Job Creation and Local Economic Development 2020

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Foreword

COVID-19 has hit our economies and societies like a tsunami. The effects on jobs and workers dwarf those of the 2008 global financial crisis. During the strictest lockdown periods, almost all communities were dealing with large parts of the economy being virtually frozen. Since this first phase, the challenges have become more differentiated across places. Large cities host both substantial shares of high-skilled workers with relatively secure jobs and teleworking options, but also many low-skilled workers in face-to-face service positions that remain at risk. Tourism-intensive local communities are facing unprecedented drops in visitors. Many manufacturing regions continue to struggle with drops in global trade, disruptions to supply chains, and accelerated automation.

This 2020 edition of *Job Creation and Local Economic Development* considers the short-term impacts of COVID-19 on local labour markets as well as the longer-term implications for local development. It explores emerging evidence on the immediate local employment impacts of the crisis, the divides within and across local labour markets even prior to the pandemic, and the likely diverging recovery patterns. It also considers the underlying trends that COVID-19 may accelerate including digitalisation, the automation of jobs and polarisation of skill profiles, and the transition to greener jobs; as well as the trends which could be slowed down including reconfigured global supply chains, as well as the concentration of the high skilled in large cities.

This edition offers guidance on local action in the recovery. It considers strategies to strengthen local employment services and training providers to meet the increased demand for job placement and skills upgrading in different types of local labour markets, particularly for the most disadvantaged workers. It also considers business development for the hardest hit firms (SMEs and the self-employed) and sectors (tourism, culture, hospitality). Looking to the future, it considers strategies and tools to “rebuild better” in local communities by rethinking local development strategies, taking advantage of the changing geography of jobs due to remote working, and other opportunities such as the social economy. Accompanying individual country profiles are available online.

This publication contributes to the work of the Co-operative Action Programme on Local Economic and Employment Development (LEED), created in 1982 to provide practical solutions for how to build vibrant communities with more and better jobs for all. It was approved by the Local Economic and Employment Development Directing Committee via written procedure on 12 October 2020 [CFE/LEED/(2020)8], [CFE/LEED/(2020)9], and [CFE/LEED/(2020)10].

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This publication was managed and drafted by Anna Rubin, under the supervision of Karen Maguire, Head of the Local Employment, Skills and Social Innovation Division of CFE. Quantitative analysis was conducted by Michela Meghnagi and Ida Peltonen, under the supervision of Alexander C. Lembcke. This report also incorporates substantial contributions, analysis, and comments from Jonathan Barr, David Halabisky, Lucas Leblanc, and Alessandro Kandiah. It also draws from recent papers prepared by the Centre for Entrepreneurship, SMEs, Regions and Cities for the OECD Policy Responses to Coronavirus (COVID-19) series and the OECD Local Economic and Employment Development Papers series, including those prepared by Cem Ozguzel and Paolo Veneri; Antonella Noya, Max Bulakovskiy, and Julie Rijpens; Ekaterina Travkina, Pier Luigi Sacco, and Benedetta Morari; Simone Grabner, Alexandra Tsvetkova, and Wessel Vermeulen; and Mattia Corbetta; among others. Rudiger Ahrend and Joaquim Oliveira Martins also provided useful guidance and feedback. The country profiles were prepared by Anna Rubin, Michela Meghnagi and Lucas Leblanc. Eric Gonnard and Claire Hoffmann prepared the maps.

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Anna Ikic prepared the manuscript for publication, and Pilar Philip coordinated the production process.

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Reader's guide

This publication contains three thematic chapters focusing on the impact of COVID-19 on local labour markets, how other labour market transitions could change as a result, and the local dimension of rebuilding better. It is accompanied by online only country profiles, available at the publication's website.

Overview of data presented

The majority of data is presented at the OECD Territorial Level 2 (TL2), which typically represents the first administrative tier of subnational government. Often, functional local labour markets can operate on a scale smaller than the OECD's TL2 regional classification, but span several TL3 regions. This publication predominantly uses TL2 data to ensure as broad a coverage as possible, as data availability is limited across countries and time for TL3 regions. For many analyses, the regional variation at the TL2 level within a country should be considered the lower bound of the actual variation across local labour markets. For more information, see OECD (2018[1]) and OECD (2020[2]). Where included in graphs, the numbers in parenthesis after the country name/label indicate the number of regions included in the analysis.

Given the rapidly evolving situation in relation to COVID-19, all efforts were made to provide the most up-to-date and relevant data possible. However, lags in the availability of internationally comparable subnational data present limitations. For some analyses, national or other data sources have been used to help compensate. It is important to note, however, that COVID-19 has impacted data collection procedures in some countries, and accordingly the quality of statistics produced. Thus, these statistics may be subject to revisions. Differences in how countries classify different types of workers (e.g. those on furlough) may also limit international comparability.

The remainder of this section provides further details on the methodology and sources for specific analyses.

