CHAPTER 2

A severe crisis affecting everyone: socio-economic impacts of the coronavirus pandemic

1. INTRODUCTION ([97])

The COVID-19 pandemic, whilst first and foremost a public health crisis, has triggered a socio-economic crisis of exceptional magnitude as was shown in Chapter 1. Its impacts cover nearly all aspects of Europeans' lives: their work, incomes, access to education and training, health care and social services, meetings with family or friends, including informal care for children or frail relatives. Moreover, in line with the exponential rise in COVID infections, many effects of the crisis were highly acute and causing a major socio-economic shock. While all Europeans have experienced negative impacts from the pandemic to some extent, there are concerns it may have widened pre-existing inequalities along several dimensions. Persons in fragile health are at higher risk of severe illness or even death as a result of COVID-19. People with limited resources are more likely to live in overcrowded homes and depend on public services and facilities. Under such circumstances, social distancing is much harder. Many of the heavily hit sectors have a high number of workers in non-standard forms of employment ([98]) and relatively low wages. Whereas many households used digital tools for home schooling, work or to keep in contact with family and friends during the pandemic, the most vulnerable were often less able to do so due to a lack of equipment, private internet connection or digital skills.

This chapter presents evidence on how different population categories have been affected by the crisis and its socio-economic impacts. The chapter provides first a detailed review of the effects on employment across different occupations and of the wages of critical workers. It then simulates the effect on incomes and the role of tax and benefit systems in mitigating the impact of the shock. Next, the chapter looks at the social effects of COVID-19 for a number of specific disadvantaged groups, in particular low-income and poor households, migrants, persons with disabilities and homeless persons. The final section draws conclusions.

2. THE EMPLOYMENT IMPACT OF COVID-19 ON DIFFERENT GROUPS OF PEOPLE, OCCUPATIONS AND SECTORS

The impact of the pandemic on the labour market varied greatly across different groups of workers. The second quarter of 2020 was the most severely hit by the outbreak of the pandemic. Hence, the analysis in this section shows data on employment changes between the second quarters of 2019 and 2020. The analysis also includes data on the respective fourth quarters (as Q4 of 2020 is the most recent quarter for which data are available), as well as annual data ([99]). The breakdown by characteristics shows that some groups experienced much higher falls in employment (*Chart 2.1*). The percentage change

([97]) Authors: Alessia Fulvimari, Katarina Jaksic, Argyrios Pisiotis and Tim Van Rie. Contributions by Sara Flisi, Giulia Santangelo, Michele Aquaro, Marco Colagrossi and the EUROMOD Team from the European Commission's Joint Research Centre.

([98]) Including workers on fixed-term contracts, part-time workers, self-employed and informal workers.

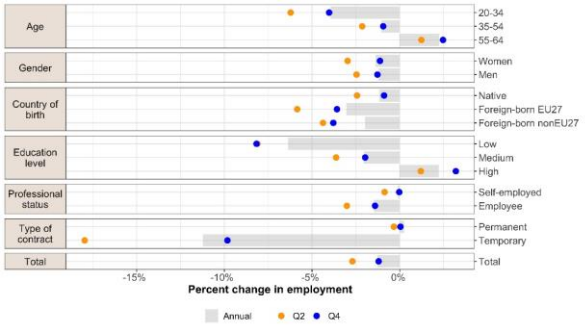
([99]) Changes in the design scheme in 2020 have led to a break in the time series for the German data of the Labour Force Survey. As a result, the LFS 2020 EU27 average is unreliable when disaggregated data are presented. For this reason it was decided to use the EU26 average (instead of EU27) when referring to 2020 LFS data. See *Box 2.3* for findings for Germany based on national data.

varied significantly across the categories defined by the main demographic characteristics, such as age, country of birth and educational level. In descending order, low educated workers, young workers and the foreign-born from other EU27 Member States were the groups most severely hit by the employment drop. These groups also were the least likely to remain in full employment and present at work in Q2 2020 compared to the same quarter in 2019, as shown in *Table 2.1* which presents the differences in labour market transitions between Q1 and Q2 2020 and 2019 for people employed in Q1 of the given year. More precisely the decline in probabilities of remaining in full employment is remarkable for workers born outside EU27 (20 pp), followed by low educated workers (19 pp) and younger people aged 14 to 29 (13 pp). Foreign-born outside the EU27 and low educated workers made more transitions from employment into inactivity in Q2 2020 compared to the year before. In addition, these two groups have also experienced higher than average transitions from full employment to employed, but absent from work, which reflects the large use of short time work schemes among low educated workers (+15 pp) and foreign-born outside the EU27 (+14 pp). Overall, labour market transitions suggest that the most vulnerable workers have been hit the hardest by the initial shock of the COVID-19 crisis.

Chart 2.1

Employment impacts of COVID-19 differ greatly across different groups of workers

Employment growth by socio-demographic characteristics and occupational status, Q2/Q4/annual level of 2020 compared to Q2/Q4/annual level of 2019 EU26



Note: Data refer to the age group 20-64. As explained in footnote 3, it was decided to exclude Germany from the analysis due to a break in the time series. Including Germany in the EU aggregate could change some of the employment growth impacts presented in *Chart 2.1*, particularly for gender, as it seems that men in Germany experienced a decline in employment in 2020, while the employment rate of women slightly increased.

Source: Calculations by the European Commission's Joint Research Centre, based on a Eurostat special extraction on EU-LFS data.

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Simultaneously, some groups even saw an increase in employment. This is the case for highly educated workers, for example (*Chart 2.1*). This could suggest an increase in the demand for these workers during the pandemic.

The employment impact of COVID-19 on gender is less straightforward to analyse. On the one hand, no substantial gender differences emerge in terms of employment losses (*Chart 2.1*). On the other hand, as pointed out in Chapter 1, women experienced a steeper fall in working hours than men did in Q2 of 2020. In addition, women experienced a stronger decline (13 pp) in probabilities of remaining in full employment in Q2 2020 compared to men (12 pp) (*Table 2.1*). Women also showed a higher transition from full employment to employed, but absent from work, compared to men (10 pp vs. 8 pp).

The decline in employment affected self-employed and employees equally (*Chart 2.1*). Focusing on employees, it is clear that the major drop in employment involved those on temporary contracts, who have been among the worst hit by the COVID-19 pandemic ([100]), while employees with permanent jobs saw rather stable employment levels ([101]). This is confirmed also by labour market transitions data (*Table 2.1*), which show a high drop in probabilities of remaining in full employment (15 pp) in Q2 2020.

Table 2.1

High transitions from employment to employment but absent from work at the outbreak of the COVID-19 pandemic (Q2 2020)

Difference in labour market transitions between Q1 and Q2 of 2020 and 2019 for people employed in Q1 of the relevant year, pp

	Employed	Employed, less hours	Employed, absent	Unemployed	Outside labour force
TOTAL	-12	1	10	1	1
Gender					
Women	-13	1	10	1	2
Men	-12	1	8	1	2
Age					
14-29	-13	0	10	1	2
30-54	-12	2	9	0	1
55-74	-11	0	8	0	2
Education level					
Low	-19	1	15	0	2
Medium	-13	0	10	1	1
High	-9	2	6	0	1
Type of Contract					
Permanent	-12	1	10	0	1
Temporary	-15	0	9	1	3
Country of birth					
Foreign-born nonEU27	-20	1	14	1	3
Foreign-born EU27	-16	2	10	0	1
Native	-11	1	9	0	1

Note: The methodology used by Eurostat is explained at https://ec.europa.eu/eurostat/web/experimental-statistics/labour-market-transitions

Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on Eurostat experimental statistics on labour market transitions.

Click here to download table.

The change in employment by occupational groups (ISCO categories ([102])) deserves attention. Most occupational groups underwent a decline in the level of employment from 2019 to 2020, with a negative percentage change both in the second and fourth quarters of the year. Exceptions are professionals ([103]), whose employment rate increased in both quarters, and technicians and associate

([100]) European Commission (2021a), OECD (2020b).

([101]) For more details on the self-employed, see European Commission (2021b).

([102]) ISCO is the International Standard Classification on Occupations. It falls under the purview of the International Labour Organization (ILO) for organising jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. The ISCO classification is available at different levels of granularity. For the purpose of this edition of the ESDE report ISCO is used at 1-digit, 2-digit and 3-digit level.

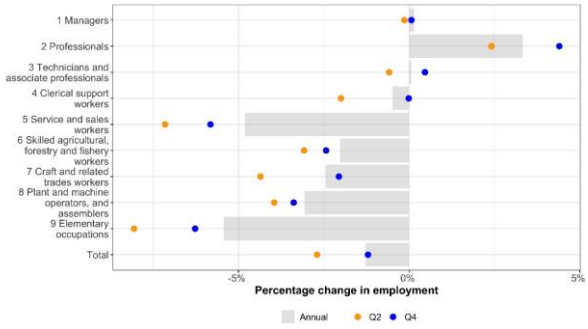
([103]) ISCO category 2, which includes professionals in the fields of science and engineering, health, teaching, business and administration and ICT.

professionals whose employment rate considerably recovered in the fourth quarter of 2020 (*Chart 2.2*). While the majority of the other categories experienced an employment drop, professionals saw an increase of 2.4 % and 4.4 % in Q2 2020 and Q4 2020 respectively. To some extent, this is consistent with a structural trend over the last ten years. In line with the overall trends described above, the decrease in blue-collar occupations was generally stronger in Q2 than Q4 of 2020, especially for craft and related trade workers, and elementary occupations. A similar pattern is found for service and sales workers. By contrast, the employment growth among professionals was higher in Q4 than Q2.

Chart 2.2

Most occupational groups, except for professionals, experienced a decline in employment due to COVID-19

Employment growth by occupational group, Q2/Q4/annual level of 2020 compared to Q2/Q4/annual level of 2019, EU26



Note: Data refer to the age group 20-64.

Source: Calculations by the European Commission's Joint Research Centre, based on a Eurostat special extraction on EU-LFS data.

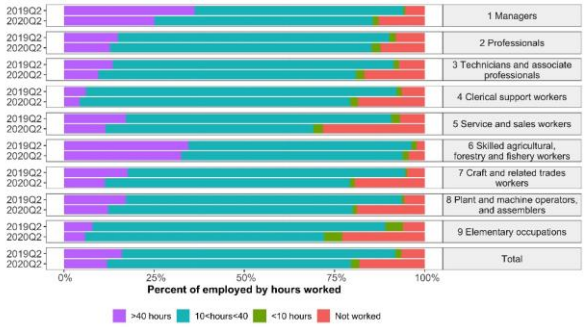
Click here to download chart.

The full impact of the pandemic on the labour market is visible not only in employment levels, but also in the drop of hours worked. In fact, during the pandemic many people were not working despite being formally employed. Especially in the first months, many countries adopted a range of measures to contain employment losses (including a ban on dismissals in some countries), leading to reduced working hours and furlough schemes (including zero working hours) rather than mass dismissals. Absences from work reached very high levels during the pandemic ([104]). This is due in particular to a peak in temporary lay-offs ([105]), mainly due to short time work schemes protecting workers from being dismissed (*Table A1.1 in Annex 1*). As a result, even though employment fell less than GDP, the decline in hours worked shows a more severe impact on the labour market and slack than suggested by aggregate employment figures ([106]). For all occupational groups, the share of individuals employed but not working at all during the reference week (light red bar in *Chart 2.3*) increased in Q2 of 2020 relative to the Q2 of 2019. The highest increases can be observed for the groups of service and sales workers and elementary occupations. These same occupational groups have thus reduced working hours by the maximum and have been effectively protected from unemployment.

Chart 2.3

Hours worked dropped even more than employment

Distribution of hours worked by occupational group, annual level of 2020 compared to annual level of 2019, EU26



Note: Data refer to the age group 20-64.

Source: Calculations by the European Commission's Joint Research Centre, based on a Eurostat special extraction on EU-LFS data.

Click here to download chart.

Similar to occupations, the COVID-19 pandemic has also affected different sectors to a varying degree. The highest decline in employment was registered in the sectors (NACE categories ([107])) most severely affected by the lockdown measures, such as accommodation, food, travel agency activities, activities of households as employers of domestic personnel (*Chart 2.4*), undoubtedly due to travel restrictions as well as other precautionary measures taken in response of the pandemic. On the contrary, manufacture of basic pharmaceuticals, insurance, computer programming and telecommunications are among the activities that experienced the highest percentage increase in employment in 2020 (compared to the previous year) (*Chart 2.4*).

([104]) As reported by Eurostat, 'the notion of temporary absence from work refers to situations in which a period of work is interrupted by a period of absence. This implies that persons are generally to be considered as having been temporarily absent from work and therefore employed, if they had already worked at their current activity and were expected to return to their work after the period of absence'.

([105]) An absence from work is classified as a 'temporary lay-off' if it is due to slack work for technical or economic reasons. Those for whom a written or unwritten contract of employment, or activity, has been suspended by the employer are also considered as employed and absent from work due to temporary lay-off if they have an assurance of return to work within a period of 3 months or receive at least 50 % of their wage or salary from their employer. While it is not straightforward to identify workers involved in schemes such as short-time work in the EU-LFS, this variable could be used as a possible way to capture such type of scheme.

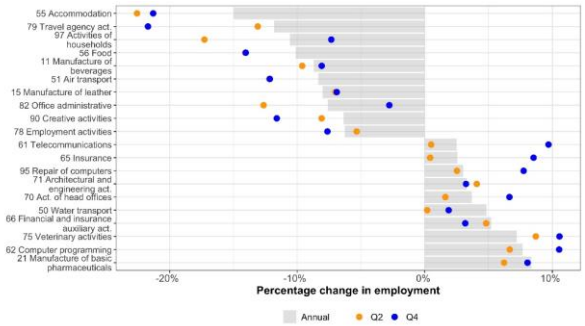
([106]) European Commission (2020).

([107]) NACE is the industry standard classification system used in the EU. Similar to ISCO it is available at different levels of granularity. For the purpose of this edition of the ESDE report NACE is used at 1-digit and 2-digit level.

Chart 2.4

Accommodation, food and travel agency activities are among the sectors most affected by COVID-19

Growth rate in employment in the EU26: top and bottom 10 sectors (NACE 2-digit), Q2/Q4/annual level of 2020 compared to Q2/Q4/annual level of 2019



Note: Data refer to the age group 20-64. Only sectors with an employment level above 100 000 individuals are considered. Top and bottom sectors are selected based on the annual change between 2019 and 2020.

Source: Calculations by the European Commission's Joint Research Centre, based on a Eurostat special extraction on EU-LFS data.

Click here to download chart.

Box 2.1: The US labour market in times of COVID-19

The United States (US) labour market differs considerably from those of the EU countries, with the latter generally having a higher degree of employment protection (both in terms of individual and collective dismissal), than the former.

In the US, unemployment initial claims went from about 250 000 in the second week of March 2020 to almost 3 million just one week later. By the beginning of April, claims reached a record-high figure of 6.1 million. Between March 14 and August 22, more than 58 million initial unemployment benefit claims were filed.

These figures hide important differences across socio-economic groups, sectors and areas. Compared to other recessions, which usually have a heavier toll on male employment than for female's, the drop in employment has been higher in sectors more affected by the social distancing measures, which have a higher proportion of women workers. ([1]) A similar mechanism is also behind the loss of employment among ethnic minorities. Black, Latin and Asian communities were disproportionately affected by the crisis compared to white Americans.

