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Labour market transitions across OECD countries: Stylised facts

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LABOUR MARKET TRANSITIONS ACROSS OECD COUNTRIES: STYLISED FACTS

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By Orsetta Causa, Nhung Luu and Michael Abendschein

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Abstract/Résumé

Labour market transitions across OECD countries: stylised facts

This paper provides a descriptive analysis of patterns and trends of worker transitions across European countries and the United States, with an emphasis on differences across socio-economic groups. Understanding labour market transitions is important to gauge the scope of labour market reallocation and scarring effects from the COVID-19 crisis. Results of this work show that labour market transitions vary significantly from one country to another and also within countries from one socio-economic group to another. For instance, women are much more likely than men to move in and out of jobs. This reflects the unequal burden of family-related work, which contributes to the higher propensity of women to drop out of the labour force. Zooming in on labour market transitions over the great financial crisis provides an illustration of the long-lasting effects and scarring risks associated with recessions on labour market transitions, especially for young people entering the labour market. The results of this granular analysis inform the policy debate for an efficient and inclusive recovery. While current priorities vary across countries based on economic and social context, one overarching challenge for the recovery is to facilitate hiring dynamics and to minimise long-term unemployment and scarring risks among vulnerable groups who have been hardest hit and face higher risks of scarring from the recession, in particular young people and women.

JEL classification: E24, E32, J2, J31, J62
Keywords: Labour reallocation, labour transitions, worker flows, job mobility, COVID-19, business cycle, differences across socio-economic groups, cross-country data

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Un portrait des transitions sur le marché du travail dans les pays de l'OCDE

Cet article fournit une analyse descriptive des caractéristiques et tendances des transitions individuelles sur le marché du travail dans les pays européens et aux États-Unis, avec une emphase sur les différences entre groupes socio-économiques. Comprendre les transitions sur le marché du travail est important pour gauger des réallocations et effets de long-terme associés à la crise du COVID-19. Les résultats de ce travail montrent que les transitions sur le marché du travail varient fortement d'un pays à l'autre, mais également au sein des pays, d'un groupe socio-économique à un autre. Notamment, les femmes sont beaucoup plus susceptibles de rentrer et sortir de l'emploi. Cela reflète l'inégalité dans l'accomplissement des taches familiales, ce qui contribue également à la propension plus forte des femmes à sortir du marché du travail. Un zoom sur les transitions durant la crise financière de 2008 délivre une illustration des effets de long-termes et des cicatrices associés aux récessions, en particulier pour les jeunes entrants sur le marché du travail. Certes, les priorités actuelles varient d'un pays à l'autre en fonction du contexte économique et social, mais un objectif commun et essentiel est celui de faciliter la dynamique de recrutement et de minimiser le chômage de longue durée et le risque que cette crise inflige des effets de long-terme pour les groupes qui ont été les plus fortement touchés, en particulier les jeunes et les femmes.

Classification JEL: E24, E32, J2, J31, J62
Mots-clés : réallocation du travail, transitions sur le marché du travail, flux de travailleurs, mobilité, COVID-19, cycle économique, différences entre groupes socio-économiques, données comparatives entre pays

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Labour market transitions across OECD countries: stylised facts

Orsetta Causa, Nhung Luu and Michael Abendschein[1]

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Introduction and motivation

The transition of workers between jobs and in and out of employment matters for growth and for inclusiveness. This process of labour reallocation is largely driven by market forces and creative destruction, which tend to create better opportunities and downsize inefficient activities. A large body of evidence suggests that firm entry and exit, as well as the reallocation of workers (and resources more broadly) from declining to expanding businesses contribute significantly to productivity and output growth (e.g. (Foster, Haltiwanger and Krizan, 2001[1]); (OECD, 2009[2]); (Bassanini and Garnero, 2012[3]); (Bartelsman, Haltiwanger and Scarpetta, 2013[4]); (Mcgowan and Andrews, 2015[5]); (Berlingieri, Blanchenay and Criscuolo, 2017[6])).[2] From the perspective of workers, labour mobility and reallocation is a process through which better job opportunities are created and seized (e.g. (Postel-Vinay and Robin, 2002[7]); (Contini and Villosio, 2007[8])). A growing body of evidence documents that job mobility is associated with earning gains, particularly at the beginning of workers' careers, giving rise to "job ladder effects" ((Coleman and Zheng, 2020[9]); (Haltiwanger and Spletzer, 2020[10]), (IMF, 2021[11]). Moreover, research based on linked employer-employee data (OECD, 2021[12]) suggests that job mobility can play an important role in reducing wage inequality as it dampens the transmission of between-firm productivity gaps to wage gaps.

However, searching for, and switching to, new jobs can be costly, particularly when it was not the choice of the worker to separate from their previous job. Other, less direct costs can be associated with mobility: for example, high quit rates might discourage the accumulation of firm-specific human capital and destroy stocks of corporate common competences. But these costs can be counterbalanced by additional benefits such as incentives to invest in general human capital.

Understanding labour market transitions is crucial in the context where the recovery from the COVID-19 crisis will likely require some worker reallocation (see (OECD, 2021[13]) Chapter 1). Some of the effects of the crisis on the structure of employment may persist, with some sectors and occupations permanently shrinking and others growing,[3] for instance due to pre-existing trends that have been amplified by the pandemic, such as digitalisation, and increasing demand for professionals in the health care and green sectors. In order to help the transition towards emerging employment opportunities, governments should pay particular attention to those workers hit hardest during the pandemic and expected to struggle the most to return to durable, good-quality jobs.

Another important motivation for looking at labour market transitions is that recent empirical evidence suggests a decline in job-matching efficiency in a number of OECD countries. The job-filling rate has increased less than what might have been expected based on its relationship with labour market tightness in the period before the COVID-19 crisis (OECD, 2021[14]). This may reflect the asymmetric impact of the crisis across sectors with different skill requirements, producing a mismatch between skills of unemployed jobseekers and skills required by employers. Going further, recent evidence for the United States shows that an increasing number of workers are quitting their jobs and employers are facing difficulties to fill vacancies (Furman and Powel III, 2021[15]), (Bunker, 2021[16]).[4] This implies that the labour market recovery

[2] For comprehensive materials and analysis, see the OECD Global forum on productivity and in particular evidence on the micro drivers of productivity based in linked employer-employee data. See "https://www.oecd.org/global-forum-productivity/" and https://www.oecd.org/global-forum-productivity/multiprod.htm.

[3] (Barrero, Bloom and Davis, 2020[117]) focuses on the experience of the United States and argues that 32 percent to 42 percent of layoff from the COVID-19 pandemic shock are likely to be permanent.

[4]Labour market tightness and shortages are also observed in other countries, for instance in Central and Eastern European countries in manufacturing, services and construction industries. The pandemic has also aggravated labour demand shortages in the healthcare sector. In particular, the long-term care sector already suffered from labour shortages due to its lack of appeal to workers, with relatively low levels of pay, challenging working conditions and often poor career prospects. In the context of the post-COVID-19 recovery, the construction, energy, manufacturing

requires policies to reduce frictions to workers' transitions and improve the matching between jobseekers and new job openings.

This paper delivers new cross-country evidence on workers' transitions and mobility, highlighting heterogeneity across socio-economic groups. Cross-country empirical evidence is relatively limited in this area, mostly due to lack of comparable data.[5] Several papers have documented a trend decline in labour market mobility in the United States, especially in transitions from non-employment to employment. This decline in mobility points to increasing difficulties in accessing jobs, especially quality jobs, along with earnings growth opportunities, all of this resulting in a deterioration of the so called "job ladder" ((Davis, Faberman and Haltiwanger, 2012[17]), (Hyatt and Spletzer, 2013[18]), (Davis and Haltiwanger, 2014[19]), (Molloy et al., 2016[20]), (Haltiwanger and Spletzer, 2020[10])).[6] However, little is known about mobility trends in other countries in a comparative perspective. This paper fills this knowledge gap by putting together two decades of cross-country data, allowing to deliver a long-term perspective on the evolution of labour market transitions in advanced economies.

The analysis is mostly based on pre-COVID-19[7] data because it is too early to deliver a comprehensive picture of the impact of the crisis on labour market transitions in a comparative perspective. Besides, the fluidity of labour markets is largely driven by structural factors which are unlikely to have significantly changed as a result of the crisis. This paper complements the real-time analysis of labour market developments and the forward-looking analysis of industry-level labour demand developments such as in (OECD, 2021[13]), (OECD, 2021[12]), and (Schwellnus et al., 2021[21]). The paper provides the following key insights:

- Labour market transitions vary significantly from one country to another and also within countries from one socio-economic group to another, underscoring key policy-relevant heterogeneities behind the aggregate picture. Annual worker reallocation rates, defined as the sum of hirings from non-employment or from another job and separations to non-employment over a one year period range from around 30% of employment in Finland and Denmark to around 15% in the Czech Republic and Greece.
- Over the last two decades just preceding the pandemic, hirings and separations exhibited cyclical fluctuations. Nonetheless, one general pattern is a decline in hirings, especially from non-employment, pointing to difficulties in accessing and climbing the job ladder.
- Zooming in on labour market transitions over the great financial crisis provides an illustration of the long-lasting effects and scarring risks associated with recessions on labour market transitions, especially for young people entering the labour market.
- A granular analysis of labour market transitions across different socio-economic groups delivers the following insights:

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and transport sectors are likely to be impacted by the transition to a climate-neutral economy, requiring additional labour and new skills. See (Eurofound, 2021[136]) for evidence and discussion.

[5] Notable exceptions include (OECD, 2009[2]), (Bassanini and Garnero, 2012[45]), (European Commission, 2016[133]), (Eurofound, 2017[132]). See also recent COVID-related analysis by the IMF ((IMF, 2021[11])) as well as (OECD, 2021[13]), Chapter 1 where the focus is mostly on short-term COVID-19 related transitions to unemployment and inactivity, by contrast with the current analysis.

[6] The literature on the United States has documented a related decline in business dynamism and a rise in between-firm inequalities ((Autor et al., 2017[122]), (Gutiérrez and Philippon, 2017[121]), (Decker et al., 2018[118])), (Akcigit and Ates, 2019[120]) (Akcigit and Ates, 2021[119])).

[7] The analysis is based on the year 2019, as this is the most recent pre-COVID data point available on a comparable basis. Shifting to an average of pre-COVID data points does not alter the cross-country patterns (data available upon request).

  - Women are much more likely than men to move in and out of jobs. This reflects the unequal burden of family-related work, which contributes to the higher propensity of women to drop out of the labour force.
  - Data from the United States that allow to shed light on job ladder effects show that workers changing job exhibit significantly higher earnings growth than workers staying in the same job -- around 4 times higher, on average over the last decade. A granular analysis shows that the benefits of job mobility tend to be stronger for youth, the low-skilled and women.
  - In all countries, young people are the engine of labour market dynamism: they exhibit much higher levels of hirings from non-employment and job-to-job hirings relative to prime-aged workers, underscoring the importance of job ladders at early stages of workers' careers.
- A focus on labour market transitions associated with temporary and part-time jobs in European countries delivers a mixed picture about the quality of such jobs:
  - On average across European countries, more than half of temporary work is involuntary and more than a third of part-time work is involuntary.
  - Workers hired under temporary and part-time jobs do not always easily transition to more stable forms of employment. The probability to move to a permanent position is also highly unequally distributed across genders, with men displaying much higher probability than women in almost all European countries.

The rest of this paper is structured as follows. Section 1 provides the big picture of labour market transitions across OECD countries over the last two decades and includes a short overview of the underlying analytical framework (detailed in the Annex). Section 2 delivers evidence on labour market transitions during downturns alongside associated scarring effects, with a focus on youth. Section 3 looks at labour mobility from workers' perspective, emphasising differences across socio-economic groups. The analysis sheds light on the quality of hirings by focusing on temporary and part-time jobs, and provides some evidence on job ladder effects. The last section concludes with a few key stylised facts on the unequal labour market effects of the COVID-19 crisis, pointing to scarring risks and the need to support workers' transitions to emerging job opportunities.

Labour market transitions just prior to the COVID-19 pandemic

Individual-level changes in labour market status – e.g. a non-employed individual finding a job, an employed individual losing or separating from its employer,[8] or an individual changing job – (see Box 1 for definitions) differ markedly across OECD countries (Figure 1):[9]

- On average across European OECD countries for which fully comparable data are available, the annual worker reallocation rate, defined as the sum of hirings and separations over total employment, is around 22%. Almost half of this is accounted for by workers changing job while the rest is equally split between workers being hired from non-employment or separated to non-employment. The vast majority of job-to-job transitions, around 70% on average, occur within the

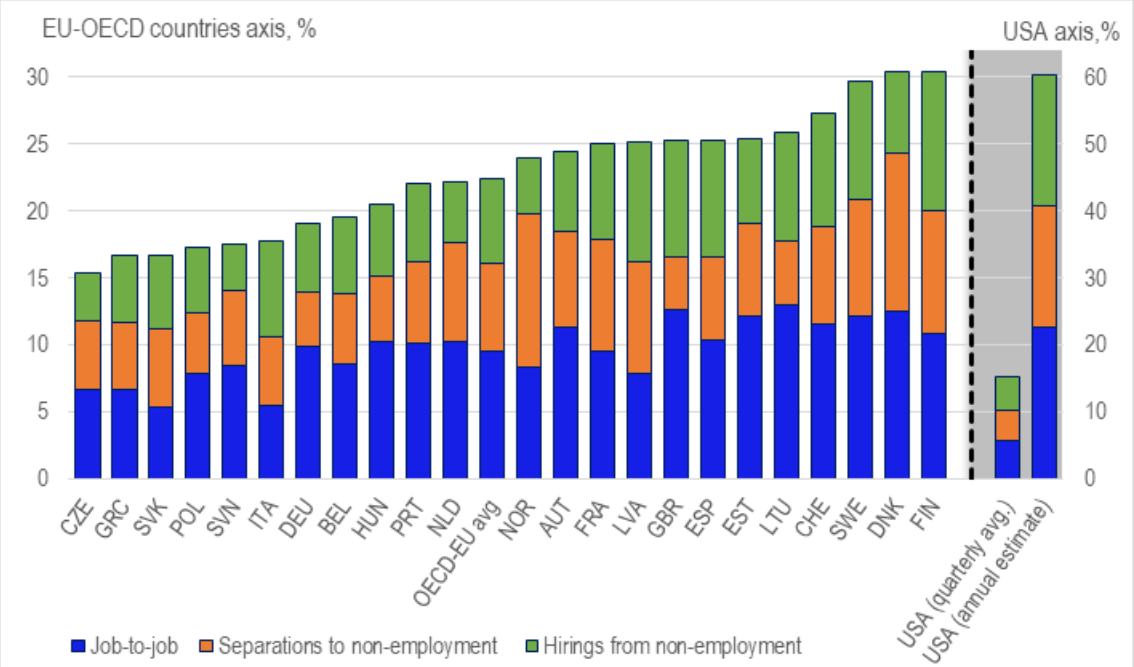
[8] As explained in Box 1, US data do not allow to split non-employment between unemployment and inactivity whereas European data allows this. For comparative purposes and to simplify the presentation, this section shows only non-employment.

[9] One year is the reference period available for European countries and one quarter for the United States. This implies that hirings and separations are defined as one-year (one-quarter) transitions across different employers and/or employment statuses. The time period matters as firm-level employment is subject to short-term fluctuations (e.g. seasonal activity, temporary fluctuations in product demand or difficulties in filling vacancies) and workers can change jobs many times during a given time period. This means that the annual rates of job creation and destruction for European countries will tend to be smaller than the sum of quarterly transitions. This can be seen in the case of the United States, where both the average and the sum of quarterly transitions are reported, for transparency.

same industry. This may be an upper-bound, however, given that the available industry classification is relatively aggregated (see Box 1 and Annex).

- The average labour mobility picture masks a high degree of heterogeneity across countries: annual worker reallocation rate reaches 30% in Finland and Denmark, twice the level observed in the Czech Republic and Greece. In countries where transitions from non-employment to job are high, so are transitions from job to non-employment, pointing to the Schumpeterian process of creative destruction.
- The United States exhibits a high degree of labour mobility compared to most European countries.[10] For instance, around 5% of workers change job within a quarter in the United States, while in Italy and the Slovak Republic the same proportion do so within a year. On an estimated annual basis, obtained by summing the quarterly transitions, total worker reallocation reaches 60% in the United States. This provides an upper-bound to the actual degree of annual reallocation since some workers may be counted twice (for example if they change job in two different quarters).

Figure 1. Labour market transitions in a cross-country comparative perspective, 2019 [11]



Note: Labour market transitions for European countries are computed as the number of working-age individuals moving between two statuses from one year to another as a share of average employment between these two years. Job-to-Job transitions measure job changes from one job to another. Hirings from non-employment and separations to non-employment include transitions from and to both unemployment and inactivity.

Labour market transitions for the United States are available on a quarterly basis and defined as a share of the average number of jobs at the beginning and the end of quarter. Job-to-job transitions include job changes within a quarter and from the previous to the adjacent quarter. Hirings from non-employment and separations to non-employment transitions are from and to "persistent non-employment", defined in the dataset as non-employment that lasts at least one quarter. Quarterly transitions are defined as the average over four quarters. Estimated annual transitions are obtained by summing quarterly rates.

Data refer to 2019 with the exception of NOR (2018).

Source: EU-LFS for European countries; Longitudinal Employer-Household Dynamics database (US Census Bureau) for the United States.

[10] See Introduction for relevant references.

[11] Cross-country patterns remain qualitatively similar when labour market transitions are computed over the period 2017-2019 instead of 2019.

Box 1. An overview of the framework and data for analysing labour market transitions

Worker transitions reflect movements of workers into jobs (hirings) and out of jobs (separations) over a specified period of time. This paper adopts the framework of analysis developed by (Davis and Haltiwanger, 1999[22]) and subsequently commonly used in the literature (e.g. (OECD, 2009[2]), (Bassanini and Garnero, 2012[3]), (IMF, 2021[11])). This framework is based on the comparison of worker statuses at two points in time: hirings are defined as the number of workers who are with the firm at time t, but were not at time t–1, and separations as the number of workers who were with the firm at t–1, but not at t.