Share of jobs in the sectors most at risk from COVID-19

The estimates of the share jobs at risk by region are based on the analysis undertaken in the OECD's COVID-19 policy note, "From pandemic to recovery: local employment and economic development", published in April 2020 (OECD, 2020[3]). Given the lack of comparable and timely official subnational data, the approach followed in the note required making hypotheses on the sectors hardest hit by containment measures. The OECD note "Evaluating the initial impact of COVID-19 containment measures on economic activity" (OECD, 2020[4]) provides a reference framework for identifying specific sectors considered at risk. Using the standard ISIC-4 classification of economic activities, the sectors considered as most affected include manufacturing of transport equipment, construction, wholesale and retail trade, air transport, accommodation and food services, real estate services, professional service activities, and arts, entertainment and recreation. According to the above-mentioned OECD note, decline in output in those activities was expected to range from 50% to 100%. For this analysis, the same expected decline rates are assumed, with the exception of manufacturing, for which the immediate expected decline has been

halved (from 100% to 50%). The resulting classification assumes that transport manufacturing and "other personal activities" (e.g., hairdressers fall within this category) face a 50% output decline, similarly to construction and other professional services. Output in the other above-mentioned sectors is expected to face a 75% output decline.

The selection of the above-mentioned sectors as "high risk" is broadly consistent with the sectors receiving the largest number of claims under the French short-time work scheme as of April 1st, 2020, as reported in DARES (2020[5]). The note reported that the five sectors receiving the largest shares of claims were trade, accommodation and hospitality, construction, professional service activities and other professional services.

Share of jobs amenable to teleworking

The estimates of the share jobs amenable to teleworking are based on the analysis undertaken in the OECD's COVID-19 policy note, "Capacity for remote working can affect lockdown costs differently across places" published in June 2020 (OECD, 2020[6]) and *Regions and Cities at a Glance 2020* (OECD, 2020[7]).

The assessment of regions' capacity to adapt to remote working is based on the diversity of tasks performed in different types of occupations and is structured in two steps. The first step requires classifying each occupation based on the tasks required and according to the degree to which those tasks can be performed remotely. For example, occupations requiring workers to be outdoors (e.g., food delivery person) or to use heavy equipment (e.g., a vehicle) are considered to have a low potential of remote working. In contrast, occupations requiring only a laptop and an internet connection (e.g., an accountant, finance specialist, etc.) will have a high potential to work remotely. This classification is based on a recent study by Dingel and Neiman (2020[8]) which is built from the O*NET surveys conducted in the U.S. These surveys include targeted questions that make it possible to assess the potential of remote working of occupations in a systematic way.

The second step relies on data from labour force surveys and consists of assessing the geographical distribution of different types of occupations and subsequently matching those occupations with the classification performed in the first step. Combining the two data sets allows for an estimate of the number of workers that can perform their task from home as a share of the total employment in the region.

While other authors have used the US Standard Occupational Classification system (SOC) to classify occupations, this analysis uses the International Standard Classification of Occupations (ISCO), requiring a crosswalk between the two schemes for associating each occupation to a level of remote working potential in other countries. It is worthwhile noting that this work assumes that task content of occupations is consistent across countries, as in Saltiel (2020[9]) or Gottlieb, Grobovsek and Poschke (2020[10]). Other studies focused on specific countries have categorised the remote working potential of occupations based on subjective, expert judgement, such as OFCE (2020[11]) and Magrini (2020[12]) for France and the United Kingdom, respectively.

Job concentration trends

The geographical concentration of total and high-skill employment is measured by using the Herfindahl-Hirschman Index (HHI). The index is calculated by squaring the total and high-skill employment shares of each region in a country and then summing the resulting numbers. It varies between 0 and 1, where 0 indicates that jobs are not geographically concentrated and 1 indicates that jobs are highly concentrated in one region. This analysis is only relevant for countries with more than one TL2 region.

In order to assess whether concentration has increased or decreased over time, the index has been computed in two periods of time, as shown in Table 1. Data for France, Hungary and Poland should be

interpreted with caution as a change in the regional classification over the period of analysis could impact the results.

Table 1. Job concentration analysis (HHI index), years, sources and country-specific notes

	Years of analysis	Source	Notes
Australia	2006-2016	Census of Population and Housing	
Austria	2000-2018	EU Labour Force Survey	
Belgium	2000-2018	EU Labour Force Survey	
Canada	2011-2018	Canadian Census	Excludes territories
Chile	2010-2018	Encuesta Nacional de Empleo	
Colombia	n/a	n/a	Data not available
Czech Republic	2000-2018	EU Labour Force Survey	
Denmark	2007-2018	EU Labour Force Survey	
Estonia	n/a	n/a	Data only at the national level
Finland	2000-2018	EU Labour Force Survey	
France	2000-2018	EU Labour Force Survey	Only regions in France *métropolitaine*
Germany	2002-2018	EU Labour Force Survey	
Greece	2000-2018	EU Labour Force Survey	
Hungary	2000-2018	EU Labour Force Survey	
Iceland	n/a	n/a	Data only at the national level
Ireland	n/a	n/a	Data not available
Israel	2003-2018	Labour Force Survey	
Italy	2000-2018	EU Labour Force Survey	
Japan	2009-2018	Labour Force Survey	
Korea	2011-2018	Local Area Labour Force Survey	
Latvia	n/a	n/a	Data only at the national level
Lithuania	n/a	n/a	Data only at the national level
Luxembourg	n/a	n/a	Data only at the national level
Mexico	2005-2018	Labour Force Survey	
Netherlands	2000-2018	EU Labour Force Survey	
New Zealand	2006-2018	Census	
Norway	2000-2018	EU Labour Force Survey	
Poland	2000-2018	EU Labour Force Survey	
Portugal	2000-2018	EU Labour Force Survey	
Romania	2000-2018	EU Labour Force Survey	
Slovakia	2000-2018	EU Labour Force Survey	
Slovenia	2010-2018	EU Labour Force Survey	
Spain	2000-2018	EU Labour Force Survey	Excludes Ceuta and Melilla
Sweden	2000-2018	EU Labour Force Survey	
Switzerland	2001-2018	EU Labour Force Survey	
Turkey	n/a	n/a	Data not available
United Kingdom	2000-2018	EU Labour Force Survey	
United States	2000-2018	Occupational Employment Statistics (OES) Survey	