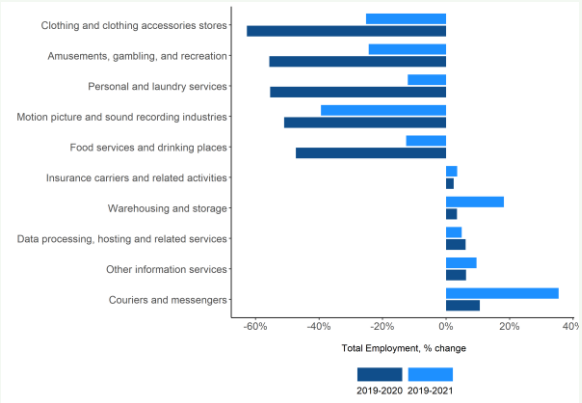
In addition, similarly to the EU, the impact has been heterogeneous across sectors. In the art, entertainment and recreations sectors, the workforce was reduced by more than half as 1.2 million people lost their jobs in April 2020, compared to a year earlier. A loss of about 45% in the total employment over the same period has also been recorded in the accommodation and food services industries, where about 6.5 million people were laid off. Conversely, the finance and insurance sector, characterised by a high degree of teleworkability, increased the number of people employed by about 135 000 jobs.

Chart 1 shows the sectors registering the highest decrease and increase in employment between 2019-2020 and 2020-2021. Among the most hit sectors, clothing and clothing accessories stores and amusement, gambling, and recreation industries lost, respectively, 62% and 55% per cent of their labour force from April 2019 to April 2020. In 2021, they are still lagging behind the 2019 levels by more than 20 percentage points. The motion picture and sound recording industries instead recorded a slightly lower drop (-50%), and still lag 40 percentage points behind 2019 values. On the other hand, other industries saw a considerable increase. In particular, the total employment of couriers and messengers increased by more than 10% at the beginning of the crisis. In March 2021 it records 280 000 more employed than in April 2019, an increase of about 35%. Similar dynamics can also be seen for employment in the warehousing and storage sector, reflecting the higher number of online purchases driven by the crisis. ICT-related jobs also show positive trends, recording a growth of more than 5% from April 2020 to April 2021.

Chart 1

Sectoral variation in the impact of COVID-19 on employment is high in the US, similarly to the EU

Total employment, year-to-year variation (%): top and bottom 5 sectors, excluding sectors employing fewer than 100,000 individuals (NAICS level 3).



Note: Data for 2019 and 2020 are from the month of April (seasonally adjusted). Data for 2021 are from the month of March (seasonally adjusted).

Source: US Bureau of Labor Statistics

([1]) Alon, T. M., Doepke, M., Olmstead-Rumsey, J., & Tertilt, M. (2020)

3. CATEGORISATION OF WORKERS

The impact of the crisis on employment depends on some key characteristics of occupations. This section analyses three characteristics of jobs in times of COVID-19: 1) critical vs. non-critical occupations, 2) technical teleworkability, and 3) social interaction. These aspects are analysed through indexes built on occupational groups defined at the level of detailed occupations (ISCO 3-digit level), allowing for identification of jobs that have been more at risk of disruption during the pandemic. This section first introduces the distinction between critical and non-critical workers (Section 3.1). It then presents aspects of technical teleworkability and social interaction (Section 3.2). Finally, it proposes a classification of workers in eight categories and shows both the distribution and size of employment in 2019, as well as changes in employment between 2019 and 2020 for those eight categories (Section 3.3).

3.1. 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' ([108]). In other words, critical occupations have played a key role during the COVID-19 pandemic, constituting those that perform essential activities. During the first lockdown phase, several countries strictly categorised sectors into essential and non-essential. Non-essential activities were 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 are identified based on the Commission Communication on free movement of workers during the COVID-19 outbreak ([109]). The Communication defines a list of 'key workers' that should exercise their critical occupations without undue hindrance since they perform activities related to essential services. In line with the recent literature on the topic ([110]), the corresponding list of occupations has been translated into a list of ISCO 2 and 3-digit occupations. This categorisation provides a distinction between workers that were allowed to continue working while being physically present at the workplace even under the strictest containment measures, and those who were not ([111]).

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 the fields above; personal care workers, agricultural, fishery and animal producers workers (skilled and not), drivers and mobile plant operators, elementary workers and refuse collectors.

3.2. Technical teleworkability and social interaction

Telework has played an important role during the COVID-19 pandemic. It has favoured business continuity, thus reducing potential risks of job disruption. The use of telework in the EU has been extensively analysed ([112]). The analysis in this section relies on a teleworkability index ([113]), which classifies jobs as either technically teleworkable ([114]) or not, based on the extent of physical interaction involved in a range of physical tasks.

Different occupations may require varying degrees of social interaction ([115]). The social interaction index ([116]) used in this section serves as an additional qualification of the assessment of technical teleworkability. 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 these cases, carrying out tasks remotely is still possible, but more difficult and it is probably associated with lower quality of the service provided when teleworking.

Both the technical teleworkability and the social interaction indexes range from zero to one. An

([108]) Basso et al. (2020).

([109]) Communication from the Commission (2020/C 102 I/03) available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020XC0330(03)&from=EN

([110]) Fasani and Mazza (2020).

([111]) Starting from this Communication, workers exercising critical occupations are identified as those working in the following ISCO 2- and 3-digit categories: 213 Life science professionals; 214 Engineering professionals (excluding electrotechnology); 215 Electrotechnology engineers; 22 Health professionals; 23 Teaching professionals; 25 Information and communications technology professionals; 31 Science and engineering associate professionals; 32 Health associate professionals (except 323 Traditional and complementary medicine associate professionals); 35 Information and communications 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.

([112]) European Commission (2020), Labour Market And Wage Developments in Europe Annual Review.

([113]) Sostero et al. (2020).

([114]) Technical teleworkability is defined as 'not having to physically manipulate objects/people/machinery' in Sostero et al.(2020).

([115]) Social interactions tasks are: selling or influencing others, training and teaching others, assisting and caring for others, performing for or working directly with the public, coordinate the work and tasks of others. Social interaction is not exactly the same as physical proximity, which has been extensively analysed European Commission (2020). Physical proximity is relevant in view of the disease exposure (which is not the focus of this report). 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 tasks framework developed for occupational analysis.

([116]) Idem.

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 indexes into binary or 'dummy' variables: occupation teleworkable or not; occupation with a low or high level of social interaction ([117]).

3.3. Categorisation of workers on the three indexes combined

A joint analysis of technical teleworkability and social interaction allows the classification of occupations into four categories. These are:

i. **Not teleworkable, high social interaction** (e.g. health professionals ([118]) and associate professionals, carers as well as service and sale workers);

ii. **Not 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).

In addition, each of the above four categories is also divided into critical and non-critical occupations, generating eight categories in total. Crossing the technical teleworkability and social interaction indexes with the binary definition critical vs. not critical occupation, provides reconciliation for the two distinct aspects. On the one hand, critical occupations consist of jobs in essential sectors that were not shut down. On the other, teleworkable occupations are presumably less exposed to the consequences of the pandemic, since they could continue to operate despite the lockdown measures. The outcome of this classification is presented in *Chart 2.5* showing the distribution of employment across the eight categories in the year before the pandemic ([119]).

Each occupation is represented by a circle whose dimension is proportional to the number of individuals employed in that occupation in 2019. The first panel is clearly less populated, as few occupations were defined as critical. Looking at the positions of the circles in the two panels above, it emerges that for both critical and non- critical occupations there is a concentration of occupations at technical teleworkability index values close to zero, meaning that a high proportion of employment cannot be performed remotely at all.

Critical occupations tend to be less teleworkable than non-critical ones. *Chart 2.5* shows the occupations classified in the three dimensions. Many non-critical occupations could continue operating during the pandemic, thereby cushioning the adverse impact on employment. A distinction needs to be made between occupations requiring low and high social interactions, since teleworkable occupations with high social interaction can be performed remotely, but often with a loss of quality ([120]). This is clearly illustrated by teaching professionals in primary schools. Overall, critical occupations are found to be less frequently teleworkable.

([117]) Ibid.

([118]) While health professionals are considered an occupation that is not teleworkable for the purpose of this analysis, it should be noted that the use of telemedicine did increase substantially during the pandemic. Telemedicine allows health care professionals to evaluate, diagnose and treat patients at a distance using telecommunications technology.

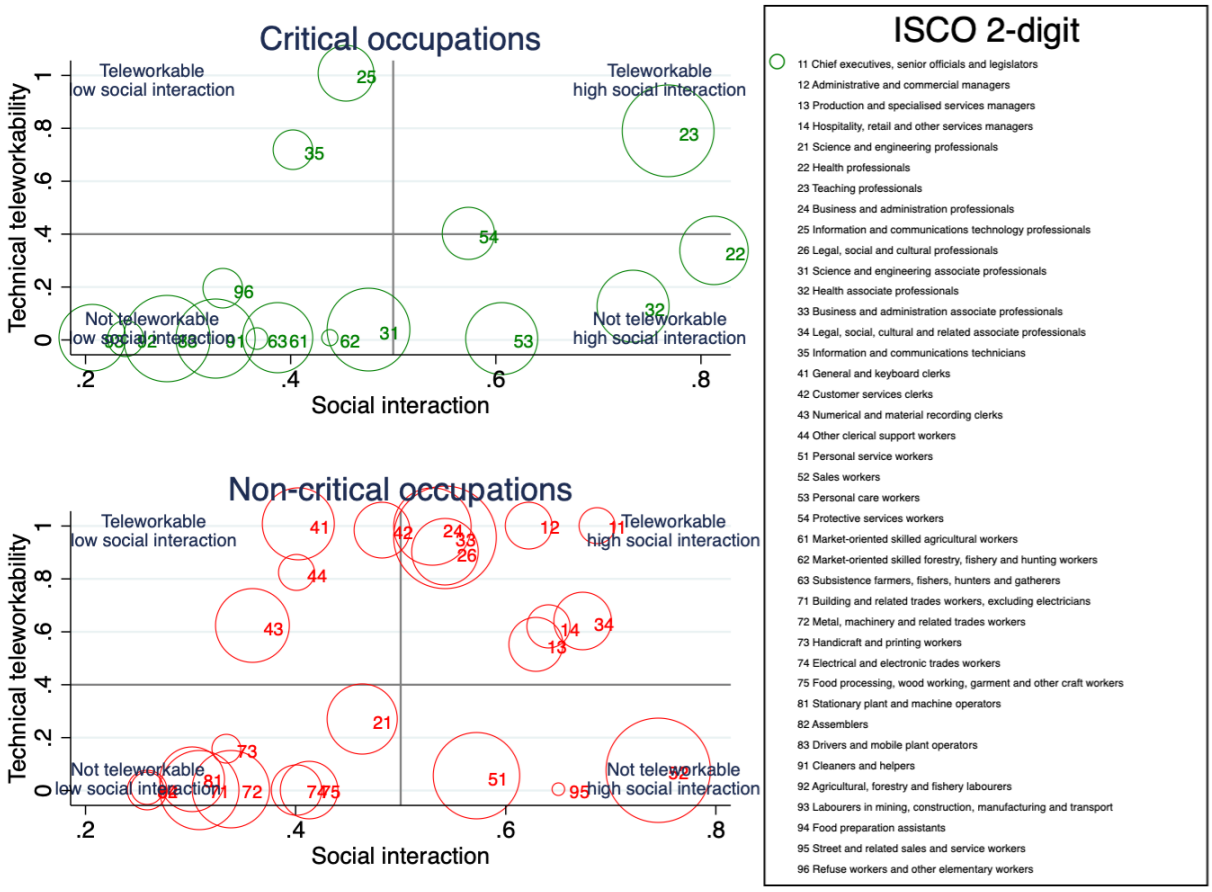
([119]) Sostero et al. (2020) provide indexes computed at the ISCO 3-digit level; these indexes were merged with information from both special extractions on EU-LFS provided by Eurostat for 2019 and 2020, and with EU-LFS microdata for 2019. This ISCO level is normally the level of disaggregation available in EU-LFS microdata and special extractions. In some cases, the indexes needed to be applied at a more aggregate occupation level due to lack of more detailed information, especially in the microdata (i.e. for MT, for which information is only available at the 1-digit level, and for BG, PL, SI, for which it is available at the 2-digit). In such cases, the technical teleworkability and social interaction indexes computed at the ISCO 3-digit level were aggregated to the 1- or 2-digit level based on the relative weight of employment in 3-digit occupations in each Member State in 2019, which is available from Eurostat special extractions. This procedure is in line to the one used by Sostero et al. (2020) to aggregate from 5-digit Codici Professionali into 3-digit ISCO categories.

([120]) Sostero et al. (2020).

Chart 2.5

Critical jobs are generally less teleworkable than non-critical jobs

Distribution of employment across different occupational groups, Q2 2019, EU27



Note: The top panel corresponds to critical occupations and the bottom one to non-critical occupations. Within each panel, the chart is divided into four quarters corresponding to the four categories defined in the chapter. The grey lines on the y and x axes represent the thresholds of the technical teleworkability and social interaction indexes. These thresholds allow the definition of four quarters. Critical occupations are identified based on the categorisation provided by the Commission Communication on Guidelines concerning the exercise of the free movement of workers during COVID-19 outbreak. The size of the bubble represents the size of employment in the corresponding occupation in 2019, based on data from a Eurostat special extraction. Data refer to the age group 20-64. Armed forces are not taken into account in the analysis.

Source: Calculations by the European Commission's Joint Research Centre, based on a Eurostat special extraction on EU-LFS data for 2019 and on indexes produced in Sostero et al. (2020).

Click here to download chart.

The eight categories show a very diverse evolution in employment between 2019 and 2020. This is what emerges from *Chart 2.6*, which shows the percentage change in employment in the second and fourth quarter of 2020 with respect to the corresponding quarter of 2019, as well as the overall annual change (2019-2020).

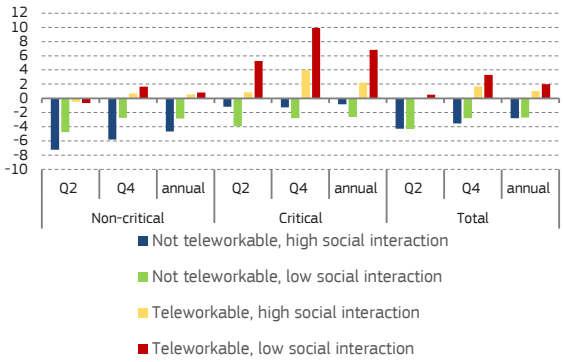
Occupations that are critical and teleworkable, and that require low social interaction, are the only ones with substantial positive growth rate in employment (red bars, right in *Chart 2.6* under critical). This is the case for the second and fourth quarter of 2020, and for the annual values, with the highest increase in the fourth quarter. The employment growth registered was driven by information and communications technology professionals (software and applications developers, and analysts and database and network professionals), though a smaller increase was registered also for Information and communications technology operations and user support technicians. The employment growth in this category can be explained by the fact that these occupations carry out essential activities whilst continuing to operate despite the lockdown measures. They can be performed remotely from a technical point of view and require a low level of social interaction, therefore implying a limited loss of quality in the tasks performed. These occupations might have also been in higher demand due to increased resort to telework during the pandemic.