Harmonised data is constructed for 24 OECD countries for the period 2000 to 2019 (see Annex for the list of countries and years available). For European countries, the dataset used to analyse worker transitions comes from the European Labour Force Survey (EU-LFS) and for the United States, data at semi-aggregated level are drawn from the Longitudinal Employer-Household Dynamics (LEHD) published by the US Census Bureau. The EU-LFS is a repeated cross-section with information about individual labour market status for the current and previous year as well as standard individual characteristics such as age, gender, and education attainment. The LEHD is based on longitudinal administrative data on workers' job histories which are traced on a quarterly, not yearly, basis. LEHD data do not allow identifying the nature of non-employment and therefore the split between unemployment and inactivity.

The constructed dataset includes a variety of labour market transitions calculated for the working-age population and for specific socio-economic groups. Labour market transitions are also calculated for the 20 economic industries available in the data based on the 1-digit level of NACE rev. 2 classification (see Annex for the list of industries). This relatively high level of aggregation makes it difficult to properly assess mobility within and across industries, which is why the current paper does not emphasize the industry dimension.

Labour market transitions are estimated based on the following individual-level transitions and accounting identities:

Job-to-job (or, equivalently, employer-to-employer) hirings: for the EU-LFS, job-to-job transitions refer to individuals who were employed both in the considered and previous year, and who have been at the current employer/job less than 12 months. For the LEHD, a job-to-job transition for a given quarter is defined as a job hire following a separation in the same or in the previous quarter;

Hirings from non-employment: for the EU-LFS, hirings from non-employment refer to individuals who were employed in the considered year and non-employed, that is, inactive or unemployed, in the previous year. Thus, hirings from non-employment are equal to the sum of hirings from unemployment and hirings from inactivity. For the LEHD, a job hire from non-employment for a given quarter is defined as a job hire following a non-employment spell that includes at least the previous quarter (called "persistent non-employment" in the database).

Hirings from unemployment: for the EU-LFS, hirings from unemployment refer to individuals who were employed in the considered year and unemployed in the previous year.

Hirings from inactivity: for the EU-LFS, hirings from inactivity refer to individuals who were employed in the considered year and inactive in the previous year.

Total hirings are equal to the sum of job-to-job hirings and hirings from non-employment.

Separations to non-employment: for the EU-LFS, separations to non-employment refer to individuals who were non-employed in the considered year and employed in the previous year. For the LEHD, a

job separation is defined as a separation followed by a spell of non-employment that includes at least the following quarter (called "persistent non-employment" in the database).

Separations to unemployment: for the EU-LFS, separations to unemployment refer to individuals who were unemployed in the considered year and employed in the previous year.

Separations to inactivity: for the EU-LFS, separations to inactivity refer to individuals who were inactive in the considered year and employed in the previous year. EU-LFS allows further breaking down the nature of inactivity which includes studying/training, fulfilling domestic tasks, and retirement.

Separations to non-employment are equal to the sum of separations to unemployment and to inactivity.

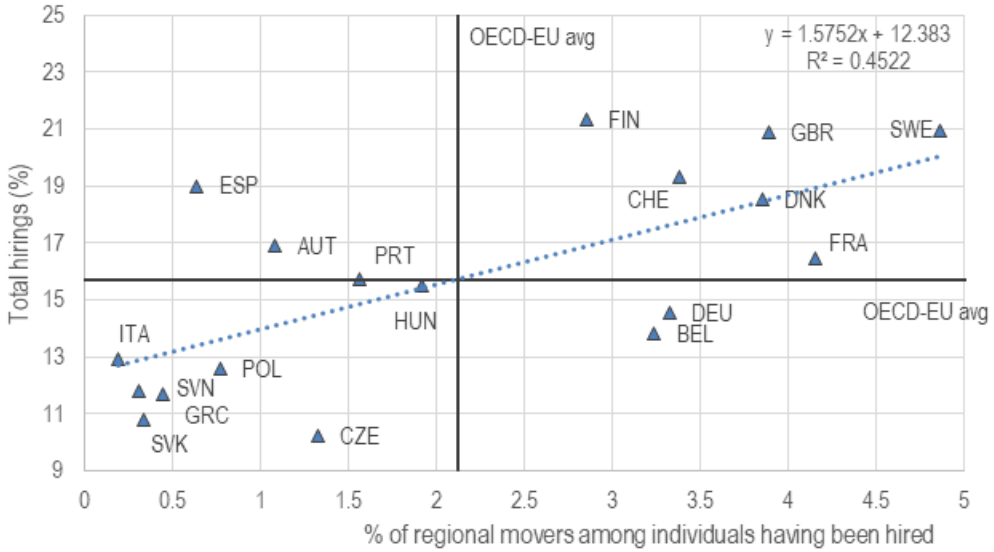
Aggregate measures from the EU-LFS micro-data are derived as weighted sums of the underlying individual-level transitions, with adjustments detailed in the Annex. Consistent with the literature, all transitions are expressed as percent of average employment over the current and retrospective year for the EU-LFS and similarly as percent of the average of the number of jobs at the beginning and the end of a respective quarter for the LEHD. Departures from this approach may occur and are consistently signalled in the text, for example when the focus is on the *probability* to transition from part-time to full-time jobs, which is expressed as percent of workers in part-time jobs in the initial period.

The Annex provides more details on the framework and the data.

Mobility in the labour market can be associated with geographical mobility insofar as individuals respond to better work opportunities by relocating. Inter-regional migration has historically been an important driver of labour market dynamism in the United States (Molloy et al., 2016[20]). Recent evidence suggests that the responsiveness of inter-regional migration to regional labour market conditions and shocks varies across countries, and is partly driven by housing affordability and structural policies (Cavalleri, Luu and Causa, 2021[23]), (Causa, Abendschein and Cavalleri, 2021[24]). Also, the literature has documented that the share of movers who move for labour-related reasons is low, especially so in European countries compared to the United States and Australia (Causa and Pichelmann, 2020[25]). This reflects the local nature of labour markets (Manning and Petrongolo, 2017[26]) as well as policy-driven obstacles to mobility creating labour market frictions (Causa and Pichelmann, 2020[25]), (Causa, Abendschein and Cavalleri, 2021[24]).

The data used in this paper confirms the relatively limited contribution of inter-regional mobility to labour mobility in European countries. Figure 2 shows a positive association between hirings and the share of regional movers among hirings across European countries. Yet on average, only around 2% of individuals changing labour market status have also changed region. The contribution of regional mobility to labour mobility is highly heterogeneous across countries: the share of regional movers among hired individuals ranges from less than 0.2% in Italy to almost 5% in Sweden. Overall, this simple descriptive analysis tends to suggest that removing barriers to geographical mobility likely supports labour mobility and workers' reallocation, but that policy interventions are also needed at the local level. As discussed in (Causa, Abendschein and Cavalleri, 2021[24]), an adequate policy mix is likely to require helping prospective movers but also stayers with place-based approaches. The expansion of teleworking accelerated by the COVID-19 crisis may also have reduced the scope and need for geographical mobility to support labour mobility. An inclusive recovery then requires targeted measures to reduce the large gaps in the ability to telework between workers from different socio-economic groups e.g. low versus high-educated, and from different regions e.g. urban versus rural ones; the risk being that teleworking exacerbates labour market and geographical inequalities.

Figure 2. Labour mobility and regional mobility across European countries, 2019

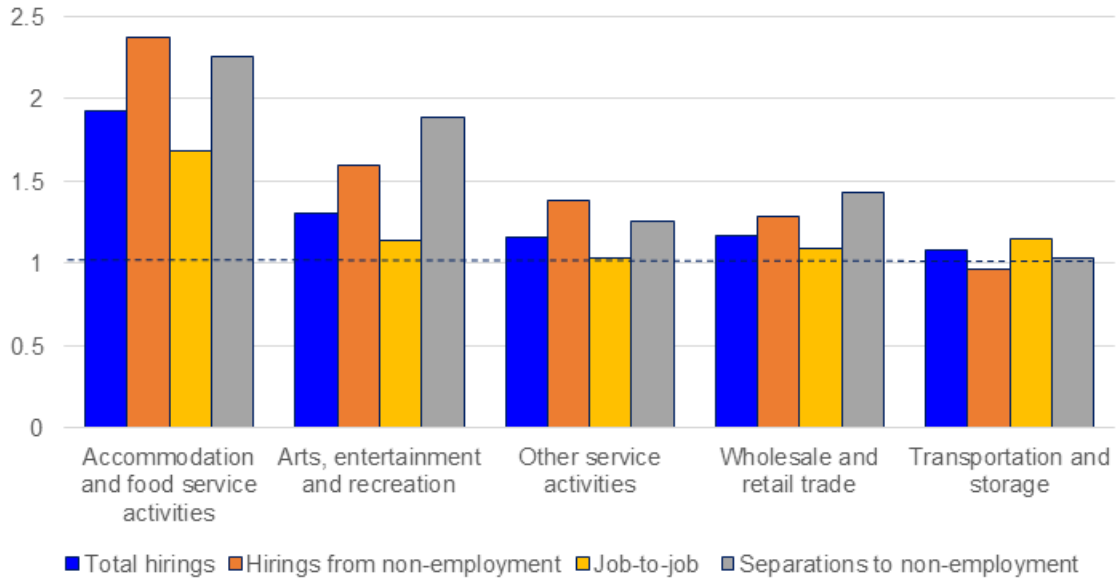


Note: The y-axis refers to the overall hiring rate defined as a proportion of the employment averaged over the period 2018-2019. The x-axis refers to the number of workers who have been hired and have also moved to another region in 2019 as a percentage of workers who have been hired.
Source: EU-LFS and OECD calculations.

Labour market transitions vary significantly across industries and previous literature has shown that mobility and reallocations tend to be higher in services than in manufacturing ((OECD, 2009[2]) Chapter 3). Unlike previous recessions, when manufacturing and construction were typically the most impacted sectors, the sharpest drops in employment during the COVID-19 crisis were in services -- wholesale and retail trade, accommodation and food, and arts and entertainment. A focus on labour market transitions in those industries suggests a higher degree of mobility relative to other industries (Figure 3). Particularly in accommodation and food, hirings from non-employment and separations to non-employment are, on average across countries, more than twice as high as in other industries. Non-standard workers, many of whom tend to be low-skilled and young, are over-represented in those industries and have suffered the most from job or income losses during the crisis, one reason being their limited access to job-retention schemes and unemployment benefits (Causa and Cavalleri, 2020[27]). As demand is picking up, policies need to support the transitions of those more disadvantaged socio-economic groups to new quality jobs, with adequate pay, benefits and social protection.

Figure 3. A focus on labour market transitions in industries most affected by the COVID-19 crisis, OECD average, 2019

Labour market transitions in industries most affected by the COVID-19 crisis, relative to all other industries

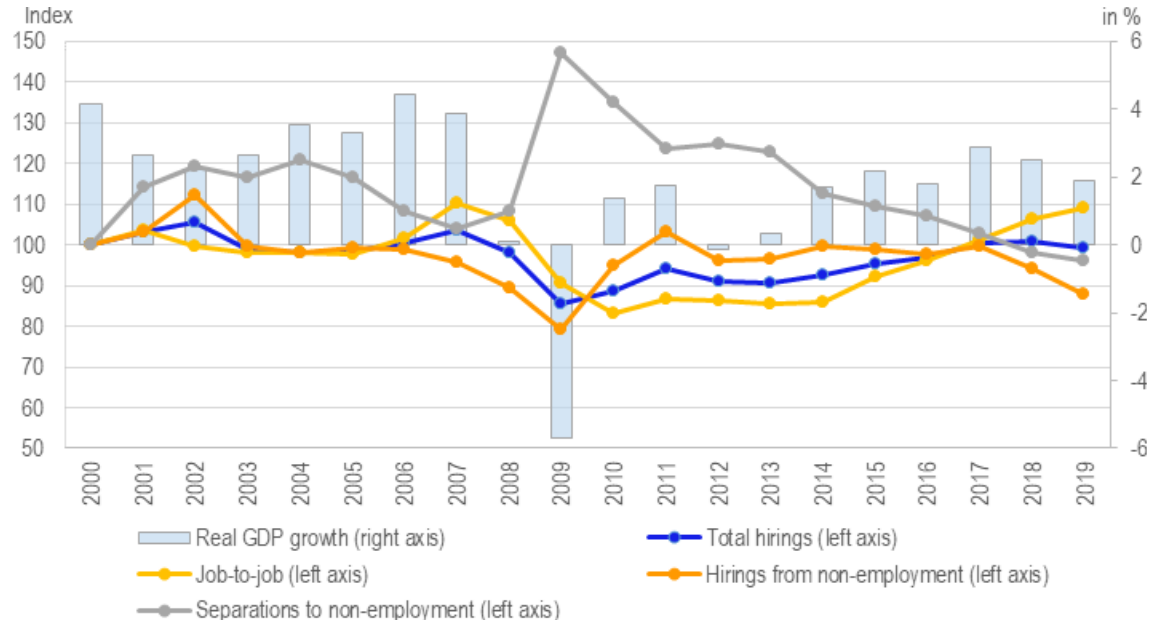


Note: Based on a NACE rev.2 classification for all countries. The data refer to labour market transitions in the industries most affected by the Covid-19 crisis relative to all other ("less affected") industries. The dotted line indicates equal transition rates in the most affected industries and in all other ("less affected") industries.
Source: EU-LFS for European countries; Longitudinal Employer-Household Dynamics database (US Census Bureau) for the United States.

Main findings on the evolution of labour market transitions in the two decades prior to the pandemic are (Figure 4):

- On average across OECD countries for which data are available, total hirings and separations to non-employment have exhibited cyclical fluctuations. Just before the COVID-19 crisis they were broadly back to their 2000 level.
- The evolution of total hirings masks two different trends: on average across countries, job-to-job hirings have tended to increase, while hirings from non-employment have tended to decline, by around 12% since 2000.

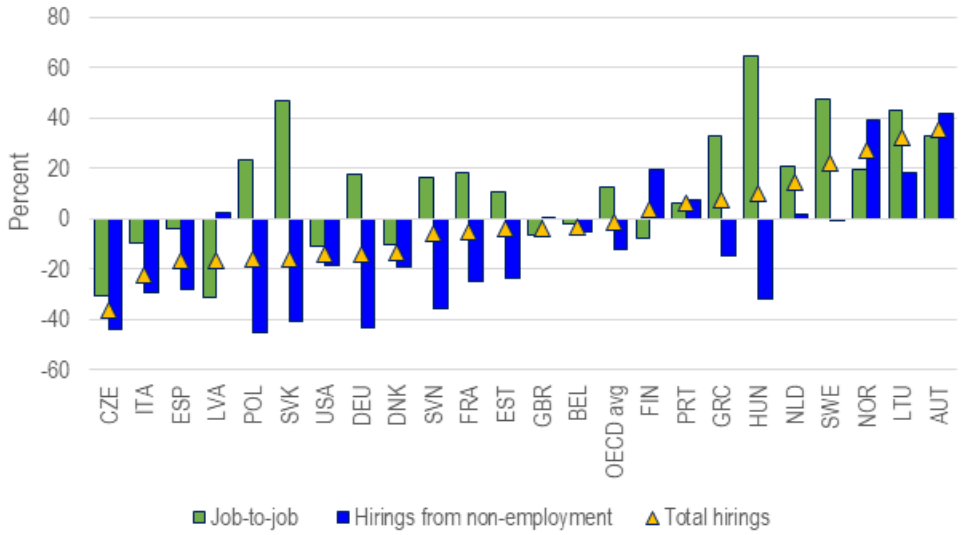
Figure 4. Developments in labour market transitions over the last two decades, OECD average



Note: See Annex for country-by-country profiles. All countries have data available for the period 2000-2019, with the following exceptions: AUT(2002-2019), CZE(2001-2019), LTU(2001-2019), LVA(2002-2019), NOR(2001-2018), POL(2001-2019), and SVK(2001-2019). United States figures are based on quarterly frequencies and the calculations here refer to growth between 2001q1 and 2019q4.
Source: EU-LFS for European countries; Longitudinal Employer-Household Dynamics database (US Census Bureau) for the United States. Data for real GDP per capita growth are from Economic Outlook Database.

The average trend decline in hirings from non-employment has occurred in most OECD countries (Figure 5), with a decline by more than 30% in some countries such as Germany and Poland. This may reflect a decline in the pool of unemployed and inactive over the last two decades, for instance due to increases in employment among seniors and women. However, it could also partly reflect a secular decline in the demand for certain medium and low-skilled occupations as a result of digitalisation and automation, as argued recently by (Haltiwanger and Spletzer, 2020[10]). Countries' developments have been more diverse with respect to job-to-job hirings, with a number of countries experiencing increases, for instance Hungary and Sweden, and others a decline, for instance the Czech Republic and Latvia.

Figure 5. Developments in hirings across OECD countries, 2000-2019.

