniture. Items at *individual level*: viii) Having internet connection; ix) Replacing worn-out clothes with new ones; x) Having two pairs of properly fitting shoes (including a pair of all-weather shoes); xi) Spending a small amount of money each week on themselves; xii) Having regular leisure activities; xiii) Getting together with friends/family for a drink/meal at least once a month.

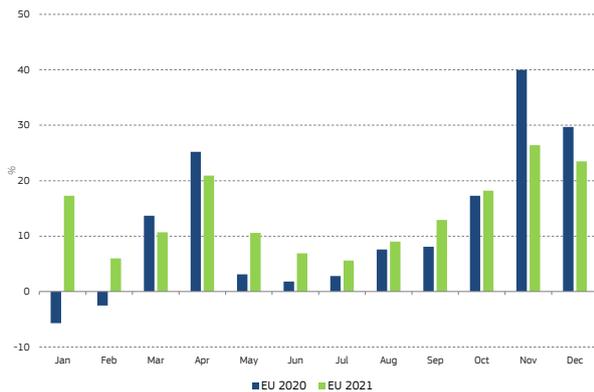
⁽³⁷⁾ Break in time series between 2019 and 2020 for Germany, Ireland, France and Luxembourg.

⁽³⁸⁾ The gap in twofold risk of poverty (income and consumption) by age group is from Eurostat experimental statistics [icw_pov_10].

waves. *Chart 1.20* shows that excess mortality at EU level was much lower in January and February 2020 compared to the same months in 2021, and ranged from 1.8% in June 2020 to 40% in November 2020. After a decrease at the beginning of 2021, excess mortality peaked in April and again in November 2021. After decades of life expectancy increases due to improvements in healthcare and quality of life, this unprecedented shock caused a reduction in life expectancy in most countries, with life expectancy at the EU level reduced by almost one year in 2020 to 80.4 years.⁽³⁹⁾ The mortality impact of the pandemic has been uneven across countries and over time, with Central and Eastern European EU Member States registering the largest rates of excess mortality.⁽⁴⁰⁾ Demographic trends such as population ageing are long-term processes that are evident in most regions of the world since the 1950s,⁽⁴¹⁾ suggesting that the pandemic's impact on ageing may be unlikely to result in a major reversal of the long-term ageing of European societies.⁽⁴²⁾

Chart 1.20
Additional deaths due to pandemic peaks in 2020 and 2021

Excess mortality (number of deaths from all causes compared with expected in baseline pre pandemic), 2020 and 2021



Source: Eurostat [demo_mexrt]

[Click here to download chart.](#)

Demographic projections foresee relatively stable EU population numbers until 2050 (a reduction of about 6 million) but predict profound changes in population structure.⁽⁴³⁾ The most pronounced trends include population ageing, shrinking numbers of working-age adults, mobility within and between Member States – particularly in view of the large inflow of Ukrainian refugees – and a growing trend in higher education.

There is clear evidence of the steady ageing of the EU population. In 2020, the population aged 65+ overtook the population aged <20, compared to 2011 when there were 100 people under 20 for every 74

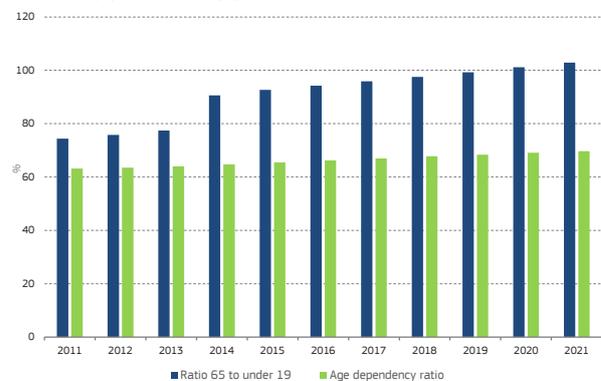
people aged 65+ (see *Chart 1.21*). This is the result of improved life expectancy and the arrival of baby boomers in the 70+ age group, as well as sustained low fertility.⁽⁴⁴⁾

The change in the EU population structure varies substantially between Member States. In countries such as Italy, Germany and Portugal, in 2021, there were more 120 or more individuals aged 65+ for every 100 individuals <20 (see *Chart 1.22*). This ratio between the 65+ and <20 populations was much lower in Ireland, Luxembourg and Cyprus, where it amounted to 55.7%, 68.9% and 76.7%, respectively. Irrespective of the level of this ratio, the trend increased for all countries in 2021 compared to 2011 and 2015, with the exception of Sweden and Latvia. Between 2015 and 2020, the increase in over-65s compared to the <20s was largest in Croatia, Poland, Finland and Italy.

Long-term trends indicate the compression of the traditionally working-age population (20-64) in relation to the traditionally inactive age group (under-19 and over-65) over the last decade. The ratio of the <19 and 65+ populations compared to the 20-64 population has grown steadily, from 63.2% in 2011 to 69.7% in 2021 according to *Chart 1.21*.⁽⁴⁵⁾ This indicator suggests that the size of the working-age generation is shrinking and under strain.

Chart 1.21
More over 65s than <20s in the EU in 2021

Age dependency ratios (green bar, population 0-19 & 65+ to working population 20-64, %); ratio of population 65+ to population <20 (blue bars, %)



Note: Population on 1st of January 2020. Note for the ratio of 65+, data from age 85 is missing.

Source: Eurostat [demo_pjanind] for the age dependency ratio, DG EMPL calculations based on [demo_pjan] for the ratio of 65+ to population <20

[Click here to download chart.](#)

⁽³⁹⁾ Aburto et al. (2021).

⁽⁴⁰⁾ European Commission (2021b).

⁽⁴¹⁾ WHO (2021).

⁽⁴²⁾ Temple et al (2021).

⁽⁴³⁾ Eurostat table: [proj_19np]. Latest projections estimate the EU population at 441.2 million in on 1 January 2050, compared to 447.56 million in on 1 January 2020.

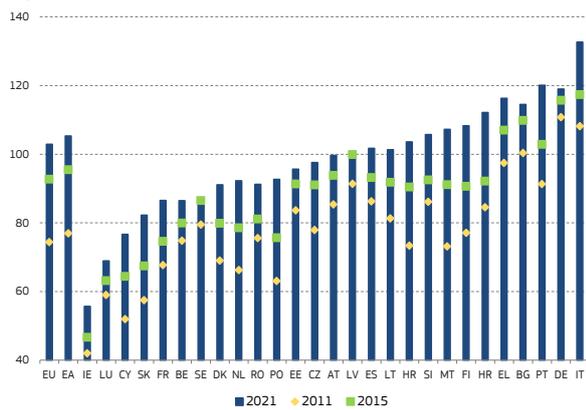
⁽⁴⁴⁾ Fertility has been below the replacement level (2.1 children per woman) since the 1960s or 1970s in many European countries. At the same time, age at first motherhood has been increasing.

⁽⁴⁵⁾ This age-dependency ratio represents an idea of burden-sharing across generations, as working-age individuals carry a responsibility for both the previous generation (older people of retirement age) and the next generation (who in turn will provide for their parents once they become older). This is facilitated 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 primarily by taxing the working-age population.

Chart 1.22

Over 65 population growing compared to the under 20s in all Member States

Age dependency ratio (population 65+ to population <20, %)



Note: Population on 1st of January 2021. Reading example: in Italy in 2021 there were 130 individuals aged 65+ for every 100 individuals aged <20

Source: DG EMPL calculations based on Eurostat [demo_pjan]

[Click here to download chart.](#)

In addition to ageing, mobility within and between EU countries contributes to a changing population structure. Over the last decade, some regions have experienced increases or decreases of their total population by a magnitude greater than 10%. In 2020, one in three people in the EU live already in a region that lost population over the past decade, and this share is projected to reach 50% by 2040. ⁽⁴⁶⁾ While NUTS-2 capital regions increased their populations, rural regions are characterised by depopulation. The vast majority of these regions are located in Central and Eastern European countries, as well as in Southern Europe and the Baltic States. ⁽⁴⁷⁾ Regions in the Baltic countries and Romania experienced population declines larger than 10% of their 2010 population. ⁽⁴⁸⁾ These regions, together with the Polish regions bordering Ukraine, are now receiving the largest influx of Ukrainian refugees, which may reverse this trend, albeit temporarily.

⁽⁴⁶⁾ European Commission (2022)b.

⁽⁴⁷⁾ Eurostat table: demo_r_pjangrp3.

⁽⁴⁸⁾ European Commission (2020).

Box 1.2: Assessment of the long term labour market impact of the Russian invasion of Ukraine

The European Commission's Labour Market Model (LMM) is used to assess the long-term impact of the inflow of refugees from Ukraine on several Member States: Poland, Slovakia, Hungary, Czechia, Spain, Italy, Austria, Germany, France, Belgium, Netherlands, Denmark, Finland, and Sweden. By 08/05/2022, ⁽¹⁾ about 5.9 million people had already fled Ukraine, with many more expected to do the same. This includes 3.2 million refugees coming to Poland, 568 000 to Hungary, 402 000 to Slovakia, and 880 000 to Romania. Assuming that those refugees who stay long term will integrate into society, and given that beneficiaries of temporary protection have equal access to the local labour market as EU mobile citizens, this can be seen as an increase in labour supply (population).

Hosting humanitarian migrants in the short term, and educating/integrating those who wish to stay in the longer term are costly and present serious challenges for the host society. Over time, however, the inflow of refugees is expected to have a positive impact on the level of GDP and the number of employed people in the EU. The inflow of people is expected to put downward pressure on real wages in the medium term, which will, in turn, increase the return on capital. This increases both investment and labour demand, and thus GDP. Assuming that wages and capital supply are perfectly flexible in the long term, the average real wage returns (close) to its pre-shock level, and both the number of employees and the capital stock increase. Depending on the scenario, the distribution of wages (i.e. wage inequality) can be impacted. ⁽²⁾

Taking, as an illustration, an assumed group of one million Ukrainians settling in the long term in the EU, their impact can be assessed for six different scenarios in terms of the degree of their socio-economic integration and place of settlement:

- Settlement of people in *i)* countries bordering Ukraine, such as Poland, Slovakia, and Hungary; *ii)* proportional distribution of refugees across all Member States based on population shares; and *iii)* higher concentrations in Member States with a pre-existing Ukrainian community.

- *a)* In a scenario of full integration of refugees, their level of education is the same as that of the host country; *b)* in the partial integration scenario, the level of education of new Ukrainian refugees is equivalent to that of pre-war Ukrainian migrants (which is, on average, lower than that of the host country population).

The analysis focuses on these long-term effects, while short-term costs (particularly the impact of public spending) and the adjustment process are not considered. The magnitude of the impact on the Member States varies depending on the scenario (Table 1). Poland is at the forefront of hosting people fleeing Ukraine, both in terms of number of people and as a proportion of the local population. It also hosted by far the largest number of Ukrainian immigrants in the EU before 2022 (more than 70%). ⁽³⁾ Consequently, both in the scenario that assumes that the Ukrainian refugees settle only in bordering Member States and the scenario that assumes that existing Ukrainian communities attract most of these refugees, Poland experiences the strongest impact (GDP increases of 1.5-1.7%). Under the scenario that assumes that refugees are distributed across all Member States proportionally to their overall population, the shock on Member States bordering Ukraine is mitigated (GDP increases by about 0.2%).

In the scenario in which refugees do not fully integrate into the host country's labour market (i.e. do not reach the same education level or are subject to hiring discrimination and therefore have lower employment prospects than their comparable native peers), the overall positive effect on employment

⁽¹⁾ Data from the UN Refugee Agency (UNHCR), 08/05/2022. Information is gathered on Ukrainian refugees crossing to neighbouring countries. This means that many of those counted when they initially crossed into these countries may since have travelled to other countries. For instance, Czechia's Ministry of the interior reported that as of 10 May 2022, it had granted more than 330 000 emergency visas to Ukrainian refugees. The simulation results presented in this note are based on these numbers. Regularly updated statistics are available at <https://data.unhcr.org/en/situations/ukraine>.

⁽²⁾ The simulation results assume that there is no major bottleneck that would impede the adjustment of the labour market and the economy in the long term. For example, if real wages cannot adjust downward in the short- or medium-term due to unions' excessive wage claims or excessive minimum wage increases, the increase in labour supply will at least partly translate into an increase in unemployment or a decrease in participation rather than an increase in employment and GDP. Similarly, barriers to entry to the labour force for Ukrainian refugees (e.g. because of discrimination) can also result in more limited positive impact. Moreover, if governments must increase (distortive) taxes or take on more debt to compensate for the higher costs associated with the inflow of refugees, the impact on GDP could be negative. Finally, in an extreme case where the number of refugees is so high in one or several countries that it becomes unmanageable, the country's social security system could collapse.

⁽³⁾ Source: OECD data on "Immigrants by citizenship and age", mainly based on data from the 2000 round of censuses.

(Continued on the next page)

Box (continued)

and GDP is expected to be lower than in the full integration scenario. Employment would increase more than proportionally to GDP, thus average labour productivity (GDP per person employed) would be expected to decrease. Looking at distribution of wages (i.e. wage inequality), the increased labour supply of lower educated people would be expected to exert a downward pressure on the wages of low-skilled people, while those of highly educated people should increase. ⁽⁴⁾ Targeted education and training is therefore crucial to move closer to the full integration scenario.

Table 1

Long-term impact of the inflow of humanitarian migrants on GDP and employment (%) in selected countries

		Settling in bordering Member States			Proportional distribution across the EU			Settling in Member States with existing Ukrainian communities (proportionally)		
		Number of people	Full integration	Partial integration	Number of people	Full integration	Partial integration	Number of people	Full integration	Partial integration
Poland	GDP	634 774	1.46	1.09	84 614	0.20	0.15	732 231	1.69	1.26
	Employment		1.48	1.22		0.20	0.16		1.71	1.41
Slovakia	GDP	79 383	1.25	0.86	12 209	0.19	0.13	16 853	0.26	0.18
	Employment		1.26	0.96		0.19	0.15		0.27	0.20
Hungary	GDP	112 194	0.96	0.92	21 759	0.19	0.18	52 910	0.45	0.43
	Employment		0.95	0.92		0.18	0.18		0.45	0.43
Czechia	GDP	0	0.00	0.00	23 930	0.20	0.15	73 853	0.61	0.45
	Employment		0.00	0.00		0.20	0.16		0.61	0.50
Spain	GDP	0	0.00	0.00	105 988	0.20	0.19	48 880	0.09	0.09
	Employment		0.00	0.00		0.21	0.20		0.10	0.09
Italy	GDP	0	0.00	0.00	132 458	0.20	0.19	20 143	0.03	0.03
	Employment		0.00	0.00		0.21	0.20		0.03	0.03
Austria	GDP	0	0.00	0.00	19 974	0.21	0.17	7 151	0.07	0.06
	Employment		0.00	0.00		0.20	0.19		0.07	0.07
Germany	GDP	0	0.00	0.00	185 943	0.20	0.16	0	0.00	0.00
	Employment		0.00	0.00		0.20	0.18		0.00	0.00
France	GDP	0	0.00	0.00	151 287	0.22	0.18	13 642	0.02	0.02
	Employment		0.00	0.00		0.21	0.19		0.02	0.02
Belgium	GDP	0	0.00	0.00	25 838	0.21	0.18	5	0.00	0.00
	Employment		0.00	0.00		0.20	0.19		0.00	0.00
Netherlands	GDP	0	0.00	0.00	39 077	0.20	0.19	0	0.00	0.00
	Employment		0.00	0.00		0.20	0.19		0.00	0.00
Denmark	GDP	0	0.00	0.00	13 059	0.20	0.19	1 636	0.02	0.02
	Employment		0.00	0.00		0.20	0.20		0.03	0.02
Finland	GDP	0	0.00	0.00	12 374	0.20	0.17	298	0.00	0.00
	Employment		0.00	0.00		0.20	0.19		0.00	0.00
Sweden	GDP	0	0.00	0.00	4 716	0.20	0.18	3 466	0.03	0.03
	Employment		0.00	0.00		0.20	0.19		0.03	0.03

Source: Own calculation based on the European Commission's Labour Market Model.

⁽⁴⁾ The difference in the impacts of the inflow of refugees on low-skilled and high-skilled wages in the partial integration scenario is explained by the (assumed) complementarity of capital and high-skilled labour. If the share of lower educated people among the refugees is higher than their respective share in the local population, the lack of sufficient number of additional high-skilled workforce constrains the optimal adjustment of capital. In other words, the increase in the supply of capital induced by the (principally low-skilled) labour supply shock creates an excess demand for highly educated people. In turn, wages of highly educated workers increase, while the relatively fewer vacancies available for lower educated people puts a downward pressure on their wages. In the optimum, the nationwide average wage will be somewhat lower than before the inflow of refugees.

Overall, demographic trends over the last decade show constantly rising fractions of the over-65 age group, both in comparison to the working-age population and to children. This is largely due to increasing life expectancy and lower fertility. These population trends might affect the implicit social contract across generations, as well as underlying intergenerational fairness.

5. CONCLUSIONS

The strong rebound of the European economy observed in 2021 followed the most severe

contraction ever recorded as a consequence of the COVID-19 crisis in 2020. However, that recovery was paced differently across the Member States and largely mirrored the losses experienced during the crisis. Factors hindering growth were already evident at the beginning of 2022 and were further exacerbated by the Russian invasion of Ukraine. More specifically, pressure on the price of energy and other commodities caused a peak in inflation, which reached the highest rate in the history of the monetary union, with expected to have important distributional consequences. As result, EU GDP is expected to grow by 2.7%, considerably less than previously forecast.

Labour markets recovered in 2021, although not as strongly as the economy. The implementation of job retention measures in 2020 cushioned the impact of the recession on employment by reducing the number of hours worked, and, accordingly, recovery was driven more by an increase in hours worked rather than by growing the numbers of people employed.

The main labour market indicators improved for young people, who were more affected by the crisis in 2020 than other population groups. However, the situation of young people in the labour market remained difficult, with a very high incidence of temporary work and significant unemployment and NEET rates.

Strong government and EU intervention to support households in 2020 and 2021 helped to prevent a significant deterioration in social outcomes due to the COVID-19 pandemic. While the social impact of the crisis is not yet clear due to data lags, preliminary findings suggest that it was limited: the AROPE rate among EU households rose slightly in 2020 and remained stable in 2021. At EU level, the number of people living in severe material and social deprivation grew slightly in 2020 (28.85 million people, compared to 28.03 million in 2019) and initial simulations on inequality suggest a somewhat constant trend. The unprecedented government and EU intervention through income support policies and automatic stabilisers appears to have been effective in mitigating the shock caused by the pandemic. In 2020, households' average disposable income was broadly supported by social benefits as market income plunged, while in 2021 the contribution of salaries and self-employment income partially recovered and public intervention declined. Nevertheless, with prices on the rise, households' purchasing power is at of risks declining, particularly among low-income households, for which rising food and energy costs represent a large share of their consumption basket.

The social impacts of the COVID-19 crisis were not homogenous across age groups, with young people hardest hit. Preliminary findings on AROP rates in 2020 show increases in most countries for the working-age group (18-64) and for minors (<18), in contrast with findings for older groups. SMSD rates rose in 2020 for the working-age and youngest groups, while over-65s saw their situation improve.

Demographic trends over the last decade show that the share of the 65+ age group is rising rapidly. The proportion of the population aged 65+ is growing, both in comparison to the working-age population and to the child population, due to increasing life expectancy and lower fertility. This trend poses major challenges for intergenerational fairness.

The EU economy is being impacted by a number of global economic and geopolitical challenges. The Russian invasion of Ukraine in February 2022 has caused many deaths and much human suffering, and

the subsequent displacement of millions of people will impact EU demography. Member States have welcomed refugees fleeing from Ukraine, with the EU granting them temporary protection and support, notably through the EU Civil Protection Mechanism and the CARE package. The European Commission has also stepped up its financial support to Ukraine, with an emergency macro-financial assistance (MFA) package of up to EUR 1.2 billion, which has already been disbursed, and has presented on 18 May 2022 a Communication on Ukraine relief and reconstruction. The EU economy has been significantly impacted, experiencing trade and financial disruptions, a spike in energy and agricultural prices, and the arrival and subsequent integration of displaced people from Ukraine.

The EU headline targets for 2030 in the areas of employment, adult participation and learning, and social inclusion will play a key role in ensuring a strong social recovery and upward convergence in the coming years. The developments discussed here show that inclusion and full participation of young people in the labour market, and improvement of their social situation, are necessary factors to achieve these targets.

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Who are the young Europeans and what is important to them?

1. INTRODUCTION ⁽⁴⁹⁾

Today's young Europeans are at a crucial juncture. They were among the groups most strongly affected by job loss during the COVID-19 pandemic, due to their higher share of temporary employment contracts and their concentration in heavily impacted sectors or occupations. Young people still in education and training experienced partial disruption of their learning paths, while those transitioning from education to the labour market faced difficulties in finding their first job. Moreover, social outcomes of young people were affected and the pandemic also took a significant toll on their mental health. ⁽⁵⁰⁾

The pandemic exacerbated pre-existing challenges faced by young people, such as the higher frequency of precarious and non-standard work, lower benefit coverage, and higher housing expenses relative to disposable income. ⁽⁵¹⁾ Those earlier challenges and the resulting insecurity already threatened the realisation of life goals such as household and family formation, even before the COVID-19 crisis. Young Europeans also face the longer-term challenge of an ageing population, given that an increasingly smaller share of working-age individuals will have to shoulder the costs of the growing numbers of over-65s. Yet, Europe's youth is not a homogenous population group, differing not only by nationality but by educational attainment, skill profiles and other socio-economic characteristics. As a

result, the impact of the Covid-19 pandemic varied considerably between young people.

Young people are on average more highly educated and digitally skilled compared to other age groups, and have a strong awareness of ecological issues, all of which put them in a good position to seize opportunities brought by the twin transitions. ⁽⁵²⁾ Capitalising on these opportunities requires the right policies to be put in place. The European Pillar of Social Rights Action Plan is a solid roadmap, setting out concrete initiatives and targets to promote fair, inclusive and well-functioning labour markets. ⁽⁵³⁾ In addition, Europe's Digital Decade lays out actions and goals for a sustainable digital future.

Given the existing and future labour market and wellbeing challenges experienced by young people it is necessary to develop a shared and in-depth understanding of who these young people are. Although youth is widely agreed to be a period of transition leading from childhood to adulthood, its definition in terms of exact age varies. For example, in the United Nations (UN) Sustainable Development Goals (SDGs), 'youth' is defined using the 15-24 age bracket, a definition shared by the European Commission in the first Youth Guarantee, which was developed in response to the 2008

⁽⁴⁹⁾ This chapter was written by Stefano Filauro and Chiara Petrone, with contributions from Boris Arnold, Alessia Fulvimari, Mihai Palimariciuc and Tim Van Rie.

⁽⁵⁰⁾ See Chapter 1, section 4 for initial findings indicating that SMSD and AROP were higher among young people in 2020.

⁽⁵¹⁾ ESDE (2017), European Commission (2022).

⁽⁵²⁾ According to Eurostat, tertiary educational attainment in 2021 amounted to 36.7% of those aged 25–54 and 22.1 % of those aged 55–74 in the EU [edat_lfs_9903]. 71% of people aged 16 to 29 reported basic or above basic overall digital skills in 2021, against only 35% for people aged 55 to 74 [isoc_sk_dskl_121].

⁽⁵³⁾ The European Pillar of Social Rights Action Plan sets out concrete initiatives and headline targets for the EU by 2030, outlined here.

crisis.⁽⁵⁴⁾ More recently, however, trends in prolonged education paths and postponed entry to the labour market, household formation and parenthood are prompting a gradual revision of this definition.⁽⁵⁵⁾ In 2020, Member States committed to the Reinforced Youth Guarantee, which extended the upper age limit to 29 years. Similarly, the OECD Youth Action Plan was updated in 2021 to reflect the 29-year age extension.⁽⁵⁶⁾ This report generally uses this extended definition, except where specified otherwise.

This chapter asks who young Europeans are by analysing key transitions characterising youth, and investigates what issues they care about most. Section 2 analyses some key transitions to adulthood, such as entrance into the labour market and household formation, in order to understand the age at which these typically occur, and how this varies over time and across countries. Section 3 captures young people's concerns and perceptions through surveys that ask directly about their views of the future, their relationship with institutions, and the issues that top their list of political priorities. That understanding is crucial if national and international governments are to develop and implement policies that allow young people to fulfil their potential.⁽⁵⁷⁾

2. KEY TRANSITIONS: FINISHING EDUCATION, FINDING A JOB AND SETTLING DOWN

Youth is the phase between childhood and adulthood, marked by major transitions in education, professional life and private life. In a traditional life-course model, young people complete their initial education and training, take up work and gain financial autonomy, leave the parental home, and establish their own household, all within a relatively short timeframe.⁽⁵⁸⁾

⁽⁵⁴⁾ The Reinforced Youth Guarantee strengthens the comprehensive job support available to young people across the EU and extends the target group to 15 to 29 year-olds. Full proposal available here.

⁽⁵⁵⁾ Council recommendation 2020/C 372/01.

⁽⁵⁶⁾ OECD (2021).

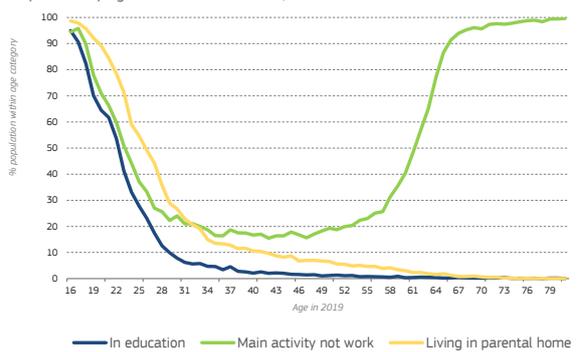
⁽⁵⁷⁾ The EU Youth Strategy (2019) contains 11 European Youth Goals, such as achieving better mental well-being, or guaranteeing an accessible labour market with opportunities that lead to quality jobs for all young people. Some of these goals were particularly disrupted by the COVID-19 pandemic.

⁽⁵⁸⁾ Kohli (1986).

Chart 2.1

Youth is a period of major transitions in education, work and family life

Population by age and current education, work and household situation



Source: DG EMPL calculations based on EU SILC micro-data

[Click here to download chart.](#)

At EU level, before the age of 15 most individuals participate in education, are not in work, and live in their parental home, but the number of people in that situation declines sharply with age. Chart 2.1 clearly shows these trends: the share of 17-year-olds in education is around 95% but drops to 10% for 29-year-olds. At age 17, almost all young people live in the parental home, dropping to 28.8% at 29 years of age. This is subject to variations and depends on structural factors linked to a country's social and economic conditions (e.g. labour market dynamism, housing market conditions, generosity of welfare), as well as individual circumstances (family composition, health).

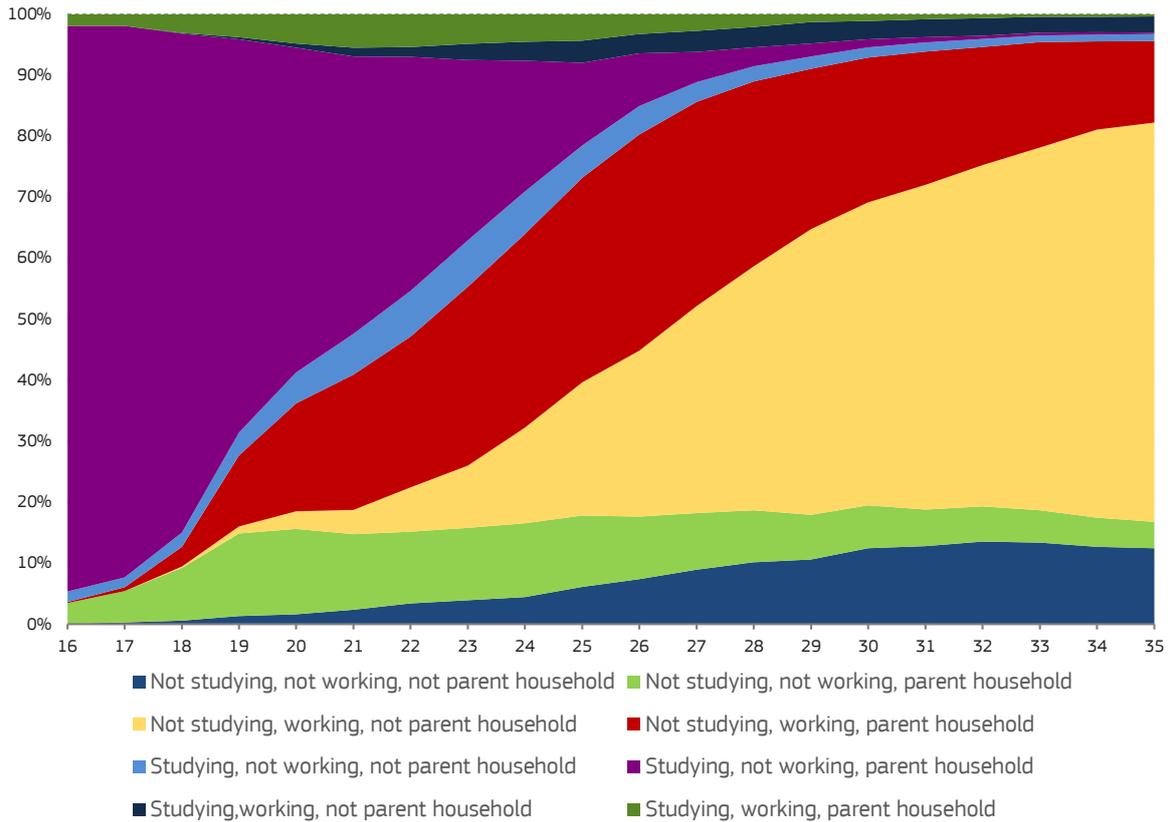
However, individual circumstances vary and different combinations of work, study and living conditions are evident. Chart 2.2 shows a substantial degree of variety in the timing of these major transitions. It confirms that the most common status at age 16 is studying, not working, and living with parents (purple area, at 90% for 16-year-olds), while at the age of 29 most people do not study, have a job, and live outside the parental home (yellow area, at about 50% for 29-year-olds). However, Chart 2.2 also shows that many other combinations can occur, with working while living with parents being particularly common (red area), and a small but constant share of people who live in the family home and neither work nor study (light green area). For a more detailed discussion focusing on the group of young people neither in employment or education and training (NEETs), see Chapter 3, section 2.

The timing of attaining the highest level of education varies across the Member States. On average, people exit education at the age of 22, but this varies considerably between Member States within the same generation (Chart 2.3). In Romania, for example, young people leave education at the age of 19, on average, while in Denmark, most individuals obtain their highest educational level around the age of 25.

Chart 2.2

Young Europeans live in a variety of work, study and household situations

Common combinations, EU 27, 2019



Source: DG EMPL's calculations based on EU SILC micro-data

[Click here to download chart.](#)

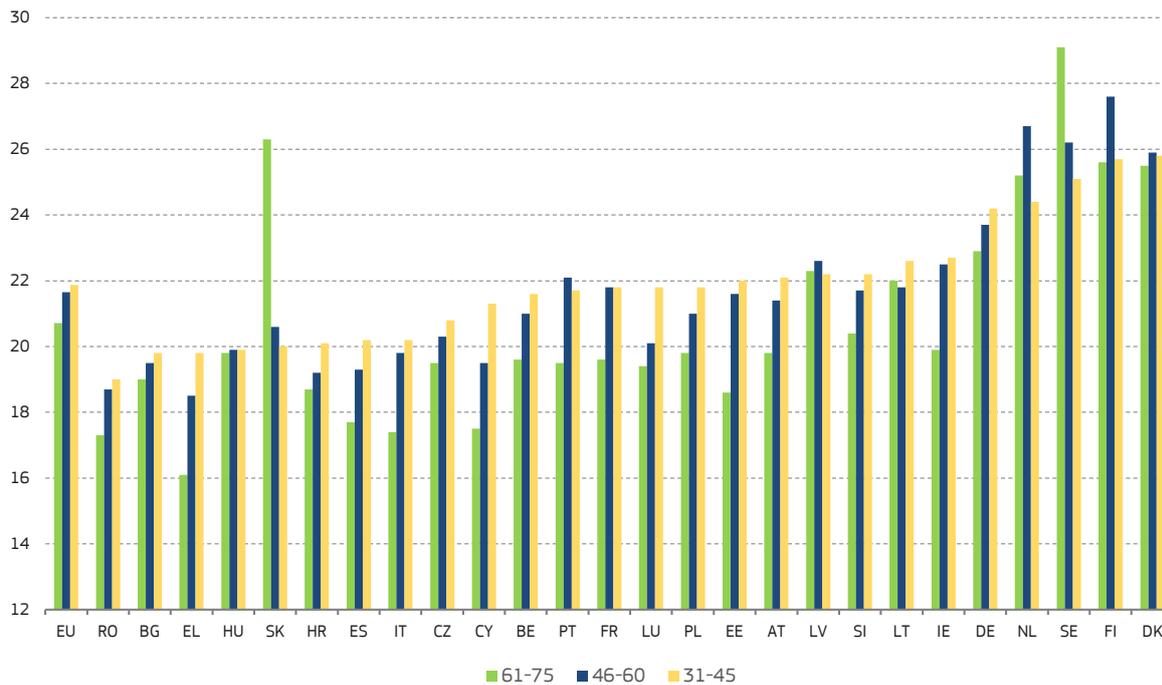
The dynamics of the transition out of education have changed over time due to the increase in participation and completion of tertiary education. Comparing different cohorts shows very diverse results, as people aged 31-45 faced different conditions as students and young workers than those aged 61-75 today. The average age at which people obtain their highest level of education has increased over time: at EU level, the 61-75 cohort left education more than one year earlier than their youngest counterparts (31-45). *Chart 2.3* also shows that for some countries, this transition has been happening considerably later (e.g. almost four years in Cyprus), but in some cases the average age of leaving education has stayed fairly constant or even fallen (the Netherlands, Sweden, Finland). In line with these findings, tertiary educational attainment in 2021 amounted to 36.7% of those aged 25-54 and 22.1 % of those aged 55-74 in the EU. ⁽⁵⁹⁾ This varied across Member States, with 57.1% of Irish young people aged 25-54 having tertiary education, compared to 21% of their Romanian counterparts.

⁽⁵⁹⁾ Eurostat [edat_lfs_9903].

Chart 2.3

People attain their highest level of education at later ages

Average age at attaining highest level of education attained, by Member State and birth cohort (ie current age), 2019



Source: DG EMPL's calculations based on EU SILC micro-data

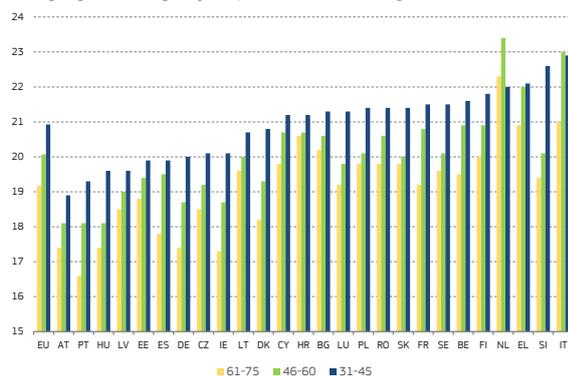
[Click here to download chart.](#)

Similarly, the age at which people have their first regular job has also increased. It rose by almost two years on average in the EU between the 61-75 and the 31-45 cohorts (*Chart 2.4*). This varies across the Member States, although the vast majority of countries are seeing this transition take place later. In some countries, such as Slovenia, Ireland and Portugal, the transition is delayed by three years between the youngest and oldest generation.

Chart 2.4

Age of first regular job has increased

Average age of first regular job, by birth cohort (current age), 2019



Source: DG EMPL's calculations based on EU SILC micro-data

[Click here to download chart.](#)

The timing of when young people leave the parental household differs considerably between countries. Data constraints prevent the same type of long-term analysis across cohorts for the age of leaving the parental household as for exiting education and starting a job. In fact, there are no consistent variations over time in the age at which the young leave their parents' household but this may be

because this outcome is observed for only 10 years and, these transformations take place over longer periods and across different generations.⁽⁶⁰⁾ However, it is possible to compare differences in the age at which this transition takes place across countries. *Chart 2.5* shows that in Denmark, Finland and Sweden, half of young people (the median in the chart) no longer live with their parents by the time they reach the age of 21. In Greece, Croatia and Slovakia, this transition occurs around 10 years later. In countries with a higher median age of leaving the parental household, there is also more variation between young people in the timing of their leaving home. In Denmark, for example, the difference in the age of leaving for the first quarter of 'earliest leavers' (25% in *Chart 2.5*) and the last quarter of 'late leavers' (75% in *Chart 2.5*) is only two years. That compares to a difference of 13 years in Greece. For a more in-depth discussion of the socio-economic and institutional determinants of leaving the parental home, see Chapter 4 section 2.

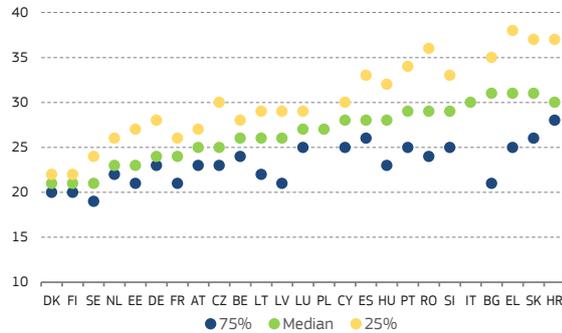
The legal age of adulthood is 18 in all Member States but according to the European Social Survey, the perceived beginning of this life phase differs by up to five years between the lowest age 18-19 years (Czechia, Portugal, the Netherlands, Ireland, Spain) and the highest age 22-23 years (Bulgaria, Italy), as shown in *Chart 2.5*. This variation seems somewhat to stem from cultural diversity between various Member States. In all countries considered, people also believed that adulthood starts at a later age for men compared to

⁽⁶⁰⁾ Eurostat table YTH_DEMO_030 includes data on age of leaving the parental household from 2012 to 2021.

women (two years on average at EU level as shown in *Chart 2.6*), a perception that could be explained by cultural beliefs about the role of women as carers, or could perhaps be linked to the earlier biological onset of adolescence in girls.

Chart 2.5
The age at which young people leave home varies

Proportion of young people living in the parental household by age, 2019



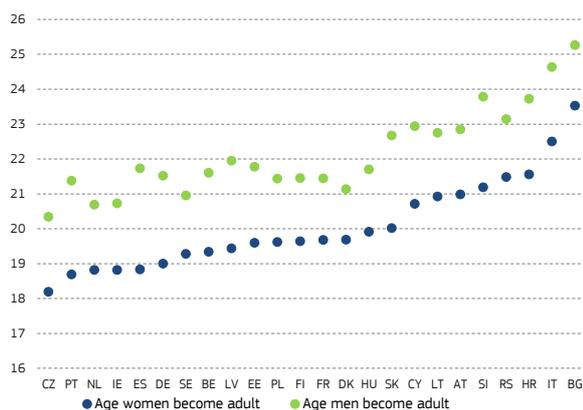
Note: Data for Italy are from 2018 because not available from 2019 at the time of analysis.

Source: DG EMPL's calculations based on EU SILC micro-data

[Click here to download chart.](#)

Chart 2.6
Adulthood is perceived to start later for men than for women

Average age of perceived start of adulthood for men and women, by Member State, 2018



Note: Weighted average, "it depends" response excluded

Source: European Social Survey, round 9, 2018

[Click here to download chart.](#)

These delays in the timing of transitions to adulthood are part of longer-term trends in the labour market conditions faced by young people, with their trajectories becoming less linear and predictable. Shorter periods of employment are now common in early careers and it is becoming more typical to return to learning after obtaining initial work experience, with an increase in adult training and education.⁽⁶¹⁾ Such mobility and experimentation at the early stages of a career can be positive and may serve to improve both labour matches and lifetime income.⁽⁶²⁾ However, recent labour market developments have increased instability for young people and created obstacles to their economic independence. As discussed in the 2017 ESDE report,

⁽⁶¹⁾ ESDE (2017).

⁽⁶²⁾ Midtsundstad (2019).

younger cohorts felt a stronger impact of the Eurozone crisis compared to older generations, facing more frequent and longer unemployment spells, more prevalent non-standard and precarious work contracts, and lower labour market income compared to prime-age and older workers.⁽⁶³⁾ Coupled with higher relative housing costs (see Chapter 4 section 4), this can delay household formation and might help to explain the post-2008 increase in young people returning to the parental home after a period of independent living – the so-called Generation Boomerang.⁽⁶⁴⁾⁽⁶⁵⁾ Young Europeans are facing these traditional transitions alongside major societal transformation in the form of the green and digital transitions, as well as the fallout and recovery from COVID-19 and recent geopolitical tensions.

3. CURRENT IMPACTS AND FUTURE CHALLENGES

From the beginning of the COVID-19 pandemic, there were concerns at national and international level about its impact on young people. Several surveys (primarily by the OECD, the International Labour Organization (ILO) and Eurofound) sought to examine that impact more closely by asking participants – including young people – about the effect of the crisis on their lives. The surveys asked about concrete employment and education or training outcomes, but especially about people's subjective perceptions of well-being, their views of the future, and their relationship with politics and institutions. The surveys varied in methodology, scope, and geographical regions covered, and while they offer a broad range of views and situations, they are neither necessarily comparable nor fully representative.⁽⁶⁶⁾ These findings are also useful in monitoring whether or not the EU is on track to achieve the 11 Youth Goals identified through the EU Youth Dialogue between young people and decision-makers.

3.1. Perceived impacts on employment and financial perspectives

Young people reported their labour market situation during the pandemic as being more challenging than that of older age groups.⁽⁶⁷⁾ Surveys found that young people were overrepresented in the sectors most impacted by COVID-19 restrictions, such as accommodation and food services, retail, health, and social work. They were also more exposed to recent labour market insecurity, with a higher proportion employed on temporary and

⁽⁶³⁾ ESDE (2017).

⁽⁶⁴⁾ Lennartz et al. (2015).

⁽⁶⁵⁾ ESDE (2017) notes that young people face higher housing costs relative to their income compared to older people.

⁽⁶⁶⁾ See Annex A1 for an overview of the surveys and annex A2 for key findings. Many of the surveys were not based on statistical random sampling.

⁽⁶⁷⁾ OECD (2020); Eurofound (2021).

part-time contracts.⁽⁶⁸⁾ As a result, many young people faced unemployment or a forced reduction in working hours. For example, more than half (51%) of the respondents to the OECD survey in 2020 reported that 'either they or a household member have experienced job-related disruptions since the start of the COVID-19 pandemic in the form of a job loss, the use of a job retention scheme, a reduction in working hours, and/or a pay cut', a finding mirrored by the Eurofound and ILO surveys in 2020 and 2021. For a discussion of why young people are typically more vulnerable to recessions, see Chapter 3 section 3. These economic consequences need to be carefully monitored to ensure that they do not hinder the path towards Youth Goal #7, Quality Employment for All, which acknowledges that young people are suffering from high unemployment and precarious working conditions, and thus aims to guarantee an accessible labour market for all young people.