Job polarisation

The analysis of job polarisation is based on the evolution of employment by occupation over time at the subnational level. It follows on previous OECD analysis undertaken at the national level, e.g. OECD (2017[13]). In order to classify occupations by skill levels, the following categories have been used:

1. **High-skill occupations** include jobs classified under the ISCO-88 major groups 1, 2, and 3. That is, legislators, senior officials, and managers (group 1), professionals (group 2), and technicians and associate professionals (group 3);
2. **Middle-skill occupations** include jobs classified under the ISCO-88 major groups 4, 6, 7, and 8. That is, clerks (group 4), skilled agricultural workers (group 6), craft and related trades workers (group 7), and plant and machine operators and assemblers (group 8);
3. **Low-skill occupations** include jobs classified under the ISCO-88 major groups 5 and 9. That is, service workers and shop and market sales workers (group 5), and elementary occupations (group 9).

Employment data beyond 2010 was mapped from ISCO-08 to ISCO-88 using a many-to-many mapping technique. Data from different classification systems is mapped to ISCO-88 classification.

The change over time is calculated as the percentage point change in the share of jobs at each skill level. Table 2 indicates the years of analysis and the data sources by country.

Table 2. Polarisation analysis, years, sources and country-specific notes

	Years of analysis	Source	Notes
Australia	2006-2016	Census of Population and Housing	In the country profile only, the analysis is conducted at Statistical Area Level 4 (SA4) level
Austria	2000-2018	EU Labour Force Survey	
Belgium	2000-2018	EU Labour Force Survey	Analysis conducted at NUTS 2 level
Canada	2011-2018	Labour Force Survey	Territories and Prince Edward Island excluded
Chile	2010-2018	Encuesta Nacional de Empleo	
Colombia	n/a	n/a	Data not available
Czech Republic	2000-2018	EU Labour Force Survey	
Denmark	2007-2018	EU Labour Force Survey	
Estonia	2000-2018	EU Labour Force Survey	
Finland	2000-2018	EU Labour Force Survey	Excludes Åland
France	2000-2018	EU Labour Force Survey	Only regions in France *métropolitaine*
Germany	2002-2018	EU Labour Force Survey	
Greece	2000-2018	EU Labour Force Survey	
Hungary	2000-2018	EU Labour Force Survey	
Iceland	2000-2018	EU Labour Force Survey	
Ireland	2000-2018	EU Labour Force Survey	
Israel	2003-2018	Labour Force Survey	
Italy	2000-2018	EU Labour Force Survey	
Japan	2009-2018	Labour Force Survey	
Korea	2011-2018	Local Area Labour Force Survey	
Latvia	2000-2018	EU Labour Force Survey	
Lithuania	2000-2018	EU Labour Force Survey	

Luxembourg	2000-2018	EU Labour Force Survey	
Mexico	n/a	n/a	Data not available
Netherlands	2000-2018	EU Labour Force Survey	
New Zealand	2006-2018	Census	
Norway	2000-2018	EU Labour Force Survey	
Poland	2000-2018	EU Labour Force Survey	
Portugal	2000-2018	EU Labour Force Survey	
Romania	2000-2018	EU Labour Force Survey	
Slovakia	2000-2018	EU Labour Force Survey	
Slovenia	2000-2018	EU Labour Force Survey	
Spain	2000-2018	EU Labour Force Survey	Excludes Ceuta and Melilla
Sweden	2000-2018	EU Labour Force Survey	
Switzerland	2001-2018	EU Labour Force Survey	
Turkey	n/a	n/a	Data not available
United Kingdom	2000-2018	EU Labour Force Survey	
United States	2000-2018	Occupational Employment Statistics (OES) Survey	

Jobs at risk of automation

The share of jobs at risk of automation is computed by adapting the methodology to produce national level estimates undertaken by Nedelkoska and Quintini (2018[14]). This approach uses individual-level data from the OECD Survey of Adult Skills (PIAAC), which provides information on the skills composition of each person's job and their skillset. For the subnational estimates provided in this report, data on regional employment by occupation is combined with the estimated probabilities of automation from Nedelkoska and Quintini (2018[14]). These subnational estimates assume that jobs within each job category have the same risk of automation across all regions of a country.

"High risk of automation" refers to the share of workers whose job faces a risk of automation of 70% or above. "Significant risk of change" reflects the share of workers whose job faces a risk of automation between 50% and 70%. Further information on the methodology can be found in OECD (2018[1]) and Nedelkoska and Quintini (2018[14]).

Table 3 indicates the years of analysis and the data sources by country. All analysis was undertaken at the TL2 level unless otherwise indicated.