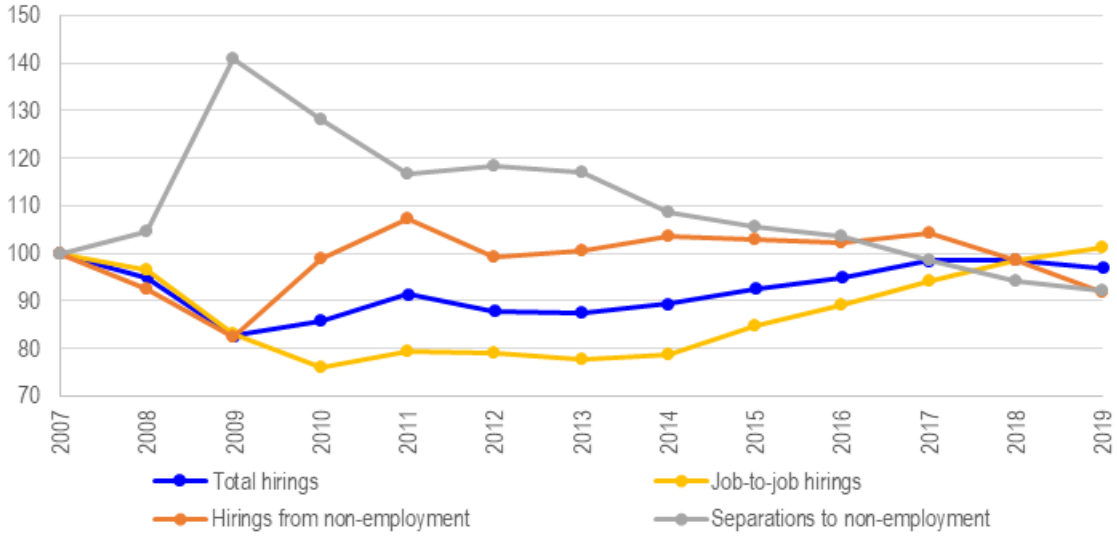


Note: All countries have data available for the period 2000-2019, with the following exceptions: AUT(2002-2019), CZE(2001-2019), LTU(2001-2019), LVA(2002-2019), NOR(2001-2018), POL(2001-2019), and SVK(2001-2019). United States figures are based on quarterly frequencies and the calculations here refer to growth between 2001q1 and 2019q4.
Source: EU-LFS for European countries; Longitudinal Employer-Household Dynamics database (US Census Bureau) for the United States.

Labour market transitions in downturns and scarring risks

A focus on the great financial crisis and the subsequent decade (Figure 6) provides an illustration of potentially long-lasting effects of recessions on labour market transitions. This analysis shows that separations to non-employment are strongly counter-cyclical: they increased by around 40%, on average across countries, between 2008 and 2009. More importantly, it took a decade before they returned to 2007 levels. Hirings from non-employment were already declining before 2008 and continued to decline, with the exception of a pick-up between the period 2009 and 2011. Finally, the analysis illustrates the pro-cyclical nature of job-to-job hirings which tend to decline in downturns and recover as economic conditions improve. These findings on the cyclicality of labour market transitions are in line with previous literature (Blanchard et al., 1990[28]) (Haltiwanger, Hyatt and McEntarfer, 2015[29]). The slow recovery of hirings in the aftermath of the 2008 recession may reflect frictions that create obstacles and bottlenecks to the matching between jobs and workers and also scarring effects among individuals hard-hit by the recession. At the current juncture, this may indicate that improved cyclical conditions do not automatically translate into virtuous hiring dynamics. The labour market recovery is likely to require policies to support transitions and the matching between workers and jobs – including targeted measures to help firms that need recruiting and to help individuals that need requalifying.

Figure 6. A zoom on the great financial crisis, OECD average, 2007-2019



Note: NOR (2007-2018). United States figures are based on quarterly frequencies and the calculations here refer to growth between 2001q1 (2007q1) and 2019q4.
Source: EU-LFS for European countries; Longitudinal Employer-Household Dynamics database (US Census Bureau) for the United States.

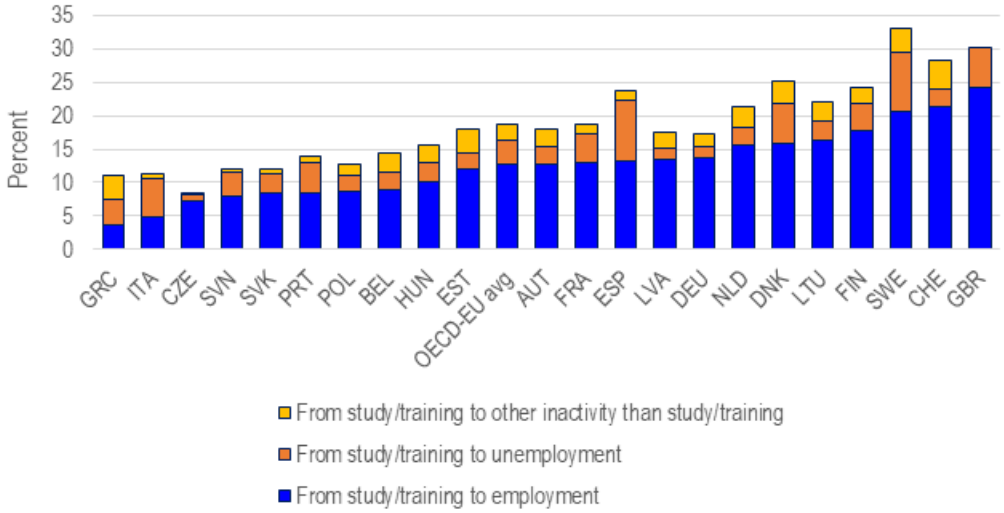
The dynamism of the labour market is particularly important for young people and for those entering the labour market. Job transitions are more frequent early in the employment life-cycle, consistent with young workers starting to build their job careers and having lower transition costs due to less sector- or firm-specific human capital (Topel and Ward, 1992[30]); (Menzio, Telyukova and Visschers, 2016[31]); (Lagakos et al., 2018[32]), (Haltiwanger and Spletzer, 2020[10]), (Albagli et al., 2021[33]). Earnings growth is also especially strong in the first decade of an individual's labour market participation, pointing to a rapid accumulation of skills and movement to better job matches. Workers in their later portions of work lives move significantly less, have flatter earnings profiles, and suffer significantly more from job displacements. As a result, younger workers play a leading role in employment reallocation towards more productive firms. A key transition for youth is from study to employment as it has long-term implications for individuals' working lifetime and warrants particular focus at the current juncture, to minimise scarring effects from the COVID-19 crisis.[12]

Transitions from study to employment and non-employment vary greatly across European countries (Figure 7):

- On average across countries, around 12% of students transition from study to employment from one year to the next, ranging from more than 20% in the United Kingdom and Sweden to less than 5% in Italy and Greece.
- Transitions from study to unemployment and inactivity (other than study) are higher than 10% in Spain and Sweden. In Greece and Italy, students have a lower chance to move into jobs than into unemployment or inactivity.

[12] See (Andrews et al., 2020[135]) for recent evidence on Australia and for a policy discussion.

Figure 7. Labour market transitions of students, 2019

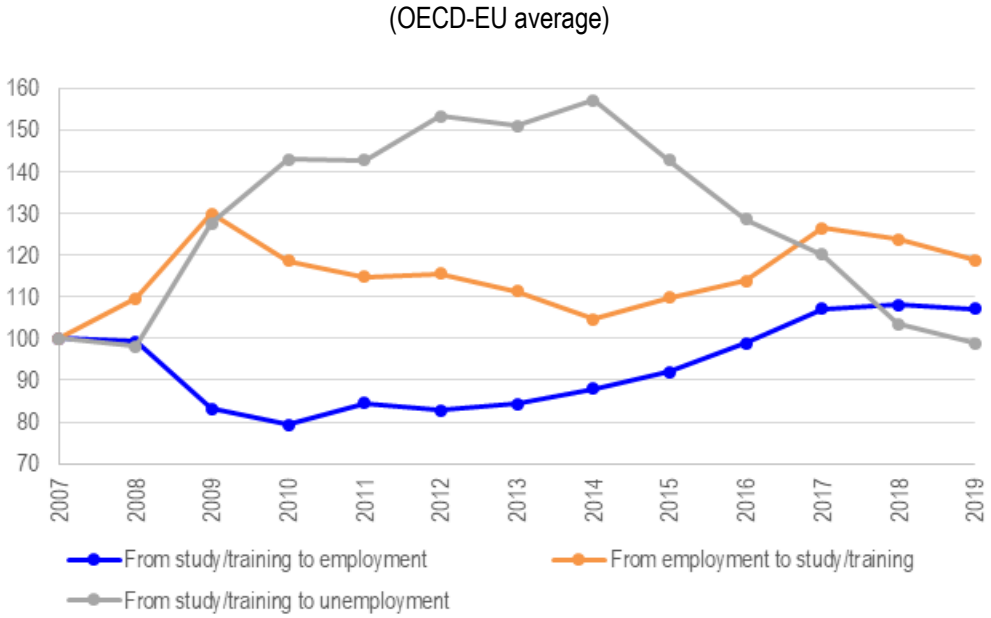


Note: The transitions of study/training to employment, unemployment, and inactivity between t and t+1 are computed as a share of the total students in t. The transition from study to inactivity other than study is not reported for the United Kingdom due to data unavailability.
Source: EU-LFS.

One key factor influencing the transition from study to job is the economic cycle: bad times make it particularly difficult for students to access the labour market. The literature shows that people entering the labour market during a recession suffer long-term damages in terms of employment and earnings, (Oreopoulos, von Wachter and Heisz, 2012[34]); (OECD, 2016[35]). Such scarring effects have been particularly severe and long-lasting since the 2008 recession (Figure 8):

- The transition from study to unemployment increased by 60% between 2007 and 2014, on average across countries for which data is available. More than two thirds of this increase was between 2008 and 2010. It took more than a decade for the transition from study to unemployment to decline back to its pre-recession level.
- The transition from study to employment declined by around 20% at its trough, on average across countries, and it took a decade for it to come back to pre-crisis levels.
- The early stage of the great recession also saw a spike in transitions from employment to study, as the opportunity cost of training is typically lower when labour demand is weak.

Figure 8. Scarring effects from the 2008 recession, 2007-2019

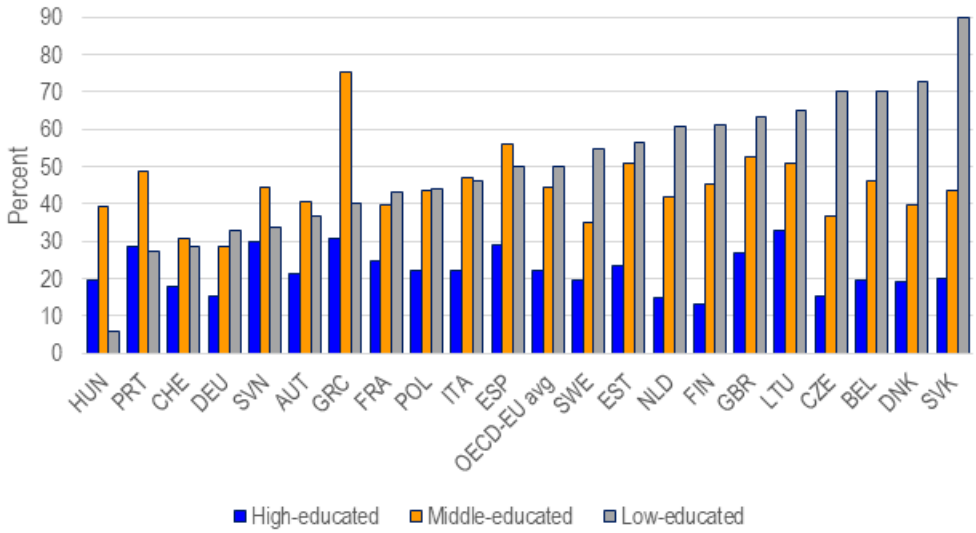


Note: The transition from study to employment from t to t+1 is computed as a share of the total students/trainers in the period t. The transition from study to unemployment from t to t+1 is computed as a share of the total students/trainers in the period t. The transition from employment to study from t to t+1 is computed as a share of the total employment in the period t. Rates are rescaled to 2007=100.
Source: EU-LFS and OECD calculations.

Youth have been particularly hard hit by the COVID-19 pandemic (OECD, 2021[13]), (IMF, 2021[11]), (Stantcheva, 2021[36]). Having short employment histories, young workers have less chance to accrue firm-specific skills and experience. And, as the last hired, they are often the first to be laid off. Another reason why this crisis has been particularly damaging for youth is that they tend to be more likely to work in those sectors most affected by lockdown and social distancing measures. Indeed, European data show that people that left the education system just prior to the pandemic and that were employed in 2019 were over-exposed in sectors most affected by the COVID 19 crisis. Such exposure is not uniformly distributed across education groups (Figure 9): around 50% of this cohort are low-educated, on average across European countries. Yet low-educated workers tend to experience more frequent labour market transitions, especially in and out of jobs, than middle and high educated workers (Figure 10). While job-to-job hirings are, on average, relatively similar between education groups, hirings from and separations to non-employment are on average around two times higher among the low-educated than among the high-educated.

Figure 9. A focus on sectoral exposure among cohorts having left the education system at the onset of the COVID-19 crisis, 2019

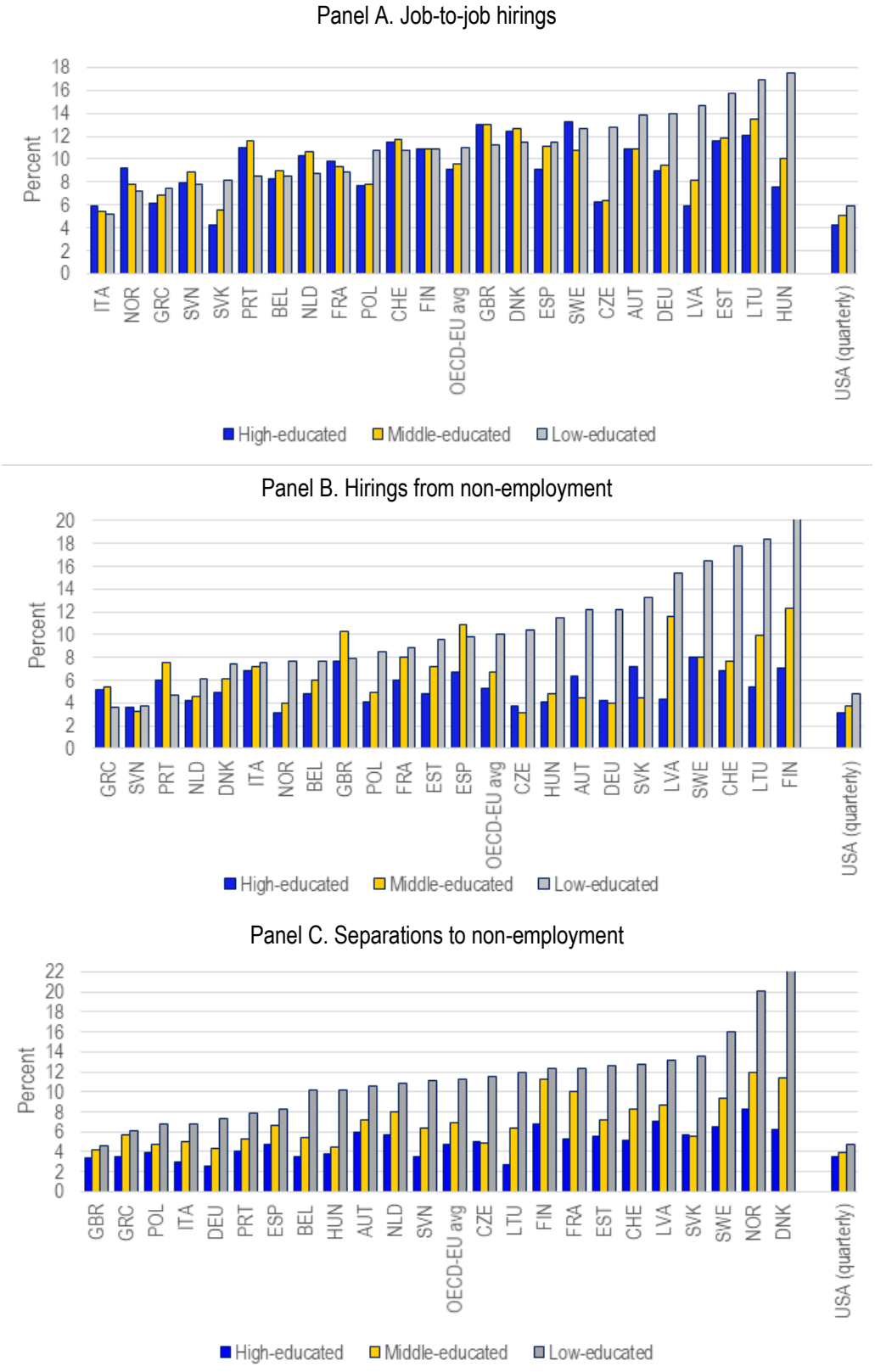
Employment shares in sectors most affected by the COVID 19 crisis among cohorts that have recently left full -time education, by education level.



Note: Sectors most affected by the COVID-19 crisis are: Retail trade; Transportation; Accommodation and food services; Arts, recreation and entertainment; Other personal services. For each sector, the employment share is defined as the number of individuals that have left the education system in 2018 or 2019 and are employed in sectors most affected by the COVID-19 crisis, relative to all individuals that that have left the education system in 2018 or 2019 and are employed.
Source: EU-LFS.

The finding that low-educated workers transition more frequently in and out of jobs is in line with the literature and reflects several facts: i) the higher risk of unemployment and lower labour market attachment among the low-educated; ii) the over-representation of low-educated workers in sectors characterised by high turnover (e.g. food and accommodation) and precarious work contracts such as short-term contracts or platform work. These stylised facts carry relevant implications in a context where low-educated workers have been hard-hit by the COVID-19 crisis. As the economy recovers, one challenge is to channel rising job vacancies, and labour shortages in some parts of the economy (OECD, 2021[14]), towards hiring of the low-educated, the unemployed and those that have dropped out of the labour force.

Figure 10. Hirings and separations across education groups, 2019



Note: See Box 1 and Annex for definitions.
Source: EU-LFS data for European countries, LEHD for the United States and OECD computations.

Labour market transitions: job quality and job ladders

Promoting labour market mobility is not a policy objective in itself, but it is desirable when it helps workers climb the job ladder by giving them access to better opportunities, especially for individuals that enter the labour market with a disadvantaged socio-economic background. Survey data show that people care about having "good jobs" (Rodrik and Stantcheva, 2021[37]): jobs that pay wages allowing reaching adequate living standards, opportunities for wage progression at the firm, access to training, to essential benefits and to social protection. This concern has become all the more relevant during the COVID-19 crisis and recovery, as individuals, for instance workers in contact-intensive industries, may have become reluctant to come back to low-quality, unsecure, unstable jobs (Furman and Powel III, 2021[15]). An efficient and inclusive labour recovery from the COVID-19 crisis is the opportunity to promote the creation of quality jobs and to help workers climb the job ladder.