The pandemic impacted young women and men differently, and the surveys show an ambiguous picture of that varied impact. The ILO survey in 2020 found that young men more frequently reported that they had stopped work, reduced their working hours, or faced income losses. However, such gender differences are complex and depend on various factors, which would require separate analysis beyond the self-reported survey data reviewed in this context. Official statistics show instead that in 2020 youth unemployment at EU level increased slightly more for young women (+2.0 pp) than for men of the same age (+1.8 pp).⁽⁶⁹⁾ This is somewhat different than the trend for the general population, where male unemployment in the EU increased slightly more (respectively 0.5pp and 0.4pp), even though women experienced a steeper fall in working hours.⁽⁷⁰⁾ Furthermore, the increased burden of domestic or care work during the pandemic fell disproportionately on women, which also had an impact on their job prospects.⁽⁷¹⁾

Many young people reported difficulties in affording housing or paying for their usual expenses since the start of the pandemic, with some facing particularly extreme conditions. In the OECD survey in 2020, one in five young people's households reported having to take funds out of their savings or sell assets to pay their rent or bills. Across the OECD countries, 5% of young people went hungry because they could not afford to purchase food, and 2.4% lost their house due to difficulties in paying housing costs. For each of these indicators, young people reported higher shares than the other two age groups (30 to 49 as well as 50 to 64). In spring 2021, housing insecurity affected 4% of employed young people, 3% of students, and 17% of unemployed or

inactive youths.⁽⁷²⁾ This is consistent with the finding highlighted in Chapter 4 section 3 that young people, lacking savings, more often have to rely on family and friends to weather unexpected income shocks.

Among young people, those aged 18-24 and those from disadvantaged backgrounds were worse affected. Based on self-reported labour market outcomes, young people from low socioeconomic backgrounds were hardest hit by job losses.⁽⁷³⁾ The youngest cohort (18-24) reported being more likely to stop working (23.1%).⁽⁷⁴⁾

There were substantial differences in the impact on young people across Member States. This reflected the strictness of economic measures to curb the pandemic, such as lockdowns, labour market policies (e.g. job retention schemes), and pre-existing institutional differences. The Eurofound survey in 2021 grouped Member States by welfare and labour market regime type in order to obtain a high-level picture of the varied impact of the pandemic on the employment of young people in different countries.⁽⁷⁵⁾ The largest proportion of young people transitioning from employment into unemployment was found in Mediterranean countries, at 10%, while the Continental and Nordic countries saw a proportion below 4%.

3.2. Perceived impacts on well-being and mental health

Young people's life satisfaction and mental health worsened during the COVID-19 pandemic.⁽⁷⁶⁾ The ILO survey in 2020 found that '50% of young people are *possibly* subject to anxiety or depression, while a further 17% are *probably* affected by it.'⁽⁷⁷⁾ The Eurofound survey in spring 2021 found that 65% of young people were at risk of depression according to a mental well-being score of the World Health Organisation. Perceived mental health was worse for young women than for young men, and for unemployed and inactive young people. The survey found that 'young workers who had lost their job were almost twice as likely to be affected by probable anxiety or depression as those who continued to be employed (23% and 14%, respectively)' The Health at a Glance Europe 2020 report confirms

⁽⁷²⁾ Housing insecurity is defined as being likely or very likely to have to leave current accommodation within three months due to inability to afford it.

⁽⁷³⁾ OECD (2020).

⁽⁷⁴⁾ ILO (2020).

⁽⁷⁵⁾ The 2021 Eurofound survey defines five groups: Continental or Conservative (Austria, Belgium, France, Germany, Luxembourg); Eastern (Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia); Liberal (only Ireland, as previously included the UK), Nordic or Social-Democratic (Denmark, Finland, the Netherlands, Sweden); and Mediterranean (Cyprus, Greece, Italy, Malta, Portugal, Spain).

⁽⁷⁶⁾ Eurofound (2021); OECD (2020).

⁽⁷⁷⁾ The ILO survey used the Short Warwick-Edinburgh Mental Well-being Scale to estimate young people's mental well-being. Respondents' answers to seven statements on their thoughts and feelings were used to assess probable/possible/no anxiety or depression.

⁽⁶⁸⁾ Eurofound (2021); ILO (2020).

⁽⁶⁹⁾ ESDE (2021).

⁽⁷⁰⁾ Eurostat [une_rt_a], ESDE (2021).

⁽⁷¹⁾ JRC (2022).

these results, showing that the pandemic affected mental well-being, with evidence of higher rates of stress, anxiety and depression; as well as young people and lower-income groups were particularly at risk. ⁽⁷⁸⁾ A review of four national surveys by the Social Situation Monitor (SSM) found that young people did not report worst well-being during the pandemic compared to other age groups, but confirmed that depressive symptoms and loneliness were more frequent amongst youth. ⁽⁷⁹⁾ Analysis by the SSM using their own survey results also found that across five EU countries the drop in subjective well-being was steeper for younger people. ⁽⁸⁰⁾

A combination of factors underpinned the deterioration in young people's self-reported mental health. Limited education and work opportunities due to the pandemic were significant factors, as were limited mobility and access to physical activity, and the prohibition of social gatherings, especially for those who were not living with their families during lockdowns. In general, increasing degrees of uncertainty were likely to exact a toll on mental well-being. This is recognised in Youth Goal #5, which aims to achieve better mental health and end stigmatisation of mental health issues. The European Parliament has also stressed the need to consider the link between mental health and other factors, such as socioeconomic conditions (unemployment, housing insecurity) and wider uncertainty about the future (including climate change) with a view to adopting a holistic approach towards mental health at EU level. ⁽⁸¹⁾

3.3. Perspectives on the future and trust in institutions

Financial security, long-lasting effects of the pandemic, and career prospects are high among young people's concerns. One of the most urgent worries is future financial security – the impact of the health crisis on the labour market, coupled with their insecure work positions, causes young people to worry about their ability to pay the bills and to keep their jobs, in both the short and long term. They are concerned that they may not be able to find or maintain adequate housing in the longer term (61% reported this concern beyond the next 10 years), or

ensure their financial security in old age (70%). ⁽⁸²⁾ The ILO survey in 2020 found that 14% of young people were fearful about their future career prospects, with fears greatest among those who stopped working since the onset of the pandemic (24%). In general, women were less confident and more worried about the future, especially during the first year of the pandemic. This suggests that recent economic developments may have exacerbated issues that were already present, such as the growth in precarious and unstable work contracts compared to older generations, reduced welfare system protection, and higher relative costs of housing, all of which contribute to an instability that delays economic independence and household formation. ⁽⁸³⁾

Throughout the pandemic young people's optimism about the future fell but nevertheless remained higher than that of the rest of the population. ⁽⁸⁴⁾ In spring 2021, less than half (40%) of young people reported feeling optimistic about their future, yet this share was higher than among the over-30s. That optimism reflected the different life conditions of young people and was lowest among those experiencing job and housing insecurity, and financial difficulties. The extent of this positive outlook also depended on the measures in place. For example, young people were more pessimistic during strict lockdowns. This is consistent with findings in Chapter 4 section 3 showing that young people display higher resilience compared to the general population.

Throughout the COVID-19 pandemic, trust in national governments fell, but was still higher among young people than older respondents. ⁽⁸⁵⁾ The Eurofound survey in 2021 found that even though people trusted governments less in general throughout the pandemic (the trust index dropped from 4.8/10 in spring 2020 to 3.9/10 in spring 2021), young people showed higher levels of trust compared to older groups. As of spring 2021, younger people's trust in government was at 4.2/10, compared to 3.9/10 for older groups. The heterogeneity among young people was evident, with those with a higher level of education or still in education, as well as women, showing a higher level of trust in their government. Women had a mean trust in government score of 5.7/10 (compared to 4.8/10 for men), while those who had completed tertiary education displayed a score of 5.6/10, compared to 5/10 for those with a lower educational level.

Similarly, trust in EU institutions remained higher among younger groups, despite varying

⁽⁷⁸⁾ Health at a Glance Europe (2020).

⁽⁷⁹⁾ The SSM is an initiative led by the consultancy ICF with researchers from the HIVA Institute (KU Leuven University), on behalf of the European Commission. The SSM note Naumann et al (2022) reviews four independent panel survey projects in France, Germany, Italy and the UK. Therefore, periods of data collection are not entirely simultaneous and there are some differences in how the concepts of interest are measured in the surveys, so these results should be interpreted with caution.

⁽⁸⁰⁾ The SSM note Barslund and Thil (2022) includes both a review of existing surveys, as well as own survey results. The survey was conducted in May 2022 and draws on a representative sample of 4 000 people aged 16 to 70 years old in 5 EU countries: Denmark, France, Germany, Italy and Poland. Existing international surveys' questions were used in order to compare answers after 2 years of the pandemic.

⁽⁸¹⁾ European Parliament Resolution (2021/2952(RSP)).

⁽⁸²⁾ OECD (2020).

⁽⁸³⁾ ESDE (2017).

⁽⁸⁴⁾ Eurofound (2021). Respondents were asked to rate the statement 'I am optimistic about my future' on a scale from 'strongly disagree' to 'strongly agree'.

⁽⁸⁵⁾ Evidence on trust in government was drawn from Eurofound (2021), views on government from OECD (2020), trust in the EU and representativeness from Eurofound (2021) and the European Parliament (2021).

throughout the pandemic depending on the perceived successes and failures of EU policies. In spring 2021, Eurofound (2021) found that general trust in the EU was at 4.6/10, compared to 5.6/10 among young people. Trust in European institutions was also considerably higher among the young than trust in their national governments. The European Parliament's survey in 2021 somewhat confirms this, as the majority of young people were generally in favour of the EU (62%), with 34% dissatisfied and 28% satisfied. Interestingly, 45% of respondents reported that their image of the EU remained stable in 2020, 17% said it had improved and 31% reported it had worsened. Other surveys such as the one conducted by the SSM found no clear differences between young and older people's belief in whether their voice counts in the EU.⁽⁸⁶⁾ While Eurofound did not find this relationship with the EU to be affected by gender, differences in employment status and education levels positively correlated with trust, with students scoring particularly high. By contrast, the SSM results show that in most countries surveyed men were more likely than women to think that their voice counts in the EU.

Young people do not feel sufficiently well-represented. Of the young respondents to the OECD survey in 2020, 40% felt that government did not incorporate their views in the design of public benefits and services. The European Parliament survey in 2021 found that young peoples' perceptions of their influence on policy outcomes also depended on the level of government. While 53% of the young population reported having little if any voice in decisions at local level, that figure rose to 60% for decisions at national level and 70% at EU level. Two-thirds of young respondents to the Eurofound survey in 2021 thought that their government should be doing more to ensure their economic and social security, as well as their well-being. According to the Flash Eurobarometer survey 502, young people's most common expectation for the 2022 European Year of Youth is for decision-makers to listen more to their demands and act on them (72%), and to support their personal, social and professional development (71%).⁽⁸⁷⁾ Bridging this perceived distance between Europe's young people and national and EU institutions is one of the aims of the Conference on the Future of Europe. Launched in spring 2021, it intends to bring together citizens – including a large proportion of young people – to discuss the EU's challenges and priorities and draw up recommendations for the future of the Union. Appropriately taking into account the recommendations from this dialogue would improve young people's involvement and promote their belief that they can indeed participate in policy-making.

⁽⁸⁶⁾ These results stem from the upcoming SSM research note by Barslund and Thil (2022). See footnote 80 for more information.

⁽⁸⁷⁾ Flash Eurobarometer survey (2022).

3.4. Perceptions of main priorities and of the twin green and digital transitions

Young people believe in a just transition: their top priorities include poverty and social inequality, as well as unemployment and joblessness. Within the European Youth Forum in 2022 there have been calls for greater government and EU investment to combat social inequality and promote climate action, replacing economic growth-oriented policy goals with a focus on human and ecological welfare, and insisting on stronger democratic and civil society involvement in policy-making. Keeping these priorities high on the EU agenda can improve young people's trust in EU institutions and ensure that they are properly represented. The implementation of the 11 European Youth Goals is a key political compass, particularly Goals 1 and 9, which aim to foster young people's sense of belonging to the European project (Goal 1) and to strengthen young people's democratic participation and autonomy (Goal 9). The special Eurobarometer Future of Europe survey launched in 2021 confirmed these priorities. In the survey, young people reported social inequalities and unemployment as the two main challenges for the EU from 2012 to 2021.⁽⁸⁸⁾ Younger generations are showing a demonstrable interest in sustainable development, suggesting that social entrepreneurship may appeal to them: initiatives such as the 2022 Youth Entrepreneurship Policy Academy established under the European Social Fund (ESF+) could promote the labour market integration of young people, including female and social entrepreneurs.

Environmental concerns are high on the list of European citizens' preoccupations, especially among young people. The recent Special Eurobarometer on the Future of Europe survey found that 91% of 15-24-year-olds believe that tackling climate change can help to improve their own health and well-being, compared to 84% of people over-55. Climate change is causing distress, anger and other negative emotions in young people, in a phenomenon termed 'eco-anxiety'.⁽⁸⁹⁾ According to the 2021-2022 Climate Survey of the European Investment Bank (EIB), 84% of people aged 20-29 believe that climate change and its consequences represent the biggest challenge for humanity in the 21st century (*Chart 2.7*). They also reported higher climate responsibility, believing themselves to be considerably more concerned than their governments about the phenomenon, recognising that climate change has an impact in their everyday life, and thinking that their own behaviour can make a difference.

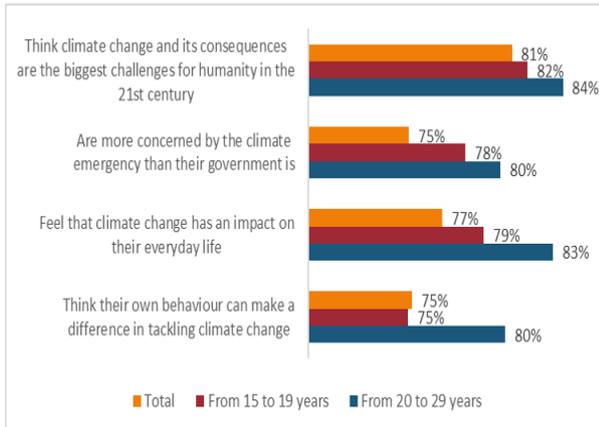
⁽⁸⁸⁾ Eurobarometer Future of Europe Survey 517 (2021). Since 2012, Future of Europe surveys have dedicated a question to the main challenges for the EU in the future. Both the question formulation and answer options change slightly across surveys, complicating full comparison.

⁽⁸⁹⁾ Marks et al. (2021).

Chart 2.7

Youth perceptions of climate change

Findings of EIB Climate Survey, % of respondents (EU27)



Source: EIB Climate Survey 2021-2022

[Click here to download chart.](#)

Environmental concerns have a significant impact on the consumption and labour decisions of young Europeans. Based on the EIB climate survey in 2021-2022, a higher share (28%) of people in their twenties take the issue of climate change into account when buying products or services compared to the 15-19 age group (23%) or the total population (21%). This age group is also the most inclined to buy second-hand products. In addition, a majority of young Europeans consider climate change when looking for a job and are concerned about the sustainability of their jobs. Almost half (44%) of EIB survey respondents aged 20-29 reported fearing they could lose their job because of its incompatibility with the fight against climate change, compared to an EU average of 25%.

Young people are particularly aware of the role of the EU in tackling the climate crisis. When thinking about the main global challenges for the future of the EU, more than half (53%) of young Europeans consider climate change the main global issue.⁽⁹⁰⁾ The same Eurobarometer survey found that 87% of 15-24-year-olds believe that it is important to make Europe the world's first climate-neutral continent by 2050, compared with 77% of over-55s.⁽⁹¹⁾

The risks associated with new technologies are not a top concern for young Europeans, although young people worry about the impact of the digital transition on jobs. When asked about the main global challenges for the future of the EU, the risk associated with digital innovation was low on their list of priorities, at only 13%, compared to climate and environmental issues at 49%.⁽⁹²⁾ However, when asked about the future of work, young Europeans revealed deeper concerns and pessimism. While most young people worldwide are 'technology optimists' and believe that technological change will create as well as destroy jobs, Europe has a far higher proportion of

young people who believe that digitalisation will destroy more employment than it creates, at 21% and 9% respectively. Overall, young Europeans are considerably less optimistic about the relationship between technology and the labour market than their Asian and North American peers.⁽⁹³⁾

4. CONCLUSIONS

Major transitions marking the passage from childhood to adulthood, such as entry into the labour market and household formation, pose challenges for young people. The labour market instability inherited by young people as a result of the 2008 financial crisis was exacerbated by the economic turmoil due to the COVID-19 pandemic. Those combined circumstances present a challenge to the EU goal of providing a good environment for young people to grow up, learn, work and acquire independence.

In recent international opinion surveys, young people reported being heavily affected by the pandemic. Those in employment were overrepresented in job losses and reduced working hours, while those in education had a more difficult transition to the labour market, with fewer vacancies and work opportunities. They reported mental health strain, with a higher risk of depression or anxiety than among older groups. These negative impacts are reflected in their views of their future financial and career opportunities. However, young people are a heterogeneous group, and their individual circumstances as well as the country they live in are important determinants of how the pandemic affected them.

Despite this challenging context, young people remain more optimistic than the rest of the population and display more trust in institutions. Their trust in government and in the EU was negatively impacted by health-related restrictions, but remained higher than that of older age groups. It may be possible to reinforce that trust by reflecting their priorities on local and international political agendas.

Implementing the right policies at EU and national level can promote better outcomes for young people. The European Year of Youth is an important opportunity to raise awareness of the challenges facing young people. The EU has set out key principles aimed at building a strong social Europe, together with concrete initiatives to achieve those goals. The European Pillar of Social Rights action plan contains principles on inclusive education, training and lifelong learning (principle 1) and on equal opportunities for employment, social protection, education, and access to goods and services (principle 3).⁽⁹⁴⁾ These initiatives include the Reinforced Youth Guarantee, a commitment to ensuring that young

⁽⁹⁰⁾ Eurobarometer (2020).⁽⁹¹⁾ Eurobarometer (2020).⁽⁹²⁾ European Parliament (2021).⁽⁹³⁾ ILO (2017).⁽⁹⁴⁾ Decision of the European Parliament and of the Council 2021/0328 (COD) LEX 2139.

people who are unemployed or who have left education receive a good quality offer of employment or training, as well as the ALMA initiative, which targets first work experiences abroad for young NEETs. These schemes are supported by significant amounts of funding at EU level, such as the ESF+, the ERDF (European Regional Development Fund) and the Recovery and Resilience Facility, which provide targeted investments in youth employment, health and housing. The Council of the European Union has observed the importance of preventive approaches (e.g. early warning systems) identifying groups of young people at risk of labour market vulnerability and directing help where it is most needed. ⁽⁹⁵⁾

The concerns and priorities of young Europeans must be kept at the heart of policy-makers' agendas. This may help to combat young people's perceptions that governments do not take their perspectives into account when designing policies, as well as strengthening their involvement in social and political life. Young people need to be supported to take advantage of the opportunities offered by the green and digital transitions, while ensuring that their distributional impacts do not harm the most vulnerable young Europeans.

⁽⁹⁵⁾ Council Recommendation 2020/C 372/01.

Annex 1: International surveys

Table A1.1
Summary of main surveys on young people

OECD: Young people's concerns during COVID-19: Results from risks that matter (2020)	https://www.oecd.org/coronavirus/policy-responses/young-people-s-concerns-during-covid-19-results-from-risks-that-matter-2020-64b51763/	One round: September-October 2020	18-29 years old	25 000 respondents from 25 countries About one-quarter of the respondents per country were young people (approx. 250 per country)	<ul style="list-style-type: none"> - Not representative - Implemented online using samples recruited via the internet and over the phone by Respondi Ltd - Remunerated survey - Sampling quota and weights based on sex, age, education level, income level, and employment status 	OECD Directorate for Employment, Labour and Social Affairs
ILO: Global Survey on Youth and COVID-19 (2020)	https://www.ilo.org/budapest/whats-new/WCMS_753026/lang-en/index.htm	One round: April-May 2020	18-29 years old	12 605 respondents from 112 countries	<ul style="list-style-type: none"> - Not representative - Online snowball sampling survey - Weighted by age, gender, and country young population 	Joint work: ILO, UN Major Group for Children and Youth, AIESEC (youth-run NGO), European Youth Forum, European Union Emergency Trust Fund for Africa, and UNHCR Eurofound
Eurofound: Living, working and COVID-19 e-survey (2020; 2021)	https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef20036en.pdf	First round: April 2020 Second round: June-July 2020 Third round: February-March 2021	15-29 years old	First round: 68 000 respondents (7 381 young people) Second round: 24 100 respondents (2 143 young people) Third round: 46 800 respondents (3 828 young people)	<ul style="list-style-type: none"> - Not representative - Survey online, via social media - Weighted by age, gender, education, urbanisation level, and country 	Eurofound

(Continued on the next page)

Table (continued)

<p>European Parliament:</p> <p>Flash Eurobarometer</p> <p>European Parliament Youth Survey (2021)</p>	<p>https://www.euro-parl.europa.eu/at-your-service/files/heard/eurobarometer/2021/youth-survey-2021/report.pdf</p>	<p>One round: June 2021</p> <p>16-30 years old</p> <p>18 156 respondents</p>	<ul style="list-style-type: none"> - Computer-assisted web interviewing - Respondents selected from online access panels, groups of pre-recruited individuals who have agreed to take part in research - Sampling quota based on age, gender, and geographical region 	<p>Ipsos European Public affairs</p>
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Annex 2: Key findings for young people

Table A2.1

Main findings from key surveys on young people

Surveys	Employment and financial difficulties	Well-being/mental health	Perspectives on the future	Trust in the institutions
OECD (September-October 2020)	<ul style="list-style-type: none"> - 51% experienced job-related disruption (job loss, reduced working hours, pay cuts, and/or unpaid leave) - 36% reported financial difficulties 	<ul style="list-style-type: none"> - More likely to report worsened mental health than older groups - Women more likely to report worsened mental health than men, in all age groups 	<ul style="list-style-type: none"> - 63% concerned about overall social and economic well-being and household finances - Concerns about housing: 53% concerned about not being able to find/maintain adequate housing in the next year or two, 61% beyond the next 10 years - Concerns about old age: 70% concerned about not being financially secure in old age - Women more concerned than men (66%, compared to 60%) 	<ul style="list-style-type: none"> - Two-thirds thought government should be doing more to ensure their economic and social security and well-being - 40% felt that government does not incorporate the views of people like them when designing policies
ILO (April-May 2020)	<ul style="list-style-type: none"> - 23.1% who worked before the COVID-19 outbreak had stopped working - 23% in employment before the onset reported a reduction in working hours, which meant a lower income for 42% of them 	<ul style="list-style-type: none"> - 50% possibly experienced anxiety or depression - 23% of those who lost their job were likely to report being affected by anxiety or depression (compared to 14% among those employed) - Women more likely to report possible anxiety or depression 	<ul style="list-style-type: none"> - Concerns about labour market: 38% uncertain and 16% fearful about future career prospects 	

(Continued on the next page)

Table (continued)

Eurofound (first round: April 2020; second round: June-July 2020; third round: February-March 2021)	<p>In 2020, unemployment increase was larger than among older groups</p> <ul style="list-style-type: none"> - Workers in accommodation and food services, wholesale and retail, and health and social work were at higher risk of job loss, as were those on temporary (36%) and part-time (22%) contracts - Unemployed or inactive young people were most likely to experience housing insecurity (17%), difficulty making ends meet (43%), and having no savings (39%) 	<ul style="list-style-type: none"> - Perceived life satisfaction decreased to its lowest point in spring 2021 - Reported mental well-being was lowest in spring 2021, related to school closures - Reported risk of depression was particularly high among unemployed/inactive people - Women reported lower mental well-being than men 	<ul style="list-style-type: none"> - General optimism about the future remained higher than in older groups throughout the pandemic - 49% of young people were optimistic about their future - Optimism was lowest among those experiencing job insecurity, housing insecurity, or financial difficulties 	<ul style="list-style-type: none"> - Trust in the EU was higher than trust in government, and also higher than older people's trust in the EU - Trust in the EU improved in summer 2020 and declined in spring 2021, however the level of trust remained higher than spring 2020 levels - Women reported more trust in government than men did - Those with higher education reported greater trust in government
European Parliament/ (June 2021)	/		<ul style="list-style-type: none"> - Top political concerns: tackling poverty and social inequality (43%); combating climate change and protecting the environment (39%), and combating unemployment or lack of jobs (37%) 	<ul style="list-style-type: none"> - 53% reported having little if any voice in decisions affecting their local area, increasing to 70% for the EU - 62% generally in favour of the EU – including 34% dissatisfied and 28% satisfied - 21% rather sceptical of the EU

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Young people and the labour market: new and persisting challenges

1. INTRODUCTION ⁽⁹⁶⁾

The COVID-19 crisis highlighted the pre-existing challenges faced by young people in the labour market.

Young people were one of the groups most strongly affected by job loss during the pandemic, chiefly because they tended to have more fixed-term contracts than the average workforce and were concentrated in sectors that were badly affected by the crisis. Young people transitioning from education to the labour market faced additional difficulties in finding their first job, while the long-term trend of declining numbers of young NEETs reversed. However, labour market shortages have already been noted in the post-COVID-19 recovery, with further shortages expected to emerge in the context of the green and digital transitions, offering more opportunities for young people. Young working-age people need access to good quality jobs that fully develop their productivity while helping to meet the growing demand for labour and skills. Only then can the recovery and the green and digital transitions result in a sustainable and fair future for all.

There is a growing need to provide an adequate framework for changing labour market realities and ensuring that social protection systems remain fit for purpose in the face of new challenges. The ESDE report in 2017 provided insights into intergenerational fairness in the context of the challenges faced by younger generations in the labour market, and their social implications. ⁽⁹⁷⁾ The

analysis showed that such phenomena are likely to be persistent, as they stem from structural changes such as new skills requirements and ever-faster technological change.

This chapter presents evidence on how young workers are faring in the labour market in the aftermath of the COVID-19 crisis. It analyses the determinants of the probability of being NEET, looks at the impacts of recessions on labour market outcomes for young people, examines the composition of the young workforce, and describes the extent to which young workers are prepared for the digital transition.

⁽⁹⁶⁾ This chapter was written by Jakub Caisl, Gabor Katay, Giuseppe Piroli and Joe Rieff, with contributions from the JRC.

⁽⁹⁷⁾ The 2017 ESDE report discusses parenthood, access to housing, wealth accumulation and the acquisition of pension entitlements, among other things.

2. NEETs: STRUCTURAL DRIVERS AND CHALLENGES

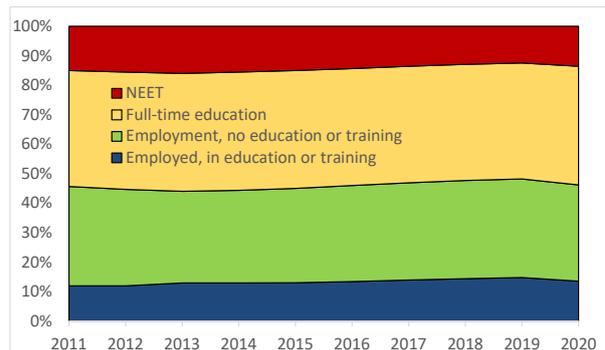
The shocks experienced by Member States' economies in recent years have had a major impact on students and young workers. The youth unemployment rate in the EU-27 rose by more than 1 pp in 2020. For fully employed young people (age 14-29), the probability of remaining in full employment dropped by 13 pp in Q2 2020 compared to Q2 2019.⁽⁹⁸⁾ Given their importance in the current and future labour market the integration of young people remains an important research topic for both scholars and policy-makers. The literature suggests that those with a good education are better equipped to deal with the transition from education to work, and generally have a higher chance of succeeding in the labour market, particularly during times of economic turbulence and shock.⁽⁹⁹⁾ Several analyses found that education and training influence certain aspects of labour market performance, including wages, time to first stable job, productivity, type of work, and other outcomes.⁽¹⁰⁰⁾

The NEET rate is increasingly used to represent the labour market integration of young people⁽¹⁰¹⁾ and as a reference indicator for several policy initiatives, such as the Reinforced Youth Guarantee⁽¹⁰²⁾ and the SDGs.⁽¹⁰³⁾ NEETs are young people who are not accumulating human capital through any formal channels.⁽¹⁰⁴⁾ According to Eurofound, the NEET concept aims to gain a better understanding of the vulnerable status of young people and to facilitate monitoring of their access to the labour market.⁽¹⁰⁵⁾ Linked to the risk of a 'lost generation', it allows analysis of the complex nature of disadvantage in youth, suggesting a different approach to better qualify labour market vulnerability among young people.⁽¹⁰⁶⁾ In 2017, the Council of the European Union underlined that NEETs are a heterogeneous group with diverse needs and that effective outreach requires strong and persistent efforts on the part of national authorities, as well as cross-sectoral cooperation.⁽¹⁰⁷⁾ The European Parliament subsequently welcomed the 2020 Reinforced Youth Guarantee as a means of

implementing a more individualised and targeted approach to both temporary and longer-term NEETs.⁽¹⁰⁸⁾

Young people's participation in education increased over the last 10 years. Between 2011 and 2020, the proportion of employed 15-29-year-olds involved in education or training in the EU-27 increased from 11.9% to 13.5%, while NEETs fell by almost 3 pp (to 12.6%) in 2019, just before the outbreak of COVID-19 (*Chart 3.1*).

Chart 3.1
Young people are more involved in education
Participation rate (%) of 15-29-year-olds in education and training, EU-27, 2011-2020



Source: Eurostat, EU-LFS [edat_lfse_18].

[Click here to download chart](#)

The increase in educational activity is an important trend. In fact, own education level (together with other factors) strongly influences the probability of a young person being a NEET. The effects of individual, household and context characteristics on such probability are analysed through a probit model (*Chart 3.2*).⁽¹⁰⁹⁾ A first regression assesses the impact of personal characteristics (gender, own education⁽¹¹⁰⁾) and social context (level of criminality in the area, density of urbanisation), while a second regression introduces parental background. Comparing the two estimates offers an insight into the impact of parental background, in particular.

⁽⁹⁸⁾ ESDE Quarterly Review, December 2021 (European Commission, 2021a).

⁽⁹⁹⁾ ESDE Quarterly Review, December 2021 (European Commission, 2021a); and ESDE Annual Review 2021 (European Commission, 2021b).

⁽¹⁰⁰⁾ Ionescu and Cuza (2012) provide an analysis at macro level; see also ESDE (2018), Chapters 2 and 3.

⁽¹⁰¹⁾ Orfao et al. (2021).

⁽¹⁰²⁾ Reinforced Youth Guarantee available here.

⁽¹⁰³⁾ The NEET rate is the target indicator for SDG 8.2.

⁽¹⁰⁴⁾ Eurofound (2012).

⁽¹⁰⁵⁾ Eurofound summary of NEET concept available here.

⁽¹⁰⁶⁾ Mascherini (2020).

⁽¹⁰⁷⁾ Council Conclusions on the European Court of Auditors' Special Report No 5/2017, 'Youth unemployment - have EU policies made a difference? An assessment of the Youth Guarantee and the Youth Employment Initiative', available here.

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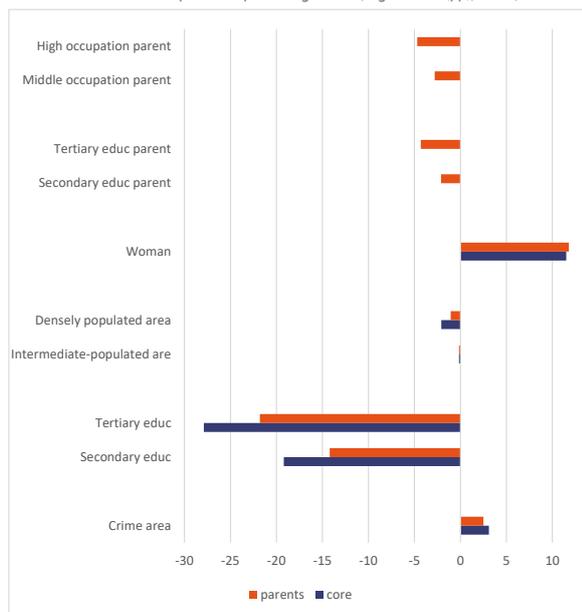
⁽¹⁰⁹⁾ Information on parental background in the EU-27 is available for people aged 25-29 in EU-SILC ad hoc modules on 'Intergenerational transmission of disadvantages, household composition and evolution of income' (2019) and 'Intergenerational transmission of disadvantages' (2011).

⁽¹¹⁰⁾ Three different levels of formal education (achieved level) are defined on the basis of the International Standard Classification of Education (ISCED) system: i) pre-primary, primary and lower secondary (ISCED 0-2); ii) upper secondary and post-secondary non-tertiary (ISCED 3-4) and iii) tertiary (ISCED 5-8).

Chart 3.2

Individual and household characteristics as key NEET factors

Factors connected to the probability of being a NEET, age 25-29 (pp), 2011, 2019



Note: Marginal effects (in pp) of probit regression with respect to the missing outcome of the variables. Model includes age and country dummies.

Source: DG EMPL estimates based on EU-SILC micro data, 2011 and 2019 UDB.

[Click here to download chart.](#)

The core model (blue bars in Chart 3.2) confirms that young people with a lower education level are at greater risk of becoming trapped outside the labour market and education system. At the EU level, the probability of young people aged 25-29 becoming NEETs is approximately 19 pp lower for those in secondary education and 28 pp lower for those in tertiary education.⁽¹¹¹⁾ Furthermore, living in areas with high crime rates increases the likelihood of being a NEET by 3 pp.⁽¹¹²⁾

Taking socioeconomic background into account reduces the impact of personal education. This is evident from the second model, 'parents' vs 'core' (red bars in Chart 3.2), although the magnitude of that impact varies by country. The coefficients for own education decrease by around 20%, while those for parental education and occupation are highly significant.⁽¹¹³⁾ For example, young people with high-educated parents in high occupations are almost 10 pp less likely to be NEET.⁽¹¹⁴⁾ Own education remains the strongest driver, however. The magnitude of the country-specific impact of socioeconomic background

⁽¹¹¹⁾ Baseline represented by the lower level of education: pre-primary, primary and lower secondary (ISCED 0-2).

⁽¹¹²⁾ In EU-SILC, respondents assess whether they consider 'crime, violence or vandalism' in the local area to be a problem for the household (answer: yes/no).

⁽¹¹³⁾ Earlier European Commission analysis had already shown the decisive impact of parental education on an individual's labour market performance (ESDE, 2018, Chapter 3). In the context of having a migration background, it was shown that a person's education plays less of a role in their success on the labour market if they are a migrant from third countries (see ESDE, 2015, p. 174).

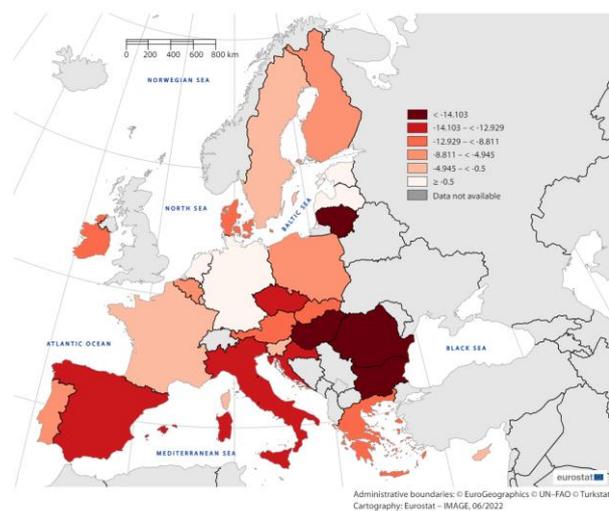
⁽¹¹⁴⁾ Compared to those with low-educated parents in low occupations.

is estimated by specific probit models, where the coefficients of parental occupation and education are combined into a single overall indicator of socioeconomic background (Chart 3.3). The impact of socioeconomic background decreases when moving from the south to the north of Europe⁽¹¹⁵⁾ and southern Member States appear to be characterised by slow social mobility. The size of the impact ranges from -29 pp in Bulgaria to almost 0 pp in countries as Netherland and Germany.

Chart 3.3

Impact of socioeconomic background varies by Member State

Country impacts of socioeconomic background, high level vs low level



Note: Marginal effects from probit model.

Source: DG EMPL estimations, based on EU-SILC micro data, 2011 and 2019 UDB.

[Click here to download chart.](#)

Over the last two decades, Member States have encouraged young workers to participate in education and training. This has not necessarily had a strong impact on their performance, however, as education level is only one of the drivers reducing the risk of being a NEET. Other factors such as socioeconomic context and background also play an important role.

Young workers' structural disadvantages translate into higher sensitivity to economic cycles and crises. Due to their shorter careers and weaker contractual positions, they are less adaptable to economic shocks than more experienced workers. The dynamics of previous recessions are therefore useful to understand labour market developments for young people during the COVID-19 crisis.

⁽¹¹⁵⁾ Cross-country differences do not preclude the existence of heterogeneity within countries. In Italy, for example, there is far more intergenerational income mobility in the north than in the south (Acciari et al., 2019).

3. YOUNG PEOPLE DURING BUSINESS CYCLES AND RECESSIONS: THE COVID-19 GENERATION

3.1. Sensitivity of the youth labour market to business cycles

Young people are disproportionately affected by cyclical variations in employment. During economic downturns, they are more likely to be laid off. Conversely, when the economy is booming, the demand for young workers typically increases more than that for older generations. The empirical literature corroborates the view that youth employment is significantly more sensitive to fluctuations in economic activity than that of prime-age workers. For example, there is evidence that between 1950 and 1976, US teenagers represented about 9% of the population but accounted for more than one-quarter of employment fluctuations.⁽¹¹⁶⁾ More recent evidence also shows that both employment and unemployment are more volatile among young people than older people.⁽¹¹⁷⁾

In line with the previous literature, the econometric analysis presented below suggests that the cost of business cycle fluctuations in the EU falls disproportionately on young people. Employment and unemployment rates for young people (aged 15-24) are significantly more sensitive to fluctuations in economic activity compared to the prime-age group (25-54) (*Table 3.1*).⁽¹¹⁸⁾ Compared to the employment rate of prime-age individuals, youth employment reacts 1.8 to 2.4 times more strongly to negative or positive shocks to the economy.⁽¹¹⁹⁾ Similar results emerge for unemployment among young people compared to prime-age workers, where the elasticity ranges between 2.3 and 2.5. *Box 3.1* presents some more technical details.

3.2. Impact of recession on the youth labour market

Recessions or economic crises have particularly adverse and long-lasting effects on young people's labour market prospects. Being exposed to a recession and the associated (and often extended) difficulties in finding a job in their very early career can affect longer-term labour market prospects. This 'scarring effect' is demonstrated in a large number of

studies.⁽¹²⁰⁾ Possible explanations for the scarring effect include depreciation of human capital,⁽¹²¹⁾ a poor match between employers and workers,⁽¹²²⁾ psychological discouragement or habituation effects,⁽¹²³⁾ or the negative signal of previous unemployment.⁽¹²⁴⁾

Recessions have prolonged effects on labour market outcomes for young people, with repercussions clearly visible for at least five years.⁽¹²⁵⁾ *Chart 3.4* shows the reaction of young people's labour market performance (activity rate, employment rate, etc.) relative to prime-age individuals, the latter being represented by the 0-line. Activity rates of young people deteriorate by about 1.5 pp compared to prime-age individuals in the first three years after a recession, with the labour supply of young people then starting to slowly recover.⁽¹²⁶⁾ Although the difference between the impacts of recessions on the activity rates of the two age groups is not statistically different after six years, full recovery can last much longer (the predicted impulse response returns to 0 only after 12 years (*Chart 3.4*, upper left graph). The impulse response for young people's employment rate is very similar to that of the activity rate (*Chart 3.4*, upper middle graph), while young people's unemployment rate (*Chart 3.4*, top right graph) peaks two years after the recession period.

The adjustment following a recession takes place partly at the intensive margin (hours worked per worker). As the bottom graphs of *Chart 3.4* show, both (involuntary) part-time employment and temporary contracts rise especially sharply among young people in the first three years after an economic downturn. Those aged 25-34 are also disproportionately affected by recession, albeit to a lesser extent than young people (see Annex 1).

Two years after the start of the COVID-19 crisis, the impact on young people is broadly consistent with previous recessions in Europe. As the initial shock to GDP was particularly large, it is unsurprising that employment among young people fell even more in 2020 (first red dot from the left in *Chart 3.4(b)*) than during the early phases of past recessions (blue line). At the same time, the loss of employment opportunities during the pandemic brought a larger share of young people out of the workforce rather than into unemployment.

⁽¹¹⁶⁾ Clark and Summers (1981).

⁽¹¹⁷⁾ Alba-Ramírez (1995); Jaimovich and Henry (2009).

⁽¹¹⁸⁾ In this section, 'the group of young people' refers to those aged 15-24.

⁽¹¹⁹⁾ For example, the coefficient of 'prime-age employment rate' in the 'young people's employment rate' equation is about 1.8 in the fixed-effects model and about 2.4 in the OLS equation. This means that whenever an aggregate shock hits the economy, young people's employment reacts between 1.8 and 2.4 times more than that of prime-age individuals. This corresponds to an 80-140% additional increase/decrease in employment for young people compared to prime-age workers.

⁽¹²⁰⁾ See e.g. Brunner and Kuhn (2014); Cockx and Ghirelli (2016); Arellano-Bover (2020); Fernández-Kranz and Rodríguez-Planas (2018).

⁽¹²¹⁾ Becker (1994).

⁽¹²²⁾ Pissarides (1994).

⁽¹²³⁾ Clark et al. (2001).

⁽¹²⁴⁾ Lockwood (1991).

⁽¹²⁵⁾ For a detailed description of the estimation method used in this section, see Annex 1 'Local projections to estimate the impact of recession on labour market outcomes for young people'.

⁽¹²⁶⁾ Recessions are defined as negative yearly GDP growth (data from the OECD).

Table 3.1

Regression analyses of employment and unemployment among young people and prime-age individuals

Young people are significantly more exposed to fluctuations in economic activity

	Levels (fixed-effects model)		Differences (OLS)	
	Young people's employment rate	Young people's (1 - unemployment rate)	Young people's employment rate	Young people's (1 - unemployment rate)
Prime-age employment rate	1.769*** (0.090)		2.362*** (0.097)	
Prime-age (1 - unemployment rate)		2.291*** (0.035)		2.532*** (0.049)
Observations	957	957	957	957

Note: The table presents the regression results of the logarithm of young people's (15-24) employment rate (first and third columns) and the logarithm of (1-unemployment rate) (second and fourth columns) on the same statistics for prime-age individuals (25-54). The first two columns present the results from the fixed-effects model, while the last two columns show the results from the OLS model on differences. Additional controls include the ratio of young people to the prime-age population, as well as quadratic (fixed-effects model) or linear (OLS in differences) trends.

Source: DG EMPL calculations based on OECD data.

[Click here to download table.](#)

Box 3.1: Employment and unemployment variation among young people over the business cycle

The empirical model used here is similar to that of Alba-Ramírez (1995). It uses annual labour force statistics collected by the OECD for all EU Member States, disaggregated by age group. Data cover the years 1961-2021, with the start date varying by country. Data for 2021 are taken from Eurostat.

Using country fixed-effects models, the logarithm of young people's (15-24) employment rate and the logarithm of (1 - unemployment rate) are regressed on the same statistics for prime-age individuals (25-54). The comparison statistics for prime-age individuals are used as a proxy for demand fluctuations. To control for the labour supply of young people relative to prime-age individuals, the regressions include the ratio of young people to the prime-age population as a control variable.⁽¹⁾ Finally, quadratic trends are also included in the regressions to control for differences between generations in structural, social and other trended variables omitted from the equations. An alternative specification is presented in the last two columns of *Table 3.1*, where the first difference of all variables is considered and an OLS regression is performed. In this alternative specification, the quadratic term of the trend is excluded from the regressions.

⁽¹⁾ See e.g. Korenman and Neumark (2000) for an empirical study on the impact of relative demographic shocks on employment and unemployment.