Table 3. Automation years, sources and country-specific notes

	Years of analysis	Source	Notes
Australia	2016	Census of Population and Housing	In the country profile only, the analysis is conducted at Statistical Area Level 4 (SA4) level
Austria	2018	EU Labour Force Survey	Analysis conducted at NUTS 1 level
Belgium (Flanders only)		EU Labour Force Survey	Analysis conducted at NUTS 2 level in Flanders only
Canada	2018	Labour Force Survey	Territories and Prince Edward Island excluded
Chile	n/a	n/a	Data not available
Colombia	n/a	n/a	Data not available
Czech Republic	2018	EU Labour Force Survey	
Denmark	2018	EU Labour Force Survey	

Estonia	2018	EU Labour Force Survey	
Finland	2018	EU Labour Force Survey	
France	2018	EU Labour Force Survey	Only regions in France *métropolitaine*, excluding Corsica
Germany	2018	EU Labour Force Survey	
Greece	2018	EU Labour Force Survey	
Hungary	2018	EU Labour Force Survey	
Iceland	n/a	n/a	Data not available
Ireland	2018	EU Labour Force Survey	
Israel	n/a		Data not available
Italy	2018	EU Labour Force Survey	
Japan	n/a	n/a	Data not available
Korea	n/a	n/a	Data not available
Latvia	n/a	n/a	Data not available
Lithuania	2018	EU Labour Force Survey	
Luxembourg	n/a	n/a	Data not available
Mexico	n/a	n/a	Data not available
Netherlands	2018	EU Labour Force Survey	
New Zealand	n/a	n/a	Data not available
Norway	2018	EU Labour Force Survey	
Poland	2018	EU Labour Force Survey	
Portugal	n/a	n/a	Data not available
Romania	n/a	n/a	Data not available
Slovakia	2018	EU Labour Force Survey	
Slovenia	2018	EU Labour Force Survey	
Spain	2018	EU Labour Force Survey	Excludes Ceuta and Melilla
Sweden	2018	EU Labour Force Survey	
Switzerland	n/a	n/a	Data not available
Turkey	n/a	n/a	Data not available
United Kingdom	2018	EU Labour Force Survey	
United States	2018	Occupational Employment Statistics (OES) Survey	

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Executive summary

While managing the health impacts of COVID-19 is a primary concern, the COVID-19 pandemic has also put unprecedented pressure on local labour markets. In many countries, GDP has plummeted, the number of hours worked has drastically shrunk, and unemployment is spiking. Like previous crises, the economic impacts of this crisis have not hit all communities equally. Some places could struggle for years to come, highlighting the importance of locally-tailored actions.

Diverging futures for local economies

Local economies display different vulnerabilities to COVID-19-related job losses

The share of jobs in sectors most at risk from containment measures varies from less than 15% to more than 35% across regions. Large cities and tourist destinations typically have the highest share of jobs at risk**.** However, cities also have a higher share of jobs compatible with teleworking, which varies on average 15 percentage points across regions within countries. As the spread of the virus evolves, both precautionary measures taken by individuals and geographically targeted containment measures in "hot spots" will have differing impacts within countries.

Even pre-COVID-19, many places were struggling to keep their head above water

While the OECD unemployment rate was at a 40-year low prior to COVID-19, this masked other issues such as stagnant wage growth and a shrinking middle class. National averages also hid that some places continued to struggle with the legacies of the last crisis: nearly half of regions had not recovered to 2008 unemployment rates by 2018, and an even higher share of regions – two-thirds – had higher long-term unemployment rates in 2018 than 2008.

COVID could accelerate local transitions to the future of work

Technological change, globalisation, the green transition, and demographic change were already reshaping the geography of jobs and labour forces prior to COVID-19. These transitions will both create and destroy jobs, but not necessarily in the same places or requiring the same skills. With COVID-19, many of these transitions could gather momentum and become abrupt changes.

In particular, digitalisation and automation could rapidly accelerate. The share of jobs at risk from automation ranges from around 4% to almost 40% across regions. While places facing higher risks tend to have a lower-educated workforce and are less urbanised, the rapid uptake of teleworking could expand job creation outside of traditional high-growth centres. The green transition could also receive new momentum as part of stimulus packages.

For some local labour markets, demographic changes could be as, if not more, disruptive than technological change. The labour force has already shrunk in almost 30% of OECD regions over the past decade, notably in many rural areas. As skilled workers have become more geographically concentrated,

the most educated regions within countries had almost twice as many tertiary-educated adults as the least educated region on average. COVID-19 is unlikely to radically disrupt these trends, but could lead to more dynamism in places struggling with outflows of younger workers.

As emergency supports wind down, local actions will be front and centre

The challenges and opportunities facing local economies are becoming more differentiated. Large cities host both substantial shares of high-skilled workers with relatively secure jobs and teleworking options, but also have many low-skilled workers in face-to-face service positions that remain at risk. Tourism-intensive communities are facing unprecedented drops in visitors. Many manufacturing regions continue to struggle with drops in global trade, disruptions to supply chains, and accelerated automation. The good news is that COVID-19 has opened a window to reorient all types of local economies towards more sustainable, inclusive, and resilient futures. However, in places hardest hit, the imperative to create jobs in the short term could overshadow these longer-term concerns.

Local actors are often responsible for the types of policies that can help firms and workers make these transitions. In nearly half of OECD countries, local and regional governments have important responsibilities for active labour market policies. However, they will also be facing significant budgetary pressures**.** In almost half of OECD countries, 50% or more of subnational public budgets rely on more cyclical revenue sources, such as taxes and fees.

Local actions for recovery . . .