Whether a worker receives a permanent or a temporary contract is an important dimension of job quality (OECD, 2014[38]). This reflects various factors: workers under temporary contracts have little access to social protection and training, and they are the first being laid-off during downturns, as evidenced during the COVID-19 crisis (OECD, 2021[13]). Young people are over-represented in temporary jobs. While such jobs can be a stepping stone in the transition from education into work, they can also trap young people in insecure jobs, and evidence suggests that such contracts do not easily facilitate the transition to more stable positions (Eurofound, 2015[39]). European OECD countries exhibit stark variation in the level of hirings on temporary jobs (Figure 11, Panel A): [13]

- On average across European countries, slightly more than one third of hirings in 2019 were on temporary jobs, ranging from less than 12% in Latvia, Lithuania and the United Kingdom to more than 60% in Poland, Portugal and Spain.
- On average, hirings on temporary jobs are equally split between hirings from non-employment and from another employer, with some cross-country differences: hirings from non-employment are prevalent in e.g. France and Italy, while hirings from another employer are more prevalent in e.g. the Netherlands and Slovenia. Such differences are likely to partly reflect differences in joblessness across countries, with higher unemployment being associated with higher hirings from non-employment.

Whether a worker receives a part-time or full-time job is another relevant dimension of job quality. Evidence suggests that, all else equal, relative to full-time jobs, part-time jobs tend to pay less and to reduce chances of upward earnings mobility (OECD, 2019[40]). Such dimension of job quality affects women disproportionately given their over-representation among part-time workers,[14] and this in turn contributes to gender gaps in labour market transitions and more generally career opportunities (Box 2). The level of hirings on part-time jobs varies across European OECD countries (Figure 11, Panel B): [15]

- On average across European countries, around 20% of hirings in 2019 were on part-time jobs, ranging from more than one third in the United Kingdom, Switzerland and the Netherlands to less than 10% in the Slovak Republic, Hungary and Lithuania.

[13] This is defined based on official EU-LFS data as dependent employees that declare to have a temporary job/work contract of limited duration.

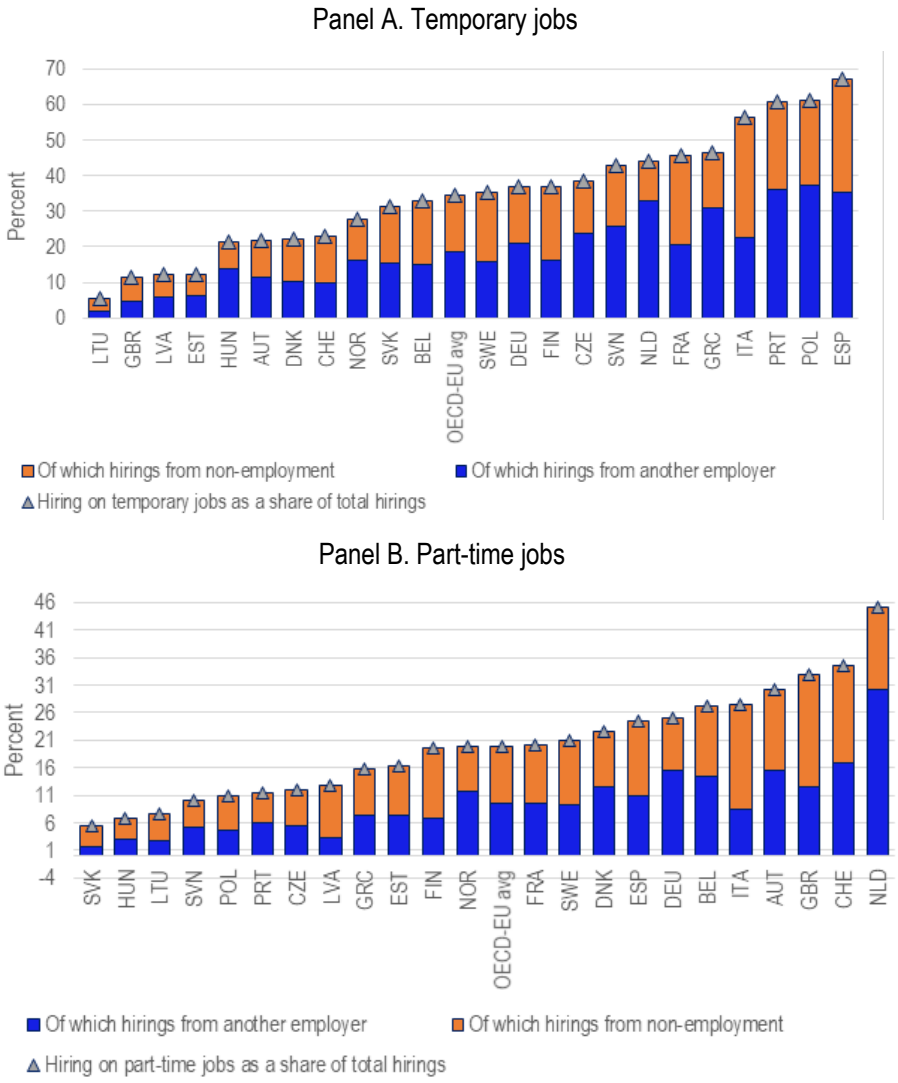
[14] On average across OECD countries part-time jobs represent less than 10% of employment among men and more than 25% among women. See OECD gender portal: https://www.oecd.org/gender/data/employment/.

[15] This is defined based on official EU-LFS data as employed individuals that declare to work part-time.

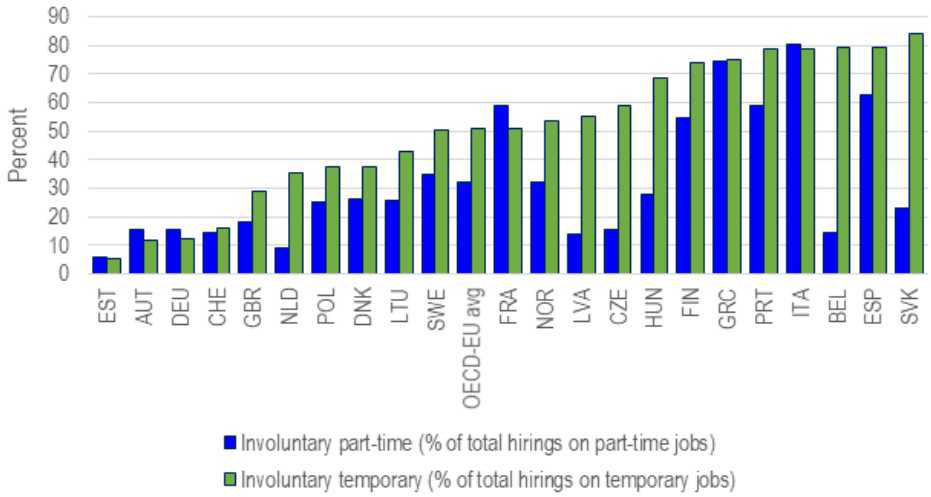
On average, hirings on part-time jobs are also split equally between hirings from non-employment and from another employer. Hirings from non-employment are particularly frequent in Italy, while hirings from another employer are particularly frequent in the Netherlands and Slovenia. Temporary and part-time jobs are less of a policy concern when there is evidence that workers hired on such contracts are not looking for alternative, more stable forms of employment. However, descriptive evidence suggests that this is often not the case (Figure 11, Panel C):

- On average across European countries, more than half of temporary work is involuntary and more than a third of part-time work is involuntary. Italy displays the largest proportion, almost 80%, of workers that hold part-time or temporary positions because they could not find full-time or permanent jobs. This proportion is less than 15% in Slovenia, Austria and Germany.
- Being hired on temporary job is an often involuntary choice from workers' perspective, and this is the case in countries where the incidence of temporary job is low (e.g. the Slovak Republic) and where it is high (e.g. Spain and Italy).

Figure 11. Hirings on temporary and part-time jobs, 2019



Panel C. Involuntary temporary and part-time jobs



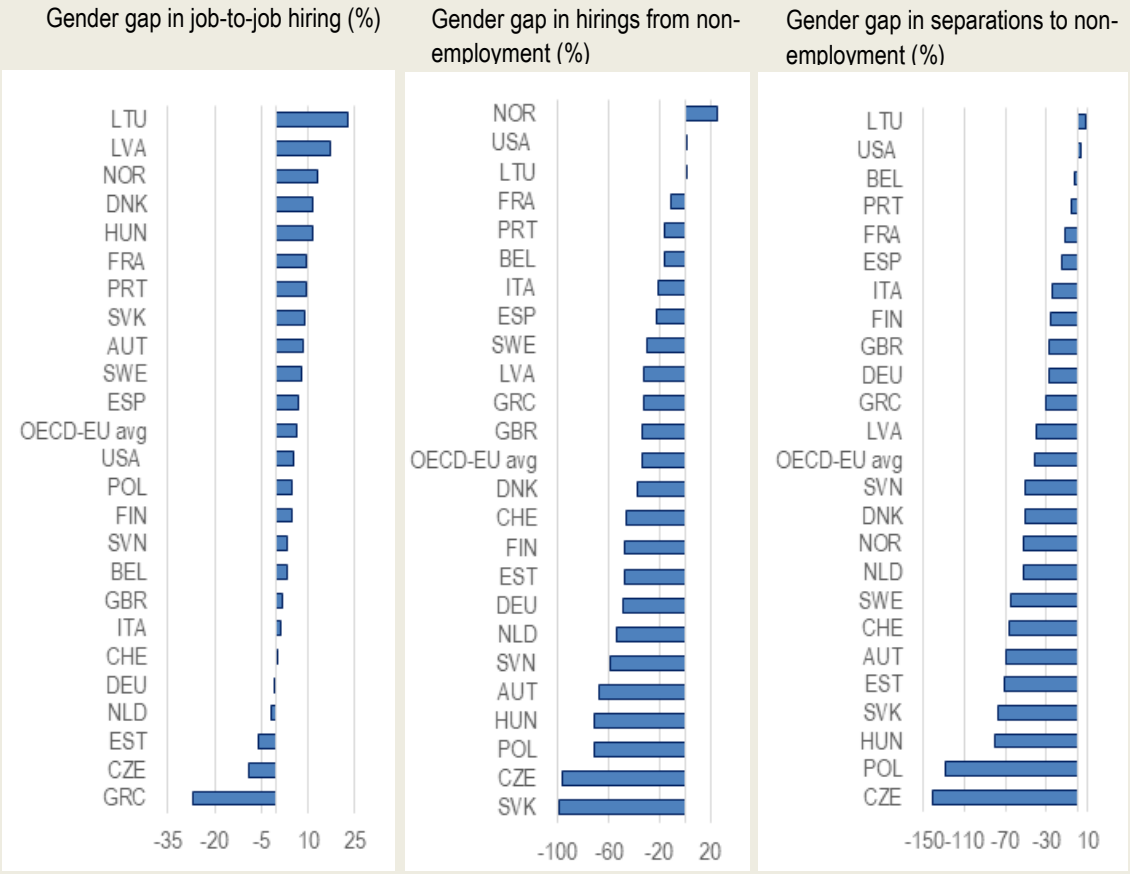
Note: For Panel C, the data refer to individuals hired in part-time (temporary) employment and declaring that they work part-time (under temporary contract) because they could not find a full-time (permanent) job.
Source: EU-LFS and OECD calculations.

Box 2. Some stylised facts about gender gaps in labour market transitions

Gender gaps in terms of employment and hours worked are well documented (see OECD gender portal: https://www.oecd.org/gender/data/employment/), but less so in terms of labour market transitions. Figure 12 delivers a broad overview on hirings and separations (while the Annex provides additional material):

- Job-to-job hirings tend to be higher among men than among women, by 6% on average, but differences are not very pronounced, with the exception of Lithuania where men are almost 25% more mobile between jobs than women and Greece where men are more than 25% less mobile than women.
- By contrast, hirings in and separations out of jobs feature pronounced gender gaps. In virtually all countries, hirings from and separations to non-employment are significantly lower among men than among women. Such is particularly the case in Eastern European countries, where women transition twice as much as men in and out of jobs.
- Gender gaps in labour market transitions tend to be low in the United States compared to European countries on the basis of both hirings and separations.

Figure 12. Gender gaps in labour market transitions, 2019



Note: Gender gaps in labour market transitions are defined as the difference between transitions of men and women relative to transitions of men. Hirings and separations are defined relative to average employment between two subsequent years (quarters for the United States).
Source: EU-LFS for European countries; Longitudinal Employer-Household Dynamics database (US Census Bureau) for the United States.

Gender gaps in labour mobility partly reflect self-selection into certain industries, occupations and jobs that make it easier to carry out domestic tasks, in particular into part-time jobs: on average across European countries, the proportion of women taking part-time jobs because they need to look after children or dependent adults is around 18%, while that proportion is less than 2% among men. Such gender norms in the choice to work part-time are particularly striking in Austria and Germany (see Annex).

In turn, the unequal burden of family-related work and in particular taking care of children contributes to the higher propensity of women to drop out the labour force: on average across European countries, around 1.7% of employed and 4.6% of unemployed women in a given year move to inactivity to fulfil domestic tasks compared to less than 0.2% of employed and 1% of unemployed men. Gender gaps in the transition out of the labour force are highest in the Czech Republic and Baltic countries (see Annex).

Given these stylised facts pre-COVID 19, it is no surprise that, as documented in the end of this paper, many women quit their job or drop-out of the labour force to take care of the children during the crisis-related school closures. The concern is that these women risk not coming back to the labour market. This may have long-term adverse implications on women's labour market prospects, potentially reversing the secular progress achieved in narrowing gender gaps.

Temporary and part-time jobs are also less of a policy concern when there is evidence that workers hired on such contracts easily transition to more stable forms of employment. However, the data does not support this view (Figure 13):

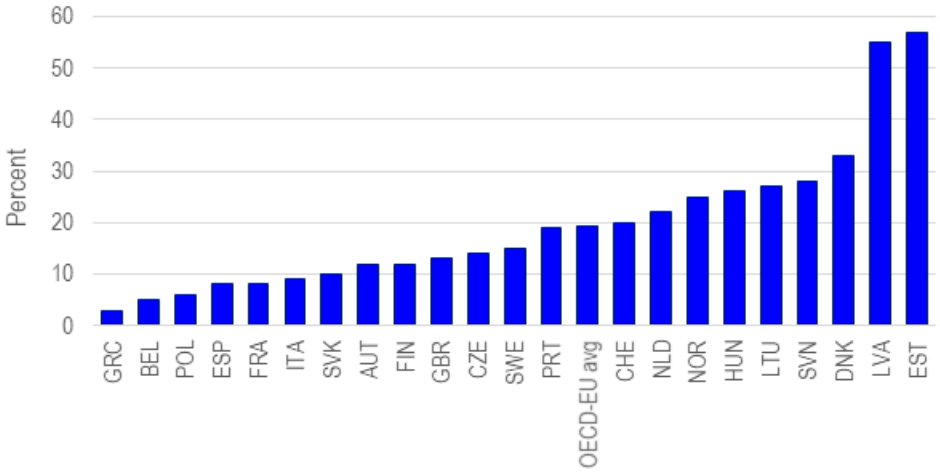
- On average across European countries, 19% of workers on temporary contracts in the age group 25-39 move to permanent contracts from one quarter to the next (Figure 13, Panel A). Such transition tends to be low, less than 10%, in countries characterised by high prevalence of temporary jobs (e.g. Greece and Poland) and consistently high, more than 50%, in countries characterised by low prevalence of temporary jobs (e.g. Latvia and Estonia).

On average across European countries, around 10% of women and 17% of men in the age group 25-39 move from part-time to full-time jobs from one quarter to the next (Figure 13, Panel B).[16] In all countries except the Czech Republic, men display higher chances to move, as much as three times higher in the Netherlands and Switzerland. These gender differences in transition probabilities likely contribute to gender gaps in labour market outcomes (Box 2), especially in wage progression over the lifecycle (see (Schwellnus et al., 2021[21])). A large body of evidence suggests that the flow of workers between jobs is good from the perspective of productivity growth thanks to higher allocative efficiency. Whether job mobility is good from the perspective of job movers depends on a range of factors, but in particular on the extent to which job mobility is associated with earnings progression. Flows from non-employment to employment have ambiguous productivity effects, depending on e.g. the skill content of hirings, while they have positive employment effects when they are associated with the creation of new firms or jobs at the hiring firm. From the perspective of individuals moving into jobs, being hired from non-employment is most likely a positive outcome, especially for new entrants in the labour market. Available literature has developed theory and provided evidence of so-called “job ladder effects”, according to which workers’ mobility is usually associated with upward earnings mobility, starting with moving into jobs and then between jobs, especially at the beginning of the work life.

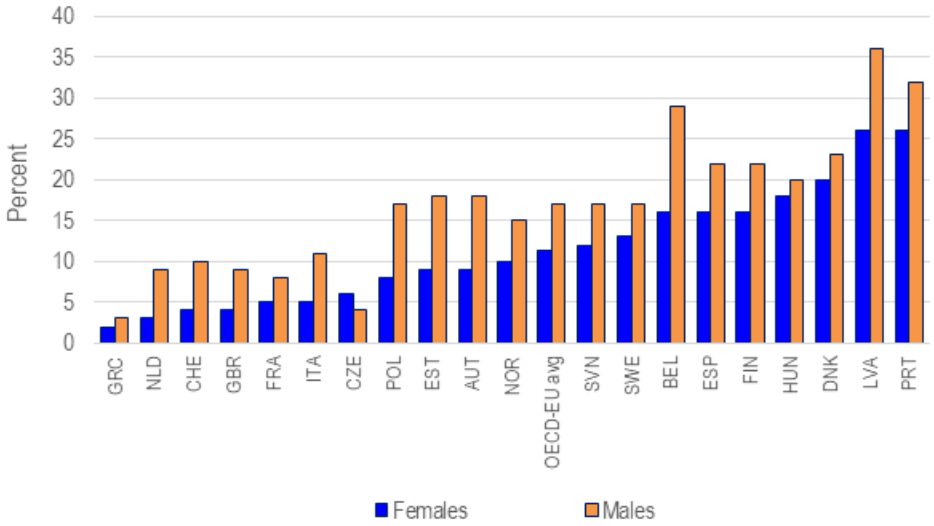
[16] Gender differences in transitions from temporary to permanent jobs are minor and thus not reported.