Deeper and longer recessions naturally place a higher burden on young people than milder and shorter recessions. For each of the labour market indicators, the bottom graphs reveal that deeper recessions have a greater impact on young people relative to other age groups than mild recessions (graphs c vs d in the first rows of *Chart 3.5*, *Chart 3.6* and *Chart 3.7*). Similarly, longer recessions have a stronger adverse effect on young people than on prime-age individuals (graphs a vs b in the first rows of the same charts).

Mild and long recessions have a more dramatic impact on young workers than deep and short recessions (graphs g and h in *Chart 3.5*, *Chart 3.6* and *Chart 3.7*). This suggests that the length of the crisis matters more than the size of the GDP loss. In fact, the adverse effect of deep and short recessions on young people is detectable only in respect of unemployment rates. Even for unemployment, results confirm the larger impact of mild and long recessions compared to deep and short recessions. In the former, the unemployment rate of young people relative to the prime-age group peaks at 4.78 pp three years after

the recession, while in the latter, it peaks at 3.79 pp in the year following the recession.

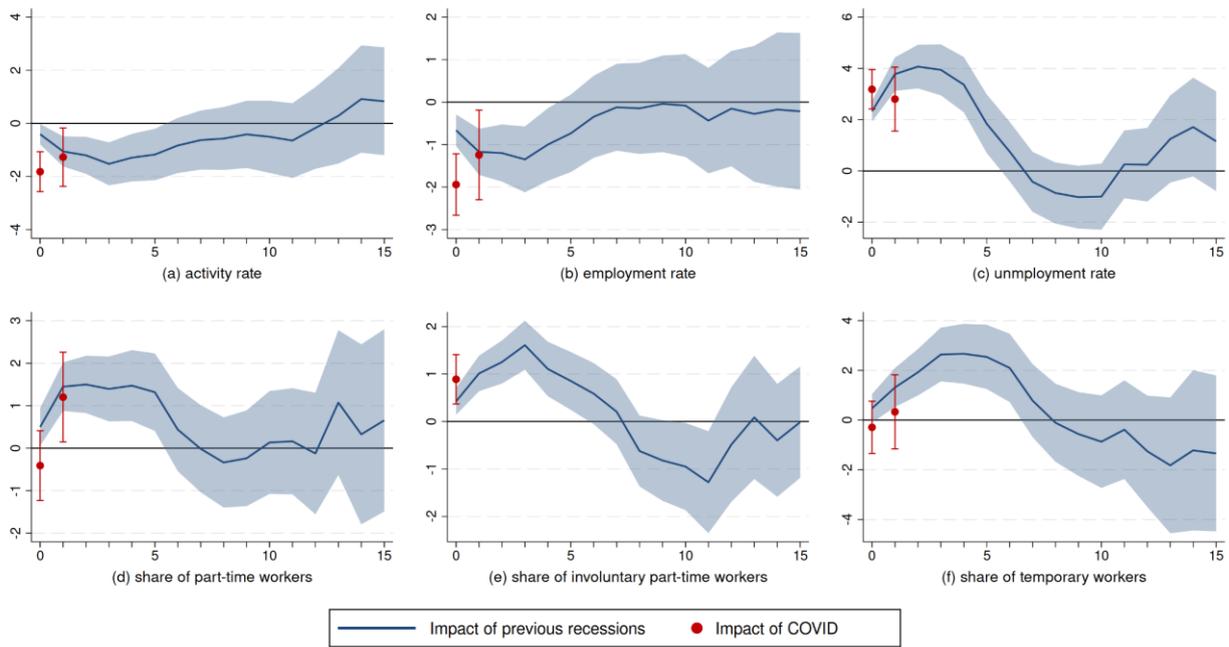
The historically deep COVID-19 recession appears to have been followed by rapid recovery in most Member States. Despite ongoing uncertainty surrounding the economic outlook – future economic conditions are closely tied to the pandemic trajectory and recent geopolitical upheaval – most (if not all) leading economic institutions expect the global economy to keep expanding in the coming years. The path of economic activity during and after the COVID-19 crisis is therefore closest to the deep and short recession scenario.

The longer the current subdued economic conditions last, the more severe their impact on young people's labour market prospects. Tentative lessons from past recessions suggest that the gap between young people's and prime-age workers' labour market dynamics will continue to narrow and eventually disappear in the medium term. However, should the crisis persist for longer than expected labour market conditions for young people

Chart 3.4

Impact of recession on labour market outcomes of young people (aged 15-24)

Evolution (impulse response) of six relative labour market indicators, starting from the period of recession (point 0 on the X-axis) and continuing up to 15 years after the recession (final point on the X-axis)



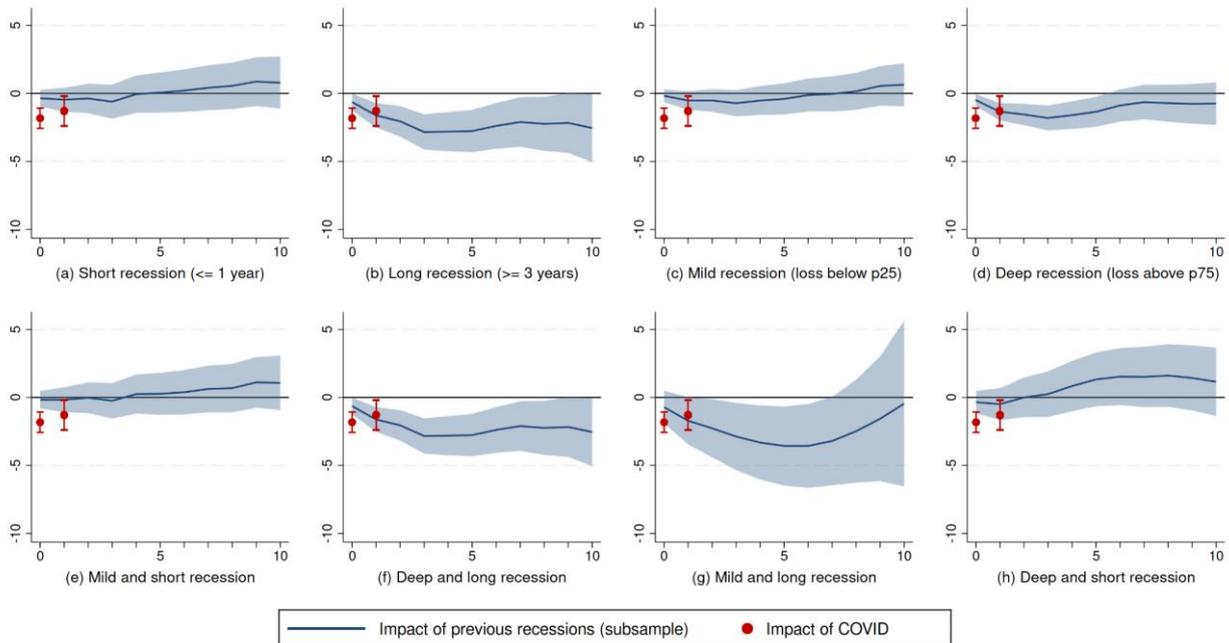
Note: Blue lines show how the selected labour market statistics for young people evolve relative to the same indicator for prime-age individuals. For example, the upper-left graph reveals that one year after an average recession in the EU, young people’s labour force participation decreases 1 pp more than that of prime-age people. The light blue bands around the estimated impulse responses represent the corresponding 95% confidence intervals. The red dots and surrounding bars show the same impulse responses and confidence intervals as before, but evaluated specifically for the COVID-19 crisis. The graphs thus allow a direct comparison of the impact of the current crisis with that of previous recessions. The lack of sufficient data for the period during and following the COVID-19 crisis hinders a precise estimate of the impact of the crisis on young people and the estimated impact should therefore be interpreted with extreme caution.

Source: DG EMPL estimates based on OECD data.
[Click here to download chart.](#)

Chart 3.5

Activity rate, by length and depth of recession

Estimated impulse responses of young people’s activity rate compared to prime-age individuals, across recession types



Note: Impulse responses shown separately for short recessions (only one year, about 25% of recessions in the sample); long recessions (more than two years, about 25% of the sample); mild recessions (maximum loss in GDP is below the first quartile); and deep recession (maximum loss in GDP is above the third quartile). The bottom graphs in each chart assess the heterogeneity of the impulse responses according to combined recession criteria: i) mild and short; ii) deep and long; iii) mild and long; and iv) deep and short.

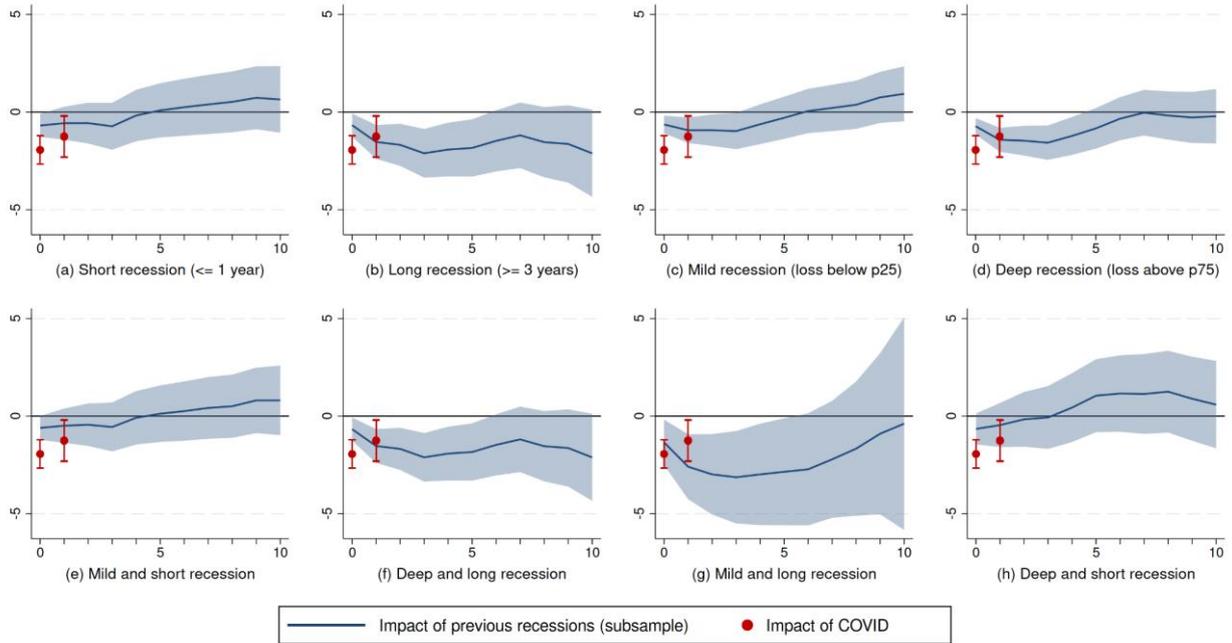
Source: DG EMPL estimates based on OECD data.
[Click here to download chart.](#)

entering the labour market during or shortly after the economic downturn may remain subdued for a far longer period. Youth-related policies will then play a strategic role in the medium-long term.

Chart 3.6

Employment rate, by length and depth of recession

Estimated impulse responses of young people's employment rate compared to prime-age individuals, across recession types



Note: Impulse responses shown separately for short recessions (only one year, about 25% of recessions in the sample); long recessions (more than two years, about 25% of the sample); mild recessions (maximum loss in GDP is below the first quartile); and deep recession (maximum loss in GDP is above the third quartile). The bottom graphs in each chart assess the heterogeneity of the impulse responses according to combined recession criteria: i) mild and short; ii) deep and long; iii) mild and long; and iv) deep and short.

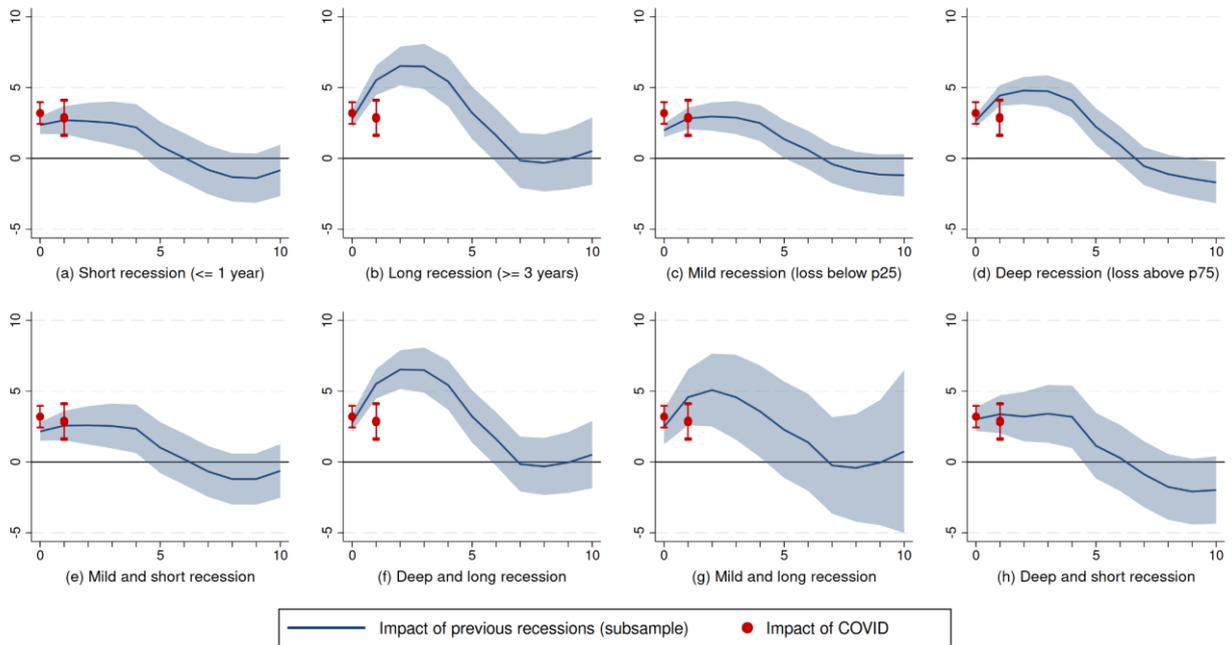
Source: DG EMPL estimates, based on OECD data.

[Click here to download chart.](#)

Chart 3.7

Unemployment rate, by length and depth of recession

Estimated impulse responses of young people's unemployment rate compared to prime-age individuals, across recession types



Note: Impulse responses shown separately for short recessions (only one year, about 25% of recessions in the sample); long recessions (more than two years, about 25% of the sample); mild recessions (maximum loss in GDP is below the first quartile); and deep recession (maximum loss in GDP is above the third quartile). The bottom graphs in each chart assess the heterogeneity of the impulse responses according to combined recession criteria: i) mild and short; ii) deep and long; iii) mild and long; and iv) deep and short.

Source: DG EMPL estimates, based on OECD data.

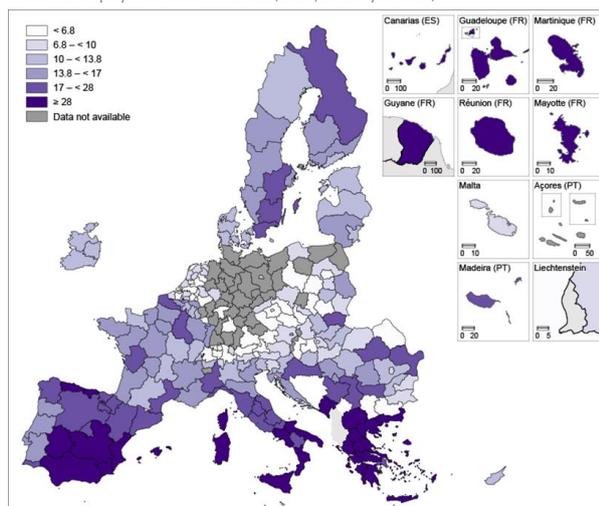
[Click here to download chart.](#)

4. POLICIES SUPPORTING YOUNG PEOPLE: THE RECOVERY AND RESILIENCE FACILITY ⁽¹²⁷⁾

Government measures to stop the spread of COVID-19 in Europe in early 2020 generated a slowdown in economic activity, with associated effects on the labour market. Young people were impacted most severely, as relatively large proportions of workers in this age group had low to medium skills and were employed on temporary or part-time contracts. The maps in *Chart 3.8* and *Chart 3.9* show data on youth unemployment and NEETs in 2020, with many European regions exhibiting substantially high rates. Using data from the Recovery and Resilience Plans (RRP) on policy measures carried out in the context of the COVID-19 crisis, the RHOMOLO Spatial Dynamic General Equilibrium model was used to assess the potential macroeconomic impact of youth-related measures included in the Recovery and Resilience Facility (RRF).

Chart 3.8
Distribution of youth unemployment rates across EU regions

Youth unemployment rates – NUTS-2 (2020, 15-29 years old)



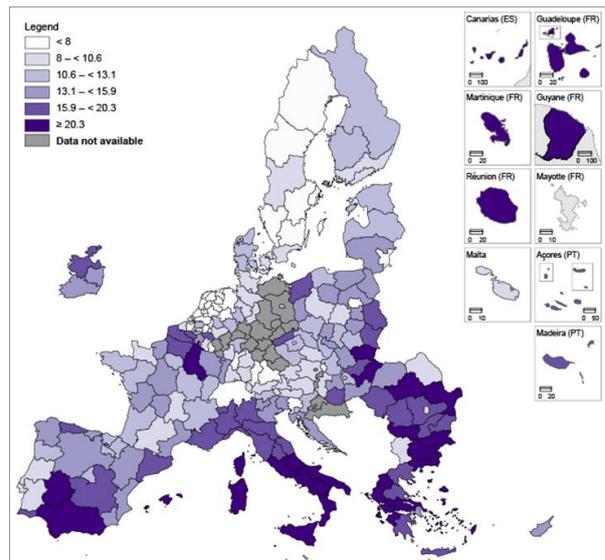
Source: Eurostat (LFST_R_LFU3RT).

[Click here to download chart.](#)

⁽¹²⁷⁾ This section is provided by the European Commission's Joint Research Centre (JRC), Knowledge for Finance, Innovation and Growth Unit – Territorial Data Analysis and Modelling (TEDAM) team, on the basis of Lazarou et al. (forthcoming).

Chart 3.9
Distribution of NEET rates across EU regions

NEET rates – NUTS-2 (2020, 15-29 years old)



Source: Eurostat (EDAT_LF5E_22).

[Click here to download chart.](#)

The RRF was adopted at the beginning of 2021 ⁽¹²⁸⁾ as part of NextGeneration EU. It sought to support the post-COVID-19 crisis recovery and to improve Member States' resilience to crises in general. Funds under the RRF (EUR 723.8 billion) assumed the form of grants (EUR 338 billion) and/or loans (EUR 385.8 billion). The maximum grant allocation to each Member State was based on their unemployment rate, inverse GDP per capita, and population. To access RRF funds, Member States were required to submit an RRP, which describes the actions (investments and reforms) to be funded.

The RRF youth-related measures were identified via text analysis, combining information from different official sources. ⁽¹²⁹⁾ For modelling purposes, the measures were re-classified according to three categories:

- **Education and training:** Expenditure related to improving the functioning of schools and universities, modernising education programmes, scholarships for education access, actions to raise school attendance, and improving learning.
- **Employment support to job creation:** Grants to companies, public administrations' hiring unemployed people or PhDs, young people, PhD career opportunities, scholarships and fellowships for researchers, grants to companies.

⁽¹²⁸⁾ Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility.

⁽¹²⁹⁾ The definition of youth-related measures is based on Commission Delegated Regulation (EU) 2021/2105, complemented by further text mining of official documents (staff working documents, Council implementing decisions and their annexes, RRP, and the RRF Scoreboard) in order to distinguish measures dedicated to young people from those targeting children within the tagging 'children & youth' in the FENIX dashboard (DG ECFIN).

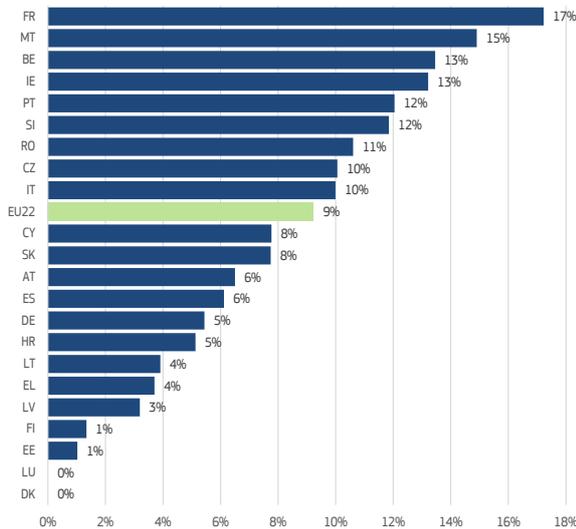
- Education infrastructure and equipment:**
 Expenditure for renovation or construction of buildings and/or equipment associated with schools, education or vocational education and training (VET) infrastructure, expenditure for student housing or accommodation, renovation and construction.

Youth-related actions were identified in 20 of the 22 RRP analysed (except Denmark and Luxembourg). There was strong heterogeneity in the share of youth-related measures over the total estimated cost of the RRP (Chart 3.10) and in the typologies of measures selected by Member States in their plans (Chart 3.11). For example, France and Malta registered the highest share of estimated costs for youth-related measures in their RRP, with Estonia and Finland reporting the lowest shares.

(education infrastructure and equipment). Lithuania expects to concentrate much of its support in education and training, while Germany, Estonia and France plan to focus on job creation. Chart 3.12 illustrates an indicative regional allocation of youth-related RRF measures as a share of regional GDP. Although the RRP are national plans and contain little information on the regional allocation of funds, the analysis considers the distribution of the funds proportional to the regional population. Countries/regions with higher unemployment rates among young people are expected to receive higher amounts of funding (Chart 3.13). Southern Italian regions rank at the top of fund distribution, followed by Romanian, Portuguese, Greek and southern Spanish regions. The RHOMOLO model simulates the potential effects on GDP and employment in the EU regions for 2026 (Chart 3.14 and Chart 3.15).

Chart 3.10
Intensity of RRP's youth-related actions varies across Member States

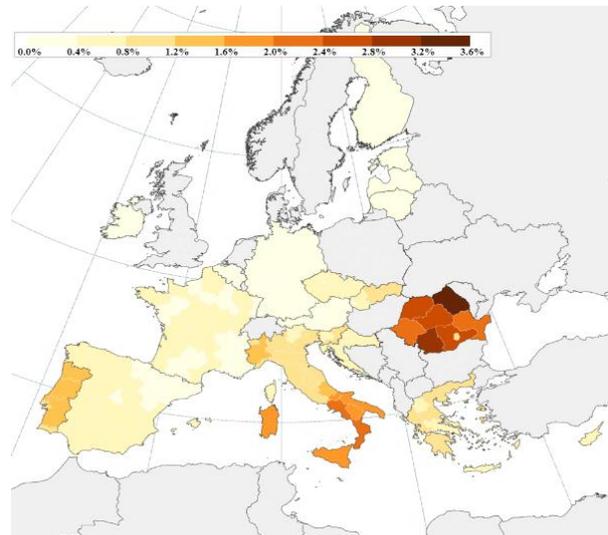
Youth-related measures, % of RRP



Source: JRC TEDAM calculations.
[Click here to download chart.](#)

Chart 3.12
Eastern and southern regions allocate large resources through RRF youth-related measures

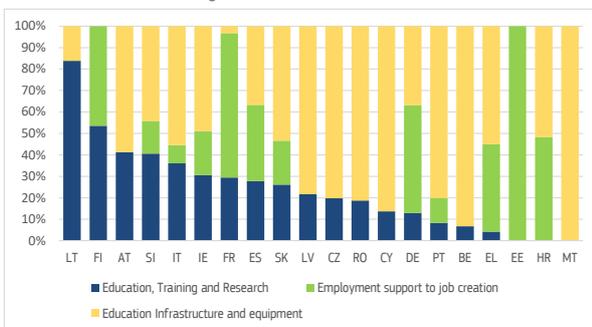
RRF youth-related measures as % of regional GDP, 2021-2026



Source: JRC TEDAM calculations.
[Click here to download chart.](#)

Chart 3.11
Mix of measures' categories varies across Member States

Youth-related measures categories



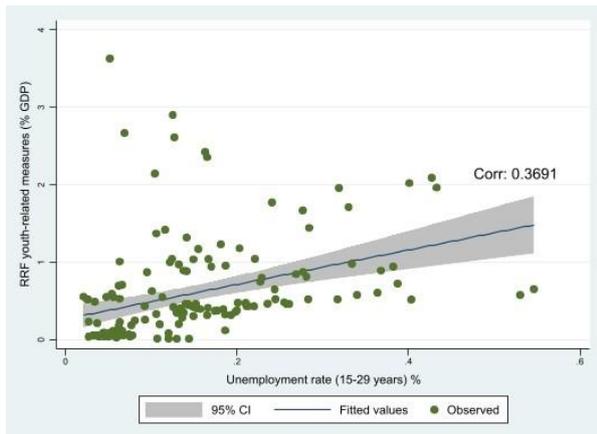
Note: Classifications adopted for RHOMOLO modelling purposes.
 Source: JRC TEDAM calculations.
[Click here to download chart.](#)

Southern and eastern Member States reported the highest proportion of youth-related measures associated with tangible investments

Chart 3.13

Higher RRF youth-related investment is associated with higher youth unemployment rates

Relationship between potential regional allocation of RRF youth-related investments and youth unemployment rate



Note: Values of unemployment refer to 2019.

Source: JRC TEDAM calculations, based on Map A data and Eurostat [lfst_r_lfu3rt].

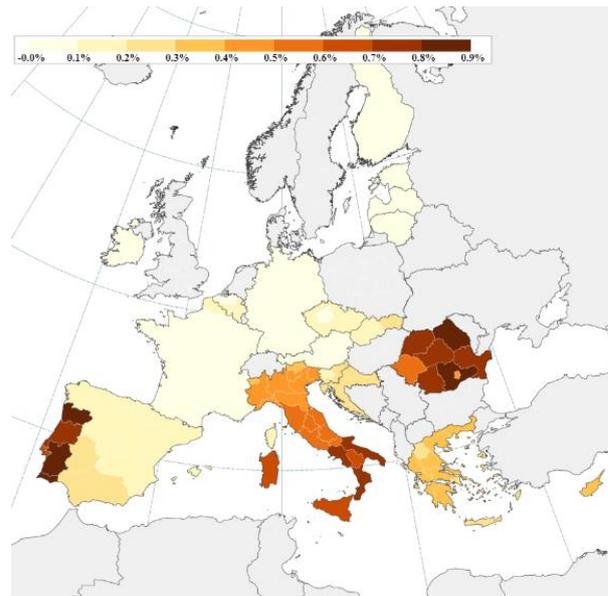
[Click here to download chart.](#)

On average, by 2026, youth-related RRF measures have the potential to increase regional GDP and employment by more than 0.6% and 0.1%, respectively. At the same time, in Portugal, Romania and certain southern Italian regions, the GDP and employment impact could reach 0.9% and 0.5%, respectively. Sizeable increases – in the order of 0.3% in terms of both GDP and employment – could be observed in Croatia, Cyprus, Greece, southern Spain (Andalucía, Extremadura) and eastern Slovakia. The effects mirror the indicative regional allocation of funds and support the regions most in need of positive labour market outcomes for young people. There is a 0.40 and 0.50 correlation, respectively, between 2026 GDP and employment impacts and the youth unemployment rate (*Chart 3.16* and *Chart 3.17*).

Chart 3.14

Major GDP impact of RRFs expected in eastern and southern regions

GDP impact of youth-related RRF measures in 2026



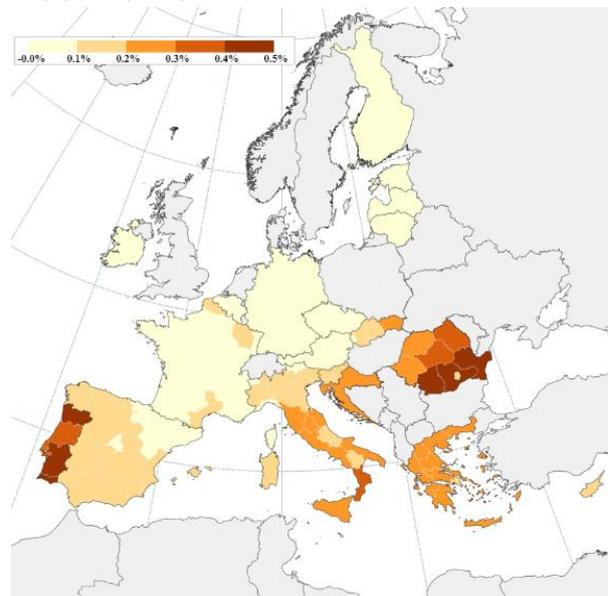
Source: JRC TEDAM RHOMOLO simulations.

[Click here to download chart.](#)

Chart 3.15

RRFs will support employment in Eastern and Southern regions

Employment impact of youth-related RRF measures in 2026

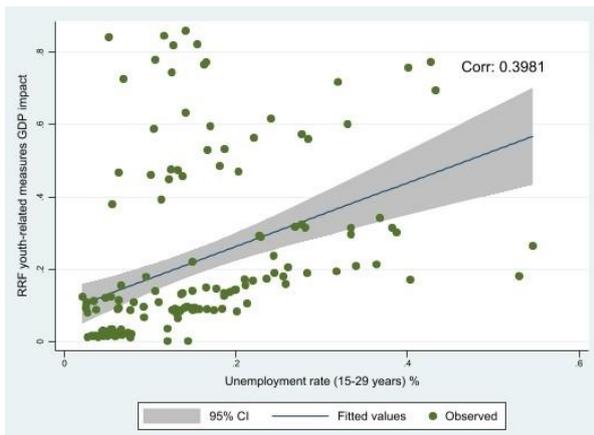


Source: JRC TEDAM RHOMOLO simulations.

[Click here to download chart.](#)

Chart 3.16
Correlation of 0.4 between 2026 GDP and employment impacts

Relationship between estimated RRF GDP effect and youth unemployment rate



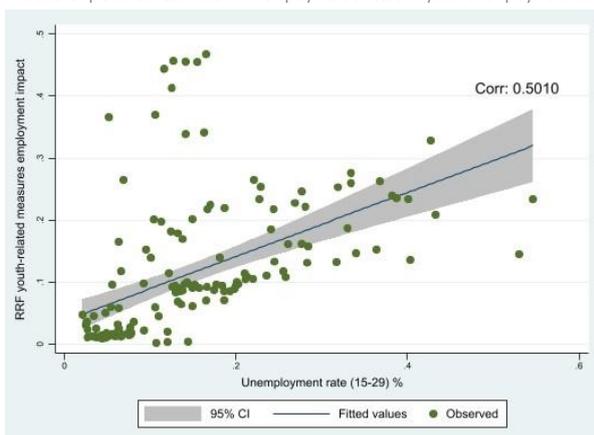
Note: Values of unemployment refer to 2019.

Source: JRC TEDAM calculations, based on Chart 3.14 data and Eurostat [lfst_r_lfu3rt].

[Click here to download chart.](#)

Chart 3.17
Correlation of 0.5 between 2026 GDP and youth unemployment rate

Relationship between estimated RRF employment effect and youth unemployment rate



Note: Values of unemployment refer to 2019.

Source: JRC TEDAM calculations, based on Chart 3.15 data and Eurostat [lfst_r_lfu3rt].

[Click here to download chart.](#)

5. OCCUPATIONAL PROFILES AND WORKING CONDITIONS OF YOUNG WORKERS ⁽¹³⁰⁾

The impact of the COVID-19 crisis on the labour market varied considerably across age groups and occupations. ⁽¹³¹⁾ After the widespread drop in employment in 2020, a clear recovery in employment levels in 26 Member States ⁽¹³²⁾ in 2021 was found for only a few occupational groups, defined at

⁽¹³⁰⁾ This section was written by Sara Flisi and Giulia Santangelo (JRC).

⁽¹³¹⁾ The range 20-64 years is used in order to follow the employment rate headline target of the Europe 2020 Strategy, while the range for young workers (20-34) is chosen to include tertiary graduates.

⁽¹³²⁾ Changes in the design scheme in 2020 created a break in time series for Germany's EU-LFS data. As a result, the EU-LFS 2020 EU-27 average is unreliable when disaggregated data are presented, and the average for 26 Member States (excluding Germany) is used for the analysis here.

International Standard Classification of Occupations (ISCO) 1-digit level. *Chart 3.18* shows that professionals saw an increase of around 9% between 2019 and 2021, far higher than in 2019-2020. In 2021, employment as clerical support workers increased by 3.8% in Q2 and 6.1% in Q4 compared to the same quarters in 2019, recovering from a small reduction in 2020. There was also a small increase for managers in Q4. ⁽¹³³⁾ For the other groups, employment in 2021 remained below pre-crisis levels, most notably in blue-collar occupations.

In many occupations, younger workers were disproportionately affected by employment drops.

For service and sales workers, the highest reductions in employment in 2020 and in 2021 were found among young people, especially in Q2 2021 (-12.6%) (*Chart 3.18*). Among blue-collar workers (ISCO occupational groups 6-9), the decline in employment between 2019 and 2021 was higher for those aged 20-34 for craft and related trades workers, as well as plant and machine operators, and assemblers. Prime-age workers registered the sharpest drop in elementary occupations, at -9.2% in Q2 2021 compared to Q2 2019, double the decline experienced by younger people.

For some occupations, the impact of the crisis on employment depends on job characteristics.

The ESDE report in 2021 showed that three main characteristics of jobs were relevant to identify those at higher risk of disruption during the COVID-19 pandemic: 1) whether occupations are critical ⁽¹³⁴⁾ vs non-critical, 2) their level of technical teleworkability, and 3) the level of social interaction ⁽¹³⁵⁾ required. These characteristics were analysed through indices built for detailed occupational groups (ISCO 3-digit level). The remainder of this section shows changes in employment between 2019 and 2020 – in line with the analysis presented in the ESDE report in 2021 – as well as between 2019 and 2021, for both Q2 and Q4 of each year, for the eight categories identified on the basis of the classification described in Annex 2. ⁽¹³⁶⁾

Before the COVID-19 pandemic, young workers were more concentrated in non-critical jobs than

⁽¹³³⁾ As Q2 2020 was the most severely hit by the pandemic, the analysis presents data on employment changes between Q2 2019, 2020 and 2021 so as to show both the immediate impact from Q2 2019 to Q2 2020, and the possible recovery from the initial losses that took place in 2021, comparing Q2 2019 with Q2 2021. The analysis includes data on the changes between the respective Q4s, as Q4 2021 is the most recent quarter for which data are available. Q2 values are shown in orange, while Q4 values are shown in blue. For both quarters, light colours indicate the changes over the period 2019-2020, while darker colours refer to the longer period 2019-2021.

⁽¹³⁴⁾ Critical occupations are those performing the delivery of essential services, such as health services or services related to the supply of food.

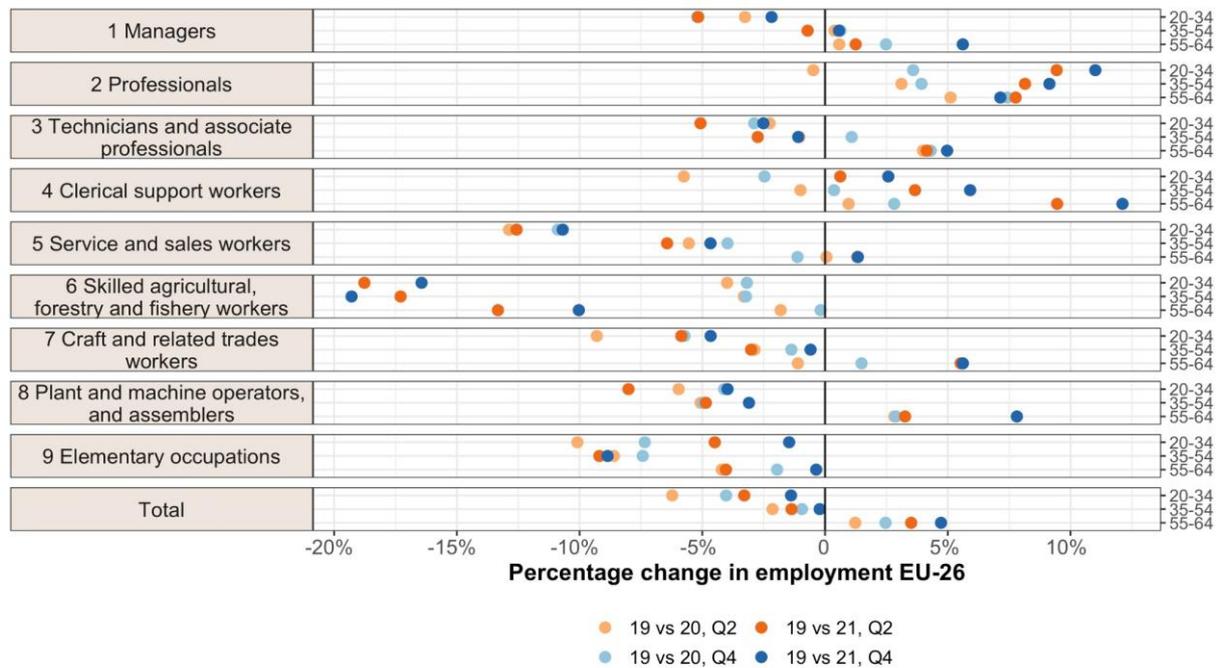
⁽¹³⁵⁾ See Annex 2 'Methodology for the analysis by categorisation of workers'.

⁽¹³⁶⁾ See European Commission (2021c) for an analysis of the evolution of employment in occupations with different degrees of contact intensity and teleworkability, using an alternative classification of jobs.

Chart 3.18

Few occupational groups showed signs of recovery in 2021

Employment growth, by age and occupational group, Q2/Q4 2020 and 2021 compared to Q2/Q4 2019, all EU Member States excluding Germany



Note: Critical occupations identified based on the categorisation provided by the European Commission's 2020 Communication on guidelines concerning the exercise of the free movement of workers during the COVID-19 outbreak. Data refer to the age group 20-64. Armed forces are not taken into account in the analysis. Excludes Germany due to a break in time series.

Source: Calculations by the European Commission's Joint Research Centre, based on a Eurostat special extraction on EU-LFS data, the classification presented in Flisi and Santangelo (2022), and indices produced in Sostero et al. (2020).

[Click here to download chart.](#)

older workers. In 2019, an average 40% of workers aged 20-34 were in critical occupations, while those aged 55-64 were almost equally distributed between critical (47%) and non-critical (53%) jobs. The distribution of jobs by level of teleworkability and social interaction was broadly similar across age groups. ⁽¹³⁷⁾

The employment trends registered between 2019 and 2020 continued in 2021, with more favourable trends evident in teleworkable occupations. Teleworkable jobs in critical occupations even increased, especially those requiring limited social interaction. This pattern continued in 2021, with employment in this latter category increasing by around 20% compared to pre-pandemic levels. This growth was driven by a surge in the number of information and communications technology (ICT) professionals (software and applications developers and analysts, database and network professionals) engaging in occupations that were not only able to continue operating throughout containment measures, but were likely in high demand to facilitate increased telework during the pandemic. By contrast, job losses in 2020 were mostly concentrated in non-critical jobs, especially those that were not teleworkable and that required high social interaction (e.g. waiters and bartenders). This category saw a further drop in 2021. Among non-teleworkable jobs, critical jobs requiring low social interaction also saw a sharper fall in 2021

than in 2020, reaching as low as -7% in Q2 2021, compared to Q2 2019.

The younger age group again showed the strongest decreases in employment in the most severely hit categories. Chart 3.19 shows that among non-critical, non-teleworkable jobs requiring high social interaction, the highest drop in employment was registered among those aged 20-34. This group reached a -16.4% employment level in Q2 2021, compared to Q2 2019 (with a 9% drop among prime-age workers, and 3.6% among older workers). That drop was still evident in Q4 2021, with a -14.1% reduction compared to Q4 2019 for the younger group, as opposed to -6.4 and -2.5% for prime-age and older workers, respectively. For critical, non-teleworkable jobs requiring low social interaction, the negative employment changes in 2021 affected both young workers and prime-age workers, with a slightly higher decrease for those aged 35-54 (close to 8%) in both Q2 and Q4, compared to 2019. Older workers also showed a reduction, albeit not as significant as the other groups.

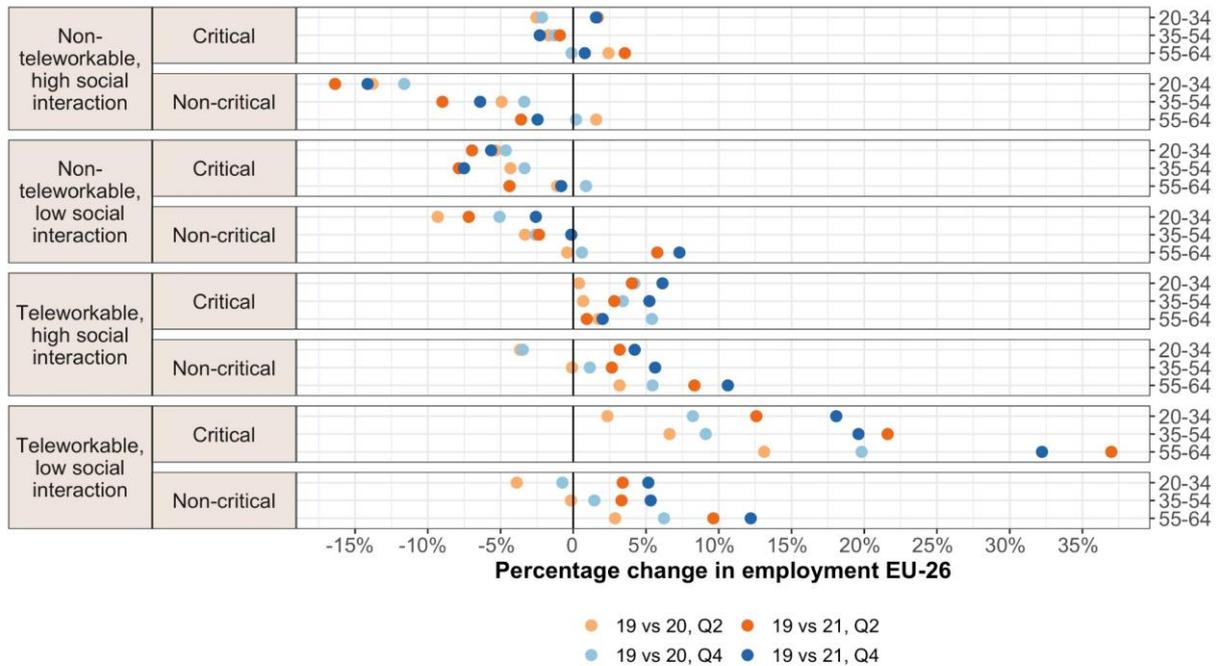
Among the categories of jobs that saw an increase in employment, young workers often registered the lowest growth. Between 2019 and 2021, critical teleworkable jobs requiring low social interaction saw an increase of over 30% in Q2 and Q4 for older workers, and an increase of around 20% for prime-age workers, compared to a far lower increase for young workers (12.6% in Q2 and 18.1% in Q4). Employment in non-critical jobs in the same category

⁽¹³⁷⁾ Prime-age workers were between the other two groups, with 42% of individuals in critical jobs.