Strengthen local employment and training systems to manage the additional pressures

- Upgrade frontline public employment service capacities and virtual services, to help places hardest hit in the short term manage an influx of clients and support economic transitions in places facing longer-term challenges
- Target active labour market policies to both individual and community characteristics, and ensure accountability mechanisms consider local conditions
- Adapt local training provision in light of increased demands, system constraints, and local needs

Prevent entrenched disadvantage for young people, the low-skilled, and women

- Expand outreach to hard-to-reach populations, including through partnerships with local community organisations
- Intervene early to prevent longer-term labour market disengagement
- Address other barriers to employment (e.g. childcare, mental health challenges) through local coordination of wrap around services

Work with sectors facing prolonged drops in demand, and address the negative spillovers for local economies more generally

- Consider complementary measures for the hardest hit places as national schemes are rolled back
- Support firms in implementing social distancing, including through adaptations to the built environment
- Fill gaps for local sectors and populations not well-covered by national schemes

. . .and rebuilding better

Seize the window of opportunity to rethink local development approaches

- Bring diverse stakeholders together to develop a shared vision for the future

- Use new sources of local employment and economic development data to set visions and make course corrections
- Recognise and develop the role of the social economy, and expand social innovation, to address local needs
- Re-evaluate local strengths and weaknesses in light of changing residential and consumer preferences

Look beyond short-term returns in terms of job creation

- Evaluate local job creation measures against economic, social and environmental criteria
- Support local firms in upgrading job quality and productivity, particularly SMEs

Support firms, people and places through an accelerated digital transition

- Identify and build skills that can help local economies continue to transition to the future of work
- Integrate the use of teleworking by firms into local development strategies
- Upgrade digital infrastructure, particularly in rural areas

1 What future(s) for local economies

This chapter discusses the impacts of the COVID-19 pandemic on local economies. It considers factors that may contribute to different impacts across local labour markets (e.g. share of jobs in sectors most at risk, teleworking potential, specialisation in tradable sectors). Disparities could also increase within local labour markets. Young people, the low-skilled and women are being hard hit by the economic impacts of COVID-19, and local SMEs and the self-employed face particular challenges. Even pre-COVID-19, rosy national labour market figures often hid significant disparities within countries, reflecting different patterns of resilience to the global financial crisis and adaptation to broader structural changes. Accordingly, some places were hit by COVID-19 when they were already struggling.

In Brief

An economic tsunami that will not hit all places equally

While managing the health impacts of COVID-19 is a first order concern, the pandemic has also put unprecedented pressure on local labour markets and economies. GDP has plummeted, the number of hours worked has drastically shrunk, and unemployment is spiking. The economic impacts of this health crisis dwarf any event in recent memory.

In a time of radical uncertainty, there are many unknowns for local jobs and development. What we *do* know is that the economic fallout of COVID-19 will be deep but not the same across communities. Where already available, initial data shows that unemployment is spiking unevenly across regions within countries. While early, some evidence indicates that big cities are taking particularly large hits. A number of factors may influence these local divides:

- The share of jobs in sectors at risk due to the direct impacts from containment measures varies from less than 15% to more than 35% across regions, with large cities and tourist destinations typically having the highest share.
- The rapid adoption of teleworking is an important means to preserve jobs when strict social distancing is needed. However, the share of jobs amenable to teleworking varies 15 percentage points across regions within countries, with urban areas typically having a higher share.
- Temporary jobs are typically the first shed in downturns, and their share in total employment can vary by over 10 percentage points across regions in some countries. Temporary work is more common in regions with a lower-educated workforce, higher unemployment, and a smaller tradable sector.
- The share of regional employment in tradable sectors can vary over two fold in some OECD countries, and regions with high shares may be more vulnerable in the short term to disruptions in supply chains and contractions in global trade. However, tradable sectors may also help regions bounce back more quickly once the recovery is underway, a trend seen in previous crises.
- Localised outbreaks of the virus, the associated responses and changes in individual behaviours will impact economic activity in some places more than others.

Even before COVID-19 hit, the labour market was not as rosy as headline national figures suggested. While the overall OECD unemployment rate stood at 5.4%, national averages masked other issues such as stagnant wage growth and a shrinking middle class. They also hid the fact that some places continued to struggle with the legacies of the 2008 crisis.

- Nearly half of regions had unemployment rates higher in 2008 than 2018. Only in one-third of OECD countries had unemployment recovered in all regions.
- In over half of OECD countries, regional unemployment disparities were either growing, or shrinking for the wrong reasons (i.e. because of increasing unemployment rates in the best performing regions).
- Jobs had also become more geographically concentrated in the past two decades in most countries, especially high-skilled jobs, suggesting growing divides in how places were adapting to longer-term structural changes.

If lessons from the global financial crisis hold true this time around, some places will be harder hit than others and could struggle for years to come. In roughly 80% of regions, employment levels (number of jobs) declined at some point following the global financial crisis, but the scale of this decline varied drastically. At their respective lowest points, employment declined by over 20% in some of the hardest hit regions in Spain and Greece, and by over 10% in some places in the United States, Denmark, Italy, Poland, Portugal, and Turkey, as well as Romania. The last crisis appears to have accentuated difficulties for places already struggling with other challenges – relatively high unemployment, a low-educated workforce, and low labour productivity.

COVID-19 could also lead to deepening divides within local labour markets. The low skilled, low-wage workers, and young people may be the most vulnerable to COVID-19-related job losses, and could face longer-term scarring effects. They are highly represented in the sectors most at risk, less likely to hold jobs that allow them to telecommute, and more likely to be on temporary contracts. Local SMEs and the self-employed also face large risks, and may have less reserves to survive the shock as well as face additional challenges accessing public supports.