Employment in non-critical occupations that are teleworkable and require low levels of social interaction remained relatively stable (red bars, right in *Chart 2.6* under non-critical). This group includes finance, legal, financial and mathematical professionals (which all registered an increase in employment between 2019 and 2020, between 2.5 % and 5.8 %, stronger in the second part of the year) and a variety of clerical support workers (from general office clerks and numerical clerks, for which employment was rather stable, to secretaries and customer services clerks, for which it decreased).

Chart 2.6

Diverse employment evolution of jobs in 2020 depending on their level of teleworkability, social interaction, and on whether they are critical or not

Employment change in Q2, Q4 and annual 2020 (compared to the same quarter in 2019) by occupational category, EU26



Note: Critical occupations are identified based on the categorisation provided by the Commission Communication on Guidelines concerning the exercise of the free movement of workers during COVID-19 outbreak. Data refer to the age group 20-64. Armed forces are not taken into account in the analysis. An absence from work is classified as a 'temporary lay-off' if it is due to slack work for technical or economic reasons.

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

Click here to download chart.

Similarly, among teleworkable jobs with high social interaction only critical occupations experienced a positive employment growth rate (yellow bars, second from the right in *Chart 2.6*). These are jobs that can be defined as teleworkable from a technical point of view, but that suffer a loss in quality if performed remotely, due to the high social interaction required. This category includes mainly teaching professionals.

Non-teleworkable occupations – with both high and low levels of required social interaction – experienced instead a decline in employment (blue and green bars, left and second from left respectively in *Chart 2.6*), with a negative percentage change in both quarters and at annual level, and for both subcategories of critical and non-critical occupations. These indeed represent occupations that cannot be performed remotely. For critical occupations, the decline was less pronounced, especially for the first category.

Among non-teleworkable occupations that require high social interaction, critical ones showed a much smaller employment decrease than non-critical ones (blue bars, left, in *Chart 2.6*). Critical occupations in this group include among others, health professionals and associate professionals such as doctors and nurses, personal care workers, childcare workers. While personal care workers (which include childcare workers and teachers' aides, and personal care workers in health services) saw a decrease in employment of around 3.4% in 2020, health professionals overall saw an increase in employment of around 1%. These workers were at the frontline during the pandemic given that they performed essential activities that could not be done remotely and require high level of social interaction, thus exposing them to a higher risk of contagion than the average worker. Among non-critical occupations, the employment drop was stronger, with sales workers registering a decrease of nearly 3 % between 2019 and 2020, and waiters and bartenders decreasing by 16 %.

Non-teleworkable, non-critical occupations are not only the ones with the sharpest drop in employment, but also those with the highest incidence of absences from work due to temporary lay-offs (*Table A1.1 in Annex 1*). In particular, non-critical, non-teleworkable jobs requiring high levels of social interaction registered more than 19 % of this kind of absence in the second quarter of 2020, and an average annual value throughout 2020 of 7.7 %. Overall, individuals in non-critical occupations were twice as likely to be absent from work due to temporary lay-offs than those in critical occupations.

Overall, the strongest protection against job losses during the lockdown was teleworkability. Job losses concentrated on non-critical jobs, especially those that are not teleworkable and require high social interaction. Among critical occupations, teleworkable jobs have even increased, especially those requiring limited social interaction.

Box 2.2: Methodology of the multinomial logistic regressions

The analysis is based on a multinomial logistic regression, which allows predicting a nominal dependent variable with more than two categories, given one or more independent variables. This type of regression can be used, for instance, to estimate the relationships between individual choices or categorical placement, and independent variables, which serve as predictor variables.

In this case, the dependent variable is the occupation group consisting of the eight alternative categories defined by teleworkability level and critical occupations and described above. The independent variables include both individual socio-demographic and job characteristics. The individual socio-demographic characteristics are the following: gender (woman or man), age (classes 20-34, 35-54, and 55-64), country of origin (native, born in EU, born outside EU), and level of education (low, medium, and high). The job characteristics consist of contractual arrangements (employee with temporary contract, employee with permanent contract and self-employed) and working time arrangements (part-time and full-time). For each variable, one class is used as baseline that is as reference point to calculate the probability. Among the classes listed above, the underlined ones are those used as baseline, and hence not appearing in the list of characteristics in the charts.

The model allows to calculate the ratio of the probability - that is the relative risk or odds - of being in one category of the dependent variable over the probability of choosing another category. Based on the ratios, one can also estimate the predicted probability - that is the marginal effect - of being in each category of the dependent variable at each class of a given independent variable, holding all other independent variables in the model at their means. In the charts, marginal effects are shown. They represent the average change in the probability of being in each occupation category, associated to each class of socio-demographic and job characteristics, with respect to the baseline, omitted, class. For example, since males are the baseline class of the gender variable, the marginal effect represents the average change in the probability of being in each occupation category, for females with respect to males. All estimated marginal effects are statistically significant. Country fixed effects are also included in the model but not shown.

Multinomial logistic regression shows large differences in socio-demographic and occupational characteristics of workers belonging to the eight categories. Regarding critical workers, the characteristics associated with a higher probability of being in low-skilled ([121]) critical occupations ([122]) are identified as the following (orange dots in *Chart 2.7*): women (compared with men), migrant from the EU and outside the EU (compared with native), low and, – to a lesser extent – medium level of educational attainment (compared with higher education), being employed on a temporary contractual basis (compared with permanent workers), and part-time work (compared with full-time work). For example, low educated workers are approximately 42 percentage points more likely to work in a low skilled critical occupation, while medium educated workers are approximately 18 percentage points more likely to work in a low skilled critical occupation than those with higher education. The characteristics associated with a higher probability of being in medium-skilled critical occupations are (light blue dots in *Chart 2.7*): being male, having low and medium educational attainment in equal measure, and being self-employed. Finally, the characteristics that predict a higher probability of being in high-skilled critical occupations (green dots in *Chart 2.7*) are being native, highly educated and an employee with a permanent contract.

Hence, the probability of working at each skill level of critical occupations seems to be driven by education level, contractual conditions, country of birth and gender. Low-and medium-educated critical workers are more likely to be employed in low- and medium-skilled occupations. Migrants are more likely to work in low-skilled occupations than natives. Finally, women in critical occupations are more likely than men to work in low- and high-skilled ones.

([121]) The skill levels of the occupations are defined as follows. High-skilled occupations include ISCO 1-digit occupations at skill levels 3 and 4, i.e. 1 Managers; 2 Professionals; 3 Technicians and associate professionals. Medium-skilled occupations include jobs at skill level 2, that is 4 Clerical support workers; 5 Service and sales workers; 6 Skilled agricultural, forestry and fishery workers; 7 Craft and related trades workers; 8 Plant and machine operators, and assemblers. Low-skilled occupations are those at skill level 1, i.e. 9 Elementary occupations.

([122]) As a reference, low-skilled critical occupations are for example elementary occupations, while examples of those in high-skilled critical occupations are doctors.

Chart 2.7

Education level, contractual conditions, country of birth and gender drive the probability of working at each skill level of critical occupations

Socio-demographic and occupational characteristics of critical workers by skill level of the occupation, 2019, EU27

Note: Critical occupations are identified based on the categorisation provided by the Commission Communication on Guidelines concerning the exercise of the free movement of workers during COVID-19 outbreak. Data refer to the age group 20-64. Armed forces are not taken into account in the analysis. The skill levels of the occupations are defined as follows: High-skilled occupations include ISCO 1-digit occupations at skill levels 3 and 4, i.e. 1 Managers; 2 Professionals; 3 Technicians and associate professionals. Medium-skilled occupations include jobs at skill level 2, that is 4 Clerical support workers; 5 Service and sales workers; 6 Skilled agricultural, forestry and fishery workers; 7 Craft and related trades workers; 8 Plant and machine operators, and assemblers. Low-skilled occupations are those at skill level 1, i.e. 9 Elementary occupations.

Source: Calculations by the European Commission's Joint Research Centre, based on elaborations on 2019 EU-LFS microdata and on indexes produced in Sostero et al. (2020). The coefficients of the various classes of socio-demographic and occupational characteristics are estimated by a multinomial logit model (the baseline class being men, aged 35-54, native-born, with high level of education, working as full-time employee with a permanent contract) They represent the marginal effect, i.e. the average change in the probability of being at each skill level of critical occupations, associated to that class. For example, women are approximately 5 percentage points more likely than men to be in a low skilled critical occupation, and 9 percentage points less likely than men to be in a medium skilled one.

Click here to download chart.

An analysis of socio-demographic and occupational characteristics reveals that gender and education are the characteristics with the highest dispersion (*Chart 2.8*). The most distinct patterns are as follows:

For non-critical occupations:

– Characteristics associated with a higher probability of being in the 'Not teleworkable, high social interaction' category are being a woman, aged 20-34, self-employed and having a low and medium level of educational attainment. For example, self-employed workers are approximately 12 percentage points more likely than employees to be in non-critical occupations of this category. For employees on temporary contracts, no relevant difference can be observed compared to those with open-ended contracts.

– Characteristics associated with a higher probability of being in the 'Not teleworkable, low social interaction' category are being male, having a low and medium level of education, and a full-time job.

– Characteristics associated with a higher probability of being in the 'Teleworkable, high social interaction' category are being native and having a high level of education.

– Characteristics associated with a higher probability of being in the 'Teleworkable, low social interaction' category are being a man, native, and having a high level of education.

For critical occupations:

– Characteristics associated with a higher probability of being in the 'Not teleworkable, low social interaction' category are being male and/or a migrant, having a low and medium level of education, and – to a lesser extent – being on a temporary contract.

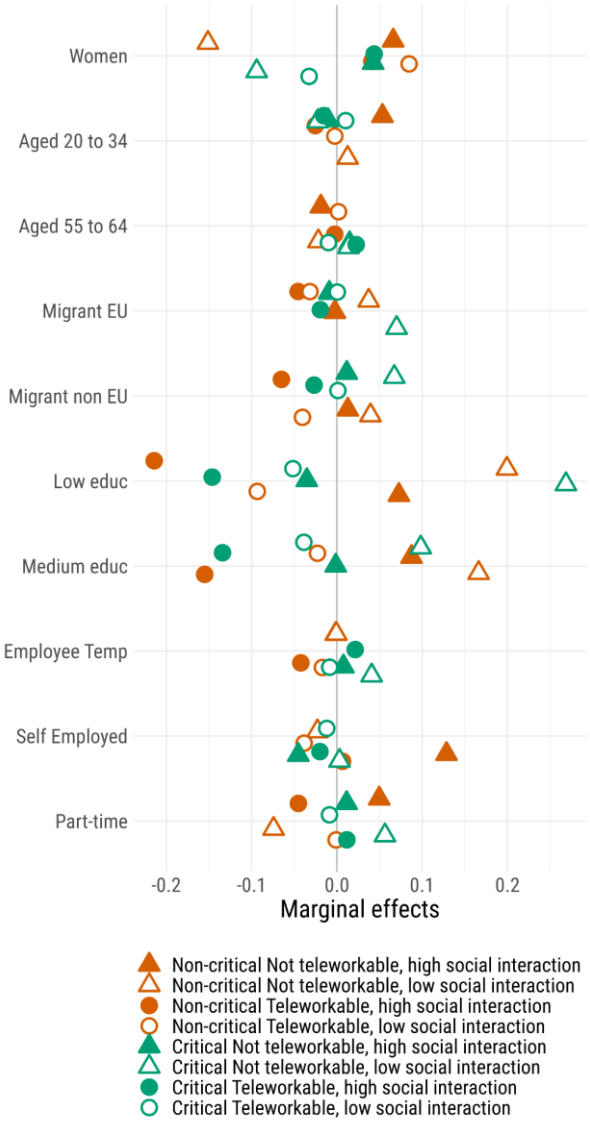
– Characteristics associated with a higher probability of being in the 'Teleworkable, high social interaction' category is: having a high level of education.

– **Overall, the level of education, country of birth and gender are the most relevant characteristics for predicting who is more or less likely to be in a teleworkable occupation.** Age and contractual conditions do not seem to play a major role. This is particularly true for non-critical occupations, which were the worst affected by a decline in employment in Q2 of 2020 compared with Q2 of 2019. Women are less likely than men to work in non-teleworkable occupations requiring low social interaction, which were severely affected during the pandemic. Non-native as well as low- and medium-educated workers, on the other hand, are more likely to be employed in these occupational groups. Low- and medium-educated workers are less likely to work in critical teleworkable jobs, which were the only ones that displayed growth between 2019 and 2020.

Chart 2.8

Gender and education are the characteristics with the highest dispersion among the eight occupational groups

Socio-demographic and occupational characteristics of individuals employed by category and critical versus non-critical occupations, 2019, EU27



Note: Critical occupations are provided by the Commission Communication on Guidelines concerning the exercise of the free movement of workers during COVID-19 outbreak. Data refer to the age group 20-64. Armed forces are not taken into account in the analysis.

Source: Calculations by the European Commission's Joint Research Centre, based on elaborations on 2019 EU-LFS microdata and on indexes produced in Sostero et al. (2020). The coefficients of the various classes of socio-demographic and occupational characteristics are estimated by a multinomial probit model (the baseline class being men, aged 35-54, native-born, with high level of education, working as full-time employee with a permanent contract). They represent the marginal effect, i.e. the average change in the probability of being at each skill level of critical occupations, associated to that class. For example, women are approximately 15 percentage points less likely than men to be in non-critical occupations of the category 'Not teleworkable, low social interaction', and 9 percentage points more likely than men to in non-critical occupations of the same category.

Click here to download chart.

Box 2.3: The impact of the COVID-19 crisis on the German labour market – national evidence

Whereas the preceding analyses do not include data for Germany, several national analyses point towards patterns that are largely consistent with the findings based on the EU Labour Force Survey.

• In Spring 2020, just under 20% of the working population in Germany were working reduced hours (on "short-time work") and some 35% were working partially or completely from home. ([1])

• Workers with higher incomes and a higher level of education were more likely to use the opportunity to work from home, whereas those with a lower level of education were more likely to be on short-time work. ([2])

• Sectors with a high share of workers on 'Minijobs', such as catering and the event industry, have been strongly affected by job losses related to the COVID-19 crisis. In June 2020, there were 85 000 or 12% fewer such workers compared to one year earlier. This reduction since the crisis contrasts with the strong expansion of Minijobs between 2003 and 2019. ([3])

([1]) Schröder et al. (2020).

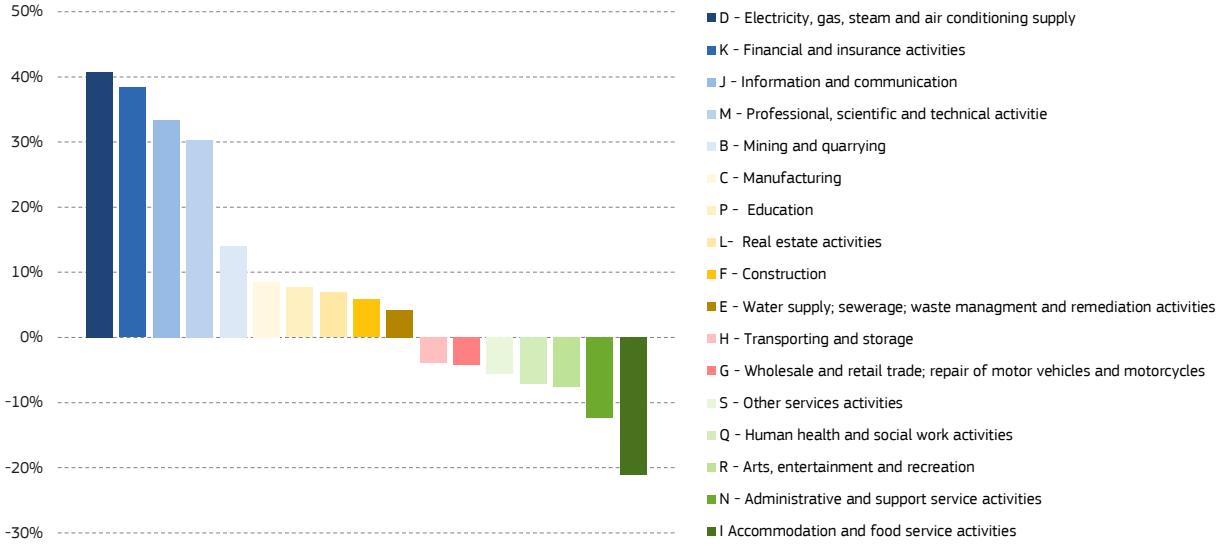
([2]) Möhring et al. (2021), Schröder et al. (2020).