Chart 3.19

Younger age groups showed the strongest decreases in employment in the most severely hit categories in 2021

Employment growth, by age and occupational category, Q2/Q4 2020 and 2021 compared to Q2/Q4 2019, all EU Member States excluding Germany



Note: Critical occupations identified based on the categorisation provided by the European Commission's 2020 Communication on guidelines concerning the exercise of the free movement of workers during the COVID-19 outbreak. Data refer to the age group 20-64. Armed forces are not taken into account in the analysis. Excludes Germany due to a break in time series.

Source: Calculations by the European Commission's Joint Research Centre, based on a Eurostat special extraction on EU-LFS data, the classification presented in Flisi and Santangelo (2022), and indices produced in Sostero et al. (2020).

[Click here to download chart.](#)

was around 10% higher in 2021 than in 2019 among older workers, while that increase was between 3% (Q2) and 5% (Q4) in the younger age group.

Young people experienced no particular advantage as a result of the widespread use of teleworking, despite their typically high digital skills. This reflects the typology of their jobs and contracts and the intrinsic characteristics of the labour market (which penalises young people during negative fluctuations), as well as the fact that teleworking does not require advanced digital skills. At the same time, the process of digitalisation is deeply affecting society and the economy and requiring a careful look at the evolution of employment in terms of the necessary digital skills.

6. DIGITAL SKILLS OF YOUNG WOMEN AND MEN AT WORK

Digitalisation has rapidly changed the world of work in recent years, ⁽¹³⁸⁾ necessitating a careful look at the evolution digital skills of workers. Certain occupations have become largely obsolete through automation (e.g. much of assembly line work), others have seen their nature, organisation and content transformed (e.g. bank tellers), and entirely new jobs have been created (e.g. artificial intelligence (AI) programmers, Airbnb hosts). ⁽¹³⁹⁾ While the exact

⁽¹³⁸⁾ ESDE (2018).

⁽¹³⁹⁾ Eurofound (2021); OECD (2019); European Commission (2019a).

balance between job creation and job destruction continues to generate much discussion, it is clear that digital technologies are increasingly used in most occupations, creating growing demand for a range of digital skills. ⁽¹⁴⁰⁾

As digitalisation progresses, basic digital skills are becoming an everyday necessity within and outside the workplace. This is reflected in the European Commission's aim to ensure that 70% of adults have basic digital skills by 2025 ⁽¹⁴¹⁾ and 80% by 2030. ⁽¹⁴²⁾ The process of digitalisation sped up during the COVID-19 pandemic, with rapid adoption of new digital solutions to organise work, leading to a momentous shift in where and how people work. ⁽¹⁴³⁾ In 2022, the European Parliament invited the Commission and the Member States to consider developing permanent, certified, free access for young people to online and offline courses for digital skills and literacy in all EU languages. ⁽¹⁴⁴⁾

There is growing evidence that digitalisation may polarise the EU labour market and widen existing inequalities. ⁽¹⁴⁵⁾ Digitalisation fosters demand for high-skilled workers, especially those

⁽¹⁴⁰⁾ JRC (2019).

⁽¹⁴¹⁾ Target set by the Skills Agenda for Europe, available here.

⁽¹⁴²⁾ European Pillar of Social Rights action plan, available here.

⁽¹⁴³⁾ Eurofound (2021).

⁽¹⁴⁴⁾ European Parliament Resolution of 17 February 2022 on empowering European youth: post-pandemic employment and social recovery (2021/2952(RSP)), p. 12, available here.

⁽¹⁴⁵⁾ For example, Eurofound (2021a).

Box 3.2: Digital skills intensity index

The digital skills intensity index is a useful measure of work digitalisation at occupational level. It measures the average share of all necessary digital work-related skills for each occupational group at ISCO 3-digit level (e.g. if an occupation has 10 necessary skills and one of those skills is digital, the value of the index is 0.1). It was constructed by mapping digital skills identified from the European Skills/Competences, Qualifications and Occupations (ESCO) and Digital Competence (DigComp) frameworks for each of the ISCO 4-digit level occupational groups. ⁽¹⁾ Weighted averages across ISCO 4-digit level occupational groups were then used to arrive at an index value at ISCO 3-digit level (the most detailed level available in EU-LFS micro data). Weights of the 4-digit level occupational groups were set equal to the number of people employed in each of these groups at national level, obtained from special EU-LFS data extraction provided by Eurostat. This means that values of the digital skills intensity index are country-specific at ISCO 3-digit level, reflecting national differences in representation of ISCO 4-digit level occupational groups.

The index sheds light on the digital intensity of work, but has several important limitations. It adopts a rather broad definition of digital skills, including all skills from the DigComp framework and skills linked to working with computers. While this may overestimate the digital intensity of some occupations, it avoids issues with selective approaches that rely on arbitrary selection of the skills considered digital. The index is a rather coarse measure of digital intensity – it does not specify how important digital skills are to overall job performance, for example, nor how often they are used, nor whether they are basic or advanced. This means that national variations – for example, in the frequency of use of certain digital skills at work – are not considered by the index.

⁽¹⁾ More details on the methodology for constructing the digital skills intensity index can be found in Barslund (forthcoming).

equipped with a mix of digital, problem-solving and socio-emotional skills, a mix that is also linked to considerable wage premiums. ⁽¹⁴⁶⁾ The consequences for low to medium-skilled workers are much more ambiguous because their work is considered more likely to be automated or de-skilled in the future, similar to past developments in mid-skilled jobs such as assembly, maintenance or monitoring, or mid-level administrative and service functions. ⁽¹⁴⁷⁾

Overall, young workers seem relatively well-placed to benefit from the digital transition, compared to older workers. It is usually workers over 50 years of age who are considered vulnerable to the risks of digitalisation, given their lower access to, use of and exposure to digital technologies. ⁽¹⁴⁸⁾

Young workers are a diverse group, with some far more likely to benefit from the digital transition than others. The risks of digitalisation are usually highlighted for certain groups of vulnerable workers, including those with lower educational attainment and those in lower income brackets. ⁽¹⁴⁹⁾ Digitalisation may also widen labour market inequalities between young women and men, ⁽¹⁵⁰⁾ as young men dominate employment in some of the best-paid digitally intensive occupations, such as ICT specialists. ⁽¹⁵¹⁾

⁽¹⁴⁶⁾ JRC (2020); OECD (2019); Grundke et al. (2018).

⁽¹⁴⁷⁾ European Commission (2019b); OECD (2019).

⁽¹⁴⁸⁾ For example, Vasilescu (2020); European Centre for the Development of Vocational Training (Cedefop) (2016).

⁽¹⁴⁹⁾ For example, Vasilescu (2020); Cruz-Jesus et al. (2016); Cedefop (2016).

⁽¹⁵⁰⁾ European Institute for Gender Equality (EIGE) (2020).

⁽¹⁵¹⁾ EIGE (2018); OECD (2017); Matysiak et al. (2021).

The remainder of this section explores the diversity in the digital skills intensity of work among young people, using a newly developed digital intensity skills index (Box 3.2). It examines the digital intensity of young people's work compared to the rest of the population and explores variations across different groups of young people.

6.1. Digital intensity of young people's work is slightly above average, with substantial gender and educational divides

In the EU, the digital intensity of work among young people (aged 15-29) reaches around 103% of the digital work intensity for the total working population. ⁽¹⁵²⁾ An average young worker works in an occupation where around 4.5% of all necessary skills are digital. This is similar to the digital intensity for workers aged 30-49 (105%), but higher than workers aged 50-64 (about 92%). Young people's work is more digitally intensive than that of workers aged 50+ in 21 Member States. This is in line with findings from broader literature on the age divide in digital skills, which show that over-50s tend to access and use digital technologies less often and also tend to be less exposed to digital technologies at work. ⁽¹⁵³⁾ The growth in digital intensity of work since 2011 was slightly higher for workers aged 25-29 (by 11%) than for older workers (by about 8%).

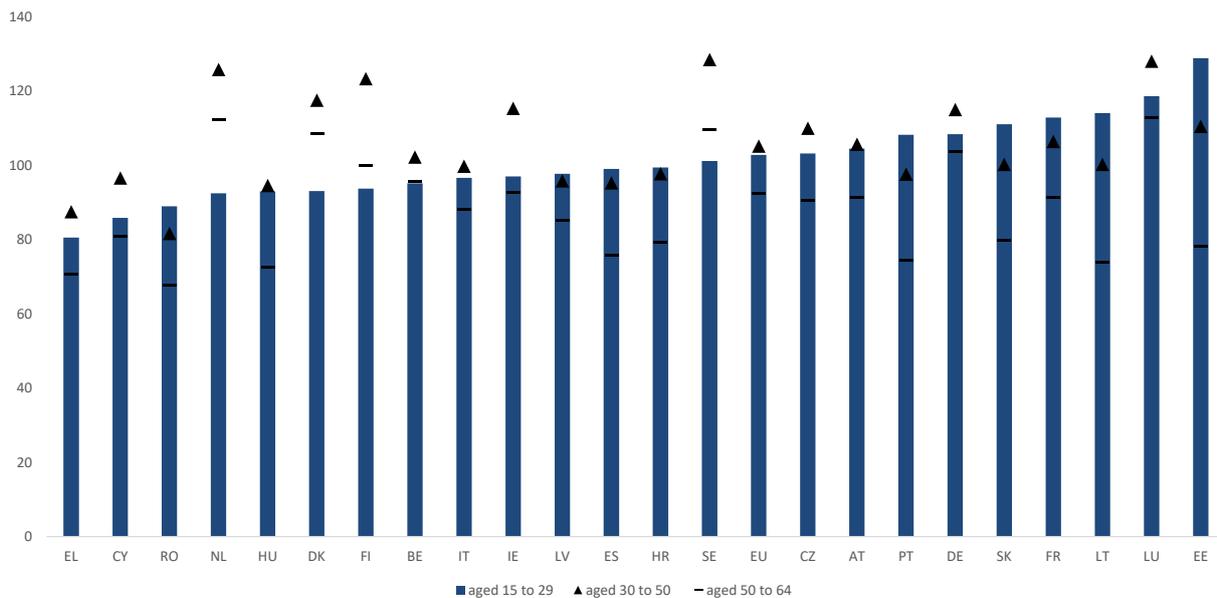
⁽¹⁵²⁾ However, it is widely recognised that young people in rural and remote areas experienced particular difficulties during the pandemic due to the lack of sufficient broadband infrastructure.

⁽¹⁵³⁾ For example, Vasilescu (2020); Cedefop (2016).

Chart 3.20

Higher digital intensity of work for younger workers compared to older workers

Digital skills intensity index (as percentage of the average across 23 Member States (= 100%)), by age group, 2019



Note: Digital intensity values reported as a percentage of the average across 23 Member States for the whole working population (=100%). It was not possible to calculate the digital skills intensity index for Bulgaria, Malta, Poland and Slovenia, as EU-LFS micro data do not include ISCO 3-digit codes for these four Member States.

Source: DG EMPL calculations based on EU-LFS micro data, UDB.

[Click here to download chart.](#)

There are considerable differences in the digital intensity of young people's work across the Member States.

Young workers reach less than 90% of the EU average digital intensity in Cyprus, Greece and Romania, compared to more than 120% in Estonia. In practice, this means that in Greece, around 3.5% of the necessary skills in an average occupation are digital, compared to 5.5% in Estonia. While Nordic countries tend to have the highest digital intensity of work overall, this is largely due to a very high intensity among workers over 30 years of age. The geographical variation in digital intensity of work reflects broader variations in the progress of digitalisation across EU countries, as illustrated by the Digital Economy and Society Index (DESI) developed by the European Commission. ⁽¹⁵⁴⁾

Work tends to be more digitally intensive for people with tertiary education, especially among younger workers.

The digital skills intensity index reaches 150% of the EU average among workers aged 15-29 with tertiary education. By comparison, the index reaches only around 60% of the EU average for those without upper secondary education, suggesting that those with low educational attainment may struggle with the rising demand for digital skills. Similar patterns are evident among older workers, although the digital intensity of work declines with age, irrespective of level of educational attainment. These patterns reflect the findings from broader research, which highlight educational attainment as one of the key divides in digital skills. ⁽¹⁵⁵⁾ This is partly because individuals with tertiary education are usually better equipped to cope with the complexity of new

technologies (including digital) and partly because occupations that require tertiary qualifications are likely to be more information-intensive and thus to require more frequent use of digital technologies.

The average digital intensity of work is higher among young men than young women.

The digital intensity of work among men aged 15-29 reaches 110%, compared to 94% among women in that age group. These differences vary considerably from country to country. In Belgium, the Netherlands, Portugal and Slovakia, young women's work is much less digitally intensive than men's (by more than 30%). By contrast, in Croatia, Latvia and Romania, young women's work is comparably (or somewhat more) digitally intensive to that of men.

The growth in digital intensity of work since 2011 was stronger for men aged 15-29 than for women in the same age group,

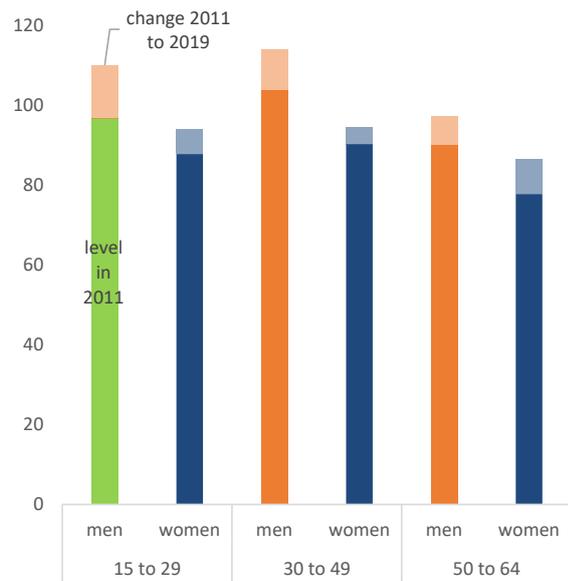
with young men entering digitally intensive jobs more frequently. If this trend continues, the gap in digital intensity of work between young men and young women will widen by about 1 pp per year.

⁽¹⁵⁴⁾ DESI available [here](#).

⁽¹⁵⁵⁾ For example, Cruz-Jesus et al. (2016).

Chart 3.21
A gender gap is evident in the average digital intensity of work across all age groups

Digital skills intensity of work in 23 Member States (as percentage of overall cross-country average), by age group and gender, 2019



Note: Digital intensity values reported as a percentage of the average across 23 Member States for the whole working population (= 100%). It was not possible to calculate the digital skills intensity index for Bulgaria, Malta, Poland and Slovenia, as EU-LFS micro data do not include ISCO 3-digit codes for these four Member States.

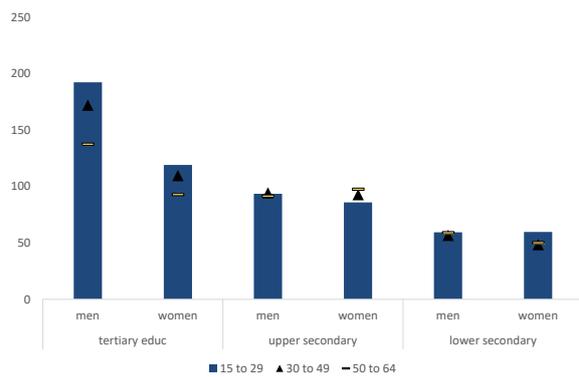
Source: DG EMPL calculations based on EU-LFS micro data, UDB.
[Click here to download chart.](#)

Higher education alone will not reduce the gender gap in the digital intensity of work. In fact, the gap tends to be concentrated among men and women with tertiary education. The digital intensity of work for men aged 15-29 with tertiary education reaches more than 190% of the EU average, compared to only about 120% for women in the same age group. Higher overall achievement rates of tertiary education among young women⁽¹⁵⁶⁾ therefore do not translate into higher digital intensity of work. In fact, much of the gender gap in digital intensity of work stems from gender segregation in the EU labour market, particularly the lower representation of women in some high-skilled, digitally intensive occupations in science, technology, engineering, and mathematics (STEM).

⁽¹⁵⁶⁾ In 2019, 45% of all women aged 25-34 achieved tertiary education, compared to 34% of men (Eurostat (dataset edat_lfse_03)).

Chart 3.22
Young men with tertiary education work in jobs with the highest digital

Digital skills intensity of work in 23 Member States (as percentage of overall cross-country average), by age group, educational attainment, and gender, 2019



Note: Digital intensity values reported as a percentage of the average across 23 Member States for the whole working population (which equals 100%). It was not possible to calculate the digital skills intensity index for Bulgaria, Malta, Poland and Slovenia, as EU-LFS micro data do not include ISCO 3-digit codes for these four Member States.

Source: DG EMPL calculations based on EU-LFS micro data, UDB.
[Click here to download chart.](#)

6.2. Gender and educational divides in digital intensity of work linked to participation in STEM occupations

The digital intensity of work is far higher, on average, for young workers in STEM than in other occupations. Work in an average STEM occupation⁽¹⁵⁷⁾ is almost four times more digitally intensive than the average digital intensity of work in the EU, while the digital intensity of non-STEM occupations falls somewhat below the average. In other words, about 17% of necessary skills in an average STEM occupation are digital, compared to around 3% in other occupations. The top four most digitally intensive occupations in the EU are STEM occupations closely linked to work with ICT technologies – ICT operations and user support technicians, database and network professionals, software and applications developers/analysts, and telecoms and broadcasting technicians.

Table 3.2
High proportion of young men and workers with tertiary qualifications in STEM occupations

Digital intensity and selected worker characteristics for STEM occupations (ISCO codes 21, 25, 31, 35) in 23 Member States, 2019

	STEM occupations		Non-STEM occupations	
	All ages	15 to 29	All ages	15 to 29
Digital intensity (women)	322	340	81	80
Digital intensity (men)	335	397	68	66
Share of women	21%	26%	49%	48%
Share of high-educated	62%	62%	31%	26%

Note: Digital intensity values reported as a percentage of the average across 23 Member States for the whole working population (= 100%). The proportion of women and high-educated workers is calculated as an average across 23 Member States. It was not possible to identify the most digitally intensive jobs for Bulgaria, Malta, Poland and Slovenia, as EU-LFS micro data do not include ISCO 3-digit codes for these four Member States.

Source: DG EMPL calculations based on EU-LFS micro data, UDB.
[Click here to download table.](#)

Male dominance in STEM occupations is a key factor in the gender gap in the digital intensity

⁽¹⁵⁷⁾ Defined as occupations classified under ISCO codes 21, 25, 31, 35.

of work among young people. Women aged 15-29 account for around only one in four STEM workers in this age category, and around one in four workers in the top four most digitally intensive occupations in the EU. When focusing on non-STEM occupations, gender gaps in the digital intensity of work disappear – in fact, young women’s work tends to be somewhat more digitally intensive (80% of EU average) than that of young men (66% of EU average) in non-STEM occupations. This is linked to a higher proportion of young women with tertiary qualifications (who tend to hold more digitally intense jobs) among non-STEM workers.

and/or numeracy skills.⁽¹⁶¹⁾ The educational divide in digital intensity of non-STEM work is much smaller than in employment overall – the digital intensity of non-STEM work reaches about 90% of the EU average for young workers with tertiary education, compared to about 50% for young workers without upper secondary education.

⁽¹⁶¹⁾ OECD (2019); OECD (2018); JRC (2020).

Table 3.3

Young men dominate the top four most digitally intensive occupations

Proportion of women among all young workers in the top 10 most digitally intensive occupations in 23 Member States

Occupation	2011	2019	(pp)
ICT operations and user support technicians	13%	16%	2.9
Database and network professionals	8%	16%	7.8
Software and applications developers/analysts	17%	21%	3.4
Telecomms and broadcasting technicians	22%	21%	-0.6
Librarians, archivists and curators	74%	58%	-15.9
Mathematicians, actuaries and statisticians	30%	38%	7.7
Numerical clerks	71%	68%	-3.5
Electrotechnology engineers	17%	22%	4.2
ICT service managers	37%	18%	-19.2
Keyboard operators	54%	55%	0.8

■ Male dominated
■ Female dominated

Note: The proportion of women is calculated as an average across 23 Member States. It was not possible to identify the most digitally intensive jobs for Bulgaria, Malta, Poland and Slovenia, as EU-LFS micro data do not include ISCO 3-digit codes for these four Member States.

Source: DG EMPL calculations based on EU-LFS micro data, UDB.

[Click here to download table.](#)

Underrepresentation of women in STEM occupations is closely linked to gender segregation in relevant educational fields.⁽¹⁵⁸⁾ In 2019, for example, women accounted for about one in four tertiary education graduates in engineering, manufacturing and construction, and one in five graduates in ICT, proportions that have remained largely unchanged in recent years.⁽¹⁵⁹⁾ Other factors also contribute to this underrepresentation, such as broader gender stereotyping in the labour market, the gender divide in advanced digital skills, masculine organisational cultures in some workplaces, and a lack of work-life balance options and role models in certain STEM fields.⁽¹⁶⁰⁾

Much of the educational divide in the digital intensity of work of young people is linked to the participation divide in STEM occupations. Almost two-thirds of workers aged 15-29 in STEM occupations hold a tertiary qualification, compared to about one in four workers in non-STEM occupations. This is in line with expectations from previous research, which found that the highest digital intensity of work is most often found in high-skilled occupations, which require advanced digital skills, accompanied by good management, communication, self-organisation,

⁽¹⁵⁸⁾ McNally (2020); EIGE (2020).

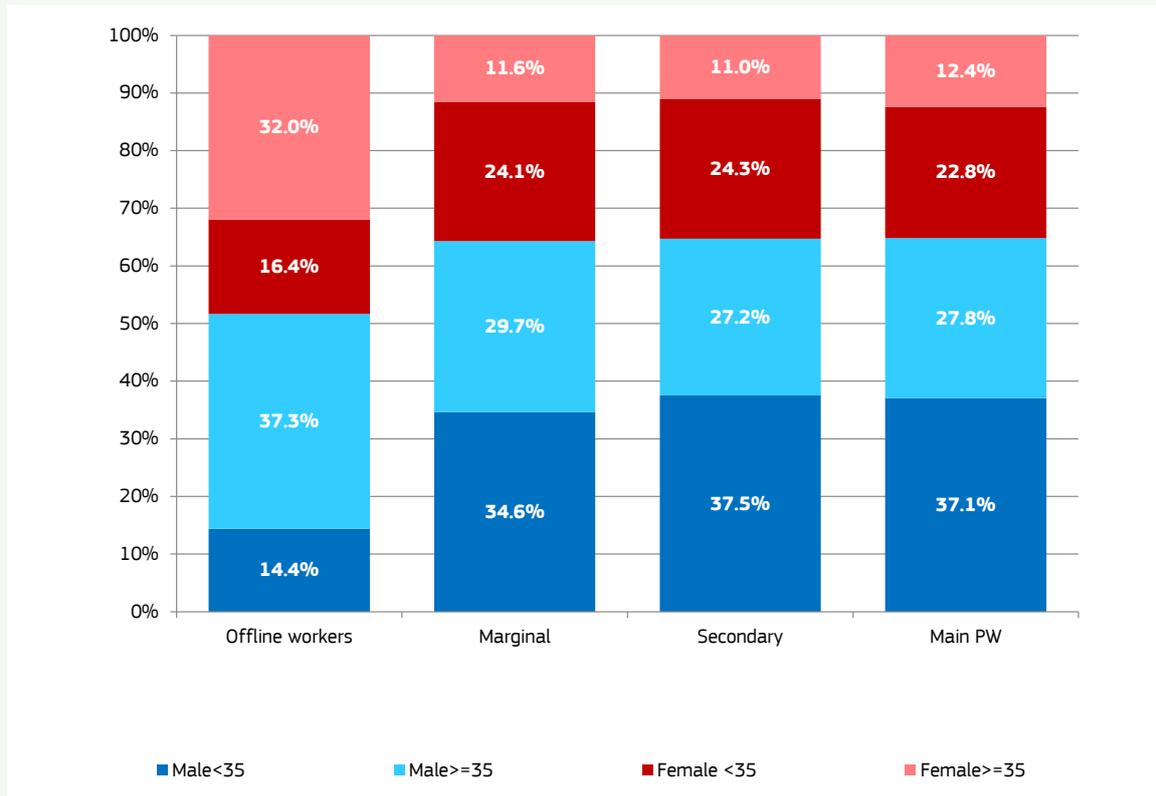
⁽¹⁵⁹⁾ Based on Eurostat figures (educ_uoe_grad02).

⁽¹⁶⁰⁾ EIGE (2020).

Box 3.3: Young workers in digital labour platforms

In recent years, digital labour platforms (DLPs) have emerged as a new form of coordinating the provision of labour services, enabled by the latest technological revolution. These DLPs are internet-based companies that intermediate and organise the work provided by workers or self-employed people to third-party clients. They share features that are typical of labour market intermediaries, such as temporary agencies. Unlike temporary agencies, however, DLPs tend to mediate single tasks or services rather than entire jobs. Importantly, they not only mediate, but actually coordinate, monitor and evaluate service provision, thereby carrying out functions that are typical of employers. Platform work is still a small, but significant phenomenon in European markets. According to the JRC 2018 COLLEEM survey, between 1% and 2% of European workers have platform work as their main source of income. ⁽¹⁾

Chart 1
Digital platform workers, by age and gender, 2018 COLLEEM survey



Note: Offline workers are those who do not work on DLPs; Sporadic platform workers are those who rarely work on DLPs; Secondary workers are those who work regularly on DLPs, but as a source of secondary income; Main workers are those who work regularly on DLPs and for whom they are the main source of income.

Source: Urzi-Brancati et al. (2020).

As the chart shows, young people are much more likely to work on DLPs, and to have DLPs as an important source of income. According to the COLLEEM survey, the average age of European platform workers was 33.9, compared to 42.6 for the non-platform working population. Platform workers are also much more likely to be male than female. Among those that have platform work as their main source of income, 37% are young men (compared to 14% for regular workers). In addition, although the proportion of young women who are mainly platform workers is higher than in the regular workforce (23% compared to 16%), women are in general much less likely to work through DLPs than men.

⁽¹⁾ Urzi-Brancati et al. (2020)

7. SOCIAL DIALOGUE FOR YOUNG WORKERS – SUPPORT FOR THE CHALLENGES AHEAD

Across the EU, collective bargaining is taking place in a changing socioeconomic context. Recent decades have seen a continuous decline in the number of workers organised in trade unions. In 1995,

the average trade union density ⁽¹⁶²⁾ was about 42.9% in the EU-15, falling to 31.4% in 2018. Similarly the EU-15 average collective bargaining coverage ⁽¹⁶³⁾ decreased from 82% in 1995 to 71% in 2018. ⁽¹⁶⁴⁾

⁽¹⁶²⁾ Share of workers who are members of a trade union.

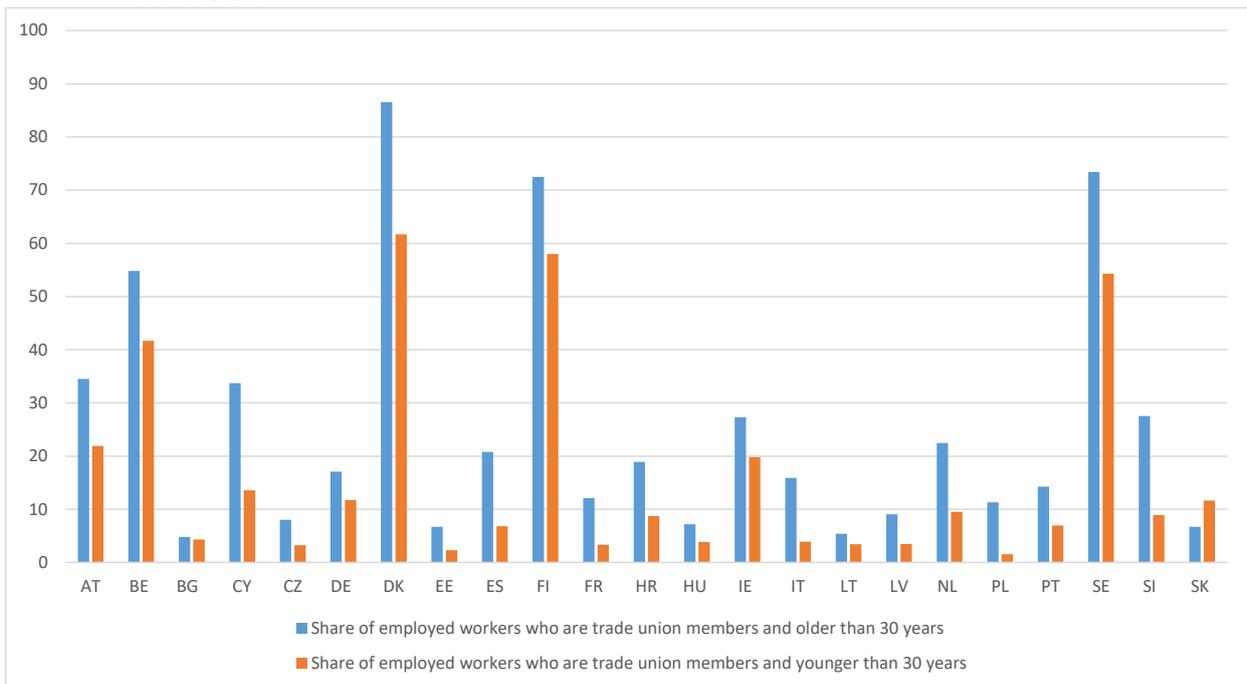
⁽¹⁶³⁾ Share of workers covered by a collective bargaining agreement.

⁽¹⁶⁴⁾ Averages are unweighted averages of trade union density and collective bargaining coverage rates, respectively. For reasons of comparability and data availability, averages are based on the EU-15.

Chart 3.23

Trade union coverage is correlated with age

Trade union density (%), by age group



Note: Calculations based on European Social Survey 2018, weighted to account for country size, and only including employed workers. Data not available for all Member States.

Source: European Social Survey 2018.

[Click here to download chart.](#)

Reasons underpinning this trend include changing business models and structural changes. For example, economic activity declined in sectors in which workers were previously highly unionised, such as manufacturing.⁽¹⁶⁵⁾ An increase in the share of qualified workers, as well as a growing share of fixed-term contracts, have also contributed to decreasing collective bargaining coverage.⁽¹⁶⁶⁾

There are marked differences in trade union membership between younger (<30 years) and older (>30 years) workers. Chart 3.23 shows that, in almost all of the 23 Member States for which data were available, the share of workers who are members of a trade union is higher in the >30 age group than in the <30 age group. Workers under the age of 30 are only half as likely to join a trade union compared to workers aged 30+. This finding holds across sectors and groups with similar educational levels and is independent of gender or migration background. It is unlikely that these differences are due to changes in preferences for trade unions between one generation and the next. In many Member States, younger workers tend to be very supportive of collective bargaining and to have a high degree of trust in trade unions.⁽¹⁶⁷⁾ Rather, it is likely that other socioeconomic factors impact young workers' willingness to join trade unions.

Despite the marked differences between age groups in trade union membership, many

socioeconomic factors other than age are likely to have a stronger effect on workers' decisions to join trade unions. The growing prevalence of non-standard work is having an impact on trade union membership, with the duration of employment contracts proving particularly significant. Workers with contracts of unlimited duration are more likely to be trade union members than those with contracts of limited duration. Workers with limited duration contracts have weaker ties to companies and trade union membership is therefore less beneficial, reducing their motivation to join.⁽¹⁶⁸⁾ Workers with secondary or tertiary education are more disposed to join trade unions than those with lower levels of education (Chart 3.24). However, the existing literature is less conclusive on the impact of education. It may be that the skillsets of highly educated workers place them in a stronger individual bargaining position with their employers.⁽¹⁶⁹⁾ There is also evidence that the presence of trade unions or company works councils appears to motivate workers to join trade unions and to enhance companies' engagement in collective bargaining.⁽¹⁷⁰⁾ Evidence from Germany suggests that the presence of a works council within a company increases the likelihood for company-level and industry-level agreement by 9 pp.⁽¹⁷¹⁾ The presence of company-level workers' representation increases the likelihood of a worker joining a trade union by up to

⁽¹⁶⁸⁾ Also highlighted by Schnabel (2020).

⁽¹⁶⁹⁾ Ebbinghaus et al. (2011)

⁽¹⁷⁰⁾ Cazes et al. (2020).

⁽¹⁷¹⁾ Jirjahn (2021) estimates the likelihood of collective bargaining coverage and employer organisation membership based on a dataset collected in the research project, 'Profit Sharing and Share Ownership of Employees in Germany'.

⁽¹⁶⁵⁾ Schnabel (2020).

⁽¹⁶⁶⁾ Ellguth and Kohaut (2019).

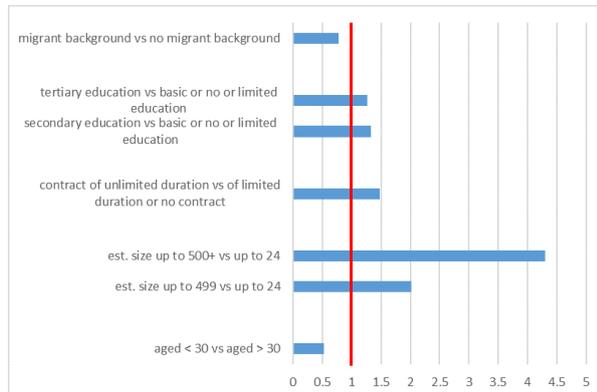
⁽¹⁶⁷⁾ Cazes et al. (2019).

18%, compared to workers working in companies without such representation. ⁽¹⁷²⁾

Chart 3.24

Certain groups are more likely to join a trade union

Odds rates of trade union membership, by education, ISCO, age, gender, migrant background, employment contract, size of company, company effects



Note: Logit regression; reported odds ratios are significant at 5% level. The odds rates are the ratios of the odds of joining a trade union. Values larger than 1 indicate a higher likelihood of joining the trade union if a characteristic is given.

Source: DG EMPL calculations based on European Social Survey 2018.

[Click here to download chart.](#)

Beyond individual socioeconomic characteristics, structural changes can explain much of the changing landscape of national collective bargaining systems and could be a reason for lower involvement of young workers in trade unions. Technological developments and new models of production and work affect national collective bargaining systems. Differences in unionisation are evident across sectors and different age groups, yet generational change (changes in views and ideological perceptions across generations) does not appear to drive the decrease in trade union density. Rather, the type of employment relationship, company size, and factors such as company-level workers' representation tend to impact trade union membership. In recent decades, changes in these areas have favoured a decrease in unionisation. In turn, a lower number of trade union members at the workplace limits unions' potential to recruit new members among the next generation of workers and may have a snowball effect, further decreasing trade union density. ⁽¹⁷³⁾ Trade union representation at the workplace increases companies' engagement with collective bargaining, as do works councils. That representation is important in maintaining and increasing sufficient trade union membership and closing the gap between younger and older workers.

Company size appears to have a stronger impact on trade union density and collective bargaining coverage than the age of the workforce. Workers employed in larger companies are more likely to join trade unions than those employed in smaller establishments (Chart 3.24). A comparison between

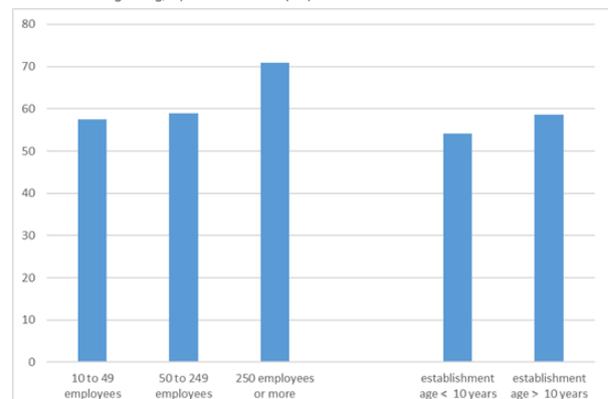
small companies (<24 employees), companies with up to 500 employees, and those with 500+ employees shows that the likelihood of joining a trade union increases with size of the company. Company size is also related to collective bargaining coverage (Chart 3.25). Across the EU, workers in larger companies are more often covered by collective bargaining agreements. This difference is particularly pronounced between companies with fewer than 250 employees and those with 250+ employees. In smaller companies, the absence of national or sectoral multi-employer agreements reduces the likelihood that workers are covered by a collective agreement, as smaller firms are less likely to negotiate company-level agreements. ⁽¹⁷⁴⁾ Larger companies tend to benefit most from multi-employer agreements, due to high transaction cost savings, which may increase their support for such sectoral agreements. Overall, lower trade union density among younger cohorts is not necessarily a generational issue but is linked to other factors, such as the costs of unionising. In larger companies, the cost of unionising the workforce may be comparatively lower, as a larger group of workers is concentrated in one location.

Company maturity may impact the likelihood of engagement in collective bargaining. A small difference in collective bargaining coverage is evident between longer-standing companies and those established less than 10 years ago (Chart 3.25). Recent findings for Germany suggest that newer companies are less likely to engage in collective bargaining, perhaps because they need greater flexibility while organising and setting up their economic activity and perceive collective bargaining agreements as limiting their organisational flexibility. ⁽¹⁷⁵⁾

Chart 3.25

Collective bargaining is more likely in larger and more established companies

Collective bargaining, by number of employees and duration of business



Note: Percentages weighted for country size. Differences in means of collective bargaining coverage by age group are statistically significantly.

Source: DG EMPL calculations based on European Company Survey 2019.

[Click here to download chart.](#)

⁽¹⁷²⁾ Ebbinghaus et al. (2011) explained trade union membership based on European Social Survey data from 19 Member States, using a logit regression. They corrected for several individual socioeconomic variables, as well as macroeconomic variables.

⁽¹⁷³⁾ Blanchflower and Bryson (2020).

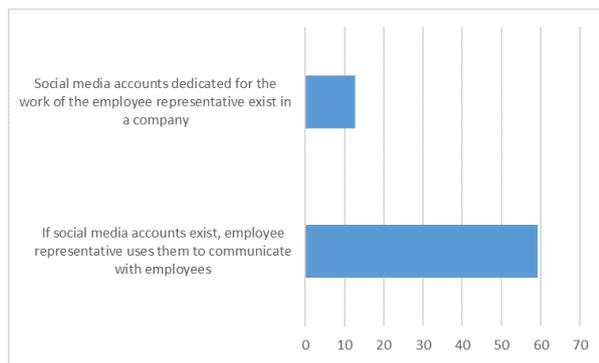
⁽¹⁷⁴⁾ OECD (2019).

⁽¹⁷⁵⁾ Jirjahn (2021).

Chart 3.26

Worker representatives use social media to a very limited extent

Use of social media accounts



Note: The first question received a total of 3 073 responses. The second question had 556 responses.

Source: DG EMPL calculations based on European Company Survey, 2019.

[Click here to download chart.](#)

By adapting new modes of organisation, trade unions can increase their outreach to new potential members.

Considering that exposure to trade unionism and collective bargaining has decreased at the workplace, unions need to make use of modern and inclusive campaigns, using all channels, including social media. Trade unions can make use of dedicated youth representations and committees to increase their responsiveness to the issues that are important to young workers. ⁽¹⁷⁶⁾ Evidence from the US shows that by organising programmes for newly recruited workers, trade unions can positively affect workers' views of unions. ⁽¹⁷⁷⁾ Workers who had a positive experience with these types of membership programmes tended to participate more often in the work of trade unions. IndustriALL Europe encourages national trade unions to organise high-quality orientation programmes and to engage new employees. ⁽¹⁷⁸⁾

EU-level social partners have dedicated campaigns for issues of particular relevance for young workers.

For example, the Uni Global Youth campaign 'Uni Yeah!' shares young workers' initiatives and activities, promoting mutual learning and providing information on key topics. ⁽¹⁷⁹⁾ The EU-level social partners from the paper and pulp sector developed guidelines and a best practice toolkit on attracting and retaining young people, and on boosting and enhancing perceptions of the sector among that cohort. ⁽¹⁸⁰⁾

Social partners at national and EU level are creating strategies and tools to identify and develop skills. A joint project saw four social partner organisations from Belgium, France, Luxembourg and

⁽¹⁷⁶⁾ Vandaele (2019).

⁽¹⁷⁷⁾ Clark (2021).

⁽¹⁷⁸⁾ IndustriALL Europe website available here.

⁽¹⁷⁹⁾ Uni Yeah! campaign available here.

⁽¹⁸⁰⁾ Guidelines and toolkit available here.

the Netherlands create 'Testyourselfie'. ⁽¹⁸¹⁾ This online tool allows young high-school graduates (or their career guidance teachers) to assess their soft skills. This should increase their awareness of their soft skills and help to improve and develop those skills accordingly. ⁽¹⁸²⁾ In the framework of a joint project, EU social partners from the textile, clothing, leather and footwear sector, together with national affiliated organisations, developed upskilling and reskilling strategies. ⁽¹⁸³⁾ The project identifies actions and tools to anticipate skills needs and enhance matching in the labour market. It also aims to create an EU network of VET providers and to update training and education curricula in the sectors. Taking a more holistic approach, the EU social partners from the furniture sector are investigating the transition of their sector towards a circular economy. Their SAWYER ⁽¹⁸⁴⁾ project assesses the potential impacts of the circular economy and the green and digital transitions on the furniture sector. It identifies new skills needs and emerging occupational safety and health challenges.

EU social partners are organising training for young workers and young employers.

Business Europe, in collaboration with the International Training Centre of the ILO, organised the Young Professionals' Academy in 2020. The aim was to strengthen capacity among the young staff of employers' and business organisations to promote a better understanding of EU industrial relations and the functioning of business organisations. It also aimed to support the creation of networks among young professionals in these organisations. ⁽¹⁸⁵⁾ In September 2021, IndustriALL Europe launched its Digital Youth Academy, a training programme for young trade unionists on the green transition, the future of trade unions, and the involvement of young workers in trade unions. ⁽¹⁸⁶⁾ Since 2010, UNI Europa Youth has held its annual summer school to train young trade unionists in communication, leadership, teamwork and negotiation. As an EU social partner organisation, UNI Europa Youth draws on the experiences of its national member organisations, including certified trainers and experienced negotiators. The summer school serves as a means of training young trade unionists, as well as training trainers.

EU-level social partners aim to increase the attractiveness of their sectors.

With financial support from the European Commission, trade unions and employer organisations from the footwear sector

⁽¹⁸¹⁾ Training Fund for Temporary Agency Workers for Belgium (Travi), Temporary Work Training Insurance Fund for France (FAF.TT), Foundation for Training and Development Flexbranche (STOOF) in the Netherlands, and the Sectoral Training Fund for Temporary Work for Luxembourg (FSI).

⁽¹⁸²⁾ See Baiocco et al. (2020) for more on trade union activities to improve training and working conditions of temporary workers.

⁽¹⁸³⁾ Skills4Smart TCLF Industries 2030 available here.

⁽¹⁸⁴⁾ Holistic approach for the identification of Skills and sAFety needs towards a groWing sustainability and circularitY of furniturE sector (SAWYER) project available here.

⁽¹⁸⁵⁾ Young Professionals' Academy available here.

⁽¹⁸⁶⁾ Digital Youth Academy available here.

implemented a project in 2016 to identify issues in attracting young people to their sector and to develop relevant guidelines and best practices. In a follow-up project, they implemented four of those best practices in Italy, Poland, Portugal and Spain, building the capacity of national social partners to attract young workers to the footwear sector.⁽¹⁸⁷⁾ The EU social partners from the tanning and leather sectors, together with their national member organisations, carried out promotional activities in Austria, Bulgaria, France, Germany, Hungary, Italy, Portugal, Romania, Spain, Sweden and the UK.