Introduction

While managing the health impacts of COVID-19 is a first order concern, the pandemic has also put unprecedented pressure on local labour markets and economies, and generated radical uncertainty. GDP has plummeted, the number of hours worked has drastically shrunk, and unemployment is spiking. The economic impacts of this health crisis dwarf any event in recent memory. Yet, much remains unknown about how the COVID-19 pandemic will continue to impact our economies and societies:

- **From a health perspective**, how will the virus spread in different places and seasons? How long will it take to develop and disseminate a vaccine, and what types of social distancing will be required until that point?
- **From an economic perspective**, how many firms will go out of business permanently, and how will employers re-organise production processes? How will investment, demand and trade be impacted over the longer term?
- **From a policy perspective**, what policy measures will governments use in the short and long term to mediate the impacts of the crisis? How will citizens' expectations of governments change?
- And finally, **from a social perspective**, how will people change their behaviours to adapt? Will the pandemic spark permanent changes to how and where people live, work, and learn?

What we *do* know is that the economic fallout of COVID-19 will be deep but not the same across communities. The question is therefore, not what future for our economies, but rather what *future(s)* for local economies. There are many different ways that COVID-19 and the associated economic downturn will impact the economy and jobs differently across places (see Table 1.1).

Table 1.1. How COVID-19 related job losses will hit some places harder than others

COVID-19 CONTAINMENT MEASURES AND CHANGES TO INDIVIDUAL BEHAVIOURS		
Localised outbreaks	**Share of jobs in sectors most impacted**	**Share of jobs amenable to teleworking**
In response to specific local outbreaks, changes in individual behaviors and geographically-targeted containment measures will impact economic activity in some places more than others.	The share of jobs in sectors most directly impacted by containment measures varies from less than 15% to more than 35% across regions, with large cities and tourist destinations having a higher share of jobs at risk.	The share of jobs amenable to teleworking varies 15 percentage points across regions within countries. Urban areas can rely more on teleworking to help preserve certain jobs when stricter social distancing is needed.
ASSOCIATED ECONOMIC DOWNTURN BEYOND CONTAINMENT MEASURES		
Local resilience to downturns	**Pre-COVID-19 labour market health**	**Share of temporary jobs**
Local economies have displayed very different patterns of resilience in past recessions. For example, at its lowest point, employment declined by over 20% in the regions hardest hit by the global financial crisis.	Many places were still struggling with the scars of the global financial crisis and other structural changes even prior to COVID-19 hitting. Half of regions still had unemployment rates higher in 2018 than in 2008, a full ten years after the crisis. In one-quarter of regions, unemployment exceeded 8%.	The share of temporary jobs, which are typically the first shed in downturns, varies by over 10 percentage points across regions in some countries. Temporary work is more common in regions with a lower-educated workforce, higher unemployment, and a smaller tradable sector.

Source: Author's own elaboration

This chapter takes stock of local labour market[1] health, particularly the impacts of COVID-19 and the associated economic downturn. While a spike in unemployment is likely across the board, some places will be more vulnerable to job losses than others based on sector specialisation and other factors, such as the share of jobs amenable to teleworking. The scale of local job losses during the global financial crisis shows that crises have very different impacts across territories, often accentuating existing labour market weaknesses. Local economies will also be impacted differently by an acceleration of longer-term structural changes, such as automation, an issue discussed further in Chapter 2. Even pre-COVID-19, the labour market picture was not as rosy as national figures suggested: unemployment rates and patterns of job creation and quality varied considerably across territories, reflecting the legacy of longer-term structural changes as well as different patterns of resistance and recovery from the global financial crisis. Finally, *within* local labour markets, COVID-19 could further entrench existing disadvantages for the low-skilled, young people and women, and have particularly negative impacts on SMEs and the self-employed.

The impact of COVID-19 on local labour markets

Unemployment is spiking unevenly across local labour markets

COVID-19 is causing unemployment to increase across the OECD, and some cities and regions are undoubtedly being harder hit than others. While unemployment is expected to increase in almost all OECD countries by the end of 2020, this surge came earlier for some countries than others. Countries that relied on expanded unemployment benefits or stimulus payments to support workers through job losses or reductions in working hours already saw unemployment significantly increase in the first half of 2020. In contrast, countries that made widespread use of job retention schemes, such as short-time work programmes which cover the wages of furloughed workers, staved off these initial increases in unemployment (OECD, 2020[1]). However, as these schemes are rolled back and businesses manage prolonged drops in demand, unemployment will tick up in many places.[2]