([3]) Grabke et al. (2020)

Chart 2.9

Some of the low-paid sectors, such as 'accommodation and food service activities', have been among the most hit by the COVID-19

Wage gaps compared to median wage at NACE 1-digit level, EU, 2019



Note: Monthly wages in full-time equivalents are used to compute wage gaps. 2014 data have been uprated to 2019 by using the labour cost index by NACE (lc_lci_r2_a). Sectoral wage gaps are calculated as the difference between the sectoral median wage and the overall median wage, divided by the latter

Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on Eurostat estimations of sectoral median wages on 2014 Structure of Earnings Survey data.

Click here to download chart.

4. AN ANALYSIS OF WAGES IN THE MOST AFFECTED SECTORS AND OCCUPATIONS IN THE LIGHT OF COVID-19

Low-paid sectors have been among those most hit by the COVID-19 shock. For instance, workers in the 'accommodation and food service activities' (which include hotels, restaurants, beverage service activities and event catering) used to earn a median wage 21 % below the EU27 median wage even before the pandemic (*Chart 2.9*). Lower wages compared to the median are also found in the 'arts, entertainment and recreation' sector (negative wage gap of 8 %) which has also been strongly impacted by the containment restrictions imposed across the EU. This evidence is based on pre-COVID-19 data (2019). Given the liquidity constraints that many firms in these sectors have been facing since the start of the pandemic, the negative wage gaps are likely to remain at the same level and even exacerbate.

Among low-paid activities, some played a crucial role in the management of the COVID-19 pandemic. For instance, 'human health and social work activities', which is a sector composed of critical workers by 74 %, is also characterised by a wage that is 7 % below the median wage ([123]). Similarly, 'transport and storage' a sector that was considered essential to deliver basic goods and was, in some areas, kept open and running as usual despite difficulties (e.g. postal and courier activities, land transport and transport via pipelines) and in other areas suffered a strong reduction in demand (e.g. air transport). Its 2019 wages are approximately 4 % below the median.

By contrast, some activities that showed resilience during the COVID-19 pandemic are characterised by wage premia. This is the case for 'electricity, gas, steam and air conditioning supply' a sector that leads in terms of high wages, with a positive wage gap of 41 %, also due to the high level of skills required. Likewise, 'financial and insurance activities' and 'information and communication' have a wage premium of 38 % and 33 % respectively.

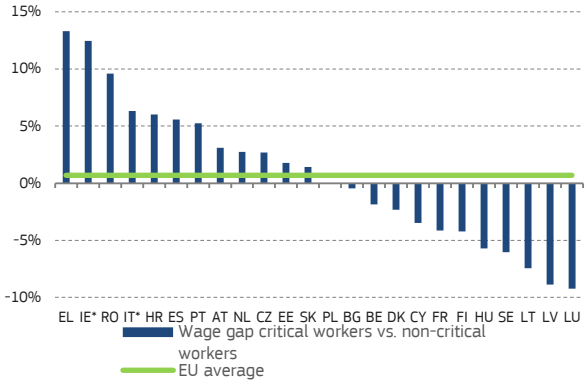
Given the highly diverse composition of critical workers, assessing the wage gap between critical and non-critical workers is not straightforward. *Chart 2.10* shows that for the EU average critical workers have a median hourly wage almost equal to the median hourly wage of non-critical workers (with non-critical workers earning 0.1 % less on average). Nevertheless, in some Member States such as Greece, Romania, Croatia, Spain and Portugal, critical workers earn a significantly higher median hourly wage compared with those in non-critical occupations. The opposite situation is true in Luxembourg, Latvia, Lithuania, Sweden and Hungary.

([123]) The 'human health and social work activities' (sector Q according to NACE 1-digit definition) comprises 42 % health professionals and associate health professionals (which is an important ISCO 2-digit category among the group key workers). Personal care workers (another ISCO 2-digit category included among key workers) account for 21 % of all employees in this sector. Overall, all categories of 'key workers' represent 74 % of the workforce in 'human health and social work activities'.

Chart 2.10

Wage gaps of critical workers are very different across Member States and at EU level they are almost equal to the median hourly wage of non-critical workers

Wage gap of critical workers (compared with non-critical workers), 2019



Note: Median hourly wages are used to compute the wage gap. The wage information in EU-SILC is available at annual level. Hourly wages are calculated as annual wages divided by annual hours worked. Annual gross wages are available in the survey (variable PY010G), while annual hours worked are derived as total weeks worked per year (variables PL073 and PL074) multiplied by total hours worked per week (variable PL060). Data for DE, MT and SI are not available at ISCO 2-digit level, therefore no information is available for these Member States. Data for IT and IE refer to 2018.

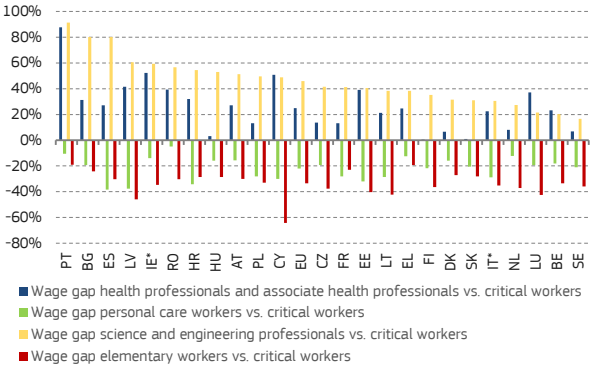
Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU-SILC 2019 and 2018 users' database.

Click here to download chart.

Chart 2.11

Among critical workers, some are low-paid (e.g. elementary workers) and others are highly paid (e.g. engineering professionals)

Wage gap for selected categories (ISCO 2-digit) of critical workers compared to all critical workers, 2019



Note: Median hourly wages are used to compute the wage gap. The wage information in EU-SILC is available at annual level. Hourly wages are calculated as annual wages divided by annual hours worked. Annual gross wages are available in the survey (variable PY010G), while annual hours worked are derived as total weeks worked per year (variables PL073 and PL074) multiplied by total hours worked per week (variable PL060). Data for DE, MT and SI are not available at ISCO 2-digit level, therefore no information is available for these Member States. Data for IT and IE refer to 2018.

Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU-SILC 2019 and 2018 users' database.

Click here to download chart.

Within the group of critical workers, there are very low-paid workers and higher-paid ones. Workers in elementary occupations (such as cleaners and helpers) and those in personal care (like childcare workers and teachers and personal care workers in health services) earn respectively 34 % and 22 % less than the rest of critical workers at EU level (*Chart 2.11*). On the other hand, science and engineering professionals and workers in healthcare occupations have wage premia of 46 % and 25 %, respectively, compared to all critical workers at the EU level. In some Member States, the wage disparities among critical workers are much higher than the EU average. In Portugal, for example, science and engineering professionals earn 91 % more than the median hourly wage of all key workers together, and personal care workers have a wage premium of 88 %. Wage premia are also above 60 % for science and engineering professionals in Bulgaria and Spain, while in Cyprus elementary workers have wages more than 60 % below the median ([124]).

([124]) European Commission (2020) presents an interesting and complementary analysis classifying occupations by their physical proximity, ability to telework and pay.

Box 2.4: Methodology for the EUROMOD simulations

The simulations based on EUROMOD ([1]), employ aggregate labour statistics on the share of workers experiencing transitions to either unemployment or monetary compensation ([2]) schemes to mimic the labour market conditions of 2020 in the underlying EU-SILC 2018 data. ([3])

The simulation compares two alternative versions of the 2020 income distribution; one in which labour market transitions to unemployment and/or temporary lay-offs did not occur and one in which they occurred and monetary compensation schemes were implemented (and are therefore simulated using EUROMOD). Holding policies constant, this comparison allows to focus on the extent to which 2020 policies protected the incomes of the households that underwent these labour market changes.

First, the simulation compares market incomes and disposable incomes of the "baseline" (2020 tax benefit systems without labour market changes) to the "shock" (2020 tax benefit systems with labour market changes). Second, the Income Stabilisation Coefficient (ISC) is calculated, in the spirit of Dolls et al. (2012). ([4])

$$ISC=1-(\sum \Delta Y\hat{}D)/(\sum \Delta Y\hat{}M))$$

Where $\sum \Delta Y\hat{}D$ indicates the aggregate (country level) difference in disposable income and $\sum \Delta Y\hat{}M$ indicates the aggregate difference in market incomes. ([5])

The Income Stabilisation Coefficient (ISC) indicates the share of a shock that is absorbed by the tax-benefit system. An ISC=100 indicates no change in disposable income despite a change in market income. An ISC=0 indicates that disposable income changed exactly as much as the market income, hence the shock is fully transmitted to disposable income without any absorption. In addition, the ISC can be disaggregated to study the stabilising properties of various tax-benefit instruments, namely taxes and social insurance contributions, monetary compensation schemes, unemployment benefits, other benefits and pensions. Moreover, disposable income in the "shock" distribution can be analysed in further detail to assess the role that each tax-benefit component plays in the formation of the household disposable income in the aftermath of the pandemic. ([6]) Finally, the simulations provide at-risk-of-poverty rate estimates (both those fixing poverty lines to their "baseline" values; and those with a "floating" poverty line based on the newly simulated income distribution) and Gini coefficients of income inequality.

A number of caveats should be kept in mind when interpreting these modelling outcomes. First, in most of the countries, the statistics used to simulate transitions into monetary compensation schemes refer to the first three quarters of 2020 (two quarters for self-employed workers), although data might cover different time-periods in some countries. Second, the level of disaggregation of these statistics differs across countries, implying that the granularity of the simulation of labour transitions related to the pandemic may vary across countries. ([7]) Third, the simulations randomly identify workers within socio-demographic groups to undergo labour market transitions. This adds uncertainty to the distributional findings of the model, especially in the case of transitions to unemployment, since the relevant statistics are only available with a high level of aggregation. Ideally, this issue would be alleviated by basing the identification of observations transiting into unemployment (or monetary compensation schemes) on characteristics highly correlated with household income. Finally, a problem of over-simulation of monetary compensation amounts might arise because of the interaction between EU-SILC data and country-specific rules simulated in EUROMOD. For instance, in cases where a minimum monetary compensation amount is determined by law and is based on the minimum wage, this could lead to over-simulating the compensation for individuals that in EU-SILC are observed to earn less than the minimum wage. Furthermore, the simulations may not be able to fully account for lower social protection coverage of certain categories of non-standard workers, thereby overestimating monetary compensation received by these workers. Finally, the model does not take into account the redistributive impact of in-kind benefits, including healthcare. ([8])

([1]) EUROMOD is maintained and updated by the JRC in collaboration with EUROSTAT. This analysis is based on tax-benefit rules in place in 2020. Since the underlying data refer to 2017 incomes, monetary values of non-simulated tax and benefit instruments are uprated to the relevant years, making use of specific uprating factors. In addition, the microdata have been adjusted to account for the significant changes in the labour market conditions that occurred during 2020 because of the COVID-19 pandemic.

([2]) These schemes mainly include job retention schemes for employees, including short-time work, and monetary support for the self-employed.

([3]) Labour market transitions are modelled using two main sources of data: administrative data collected by EUROMOD national teams and developers, and data provided by Eurostat.

([4]) Dolls, M., Fuest, C., & Peichl, A. (2012). Automatic stabilizers and economic crisis: US vs. Europe. Journal of Public Economics, 96(3-4), 279-294.

([5]) The coefficient is reported in percentage terms (ISC*100).

([6]) All these indicators are provided for the entire population and by income quintile, fixing the quintile to which each household belongs to the "baseline" value (2020 without labour market changes).

([7]) See Christl et al. (2021) for more details.

([8]) See Expert Group on Health System Performance Assessment (2021) which explores the possible scenario of including the analysis of the redistributive impact of in-kind health benefits in EUROMOD.

5. THE CUSHIONING EFFECT OF TAX-BENEFIT SYSTEMS IN THE COVID-19 PANDEMIC

Regarding the socio-economic impact of the pandemic, European welfare states have played an important role in stabilising incomes. The policy effects include both those operating through the pre-existing tax-benefit systems and discretionary measures introduced by governments to address the exceptional socio-economic situation. The next section provides simulations of this stabilising effect, including the distributive impact ([125]). As such, it provides further detail compared to data presented in Chapter 1, notably in disaggregating the effect of different taxes and benefits on different parts of the income distribution, following the pandemic. The approach differs from the flash estimates presented in Chapter 1. Whereas the flash estimates aim at establishing expected trends between 2019 and 2020, the analysis presented in this section focuses on identifying the effects of the COVID-19 related shock in 2020.

Across Member States, households have faced major losses in market incomes during the pandemic ([126]). The market income reduction simulated across the EU amounted to 5.1 %. While all Member States experienced declines, these ranged from 20 % in Ireland to 1 % in the Netherlands (*Chart A2.1 in Annex 2*).

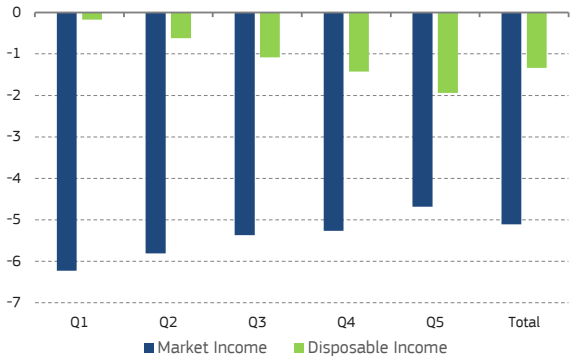
In general, the EUROMOD simulations suggest that low-income groups have faced relatively larger losses in market income. The reduction in market income generally shows a regressive pattern, with larger earning losses in the lower part of the income distribution than in the upper part. This is shown for the EU aggregate in *Chart 2.12*. The regressive pattern is less clear-cut in several Member States where total income reductions are relatively mild compared to the EU average (such as the Netherlands, Bulgaria, and Romania), but also in Greece, Croatia and Portugal, where the total income reduction is more severe than the EU average (*Chart A2.1 in Annex 2).*

Tax-benefit systems have protected households from disposable income losses during the pandemic, albeit to a different extent across Member States. The simulations suggest that the tax-benefit systems absorbed nearly three quarters (73.7 %) of the market income shock on average in the EU. At national level, the effect ranges from 46 % in the Netherlands (where more than half of the – comparatively minor – labour market shock was transmitted to disposable household incomes) to 93 % in Denmark (where the tax-benefit system provided nearly full protection to disposable household incomes from the shock).