Social dialogue is adapting to the changing world of work, and cross-border initiatives can enhance the creation of synergies between national social partners' organisations. At EU level, the European Commission is launching a two-part social dialogue initiative in 2022. The first part is a chapeau communication on strengthening social dialogue in the EU, while the second is a proposal for a Council recommendation on the role of social dialogue at national level. The initiative aims to improve the relationship between sectoral social dialogue and EU policy-making, support sectoral social dialogue to respond better to structural trends and new economic developments, and facilitate the EU's contribution to a future-proof sectoral social dialogue. Social partners are increasing their efforts to recruit young members, but further efforts could be made to utilise broader means of communication and modernise strategies to recruit new members, particularly young workers. Common cross-border projects facilitate exchanges and enhance mutual learning activities. EU-level social dialogue can thus play an important role in creating synergies and generating new sector-specific insights. This allows national social partners to train their affiliates to develop strategies to adapt to the changing world of work.

8. CONCLUSIONS

The COVID-19 pandemic has exacerbated the challenges for young workers, who experienced major difficulties throughout the crisis, similar to previous negative economic fluctuations. Unsurprisingly, structural weaknesses created an additional burden for young workers.

Although education and training activities have increased among young people, socioeconomic background remains highly relevant to individual opportunities. In fact, although the likelihood of being NEET strongly depends on education level, its impact is significantly reduced once parental and socioeconomic background is taken into account, notably in southern regions of Europe.

As in previous recessions, it is expected that labour market outcomes for young people will

primarily depend on the length of the current subdued economic conditions. Mild and long recessions typically have a considerably more negative impact on young people compared to deep and short recessions. This suggests that the length of the crisis matters more than the size of the GDP loss. To date, the path of economic activity during and after the COVID-19 crisis is closest to the 'deep and short recession' scenario. Consequently, if the EU economy continues to expand in the coming years, the gap between young people and prime-age individuals can be expected to narrow and eventually disappear in the medium term. However, should the EU economy plunge back into recession, labour market conditions for young people entering the labour market during or shortly after the economic downturn may remain subdued for a far longer period.

Despite their good – and growing – digital skills, young people do not seem to have fully benefited from the opportunities associated with the technological change during the pandemic. For example, they are relatively underrepresented in teleworkable occupations, which have grown significantly in recent years.

Once the European economy recovers, young people are expected to be well equipped to contribute to the green and digital transitions. The digital intensity of work performed by young people already exceeds that of their older counterparts. European and national policies aim to facilitate the integration of young people into the labour market by strengthening education and training. For example, the 2020 Reinforced Youth Guarantee implements a targeted approach to the needs of NEETs. In addition, a proportion of Member States' policy measures carried out in the context of RRP is allocated to young people, specifically in those regions most in need of positive youth labour market outcomes.

Collective bargaining and social dialogue remain an important aspect of the EU social model. Young workers have a positive attitude towards social dialogue and evidence suggests that declining trade union membership and collective bargaining coverage are not due to generational change but, rather, reflect structural changes and the employment contracts typical for young workers. By adapting new modes of communication and dealing with priority issues for young people, social partners can attract new members and remain representative. The outreach of collective bargaining and social dialogue depends on the structure and organisation of national collective bargaining institutions. It is important to support and involve social partners in national institutions and decision-making frameworks to benefit from their expertise and insights.

⁽¹⁸⁷⁾ In My Shoes project available here.

Annex 1: Local projections to estimate the impact of recession on labour market outcomes for young people

- Local projection (LP) models were estimated for the panel of 27 EU countries to investigate the dynamic responses of young people’s labour market characteristics compared to prime-age individuals in the wake of a recession. The estimates use the same OECD annual labour force statistics as the previous exercise (see Box 3.1). In addition to labour force participation rate, employment rate and unemployment rate, the analysis covers the share of part-time employees, share of involuntary part-time employees, and share of temporary workers. The variables of interest are defined in relative terms, i.e. the difference between young people (treated group) and prime-age (control group) labour market performance measures. This strategy controls for all aggregate shocks to the labour market, independent of the current state of the economy or other relevant factors, allowing specific assessment of the impact of a recession on young people (i.e. specific adverse effect in addition to the general negative impact on the labour market). Accordingly, the results should be interpreted in relative terms.
- Recessions are defined as negative yearly GDP growth (data from the OECD). The total number of recession periods in the panel of EU-27 countries is 104, with the Member States spending a total of 168 years in recession. This corresponds to about 15% of the sample, or an average of 6.22 years by country.
- The method⁽¹⁸⁸⁾ estimates for each individual horizon $h = 0, \dots, 15$ years, the following equations, using simple OLS:
 - $y_{c,t+h} - y_{c,t-1} = \beta_h D_{ct} + \gamma_h X_{c,k<t} + \delta_{ch} + \varepsilon_{cht}$
 - Where $y_{c,t+h} - y_{c,t-1}$ is the cumulative change in the difference between young people and prime-age labour market performance measure between time $t - 1$ and $t + h$; D_{ct} is a dummy indicating that country c is in recession at time t ; and δ_{ch} are country fixed effects. The regressions include the following exogenous control variables and predetermined country characteristics ($X_{c,k<t}$): quadratic time trend, to take into account longer-term structural changes; first to third lag of the time-difference of the outcome variable, to take into account the autocorrelation structure of the time series; and first to third lag of GDP growth, to control for the standard business cycle.
- The sequence of the estimated parameters $\hat{\beta}_h$ is the impulse response function of young people’s

relative labour market performance following a recession. In order to compare the current COVID-19 crisis with previous recessions, two dummies were included separately in the regressions: the first identifies previous recessions, while the second identifies the recession related to COVID-19 (2020 for all EU countries). As yet, there are not enough data to accurately estimate the impulse responses for the COVID-19 crisis (latest available data to 2021), thus the estimates show only the very beginning of the adjustment process. As the last data points are subject to subsequent revisions as new data become available, these results should be interpreted with caution.

The second step assesses the impulse responses separately for several types of recession: short recessions (one year only, corresponding to about 25% of all recessions in the sample); long recessions (three years or more, about 25% of the sample); mild recession (maximum GDP loss is below the first quartile); and deep recession (maximum GDP loss is above the third quartile). The previous equations include a dummy indicating the type of recession examined, together with a second dummy indicating the rest of the recession periods. A third dummy for the COVID-19 recession is also included in the regressions. Finally, all combinations of length and depth of recession (mild and short, deep and long, etc.) are assessed in the same way as before.

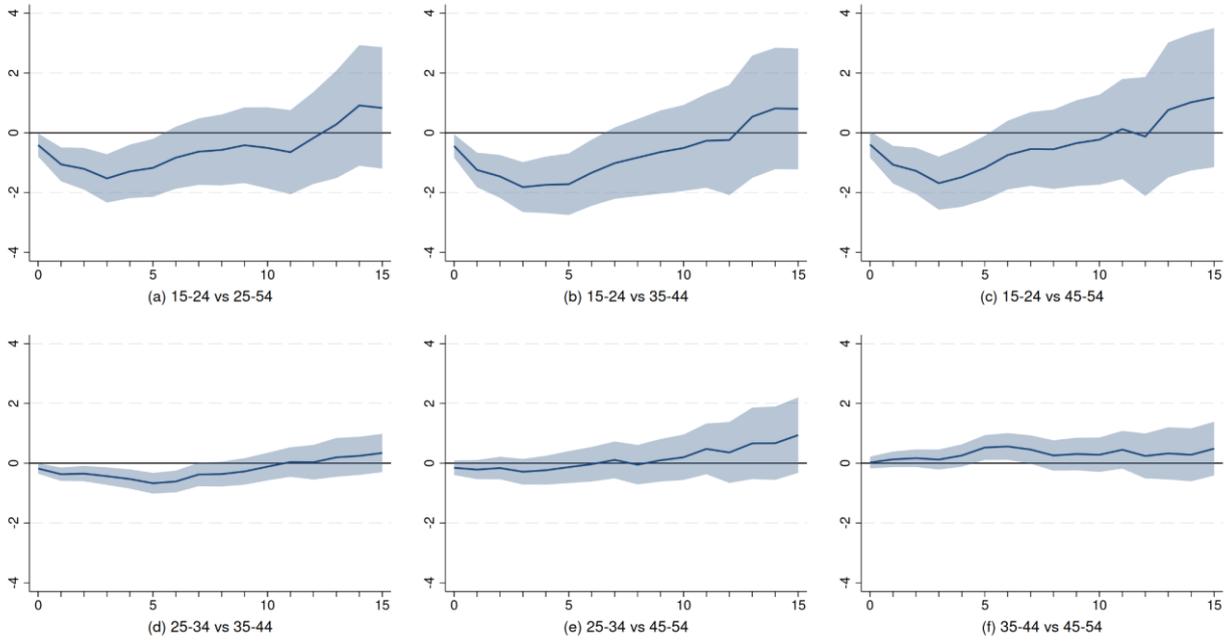
Chart A1.1, Chart A1.2 and Chart A1.3 present the same impulse responses for activity rate, employment rate and unemployment rate, for different age groups, for both the treated group (previously aged 15-24) and the control group (previously prime-age individuals). The first row in each case confirms that the results remain the same, despite changing the age group to which young people are compared (i.e. the results are robust in respect of the definition of the control group). The bottom rows show that while the 25-34 age group is also disproportionately affected by recession (to a lesser extent), the disadvantage identified for younger people is no longer detectable among the over-35s.

⁽¹⁸⁸⁾ Method advanced by Jordà (2005).

Chart A1.1

Activity rate, by age

Estimated impulse responses of recessions on young people's activity rate, by age group, for treated group and control group

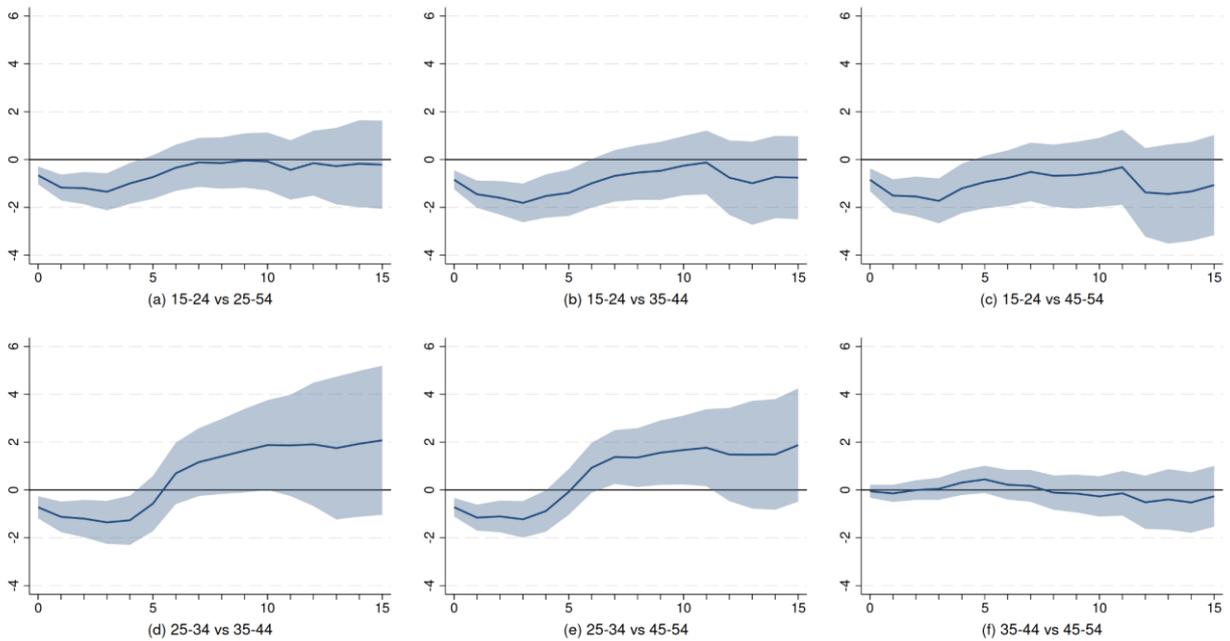


Source: DG EMPL estimates, based on OECD data.
[Click here to download chart.](#)

Chart A1.2

Employment rate, by age

Estimated impulse responses of recessions on young people's employment rate, by age group, for treated group and control group

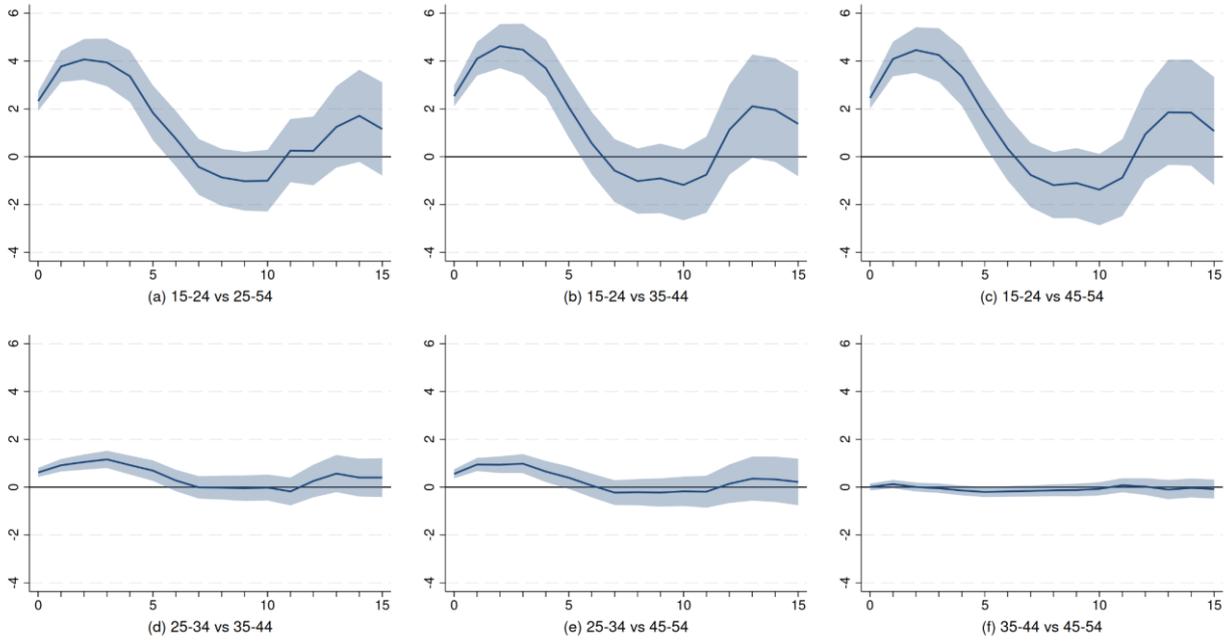


Source: DG EMPL estimates, based on OECD data.
[Click here to download chart.](#)

Chart A1.3

Unemployment rate, by age

Estimated impulse responses of recessions on young people's unemployment rate, by age group, for treated group and control group



Source: DG EMPL estimates, based on OECD data.
[Click here to download chart.](#)

Annex 2: Methodology for the analysis by categorisation of workers

The analysis in this section is based on the classification of workers adopted in the ESDE report in 2021. It describes the distinction between critical and non-critical workers, then illustrates aspects of technical teleworkability and social interaction. Based on these elements, it proposes the classification of workers into eight categories.

Critical vs non-critical jobs

Critical jobs can be defined as all those occupations that ‘need to be performed even during a pandemic in order to keep citizens healthy, safe and fed’.⁽¹⁸⁹⁾ During the first lockdown phase, several countries strictly categorised sectors into essential or non-essential, with the latter often formally shut down unless they could operate remotely. Such provisions were relaxed in some phases (as the number of cases decreased), allowing non-essential activities to re-open. Critical occupations were identified based on the Commission Communication on free movement of workers during the COVID-19 outbreak.⁽¹⁹⁰⁾ The Communication defines a list of ‘key workers’ that should exercise their critical occupations without undue hindrance, as they perform activities related to essential services. In line with recent literature, the corresponding list of occupations has been translated into a list of ISCO 2-digit and 3-digit occupations. This categorisation distinguishes between workers who were allowed to continue working while being physically present at the workplace, even under the strictest containment measures, and those who were not.⁽¹⁹¹⁾

The group of critical workers is very heterogeneous. It includes: professionals in health, information and communication, teaching and some fields of engineering and science; associate professionals in those fields; personal care workers;

agricultural, fishery and animal workers (skilled or unskilled); drivers and mobile plant operators; elementary workers; and refuse collectors.

Technical teleworkability and social interaction

Telework played an important role during the COVID-19 pandemic. It favoured business continuity, thus reducing potential risks of job disruption. The analysis relies on a teleworkability index,⁽¹⁹²⁾ which classifies jobs as either technically teleworkable or not, based on the extent of physical interaction involved in a range of physical tasks.⁽¹⁹³⁾

Different occupations may require varying degrees of social interaction.⁽¹⁹⁴⁾ The social interaction index used here serves as an additional qualification of the assessment of technical teleworkability.⁽¹⁹⁵⁾ Some occupations that do not require physical interaction with people or machinery (and are thus technically teleworkable) nevertheless involve a high degree of social interaction. In such cases, it is possible to carry out tasks remotely, but it is more difficult and is likely to be associated with lower quality of service.

Both the technical teleworkability and social interaction indices range from 0 to 1. An occupation whose technical teleworkability index value is higher than 0.4 is defined as technically teleworkable. If the social interaction index of an occupation is lower/higher than 0.5, the extent of social interaction required in that job is defined as low/high. These thresholds are used to transform the two indices into binary or dummy variables: occupation is teleworkable or not; occupation has a low or high level of social interaction.

Categorisation of workers on the three indices combined

⁽¹⁸⁹⁾ Basso et al. (2020).

⁽¹⁹⁰⁾ Communication from the Commission (2020/C 102 I/03), available here.

⁽¹⁹¹⁾ Workers exercising critical occupations are identified as those working in the following ISCO 2-digit and 3-digit categories: 213 Life science professionals; 214 Engineering professionals (excluding electrotechnology); 215 Electrotechnology engineers; 22 Health professionals; 23 Teaching professionals; 25 ICT professionals; 31 Science and engineering associate professionals; 32 Health associate professionals (except 323 Traditional and complementary medicine associate professionals); 35 ICT technicians; 53 Personal care workers; 61 Market-oriented skilled agricultural workers; 62 Market-oriented skilled forestry, fishery and hunting workers; 63 Subsistence farmers, fishers, hunters and gatherers; 751 Food processing and related trades workers; 816 Food and related products machine operators; 83 Drivers and mobile plant operators; 91 Cleaners and helpers; 92 Agricultural, forestry and fishery labourers; 93 Labourers in mining, construction, manufacturing and transport; 96 Refuse workers and other elementary workers.

⁽¹⁹²⁾ Index built by Sostero et al. (2020).

⁽¹⁹³⁾ Sostero et al. (2020) define technical teleworkability as ‘not having to physically manipulate objects/people/machinery’.

⁽¹⁹⁴⁾ Social interaction tasks are: selling or influencing others, training and teaching others, assisting and caring for others, performing for or working directly with the public, coordinating the work and tasks of others. Social interaction is not exactly the same as physical proximity, which has been extensively analysed (European Commission, 2020). Social interaction uses more ‘work activities’ rather than ‘work context’ (the latter being the section of questions used for the physical proximity index). Using ‘work activities’ has a theoretical justification in the context of the task framework developed for occupational analysis.

⁽¹⁹⁵⁾ Social interaction index developed by Sostero et al. (2020).

A joint analysis of technical teleworkability and social interaction allows occupations to be classified into four categories. These are:

i. **Non-teleworkable, high social interaction** (e.g. health professionals and associate professionals, carers, service and sale workers);

ii. **Non-teleworkable, low social interaction** (e.g. skilled agricultural, forestry and fishery workers, craft and related trade workers, plant and machine operators and assemblers, most elementary occupations);

iii. **Teleworkable, high social interaction** (e.g. managers, teaching professionals, business, administration, legal, social and cultural professionals, and associated professionals);

iv. **Teleworkable, low social interaction** (e.g. clerical support workers and ICT professionals).

Each of these four categories is also divided into critical and non-critical occupations, generating eight categories in total ⁽¹⁹⁶⁾. Crossing the technical teleworkability and social interaction indices with the binary definition 'critical vs not critical occupation', reconciles the two distinct aspects. On the one hand, critical occupations consist of jobs in essential sectors that were not shut down. On the other hand, teleworkable occupations are presumably less exposed to the consequences of the pandemic, as they could continue to operate despite the lockdown measures.

⁽¹⁹⁶⁾ Categorisation provided in Flisi and Santangelo (2022).

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Living conditions of young people: outcomes and prospects

1. INTRODUCTION ⁽¹⁹⁷⁾

Young people's living conditions encompass several elements, such as housing, health and access to education and training, with labour income being a key factor. Their income levels and income capacity are influenced by the typical transitions during this period, most notably the education-to-work transition and moving out of the parental household. Income levels of young people are also significantly affected by household composition and the tax-benefit system. Reliable job and income prospects or existing wealth make it more likely for young people to leave the parental home, establish their own household and acquire their own home. Conversely, those in economically insecure positions may continue living with their parents as a coping strategy. In addition to these age-related transitions, income levels differ on the basis of other characteristics, such as educational attainment, occupational choices, work experience, employment contracts, working time, and field of economic activity. Young people's income levels also depend on external circumstances outside their control, such as gender, parental background, or place of birth.

This chapter analyses labour and disposable incomes of young people in the recent past, including trends from the 2008-2009 financial crisis through to the COVID-19 pandemic. It examines income volatility among young people and looks at their coping strategies in times of potential economic distress. It also sheds light on

homeownership rates and gender disparities in pay between young people. The final section shifts attention from outcomes to opportunities. It considers income inequalities that are determined by external circumstances (e.g. parental background, gender) and tracks their development before and after the 2008-2009 financial crisis in order to understand the possible implications of the recent COVID-19 crisis and subsequent recovery. The chapter provides cross-country comparisons and refers to young people as those aged 15-29, except where otherwise defined. The insights from this chapter are thematically linked to the analytical work of the ESDE review in 2017, which dealt specifically with intergenerational fairness.

2. YOUNG PEOPLE'S LABOUR AND DISPOSABLE INCOME: RECENT TRENDS AND THE COVID-19 CRISIS

The share of young people's disposable income in total disposable income decreased by 1.5 pp on average between 2011 and 2020 in the EU. ⁽¹⁹⁸⁾ Their earnings and disposable income expressed as a share of total earnings and total disposable income, respectively, provide the first metric of young people's

⁽¹⁹⁷⁾ This chapter was written by Jakub Caisl, Stefano Filauro and Karolina Gralek, with contributions from the Euromod team of the European Commission's Joint Research Centre (JRC).

⁽¹⁹⁸⁾ Disposable income and the impact of tax-benefit systems were calculated by the JRC, based on Euromod I4.0+ using the Labour Market Adjustment (LMA) add-on. Young people are not differentiated by their cohabitation status, and include both individuals living with their parents and those with their own households. While focusing on individuals neglects the distribution of resources within the household, focusing on households does not take into account intra-household inequality, which is especially problematic when considering personal characteristics such as age. This caveat should be taken into account when drawing conclusions from these results, as they might differ at household level and across countries, depending on household composition.

monetary conditions as produced in the labour market and after the intervention of tax-benefit systems. Between 2011 and 2020, the share of young people's disposable income in total disposable income decreased in almost all Member States, with the highest declines observed in Slovakia, Estonia and Malta (Chart 4.1). However, it remained relatively stable during the first year of the COVID-19 pandemic (increasing by 0.1% in the EU on average in 2020), indicating that income support measures had a relatively stronger impact for young people compared to the overall population. In the EU, on average, the share of young people's disposable income in total disposable income remained below the share of their earnings in total earnings (8.3% vs 10.4%, respectively, in 2020).

The overall trend in the share of young people's disposable income in total disposable income is driven by population trends, but is also affected by income developments. ⁽¹⁹⁹⁾ Between 2011 and 2020, the share of young people in the overall population decreased by 10.4% on average in the EU, with negative growth rates in all Member States except Denmark, Sweden and the Netherlands. This trend is projected to continue, although with marked regional differences and a more negative impact on young people living in rural areas. ⁽²⁰⁰⁾ Conversely, over the same period, the ratio of young people's mean disposable income to the mean disposable income of the total population increased by 2.2% on average in the EU. There were positive growth rates in half of the Member States, while the largest negative changes were in Malta, Portugal and Luxembourg.

Tax-benefit systems supplement young people's market income to a significant extent. In the EU in 2019, the share of benefits in young people's pre-tax income (plus pensions) ⁽²⁰¹⁾ was twice as high as for the overall population, at 11% and 5.5%, respectively (Chart 4.2). The positive impact of tax-benefit systems is primarily driven by non-means-tested benefits and varies across countries for young people and for the overall population. Prior to the pandemic, young people's share of benefits in their pre-tax income was highest in Denmark (30%), Sweden (19%) and Finland (18%), but amounted to only around 5% in Croatia, Malta, Romania and Slovakia.

⁽¹⁹⁹⁾ The overall trend in the share of young people's disposable income in total disposable income can be broken down into the 'income part', which constitutes the ratio of mean disposable income of young people over mean disposable income of the whole population, and the 'population structure part', which corresponds to the share of young people in the whole population. *Young people's income share* =
$$\frac{\frac{\text{Total income of young}}{\text{Number of young individuals}}}{\frac{\text{Total income of whole population}}{\text{Number of individuals in the whole population}}} \times \frac{\text{Mean income of young}}{\text{Mean income of whole population}}$$

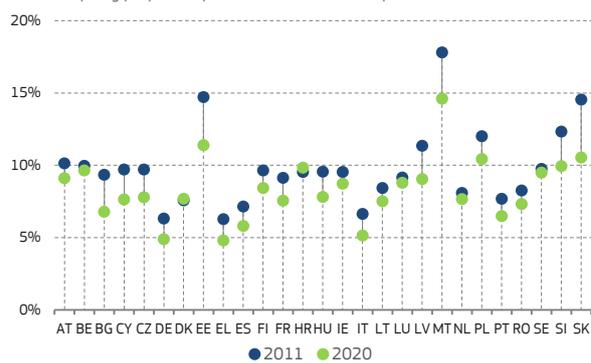
⁽²⁰⁰⁾ European Commission (2022a).

⁽²⁰¹⁾ Benefits include means-tested and non-means-tested benefits. Pre-tax income (plus pensions) includes income from employment, self-employment, investments, private pensions, private transfers and contributory pensions, which are not considered benefits here.

Chart 4.1

Share of young people's disposable income compared to total disposable income has declined over time

Share of young people's disposable income in total disposable income



Source: JRC calculations based on Euromod I4.0+ using the LMA add-on.

[Click here to download chart.](#)

During the COVID-19 pandemic, benefits had a stronger impact on young people than on the overall population. The share of benefits in pre-tax income decreased by 2.1 pp between 2011 and 2019 for young people, but was then followed by a 5.6 pp increase in 2020, mostly driven by non-means-tested benefits. A similar pattern was observed for the overall population, albeit at a lower scale. During the first year of the pandemic, the share of young people's benefit income in pre-tax income increased most (by 14 pp) in Slovakia, Ireland and Greece. The number of countries where young people's full disposable income ⁽²⁰²⁾ exceeded their pre-tax income doubled during the pandemic (from three to six Member States), while full disposable income remained below the pre-tax income in all countries, both before and during the pandemic, for the overall population.

In the EU, on average, temporary reductions in labour income for young workers were successfully cushioned by government support schemes, such as short-time work schemes or within-household income supports (see Chapter 3 for youth-related measures supported by the RRF). Young people suffered a more intense impact in the labour market (see Chapter 1 for the various employment indicators) as they tended to have more precarious contracts and lower seniority in companies. ⁽²⁰³⁾ Unlike the last financial crisis, however, a negative impact on young people's income was avoided. ⁽²⁰⁴⁾ In the absence of such large-scale State support during that earlier recession, young people's income suffered a relatively larger reduction than the rest of the population, even when controlling for household composition. ⁽²⁰⁵⁾

⁽²⁰²⁾ Full disposable income includes both means-tested and non-means-tested benefits.

⁽²⁰³⁾ European Commission (2021).

⁽²⁰⁴⁾ Calculations based on Euromod I4.0+ using the LMA add-on show that the share of young people's disposable income over total disposable income in the EU remained fairly constant between 2019 and 2020, at around 8.3%.

⁽²⁰⁵⁾ Raitano et al. (2021).

Chart 4.2

Tax-benefit systems played a greater role in improving young people's market income

Share of disposable income in pre-tax income in 2020



Source: JRC calculations based on Euromod I4.0+ using the LMA add-on.

[Click here to download chart.](#)

Living conditions depend significantly on household arrangements, especially for young people. As discussed in Chapter 2, youth is a life period inherently marked by the transitions of leaving the parental household and establishing an independent household. However, these choices are not exogenous to monetary conditions and future prospects. It is therefore crucial to understand how household composition and existing policies influence young people's motivations to move out of the parental household and impact their income.

The risk of poverty is higher for young people who move out of the parental household due to reduced parental support and income-sharing within the household. In the EU, the average gap in young people's AROP rate between those who leave the parental household and those who remain amounts to around 6 pp, with the highest differences in Denmark (29 pp), Germany (20 pp) and the Netherlands (19 pp), and negative gaps in five Member States (Chart 4.3). The gap in the poverty rate between young people living independently and those living in the parental household may induce many young people to remain longer in the parental home. It also produces endogenous dynamics. Overall, contextual factors facilitate the process of young adults leaving the parental home (e.g. employment prospects, housing prices), as do individual and family factors (e.g. current income of young adults, parental income and wealth). Undoubtedly, some countries' tax-benefit incentives also play a role. However, the available data on the living conditions of young people do not yet capture the social consequences of rising prices (see Chapter 1 on price developments). That impact will largely depend on households' expenditure structures, which vary not only between but also within countries, and are determined by household composition. Given their lower disposable income compared to the rest of the population, young people might be more negatively affected by rising prices, further delaying their decision to leave the parental home.

Tax-benefit systems' incentives for a young person to become independent differ

considerably across countries and are driven by means-tested benefits. ⁽²⁰⁶⁾ Chart 4.4 compares the incomes of specific households, showing the percentage change in families' disposable income when a cohabiting family of three members splits into two households: cohabiting parents on one side, and the single young person moving out of the parental household on the other. ⁽²⁰⁷⁾ For approximately half of the countries, the family's disposable income (purple circle) remains unchanged after the young person leaves the parental home, as the young person does not receive any additional benefits. This is typically because they are not eligible for any means-tested benefits, either because the employment income assigned is too high ⁽²⁰⁸⁾ or minimum income schemes generally do not cover in-work individuals (Hungary) and/or young people (Cyprus). In Spain, the simulation of the family split seems to lower family disposable income, as the household will no longer be eligible for a tax allowance for dependent children. ⁽²⁰⁹⁾ For the remaining countries, especially Nordic, continental and some southern countries, the total family income increases, due to the young person's entitlement to

⁽²⁰⁶⁾ Chart 4.4 uses the Euromod-HHoT to isolate the effect of tax-benefit policies by focusing on specific hypothetical families. The situation of one family, formed by a young person holding a part-time job and their full-time working parents, is compared to two distinct situations of cohabitation: in the first, the young adult cohabits with their parents; in the second, they live independently (i.e. family splits into two households). The monthly earnings of the parents are 100% and 150% of each country-specific average gross earnings, while the young adult earns 30% of the same reference values. As young people are assumed to work part-time, their full-time equivalent wage would be 60% of the average gross earnings. This is just below two-thirds of the national average gross earnings, which is the common threshold used by Eurostat to define low-wage earners. Tax-benefit rules in 2021 are simulated as in Euromod I4.0+. The results are driven by specific household selection and should be considered a case study.

⁽²⁰⁷⁾ Family disposable income is calculated as the sum of the incomes of all family members, assuming full sharing of their resources, regardless of cohabitation status.

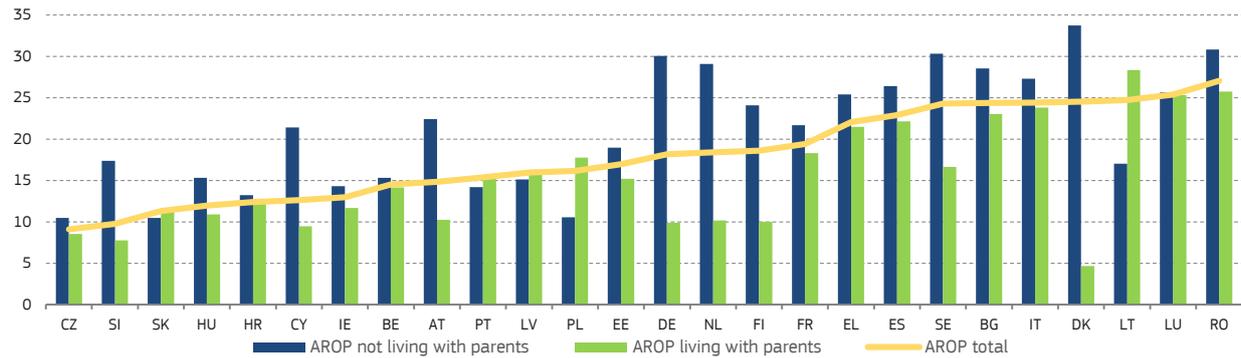
⁽²⁰⁸⁾ Belgium, Bulgaria, Croatia, Ireland, Latvia, Lithuania, the Netherlands, Poland, Portugal and Romania.

⁽²⁰⁹⁾ The consideration of dependent children is broad and includes children up to 25 years old, cohabiting with their parents and earning less than EUR 8 000 annually.

Chart 4.3

Risk of poverty among young people is higher for those who move out of the parental household

AROP rate of young people, 2020 (income reference year 2019)



Note: For Germany and Italy, data only available for 2019 (income reference year 2018).

Source: Calculations from EU-SILC 2020 users' database.

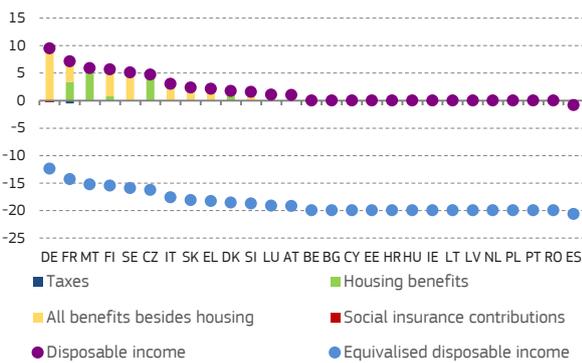
[Click here to download chart.](#)

new or higher social benefits, such as social assistance or housing-related schemes. ⁽²¹⁰⁾

Chart 4.4

Tax-benefit systems' incentives for young people to leave the parental household vary between countries

Change in family disposable income (%) if young individual leaves the parental household, 2021 tax-benefit systems



Note: Countries are ranked according to their percentage change in disposable income after the young person leaves the parental home. Disposable income is also equivalentised to account for household size, using the OECD-modified equivalence scale, implying that after the family split, overall costs increase by 25% due to reduced economies of scale in consumption and some expenses. Results broken down by tax-benefit components: taxes, social insurance contributions, housing benefits, and all other benefits, excluding housing.

Source: JRC calculations based on Euromod Hypothetical Household Tool (HHoT).

[Click here to download chart.](#)

Moving out of the parental household produces higher fixed costs for the family as a whole. In all Member States, household splitting as a result of the young person leaving the parental home reduces family disposable income compared to cohabitation (light blue circle in *Chart 4.4*). However, the negative impact is lower in magnitude in those countries that support the young adult through targeted social benefits. For example, in Germany, France, Malta, Finland, Czechia and the Nordic countries, the percentage reduction in the family equivalentised

⁽²¹⁰⁾ In France, for example, a young person living alone would become entitled to an in-work benefit, as well as a housing benefit, which was not the case under the previous cohabitation status. Overall, in these countries, social means-tested benefits (e.g. minimum income or housing benefits) rather than taxation have in-built features that implicitly incentivise the splitting of households and young workers living independently.

disposable incomes after the split is approximately 12-15%, compared to a 20% reduction in countries that do not provide additional tax-benefit supports to the young person.

3. INCOME VOLATILITY AND RESILIENCE

Young workers are subject to changing trajectories in the initial phase of their careers.

Mobility and experimentation in the early career stage can serve to develop skills, gain experience, and improve labour market matches and lifetime income. While flexible contracts can facilitate this process and be the first step to job opportunities for young workers, their prolonged use may incur high instability (see Chapter 1 on high incidence of part-time and temporary contracts among young people). Volatility in labour income flows and insufficient wages associated with precarious jobs offering first work experience (e.g. traineeships, unpaid internships) are known to negatively affect mostly younger segments of the workforce. ⁽²¹¹⁾ This is less problematic if income support mechanisms are effective at reducing the volatility of income flows and topping up lower labour incomes. The increasing frequency of transitions between employment and non-employment status (unemployment, training or education), as well as transitions between jobs with different wages, can bring about larger income volatility and may result in temporary or longer-term poverty spells.

Young workers face larger labour income volatility, both in annual terms and within the year. ⁽²¹²⁾

In general, large month-on-month volatility of labour income within the year ('infra-annual volatility') puts a strain on young people in respect of predicting their annual income capacity. This makes it harder for them to become financially independent

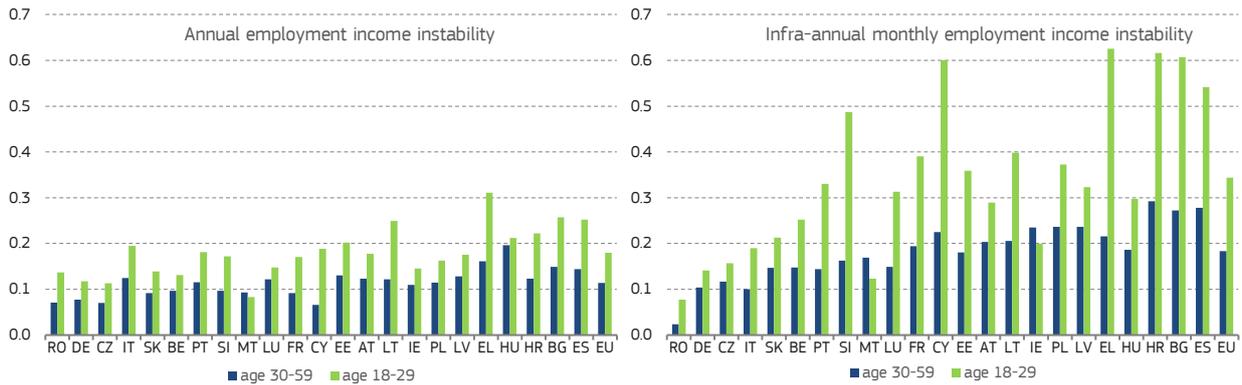
⁽²¹¹⁾ Council Recommendation of 10 March 2014 on a Quality Framework for Traineeships available here.

⁽²¹²⁾ Part of the volatility in individual employment income could be due to job seasonality. To limit the impact of job seasonality on comparability of results between young people and older population, students are excluded from the analysis.

Chart 4.5

Individual employment income volatility is larger among young people at both annual and infra-annual level

Average over 2016-2019 (income reference years 2015-2018)



Note: Employment income volatility is the squared coefficient of variation of monthly individual employment income calculated over 24 months. The squared coefficient of variation is broken into annual volatility (deviation of average annual income from the grand average across the two years) and infra-annual volatility (deviation of monthly income from each annual average). Employment income is employees' income (including in-kind benefits and sick benefits) plus self-employment cash income. Students and individuals with no employment income in any of the 24 months are not included. Age refers to age in the middle of the two income reference years (i.e. at the end of the first income reference year).

Source: OECD calculations based on EU-SILC 2016-2019 users' database release in April 2021.

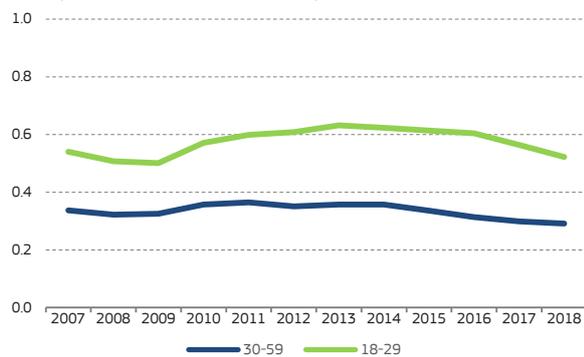
[Click here to download chart.](#)

and start their own household. Overall, southern and Baltic Member States are characterised by high labour income volatility compared to continental countries such as Germany, Belgium, Czechia and Slovakia. The gap in year-on-year labour income volatility experienced by young workers (aged 18-29) and workers aged 30+ is largest in Greece, Cyprus and Lithuania. This is signalled by the indicator that assesses the aggregate year-on-year variation of labour income for workers (Chart 4.5, left-hand graph). In turn, Greece, Cyprus and Bulgaria show the largest difference in infra-annual volatility between young (under-30s) and older (over-30s) workers. This could be linked to a higher number of young people working in precarious jobs. However, higher volatility among young people might also be the result of a stronger increase in income at the beginning of their careers.

Chart 4.6

Individual employment income volatility increased among young people after the last financial crisis

Volatility over 2007-2018 (income reference years 2006-2017), EU



Note: Employment income volatility is the squared coefficient of variation of monthly individual employment income calculated over 24 months. Employment income is employees' income (including in-kind and sick benefits) plus self-employment cash income. Students and individuals with no employment income in any of the 24 months are not included. Age refers to age in the middle of the two income reference years (i.e. at the end of the first income reference year). EU average of available countries (excluding Croatia, Denmark, Finland, Germany, Malta and Sweden).

Source: OECD calculations based on EU-SILC 20067-20198 users' database release in April 2021.

[Click here to download chart.](#)

Volatility generally increased for the young population after the 2008-2009 financial crisis.

For a large majority of countries, the volatility in labour income experienced by young people (aged 18-29) in the aftermath of the last financial crisis increased until 2012, at which point it began to decrease, returning to pre-crisis levels in 2017 (Chart 4.6). Labour income volatility for older cohorts of workers remained largely unaltered, increasing only slightly after the crisis and declining somewhat afterwards.

This larger volatility in the labour income of young people is reflected in household market income.⁽²¹³⁾

Without taking into account cross-country differences in leaving the parental home and own household formation, the fraction of young households⁽²¹⁴⁾ in chronic poverty is particularly high in Ireland, Spain and Italy, where more than 30% of young households reported market income below the poverty line⁽²¹⁵⁾ for at least 36 months in four years (Chart 4.7). Episodic poverty spells⁽²¹⁶⁾ in market income in Cyprus and Belgium affect more than 16% of young households. Instability in employment outcomes for the young population in these countries exacerbates the poverty risk by coupling larger market

⁽²¹³⁾ The focus is on market income before households pay taxes and receive benefits. The impact of tax-benefit systems on young people's income is analysed in section 2.

⁽²¹⁴⁾ Due to data constraints and sample size issues, young households are considered to be those whose household head is 18-34 years old. The selection of households headed by young people is not neutral. Many young people may decide to remain under the parental household for the sake of income sharing. Thus, young households may be both those where young people can afford autonomy or those who are forced (for various reasons) to leave the parental household.