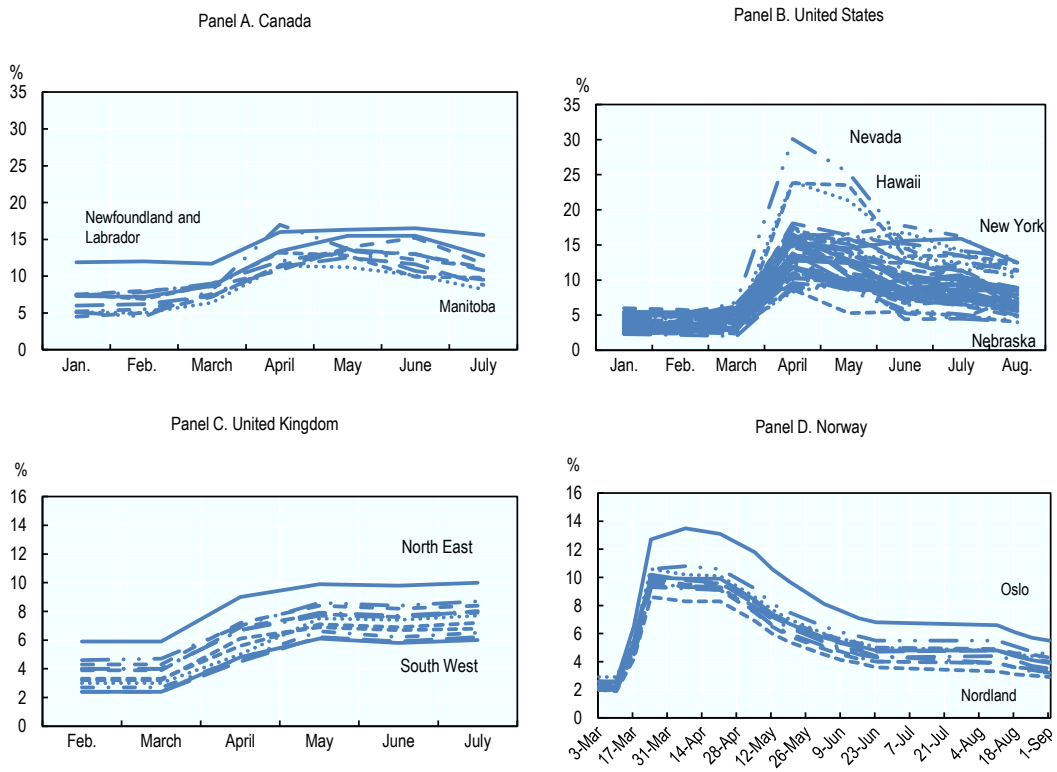
In countries where unemployment increased significantly in the first half of 2020 and with available data, regional divides are already apparent. For example, in the United States, the August 2020 unemployment rate ranged from 4.0% in Nebraska to 13.2% in Nevada. Unemployment increased by less than 1 percentage point in Nebraska compared to the previous year, while in Nevada, it increased by over

9 percentage points (U.S. Bureau of Labor Statistics, 2020[2]). Likewise, in Canada, regional patterns varied considerably. Unemployment increased over two-fold in British Colombia between January and July, but only by a magnitude of 1.3 in New Brunswick. In the United Kingdom and Norway, unemployment also rose in all regions, although the patterns were more similar across regions.

In countries with widespread use of short-time work schemes, regional participation rates can provide an indication of where a high share of jobs were directly impacted by COVID-19 (see French and German examples in Figure 1.3). In France, for example, the Paris region (Île-de-France) had a higher share of workers on short-time work schemes than other regions. However, the degree to which this will translate to higher unemployment rates as these schemes are rolled back remains to be seen. Additionally, it is important to note that in a number of countries, these schemes were extended in the fall of 2020 in response to the second wave of the virus.

Figure 1.1. North America and Europe: regional unemployment divides are already showing up in national data

Unemployment rates or claimant counts, TL2 regions, 2020



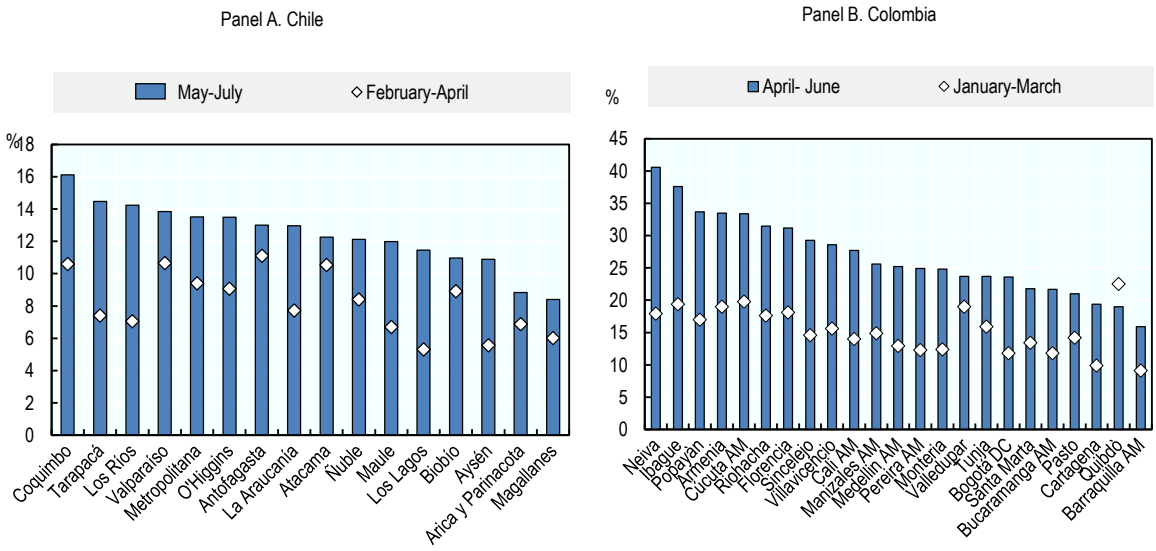
Note: Due to methodological differences, these rates are not comparable across countries and are only intended to illustrate regional differences within countries. In Canada and the United States, the unemployment rate is computed as the share of people looking for a job over the total labour force (ILO definition) for the population aged 15 and above. For both countries, survey data is used in the calculations. For Norway, the rate is computed as the share of registered unemployed over the labour force aged 15 and above. For the United Kingdom, it is computed as the claimant count (i.e. the number of people claiming benefits principally for the reason of being unemployed) over the labour force aged 16 and above. For both Norway and the United Kingdom, calculations are based on administrative sources.