Chart 2.12

Lower-income households faced the largest losses in market income, but relatively smaller losses in disposable income

Change in market and disposable incomes by income quintile (%)



Note: Quintile points are fixed to their baseline level.

Source: Calculations by the European Commission's Joint Research Centre using EUROMOD I3.0+, see Christl et. al (2021).

Click here to download chart.

Monetary compensation schemes played the main role in stabilising incomes, followed by reductions in taxes and social insurance contributions. Monetary compensation schemes absorbed the largest share of the market income shock (35.2 %). Reductions in taxes and social insurance contributions absorbed a further 28.3 %. The stabilisation provided by unemployment benefits is significant but smaller than that of monetary compensation schemes ([127]). This is in line with the smaller number of transitions from work to unemployment compared to transitions from work into monetary compensation schemes. Other benefits and pensions play a relatively minor role according to the simulations (see *Chart 2.13*).

Monetary compensation schemes play a larger role in protecting low incomes, whereas reductions in taxes and social insurance contributions mainly stabilise higher incomes. This pattern is due to benefit ceilings or lump sum components in monetary compensation received, as well as progressivity in the tax system. The role of 'other benefits' is larger at the bottom of the income distribution because of means-tested benefits, which are by definition targeted at low income households.

Overall, tax-benefit systems have stabilised the incomes of poorer households more than those of richer ones. The decomposition of the income stabilisation coefficient (ISC) by income quintile

([125]) This section is extracted from Christl, M, De Poli, S., Figari, F., Hufkens, T., Leventi, C., Papini, A.and Tumino, A. (2021) 'The cushioning effect of fiscal policy in the EU during the COVID-19 pandemic' JRC Working Papers on Taxation and Structural Reforms 2-2021. See the paper for details on the methodology employed and detailed results by Member States.

([126]) See Chapter 1 for analyses based on national accounts and ad-hoc surveys.

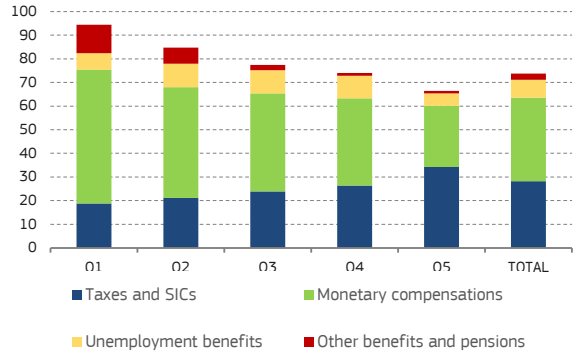
([127]) This is due to the effect of the job retention schemes. Short time working schemes need to be accompanied by income transfers (to avoid large declines in incomes).

confirms this. In several Member States ([128]), the ISC for households at the bottom of the income distribution exceeds 100 %, indicating a certain degree of overcompensation for the market income loss. This is driven by generous monetary compensation schemes (often with lump-sum components) which are in some cases exempt from social insurance contributions and/or personal income taxes or are not taken into account in the means testing of benefits.

Chart 2.13

Taxes and benefits played an important role in stabilising incomes, particularly at the bottom of the distribution

Income Stabilisation Coefficient by income quintile (%)



Note: Quintile points are fixed to their baseline level. 'SICs' refer to social insurance contributions.

Source: Calculations by the European Commission's Joint Research Centre using EUROMOD I3.0+, see Christl et. al (2021).

Click here to download chart.

Inequality in disposable income appears to have remained broadly stable during the pandemic, or even slightly decreased. The simulated Gini coefficients on disposable income decreased in most Member States. They remained stable in seven Member States (Austria, Bulgaria, Cyprus, Denmark, Finland, Germany, Slovakia and Sweden). Hungary is the only Member State where the simulations point to a slight increase in income inequality (*Chart A2.2 in Annex 2*) .

The simulated at-risk-of-poverty rates remain broadly stable or decrease slightly in the majority of Member States, partially in light of the decline of poverty lines ([129]). The simulated income at-risk-of-poverty rate for the EU decreases from 16.3 % to 15.9 %. Changes in AROP rates range from +0.2 pp in Latvia to -3.5 pp in Ireland. Seventeen Member States record decreases, five Member maintain stable rates, while five see small increases in poverty risk. This effect is partly linked to the decline in the median income and mainly to the strong income compensation at the bottom of the distribution (*Chart A2.3 in Annex 2*).

At-risk-of-poverty rates increase when using poverty thresholds fixed to pre-crisis levels. Simulations using a fixed poverty line lead to income poverty increasing on average from 16.3 % to 16.6 % in the EU. Changes in AROP rates range from +2.1 pp in Ireland to -0.7 pp in France. Simulated AROP rates with a fixed poverty line decrease in two Member States remain stable in one and increases in 24 Member States. The increase mainly reflects the drop in income levels related to the shock, whilst retaining a poverty line that reflects pre-crisis standards (*Chart A2.3 in Annex 2*).

Overall, the simulations suggest that tax-benefit systems substantially alleviated or offset the regressive nature of the shock. In sum, the simulations show a significant drop in market incomes due to the pandemic, with poorer households hit the hardest. However, the tax-benefit systems of 2020, which included additional discretionary fiscal measures to protect household incomes during the COVID-19 crisis, have partially cushioned the income drops and contained the regressive effect of the losses. Monetary compensation schemes played a key role in cushioning the effect of the crisis. For most Member States there is no evidence of (substantial) changes in income inequality. The simulations show slight increases in AROP rates following the shock when using baseline poverty lines. There are small decreases in income poverty when using the updated income thresholds, i.e. poverty lines based on the income distribution after the shock. However, several caveats apply (*Box 2.4*). Even if the initial impact of the crisis has been contained by the tax and benefit systems, further increases in income inequality might materialise when exceptional income support will be wound down.

6. Disadvantaged groups

Given the impact of the crisis across many different socio-economic dimensions, changes in the income situation of households due to the shock do not inform on any non-monetary poverty or exclusion they may be facing under these exceptional circumstances. The next section widens the scope of analysis to such impacts.

Specific groups encountered difficulties that were not directly related to income or the labour market. For older people, health care and social isolation were major concerns. For segregated minorities such as Roma, the pandemic exacerbated exclusion from education and social services. The pandemic also highlighted and reinforced pre-existing gender inequalities, including unpaid work and informal care (see Chapter 1).

The next sections focus on the impact of the COVID-19 pandemic on specific vulnerable groups and notably on low-income households and non-EU-born migrants, people with disabilities, and the homeless. Without aiming at exhaustiveness, the sections discuss ways in which the pandemic has had a disproportionately higher negative impact on these groups, both in terms of the direct impact of the COVID-19 virus via

([128]) Slovenia, Romania, Malta, Lithuania, Hungary, Croatia and France. See Christl. at al. (2021).

([129]) Where the poverty lines are based on updated median income following the shock.

infection, illness or death and secondary effects linked to measures to contain the spread of the virus. Finally, this section surveys, where possible, the measures adopted to cushion the negative impact of the crisis on each of these specific groups as well as the lessons learnt for policy intervention in the future.

6.1. Low-income and poor households

While providing useful insights, the employment situation and income distribution do not give the full picture of the socio-economic impact of COVID-19. Many impacts of the crisis pertain to social aspects, including health, which cannot be captured by employment and income indicators. In the context of the pandemic and the mitigation measures, certain pre-existing inequalities in living conditions become more cumbersome, such as poor housing conditions or lack of digital access. Even if they did not suffer job loss or income reductions during the pandemic, low-income households often faced more difficulties on these fronts. Moreover, specific groups that have been strongly affected by the pandemic such as homeless persons or those living in institutions are not covered in income; living conditions and labour surveys.

Low-income and poor households were more likely to live – and have to confine in – overcrowded homes or poor housing conditions. In 2019, 27 % of the population at-risk-of-poverty lived in overcrowded housing, compared to 16 % in the overall population ([130]). Relatively more poor households live in homes with a leaking roof, damp walls, floors or foundation, or rot in window frames or floor. In 2019, these issues affected 20 % of the income-poor households in the EU, compared to 13 % of the total population. In both cases, there is a steep gradient by income quintiles (*Table 2.2*). For other housing conditions, such as noise or darkness, the income gradient is less steep, but still present. These issues become more problematic in a context of confinement, with much more time spent in a home that serves multiple functions, such as the place to telework (if tasks allow) or a classroom for children and pupils. Moreover, the risk of contagion is significantly higher in crowded housing.

Table 2.2

Households with lower incomes are more likely to experience housing issues

Housing issues by income quintile, EU25, 2019

	Q1	Q2	Q3	Q4	Q5
Overcrowding	26	17	14	12	8
Leaking roof, damp walls, floors or foundation, or rot in window frames or floor	20	14	12	9	7
Noise from neighbours or from the street	22	19	18	17	16
Too dark, not enough light	8	6	5	4	3

Note: Income quintiles based on national income distributions. Ireland and Italy not included.

Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU-SILC 2019 users' database.

Click here to download table.

Poor and low-income adults had less access to the digital world, and hence fewer opportunities to overcome challenges of social distancing. Among EU adults in 2019, 15 % had no access to a personal internet connection at home, either via computer, tablet or smartphone. Among those at risk of poverty, this rate was substantially higher, 28 % There is a steep income gradient, as in the top income quintile, only 4 % lack such access ([131]). The reasons for the lack of access vary; they may be related to a lack of affordability (particularly for low-income groups), connectivity of the living area or personal preference. What is clear, however is that households that were not connected prior to the outbreak of the pandemic will have found it more difficult to adapt, including for telework, home schooling or the other services that relied on digital means.

Poor households' lack of private resources, including for transportation, may have posed additional challenges. During the pandemic, some households reduced their use of public transportation and preferred private cars instead, to lower the risk of infection. However, more than one third of income-poor households (35 %) do not have a private car, compared to 14 % among those that are not income-poor ([132]).

6.2. Migrants (mainly non-EU-born)

COVID-19 has so far hit migrant workers born outside the EU harder than native and EU mobile workers ([133]). This section reviews the health and labour market impacts of COVID-19 on migrants

([130]) These data refer to private households only, thereby do not inform on difficulties for persons living in institutions or other collective households where social distancing was a specific challenge.

([131]) Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU-SILC 2019 users' database. EU weighted average, income quintiles based on national income distributions. Ireland and Italy not included.

([132]) Source: idem.

([133]) For the purposes of this chapter, the terms 'extra-EU-born' and 'non-EU(-born) migrants' are used synonymously to denote all persons born outside the borders of EU27, regardless of their legal migration status or nationality. 'Native-born' or 'natives' include all persons born in the reporting Member State, regardless of the country of birth of their parents or of their nationality. 'EU-mobile' denotes the people born in an EU Member State other than the reporting one. These categories correspond respectively to the Eurostat codes 'NEU27_2020_FOR,' NAT' and 'EU27_2020_FOR' in EU-LFS data sets.

through a literature survey and own calculations based on LFS (quarterly and annual) data.

6.2.1. Primary impacts: health

Weaker health, socio-economic conditions and occupations with physical contact have resulted in higher infection risk among migrant and EU-mobile workers. Although, on average, non-EU migrants and the EU-mobile are younger than the native-born population (ca. 8 % vs. 12 % of 75-year-olds in the EU), some may have a poorer health record than their native-born peers upon arrival at their destinations, due to poorer healthcare conditions in their home countries or difficult conditions during transit ([134]). In addition, migrants with irregular residency or irregular or temporary employment status and/or lacking proficiency in the language of the host country may be less inclined to seek healthcare treatment in general ([135]). In the context of COVID-19, they may also be inadequately informed to seek a test or timely hospitalization. More importantly, migrants, and in particular those born outside of the EU, are overrepresented among groups faced with socio-economic disadvantages and are therefore more likely to live in conditions that both affect their overall health negatively and increase the risk of COVID-19 infection ([136]). This is also true for mental health ([137]). Furthermore, migrants are more likely to experience relative poverty (almost a 10 pp differential with natives) and to live in substandard accommodation, overcrowded dwellings and in higher-density housing infrastructure and neighbourhoods ([138]). Beyond that, migrant and EU-mobile workers tend to be disproportionately concentrated in occupations that cannot be undertaken from home (e.g. through the use of ICT) and therefore in less safe occupations (i.e. occupations that expose them to a higher risk of contagion) than natives ([139]). In 2018, migrant and EU-mobile workers accounted for one quarter of all workers in the hospitality sector in the EU and for a fifth of all workers in security and cleaning services – sectors with primarily high-contact occupations ([140]). Events during the first COVID-19 lockdown in the EU provided examples of the often difficult and unsafe working conditions of migrant and EU-mobile workers, notably in the meat-processing industry ([141]).

The health impact of COVID-19 on migrants born outside the EU can be discerned with more certainty through mortality rates than through infection data. Many Member States' authorities do not inquire about country of birth or nationality information when registering COVID cases or any other disease. The few data and other sporadic information that became available during the pandemic usually show a significant over-representation of migrants in the incidence of COVID-19 ([142]). Concerning COVID mortality, some Member States, such as France, the Netherlands and Sweden, which have recent data by place of origin but not by cause of death, observed uneven excess mortality by country of birth. In France, between March and April 2020, excess mortality – the difference in mortality compared with the same period in 2019 – among non-EU-born was twice that of native-born. The migrant groups that were most affected by excess mortality compared with the same period in 2019 were from North Africa (+54 % deaths), sub-Saharan Africa (+114 % more deaths) and Asia (+91 % more deaths), compared with 22 % excess mortality for the native-born ([143]). Higher excess mortality for migrants was even observed among the youngest cohorts. Non-EU migrants' excess mortality remained twice to four times higher than that of the native-born population, even when taking into account that non-EU-born are more likely to live in densely-populated areas that were more affected by the pandemic. In Sweden, the share of the deceased born outside the EU, varied between 12 % and 14 % over the 2015-19 period, reaching 16 % in March-April 2020. The number of deaths among persons aged 40-

([134]) This is highly time- and country-specific as the countries of origin of migrants are very heterogeneous. Nonetheless, WHO (2019) generalizes a higher likelihood of migrants and refugees to be healthy upon arrival. Nonetheless, living with poor sanitation and contaminated water before or during the migratory journey increase the risk of infections while the prevalence of certain diseases such as tuberculosis in migrants and refugees is likely to reflect rates in the host country.

([135]) In national systems where welfare and healthcare entitlements depend on regular(ised) residency status in addition to job-linked contributions, migrants may have more limited access to healthcare in comparison to natives; see Avato et al. (2010) and Fasani and Mazza (2020c).

([136]) The negative effect on overall health refers to potential co-morbidities, i.e. diseases or medical conditions that are simultaneously present with another (in this case COVID-19) or others in a patient. The WHO Bureau for Europe (2018) found evidence of a higher risk of certain diseases among the refugee and migrant population in Europe (ischaemic heart disease and stroke, diabetes).

([137]) For evidence of an increase in mental health problems due to the disruption of legal proceedings as well as evidence of difficulties in providing mental health treatment to migrant non-accompanied minors in France during the pandemic, see the report by Medecins Sans Frontieres (2021).

([138]) OECD/European Union (2018). A study by the University of Bielefeld (2020) found that, compared with other forms of housing, collective housing for asylum seekers and refugees increased the risk of COVID-19 transmission in case of a first positive diagnosis by 17 %. See also Brun and Simon (2020).