Figure 13. Transitions from temporary/part-time to permanent/full-time jobs, 2019

Panel A. Transitions from temporary to permanent contracts



Panel B. Transitions from part-time to full-time contracts, by gender



Note: Age group 25-39. Annual averages of quarterly transitions, probabilities estimated by Eurostat. The probabilities are thus expressed relative to initial status (temporary employees in Panel A, part-time in Panel B).
Source: ec.europa.eu

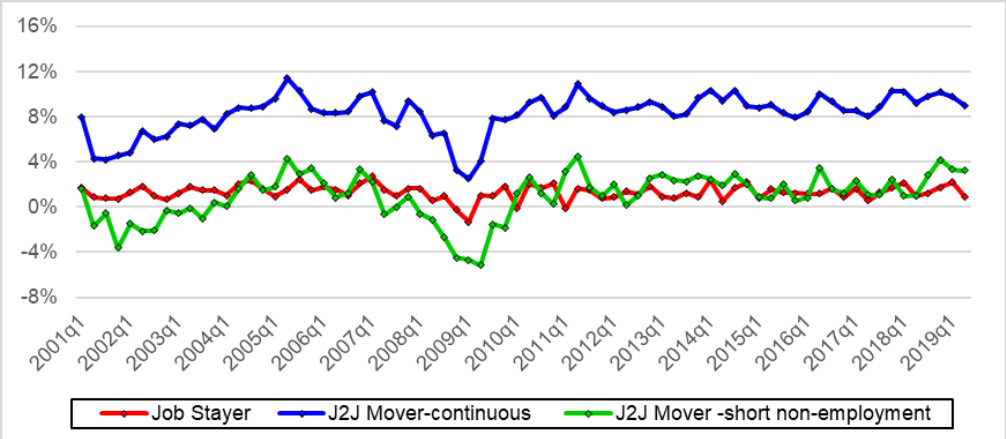
New descriptive evidence for the United States suggest that workers' job transitions are associated with job ladder effects and that such effects have the potential to reduce labour market inequalities (Box 3): i) earnings growth is higher for job movers than for job-stayers, but the gains only materialise for continuous job-to-job mobility, that is, not when mobility occurs after a non-employment spell, ii) job mobility disproportionately benefits young people (even after a short non-employment spell), but also the low-educated and women. Though purely descriptive, this US-based analysis confirms prior literature on the benefits of job mobility for wage progression, especially for young people at the beginning of their career and for more vulnerable groups. However, it also confirms that the benefits of job mobility decline with non-employment spells between jobs (see (Fallick et al., 2021[41]) for recent evidence on this point).

Box 3. Job ladder effects: illustrative evidence for the United States

The literature on the United States has provided evidence that job transitions have historically been a major channel of workers' earnings progression. But such "job ladder effects" have been declining over the recent decades, contributing to increasing wage inequalities (see e.g. (Haltiwanger and Spletzer, 2020[10])).

Illustrative evidence confirms the relevance of job ladder effects: the data indicate that workers changing job experience higher earnings growth than workers staying in the same job: around 6% for job movers compared to around 1.5% for job stayers, on average over the last decade (Figure 14). However, such gains only materialise for continuous job-to-job mobility, that is, for workers moving directly from one job to the other. If job-to-job mobility materialises with a short non-employment spell between the two jobs, that is, a spell lasting up to two quarters, then earnings growth among job movers tracks that of job stayers, and tends to decline during recessions, probably reflecting the involuntary nature of separations. This finding is in line with literature showing that job mobility via unemployment is associated with earnings penalties, and that such penalties increase with unemployment duration (see (IMF, 2021[11]), (Fallick et al., 2021[41]) for recent evidence). These findings are, more generally, in line with literature on job ladder effects along with their cyclical nature (see e.g. (Haltiwanger et al., 2018[42])).

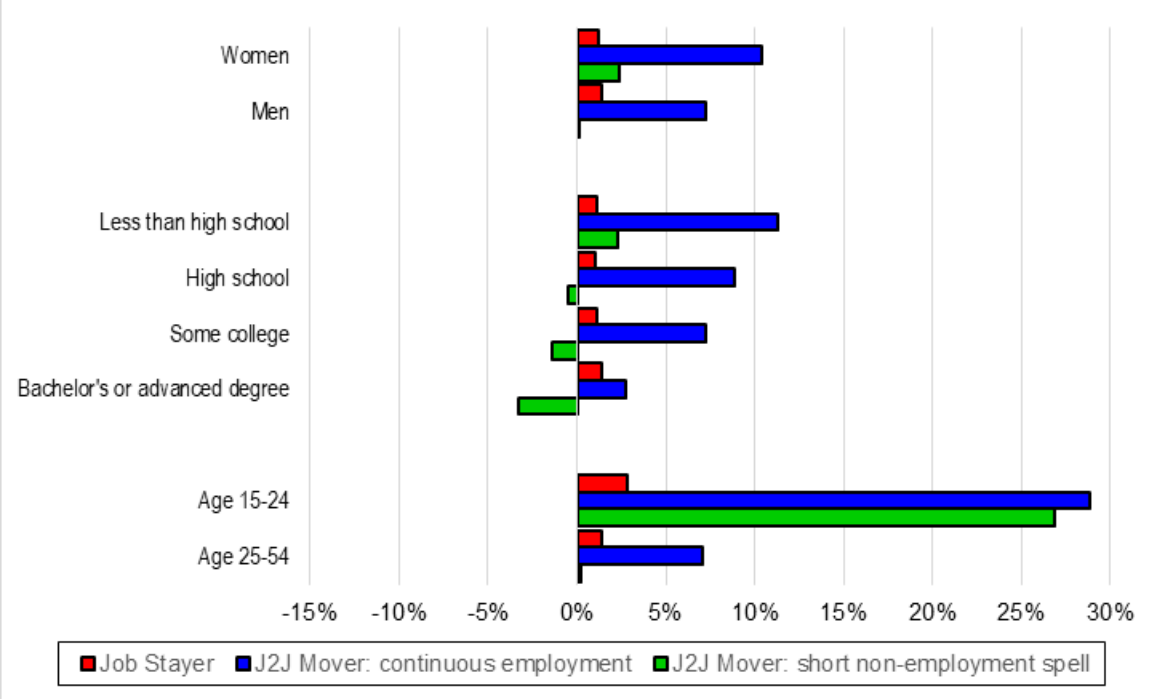
Figure 14. Development in earnings growth among job-movers and job-stayers, 2001-2019



Note: Growth rates are computed based on seasonally adjusted average earnings before and after transitions (or non-transition) and expressed in percent. Earnings growth for Job Stayer in quarter q is computed based on the average earnings in quarter q compared to the previous quarter q-1. Earnings growth of job-to-job movers in quarter q with continuous employment, i.e. job change within a quarter, are computed based on earnings in quarter q-1 and q+1. Earnings growth of job-to-job moves with a short spell of non-employment, i.e. job change across quarters are computed based on earnings in q-2 and q+1. Earnings are deflated by the PCE deflator.
Source: LEHD, US Census Bureau; OECD calculations.

A granular distributional analysis shows that the benefits of job mobility are very heterogeneous across socio-economic groups and tend to be stronger for young relative to prime-aged workers, low-skilled relative to high-skilled and women relative to men (Figure 15). These findings are again qualitatively in line with (Haltiwanger, Hyatt and McEntarfer, 2018[43])).

Figure 15. Job stayers, job movers with and without non-employment spell and quarterly real earnings growth across different socio-economic groups, 2001-2019



Note: Growth rates are computed based on seasonally adjusted average earnings before and after transitions (or non-transition) and expressed in percent. Earnings growth for Job Stayer in quarter q is computed based on the average earnings in quarter q compared to the previous quarter q-1. Earnings growth of job-to-job movers in quarter q with continuous employment, i.e. job change within a quarter, are computed based on earnings in quarter q-1 and q+1. Earnings growth of job-to-job moves with a short spell of non-employment, i.e. job change across quarters are computed based on earnings in q-2 and q+1. Earnings are deflated by the PCE deflator. Quarterly averages from 2001-Q1 to 2019-Q2.
Source: LEHD, US Census Bureau; OECD calculations

One policy implication is that in the current context, policies to support workers finding better jobs could help building an efficient and inclusive recovery from the COVID-19 crisis by supporting those socio-economic groups that have been most hit by the labour market shock: young people, women and the low-skilled; while addressing the pre-crisis challenge of rising wage inequalities (OECD, 2021[12]). As the positive effects of job mobility materialise mostly within the limits of continuous employment, policies are also needed to reduce the risk and, even more, the duration of unemployment.

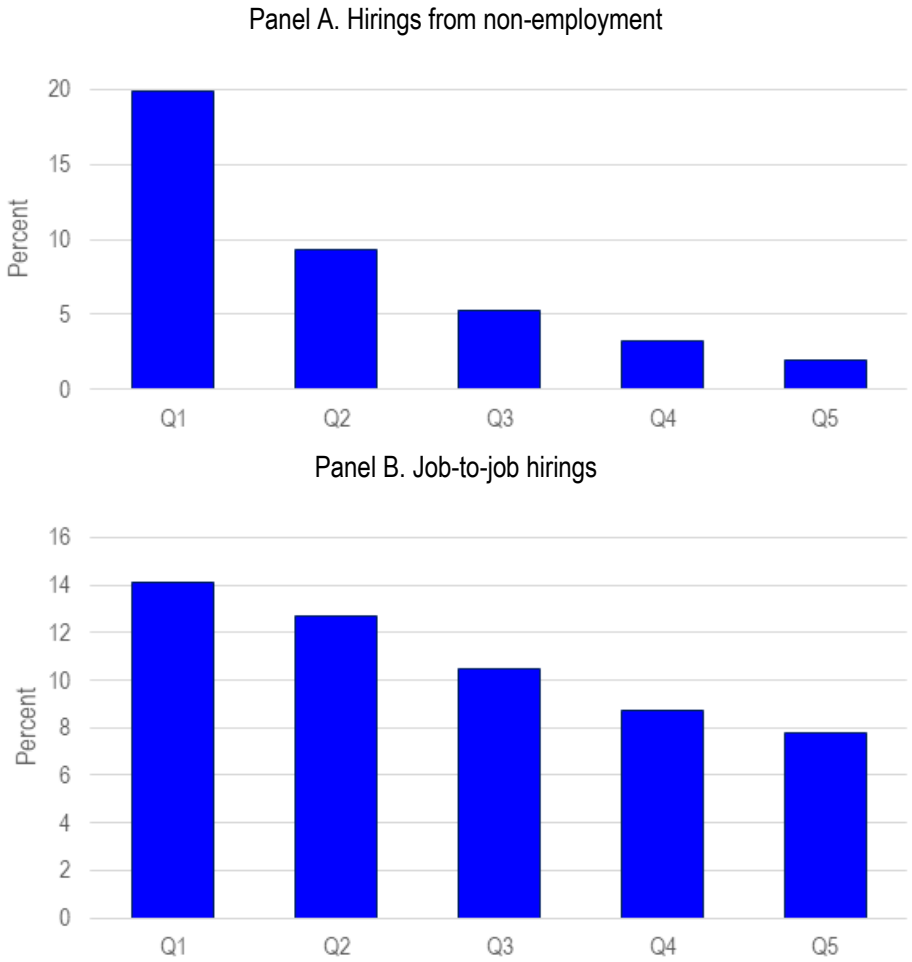
The EU-LFS data used in this paper for European countries do not allow for analysing the effect of job mobility on earnings because information about previous earnings before the labour transition is not provided in the data. Still, information which refers to workers' current status can be used to illustrate distributional aspects of hiring dynamics: i) the earnings decile to which the dependent employee belong; and ii) occupation of the dependent employee which can be classified into low, medium and high-paying occupations. This analysis delivers the following insights (Figure 16 and Figure 17):

- Hirings from non-employment and job-to-job hirings decline across the distribution of earnings and across occupational pay groups.
- On average across countries for which data are available, the hiring rate from non-employment is almost 20% in the first quintile, less than 10% in the second quintile and less than 2% in the top

quintile (Figure 16, Panel A). A similar distributional picture emerges by looking at occupational pay groups: in a majority of countries, hiring rates are substantially higher for low-paying occupations than middle- or high-paying ones (Figure 17, Panel A).

- Job-to-job hirings also decline across the earnings (Figure 16, Panel B) and occupational pay (Figure 17, Panel B) distributions, but less steeply than hirings from non-employment: ranging for instance from around 14% in the first earnings quintile to around 7% in the last top quintile, on average across countries.

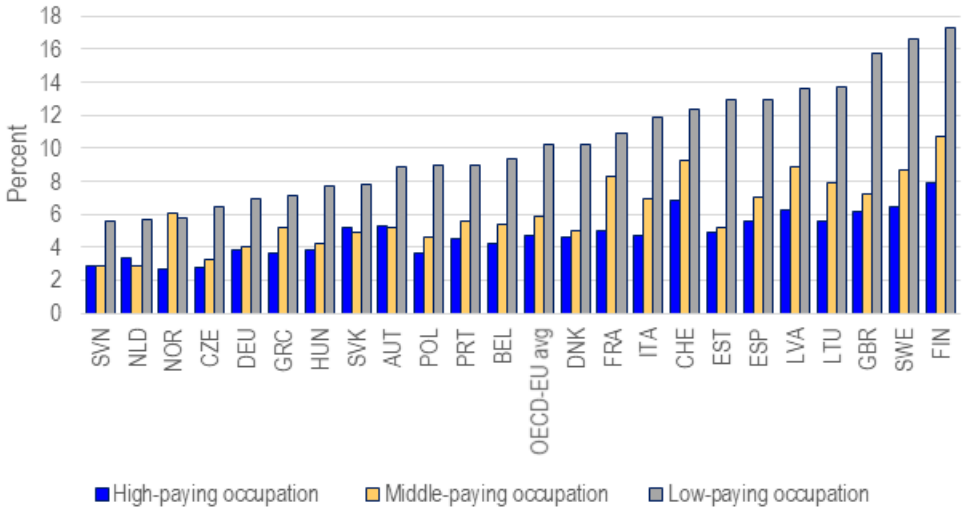
Figure 16. Hirings across the earnings distribution, OECD EU average, 2019



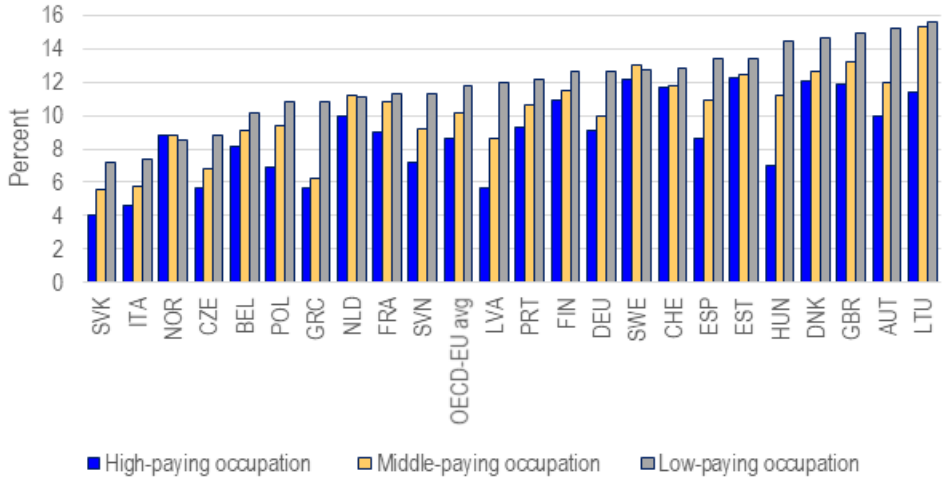
Note: Hiring rates by quintile of the earnings distribution, OECD EU average. The earnings distribution data are available only for dependent employees and are not available for the following countries: Austria, the Czech Republic, Norway, Spain and Sweden. See annex for country-specific profiles
Source: EU-LFS.

Figure 17. Hirings across occupational pay groups, 2019

Panel A. Hirings from non-employment



Panel B. Job-to-job hirings



Note: Occupational categories defined in (Goos, Manning and Salomons, 2014[44]), to aggregate occupations into those which are highly-paid, middle paid and low paying. This is based on income data from the European Community Household Panel (ECHP, the predecessor of EU-Statistics on Income and Living Conditions EU-SILC) to classify each occupation of the International Standard Classification of Occupations (ISCO) according to their mean European average wage. Aggregating occupations according to the resultant rank into those in high, middling, and low-paying occupations.
Source: EU-LFS.