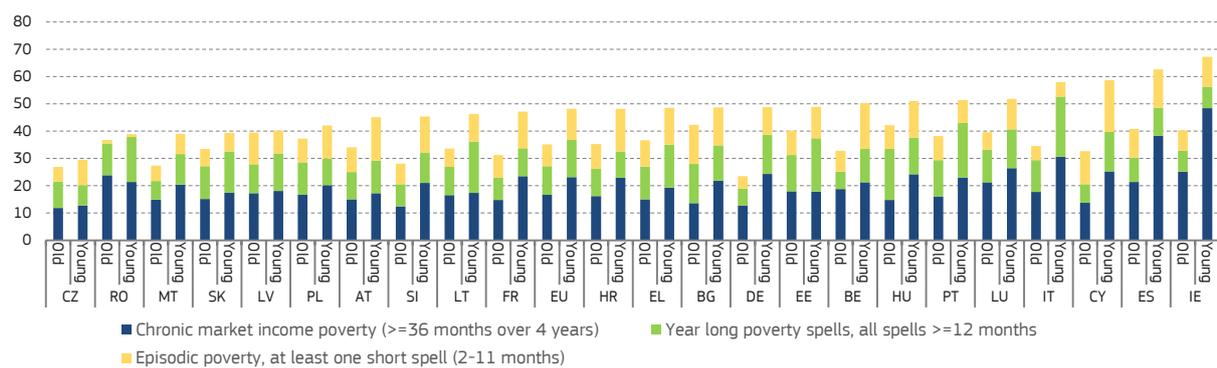
⁽²¹⁵⁾ The poverty line corresponds to 60% of median household equivalent disposable income, measured on the entire population.

⁽²¹⁶⁾ Episodic poverty in market income is defined as having a market household income below 50% of the median market income for 2-11 months in four years.

Chart 4.7

Both chronic and episodic poverty in market (pre-tax and benefits) income are higher among households headed by young people

Percentage of the population, 2014-2019 (income reference years 2013-2018)



Note: Poverty is measured as headcount of relative market income poverty (income before taxes and transfers below 60% of median household equivalent disposable income, measured on the entire population). The main earner is the individual with highest employment or self-employment income, or the oldest individual if there is no earner in the household. Age refers to age at the end of the four-year income reference period. Young households are those headed by people aged 18-34, while old households are those headed by people aged 35-59.

Source: OECD calculations based on EU-SILC 2014-2019 users' database release in April 2021.

[Click here to download chart.](#)

income fluctuations with potentially low market income levels.

Despite instability and lower assets, younger people still exhibit higher levels of resilience compared to the rest of the adult population. ⁽²¹⁷⁾ The index of individual resilience combines three components: the subjective evaluation of one's own ability to bounce back to normal after hardship in life; personal traits (optimism, happiness, perception of fairness, locus of control, healthy behaviours, good self-perceived health); and the availability of coping strategies in case of potential economic distress (e.g. substantial drop in personal income).

The difference in the individual resilience index between younger and adult populations is much more pronounced in eastern and southern Europe (more than 16%), and more moderate in western (8%) and northern (4%) Europe. The score is mainly driven by the component of personal traits, with young people being almost 30% more optimistic about the future (and remaining more optimistic even throughout the pandemic, as discussed in Chapter 2). While the self-perceived bounce-back capacity is similar between the younger and older populations, there are differences in their coping capacity.

When faced with potential economic distress, young people tend to rely more on their friends and relatives, while the older population is more likely to turn to their own resources. However, several geographical patterns can be distinguished. In northern Europe, young people more often take up more paid work, start work or return to work than in southern Europe (65% and 45%, respectively) (Chart 4.8). In eastern and southern Europe, a substantial

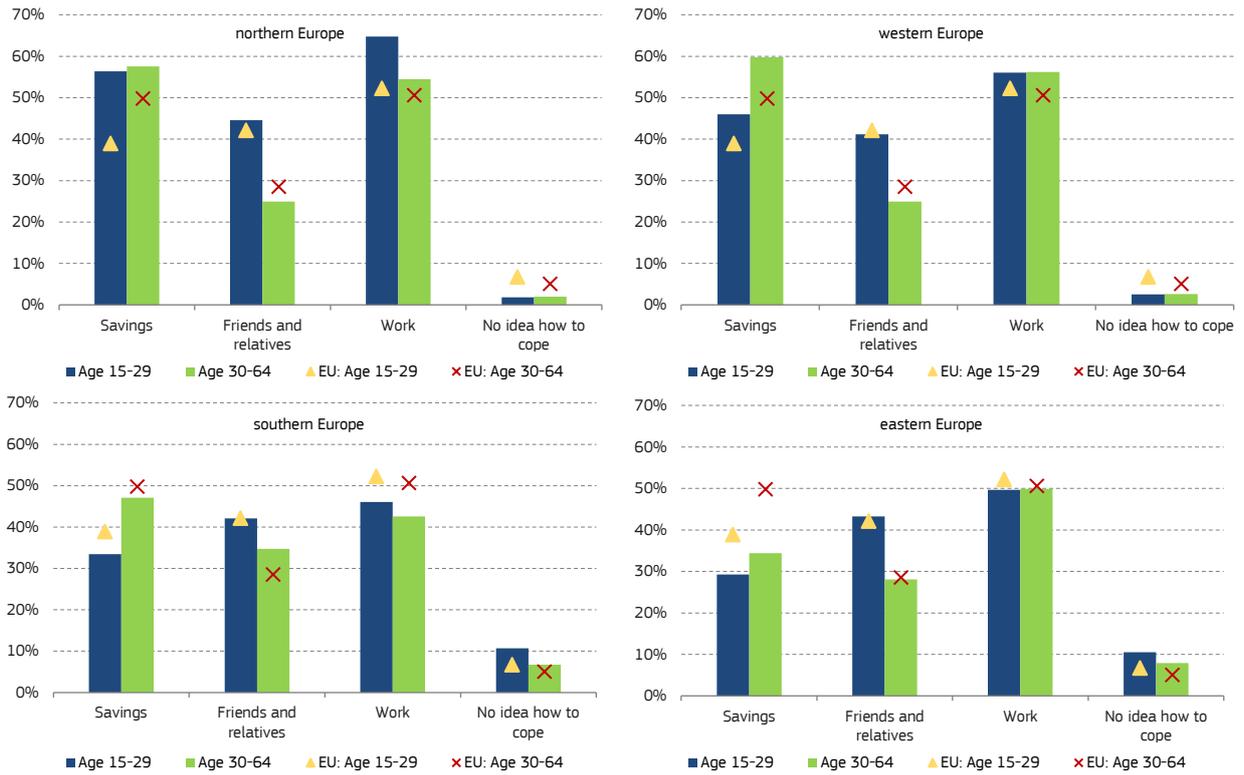
share of the young population does not rely on savings (around 70%), which implies a potentially low level of financial buffer. In addition, a substantial share of the young population states that they 'would not know' how to cope in case of a substantial fall in income (around 10%).

⁽²¹⁷⁾ The individual resilience index was developed by the JRC. More evidence can be found in JRC (2019) and the JRC Report on Individual Resilience, forthcoming.

Chart 4.8

Young people tend to rely more on their friends and relatives as a coping strategy

Most frequent coping strategies in case of income drop, by age, group and European region



Source: JRC calculations based on Eurobarometer data.

[Click here to download chart.](#)

Box 4.1: Absolute poverty and social exclusion among young people

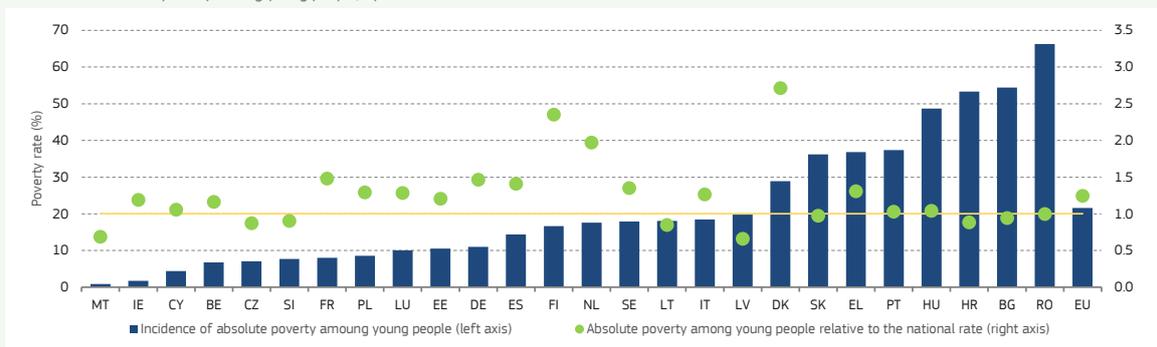
Absolute poverty is a concept that refers to the capability to afford the necessities to participate in society. Sometimes, young people's living conditions may be inadequate to afford such necessities. The European Commission's recent pilot initiative 'Measurement and monitoring of absolute poverty' (ABSPO) seeks a deeper understanding of the patterns of absolute poverty and social exclusion in the EU. ⁽¹⁾ The ABSPO project explored the feasibility of developing a sound methodology for cross-country comparable absolute poverty measurement in the EU and produced a set of new poverty measures that can help to contextualise and complement existing indicators.

The ABSPO methodology builds on a mix of reference budget techniques and survey-based statistical methods. It models individuals' and households' minimum financial needs for adequate social participation in a customised manner. The main advantage of the so-called absolute approach to poverty measurement is that horizontal differences in individual types, household characteristics and the living environment can be adequately reflected in the poverty lines. As ABSPO calculations are largely based on standard household survey microdata (e.g. EU-SILC, EU Household Budget Survey (EU-HBS)), they have yet to capture the social effects of the COVID-19 pandemic, but nevertheless reveal interesting insights into the social situation of young people up to 2019.

Chart 1

Absolute poverty among young people varies significantly across countries

Incidence of absolute poverty among young people, by Member State



Note: Young people aged 18-29. Figures refer to 2019 and present the nationally representative rate of absolute poverty among young people, based on a number of different data sources and methods using the so-called food-based absolute poverty lines (per Menyhart et al, 2021). The horizontal yellow line indicates whether youth poverty is higher or lower than the corresponding national average. The figures for the EU represent the unweighted average of the relevant country-level values. Figures for Austria are missing due to data limitations.

Source: JRC calculations based on EU-SILC 2019 users' database release in April 2021 and EU-HBS data.

Absolute poverty among young people ⁽²⁾ ranges from a few percentage points in countries like Malta and Ireland, to far larger proportions of the population in central and eastern Member States, such as Bulgaria, Croatia and Romania. Chart 1 shows that poverty among young people varies considerably across countries in relative terms, when expressed in proportion to the absolute poverty rate calculated for the national population. More specifically, while the youth poverty rate is similar to – and sometimes even lower than – the overall poverty rate in most eastern European countries (green circles at or below the yellow line), young people experience significantly higher incidence of absolute poverty than older cohorts in many of the EU-15 Member States (green circles above the yellow line). For example, the absolute poverty rate among young people is more than twice the national average in Denmark or Finland.

The gap in living conditions across age groups tends to manifest differently in social and employment indicators. Chart 2 shows the relevant ratios between young people and the national population, by country and indicator type. Headline indicators of poverty and social exclusion (e.g. AROPE rate, indicators of material and social deprivation) tend to reveal relatively small differences between the incidence of poverty and social exclusion among young people and the national population. Gaps are often very pronounced in terms of absolute poverty, but these are most evident in Nordic and continental countries, while significant gaps in the employment rate are visible in southern and eastern Member States. ⁽³⁾

⁽¹⁾ The ABSPO project was launched by DG EMPL and implemented by the JRC. Its final report was published in December 2021 and is available here.

⁽²⁾ For this box, young people refers to those aged 18-29.

⁽³⁾ In the EU, material social deprivation is 12% lower and the AROPE rate is 12% higher among young people compared to national populations, on average. The corresponding EU-level ratios are 1.24 for AROPE and 1.66 for unemployment.

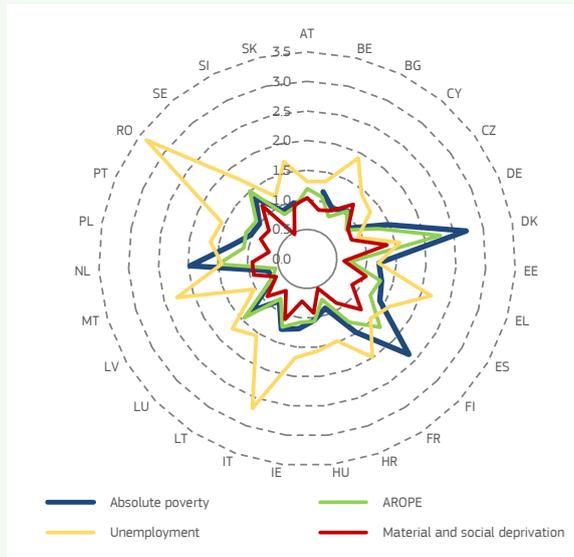
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Box (continued)

Chart 2

Absolute poverty and employment indicators point to higher gaps in living conditions between young people and the overall population

Social situation of young people compared to the national population



Note: Young people aged 18-29. The relevant figures are based on ABSPO calculations and EU-SILC micro data referring to 2019.

Source: JRC calculations based on EU-SILC 2019 users' database release in April 2021 and EU-HBS data.

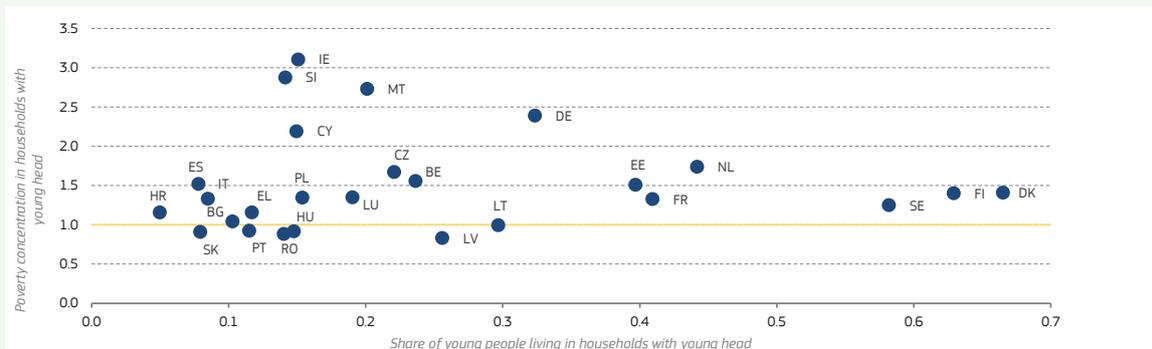
Youth unemployment is up to three times higher in Italy and Romania than in the population at large, and represents an important social policy challenge. In other countries, such as Denmark, Finland and the Netherlands, the gap between younger and older cohorts is more pronounced in absolute poverty and AROPE rates, especially among households with younger heads.

Youth poverty rates and other living conditions' indicators correlate with household composition at country level. Member States differ considerably in the share of young people living in independent households (see Chapter 2, on timing of leaving the parental household). Around two-thirds of young people live independently of their parents or families in northern Europe, while the share of multi-generational households still exceeds 80% in many southern and eastern European Member States. Those countries where the transition out of the parental household towards individual independence is encouraged by cultural norms and policy incentives display higher poverty and social exclusion among the young population (Chart 3). There are different tax-benefit incentives to move out of the parental household and live independently. Cross-country comparisons should therefore be undertaken cautiously, as the proportion of young living independently varies significantly by Member State (see discussion in Chapter 2).

Chart 3

Countries with earlier transition out of parental household display higher poverty and social exclusion among households headed by young people

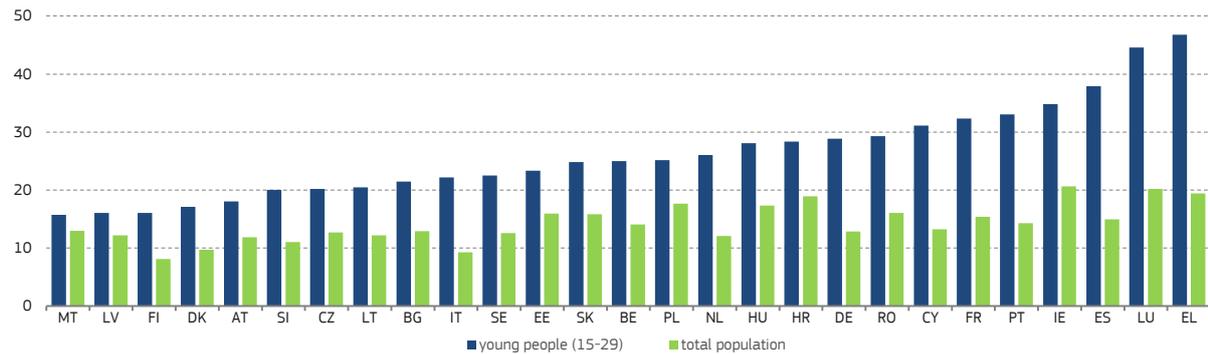
Incidence of absolute poverty among young people living in independent households



Note: Figures refer to 2019 and present the nationally representative rates of absolute poverty among young people (aged 18-29) in general, and young people living in households led by young heads in particular. The poverty concentration values on the vertical axis are calculated based on the (food-based) absolute poverty lines (per Menyheret et al., 2021) and express the ratio between youth poverty in households with young heads and the overall youth poverty rate in a given country. Figure for Austria is missing due to data limitations.

Source: JRC calculations based on EU-SILC 2019 users' database release in April 2021 and EU-HBS data.

Chart 4.9

Young people face higher house price-to-income ratiosYears of individual mean disposable income needed to buy a 100 m² apartment, 2020

Source: JRC calculations of individual mean disposable income, based on Euromod I4.0+ using the LMA add-on, European Commission Housing Price Database.

[Click here to download chart.](#)

4. HOMEOWNERSHIP

Income inequality and volatility are the main drivers of the decrease in homeownership rates among younger households. ⁽²¹⁸⁾

Over time, young people have experienced a progressive decline in homeownership rates. Due to their lower disposable income compared to the overall population, young people face more sizeable house price-to-income ratios in many countries. In all Member States, young people need more years of individual mean disposable income ⁽²¹⁹⁾ to acquire a 100 m² apartment compared to the overall population, with the most pronounced differences in Greece, Luxembourg and Spain (*Chart 4.9*). The housing cost overburden ⁽²²⁰⁾ is also higher for young people (aged 20-29) in many countries and increased at double the rate for the overall population in the EU on average in 2020. Differences in the housing cost overburden between young people (aged 20-29) and the overall population are greatest in northern and western Europe. This could be linked to the earlier age of young people leaving their parental home in those countries. At the same time, higher income volatility discourages young people from seeking a mortgage and decreases their likelihood of moving out of the parental home. ⁽²²¹⁾ Over time, this has resulted in a progressive decrease in homeownership rates among young people.

⁽²¹⁸⁾ Paz-Pardo (2021).

⁽²¹⁹⁾ This indicator uses the individual mean disposable income, calculated by the JRC from EU-SILC data. Young people are not differentiated by cohabitation status and include both individuals living with their parents and those with their own household. While focusing on individuals neglects the distribution of resources within the household, focusing on households does not take into account intra-household inequality, which is especially problematic when considering personal characteristics such as age. This caveat should be taken into account when drawing conclusions from these results, as they might differ at household level and across countries, depending on household composition.

⁽²²⁰⁾ Measured as the percentage of the population living in households where the total housing costs ('net' of housing allowances) represent more than 40% of disposable income ('net' of housing allowances).

⁽²²¹⁾ Becker et al. (2008).

House price increases have worsened housing affordability for young people.

Research shows that elevated house prices have reduced the probability of becoming a first-time homeowner. ⁽²²²⁾ In the EU, house prices have been accelerating since Q3 2016 and reached a year-on-year average growth rate of 10.0% in Q4 2021. They have substantially outpaced the fundamental values in many countries in recent years, with 14 Member States experiencing an overvaluation gap of at least 10% in 2020, compared to only six Member States in 2019. ⁽²²³⁾ At the same time, house prices have increased at a faster pace relative to mean disposable incomes in many countries in recent years. This effect is particularly pronounced for young people, given their lower mean disposable income compared to the overall population (see section 2).

Lower homeownership rates for young people contribute to their lower accumulated wealth. ⁽²²⁴⁾

The tighter mortgage conditions (e.g. higher required loan-to-value and loan-to-income ratios) that were introduced after the 2008-2009 financial crisis pose an obstacle to today's young people in getting a mortgage compared to earlier cohorts. ⁽²²⁵⁾ That missing housing wealth does not seem to be fully compensated with higher financial wealth for younger households. ⁽²²⁶⁾ The difficulties for young people in accessing the housing market due to increasing house prices, as well as lower and more volatile labour and disposable income, means that they tend to postpone their decision to leave the parental home or start their own family compared to the older generations. ⁽²²⁷⁾ This could also imply a later start of wealth accumulation compared to earlier cohorts. Wealth has become more unequally distributed among young adults in recent years. ⁽²²⁸⁾ While downward mobility remains less likely, it is now

⁽²²²⁾ Laeven and Popov (2016).

⁽²²³⁾ European Central Bank (ECB) data.

⁽²²⁴⁾ Paz-Pardo (2021); Paz-Pardo (2022).

⁽²²⁵⁾ Whitehead and Williams (2017).

⁽²²⁶⁾ Paz-Pardo (2022).

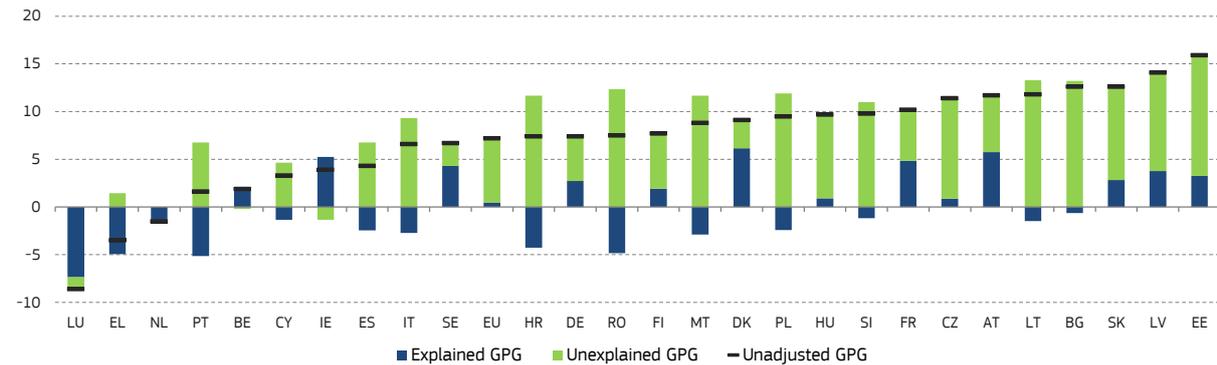
⁽²²⁷⁾ Laeven and Popov (2016).

⁽²²⁸⁾ Dewilde and Flynn (2021).

Chart 4.10

Differences in characteristics of young workers explain little of the gender pay gap at EU level

Gender pay gap adjustments for characteristics of people aged 25-29, 2018



Note: The unadjusted gender pay gap refers to the percentage difference in gross hourly pay of young women and men before adjusting for the average differences in their characteristics. The explained gender pay gap refers to percentage difference in hourly pay of women and men due to differences in their average characteristics, while the unexplained pay gap captures pay differences that remain after adjusting for the characteristics of women and men.

Source: Eurostat calculations, based on 2018 structure of earnings survey (SES) data.

[Click here to download chart.](#)

more difficult for young people – especially those with a disadvantaged socioeconomic background – to enter the middle class, for which homeownership is a traditional characteristic. ⁽²²⁹⁾

Housing policies might alleviate the difficulties associated with own household formation and homeownership for young people. ⁽²³⁰⁾ Young people tend to leave the parental home earlier in countries that have high mortgage debt, high levels of social rented housing, tax relief for ownership, low buyers' transaction costs and high residential mobility. Some European countries offer support to young first-time buyers with a mortgage deposit, in the form of State guarantees, interest subsidies, or grants and savings schemes. ⁽²³¹⁾

5. GENDER PAY GAP

Gender inequalities in workers' pay are a widespread, persistent feature of the EU labour market. ⁽²³²⁾ Women account for slightly more than one-third of overall earnings from work in the EU. Both their average monthly and hourly salaries tend to be lower than those of men, regardless of differences in personal characteristics and work settings. Women tend to earn less even at early stages of their professional careers, with pay differences growing as their careers progress. Such inequalities can be measured in a number of ways. In the EU, this is often done through the gender pay gap indicator, which compares the gross hourly earnings of women and men at work. ⁽²³³⁾

⁽²²⁹⁾ OECD (2019).

⁽²³⁰⁾ Flynn (2019).

⁽²³¹⁾ OECD (2019).

⁽²³²⁾ EIGE (2019); EIGE (2021).

⁽²³³⁾ More specifically, the gender pay gap is defined as the difference between average gross hourly earnings of male and female employees as a percentage of male gross earnings (definition used in the Social Scoreboard of the European Pillar of Social Rights).

A diverse range of factors contribute to the gender pay gap, with the weight of individual factors often changing with age. ⁽²³⁴⁾ Some can be important on entry into the labour market, including gender segregation in educational fields, occupations and economic activities, opaque wage structures, undervaluation of women's work, differences in wage bargaining attitudes, and various forms of gender stereotyping and discrimination. Others become important later on, such as the disproportionate share of caring responsibilities shouldered by women, their underrepresentation in senior positions, and their overrepresentation in part-time work. This section presents key findings from a recent analysis that adjusts the gender pay gap among young people (aged 25-29) ⁽²³⁵⁾ for differences in average characteristics of women and men. ⁽²³⁶⁾

The gender pay gap for young workers was 7.2% in the EU in 2018, around half of the pay gap for the overall population. The size of the gender pay gap among young people varied considerably by country. While young men earned at least 12% more per hour than young women in Bulgaria, Estonia, Latvia and Slovakia, young women had higher hourly pay in the Netherlands (by 1.5%), Greece (3.5%), and Luxembourg (8.6%).

At EU level, only a small proportion of the gender pay gap among young workers results from differences in characteristics of women and men (i.e. gender differences in educational achievement, occupational choices, job experience, type of employment contract, working time, field of economic activity, and employer characteristics). Adjusting for differences in worker characteristics only accounts for around 0.5 pp of the 7.2% gender pay gap among young workers. This is a much lower proportion than for the overall population, where

⁽²³⁴⁾ EIGE (2021); Eurostat (2022).

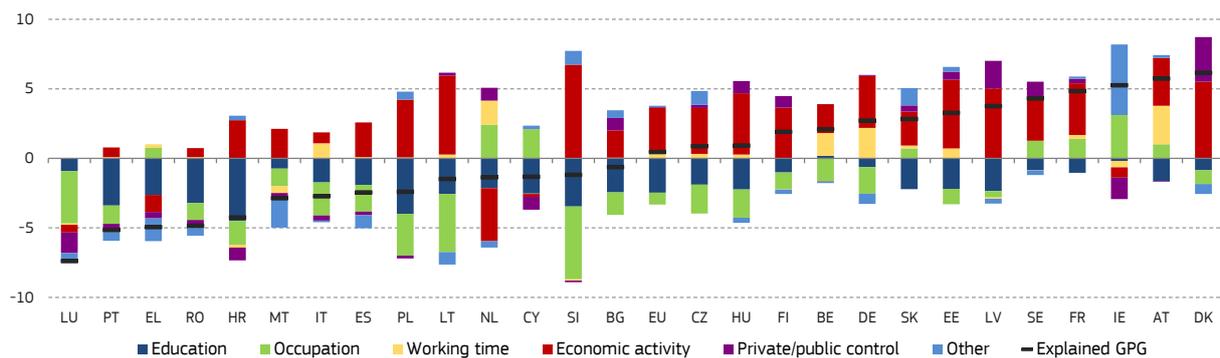
⁽²³⁵⁾ In this section, young people are those aged 25-29.

⁽²³⁶⁾ European Commission (2022b).

Chart 4.11

Young men earn more because they work in higher-paid economic activities; young women earn more because they are better educated

Decomposition of the explained gender pay gap for people aged 25–29, 2018



Source: Eurostat calculations, based on 2018 SES data.

[Click here to download chart.](#)

roughly one-fifth of the gap is explained by such adjustment.⁽²³⁷⁾ Nevertheless, differences in characteristics of young workers explain a sizeable proportion of the gender pay gap in several Member States, accounting for more than 5 pp of the gap in Luxembourg, Denmark, Ireland, France, Austria and Portugal (*Chart 4.10*).

The low proportion of the explained pay gap hides certain differences in the characteristics of young women and men that lead to sizeable gender differences in pay, but operate in different directions. At EU level, 3.2 pp of the gender pay gap results from young men working more often in fields of economic activity with higher hourly pay than women (see Chapter 3 on gender gaps in digital intensity of work and gender segregation in science, technology, engineering and mathematical occupations). This is roughly similar to the effect observed in the overall population (3.7 pp),⁽²³⁸⁾ suggesting that segregation in fields of economic activity plays an important role right from the start of women's and men's careers (*Chart 4.11*). This is in line with findings from other studies, which highlighted that career aspirations and choices of educational fields differ strongly by gender, even prior to entering the labour market.⁽²³⁹⁾ Segregation in fields of economic activity contributes to a higher gender pay gap in all Member States except Ireland, Greece, Cyprus, Luxembourg and the Netherlands.

Differences in educational attainment favour young women's hourly pay compared to that of men. In the absence of effects of other factors, the higher average educational attainment of women would result in women earning 2.5% more per hour than men at EU level. The effect is stronger than for the overall population, where women would earn 1% more than men based solely on differences in average educational attainment.⁽²⁴⁰⁾ This reflects longer-term

trends in education, with higher rates in tertiary education and lower early school leaving rates for young women compared to young men. The differences in educational attainment reduce the gender pay gap in all Member States except Belgium.

The role of other characteristics in explaining the gender pay gap for young people is more ambiguous. At EU level, occupational differences between young people would, in the absence of effects of other factors, result in slightly higher hourly pay for women (by 0.8%). In fact, occupational differences reduce the gender pay gap by 1 pp or more among young people in 17 Member States. In Austria, Cyprus, France, Ireland, the Netherlands and Sweden, such differences increase the gender pay gap by 1 pp or more, contributing to higher pay for young men. A similarly mixed pattern can be observed for the population overall. Other characteristics, such as working part-time, working in a private or public enterprise, work experience, type of employment contract, enterprise size, and geographical location of enterprise, only apply in a limited number of countries or play a limited role in explaining the gender pay differences for young workers and for the overall population.

6. INEQUALITY OF OPPORTUNITY

Although income inequality did not rise substantially during the COVID-19 crisis, the pandemic has exposed many other challenges and inequalities in education, household wealth and access to services.⁽²⁴¹⁾ Inequalities in current outcomes (such as earnings and income) may be traced back to inequality in opportunities available in early childhood. These opportunities may refer to different experiences of household wealth, education opportunities and access to services in early childhood. If the EU is to achieve long-term sustainability and inclusiveness in the post-COVID-19 recovery, specific groups must not be exposed to disadvantaged

⁽²³⁷⁾ Eurostat (2022).

⁽²³⁸⁾ Eurostat (2022).

⁽²³⁹⁾ For example, McNally (2020); EIGE (2018).

⁽²⁴⁰⁾ Eurostat (2022).

⁽²⁴¹⁾ European Commission (2021).

Box 4.2: Inequality of opportunity – methods and data

Inequality in a specific outcome can be empirically distinguished between those inequalities linked to effort or choice versus those inequalities linked to initial conditions or early circumstances acquired at birth or young age.⁽¹⁾ In line with previous studies,⁽²⁾ the circumstances analysed are: parental background (parental education and occupation), gender, place of birth, and family composition in early age. The main methodological challenge is to quantify the part of income inequality attributable to these external circumstances. Studies propose different approaches and methodologies to measure the degree of inequality of opportunity in different dimensions of well-being.⁽³⁾

In the following analysis, income is hypothesised to be exclusively determined by circumstances and effort, assuming that all individuals have the same circumstances and thus can obtain the same income level with the same effort. Empirically, inequality of opportunity can be assessed as the inequality in the distribution of income if it was uniquely determined by these circumstances. This requires a suitable counterfactual distribution, $Y(C)$.

The counterfactual distribution is obtained parametrically from OLS estimates of income over the exogenous circumstances acquired at birth that are known to determine income levels:

$$Y_i = \beta C_i + \epsilon_i.$$

Inequality of opportunity is measured as the inequality measure $I(Y(C))$ applied to the distribution of the predicted values \hat{Y}_i , where $\hat{Y}_i = \hat{\beta} C_i$. The indicator of inequality of opportunity is then considered the inequality associated with this counterfactual distribution. This is known as an ‘absolute’ indicator of inequality of opportunity.

In the following analysis, the inequality indices used are: the Gini coefficient and the mean log deviation (MLD), the latter satisfying desirable decomposition properties. The data are from EU-SILC ad hoc modules on the intergenerational transmission of disadvantage, available for 2005, 2011 and 2019.

The general analysis is carried out for the overall population (aged 25–60) on disposable income, while the focus on inequality of opportunities among full-time young workers (aged 25–30) is carried out on labour income to emphasise how the labour market remunerates young workers’ circumstances differently.

There are two caveats: the effect of these circumstances on income is modelled as linear and additive,⁽⁴⁾ and the selection of circumstances depends on data availability (EU-SILC user database) and is far from exhaustive. Other traits acquired in young age for which data are not available also determine future income capacity. The indicator of absolute inequality of opportunity should therefore be understood as a lower bound of *true* inequality of opportunity.

⁽¹⁾ Roemer (1998).

⁽²⁾ Checchi et al. (2016).

⁽³⁾ Fleurbaey and Peragine (2013).

⁽⁴⁾ Niehues and Peichl (2014).

conditions and opportunities, nor should individual characteristics acquired at birth be allowed to determine future outcomes.

Current inequalities may be regarded as unfair if they stem from external circumstances.⁽²⁴²⁾ For example, income inequalities linked to parental background, gender and country of birth deviate from the principle of merit, as they depend on circumstances outside individual control. Indicators of inequality of opportunity assess the extent to which these circumstances produce unequal distributions of earnings or income. It is noteworthy that some circumstances influencing current income inequality (e.g. parental background) fundamentally affect the upbringing of individuals and have long-lasting effects (see Chapter 5 on the impact of parental background on the participation of children in early childhood

⁽²⁴²⁾ Conversely, inequalities are more acceptable where they are the result of individual effort or choice.

education and care (ECEC)).⁽²⁴³⁾ However, the extent to which these circumstances produce unequal incomes depends on a wide set of more recent policies, both pre-market and post-market. The role of each of these circumstances can be assessed separately, allowing the analysis to contextualise specific policies and shed light on their degree of success in reducing overall inequality of opportunity.⁽²⁴⁴⁾

The role of external circumstances in determining unequal outcomes has remained fairly constant in Member States with low

⁽²⁴³⁾ For policy purposes, indicators of inequality of opportunity can also address intergenerational aspects by focusing on current inequalities among children. Recent indicators of inequality of opportunity adopted by the Indicators’ Subgroup of the Social Protection Committee include the gap in the child at-risk-of-poverty rate or the percentage of PISA low achievers for 15-year-olds by parental socioeconomic characteristics.

⁽²⁴⁴⁾ For example, if the effect of gender in determining unequal incomes declined over time, it could be related to female-friendly labour market policies, etc.

inequality of opportunity. The indicator of inequality of opportunity summarises the level of inequality in disposable incomes if they were determined only by gender, parental background, country of origin and family composition. As the indicator of inequality of opportunity is calculated as the MLD, the higher its value, the higher the measured inequality of opportunity. The Nordic countries, Germany, Austria, France, Czechia and Slovakia are characterised by low inequality of opportunity (indicator close to zero). In other words, gender, parental background and country of birth do not contribute to large inequalities in disposable income in those Member States. In general, inequality of opportunity in the EU seemed to remain constant between 2005 and 2019, except in Sweden. Previous research correlates the reduced impact of these circumstances, especially family background and country of birth, with education expenditure (particularly pre-primary education expenditure), which can be effective for pre-market outcomes.⁽²⁴⁵⁾ Once individuals enter the labour market,⁽²⁴⁶⁾ other factors such as labour policies and institutions may contribute to mitigating inequality of opportunity.

Member States with a high inequality of opportunity display heterogeneous trends. Unlike low inequality of opportunity countries, those countries where circumstances determine high inequality in disposable income in 2005 show quite distinct patterns. Portugal, Belgium, the Baltic countries, Ireland and Poland all reduced their inequality of opportunity between 2005 and 2019 (*Chart 4.12*). By contrast, countries above the 45° (green dashed) line – some southern European countries, Sweden and Luxembourg – had higher inequality of opportunity in 2019 than in 2005, with these circumstances determining more unequal income distributions over time.

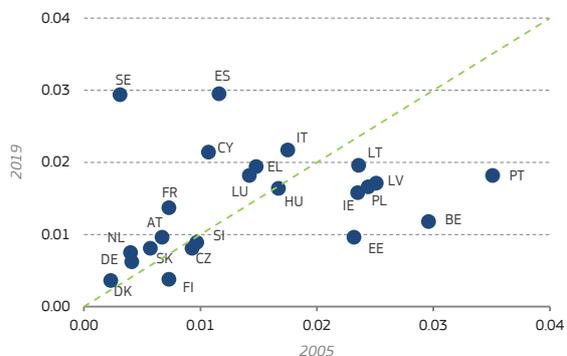
Inequality of opportunity changed substantially between 2005 and 2011 for countries with high inequality. While the indicator of inequality of opportunity does not indicate radical changes for the 2011–2019 period (except for an increase in Romania and Sweden), it shows different trends across EU countries after the 2008–2009 financial crisis (*Chart 4.13*). More specifically, an increase in the indicator materialised after the 2009 crisis in Spain, Greece and Luxembourg. This implies a larger impact of external circumstances in determining income inequality in those countries. Similarly, during that same period, the indicator improved for some Baltic countries, Portugal and Belgium. This suggests that periods of economic recession seem to prompt larger changes in inequality of opportunities, at least in high inequality of opportunity countries. Deteriorations or improvements in the indicator are clearly linked to policy action to mitigate the role of gender, parental background and

country of origin in shaping inequality. At first glance, however, the worsening of the indicator of inequality of opportunity in Greece and Spain, and partially in Italy and Austria, seems to suggest that recessions have a negative impact.

Chart 4.12

Where inequality of opportunity was low in 2005, it remained generally low in 2019

Indicator of inequality of opportunity (absolute), 2005 and 2019



Note: The indicator of inequality of opportunity is the MLD of the estimated distribution of household disposable income as determined by external circumstances: gender, parental occupation, parental education, country of birth and family composition. 2005 data not available for Bulgaria, Romania and Croatia.

Source: DG EMPL and external collaborators' calculations, based on EU-SILC 2019 users' database from ad-hoc module on "intergenerational transmission of disadvantages, household composition and evolutions of income" and EU-SILC 2005 ad-hoc module on "intergenerational transmission of poverty".

[Click here to download chart.](#)

Parental background is a key factor in determining inequality of opportunity. Parental background, especially parental education, is the principal circumstance that triggers inequalities in household income in the EU. The combined role of parental education and occupation explained 75% of the overall inequality of opportunity indicator in the EU in 2019 (*Chart 4.14*).⁽²⁴⁷⁾ This clearly reflects the likelihood that high-education and high-occupation parents have better capacity to assist their children in their educational paths and can positively influence their future outcomes (see Chapter 5 on the impact of parental background on the participation of children in ECEC). However, the impact of parental background on income inequality differs from country to country. On average, it is lower in countries with lower NEET rates, possibly due to more effective labour market policies that facilitate the integration of young people into the labour market. The premium of being born in the country of residence or in the EU versus those born in non-EU countries appears larger in those countries where the share of migrant population is larger, such as Austria, Sweden, Denmark and Spain.⁽²⁴⁸⁾

⁽²⁴⁷⁾ Among the circumstances available from the EU-SILC for this analysis, i.e. gender, parental education, parental occupation, country of birth and family composition.

⁽²⁴⁸⁾ Given that birthplace only distinguishes between native and non-native, this result captures the composition effect of the migrant population, which differs across the Member States.

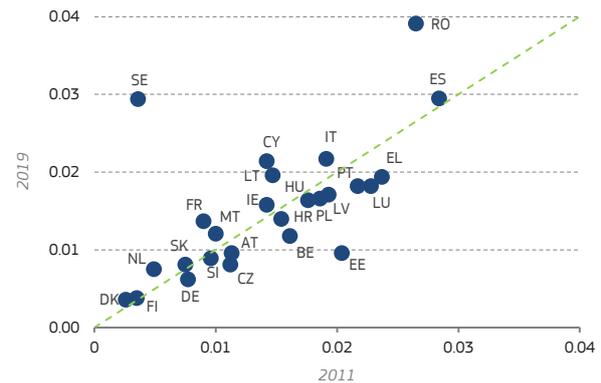
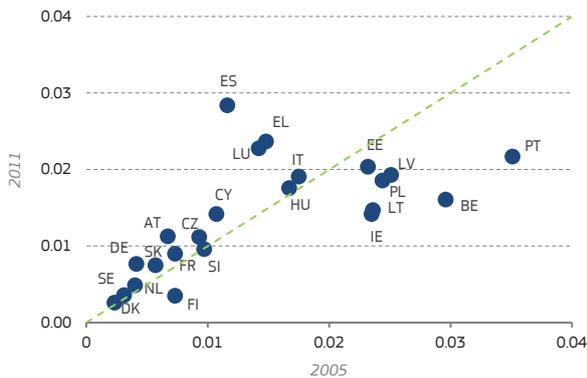
⁽²⁴⁵⁾ Checchi et al. (2016).

⁽²⁴⁶⁾ Integration in the labour market is also dependent on the same set of circumstances.

Chart 4.13

Inequality of opportunity changed in a number of countries after the last financial crisis

Indicator of inequality of opportunity (absolute), 2005, 2011 and 2019



Note: The indicator of inequality of opportunity is the MLD of the estimated distribution of household disposable income as determined by external circumstances: gender, parental occupation, parental education, country of birth and family composition. 2005 data not available for Bulgaria, Romania and Croatia.

Source: DM EMPL and external collaborators' calculations, based on EU-SILC 2005, 2011 and 2019 ad-hoc modules on intergenerational transmission of disadvantages.

[Click here to download chart.](#)

Inequality of opportunity among young workers shows considerable heterogeneity across countries.

A focus on the extent to which circumstances determine labour income inequalities for young workers (aged 25–30) show a country ranking for 2019 that is relatively similar to that observed for the overall population.⁽²⁴⁹⁾ Circumstances result in a more unequal labour income distribution in some eastern European countries (Hungary, Bulgaria, Latvia and Lithuania), while they have less influence on the labour income distribution of young people in the Netherlands, Slovakia, Finland and France.

Parental education and gender are crucial circumstances in determining labour income inequality among young people.

Their relative contribution stood at over 30% and 20%, respectively, of the overall circumstances considered conducive to labour income inequality across the EU in 2019 (*Table 4.1*). The role of these circumstances varied over time. While the impact of gender and country of birth seemed to decrease between 2005 and 2019 (by 3.2 pp and 0.9 pp, respectively), being born into a high-education household became even more prominent in determining labour income inequalities in 2019 (by 4.0 pp). The risk is that in post-crisis years, inequalities in labour income for young workers may be influenced to an even greater extent by their parental background. That was evident after the 2008–2009 financial crisis, with tertiary education and better networks more accessible to young people with high-education and high-occupation parents. The role of gender declined between 2005 and 2011, but

appeared to rise again in the wake of the financial crisis (2011–2019).⁽²⁵⁰⁾

Table 4.1

Parental education and gender are crucial circumstances in determining labour income inequality for young people but their role has changed over time

Average contribution of each circumstance (%) and variation over time for inequality of opportunity in gross labour income across young individuals, aged 25–30, working full-time, at EU level

Average contribution	Gender	Country of birth	Parental education	Parental occupation	Family composition
2005	26.8%	8.9%	31.5%	19.1%	13.3%
2011	17.3%	9.5%	31.2%	25.8%	14.2%
2019	23.6%	8.0%	35.6%	19.0%	13.8%
Average change (pp)	Gender	Country of birth	Parental education	Parental occupation	Family composition
2005–2019	-3.2	-0.9	4.0	-0.1	0.6
2005–2011	-9.5	0.6	-0.3	6.7	0.9
2011–2019	6.3	-1.5	4.3	-6.8	-0.3

Note: The indicator of inequality of opportunity is the MLD of the estimated distribution of individual labour income of young workers (working full-time, aged 25–30) determined by external circumstances: gender, parental occupation, parental education, country of birth and family composition. 2005 data not available for Bulgaria, Romania and Croatia.