([139]) See Basso et al. (2020), who calculate that the share of migrants able to telework is at least 5 percentage points below that of their native counterparts.

([140]) According to OECD (2020e), migrants account for more than half of all domestic services workers in Southern European countries, Israel and Canada.

([141]) Reid, Alison, et al. (2021). describe cases in meat processing in Germany, Ireland and Spain, working with subcontractors from Eastern Europe or (mostly undocumented) non-EU-born workers as well as agricultural workers in Germany, France, Italy and Spain, with limited workers' rights and no protection, living in cramped shared accommodation.

([142]) This was the case, for instance in Sweden, where 32 % of cases were migrants (who constitute 19 % of the population) as well as in Denmark, where migrants from lower-income countries and their native-born children account for 18 % of the infected – twice as many as their share of the Danish population. In the Lisbon Metropolitan Area, migrants account for 11 % of the population but for 24 % of COVID-19 infections by the third quarter of 2020. See OECD (2020f)

([143]) Papon and Robert-Bobée (2020).

years-and-over born in countries from which many refugees have migrated to Sweden in the last decades (Syria, Iraq and Somalia) was 220 % higher in March-May 2020 compared with the average in 2016-19. In contrast, the respective increase during these three months was only 18 % for those born in Sweden, the EU or North America, despite an older age composition ([144]). In the Netherlands, death statistics by parental place of birth for March and April 2020 show that deaths were 47 % higher than usual for migrants from lower-income countries and their children, 49 % higher for migrants from high-income countries and their descendants, and 38 % higher for native-born with Dutch parents ([145]).

6.2.2. Secondary impacts: labour markets

Several reasons make migrants (especially the extra-EU-born) particularly vulnerable to economic downturns. Firstly, newly arrived migrants tend to have lower seniority in their workplaces. In addition, as they often face linguistic and – in particular those born outside the EU – institutional barriers to access occupations, migrants are generally more likely to hold non-standard or informal contracts, shorter job tenures and to be employed in occupations below their skill level and educational credentials ('brain waste') than comparable natives ([146]). These disadvantages make migrants' employment status sensitive to cyclical fluctuations including severe economic downturns such as that triggered by COVID-19 ([147]). Secondly, their higher concentration in low-paying jobs (in proportion to native workers) results in relatively low earnings. Transfers abroad of a significant share of these earnings through remittances result in typically low savings held in their host countries, undercutting migrants' ability to sustain long periods of unemployment when shocks strike. While migrant workers usually can move flexibly between sectors in response to a shock, the broad impact of the COVID-19 crisis limits this possibility ([148]). In fact, limitations to migrants' mobility with a view to take up work opportunities elsewhere during the pandemic has been found to have a strong negative impact not only on migrant workers' income in the EU host countries, but also on livelihoods – and in some cases, even on the economies of their countries of origin, such as parts of Africa, which is projected to last well into 2021 ([149]).

Migrants tend to be over-represented in low-skilled jobs and among the 'key', 'frontline', or 'essential' workers. This category was defined by governments in the wake of the COVID-19 outbreak. On average, migrants hold over one in four low-skilled jobs in the EU. This figure rises to over 40 % in Austria, Germany and Sweden and over 60 % in Luxembourg. Migrants are over-represented in the lowest income decile in virtually all Member States. Forming a significant proportion of so-called 'essential' workers, non-EU migrant and EU mobile workers have contributed to maintaining critical systems since the start of the pandemic across the EU and elsewhere ([150]). On the one hand, the disproportionate representation of migrants among 'key' workers implies stronger protection from employment loss. On the other hand, research has shown that, within the 'key' worker category, migrants tend to have a disproportionately higher risk of losing their jobs than natives ([151]).

In the decade before the pandemic, the labour market outcomes of migrants born outside the EU were poorer relative to native and EU-mobile people. In most Member States, the pre-COVID-19 unemployment rates of non-EU migrants aged 15 to 74 lagged behind those of natives. In some Member States – most notably in the South – this gap had widened over the last decade (*Chart 2.14*) ([152]). Employment rates (in the 20-64 age bracket) exhibited a similar lag. Whereas in 2008 the EU employment rate of the non-EU born was 4.2 pp lower than that of natives, in 2019 the difference has widened to 9.5 pp. This stands in contrast to the employment rate evolution of the EU-mobile, the differential for whom narrowed in relation to natives in the same period. In 2008 the employment rate of the EU-mobile was 0.5 pp lower than natives' rates, whereas by 2019 their employment rate was 1.4 pp higher than that of natives (*Chart 2.14*) ([153]).

([144]) Hanssonet al. (2020).

([145]) Kunstet al. (2020).

([146]) Kerrand Kerr (2011) and De la Rica et al., (2015)

([147]) Dustmann et al.(2010). and Orreniusand Zavodny(2010).

([148]) Borjas and Cassidy (2020). For the global perspective, see ILO (2020a), and de Lange et al. (2020).

([149]) This risk is higher in economies with high dependency on remittances; for instance, that dependence amounts to roughly 35 % of GDP in South Sudan, 21 % in Lesotho, 16 % in Gambia, 14 % in Zimbabwe and over 10 % in a number of West African nations. See https://www.statista.com/statistics/962877/remittances-to-sub-saharan-africa-share-gdp-by-country/ as well as Naudé. (2010), andMigration Data Portal (2021).

([150]) Fasani and Mazza (2020c) and Reidet al. (2020).

([151]) Fasani and Mazza (2020b).

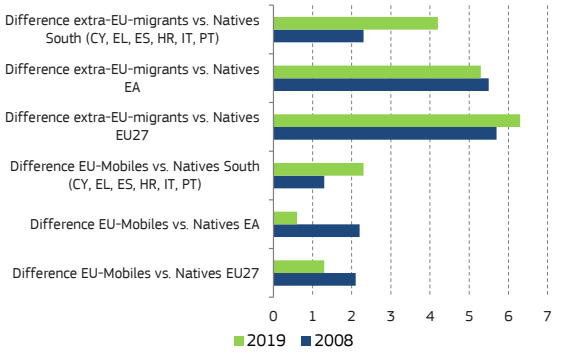
([152]) Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU- Labour Force Survey data (lfsq_urgacob).

([153]) Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU- Labour Force Survey data (lfsa_ergacob).

Chart 2.14

Even before the COVID-19 outbreak, migrants born outside the EU had had higher unemployment rates than both natives and the EU-mobile, a gap which has widened in the South since the crisis of 2008-9

Unemployment rate differentials between Natives, EU Mobile and Extra-EU-born, pp



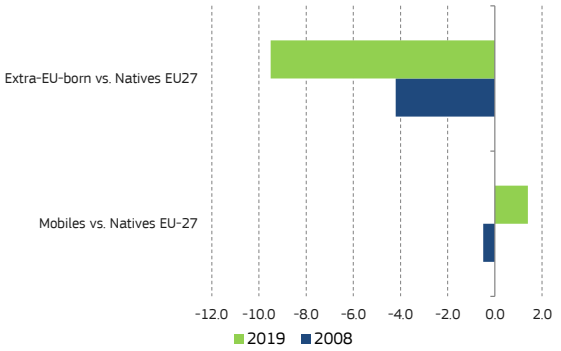
Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU- Labour Force Survey data (lfsa_urgacob)

Click here to download chart.

Chart 2.15

Before the COVID-19 crisis, the employment gap between extra-EU migrants and natives had widened in the EU, in contrast to the performance of the EU-mobile

Employment rate differentials between Natives, EU Mobile and Extra-EU-born, pp



Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU- Labour Force Survey data (lfsa_ergacob).

Click here to download chart.

Preliminary evidence shows the disproportionate toll of COVID-19 on the labour market outcomes of migrant and EU-mobile people in terms of rising unemployment and inactivity. This is suggested by self-reported impacts on access to work and income by migrants and refugees ([154]) as well as by EU-Labour Force Survey data.

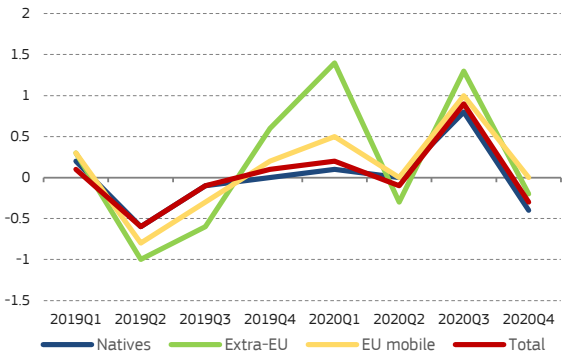
The rise in the unemployment rate of non-EU migrants is substantially higher than that of other groups. Data show a sharp rise in the unemployment rate for the total population as of the third quarter of 2020. While the increase in unemployment rates of natives (0.8 pp) tracks closely and is in fact somewhat lower than the change in the total unemployment rate (0.9 pp), the increase was slightly higher for EU mobile people (1 pp). The increase in the unemployment rate of extra-EU migrants stands out as substantially higher than that of other groups (1.3 pp). The unemployment rate of extra-EU migrants also shows in general a higher cyclical volatility than that of other population groups.

([154]) WHO (2020).

Chart 2.16

Rising unemployment due to the COVID-19 crisis takes a higher toll on extra-EU migrants

Unemployment rate by country of birth, EU27, difference in pp



Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU- Labour Force Survey data (lfsq_urgacob).

Click here to download chart.

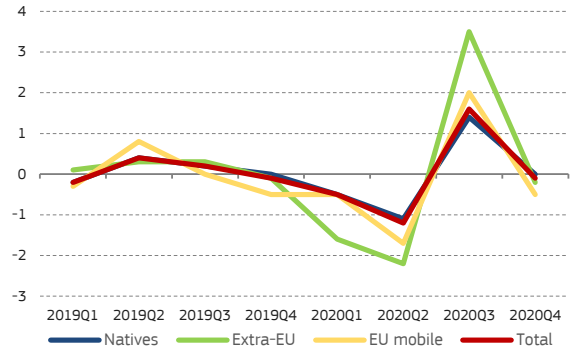
The activity rate of extra-EU migrants receded more than that of other population segments As discussed in Chapter 1, up to the end of the second quarter of 2020, a rise in inactivity – rather than unemployment – highlighted the distinct global nature of the COVID-19 crisis when compared with previous economic downturns ([155]). The case of non-EU migrants confirms this, too. Moreover, the decline in the activity rate in the second quarter of 2020 relative to the previous quarter was considerably more marked for non-EU migrants. The decrease in their activity rate (2.2 pp) was twice as high as that of the native population (1.1 pp). The activity rate of the EU mobile declined less (1.7 pp) than that of extra-EU-born migrants but more than that of the total population (1.2 pp). This depression of the activity rate was followed by a substantial recovery in the third quarter of 2020. The decline in activity in the fourth quarter of 2020 due to the renewed tightening of lockdown measures, albeit less pronounced than that of the second quarter, exhibited the same pattern in terms of the relative places of the native, EU mobile, extra-EU-born and general populations.

([155]) This is valid worldwide, too, as discussed in ILO (2020b) and ILO (2021).

Chart 2.17

The COVID-19 crisis affects the labour force participation of non-EU migrants more strongly than of other groups

Activity rate by country of birth, EU27, difference in pp



Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU- Labour Force Survey data (lfsq_argacob)

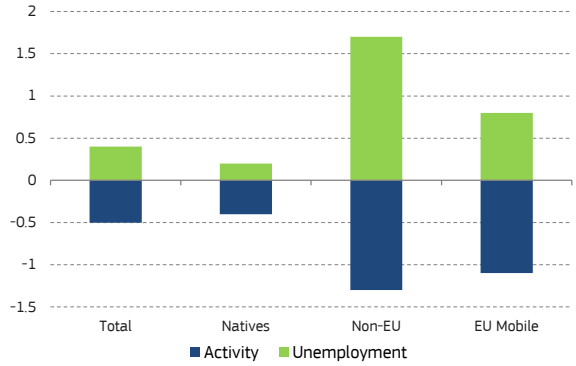
Click here to download chart.

The evolution of unemployment and labour force participation since the COVID outbreak suggests a higher impact on migrants. A comparison of the difference in the activity and unemployment rates of natives, the EU mobile and the non-EU migrants between 2019 and 2020 confirms that the impact on unemployment was mitigated through short-time work schemes and through the decline in activity rates. However, the comparison also reveals that extra-EU migrants were hit harder on both the unemployment and activity fronts than all other population groups (defined in terms of country of birth). Albeit smaller than that of non-EU migrants, this dual impact on the EU mobile population was also markedly higher than the one on natives or the population as a whole.

Chart 2.18

Extra-EU migrants hit harder than other population segments by the rising inactivity and unemployment brought about by COVID-19

Unemployment and inactivity by country of birth, difference in pp, 2019-2020.



Source: Calculations by the European Commission's DG Employment, Social Affairs & Inclusion based on EU- Labour Force Survey data (lfsa_argacob).

Click here to download chart.

6.2.3. *Secondary impacts: education and skills*

Disruption in education and training services due to the pandemic are likely have had more adverse effects on households of non-EU migrants. During the economic lockdowns, which were at least partly accompanied by school closures, the Member States' education systems applied remote learning solutions such as online teaching and computer-assisted learning ([156]). Migrants born outside the EU are at greater disadvantage in terms of their ability for online learning necessitated in certain school systems following the pandemic-induced lockdowns. The main reason for this are lower overall resources for e-connectivity (finance, devices, internet-connection service) of low-income households (among which extra-EU-born migrants are overrepresented). In turn, given the crucial importance of host-country language learning for the labour market integration of migrants, this connectivity disadvantage of migrant households may have repercussions that outlast the pandemic and the accompanying closure of learning facilities based on physical presence.

The impact of the COVID-19 crisis on education outcomes remains uncertain. However, a small number of studies point to a certain loss of cognitive skills in the short-term, commensurate with the duration of the suspension of in situ classes ([157]). There is still little evidence as to the impact on children of migrants in this respect. Moreover, it is still unclear to what extent the distribution of computers to pupils in need has counterbalanced the negative effect of online-based schooling on disadvantaged groups such as children of migrants. First evidence on the impact of the suspension of final examinations on children of migrants shows divergent influences. Research from the Netherlands, a country with tracking in school, suggests that the suspension of central examinations at the end of primary school as well as at the end of the secondary education may have increased the numbers of children with migrant background rather than native parentage who graduated due to the absence of a central examination ([158]). Conversely, the long-term impact of the interruption of teaching in-person may be greater than the potential short-term learning losses. The transmission channels of such negative long-term impacts on children of migrants are linked to the higher probability of their belonging to disadvantaged households in weaker socio-economic groups. These are lower overall educational aspirations, disengagement from the school system and potentially adverse effects on the social networking and psychosocial development of pupils. For instance, school disengagement by children of migrants following the pandemic was widely reported in France ([159]). Without targeted policies, interruptions to teaching in-person might therefore widen the gap between pupils of migrant parentage and their peers of native parents despite progress made in several countries prior to COVID-19 ([160]).

([156]) OECD (2020g).

([157]) This is the conclusion, for instance, of a study about schools in the Netherlands by Arenas et al. (2020).

([158]) Swartet al. (2020a and 2020b).

([159]) OECD (2020g) and Bude (2021).

([160]) OECD/European Union (2018).