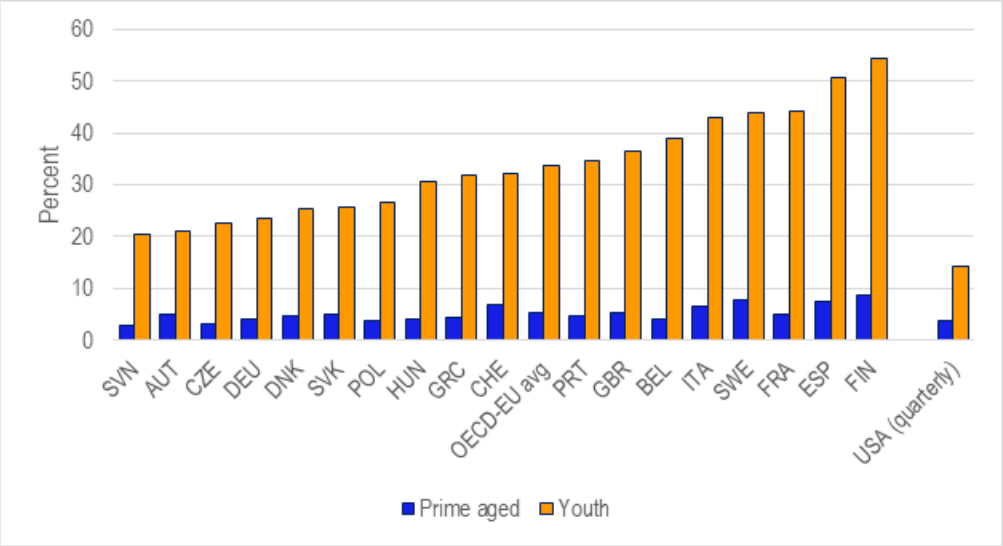
Looking at hirings among young people relative to prime-aged workers allows shedding some light on the importance of job ladder effects at early stages of individual careers (Figure 18):

- On average across European countries, the hiring rate of young people from non-employment is around 33%, with wide variation across countries, ranging from almost 55% in Finland to around 20% in Slovenia. Hirings of prime-aged workers from non-employment are less than one-fifth of hirings of young people, at around 5% on average, and vary much less across countries.

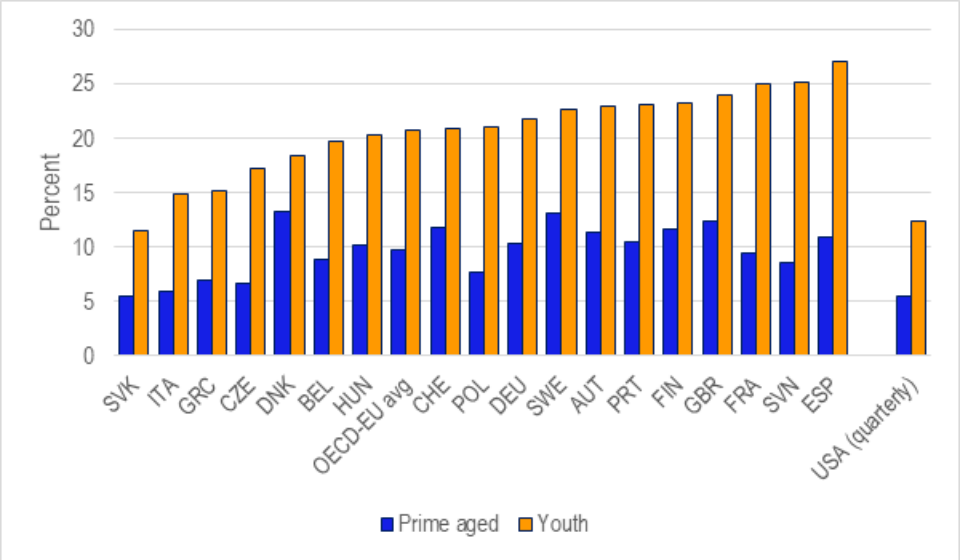
- Young people tend to experience very high levels of job-to-job mobility, around twice that of prime-aged workers, on average across European countries. Job-to-job hirings among young people range from around 25% in Spain, Slovenia and France to around 15% in the Slovak Republic, Italy and Greece. Even where youth mobility is relatively low from a comparative perspective, youth remain far more mobile than prime-aged workers, for example almost three times more mobile in Italy.

Figure 18. Hirings among young people relative to prime-aged workers, 2019

Panel A. Hirings from non-employment



Panel B. Job-to-job hirings



Note: For the United States, the data refer to the average of quarterly rates.
Source: EU-LFS. Longitudinal Employer-Household Dynamics database (US Census Bureau) for the United States.

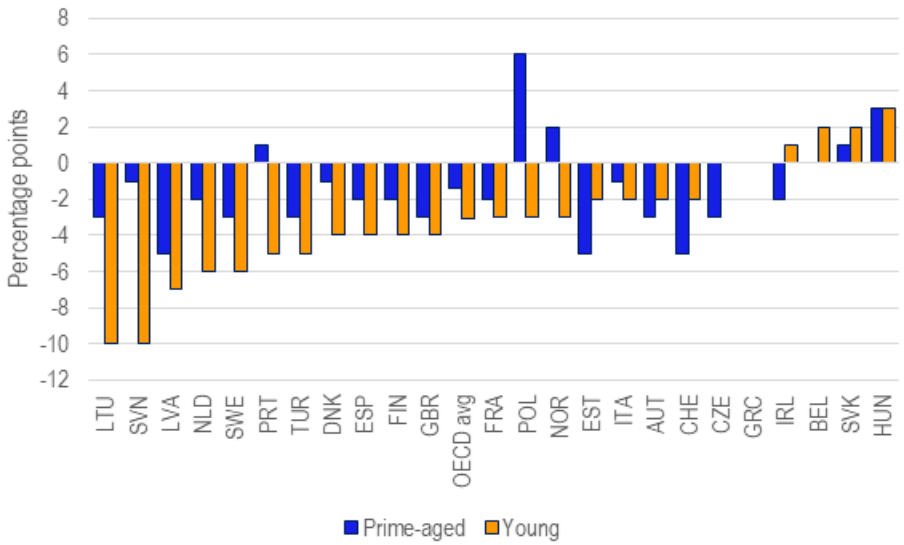
Overall, this evidence supports the view that job mobility is particularly important at early stages of workers' careers and for labour market entrants, and that spells of non-employment entail downward mobility, especially at later stages of workers' careers.

Implications for the COVID-19 labour market recovery and policy-oriented future work

This paper has delivered new evidence and stylised facts on patterns and trends in different workers' reallocation and labour market flows across OECD countries during the period just preceding the COVID-19 crisis. This may help countries to reflect on what the findings imply for the functioning of their labour market and on the role of policies during the recovery. While priorities will vary across countries based on economic and social context, one overarching challenge for the recovery is to facilitate hiring dynamics and to minimise long-term unemployment and scarring risks among vulnerable groups who have been hardest hit and face higher risks of scarring from the recession, in particular young people and women (Figure 19 and Figure 20):

- **Young people** (Figure 19): the COVID-19 crisis has hurt young people's labour market prospects relatively more than other age groups, reflecting a number of mechanisms (OECD, 2021[13]), (IMF, 2021[11]), (Stantcheva, 2021[36]). The labour market freeze put new hirings on hold and job retention schemes preserved existing jobs. This did not benefit young workers given their over-representation among non-standard workers and less-tenured workers, who tend to have lower levels of social protection. Young workers tend also to be over-represented in industries most affected by the lockdowns, such as restaurants, leisure and hospitality. On average across European countries between 2019 and 2020, transition probabilities from unemployment to employment have declined more than twice as much among young people than among prime-aged workers. The crisis has exacerbated inequalities in access to jobs between age groups, and could create scars for those cohorts that have recently entered the labour market.[17]

Figure 19. Changes in transitions from unemployment to employment by age group between 2019 and 2020

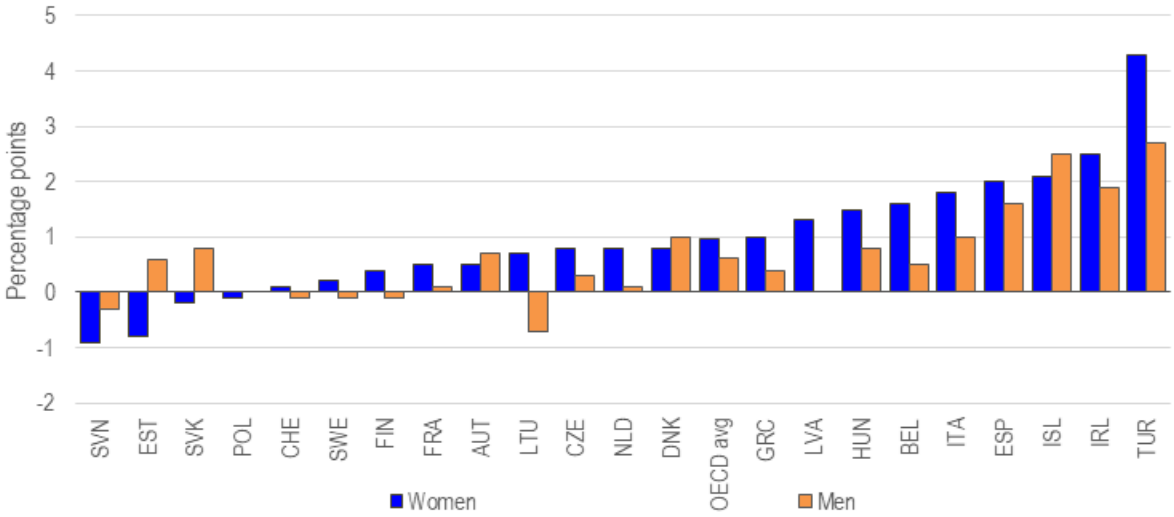


Note: Annual averages of quarterly transitions, probabilities estimated by Eurostat. The probabilities are thus expressed relative to initial status (unemployment). Young people refer to age group 15-24 and prime-aged to age group 25-54.
Source: Labour market transitions - Experimental statistics - Eurostat (europa.eu)

[17] See previously-quoted (Andrews et al., 2020[135]) for recent evidence.

- **Women (**Figure 20**):** the COVID-19 crisis has had a disproportionate impact on women (OECD, 2021[13]), (IMF, 2021[11]), (Stantcheva, 2021[36]), partly because they are over-represented in contact-intensive industries. Women also absorbed most of the additional childcare and housework induced by school and daycentre closures, which prompted many to withdraw from the labour market entirely – even in cases where their jobs remained active. Indeed, on average across European countries between 2019 and 2020, transition probabilities from employment to inactivity have increased twice as much among women than men. Labour market withdrawal creates scars for women careers' prospects. The crisis has thus exacerbated inequalities (see Box 2), potentially reversing the secular progress achieved in narrowing gender gaps.

Figure 20. Changes in transitions from employment to inactivity by gender between 2019 and 2020



Note: Annual averages of quarterly transitions, probabilities estimated by Eurostat. The probabilities are thus expressed relative to initial status (employment).
Source: Labour market transitions - Experimental statistics - Eurostat (europa.eu)

The descriptive evidence produced in this paper may set the scene for analysing the policy drivers of workers' transitions, with a continued emphasis on differences across socio-economic groups. Research in this area can help policymakers design an inclusive labour market recovery from the COVID-19 crisis while addressing key longstanding structural challenges such as slowing productivity, rising inequalities, and the labour market challenges associated with the green transition and automation.

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Annex A

Data sources and definitions

Labour market transitions are constructed based on individual level data from the European Labour Force Survey (EU-LFS) and semi-aggregated level data from the Longitudinal Employer-Household dynamics (LEHD) published by the US Census Bureau for the United States. The EU-LFS survey contains information about individual labour market status in the current year and retrospective information about individual labour market status in the previous year along with comprehensive socio-economic and work-related characteristics. The LEHD is based on longitudinal administrative data on workers' job histories on a quarterly basis. Harmonised labour market transitions are estimated for 24 OECD countries, selected on the basis of data availability. Table A.1 documents the country and time period coverage.

Table A.1. Country and time coverage

Country sample	Time coverage
Austria	2002-2019
Belgium	2000-2019
Czech Republic	2000-2019
Denmark	2000-2019
Estonia	2000-2019
Finland	2000-2019
France	2000-2019
Germany	2000-2019
Greece	2000-2019
Hungary	2000-2019
Italy	2000-2019
Latvia	2002-2019
Lithuania	2001-2019
Netherlands	2006-2019
Norway	2000-2018
Poland	2001-2019
Portugal	2000-2019
Slovak Republic	2001-2019
Slovenia	2000-2019
Spain	2000-2019
Sweden	2000-2019
Switzerland	2010-2019
United Kingdom	2000-2019
United States	2001-2019

Source: Labour Force Survey for European countries; Longitudinal Employer-Household Dynamics database for the United States.

The dataset includes a variety of labour market transitions calculated for the working-age population, and by workers' socioeconomic characteristics, namely, age, gender and educational attainment. EU-LFS data also allows disaggregating transition rates by type of job, for example, part-time or full-time, and permanent or temporary (only for dependent employees in the latter case). The self-declared motives for workers to take up such contracts, i.e. whether they are voluntary, can be identified in the EU-LFS data.

Labour market transitions are calculated by industry based on the 1-digit level of NACE rev. 2 classification in the EU-LFS data (Table A.2).

Table A.2. Industry classification in EU-LFS data, NACE rev. 2.

Division	Description
A	Agriculture, forestry and fishing
B	Mining and quarrying
C	Manufacturing
D	Electricity, gas, steam and air conditioning supply
E	Water supply; sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities
J	Information and communication
K	Financial and insurance activities
L	Real estate activities
M	Professional, scientific and technical activities;
N	Administrative and support service activities
O	Public administration and defence; compulsory social security
P	Education
Q	Human health and social work activities
R	Arts, entertainment and recreation
S	Other service activities

Note: As standard in the literature, NACE divisions T (Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use) and U (Activities of extraterritorial organisations and bodies) are excluded.
Source : EU Labour Force Survey Database User Guide.

For the United States, industries are classified in accordance with NAICS 2017. Table A.3 presents the one-to-one correspondence between the NAICS and NACE Rev. 2 classifications.

Table A.3. Correspondence between the NAICS 2017 and NACE Rev 2 classifications

NACE Rev. 2 (code, name)	NAICS 2017 (code, name)
A - Agriculture, forestry and fishing	11 - Agriculture, forestry, fishing and hunting
B - Mining and quarrying	21 - Mining, quarrying, and oil and gas extraction
C – Manufacturing	31-33 - Manufacturing
D - Electricity, gas, steam and air conditioning supply E - Water supply, sewerage, waste management and remediation activities	22 - Utilities
F – Construction	23 - Construction
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	42 – Wholesale trade 44-45 – Retail trade
H - Transportation and storage J - Information and communication	48-49 - Transportation and warehousing 51 - Information
I - Accommodation and food service activities	72 - Accommodation and food services
K - Financial and insurance activities	52 - Finance and insurance 55 - Management of companies and enterprises
L - Real estate activities M - Professional, scientific and technical activities N - Administrative and support service activities	53 - Real estate and rental and leasing 54 - Professional, scientific, and technical services 56 - Administrative and support and waste management and remediation services
O - Public administration and defence, compulsory social security	92 - Public administration
P – Education	61 - Educational services
Q - Human health and social work activities	62 - Health care and social assistance
R - Arts, entertainment and recreation S - Other service activities	71 - Arts, entertainment, and recreation 81 - Other services (except public administration)

Source: EU Labour Force Survey Database User Guide. US Census Bureau.

Following the framework developed by (Davis and Haltiwanger, 1999[22]), labour transitions are constructed by comparing individual's working status at two points in time. The EU-LFS data provides annual information on whether individuals are working, unemployed or economically inactive during the survey period and, retrospectively, one year before the survey[18]. Labour market transitions are thus yearly transitions. [19]

The LEHD data for the United States is based on linked employer-employee data where information from state-level unemployment insurance programmes is merged with business and household data. As a result, self-employed workers and employees of federal government bodies are not covered. The underlying micro-data is not publicly available in LEHD: information on labour transitions is provided in a semi-aggregated form, by e.g. worker and industry characteristics. One major limitation is that the data do not allow to disentangle whether non-employment is due to inactivity or unemployment. Also, information on the type of contract is not available. One advantage is that the data contain earnings change associated with different labour market transitions, allowing to illustrate job ladder effects in the paper.

[18] In EU-LFS, the variables containing the current and retrospective information on worker labour market status are MAINSTAT and WSTAT1Y, respectively. The variable ILOSTAT is used as an alternative when MAINSTAT is not available. The disadvantage of this variable is that ILOSTAT does not allow distinguishing different reasons for being economically inactive which are retirement, permanently disabled, other inactive (person), fulfilling domestic tasks, or students.

[19] Due to data limitations, any transitions occurring between the survey dates are not captured. For example, EU-LFS data do not allow to identify if a worker who switched employers between the considered year and the previous year experienced a short spell of unemployment during the year. This limitation likely underestimates the degree of labour market mobility, especially for those individuals who often make transitions in and out of the labour market (e.g. temporary workers). At the same time, this allows for netting out seasonally transitions and obtain a more "structural" assessment of labour market transitions.

In LEHD, job transitions are measured on a quarterly frequency and identified based on the status of an employee that is either employed by a specific employer or non-employed. Changes in this status are then translated into labour transitions as outlined below. Labour market transitions are thus quarterly transitions.

More specifically, labour market transitions are estimated as follows:

Job-to-job (or, equivalently, employer-to-employer) hirings: for the EU-LFS, job-to-job transitions refer to individuals who were employed both in the current and previous year, and who have been with the current employer/job less than 12 months. For the LEHD, a job-to-job transition for a given quarter is defined as a job hire following a separation in the same or in the previous quarter. With a separation in the same quarter, an employee is employed at one firm at the beginning of the reference quarter and employed at another firm at the end of the same quarter. With a separation in the previous quarter, an employee is employed with one firm at the beginning of the previous quarter q-1, not employed at the end of the previous quarter nor at the beginning of the reference quarter q and employed with another firm at the end of the quarter q.

Hirings from non-employment: for the EU-LFS, hirings from non-employment refer to individuals who were employed in the current year and non-employed, that is, inactive or unemployed, in the previous year. Thus, hirings from non-employment are equal to the sum of hirings from unemployment and hirings from inactivity. For the LEHD, a job hire from non-employment for a given quarter is defined as a job hire following a non-employment spell that includes at least the previous quarter (called “persistent non-employment” in the database). That is, an employee is employed at a firm at the end of the references quarter q, but not employed with any firm at least since the beginning of the previous quarter in q-1.