Source: DG EMPL and external collaborators' calculations, based on EU-SILC 2005, 2011 and 2019 ad-hoc modules on intergenerational transmission of disadvantages.

[Click here to download table.](#)

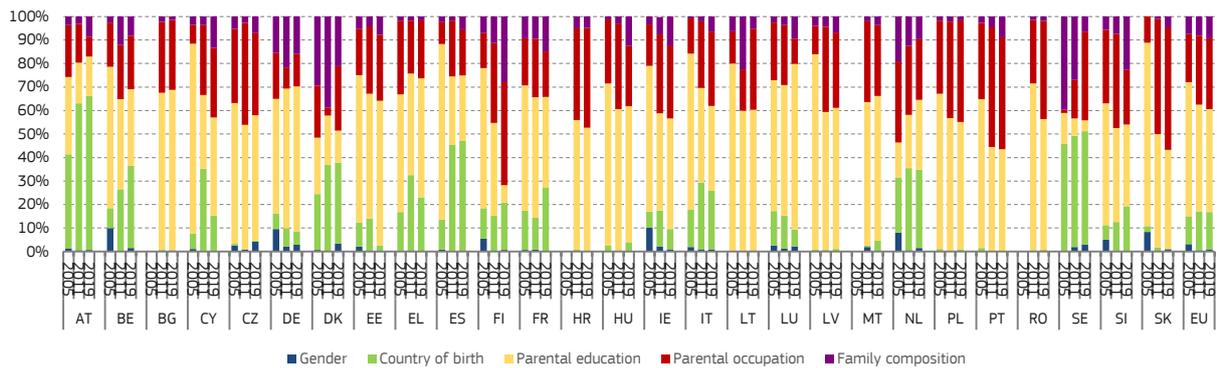
⁽²⁵⁰⁾ The increasing role of gender as a circumstance conducive to labour income inequality among young people may depend on female participation rates. In the first period analysed (2005–2011), young women in low-paid jobs may have become inactive or unemployed, exiting the sample of young workers and potentially reducing the role of gender as a predictor of labour income inequality.

⁽²⁴⁹⁾ The two figures of inequality of opportunity for the overall population (aged 25–60) and young workers (aged 25–30) are not immediately comparable. In the former case, inequality of opportunity is calculated on household disposable income, while for young workers it is calculated on individual labour income. Individual labour income is preferred to household disposable income for the analysis of young people due to data limitations (the sample of households headed by people aged 25–30 is too thin) and shifting focus, i.e. for the young population that has just entered the labour market, it is relevant to assess how the labour market remunerates circumstances before tax-benefit intervention.

Chart 4.14

Parental background is a key factor determining inequality of opportunities

Indicator of inequality of opportunity (absolute): relative contribution of circumstances. 2005, 2011 and 2019



Note: The indicator of inequality of opportunity is the MLD of the estimated distribution of household disposable income determined by external circumstances: gender, parental occupation, parental education, country of birth and family composition. 2005 data not available for Bulgaria, Romania and Croatia.

Source: DG EMPL and external collaborators' calculations, based on EU-SILC 2005, 2011 and 2019 ad-hoc modules on intergenerational transmission of disadvantages.

[Click here to download chart.](#)

7. CONCLUSIONS

This chapter examined the living conditions of young people in the EU, with a focus on income as a key determinant. Prior to the COVID-19 crisis, the disposable income of young individuals had decreased more strongly than that of the overall population, with young people more dependent on benefits. The decrease in the share of young individuals' disposable income in total disposable income was largely driven by a drop in the number of young people rather than a lower mean income ratio among young people. The large-scale income support measures adopted during the pandemic successfully cushioned the negative effect on young people's disposable income and had a relatively larger impact for young people than for the overall population. As a result, the share of young people's disposable income in total disposable income remained relatively stable in 2020.

Immediately prior to the COVID-19 crisis, labour income volatility was significantly higher for young people than for other workers. This likely reflected increasing transitions out of employment into training and education, as well as growing labour market instability. Households headed by young people were subject to higher rates of episodic poverty, infra-annual poverty and chronic poverty, although with marked differences across Member States. Young people are more vulnerable in times of economic distress, as their coping strategy is to rely more on their family and friends, with limited options to draw on their own existing savings. Ensuring smooth transitions and guaranteeing predictable income flows are particularly relevant in the current recovery phase, which is characterised by higher economic reallocation and changing employment patterns. Accordingly, the European Parliament has called for the fair

remuneration of internships, traineeships and apprenticeships in the EU labour market. ⁽²⁵¹⁾

Higher income inequality and volatility explain the biggest part of the decrease in homeownership rates among young people. Their ability to afford housing and accumulate wealth has worsened in the context of increasing house prices, with housing costs imposing a disproportionate burden on young people. Intergenerational differences have been further exacerbated by the tighter mortgage conditions that were introduced after the 2008-2009 financial crisis. Although some Member States provide tax-benefit incentives to leave the parental household and offer support to acquire a first home, more targeted measures are needed to facilitate young people to move out of the parental household and purchase their own home, especially for those with disadvantaged socioeconomic backgrounds.

Gender inequalities in pay emerge at early stages of people's careers. In the EU labour market, young women face a 7.2% unadjusted gender pay gap at the start of their professional careers, which amounts to approximately half of the pay gap among all workers. Differences in average worker characteristics only account for a marginal share of the pay gap at EU level, although the situation varies considerably from country to country. The low proportion of the explained pay gap obscures certain differences: young men tend to earn more because they work in higher-paid economic activities, whereas young women tend to earn more because they are better educated. The importance of taking the needs of young women into account when addressing the gender gap has been highlighted by the European Parliament Resolution on the Youth Guarantee ⁽²⁵²⁾ and the recent Commission proposal for a Directive to

⁽²⁵¹⁾ European Parliament Resolution of 8 October 2020 on the Youth Guarantee (2020/2764(RSP)) available here.

⁽²⁵²⁾ European Parliament Resolution of 8 October 2020 on the Youth Guarantee (2020/2764(RSP)) available here: https://www.europarl.europa.eu/doceo/document/TA-9-2022-0045_EN.html

strengthen the application of the principle of equal pay for equal work.⁽²⁵³⁾ The Council has also drawn attention to called for the need to integrate positive actions and targeted measures to tackle poverty and promote social inclusion of women at risk of poverty and discrimination, notably young women, women NEETs and women from marginalised groups.⁽²⁵⁴⁾

Inequalities of opportunity refer to circumstances acquired at birth or at a young age and for which the individual has neither responsibility nor control. Being a woman, being born in a non-EU country, or growing up in a low-income household should not influence an individual's position in income distribution, yet the reality shows that these factors influence inequality. Recent evidence shows that circumstances outside individual control determined larger inequality after the last financial crisis (in 2011) compared to 2005. The indicator of inequality of opportunity remained stable in 2019, albeit with strong heterogeneity across countries. This reflects the opportunity for public policies to counter the negative impact of external circumstances in determining people's income capacity. Parental background requires particular attention, as it is the main driver of inequality of opportunity. This is all the more important in the post-COVID-19 recovery period, which risks an increase in inequality of opportunities in countries with high inequality, as experienced after the last financial crisis.

⁽²⁵³⁾ Proposal for a Directive of the European Parliament and of the Council to strengthen the application of the principle of equal pay for equal work or work of equal value between men and women through pay transparency and enforcement mechanisms (COM/2021/93 final) available [here](#).

⁽²⁵⁴⁾ Council Conclusions of 8 December 2016 on Women and Poverty available [here](#); Council Conclusions of 3 March 2017 on Enhancing the Skills of Women and Men in the EU Labour Market available [here](#).

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Off to a good start: the role of education and care

1. INTRODUCTION ⁽²⁵⁵⁾

Education in early childhood and adolescence is a key enabler for active participation in society and in the labour market. There is a wealth of evidence that educational and labour market prospects – as well as broader interests and aspirations – begin to be shaped from early childhood. Attending high-quality early childhood education and care (ECEC) and subsequent school education is often linked to better educational and socio-behavioural outcomes later in life, and thus to better social integration, employment and earning prospects. Conversely, missing out on such education is at the root of many socioeconomic inequalities evident in the labour market and beyond. More broadly, education is a key determinant of economic growth, as it underpins labour productivity, the innovative capacities of the economy, and the supply of relevant skills for the labour market. This is increasingly important in light of the green and digital transitions.

This chapter considers some of the current developments in ECEC and school education and assesses their longer-term socioeconomic consequences. It analyses the physical school closures during the COVID-19 pandemic, examines the scale and depth of those closures across the Member States, the resulting learning loss, and potential longer-term labour market consequences. While other impacts of school closures, such as effects on young people's mental health, received considerable attention, their analysis goes beyond the scope of this report. Similarly, closures of tertiary education

institutions are not considered, as tertiary education is typically less centralised than school education, leading to a larger variation in governmental/institutional responses to the COVID-19 pandemic. Different policy responses, such as online learning, may be entirely suitable to mitigate learning loss among tertiary education students but less so for very young children and adolescents. This makes it more challenging to present an overall picture of learning loss among students in tertiary education, especially since data on learning outcomes tend to be more fragmented. ⁽²⁵⁶⁾

The chapter then explores participation in ECEC among young children from different socioeconomic groups. It identifies several key determinants influencing observed differences in participation, considers the implications of ECEC participation for educational achievement and employability later in life, and provides a preliminary assessment of the impacts of ECEC closures on participation and learning achievement. The analysis focuses on those groups of children defined as 'in need', in line with the European Child Guarantee – the Council recommendation adopted in June 2021 to prevent and combat social exclusion by guaranteeing children's access to a set of key services, including ECEC. The chapter highlights where efforts to guarantee ECEC access will be particularly important so as to avoid transferring socioeconomic disadvantage from one generation to the next.

⁽²⁵⁵⁾ This chapter was written by Jakub Caisl, Tobias Haepf, Chiara Petrone and Markus Schwabe.

⁽²⁵⁶⁾ For example, there are no uniform national level exams to examine learning progress for all university students in a comparable way.

2. EDUCATION WAS SEVERELY AFFECTED BY COVID-19

2.1. School closures during the COVID-19 pandemic

Following the outbreak of the COVID-19 pandemic in early 2020, more than 60 million students in the EU were temporarily sent home when schools were fully closed as part of the policy response to limit the spread of COVID-19 (Chart 5.1). The share of students affected by full school closures varied over time, in line with the cyclical pattern of the pandemic, with more than 90% of students sent home during the first wave in spring 2020. Subsequent waves saw lower shares of students affected, peaking at around 35% in January 2021. However, many schools also operated at limited capacity during various successive lockdowns. In April 2021, for example, around two-thirds of students attended schools that were only partially opened.

During the first wave of the pandemic in 2020, schools in the EU-27 were fully open for physical attendance for only one-third of their regular instruction periods. Closures were particularly common during March and April 2020, where only a small share of schools remained fully open (Chart 5.2). In the 2020-2021 school year, the share of time for which schools were fully open increased to almost half of the regular instruction period. In several Member States (Croatia, France and Spain), schools were fully open for more than 90% of the 2020-2021 school year. By contrast, school closures remained frequent during this period in a number of countries – schools were fully open for 12% or less of instructional time in Latvia, Lithuania and Bulgaria. According to the Oxford

Policy Response Tracker,⁽²⁵⁷⁾ it appears that the variation in the duration of school closures across Member States was affected by several factors: 1) the intensity of the pandemic at a given location in time; 2) the overall level of policy response to the objective realities of the pandemic at a given location in time; and 3) an evaluation/debate on the importance of keeping (different levels of) schools open vis-à-vis other containment measures.

Most children took part in various forms of distance and hybrid learning during school closures.⁽²⁵⁸⁾ Across the OECD, over 90% of member countries reported providing at least some form of online learning in primary and secondary education during the pandemic.⁽²⁵⁹⁾ This was typically delivered using online tools and platforms, with students continuing their school curriculum at home.⁽²⁶⁰⁾ Many countries also continued to offer emergency in-person education and care services for the children of essential workers (e.g. health professionals, shop assistants, transport workers) and children of parents who had difficulty looking after them at home during regular school hours.⁽²⁶¹⁾

⁽²⁵⁷⁾ Oxford Policy Response COVID-19 tracker available here.

⁽²⁵⁸⁾ UNESCO (2021a).

⁽²⁵⁹⁾ OECD (2021b).

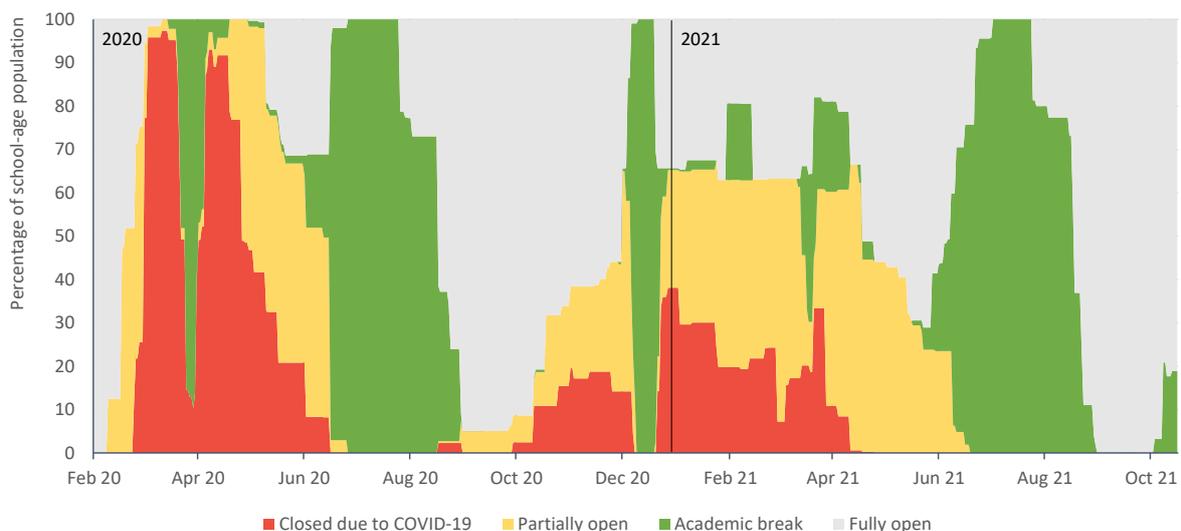
⁽²⁶⁰⁾ Ibid.

⁽²⁶¹⁾ Ibid.

Chart 5.1

Highest numbers of students were affected by school closures during the first COVID-19 wave in spring 2020

Share of students affected by school closures, EU-27, 2020 and 2021



Note: 'School-age population' refers to 4-17-year-olds. School closure statuses defined as: i) Closed due to COVID-19: government-mandated closures of educational institutions affecting most or all of the student population enrolled from pre-primary through to upper secondary levels [ISCED levels 0-3]; ii) Academic break: most schools across the country on scheduled breaks, with all study suspended; iii) Fully open: classes held exclusively in person in most schools, with measures to ensure safety and hygiene varying by context and level of education; iv) Partially open: schools are (a) open/closed in certain regions only, and/or (b) open/closed for some grade levels/age groups only, and/or (c) open but with reduced in-person class time, combined with distance learning (hybrid approach). Data for Ireland and Slovenia not available at the time of writing.

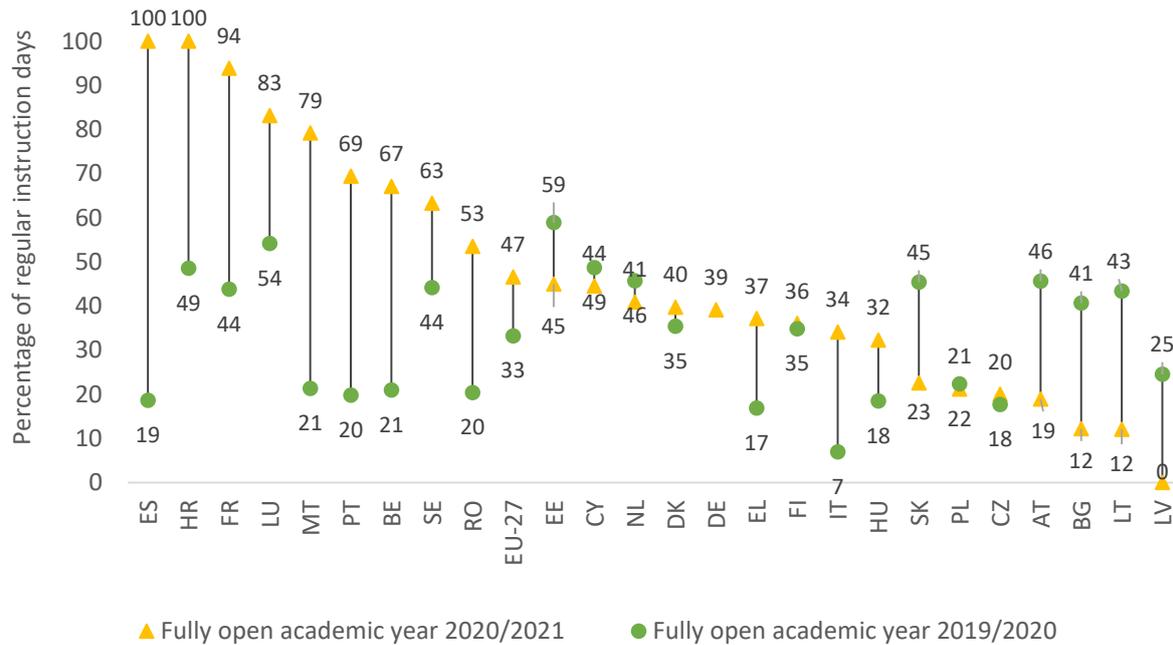
Source: United Nations Educational, Scientific and Cultural Organization (UNESCO) (2021a) and UNESCO Institute for Statistics (UIS) Education Database.

[Click here to download chart.](#)

Chart 5.2

Share of schools remaining open increased during successive COVID-19 waves

Trends in shares of students affected by school closures, loss of in-person instruction time between 2019/2020 and 2020/2021 school year



Note: Academic breaks excluded from calculations. Data for Ireland and Slovenia not available at the time of writing.

Source: United Nations Educational, Scientific and Cultural Organization (UNESCO) (2021a) and UNESCO-UIS Education Database.

[Click here to download chart.](#)

The effectiveness of distance learning depends on a variety of factors,

such as student age, preparedness, and physical learning environment, including the availability of digital devices and reliable internet connection.⁽²⁶²⁾ It also depends on students' general well-being or degree of physical stress and anxiety. Finally, it is affected by school-specific and teacher-specific factors, such as training for distance learning and the availability of online learning tools.⁽²⁶³⁾ The KiDiCoTi project⁽²⁶⁴⁾, carried out in 11 Member States, Norway and Switzerland, found substantial variation between countries' remote teaching practices. These varied in terms of the frequency of student-teacher interaction and videoconferences, as well as student age, type of school, teachers' digital competence, workload, and organisation of remote schooling at home.⁽²⁶⁵⁾ Broader variations in the progress of digitalisation across (and within) EU countries were also likely to be important in this context.⁽²⁶⁶⁾

General evidence suggests that online learning is less effective than face-to-face teaching⁽²⁶⁷⁾

and access or use of digital technologies does not necessarily lead to better student outcomes.⁽²⁶⁸⁾

Teachers and students are not always prepared for ICT-based teaching and learning, with the OECD's Teaching and Learning International Survey (TALIS) and Programme for International Student Assessment (PISA)⁽²⁶⁹⁾ studies showing considerable discrepancies in ICT preparedness across countries.⁽²⁷⁰⁾ For example, more than 75% of school principals participating in PISA 2018 in Denmark, Sweden, Finland and Slovenia reported that an effective online learning support platform was available, compared to less than 40% in Greece, Germany, Romania and Luxembourg. In addition, educational priorities shifted during periods of school closures, with some countries' focusing on certain areas of the curriculum or skills, and others seeking to maintain students' learning engagement and motivation.⁽²⁷¹⁾

⁽²⁶²⁾ The availability of a reliable internet connection may be a particular issue in some remote rural areas, which poses additional challenges in delivering online learning there.

⁽²⁶³⁾ UNESCO (2021b).

⁽²⁶⁴⁾ JRC project - Kids' Digital lives in Corona times.

⁽²⁶⁵⁾ Cachia et al. (2021).

⁽²⁶⁶⁾ For example, the DESI developed by the European Commission, available [here](#).

⁽²⁶⁷⁾ J-PAL Evidence Review (2019).

⁽²⁶⁸⁾ Escueta et al. (2017).

⁽²⁶⁹⁾ A measure of proficiency of students in different learning domains developed by the OECD.

⁽²⁷⁰⁾ OECD (2020a); OECD (2020b).

⁽²⁷¹⁾ Thorn and Vincent-Lancrin (2021).

Box 5.1: Challenges in quantifying learning loss

Quantifying the real extent of learning loss is difficult due to a lack of data. While many online surveys were conducted during the COVID-19 pandemic, these data sources are generally not representative of the full student population and lack information on learning progress. Data from educational achievement surveys that are used for education monitoring are not sufficiently timely – the planned collection of PISA data in 2021 was postponed to 2022, for example. The most reliable data for quantifying learning loss are administrative country-specific data, which are available for a number of countries that monitor education outcomes regularly. These data allow comparisons of educational outcomes before and after the pandemic. They do not, however, allow for a comparative analysis of students across Member States.

Comparisons of student performance before and after school closures is made more difficult by changes in examination content. Many countries adjusted to potential learning loss during the COVID-19 pandemic by reducing the content of examinations. In France, for example, students who took the upper-secondary school leaving exams in 2020 obtained better results in their final examinations and continuous assessment, but these improvements were linked to changes in examination content. Similarly, Ireland applied an alternative grading scheme, while the Netherlands allowed lower and upper secondary students to retake one core subject examination. ⁽¹⁾

Finally, several methodological limitations complicate the estimation of learning losses. School closures in each Member State were generally implemented around the same time nationwide and coincided with several other pandemic effects and associated policy responses. Estimates of learning loss in the majority of the studies are best viewed as composite effects of the most intense period(s) of the pandemic. Several studies adopted a cohort approach, comparing a specific cohort before the pandemic to a cohort at the same stage in the education system during the pandemic. However, this confounds cohort effects, differences in test versions, and composite effects of the pandemic with the effects of school closures. A methodologically superior approach is to use the test results of a large group of students who stayed at home during different periods of the pandemic. This would eliminate cohort effects while still identifying composite effects of the intense periods of the pandemic.

⁽¹⁾ The Economist (2020).

2.2. Extent of learning loss

Given the extent of school closures during the COVID-19 pandemic, many academics are expecting significant learning loss among students. Early modelling studies seem to confirm this hypothesis, ⁽²⁷²⁾ although their results rely heavily on a number of simplifying assumptions. For instance, an early study from the World Bank predicted learning losses for several scenarios that varied by length of school closures. ⁽²⁷³⁾ For Europe and Central Asia, the authors projected that a hypothetical school closure of six months would result in a 4% drop in PISA proficiency scores, as well as an increase in the share of students below minimum proficiency, from 31% to 42%.

While there is no comparable EU-level evidence, national studies show large variation in the impacts of school closures on learning progress. This reflects considerable cross-country variation in the intensity of the pandemic, length and extent of school closures, different modes of distance or hybrid learning adopted, readiness to move towards online learning (and its efficiency), and also the type, scope and timing of measures adopted to mitigate learning loss.

⁽²⁷²⁾ For example, Blasko et al. (2022).

⁽²⁷³⁾ Azevedo et al. (2020).

Learning losses were identified among students in a number of countries and subjects, with standard deviations in learning achievement ranging from 0.03 to almost 0.3. ⁽²⁷⁴⁾ The magnitude of reported learning loss varied significantly by country, subject, level of education, and school closure length. The strongest declines were found in the Flemish region of Belgium, where a nine-week school closure led to a learning loss of 0.19 standard deviations in mathematics and 0.29 standard deviations in Dutch among Grade 6 students. Similarly in Italy, primary school students experienced an average loss of 0.19 standard deviations in mathematics. ⁽²⁷⁵⁾ A decline in learning outcomes was also recorded among students in Grades 4-7 in the Netherlands, with a 0.08 standard deviation learning loss in mathematics, spelling and reading associated with an eight-week school closure. ⁽²⁷⁶⁾ Similar outcomes were found in Germany, where learning losses reached 0.07 standard deviations in reading comprehension, 0.09 in operations, and 0.03 in

⁽²⁷⁴⁾ To facilitate comparability across different scoring systems, studies on learning gains/losses report normalised results in standard deviations, which is a statistical concept measuring how much individuals differ from the average value of their respective group. For example, the OECD calculated that 15-year-olds participating in the PISA tests in 2015 and 2018 gained 0.2 standard deviations in one school year (OECD, 2021b).

⁽²⁷⁵⁾ Maldonado and De Witte (2020); Contini et al. (2021).

⁽²⁷⁶⁾ Engzell et al. (2021).

numeracy for Grade 5 students, following school closures longer than eight weeks. ⁽²⁷⁷⁾ In Switzerland, primary school students showed more than double the learning progress in in-person learning compared to learning achieved during an eight-week school closure. ⁽²⁷⁸⁾

Other national studies found less conclusive evidence or no evidence at all of learning loss:

- **In some cases, learning losses were observed only for students of certain ages.** When comparing students in Grade 5 and Grade 8 in Italy, a small increase in reading and mathematics achievement was recorded for younger students, but negative effects were found for older students. ⁽²⁷⁹⁾ Similarly in Denmark, students in Grade 8 suffered a decrease in performance, but gains were reported for students in Grades 2 and 4 (perhaps due to differences in length of school closures for these two groups). ⁽²⁸⁰⁾ In Switzerland, negative impacts were recorded for primary school students, but not for secondary school students. ⁽²⁸¹⁾
- **In other cases, there was little evidence of significant learning loss.** In Germany, for example, no learning loss was found in reading comprehension or mathematics among Grade 4 and 5 students, when controlling for the social composition of the school. ⁽²⁸²⁾ In Sweden – where schools remained open throughout the pandemic – there were some negative effects due to increased absenteeism among children and staff, but these may be too small to affect grades and test score performance. ⁽²⁸³⁾
- **Several studies focusing more narrowly on certain aspects of online learning did not report any learning loss.** The general performance of Dutch secondary school students remained largely unaffected by school closures, as did their performance in an online practice tool implemented as part of the foreign language curriculum. ⁽²⁸⁴⁾ No learning loss was found in mathematics among Dutch primary school pupils using adaptive software. ⁽²⁸⁵⁾ In fact, these pupils showed faster progression during school closures

and their learning gains outlasted lockdown measures. ⁽²⁸⁶⁾ Germany reported some positive effects linked to the use of online learning platforms in secondary students' mathematics performance. ⁽²⁸⁷⁾

There may have been some learning recovery during the second year of the COVID-19 pandemic in countries that recorded learning losses in 2020. Among Flemish students, learning losses incurred during the first year of the pandemic in mathematics, science and social sciences were halted or reversed during 2021, although additional learning losses occurred in Dutch and French. ⁽²⁸⁸⁾ In France, results indicated that educational achievement in 2021 returned to pre-pandemic levels, following drops in achievement during the large-scale school closures in 2020. ⁽²⁸⁹⁾ This may have resulted from changes in examination content rather than learning recovery (*Box 5.1*).

The impact of lockdown measures on learning may have been particularly strong in certain fields of vocational education. In addition to school closures, VET students were often affected by closures and social distancing requirements of enterprises where the practical part of the combined school-and-workplace programmes was due to take place. This could result in cancellation and/or postponement of substantial parts of workplace-based education, with negative consequences for students' learning. The limitations and closures of workplace-based education varied strongly by sector. For example, healthcare and the food industry often continued their vocational education programmes, whereas lockdowns led to lengthy interruptions in leisure and tourism. ⁽²⁹⁰⁾ As a result, participation in (certain fields of) vocational education fell in some countries. In Germany, the number of new apprenticeships dropped by 9.4% in 2020 compared to 2019 (from about 515 000 to 465 000) and 23% of German companies reported knowledge transfer gaps in vocational education due to the pandemic. ⁽²⁹¹⁾ The Finnish National Agency for Education estimated a reduction of 4% in the number of VET graduates in 2021 compared to the previous year. ⁽²⁹²⁾ In the Netherlands, VET learners had difficulties finding internships and the quality of internships was perceived to have deteriorated. ⁽²⁹³⁾ In Sweden, study choices shifted away from programmes with more vocational content, with a notable decline in the hotel and restaurant sector, the worst-affected sector during the pandemic. ⁽²⁹⁴⁾

⁽²⁷⁷⁾ Schult et al. (2021).

⁽²⁷⁸⁾ Tomasik et al. (2021).

⁽²⁷⁹⁾ Boronovi and Ferrara (2022). The absence of negative effects may have been due to the longer-term focus of this study, which went beyond the first wave of the pandemic. Notably, after summer 2020, primary schools in Italy typically remained open more frequently than secondary schools, potentially reducing disruption to education for younger pupils.

⁽²⁸⁰⁾ Birkelund and Karlson (2021).

⁽²⁸¹⁾ Tomasik (2021).

⁽²⁸²⁾ Depping et al. (2021).

⁽²⁸³⁾ Öckert (2021).

⁽²⁸⁴⁾ Van der Velde et al. (2021).

⁽²⁸⁵⁾ Adaptive practice software for teaching mathematics. The software was installed on tablets that could be taken home by pupils and was used throughout school closures.

⁽²⁸⁶⁾ Meeter (2021).

⁽²⁸⁷⁾ Spitzer and Musslick (2021).

⁽²⁸⁸⁾ Gambi and De Witte (2021).

⁽²⁸⁹⁾ Andreu et al. (2022a); Andreu et al. (2022b).

⁽²⁹⁰⁾ Cedefop (2021a).

⁽²⁹¹⁾ Albrecht et al. (2021).

⁽²⁹²⁾ Cedefop (2021b).

⁽²⁹³⁾ Cedefop (2021c).

⁽²⁹⁴⁾ Aalto et al. (2022).

Box 5.2: Assumptions underpinning early projections of longer-term economic consequences of school closures

- **Extrapolation from pre-pandemic experiences.** Available estimates generally assume that school closures in response to the COVID-19 pandemic have the same impact on labour market outcomes as a reduction in education for other reasons (e.g. drop out, lack of motivation, teacher strikes). These projections typically use the pre-pandemic relationship between years of schooling and long-term incomes to predict impacts of school closures on future incomes. Such assumptions do not take into account many of the offsetting or reinforcing effects linked to the COVID-19 pandemic, such as learning that took place with the support of parents at home, or via distance/hybrid learning with teachers.
- **Generic assumptions across countries.** Early projections are often global in scope or focus on modelling hypothetical outcomes in generic settings. They are not fully tailored to the EU context and even less so to the context in individual Member States. Some predictions assume a certain duration of school closure (usually a rather lengthy one, such as several months) when modelling economic impacts. Others apply quite general assumptions about the impact of years of schooling on future incomes to a large number of countries. Rather than providing predictions that reflect situations in individual Member States, early projections typically give a sense of the possible magnitude of impacts of lengthy school closures in an average (high-income) country.
- **Measures taken to mitigate learning loss are not considered.** None of the available projections take into account the effects of specific measures adopted by Member States to mitigate learning loss in the context of the COVID-19 pandemic, such as online learning or specific learning support for certain groups of children. The economic consequences predicted are therefore often of a rather large magnitude, as they reflect the full unmitigated impacts of lengthy school closures in the absence of any policy action.

2.3. Consequences of learning loss

National research suggests that where learning loss occurred, it typically exacerbated educational inequalities stemming from pre-existing socioeconomic gaps. Minor learning losses were found among students with a good learning environment at home, encompassing internet access, physical space and parental support.⁽²⁹⁵⁾ Learning losses were much larger for students from disadvantaged family backgrounds⁽²⁹⁶⁾ and those without reliable internet access.⁽²⁹⁷⁾ In the Netherlands, for example, learning losses were 60% higher among students living in households where neither parent had achieved qualifications above lower secondary education level.⁽²⁹⁸⁾ Similarly, a study from Belgium found a correlation between the extent of the learning loss and school characteristics, with schools with higher shares of disadvantaged student populations experiencing larger learning losses.⁽²⁹⁹⁾ Studies from some other Member States showed similar patterns.⁽³⁰⁰⁾

Several key factors are likely to influence children's vulnerability to learning loss:

- **Parental education likely plays an important role,** as parents with lower educational

achievement may have found it more difficult to provide their children with adequate learning support at home during school closures.⁽³⁰¹⁾

- **Certain types of parental employment may have increased the likelihood of learning loss** because some occupations and work patterns (e.g. long hours, work outside of home) were difficult to reconcile with the provision of additional learning support to children at home.⁽³⁰²⁾
- **Children living in single-parent households may have been particularly vulnerable,** especially where single parents were employed and experienced work-life balance difficulties that prevented them from providing appropriate learning support.⁽³⁰³⁾
- **Immigrant status of parents and children contributed to learning vulnerability,** as parents may have struggled to provide learning support to their children due to language barriers or differences in educational systems between countries.⁽³⁰⁴⁾ Migrant and displaced children, especially refugees and asylum-seekers, were more vulnerable to educational disruption where they had limited access to resources necessary for online learning (e.g. internet, digital tools, quiet space for learning).⁽³⁰⁵⁾

⁽²⁹⁵⁾ Agostinelli et al. (2020); Andrew et al. (2020); OECD (2020a).

⁽²⁹⁶⁾ Dorn et al. (2020a); Maldonado and De Witte (2020).

⁽²⁹⁷⁾ For example, students living in certain remote rural areas without good internet coverage.

⁽²⁹⁸⁾ Engzell et al. (2021).

⁽²⁹⁹⁾ Maldonado et al. (2020).

⁽³⁰⁰⁾ Haerlemans et al. (2021); Rose et al. (2021); Schult et al. (2021).

⁽³⁰¹⁾ Darmody et al. (2021); Walsh et al. (2020).

⁽³⁰²⁾ Andrew et al. (2020); Pensiero et al. (2020).

⁽³⁰³⁾ Bayrakdar and Guveli (2020).

⁽³⁰⁴⁾ Gonzales and Bonal (2021).

⁽³⁰⁵⁾ You et al. (2020).

- **Children from certain minority ethnic backgrounds experienced high levels of educational disadvantage.** For example, Roma children were often unable to participate in online learning due to poor digital infrastructure and lack of necessary equipment. Many Roma parents could provide their children with only limited support in learning at home because of their low level of educational attainment (in some cases even illiteracy).⁽³⁰⁶⁾
- **For children with special educational needs (e.g. autism), it was often particularly challenging** to deal with the disruptions to their learning routines.⁽³⁰⁷⁾
- **Low household income and housing or material deprivation were likely to exacerbate learning loss** because they were linked to limited availability of physical (e.g. a separate room for learning) and digital (e.g. access to the internet or a computer) resources, which were essential pre-conditions for good quality distance learning.⁽³⁰⁸⁾ Poor internet access in certain remote rural locations was also likely to contribute to learning loss.
- **The school environment was important**, with schools that were better funded and equipped able to provide more effective distance learning than others.⁽³⁰⁹⁾

Where school closures resulted in learning loss, substantial economic consequences can emerge in the absence of policy action. As of May 2022, the magnitude of such consequences remained highly uncertain. Several studies have attempted to predict longer-term economic consequences of school closures via projections using economic models or through pragmatic, back-of-the-envelope calculations (*Box 5.2*). Regardless of the methodology used, all of these studies rely heavily on simplifying assumptions and need to be interpreted with caution. Their results are best understood as a rough indication of the magnitude of potential impacts of lengthy school closures in the absence of any measures to mitigate learning loss:

- **Hypothetical modelling of a four-month school closure shows that it could lead to income loss of 2.5-4% over the working life of affected students.**⁽³¹⁰⁾ These results are based on rule-of-thumb and back-of-the-envelope calculations for each of the 32 countries covered in the OECD Survey of Adult Skills. Beyond the magnitude of potential losses, they reveal

significant cross-country differences in earnings losses resulting from a four-month school closure.

- **A hypothetical model of a six-month school closure predicts losses of around 1% in average lifetime earnings among primary and secondary education students.**⁽³¹¹⁾ The losses are predicted to be higher for younger children: experiencing an education closure at the age of six is predicted to translate into a 1.3% loss in average life-time earnings, compared to 0.8% for a similar education closure at the age of 14. The larger impact for younger children is explained by the way learning loss at younger ages affects future decisions: a decrease in human capital accumulation at a young age is likely to lead to a lower than optimal investment in human capital in the future.
- **A global study carried out by the World Bank predicts average lifetime earnings losses of somewhere between EUR 9 400 and EUR 40 400 per student in Europe and Central Asia.**⁽³¹²⁾ More severe impacts are expected for certain groups of students, such as girls, students with ethnic minority backgrounds, and students with disabilities. The total earning losses incurred by students in high-income countries could amount to up to 9% of the current GDP, on average.⁽³¹³⁾

2.4. Remedial measures to mitigate learning loss

Most countries put in place remedial measures to limit learning loss and the long-term consequences of school disruption. There are numerous examples of such measures taken by Member States. In 2020 and 2021, the Netherlands announced national programmes for schools to assist students to reduce the negative impacts of the pandemic, with proportionally higher investment for schools with more disadvantaged students. In Ireland, a COVID-19 Learning and Support Scheme (CLASS) was put in place to provide additional targeted teaching support during the 2021/2022 school year for students most adversely affected in the course of the pandemic.⁽³¹⁴⁾ In Slovakia, additional tutoring was provided to pupils in need.⁽³¹⁵⁾

In a recent survey on COVID-19, 76% of participating Member States reported providing remedial measures to reduce learning loss at upper secondary level (*Chart 5.3*). These included specific supports for students in upper secondary grades ending with a national examination (65% of Member States) and for students in programmes with

⁽³⁰⁶⁾ European Roma Grassroots Organisations (ERGO) Network (2020).

⁽³⁰⁷⁾ Asbury et al. (2020).

⁽³⁰⁸⁾ Bonal and Gonzales (2020).

⁽³⁰⁹⁾ Bonal and Gonzales (2020).

⁽³¹⁰⁾ Hanushek and Woessmann (2020).

⁽³¹¹⁾ Fuchs-Schuendeln et al. (2020).

⁽³¹²⁾ Azevedo et al. (2020).

⁽³¹³⁾ Psacharopoulos et al. (2020).

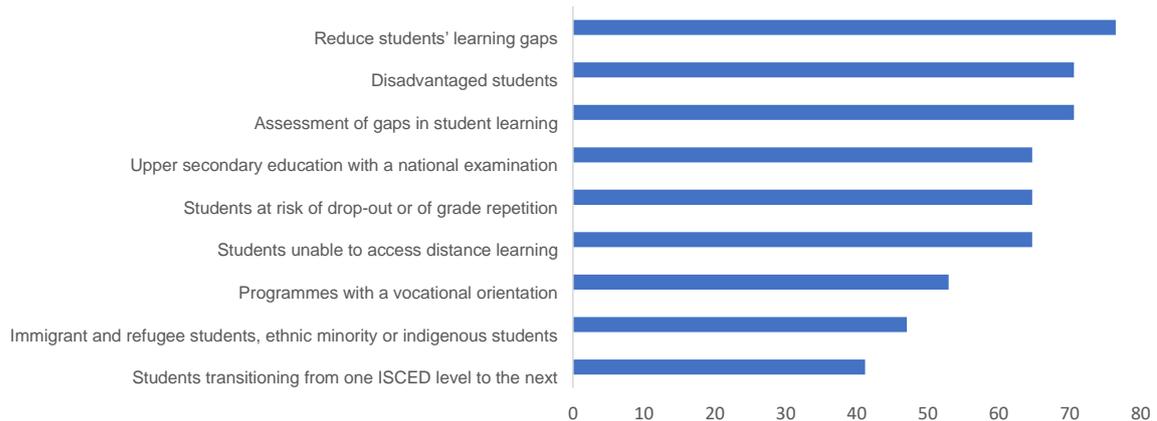
⁽³¹⁴⁾ In addition to the food programme run by designated disadvantaged schools for their students.

⁽³¹⁵⁾ European Commission (2021a).

Chart 5.3

Three-quarters of Member States sought to offset learning loss as a result of COVID-19 school closures

Proportion of Member States adopting remedial measures when schools reopened, by area of focus, upper secondary education, EU, 2020



Note: Member States surveyed were Austria, Belgium, Czechia, Estonia, Finland, France, Germany, Hungary, Ireland, Latvia, Lithuania, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain.

Source: OECD/UIS/United Nations Children's Fund (UNICEF)/World Bank Special Survey on COVID-19, March 2021.

[Click here to download chart.](#)

a vocational orientation (53%). In addition, 71% of countries reported introducing specific measures for disadvantaged students. More than 60% of Member States introduced supports for students at risk of early school leaving or grade repetition, as well as students unable to access distance learning. Remedial actions were often preceded by an assessment of the gaps in student learning (71% of countries).

As yet, little evidence is available on the impact of remedial measures. Some pre-COVID-19 studies suggested that remedial measures could be effective in addressing educational disruption.⁽³¹⁶⁾ One study from Italy found a positive impact for online tutoring during the pandemic for students from families with lower socioeconomic status.⁽³¹⁷⁾

Should remedial measures prove effective, pre-COVID-19 learning levels could be attained within several years. Assuming that students can learn an additional 10% each year compared to an average school year, the UNESCO Institute of Statistics (UIS) estimates that pupils in Europe and Northern America could reach pre-pandemic reading proficiency trajectories by 2026 at lower primary level, by 2028 for the end of primary level, and by 2029 for the end of lower secondary education. Assuming a higher acceleration rate of 20% additional learning, pre-pandemic levels could be reached as early as 2024 (lower primary) and 2026 (end of primary and end of lower secondary).⁽³¹⁸⁾

⁽³¹⁶⁾ UNESCO (2021b); Kaffenberger (2021).

⁽³¹⁷⁾ Carlana and La Ferrara (2021).

⁽³¹⁸⁾ UNESCO (2021a).

3. INEQUALITIES IN EDUCATION EMERGE EARLY AND HAVE LONG-TERM CONSEQUENCES

3.1. Importance of early childhood education and care

Many of the socioeconomic inequalities observed throughout the life course have their roots in early childhood. For example, evidence suggests that gaps in cognitive skills emerge during this period and are extremely difficult to close later on in life.⁽³¹⁹⁾ These gaps can often explain important differences in education and labour market trajectories.

Various factors influence cognitive and behavioural development in early childhood, including parental support and care, children's attitudes and behaviours, relationships with peers, and the home and broader environments in which children grow up.⁽³²⁰⁾ Education settings are an important part of these environments, particularly the ECEC settings in which the youngest children learn outside of the home.

Attending ECEC is increasingly associated with improvements in children's cognitive skills, their school-readiness and later academic achievement, and by extension their employment prospects.⁽³²¹⁾ This association is by no means universal however, as it depends on the specific educational service covered, analytical methods used, and the way the outcomes are measured. The available evidence indicates that many of the positive

⁽³¹⁹⁾ For a summary, see OECD (2021a) and van Huizen and Plantenga (2018).

⁽³²⁰⁾ OECD (2021a); van Huizen and Plantenga (2018).

⁽³²¹⁾ OECD (2021a); van Huizen and Plantenga (2018).