6.2.4. Policy responses

Member States enacted measures to counteract the impacts of COVID-19 on migrants, starting with access to healthcare. Free emergency treatment regardless of status, was possible in principle before the outbreak in Belgium, Finland, France, Germany, Hungary, Luxembourg, Portugal and Spain, so it could be expanded to COVID-19 related measures (such as testing and emergency treatment) in some Member States. Portugal temporarily regularised migrants in irregular situation to ensure full access to the health care system. Similarly, Spain suspended the obligation to have valid documents in order to continue receiving aid covering basic needs. In Greece, access is available for minors, and for adult migrants in case of emergency. In Czechia, migrants in an irregular situation might have to reimburse their treatment later. A number of countries also launched specific information campaigns for migrants. Improving the COVID-19 vaccination uptake among migrants and other difficult-to-reach populations is a challenge as there is emerging evidence of low COVID-19 vaccination rates in some migrant and ethnic minority groups in the EU/EEA ([161]).

Member States have loosened conditions for residency status in the aftermath of COVID-19. Migrant workers who lose their jobs often struggle to comply with the conditions of their residency permits. In response, several Member States have extended permits or removed obligations to leave, to prevent legally staying migrants from falling into an irregular situation. Spain, Greece, Czechia and Germany, for example, did not withdraw permits for migrants who lost their job during the pandemic. Other countries including France, Slovenia, Estonia, Italy, Ireland, Poland, and Portugal automatically extended or renewed permits, in some cases until after the end of emergency, in other cases until a pre-defined date, or, as Austria did, loosened income requirements for the validity of certain work permits ([162]). In several Member States, changes introduced have allowed for overstay on a temporary visa, without any negative consequences for future visa applications ([163]).

Some Member States eased restrictions on migrants' work rights, facilitated recognition of qualifications and provided faster access to labour markets. The COVID-19 crisis has led some Member States to ease restrictions on work permits to a specific sector or employer ([164]). For instance, migrant workers who lost their job in Czechia could receive an authorisation to change employer and/or sector. In Finland, foreign workers with valid residence permit were allowed to change their employer or field of employment until October 2020. In other Member States, measures extended the work rights of certain migrant groups, such as students and asylum seekers. Asylum seekers in Belgium hosted by the employer were allowed to work immediately. Spain took the same measure in relation to young third-country nationals aged 18 to 21, Ireland, France and Belgium allowed international students to work more hours. To cope with the health emergency, Member States like Italy, Spain, Belgium, Germany, France, Ireland and Luxembourg, facilitated the recognition of qualifications of foreign health professionals already residing in the country and/or their recruitment in the national health services ([165]). In other sectors, such as agriculture and domestic care, migrant workers, including those with irregular status, became eligible for regularisation following the COVID outbreak. Targeted support measures for migrant entrepreneurs were implemented in Germany.

([161]) ECDC (2020).

([162]) EMN/OECD (2020b).

([163]) OECD (2020h) and EMN/OECD (2020a).

([164]) EMN/OECD (2020a). See also European Commission (2021a) for seasonal workers in agriculture.

6.3. Persons with disabilities

During the pandemic, persons with disabilities ([166]) have been exposed to particular challenges, both those related directly to the risk of contracting the virus and linked to confinement measures.

Certain disabilities entail a greater risk of contracting COVID-19 or experiencing worse outcomes if infected. In particular, those persons with physical disabilities related to medical conditions that affect the immune system, lung function or other related factors that can put them at higher risk for serious complications.

Persons with disabilities living in care homes and other institutional settings have faced high risks of transmission and infection. The highest rates of infections have been recorded in such institutional settings at least in the early stages of the pandemic ([167]).

Persons with disabilities face specific challenges related to hygiene measures to prevent COVID-19 infections. They may have limited access to hygiene facilities such as basins for hand washing. They have an increased need for physical contact with handrails in order to get around; or for close contact with carers, personal assistants or assistants in shops, transport settings and other facilities. This applies particularly where there is no or limited access to personal protective equipment or the protective equipment is not adequate. Some persons with disabilities were unable to comply with guidance about wearing facemasks (e.g. because of breathing

([165]) OECD (2020i).

([166]) Persons with disabilities are a heterogeneous group. The different nature and intensity of physical, mental intellectual or sensory impairments, and the existence of 'invisible disabilities' (physical and psychological conditions that are not immediately apparent) define a complex and heterogeneous group. Identifying the size and composition of people with disabilities depends on the definitions used and their application to a diverse population.

([167]) Comas-Herrera et al. (2020).

difficulties) or physical distancing (e.g. because systems depend on floor markings that are not accessible for persons with certain disabilities), thereby increasing the risk of contamination. Furthermore, persons with intellectual disabilities may have difficulties in understanding the care and hygiene information provided. Persons with sensory impairments may also face barriers to access the information if this is not made available adequately (e.g. sign language, 'Easy Read' format, braille versions etc.).

The COVID-related confinement measures have had a disproportionate indirect impact on persons with disabilities. This concerns areas of access to healthcare and support services, employment and working conditions, education but also access to information. This has been exacerbated by the limited accessibility of online solutions including teleconferencing systems and on line services for persons with disabilities.

The COVID-19 pandemic could imply further limitations in access to healthcare for persons with disabilities. The restrictions imposed to contain the spread of the virus had an impact on many health services, including rehabilitation. Postponement of treatment due to healthcare system saturation and fear of infection can have unfavourable long-term effects on the health status of the population, and particularly so for persons with disabilities or with chronic conditions. This can further exacerbate the existing inequalities whereas already in 2019 around 4.0 % of persons with disabilities in the EU 27 reported unmet needs for medical care due to costs, distance or waiting lists compared to 0.9 % for persons without disabilities. Further fears of discrimination including discriminatory criteria in general access to healthcare but also testing and vaccination have been voiced by certain NGOs. ([168]).

Confinement also resulted in limited access to other support services. Due to the COVID-related confinement of the staff or limitation of contacts, the provision of personal assistance, community support and assistive technology could be more limited. Among those regularly receiving home care before the pandemic, about 18.5 % declared that they faced more difficulties in getting the amount of home care needed between June and August 2020, mainly as carers could not come to their home ([169]).

Access to information about the virus and prevention is hampered if not delivered in accessible format, including online. This can particularly affect blind persons, deaf, hard of hearing and deaf-blind people but also persons with intellectual disabilities.

A prompt transition to online schooling can be particularly challenging for pupils and students with disabilities. Access to inclusive and quality education was limited for many persons with disabilities even before the pandemic. Online schooling has been introduced by most Member States at some point of the pandemic. Persons with disabilities are more likely to require additional support (personal, class assistant, interpreter) which is difficult to ensure in tele schooling. These factors combined can result in amplifying the existing inequalities in access to education of this group and represent an additional strain on parents of pupils and students with disabilities.

In the context of the pandemic, pre-existing limitations in access to employment are aggravated. Transitioning to teleworking was more challenging for persons with disabilities due to lack of appropriate equipment and connection as well as possible additional accommodations and support needed including due to limited accessibility of the systems. While telework might be a possibility for some, certain professions require on-site presence. Persons with disabilities might be less inclined to use public transport and rather resort to other means of safe and accessible transport to work. Such transport needs to ensure adequate accessibility and health standards.

6.3.1. Addressing uneven impacts on persons with disabilities: policy responses and pointers for further action

A number of services for disabled persons that were closed during the first wave of the pandemic reopened in autumn. These comprise of residential care, homecare, day care, respite care, work integration enterprises and other services ([170]).

Several Member States have adopted labour market measures targeted at persons with disabilities. In some Member States, the support provided was differentiated according to the type or intensity of the impairment (such as Portugal) or level of risk if infected based on the pre-existing health status. Job creation and retention measures comprised exceptional support to employers for recruitment of workers with a disability (e.g. France) sometimes coupled with vocational training and transitional support (e.g. Portugal). Poland, Malta and Slovenia increased wage subsidies aimed at employing or retaining workers who are at a higher risk of absence during the pandemic. Support for employee retention has also been introduced or reinforced in a number of Member States. These measures range from issuing guidance, providing paid absence from work (e.g. Denmark, Germany) or ensuring better protection at the workplace, including provision of additional accommodations (e.g. Lithuania, France) or job

([168]) European Disability Forum (2021).

([169]) Survey on Health Ageing and Retirement (SHARE) COVID-19 survey.

([170]) European Association of Service providers for Persons with Disabilities (2020).

reintegration after COVID-19 related short time work (e.g. Italy, Lombardy). In certain Member States subsidies for self-employed with a disability were made more accessible (e.g. Austria, Lithuania).

Several Member States introduced measures to facilitate travel to work for persons with disabilities. These ranged from promoting save public transport (e.g. the Netherlands), to travel allowances for people with disabilities for whom the use of public transport was discouraged (e.g. France).

Various Member States introduced initiatives to bridge the digital divide for people with disabilities. A number of initiatives facilitated training as well as participation in the labour market, through the ability to telework. Such a legislative measure was introduced in France, offering up to EUR 500 towards the capital expenditure necessary to continue their distance training programme (from March 2020 to February 2021) ([171]). Another exceptional measure, also in France, provided support to employers of a person with disabilities for whom teleworking is newly set up in the context of the pandemic and where activities would not resume on the premises for the duration of the pandemic. It covers the cost of computer equipment, office chair, transport costs, internet connection, etc. ([172]). The updates to the state of emergency imposed in Portugal included a special provision for workers with disability or impairment from September 2020 making telework mandatory when requested by workers and listing those with specific health conditions and disability as a priority group ([173]). Similar measures were enacted in Greece where initiatives were also taken by enterprises and organizations to support their workforce with disabilities. These range from re-orienting the economic activity, digital and other equipment necessary for effective telework, protection equipment, specialized transport services, hygiene and safety measures, online training ([174]).

The new use of technology prompted by the pandemic could improve quality of life and participation for people with disabilities. For instance, the expansion of telework may facilitate the integration into the labour market of some people with disabilities for several reasons, such as removing the need for difficult, time-consuming and sometimes physically risky transportation to the place of work. However, it might exclude others for example due to lack of accessibility of the online systems. For future structural telework provisions to be disability-inclusive and accessible and active engagement of persons with disabilities will be required in their design and implementation.

([171]) Eurofound (2020a).

([172]) Eurofound (2020b).

([173]) Eurofound (2020c).

([174]) ILO (2020c).

Additional one-off targeted financial support was provided to persons with disabilities in some Member States. This includes additional support for persons with disabilities on low incomes (e.g. Slovenia), while other Member States temporarily increased personal-assistance budget of persons with disabilities (e.g. Belgium). Financial support was also available to people on disability pensions in certain Member States (e.g. Lithuania). In addition, extension and increase of existing disability benefits was provided in Greece and France.

Addressing the challenges faced by people with disabilities in the COVID-19 crises can lead to a more inclusive society. A better labour market inclusion of people with disabilities entails multiple positive outcomes such as improved income, life quality, social inclusion and opportunities for people with disabilities ([175]). A more inclusive labour market also leads to a more effective and efficient use of (often untapped) talent and skills and lower public cost for service provision and welfare as well as a higher tax base.

The main areas of concerns relate to:

- measures needed to ensure the protection and safety of persons with disabilities in risk of humanitarian emergencies (Article 11 of the Convention on the Rights of Persons with Disabilities),
- to provide accessible information and communication, including technologies (Articles 9 and 21),
- to involve persons with disabilities through their representative organisations in all matters concerning them (Article 4.3), and
- to ensure equality (Article 5) ([176]);
- to address inadequate public support to guarantee the financial sustainability of the sector due to increased costs, diminished income and the pre-existing difficulties and
- accentuated staff shortages due to increased absences from work, staff departures, sick leave and mental health difficulties ([177]).

Considerable progress is reported in the provision of care and support for persons with disabilities in the

([175]) Broad definition, following Article 1 of the 2006 United Nations Convention for Persons with Disabilities (UNCRPD): 'Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others' as the definition for employment.

([176]) E.g. European Disability Forum.

([177]) European Association of Service providers for Persons with Disabilities. (2020).

Box 2.5: How many citizens are experiencing homelessness in the European Union?

The extent of homelessness is difficult to assess as there is no agreed unified definition at the EU level. FEANTSA proposed a framework towards a common definition, however approaches in Member States' data collection and estimates vary. Most commonly, the homeless are identified as those living rough, living in emergency accommodation and living in accommodation for the homeless. ([1]) FEANTSA estimates that there are around 700 000 homeless people currently sleeping rough or living in emergency or temporary accommodation across the EU. This represents an estimated 70% increase in the period of 10 years. According to the OECD housing database, the share of population experiencing homelessness ranged from 0.01% in Croatia to 0.44% in Germany at different points between 2013 and 2019. ([2])

The homeless are an increasingly heterogeneous group. Although the prevailing groups of people experiencing homelessness have been identified as people with mental illness and/or addiction issues, men between 40 and 60 years old and increasingly families (usually single mothers with several children) ([3]), homelessness today affects all ages (including a growing proportion of young people and children), all genders (including an increasing number of women) and all nationalities (including a rising number of asylum seekers and refugees).

([1]) Additional categories include in FEANTSA's ETHOS LIGHT typology include: people living in institutions; people living in non-conventional dwellings due to lack of housing; people living in conventional housing with family and friends.

([2]) www.oecd.org/els/family/HC3-1-Homeless-population.pdf data collected in different years and definitions differ across countries – not directly comparable.

([3]) https://eurocities.eu/wp-content/uploads/2020/11/EUROCITIES-report-EPSR-principle-19-on-housing-and-homelessness.pdf

second wave compared to the first, with most services restored, including in person ([178]).

6.4. Homeless persons

Before the COVID-19 pandemic, the homeless ([179]) were already one of the most vulnerable groups in the population as homelessness represents the most extreme case of housing deprivation and social exclusion. Over the last decade, it has become increasingly difficult for millions of people in Europe to access housing. This inaccessibility has been identified as a result of increases in housing costs, combined with insufficient social reforms and limited rental security. Social exclusion, inadequate housing and homelessness have gained momentum over the last few years, with available data showing dramatic increases in extreme housing deprivation. People are also experiencing longer periods of homelessness.

6.4.1. Primary impacts: vulnerability of homeless persons in the domain of health

The COVID-19 pandemic hit the population experiencing homelessness particularly hard through numerous channels, with the direct impact on health being the most visible. Housing and health are intrinsically linked. In times of a pandemic, the homeless people are directly impacted through a greater exposure to the virus due to the inability to isolate. Similarly, access to sanitary facilities, including public toilets has been closed, limiting the ability for homeless people to protect themselves. A study by Médecins sans Frontières in different sites in Paris and Saint Denis in October 2020 showed high sero-prevalence of SARS-CoV-2 antibodies among people living in precarious situations, notably individuals living in workers' residences, in emergency shelters or those present at food distribution sites ([180]).

Homeless people are also exposed to a greater risk of health complications in the case of infection as they have poorer health than the average population. The rates of respiratory diseases, which is a major risk factor for COVID-19 patients, are particularly high among this population, making it more exposed to severe illness. For example, a study that observed a hospital in Washington found that 32 % of those hospitalized for respiratory diseases were homeless, compared with 6.5 % of all patients hospitalized. If homeless people are infected by the virus they are more likely to die: for instance, in London, the coronavirus mortality rate of homeless people living in emergency accommodation has been recorded to be 25 times higher than that of the general adult population.

Many of the containment measures to limit the spread of the pandemic cannot be realistically or consistently applied to people experiencing homelessness. The inability to practice social distancing, particularly in homeless encampments, shelters and other forms of temporary accommodation represents a unique challenge to facilities that aim at accommodating the maximum number of people in the limited space available. There

([178]) Idem.