Hirings from unemployment: for the EU-LFS, hirings from unemployment refer to individuals who were employed in the considered year and unemployed in the previous year.

Hirings from inactivity: for the EU-LFS, hirings from inactivity refer to individuals who were employed in the considered year and inactive in the previous year.

Total hirings are equal to the sum of job-to-job hirings and hirings from non-employment.

Separations to non-employment: for the EU-LFS, separations to non-employment refer to individuals who were non-employed in the current year and employed in the previous year. Thus, separations to non-employment are equal to the sum of separations to unemployment and to inactivity. For the LEHD, a job separation is defined as a separation followed by a spell of non-employment that includes at least the following quarter (called “persistent non-employment” in the database). That is, an employee is employed with a firm at the beginning of the reference quarter q and not employed with any firm at least until the end of the next quarter q+1.

Separations to unemployment: for the EU-LFS, separations to unemployment refer to individuals who were unemployed in the current year and employed in the previous year.

Separations to inactivity: for the EU-LFS, separations to inactivity refer to individuals who were inactive in the current year and employed in the previous year. EU-LFS allow further breaking down the nature of inactivity which includes studying/training, fulfilling domestic tasks, and retirement.

Weight adjustment

Several adjustments are required to compute representative aggregated transition rates based on EU-LFS microdata. These adjustment are standard in the literature (see Annex of Chapter 3 in (IMF, 2021[11])).

The number of observations with incomplete or missing information varies across countries and years. This information loss may reduce statistical power, potentially resulting in biased labour market transitions. Sampling weight (i.e. individual weights provided in the microdata) are thus adjusted as detailed below.

For the transitions at country-year level, first, observations are removed if information about either the current or retrospective labour market status is missing. Second, a total weight is computed from the complete sample for each country-year cell. Third, the adjusted weights are obtained by dividing the individual weights provided in the survey by the constructed total weight. Thus, the adjusted individual weights sum up to one for each country and year combination.

In a similar manner, for the transitions at country-industry-year level, first, observations are removed if information about either the current or retrospective labour market status is missing. Additionally, observations are also excluded if individuals declared to work either in the surveyed year or, retrospectively, in the year before but the information about their industry of work is missing. Second, a total weight is derived by summing the individual weights for each country- year cell. Third, the adjusted weights are obtained by rescaling each weight by the total weight. By definition, the adjusted individual weights sum up to one for each country-year level.

Aggregation

Different labour transitions at country-year level are created by aggregating the dummies from EU-LFS data using the adjusted yearly weighting factor. Indicators at the country-industry level are also derived from the weighted sums of the underlying dummies for each country and industry combination. For transitions from non-employment to job, the industry refers to the industry of the current job. For transitions from job to non-employment, the industry refers to that of the previous job. For job-to-job transitions, information about the industry of contemporary and previous employment are both available. When the job-to-job transition is classified according to the industry of origin, it is considered as separation. In the other case, it is considered as hiring.

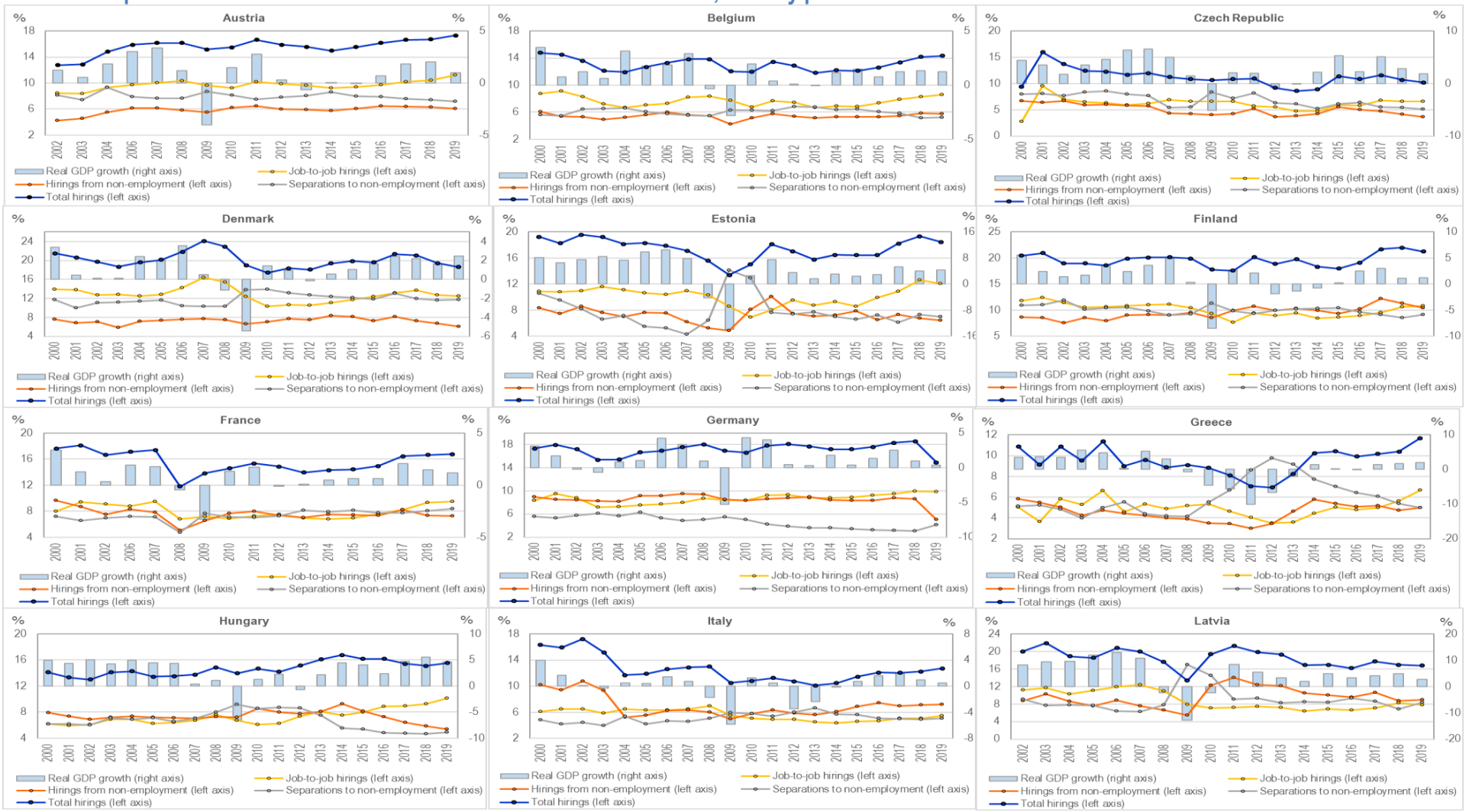
Following a common approach in the literature (see e.g. (Bassanini and Garnero, 2012[45])), labour transitions at the country level between year t-1 and year t are normalised by the number of employed persons averaged over the two years. Similarly, labour transitions at the country-industry level are constructed by dividing the transition flows between year t-1 and year t by the number of persons employed in the given industry averaged over the two years. Consistent with this approach given the frequency of the data, transition rates for the United States are normalised by the number of jobs averaged over the two quarters.

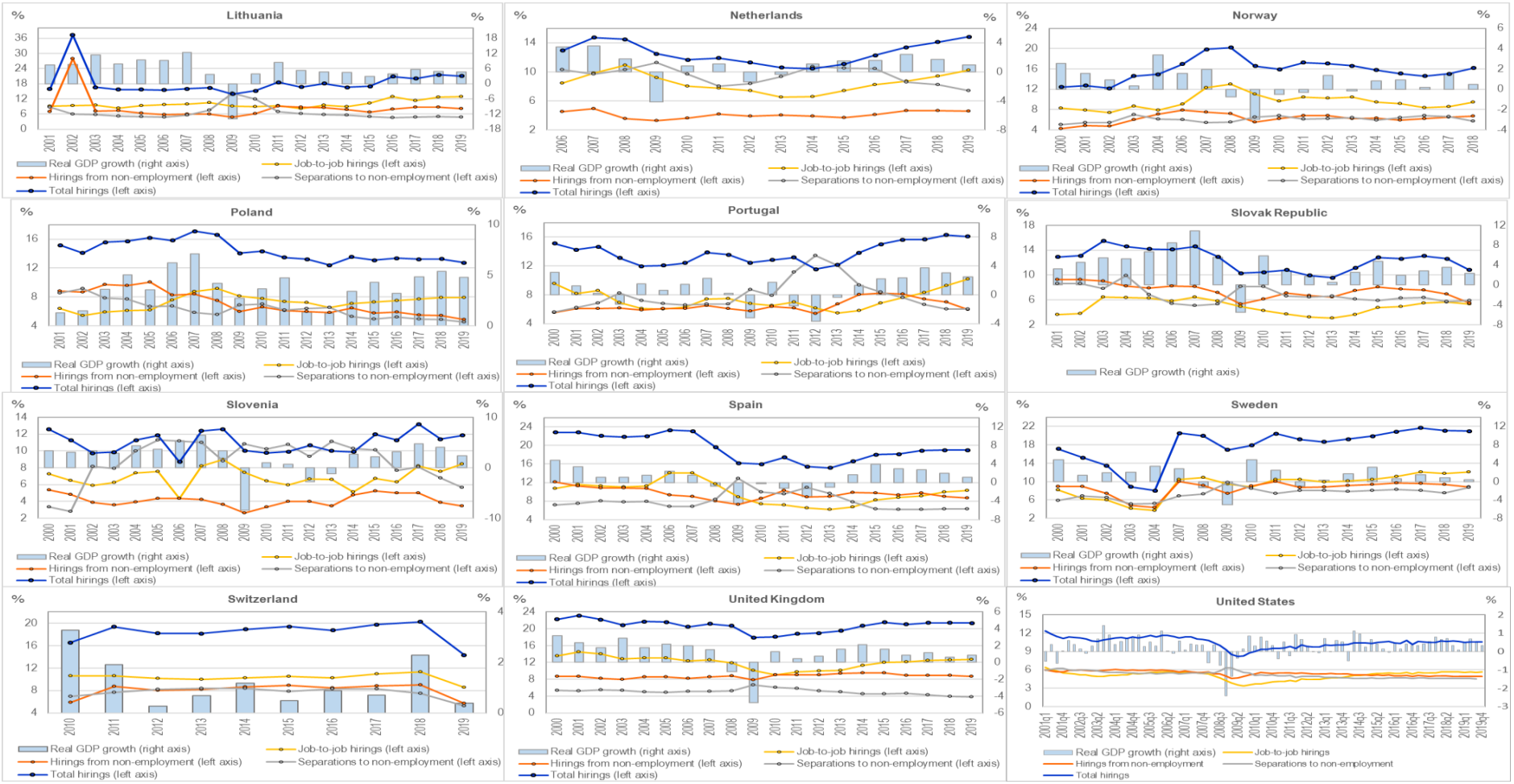
Additional material

This section presents additional material to complement the main paper, covering three major aspects: i) granular country-specific stylised facts on different aspects of labour market transitions that are only reported as cross-country averages in the main paper, ii) the decomposition of job-to-job mobility within /between industries, and iii) additional material on gender differences in labour market transitions.

Figure A.1delivers country-specific profiles of developments in labour market transitions from 2000-2019 and Figure A.2 delivers country-specific profiles illustrating the long-term so-called “scarring effects” of the 2008 financial crisis on youth labour market transitions (in and out of employment).

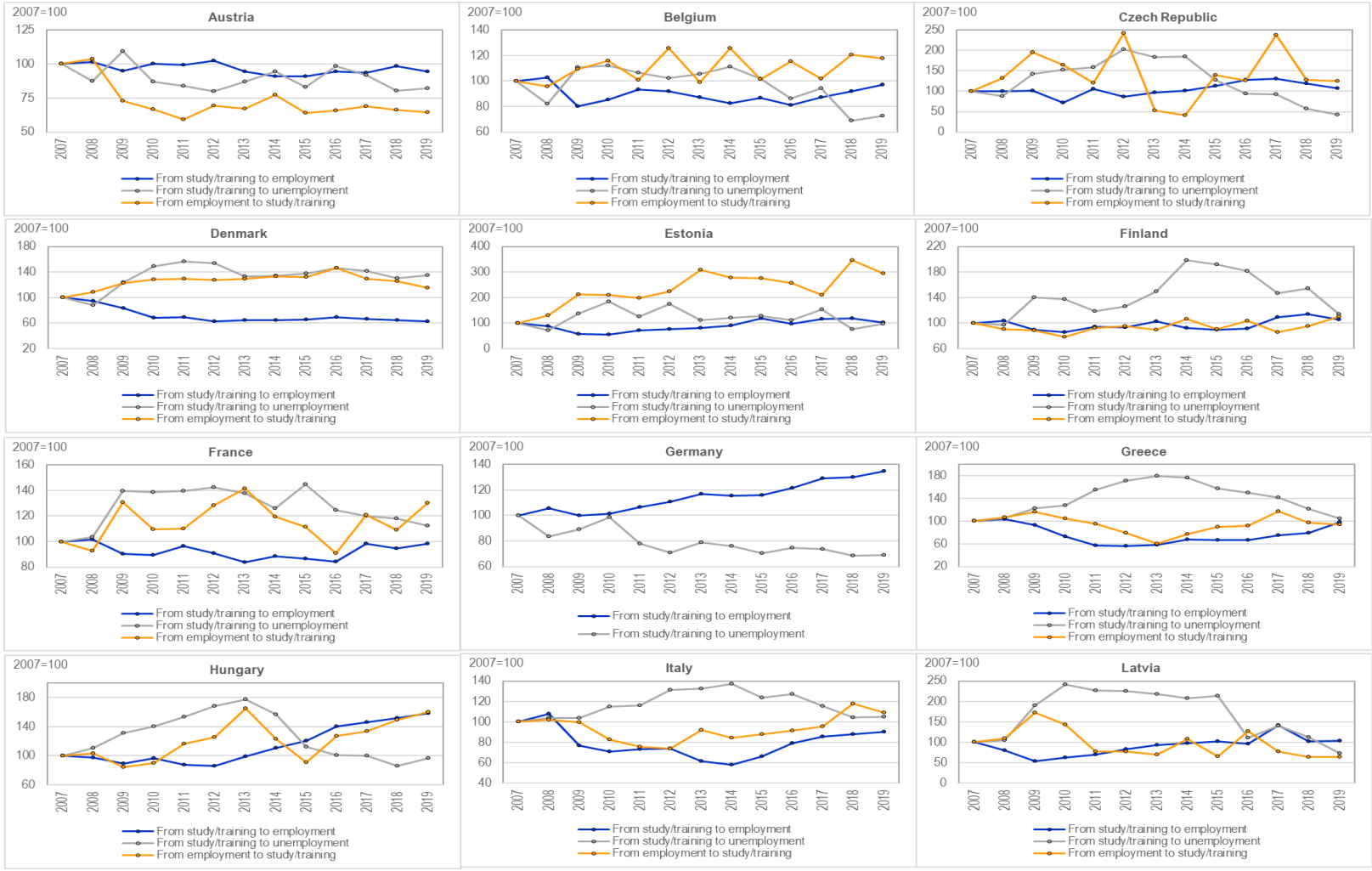
Figure A.1. Developments in labour market transitions over the last two decades, country profiles

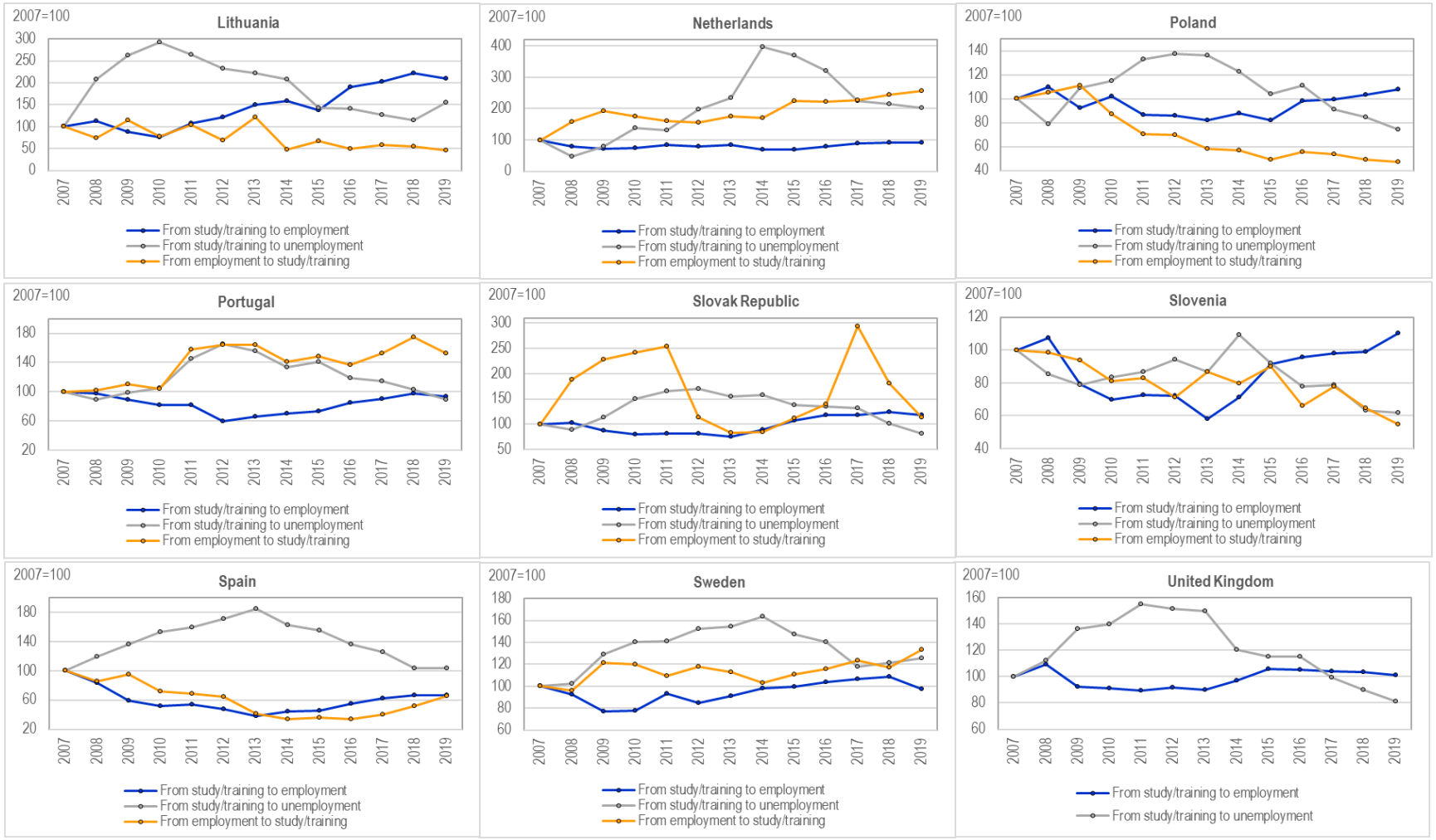




Note: All countries have data available for the period 2000-2019, with the following exceptions: AUT(2002-2019), CZE(2001-2019), LTU(2001-2019), LVA(2002-2019), NOR(2001-2018), POL(2001-2019), and SVK(2001-2019). Data for the United States are on quarterly basis and is available from 2001q1 to 2019q4. Real GDP per capita growth is on an annual basis for European countries and quarterly for the United States.
Source: EULFS for European countries; Longitudinal Employer-Household Dynamics database (US Census Bureau). Data on real GDP is from the OECD Economic Outlook.