Box 5.3: Determinants of ECEC participation

Age strongly influences children's participation in ECEC,⁽¹⁾ with older children more likely to attend.

Several studies have established associations between children's age and the type of care received, with children aged 0–2 years more likely to be in family home-based care than in formal ECEC. Evidence on child's gender affecting childcare decisions is scarce.

Household composition and parental employment, income and education are important determinants of ECEC participation.

The weight of income in determining access to childcare services is well documented, with low incomes often restricting access to ECEC for disadvantaged groups. Children of educated parents are more likely to attend formal centre-based care than children of parents with lower educational achievement. The labour market status of parents also matters, with children of parents in employment – especially of mothers – more likely to attend. Parents' ethnicity and immigrant status affect childcare decisions through culturally-based preferences, differences in neighbourhood availability of childcare, or barriers such as citizenship or a lack of information through social networks. Household composition has also been linked to ECEC attendance, as it may affect the total cost of childcare and the availability of care by other household members. The presence of more than one child in the home is associated with a reduced likelihood of ECEC attendance. Single parenthood correlates positively with formal childcare participation and lower age of entry into ECEC.

Availability, affordability and accessibility of ECEC, broader frameworks of family policies, and cultural norms are crucial determinants of attendance in centre-based childcare.

Childcare participation is higher in countries where parents are legally entitled to an ECEC place and where the government guarantees a certain number of free-of-charge ECEC hours, especially if these rights begin before three years of age. Affordability of childcare is crucial, as ECEC out-of-pocket costs can prevent children from participating, especially where parents have to rely on costly private provision. Integrated, high-quality ECEC – demonstrated by a high-quality curriculum, good educational profile of staff, or adequate child-to-staff ratios, for example⁽²⁾ – also fosters participation. Finally, differences in the number of well-paid childcare and family-related leave weeks available to parents strongly affect ECEC participation, as do cultural beliefs on the type of care that is best for children of certain ages.

⁽¹⁾ This box is based on review of a number of studies, including Ünver et al (2021), Wolf et al (2020), European Commission, /European Education and Culture Executive Agency (EACEA)/Eurydice(2019), Petitclerc et al. (2017), Stahl et al. (2017), Van Lancker and Ghysels (2016), Zachrisson et al. (2013), Tang et al (2012), Schlanser and Regula (2011), Early and Burchinal (2001), Pungello and Kurtz-Costes (1999) and Fuller et al. (1996).

⁽²⁾ For a more comprehensive consideration of ECEC quality, see Council Recommendation on High-Quality Early Childhood Education and Care Systems from May 2019: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019H0605\(01\)&rid=4](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019H0605(01)&rid=4).

effects depend on high quality⁽³²²⁾ of the education and care provided, especially among very young children.⁽³²³⁾ Poor quality ECEC can have detrimental effects on children's development and may lower their participation in formal childcare.

The positive effects of ECEC are stronger among children from socioeconomically disadvantaged backgrounds.

⁽³²⁴⁾ In order to reduce inequalities early in life, it is crucial to ensure access to ECEC for various groups of children in need, such as those at risk-of-poverty or social exclusion, those with a migrant background or minority ethnic origin, those living in precarious family situations, or those with disabilities or mental health issues. However, some of the lowest ECEC participation rates are found among these

⁽³²²⁾ Aspects of ECEC quality include affordability, inclusiveness, high-quality workforce with supportive working conditions, transparent and regular monitoring, and good governance and funding. For more detail, see the EU Quality Framework for Early Childhood Education and Care here.

⁽³²³⁾ OECD (2021a) has a summary of evidence; Ünver et al. (2021) has recent empirical evidence in the EU context.

⁽³²⁴⁾ For a summary, see OECD (2021a) and van Huizen and Plantenga (2018).

groups of children in need.⁽³²⁵⁾ This creates a paradox whereby those who stand to benefit most, often participate least. Their low participation is linked to the circumstances in which children live, the way in which ECEC is provided and organised, the availability of other family-related policies, and cultural norms around childcare (Box 5.3).

Beyond positive implications for children, access to ECEC leads to improvements in work-life balance and labour market participation for parents, especially mothers.

It has positive effects on mothers' employment as it allows for earlier return to the labour market following childbirth.⁽³²⁶⁾ Analysis of the effects on parental employment is beyond the scope of this report, which focuses only on consequences of ECEC participation for children themselves.

The importance of ECEC in reducing inequalities early in life is high on the EU policy agenda. As far back as 2002, the Barcelona Objectives set ECEC participation targets for children of different ages.

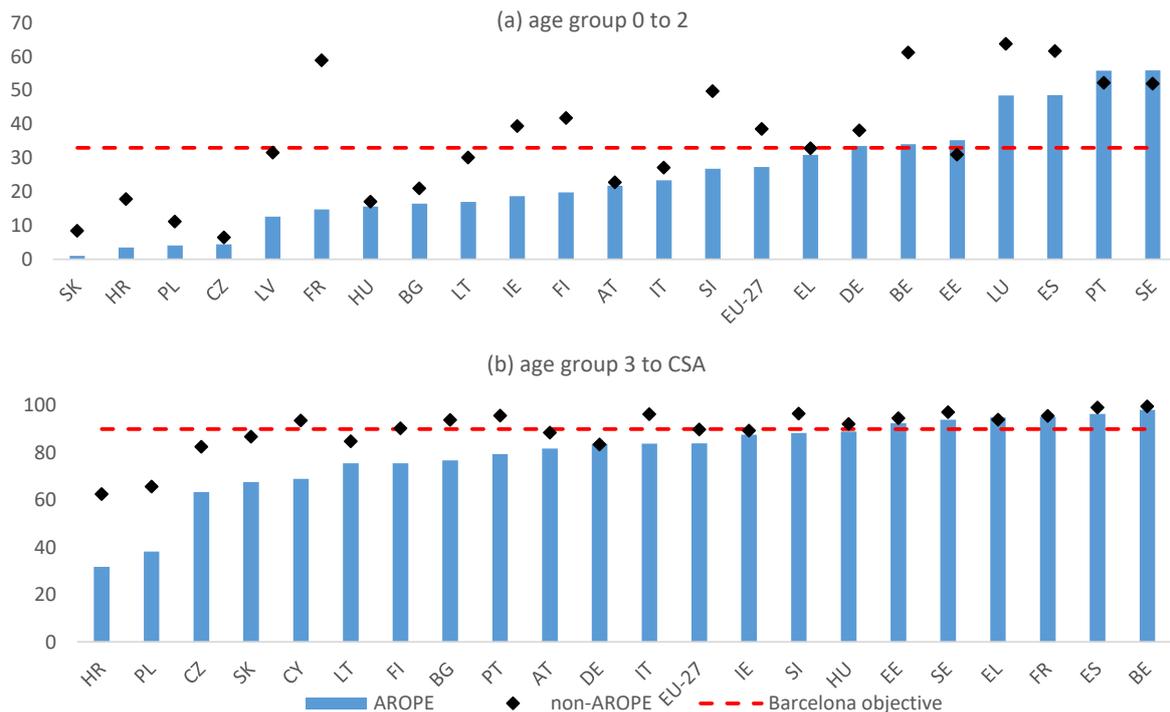
⁽³²⁵⁾ For recent evidence on participation of different groups of children in ECEC, see Ünver et al. (2021); Flisi et al. (2019); European Commission (2020).

⁽³²⁶⁾ EIGE (2021).

Chart 5.4

Lower ECEC participation among young children at-risk-of-poverty or social exclusion

Proportion of children participating in ECEC, by AROPE status and age group, 2019



Note: Data presented only for countries where ECEC participation rates for children at-risk-of-poverty or social exclusion (within a given age group) could be calculated based on 50 or more observations.

Source: DG EMPL calculations based on EU-SILC micro data.

[Click here to download chart.](#)

These targets have been generally achieved at EU level and a revision is underway to set new targets for the coming years. More recently, the adoption of the European Child Guarantee emphasises the need to ensure free access to key services (including ECEC) for various groups of children in need. ⁽³²⁷⁾ Looking ahead, the 2030 ECEC participation target for children aged between three and compulsory school age (CSA) is set at 96% at EU level in the context of the European Education Area. ⁽³²⁸⁾ ⁽³²⁹⁾

The following analysis explores ECEC participation rates among children living in different socioeconomic circumstances (particularly those covered by EU-SILC data). It builds on findings from the 2019 ESDE report, which explored

ECEC participation in the context of the Barcelona Objectives, and expands on it in several ways. Firstly, it looks at ECEC participation of children living in a broader range of households, closely following the groups of children in need considered by the European Child Guarantee. Secondly, it identifies trends in ECEC participation by looking at changes since 2010. Thirdly, it includes econometric analysis to identify key determinants that drive differences in ECEC participation across different groups of children. Finally, it considers the impacts of ECEC closures during the COVID-19 pandemic on participation and their longer-term implications. Given the narrow focus on ECEC participation, the findings should be interpreted with caution – while attending ECEC can lead to a range of positive outcomes for children, these often depend on the quality/intensity of care provided.

3.2. Participation in ECEC

The participation of children in formal ECEC grew slightly between 2010 and the outbreak of the COVID-19 pandemic in 2020, with growth most pronounced among the youngest children.

At EU level, 29% of children aged 0-2 participated in ECEC in 2010, increasing to 35% in 2019. Over the same period, participation of children from the age of 3-CSA rose from 87% to 90%. The Barcelona targets of 33% participation for children aged 0-2 and 90% for those aged 3-CSA were therefore met at EU level by 2019. Despite some evidence of gradual convergence in ECEC participation across the Member

⁽³²⁷⁾ In 2019, the European Commission announced the creation of a European Child Guarantee to ensure that every child in Europe at-risk-of-poverty or social exclusion has access to the most basic of rights, such as healthcare and education. The Guarantee was adopted by the Council in June 2021 and is available [here](#).

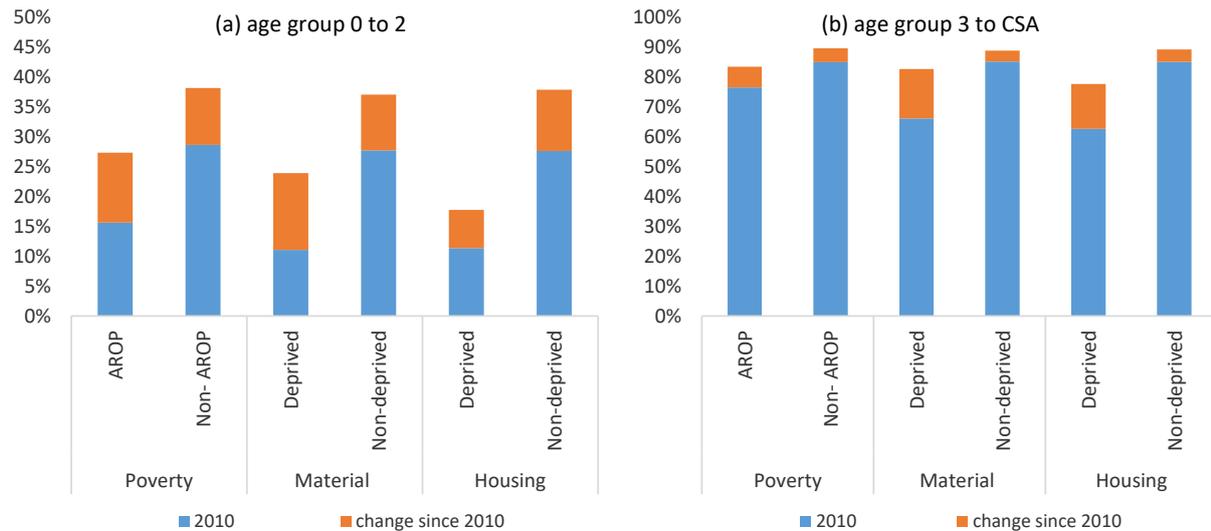
⁽³²⁸⁾ Annex II to Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030), available [here](#).

⁽³²⁹⁾ The Barcelona Objectives and the targets adopted in the context of the European Education Area are not interchangeable. The Barcelona targets are based on EU-SILC and look at formal childcare, whereas the European Education Area EU-level target is based on UNESCO/OECD/Eurostat (UOE) joint data collection that looks at early childhood education. The analysis within this chapter focuses on ECEC participation based on EU-SILC data (2010-2019), i.e. in line with the definition used by the Barcelona Objectives.

Chart 5.5

Lower ECEC participation among children of households experiencing monetary, material and housing difficulties

Proportion of children participating in ECEC, by type of difficulty and age group, EU-27, 2019



Note: Calculations exclude Malta, where it was not possible to determine children's age from micro data.

Source: DG EMPL calculations based on EU-SILC micro data.

[Click here to download chart.](#)

States, ⁽³³⁰⁾ children in some countries were still much more likely to participate than in others (see Annex). ⁽³³¹⁾

Participation in ECEC is known to vary considerably according to the socioeconomic circumstances in which children live, and to contribute to learning and labour market inequalities later in life. ⁽³³²⁾ The analysis below uses EU-SILC data to show how ECEC attendance differs based on several key characteristics of the households in which children live. These characteristics can be broadly divided into three groups: monetary and material means, broader household characteristics, and parental background. Only those for which core EU-SILC data are available over longer periods of time are discussed here. ⁽³³³⁾

At EU level, ECEC participation improved for children at-risk-of-poverty or social exclusion, but still fell short compared to participation among those not at risk. ⁽³³⁴⁾ Approximately 27%

of children at-risk-of-poverty or social exclusion aged 0-2 participated in ECEC in the EU in 2019 (*Chart 5.4*). Although this represented an increase of about 11 pp on 2010, it remained substantially lower than the participation rate of those not at risk (around 39%). For those aged 3-CSA, participation grew from 76% to 84% between 2010 and 2019, but again fell short of the participation rate among those not at risk (around 90%). Participation in ECEC therefore tends to be lowest among those children who are likely to gain the most from attending.

ECEC participation was lower for children at-risk-of-poverty or social exclusion in most Member States, although it varied considerably by country. ⁽³³⁵⁾ In 2019, this seemed to be the case for both the youngest children (aged 0-2) and those closer to CSA, although the patterns were slightly different. For children aged 0-2, gaps appeared both in countries with lower shares and with higher shares of children at-risk-of-poverty or social exclusion participating in ECEC. For those closer to CSA, gaps were almost exclusively in countries where participation of children at risk was below the EU average. Irrespective of age, the ECEC participation of vulnerable children fell short of the Barcelona targets in many Member States.

ECEC participation gaps depended on children's age and the type of difficulty they experienced (*Chart 5.5*). In 2019, the participation rate was particularly low for children aged 0-2 in severe

⁽³³⁰⁾ Eurofound (2019).

⁽³³¹⁾ In several central-eastern European countries (Czechia, Slovakia, Poland, Romania), only a very small proportion of all children aged 0-2 participated in ECEC. Others such as Luxembourg, the Netherlands and Denmark saw more than 6 in 10 children of this age group attend ECEC. The variation was less pronounced for children aged 3-CSA, ranging from 6 in 10 children in Croatia and Poland, to near-universal participation in Belgium and Spain.

⁽³³²⁾ For example, Ünver et al. (2021); OECD (2021a).

⁽³³³⁾ Some cross-sectional data available only for selected years may be highly relevant. For example, EU-SILC ad hoc modules on child deprivation or children's health could usefully be explored in future analyses.

⁽³³⁴⁾ The at-risk-of-poverty or social exclusion definition linked to the Europe 2020 Strategy is used here. Firstly, because the period over which changes in ECEC participation are analysed falls under the 2020 Strategy, and secondly, because at-risk-of-poverty or social exclusion results in the framework of the

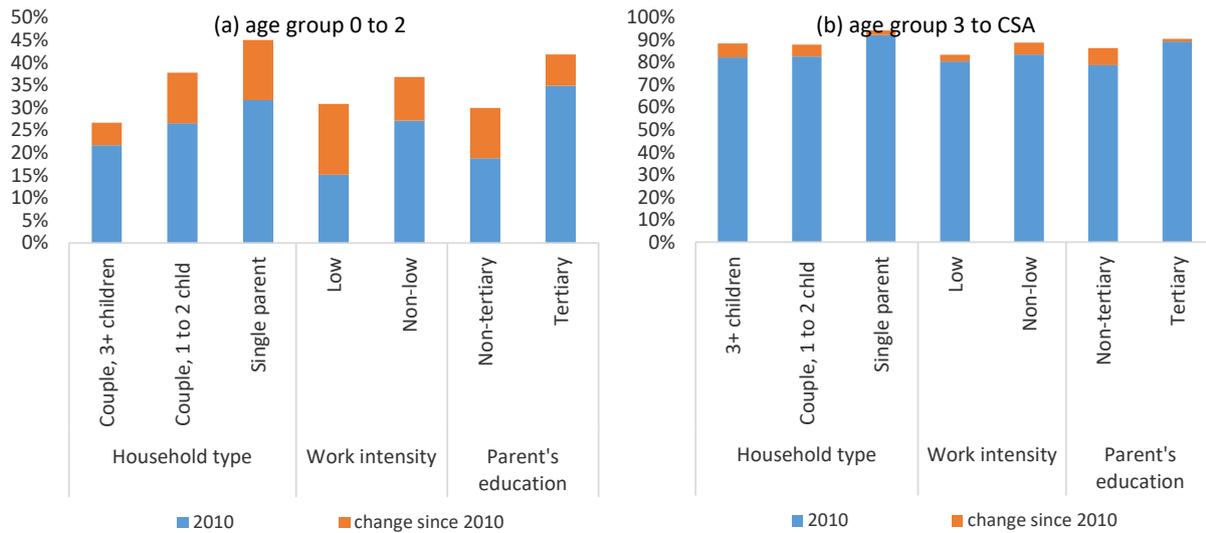
Europe 2030 targets are computed and published only from 2015.

⁽³³⁵⁾ Geographical variation is likely for other groups of children experiencing socioeconomic disadvantage, but the data samples at country level are often too small to yield reliable figures. The detailed analysis of ECEC participation of various subgroups of children focuses solely on the EU level.

Chart 5.6

ECEC participation varies substantially by household composition and parental background

Proportion of children in ECEC, by household characteristics and age group, EU-27, 2019



Note: Calculations exclude Malta, where it was not possible to determine children's age from micro data. Households are considered to have low work intensity where adults (aged 18-59, excluding students aged 18-24) have a working time equal to or less than 20% of their total combined work-time potential. Parental background was considered tertiary where one or both parents achieved tertiary qualifications. Parental background was considered foreign where one or both parents were originally born in a non-EU country.

Source: DG EMPL calculations based on EU-SILC micro data.

[Click here to download chart.](#)

housing deprivation (18%),⁽³³⁶⁾ a full 20 pp below their peers (38%).⁽³³⁷⁾ The youngest children experiencing severe material deprivation⁽³³⁸⁾ or monetary poverty also participated less often than those without such difficulties (at around 25% and over 35%, respectively). For older children (3-CSA) experiencing difficulties, participation rates were much higher, and gaps compared to those without difficulties much smaller. Regardless of age, children facing poverty and/or deprivation participated in ECEC considerably more often than 10 years ago, reducing participation gaps in most cases.

Other household characteristics affected ECEC participation primarily among children aged 0-2 (Chart 5.6):

- **Parental education plays an important role in ECEC attendance of the youngest children.** In households where at least one parent achieved a tertiary education qualification, over 40% of 0-2s participated in ECEC in 2019. Where no parent achieved such qualifications, only 3 in 10 children in this age group participated.

⁽³³⁶⁾ Eurostat defines severe housing deprivation as living in a dwelling which is considered overcrowded, while also exhibiting at least one of the housing deprivation measures (leaking roof, no bath/shower and no indoor toilet, or a dwelling considered too dark).

⁽³³⁷⁾ This is likely to understate the actual difference, as current EU-SILC data do not cover children experiencing the most severe housing difficulties, such as homeless children or those living in institutions.

⁽³³⁸⁾ Severe material deprivation is defined (at household level) as the enforced inability to pay for at least four of the following items: rent, mortgage or utility bills; keep home adequately warm; unexpected expenses; meat or proteins on regular basis; holiday; television set; washing machine; car; and telephone.

- **Children living with their parents and at least two other siblings were substantially less likely to attend ECEC in 2019, at 27%, compared to 38% attendance among children living with both parents and up to one sibling.** Children living with single parents were the most likely to attend ECEC – almost half did so. This is likely due to the increased work-life balance pressure faced by single parents, for whom it is typically more difficult to work and take care of children at the same time. Since 2010, ECEC participation increased substantially in single-parent households and two-parent households with fewer than two children, but not as much in households with three or more children.
- **ECEC participation improved rapidly in households with low working intensity,**⁽³³⁹⁾ substantially reducing gaps compared to families with higher work intensities. In 2019, 31% of children aged 0-2 living in households with low work intensity attended ECEC, compared to 37% of those living in households with higher working hours. In 2010, that difference was much larger (15%, compared to 27%).

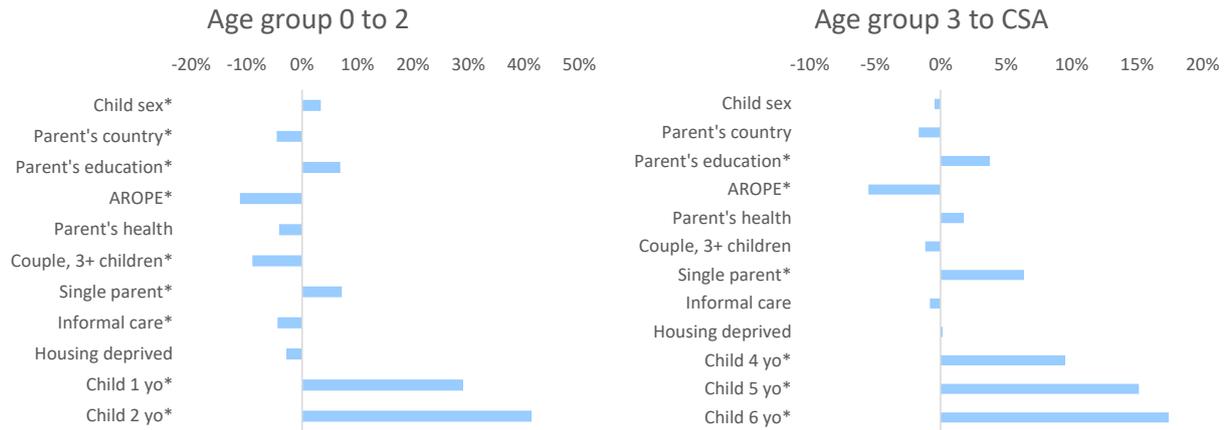
For children closer to school age, there were no major differences in ECEC participation based on household composition, work intensity or parental education. Increases in participation over time were also less pronounced than among the 0-2 age group.

⁽³³⁹⁾ Households where the adults (aged 18-59, but excluding students aged 18-24) worked a working time equal or less than 20% of their total combined work-time potential during the previous year.

Chart 5.7

Parental education and at-risk-of-poverty or social exclusion status increase the probability of ECEC participation

Estimated changes in probability of ECEC participation for different groups of children, estimated via logit regressions, EU-27, 2019



Note: Child sex is defined with female as the reference, parental education is defined with non-tertiary education as the reference, parent's country of birth is defined with born locally instead of in a foreign country as the reference, parental health is defined with non-disability as the reference, couple 3+ children and single parents are defined with any other type of household as the reference, and informal care is defined with no grandparents or childminding care as the reference. The reference age is 0 for 0-2s and 3 for 3-CSA. Results are the marginal probabilities of a logit regression, including country fixed effects. Malta and Romania are excluded due to missing values in the data. The asterisk denotes results with a 5% significance level (the probability of rejecting the null hypothesis of no impact when it is true).

Source: DG EMPL calculations based on EU-SILC micro data.

[Click here to download chart.](#)

Other household characteristics (e.g. degree of urbanisation⁽³⁴⁰⁾) or aspects of parental background (country of birth, disability) did not strongly affect ECEC participation, regardless of children's age. That may simply reflect the nature of the data used in this analysis, as EU-SILC is a household survey. For example, EU-SILC data do not cover the children of some of the most vulnerable parents from foreign countries, such as asylum seekers. These results therefore need to be interpreted with caution.

A regression analysis considered the impact of children's and households' characteristics jointly. The added value of such analysis is that it allows for an assessment of how each characteristic affects ECEC participation when the effects of other characteristics are taken into account. It therefore identifies the key determinants of participation, rather than simple differences between groups of children.⁽³⁴¹⁾

Regression results confirmed that children's age is a crucial factor, with older children participating far more frequently in ECEC

⁽³⁴⁰⁾ Degree of urbanisation in EU-SILC micro data distinguishes between cities (densely populated areas), towns and suburbs (intermediate density areas) and rural areas (thinly populated areas). They do not capture rural transport links, for example, or situation within particular neighbourhoods of a city. Detailed analysis of spatial inequalities in access to ECEC goes beyond the scope of this report.

⁽³⁴¹⁾ EU-SILC data do not fully cover a range of structural determinants of ECEC participation (e.g. cross-country variation in availability, affordability and quality of ECEC provision or differences in family and care leave policies). These are only controlled for via inclusion of country dummies, which account for differences across countries in general, rather than for any particular structural determinant of ECEC participation. The regression results should therefore be interpreted with caution, as they may be biased due to omission of some key variables.

regardless of other socioeconomic circumstances (Chart 5.7). The age of children has a highly significant and positive effect. For instance, within the 0-2 age group, one-year-olds and two-year-olds are 29% and 41% more likely to attend ECEC than children under one year of age. The significance of child gender is more ambiguous, although among the youngest children, boys seem slightly more likely (3%) to attend ECEC than girls.

Parental education and at-risk-of-poverty or social exclusion status are key determinants of ECEC participation for children of all ages.

Children aged 0-2 and 3-CSA living in households at risk of poverty or social exclusion are 11% and 6% less likely, respectively, to attend ECEC than their counterparts who are not at risk. This suggests that precarious socioeconomic conditions (poverty, severe material deprivation, low work intensity of the household) pose important barriers to ECEC access. Living in households with parents who do not hold tertiary qualifications reduces children's likelihood of attending ECEC by 7% (0-2s) and 4% (3-CSA). This confirms findings from the literature that identify parental education as significant beyond its links to poverty and social exclusion, for example because it can affect certain beliefs around the best type of care for young children.⁽³⁴²⁾

Household composition influences ECEC participation, with results varying by children's age.

Among children aged 0-2, ECEC participation is significantly lower for those with two or more siblings and for those who receive informal care (e.g. from grandparents or childminders). This reflects the fact that informal care tends to be particularly frequent for younger children and that it is usually the youngest children in large families who do not participate in

⁽³⁴²⁾ Leibowitz et al. (1992).

ECEC. No significant negative effect of living in large families or receiving informal care is found for children aged 3-CSA. Living in a single-parent household increases the likelihood of ECEC participation for children of all ages. This is consistent with single parents' need to balance work and childcare commitments without the help of a partner.

Other household and parental characteristics do not significantly affect ECEC use across age groups. Neither housing deprivation nor parental disability status are statistically significant, nor do they have a consistently negative influence across age groups. This suggests that housing deprivation is no longer a significant factor affecting ECEC participation once at-risk-of-poverty or social exclusion status is accounted for. Parental country of birth does have a consistently negative impact on ECEC participation, but is only statistically significant for children aged 0-2. Alternative regression specification controlling for degree of urbanisation did not find this to affect ECEC participation for children aged 0-2, although a slight negative effect was found for those aged 3-CSA.

3.3. Impact of COVID-19 pandemic on ECEC participation

As in the case of primary and secondary education, ECEC participation was affected by lockdowns adopted throughout the COVID-19 pandemic. This generated concerns about learning and developmental loss among young children, especially those from socioeconomically disadvantaged backgrounds, for whom ECEC participation brings long-lasting benefits. At least at the beginning of the pandemic, the importance of learning and developmental loss was somewhat overshadowed by concerns about parental ability to balance care responsibilities and paid employment. ⁽³⁴³⁾

ECEC closures were frequent in spring 2020, but occurred less often in subsequent COVID-19 waves. There was considerable variation in Member States' length and extent of closures. Some did not close ECEC at all, while others made exceptions for the children of various types of essential workers. There may also have been some variation in the extent and length of ECEC closures for children of different ages, but this is difficult to assess, as the existing monitoring systematically focuses only on children aged 3-CSA. Data for children aged 0-2 are sparse.

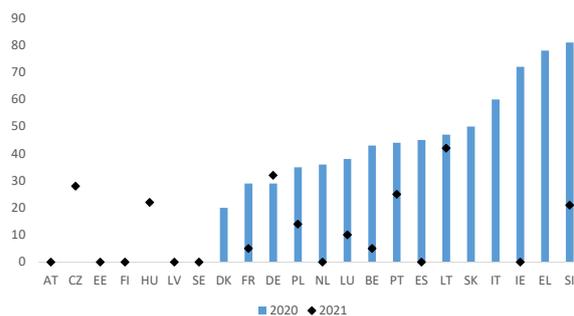
Data available in 22 Member States on pre-primary education for children aged 3-CSA show that full closures were shorter in ECEC than in primary and lower secondary education. ⁽³⁴⁴⁾ On average, pre-primary education was fully closed for 32 instruction days in 2020, compared to 48 days of primary education and 54 days for lower secondary

education. As of 20 May 2021, pre-primary education had been closed for an average of 11 days that year, compared to 19 days for primary and 35 days for lower secondary education. At the beginning of the pandemic, one crucial reason for shorter closures of ECEC was its importance to maintaining parental employment. ⁽³⁴⁵⁾ Later, concerns increased about the importance of ECEC in children's cognitive and emotional development and the difficulties of setting up effective online learning strategies for very young children.

Chart 5.8

Length of pre-primary education closures varied considerably by country

Number of instruction days for which pre-primary education (3-CSA) was fully closed, 1 January 2020-20 May 2021, 22 Member States



Note: Data missing for 2021 in Denmark, Greece, Italy and Slovakia. No data available for Bulgaria, Croatia, Cyprus, Malta and Romania.

Source: OECD/UIS/UNESCO/UNICEF/World Bank Special Survey on COVID-19, May 2021. [Click here to download chart.](#)

The duration of closures of pre-primary education varied significantly from country to country (Chart 5.8). Several countries (Austria, Estonia, Finland, Latvia, Sweden) did not fully close pre-primary education at any time between spring 2020 and May 2021, while closures in Lithuania and Slovenia lasted for more than 80 days during the same period. Reasons for such variation likely mirrored those for school education, but may also have stemmed from the specific ways in which ECEC was organised across countries, its perceived importance, and the possibilities for distance or hybrid learning during closures. Perceptions about the importance of parental care/employment were also likely to be important in this context.

There are concerns that the COVID-19 pandemic may have affected ECEC participation outside of closure periods, ⁽³⁴⁶⁾ although there are no reliable data to measure this. ⁽³⁴⁷⁾ ECEC is frequently paid and non-compulsory, which means that parents of young children may choose not to use it for any number of reasons. Parents may have been concerned about children's health, they may have faced financial

⁽³⁴⁵⁾ OECD (2021b); European Commission (2021b).

⁽³⁴⁶⁾ European Commission (2021b); European Commission (2021c).

⁽³⁴⁷⁾ Data from EU-SILC 2020 include information on ECEC participation, but fieldwork periods differ by country. In some cases, data may have been collected during a peak of a COVID-19 wave within a given country, making, in other cases they may have not. This makes it difficult to compare ECEC participation in 2020 across countries or to other years.

⁽³⁴³⁾ European Commission (2021b); European Commission (2021c).

⁽³⁴⁴⁾ OECD (2021b).

difficulties as a consequence of sudden income shocks, or there may have been issues with reintegrating children into ECEC after long closures. In countries with a considerable share of privately run ECEC provision, private providers may have faced significant financial difficulties as a consequence of closures, leading them to stop operating altogether, reducing the overall ECEC supply.

Member States adopted various measures to mitigate the decline in ECEC participation and the resulting learning loss among young children.

Children of pre-school age took part in various forms of distance and hybrid learning during the ECEC closures, although these were often more challenging to implement (and less suitable) for very young children.⁽³⁴⁸⁾ Evidence suggests that online learning was used for children aged 3-CSA in about 60% of OECD countries, a lower rate than for higher levels of education (more than 90% of countries).⁽³⁴⁹⁾ Other measures included financial support with childcare fees for families, financial support to ECEC providers who lost income as a consequence of closures, and training on education delivery during the pandemic for ECEC staff.⁽³⁵⁰⁾ The particular mix of measures depended on the country.

Lack of data and empirical research leaves the extent of learning loss resulting from ECEC closures unclear.

Several national studies on the consequences of ECEC closures highlight concerns about learning loss, especially among pupils from disadvantaged socioeconomic backgrounds, such as those living in households at-risk-of-poverty or social exclusion, with single parents, with parents without tertiary qualifications, or without access to appropriate learning tools and support at home (e.g. those living in remote rural areas with limited internet access). However, these studies did not attempt to quantify the learning loss.⁽³⁵¹⁾ Early empirical research from the non-EU context suggests that lengthy ECEC closures (of about one year) led to considerable learning loss, especially in language development.⁽³⁵²⁾ However, this is difficult to relate to the EU context, where ECEC closures were shorter and often accompanied by specific mitigation measures. Overall, the scarcity of evidence reflects the comparative lack of emphasis on the importance of ECEC for children's learning and development⁽³⁵³⁾ and the lack of systematic assessment of learning outcomes among very young children.⁽³⁵⁴⁾ Much of the available evidence instead explores the ways in which ECEC closures affected children's psychological development and well-being, which goes beyond the scope of this report.

⁽³⁴⁸⁾ European Commission (2021b).

⁽³⁴⁹⁾ OECD (2021b).

⁽³⁵⁰⁾ European Commission (2021c).

⁽³⁵¹⁾ European Commission (2021b); European Commission (2021c).

⁽³⁵²⁾ Abufhele et al (2021).

⁽³⁵³⁾ European Commission (2021b); European Commission (2021c).

⁽³⁵⁴⁾ OECD (2021a).

The scarcity of evidence on learning loss only allows for highly uncertain projections of the longer-term economic consequences of ECEC closures.

Some global studies quantify economic losses in hypothetical scenarios based on radically simplified assumptions.⁽³⁵⁵⁾ These usually assume a certain duration of ECEC closures and then project learning and economic losses based on pre-pandemic evidence (e.g. from literature estimating impacts of ECEC education on future earnings). Such projections are unlikely to be very robust because they rely on assumptions that a) do not capture the specific nature of this crisis, b) are not particularly well tailored to EU countries, and c) do not consider the impacts of measures to mitigate learning and economic loss.

Early projections suggest that lengthy ECEC closures can have high economic costs if no mitigating measures are taken.

For example, a hypothetical modelling exercise focusing on a six-month ECEC closure (for four-year-olds) predicts a 0.72% decline in acquired human capital by the age of 16 and consequent 0.48% losses in average life-time earnings.⁽³⁵⁶⁾ Early predictions from a global study on the impacts of ECEC closures suggested that by February 2021, a total of up to 140 million of person-days of ECEC could have been lost in some Member States.⁽³⁵⁷⁾ In the absence of mitigating measures, this could translate into future losses of up to 0.12 million of grades of learning⁽³⁵⁸⁾ by the age of 15, and lifetime income losses of up to EUR 7.5 million in some Member States. The potential for lengthy ECEC closures (3-12 months) to cause large-scale economic losses was also highlighted in other global simulations.⁽³⁵⁹⁾

4. CONCLUSIONS

Widespread school and ECEC closures were mandated by Member States during the COVID-19 pandemic, with considerable temporal and geographical variation.

Closures were more frequent during the first waves of the pandemic, with some Member States resorting to much longer closures than others. These were accompanied by shifts to various forms of hybrid and distance learning, whose effectiveness depended on a variety of factors, including student characteristics, family and school environment, teachers' preparation, availability of digital devices and tools, and broader variation in digitalisation progress within and between countries.

School and ECEC closures led to learning loss among affected children, but the overall

⁽³⁵⁵⁾ McCoy et al. (2021); Fuchs-Schundeln (2020); Lopez Boo et al. (2020).

⁽³⁵⁶⁾ Fuchs-Schundeln (2020).

⁽³⁵⁷⁾ McCoy et al. (2021).

⁽³⁵⁸⁾ Grade of learning is measured as the average gain in students' PISA test scores for one grade.

⁽³⁵⁹⁾ Lopez Boo et al. (2020).

magnitude of that learning loss is difficult to assess because the shock to education is very recent and Member States often addressed it in very different ways. The extent of learning loss depends on the length of closure, level of education, subject taught, alternative modes of learning adopted (and preparedness to shift to distance and hybrid forms of learning), and other mitigation measures. The magnitude of learning loss varied from country to country. Some countries reported almost no learning loss, while in others children may have lost learning equivalent to several weeks' or months' progress in certain subjects.

Learning loss was concentrated among children experiencing various socioeconomic disadvantages, such as low household income, lack of access to educational tools, lack of internet access, or lack of parental support in learning. Such disadvantages were likely to disproportionately affect some of the most vulnerable groups of children, such as Roma children or migrant and displaced children. Overall, the COVID-19 pandemic may have exacerbated existing inequalities in educational outcomes. Accordingly, the Council of the European Union has called for careful attention to be paid to tackling structural and quality issues related to ECEC services. ⁽³⁶⁰⁾

The long-term consequences of school and ECEC closures for young people's labour market outcomes remain unclear. Several early studies attempted to model the potential extent of longer-term economic losses in terms of overall economic output and individual earnings. However, these studies rely on very rough assumptions about the extent of learning loss, which do not reflect geographical variations or the potential positive outcomes of the various mitigating measures adopted. They predict substantial reductions in individuals' income prospects and in overall economic output in situations where learning loss is severe and no mitigating measures are adopted.

Attending ECEC is associated with improvements in children's cognitive skills, school-readiness and later academic achievement, and, by extension, their future employment prospects. These positive effects are stronger among children from socioeconomically disadvantaged backgrounds, suggesting that ECEC is a key factor in reducing inequality of opportunity.

The lowest ECEC participation rates are often found among children at-risk-of-poverty or social exclusion, children in larger families, and children whose parents do not hold tertiary qualifications. Lack of access is also linked to cross-country differences in ECEC provision (availability,

affordability and quality of childcare), certain cultural norms and attitudes towards childcare, and lack of work-life support for parents. In this context, the implementation of the European Child Guarantee adopted by the Council in June 2021 will play an important role in ensuring access and improving ECEC participation rates among the groups most in need.

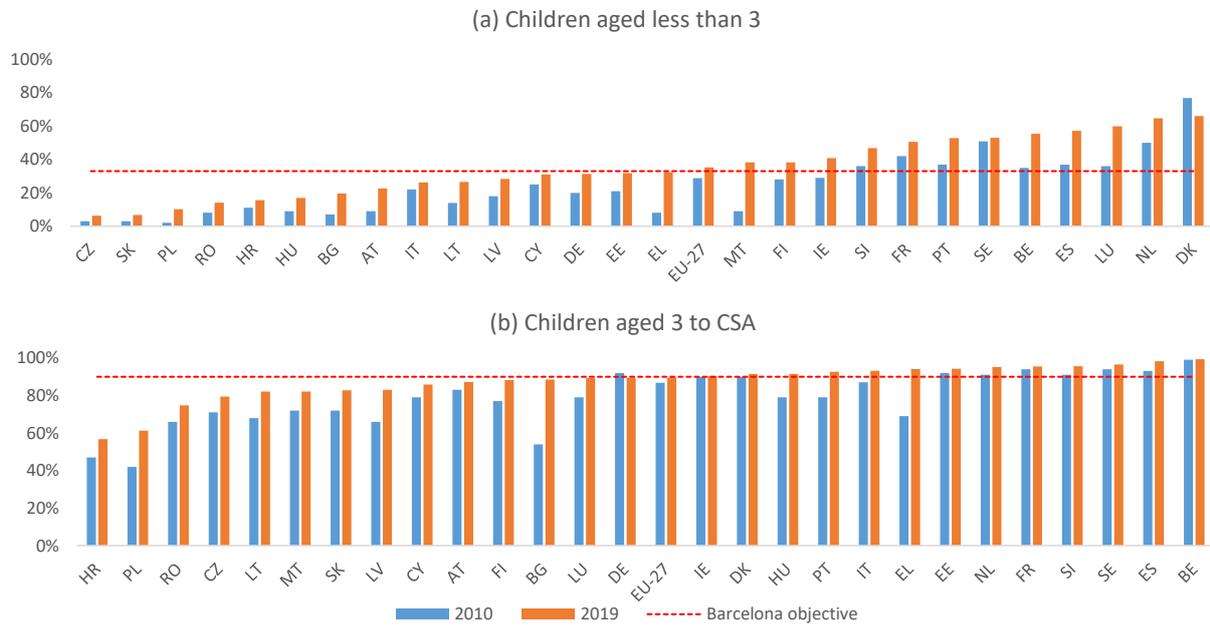
⁽³⁶⁰⁾ Council Conclusions on integrated early childhood development policies as a tool for reducing poverty and promoting social inclusion (21 June 2018) available [here](#).

Annex 1: ECEC participation across the EU

Chart A1.1

Mild growth in ECEC participation across the EU, varying considerably by Member State

Proportion of children participating in ECEC, by age group



Source: Eurostat, [ilc_caindformat].
[Click here to download chart.](#)

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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_\(incl._GDP\)](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](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_statistics_on_income_and_living_conditions_(EU-SILC)_methodology)

Definitions and data sources of main indicators

Real GDP: Gross Domestic Product (GDP), volume, annual change (Source: Eurostat, ESA2010 National Accounts [nama_10_gdp]). Dataset available [here](#).

Employment rate: number of people employed divided by the population in the 20-64 age bracket (Source: Eurostat, EU-LFS [lfsi_emp_a]). Dataset available [here](#).

Activity rate: labour force (employed and unemployed) as a share of total population in the 15-64 age group (Source: Eurostat, EU-LFS [lfsi_emp_a]). Dataset available [here](#).

Unemployment and youth unemployment rate: unemployed as a share of the labour force in the (respectively) 15-74 and 15-24 age group (Source: Eurostat, EU-LFS [une_rt_a]). Dataset available [here](#).

Long-term unemployment rate: persons in the 15-74 age group unemployed for a duration of 12 months or more as a share of the labour force (Source: Eurostat, EU-LFS [une_ltu_a]). Dataset available [here](#).

At-risk-of-poverty or social exclusion rate. Percentage of a population representing the sum of persons who are: at risk of poverty, or severely materially and socially deprived, or living in households with very low work intensity (Eurostat, EU-SILC [ilc_peps01n]). Dataset available [here](#).

At-risk-of-poverty rate. Share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers (Eurostat, EU-SILC [ilc_li02]). Dataset available [here](#).

Severe material and social deprivation rate. Inability to afford a set of predefined material items that are considered by most people to be desirable or even necessary to experience an adequate quality of life (Eurostat, EU-SILC [ilc_md11]). Dataset available [here](#).

Share of persons living in households with very low work intensity. Share of persons living in a household where the members of working age worked a working time equal or less than 20% of their total work-time potential during the previous year. (Eurostat, EU-SILC [ilc_lvhl11n]). Dataset available [here](#).

Income quintile share ratio S80/S20. Ratio of total income received by the 20 % of the population with the highest income (the top quintile) to that received by the 20 % of the population with the lowest income (the bottom quintile) (Eurostat, EU-SILC [ilc_di11]). Dataset available [here](#).

NEET: Young people not in employment, education or training. Share of people aged 15 to 29 who are not employed (i.e. either unemployed or economically inactive) nor engaged in any kind of further (formal or non-formal) education or training (Eurostat, EU-LFS [lfsi_neet_a]). Dataset available [here](#).

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