([179]) According to the European ETHOS typology developed by FEANTSA, a homeless person is in absence of adequate dwelling (or space) over which a person or their family can exercise exclusive possession (physical domain); being able to maintain privacy and enjoy social relations (social domain); and having legal title to occupation (legal domain). https://www.feantsa.org/download/ethos_faq-18107446974200637605.pdf

([180]) Roederer et al. (2020).

is a clear difficulty for the homeless to self-isolate in case of positive tests, hence to prevent a further spread of the virus and access to healthcare in case of aggravated symptoms. Therefore protecting people experiencing homelessness is an important element of managing the wider public health crisis.

Access of homeless people to healthcare is in general more limited than that of the general population. This further aggravates the already poor health state more likely to occur in this segment of the population. Due to confinement measures and lack of volunteers, the access of this group to healthcare has been further limited during the pandemic.

6.4.2. Secondary impacts: vulnerability of homeless persons in relation to social inclusion

The situation of homeless people has further deteriorated during the COVID-19 pandemic, also due to the lack of stable shelter available. In particular, the following factors have been identified as potential drivers for further complications of the homeless' situation.

- **Access to food.** Many food assistance providers have switched to providing food parcels rather than on-site meals. In some countries, the closure of restaurants and catering facilities has additionally restricted services providing food to homeless and vulnerable people. With the closing down of different facilities providing food to the homeless, food vouchers were introduced or community centres set up.

- **Access to information** about the virus, the possibility to access healthcare and other social support services that are paramount for addressing the multiple difficulties encountered in relation to social inclusion (for example housing, job seeking, rehabilitation) is limited due to the frequent changes in the provision depending on the real-time epidemiological situation and limited access to digital technologies.

- **Access to temporary or emergency accommodation** (e.g. shelters) puts the homeless at risk of infection; therefore they might have preference to sleeping rough, which in turn exposes them to additional risks, such as adverse weather conditions especially in winter months.

- **Greater scarcity of volunteers** on which homeless shelters heavily rely on for service provision. The main reasons are quarantines and legitimate fears of infection through interaction with people who do not practice distancing. Further, a lack of volunteers results in suboptimal provision of care and support services that are essential for the homeless such as distribution of food, hygiene kits, information or even closure of shelters and service delivery.

- **Increased risk of becoming homeless.** Due to a decrease in labour market income caused by the long duration of lockdown measures and the closure of a number of economic sectors, vulnerable households risk accruing arrears on mortgages or rent. In the worst-case scenario, this can result in evictions. This puts affected households or individuals at risk of becoming homeless if compensation measures are not taken.

No specific effects on the homeless have been identified in relation to income replacement benefits to compensate workers in sectors where activity was suspended. Such replacement benefits are directly dependent on the employment status; therefore, the impact of such benefits depends on the working arrangements of homeless people. Given the traditionally identified weak attachment of this group to the labour market, the likelihood of homeless people receiving such replacement benefits is small.

6.4.3. Addressing uneven impacts on homeless persons: policy responses and pointers for further action

Measures to mitigate the direct and indirect impact of COVID-19 on the homeless ([181]) move from actions in terms of health protection to housing provision. Some Member States have made testing of homeless people a priority and access to healthcare is then more available to them. For instance, mobile medical teams have been set in place to reach out to those in need (e.g. Dublin, France). Health staff has also been deployed to facilities providing the services to the homeless. In this context, testing and vaccination campaigns can also be organised (e.g. discussions in Berlin, Brussels) ([182]). In terms of housing, several local authorities have used self-contained units, such as vacant tourist accommodation, social housing, public buildings or student housing. Such examples have been recorded in Barcelona for homeless families based on short-term rental contracts.

Limiting a further widespread of the disease is also crucial. To support households, a number of measures have been taken including moratoria on rental evictions (e.g. Hungary, Germany, France, Belgium, Austria, Ireland, Italy, Croatia, Luxembourg); moratoria on mortgage/rent payments or suspension of social housing rents (e.g. Austria, Portugal, Germany, Ireland, Belgium, Spain); and measures to top up household incomes and provide financial assistance for the payment of rent (e.g. Greece, Ireland, the

([181]) This overview of measures targeting the homeless is a compilation of measures identified by FEANTSA, Housing Europe, and Eurocities.

([182]) https://www.rtbf.be/info/regions/bruxelles/detail_coronavirus-les-personnes-sans-abri-ou-sans-papiers-seront-elles-vaccinees-comment-proceder?id=10713694; Barnett, Ganzerla, Couti and Molard (2020).

Netherlands, Luxembourg, Berlin, Spain). Many countries have also altered landlord-tenant relationships, allowing for automatic contract extensions or renewals. Tax authorities have also introduced payment deferrals or relief measures for mortgage-holders and coverage and generosity of housing benefits were broadened (e.g. Ireland, Luxembourg) ([183]). Some of these are part of a broader set of measures related to housing costs, not necessarily primarily targeted at preventing or tackling homelessness.

It is also important to acknowledge that homeless people and especially those sleeping rough cannot comply with strict confinement measures or a curfew. Collaboration between homeless services, police and civil protection can ensure that the homeless are protected from punitive enforcement measures.

Finally, ensuring safe homeless services and protecting workforce of the homeless sector is of utmost importance. In order to ensure that services to the homeless can continue to be provided, shelters for homeless people were identified as 'essential services' in a number of Member States and this allowed a distribution of protective equipment or additional funding to extend opening hours and intensify the support ([184]). Measures have been taken to facilitate social distancing in temporary reception centres (e.g. Brussels, France), including the facilities where those with symptoms or who have tested positive are 'confined'. Concrete measures entail: re-enforced hygiene measures; reserving/procuring housing units for isolation; extra capacities to relieve crowding; 'full board' arrangements in shelters for especially vulnerable users; information and advice for service users; hospitalisation protocols; 24/7 opening of night shelters. The pre-condition for the provision of services is that appropriate measures are taken to protect staff and volunteers working with homeless people at risk of contracting COVID-19. The sector is deploying risk management measures (reducing circulation of staff, remote working for relevant functions, preparing and implementing plans to reduce services, re-enforced hygiene measures, access to equipment, reorganisation of work, centralised staff lists etc.).

The policy response during the pandemic has shown that solutions to address rough sleeping and protect vulnerable households from housing exclusion can be successfully implemented in the short term. The European Pillar of Social Rights Principle 19 on housing and assistance for the homeless calls for access to social housing or housing assistance of good quality shall be provided for those in need; vulnerable people have the right to appropriate assistance and protection against forced eviction; and adequate shelter and services shall be provided to the homeless in order to promote their social inclusion. The above-mentioned examples indicate that many targeted measures to protect the homeless against the cumulative risks they face in the pandemic have been implemented in an integrated manner in different Member States, regions or municipalities. At the same time, protective measures have been taken to limit vulnerable households from housing exclusion.

([183]) OECD (2020).

([184]) EAPN (2020).

7. CONCLUSIONS

During the pandemic, health risks and socio-economic impacts did not affect all groups to the same extent. Specific groups facing increased health risks during the pandemic – for different reasons – include migrants, people with chronic conditions or disabilities and the homeless. Persons with disabilities have faced issues due to both pre-existing health conditions and limitations in daily activities that make it harder to follow preventative measures. Homeless persons have faced specific hurdles in social distancing and hygiene measures for lack of private space. More generally, low-income and poor households often lack key resources that helped many Europeans to cope with challenges of social distancing, such as digital connectivity. Income-poor households were also more likely to live in poor housing conditions, which made confinement more challenging.

While employment has been strongly supported by short-time work schemes, some groups were particularly affected by job loss. Workers on temporary contracts, workers with low educational attainment and youths were the groups most severely hit by the fall in employment, in particular during the second quarter of 2020. The sharpest decline in employment was registered in the sectors severely affected by the lockdown measures, such as the hospitality sector, gastronomy, and travel agency activities. Some of these sectors are low-paid sectors, notably 'accommodation and food service activities'.

The need for social interaction and the ability to telework played a key role in the labour market, along with the essential nature of some activities. All non-teleworkable occupations experienced a decline, while some teleworkable occupations registered a significant increase in employment. Among the occupations that cannot be performed remotely, the decline was less pronounced for those that require high social interaction and are critical, such as doctors, nurses, as well as personal care and childcare workers, all categories that were at the front line during the pandemic. Only occupations that are critical and teleworkable, and require low social interaction showed a positive growth in employment. This group includes information and communication technology professionals and technicians, life science technicians, and all occupations that implement essential activities and at the same time can easily continue to operate remotely.

Policies played a key role in alleviating adverse effects on vulnerable groups and will be key to ensuring an inclusive recovery. Workers that had relatively low wages prior to the crisis generally suffered most from cuts in employment or self-employment income. Tax-benefit systems contained or even offset the regressive impact that the COVID-19 crisis had on market incomes. In light of the particular difficulties that the pandemic presented for vulnerable groups, many crisis-related initiatives were taken by Member States to support them. As the EU economy and the Member States recover, these initiatives could serve as building blocks to ensure that the recovery is inclusive. The monitoring of the medium-term impacts of the pandemic will be of utmost importance. These include jobs and incomes lost after the initial shock, as exceptional support measures are gradually wound down.

Annex 1: Employment and absences due to temporary lay-off by occupational category and quarter

Table A1.1

Employment and absences due to temporary lay-off by occupational category and quarter, EU26

		2019Q2			2019Q4			2019 (annual)			2020Q2			2020Q4			2020 (annual)					
Categories	Critical occupations	Employed (000)	of which absent due to temp. lay-off (%)		Employed (000)	of which absent due to temp. lay-off (%)		Employed (000)	of which absent due to temp. lay-off (%)		Employed (000)	of which absent due to temp. lay-off (%)		Employed (000)	of which absent due to temp. lay-off (%)		Employed (000)	of which absent due to temp. lay-off (%)		Change Q2 (%)	Change Q4 (%)	Annual change (%)
Not teleworkable, high social interaction	Non-critical	18679	0	u	18664	0.19	u	18656	0		17332	19.52		17586	6		17789	7.72		-7	-6	-5
Not teleworkable, high social interaction	Critical	17851		c	18095		c	17934	0	u	17655	4.16		17870	0		17786	1.38		-1	-1	-1
Not teleworkable, low social interaction	Non-critical	30085	0		29812	0.23		29927	0		28682	9.88		28996	1		29084	3.54		-5	-3	-3
Not teleworkable, low social interaction	Critical	32519	0		32458	0.22		32450	0		31237	7.36		31551	1		31604	2.72		-4	-3	-3
Teleworkable, high social interaction	Non-critical	21341	0	u	21260	0.21		21248	0		21248	7.76		21404	2		21365	3.12		0	1	1
Teleworkable, high social interaction	Critical	9450		c	9422		c	9328	0		9527	3.51		9800	1		9533	1.73		1	4	2
Teleworkable, low social interaction	Non-critical	16520		c	16463		c	16422	0	u	16414	6.98		16738	1		16559	2.58		-1	2	1
Teleworkable, low social interaction	Critical	4002		c	4049		c	4005	0	u	4216	2.98		4452	1	u	4279	1.27		5	10	7
Not teleworkable, high social int.	Total	36530	0	u	36759	0.13		36590	0		34986	11.77		35455	3		35574	4.55		-4	-4	-3
Not teleworkable, low social int.	Total	62605	0		62271	0.23		62377	0		59919	8.56		60547	1		60688	3.11		-4	-3	-3
Teleworkable, high social int.	Total	30791	0		30682	0.2		30576	0		30775	6.44		31204	2		30898	2.69		0	2	1
Teleworkable, low social int.	Total	20522		c	20512		c	20427	0		20630	6.17		21189	1		20838	2.31		1	3	2
Non-critical	Total	86625	0		86200	0.19		86253	0		83676	10.77		84724	2		84797	4.12		-3	-2	-2
Critical	Total	63822	0		64024	0.17		63717	0		62634	5.58		63673	1		63202	2.09		-2	-1	-1
Total	Total	150447	0		150224	0.18		149970	0		146310	8.55		148396	2		147999	3.26		-3	-1	-1

Note: Critical occupations are identified based on an extended version of the categorisation provided by the Commission Communication on Guidelines concerning the exercise of the free movement of workers during COVID-19 outbreak. Data refers to the age group 20-64. Armed forces are not taken into account in the analysis, therefore overall totals do not exactly match those presented in the table. An absence from work is classified as a "temporary lay-off" if it is due to slack work for technical or economic reasons. 'c' refers to confidential data, 'u' to unreliable data.

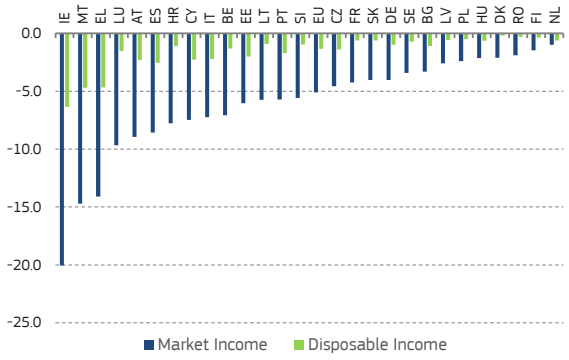
Source: Calculations by the European Commission's Joint Research Centre, based on a Eurostat special extraction on EU-LFS data and on indexes produced in Sostero et al. (2020).

Click here to download table.

Annex 2: EUROMOD charts by EU Member States

Chart A2.1

Change in market and disposable incomes from baseline scenario (%) – EU Member States

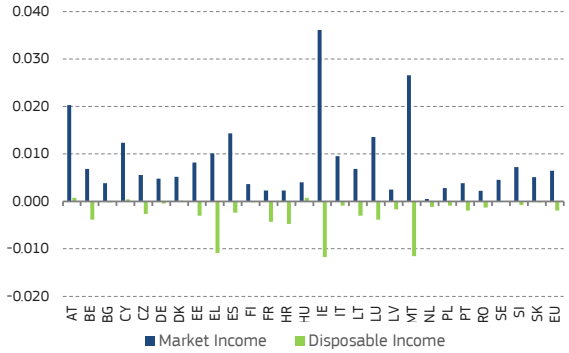


Source: JRC's calculation using EUROMOD I3.0+, Christl et. al (2021).

Click here to download chart.

Chart A2.2

Changes in Gini coefficient of disposable income from baseline scenario– EU Member States

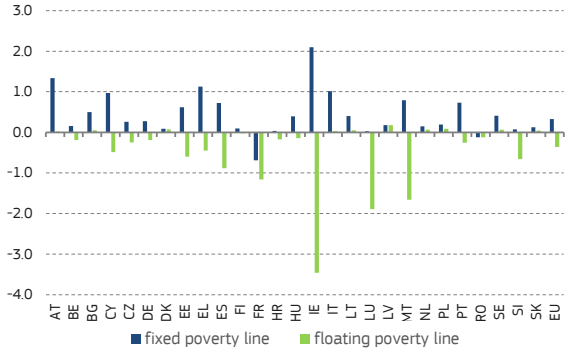


Source: JRC's calculation using EUROMOD I3.0+, Christl et. al (2021).

Click here to download chart.

Chart A2.3

Changes in at-risk-of-poverty rates from baseline scenario – EU Member States, percentage points



Source: JRC's calculation using EUROMOD I3.0+, Christl et. al (2021).

Click here to download chart.

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