Figure A.2. Scarring effects from the 2008 recession, country profiles

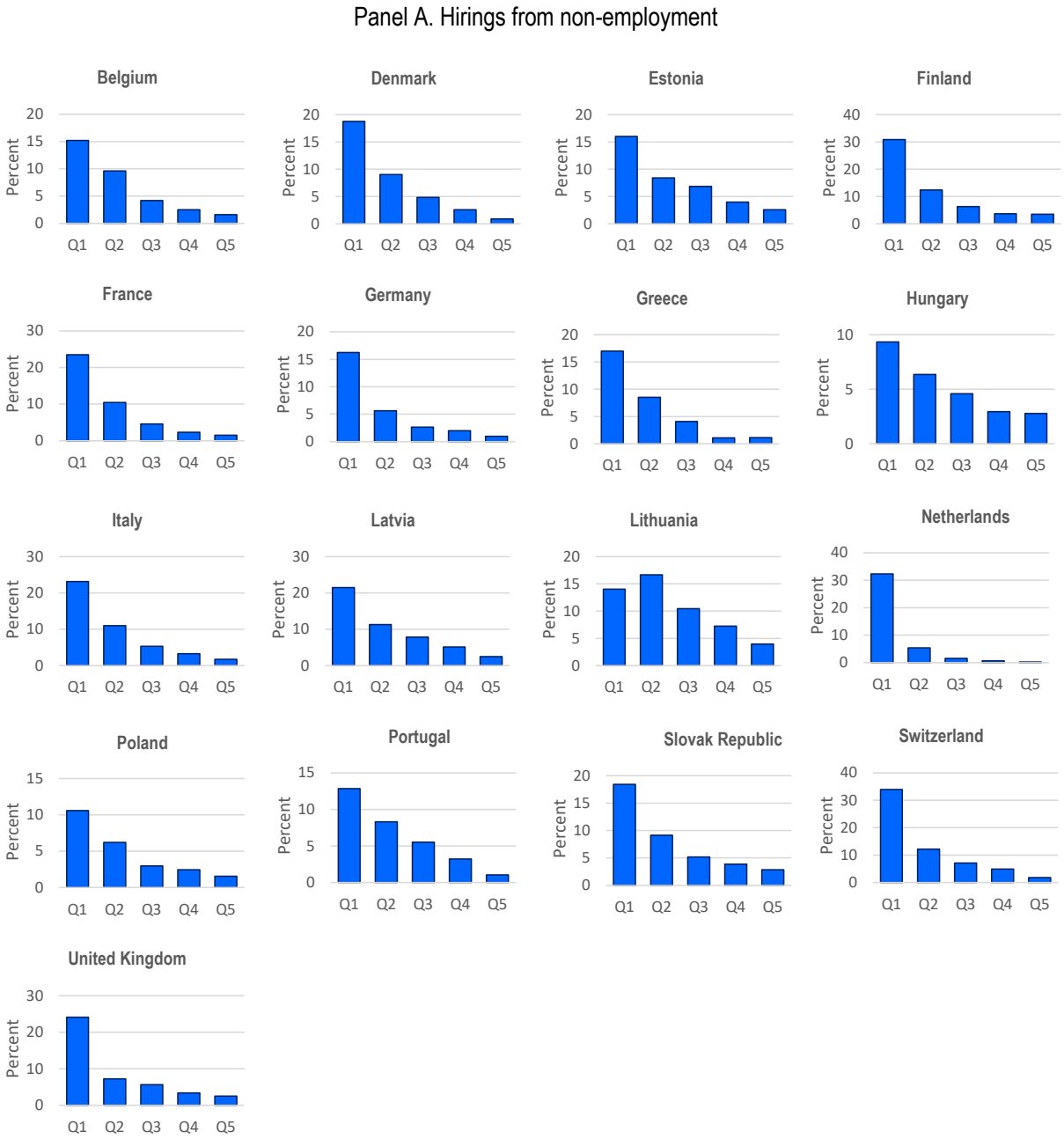




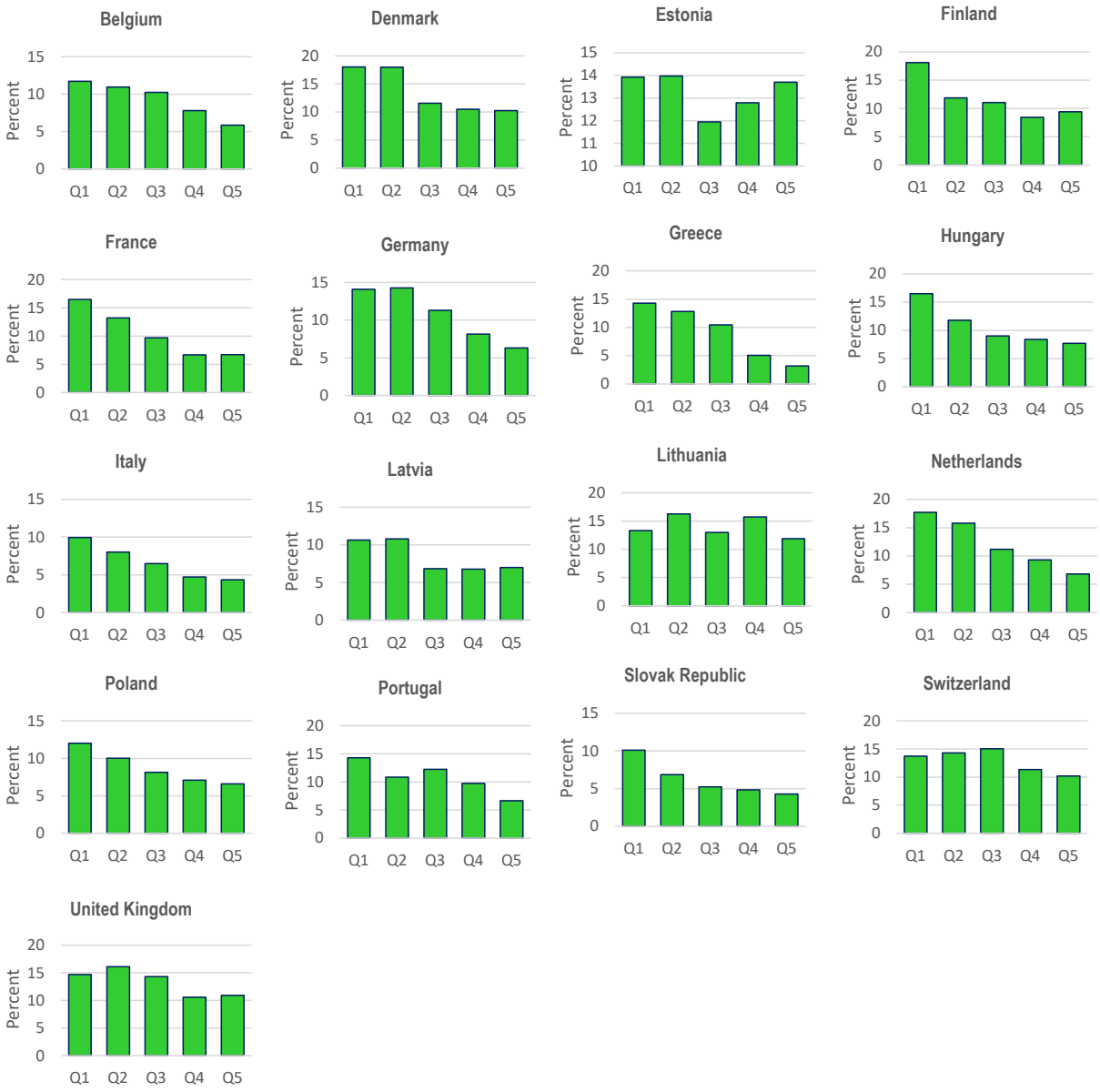
Note: The transition from study to employment from t to t+1 is computed as a share of the total students/trainers in the period t. The transition from study to unemployment from t to t+1 is computed as a share of the total students/trainers in the period t. The transition from employment to study from t to t+1 is computed as a share of the total employment in the period t. Rates are rescaled to 2007=100.
Source: EU-LFS data and OECD calculations.

Figure A.3 presents country-specific evidence on hiring transitions, from job and from non-employment, across the earnings distribution of the current job (dependent employees only).

Figure A.3. Hirings across the earnings distribution, country profiles, 2019



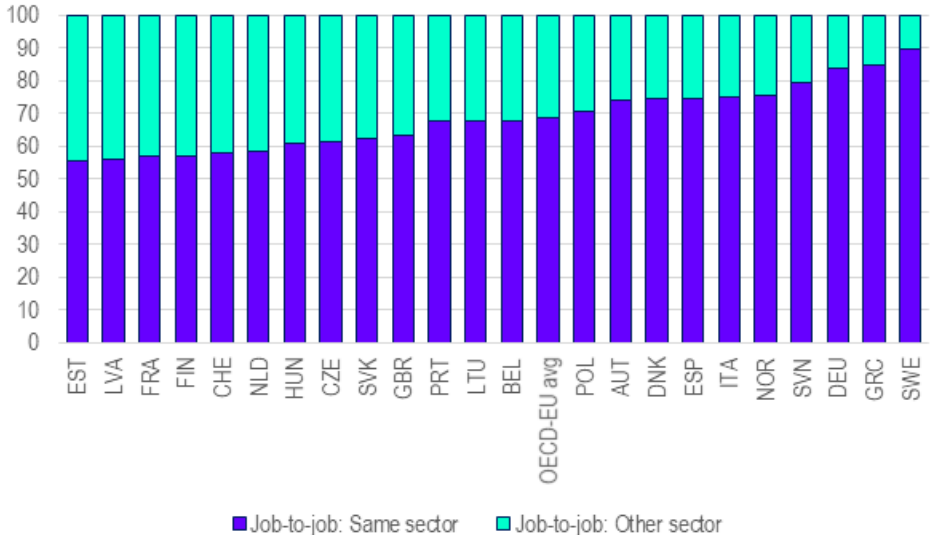
Panel B. Job-to-job hirings



Note: Hiring rates by quintile of the earnings distribution (of the current job). The earnings distribution data are available only for dependent employees and are not available for the following countries: Austria, the Czech Republic, Norway, Spain and Sweden. How to read: in Finland, hiring rates from non-employment (from another employer) are around 30% (18%) in the bottom quintile of the earnings distribution, while they are less than 5% (10%) in the top quintile.
Source: EU-LFS.

Figure A.4 disentangles job-to-job transitions into flows within the same or to another industry.

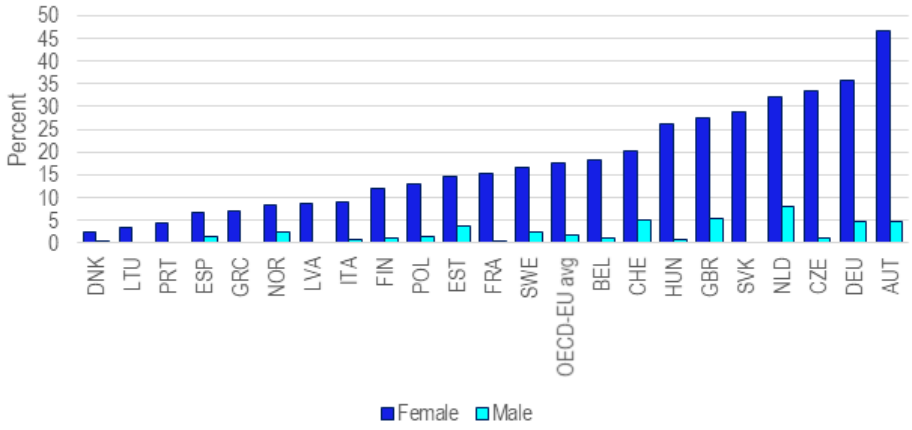
Figure A.4. Decomposition of job-to-job transitions, 2019



Note: Job-to-job transition within the same industry for European countries is defined as the number of working-age individuals who changed employer but not the industry of work between 2018 and 2019 as a share of average employment between these two years. Job-to-job transition to other industry is defined as the number of working-age individuals who changed employer and also the industry of work between 2018 and 2019 as a share of average employment between these two years. Job-to-job transition is the sum of job-to-job same industry and job-to-job other industry.
Source: EU-LFS and OECD computations.

Figure A.5 illustrates the share of part-time workers that declare that full-time work is not possible for them because they need to take care of family members, by gender.

Figure A.5. Working part-time to look after children, 2019

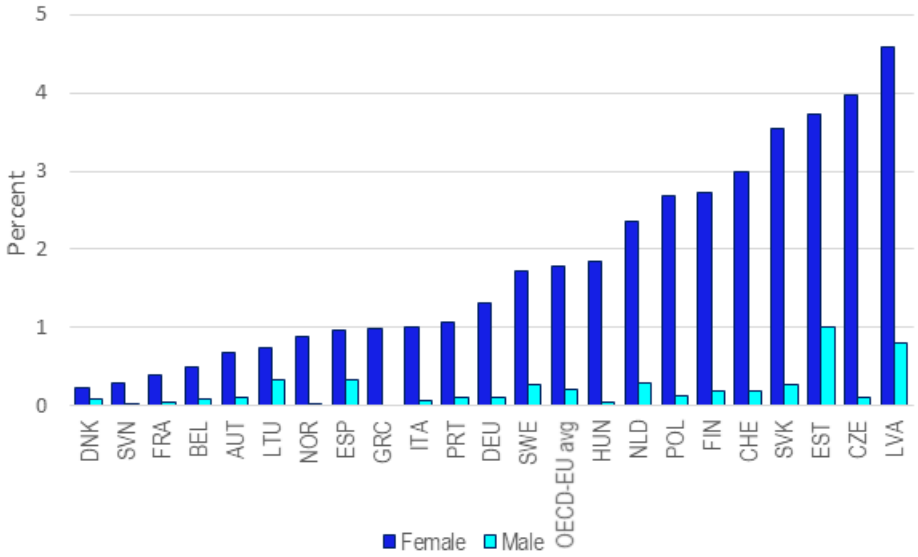


Note: How to read: In Austria, 45% of women working part-time in 2019 declare that they work part-time as opposed to full-time because they need to look after children or incapacitated adults while this proportion is 5% for men.
Source: EU-LFS.

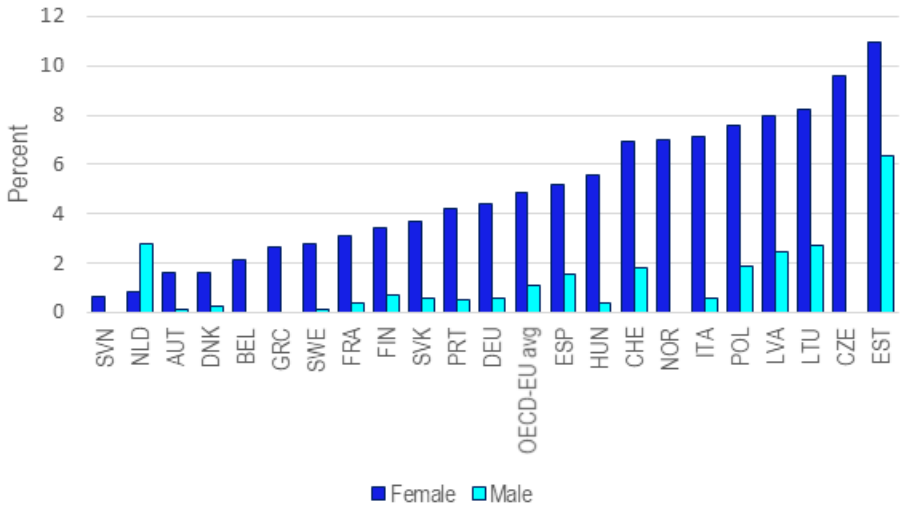
Figure A.6 presents evidence on the share of women and men who drop out of employment or unemployment to fulfil domestic tasks.

Figure A.6. Dropping out of the labour force to fulfil domestic tasks, 2019

Panel A. From employment to inactivity to fulfil domestic tasks



Panel B. From unemployment to inactivity to fulfil domestic tasks



Note: For panel A, transitions from employment to inactivity to fulfil domestic tasks are relative to average employment between the two years, by gender. For panel B, transitions from unemployment to inactivity to fulfil domestic tasks are relative to average unemployment between the two years, by gender. How to read: in Italy, around 7% of unemployed women drop out of the labour force on a yearly basis, while this proportion is around 0.6% for unemployed men.
Source: EU-LFS.