Source: Canadian Labour Force Survey, Norwegian Labour and Welfare Administration, UK Department for Work and Pensions, U.S. Dept. of Labor, Bureau of Labor Statistics (BLS).

StatLink https://doi.org/10.1787/888934188462

Figure 1.2. Latin America: regional unemployment divides are already showing up in national data

Unemployment rates, regions or metropolitan areas, 2020

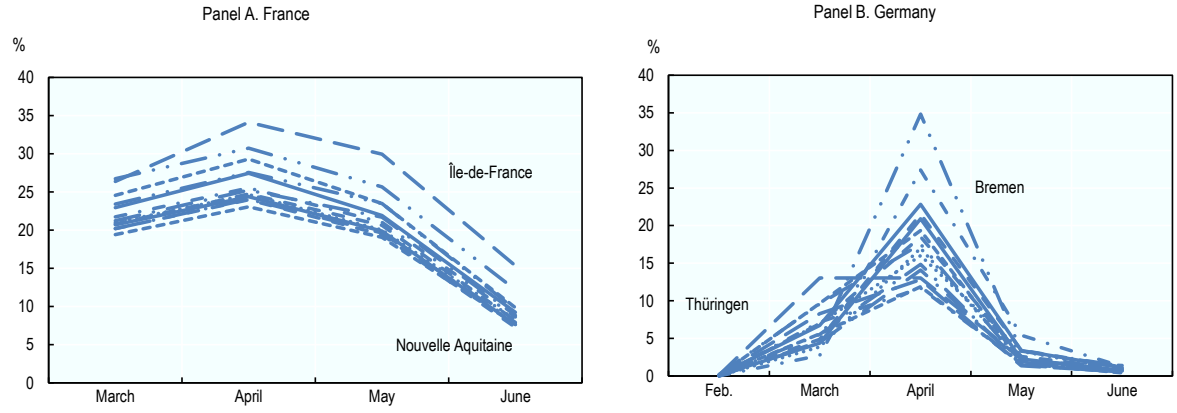


Note: Due to methodological differences, these rates are not comparable across countries and are only intended to illustrate regional differences within countries. The unemployment rate is computed as the share of people looking for a job over the total labour force (ILO definition). For Chile data refer to regions and cover the population aged 15 and above. For Colombia, data refer to metropolitan areas and cities, and cover the population aged 12 and above. For both countries, calculations are based on survey data.
Source: National Labour Force Surveys, Instituto Nacional de Estadísticas of Chile and National Administrative Department of Statistics of Colombia.

StatLink https://doi.org/10.1787/888934188481

Figure 1.3. France and Germany: participation in short-time work schemes varied across regions

Participation in short-time work schemes as a share of the workforce, TL2 regions, 2020



Note: Due to methodological differences, these rates are not comparable across countries and are only intended to illustrate regional differences within countries. Short-time work schemes refer to *activité partielle* for France *métropolitaine* and *Kurzarbeit* for Germany. The figures show the share of people participating in short-time work schemes as a share of the labour force.
Source: Direction de l'Animation de la recherche, des Études et des Statistiques (DARES) and German Federal Employment Agency (BA).

StatLink https://doi.org/10.1787/888934188500

Job postings can provide another indication of local labour market health, as increases in unemployment during downturns typically result from both decreases in hiring and increases in job separations (OECD, 2009[3]). Across the 18 OECD countries with available data, online job postings decreased by an average of 35% on any given day between 1 February and 1 May 2020. "Public services" (i.e. services in education, health care and social work, or public administration and defence sectors), and business services, followed by trade and transportation, and the accommodation and food industries made the largest contributions to these declines (OECD, 2020[1]).

Regional trends in job postings suggest that hiring may be decreasing the most in large cities. Emerging evidence on the impact of COVID-19 on labour demand in the US shows that in the first half of 2020, online job postings contracted more and the recovery was slower than would have been expected in metropolitan areas that were larger, had a more educated workforce, and a more diverse industrial structure (Tsvetkova, Grabner and Vermeulen, 2020[4]). While this may indicate that patterns of resistance and recovery will be different this time around compared to the previous crisis, these initial results may also be influenced by differences in containment measures across metropolitan areas or other local considerations. However, similar trends can also be found in the other countries. In looking at job postings in the United Kingdom, postings were down more in London than the national average compared to 2019 levels (Office for National Statistics, 2020[5]). It is important to keep in mind, however, that online vacancy information provides only a partial picture of a labour markets, with a bias towards high-skilled occupations and sectors. Additionally, as the situation continues to rapidly evolve, it remains to be seen if these patterns hold true over time.

The structure of local economies may make some places more vulnerable to job losses than others

Some places may be more vulnerable to the direct impacts of COVID-19 than others. Sector specialisation, the share of jobs amenable to teleworking, and trade exposure may all impact local vulnerabilities. Of course, the likelihood that these risks materialise and for how long depends on a number of factors: the pace and scale of roll-backs of short-time work or other schemes to promote job retention; the rigidity of employment protection legislation; employer expectations about how long COVID-19 will impact their activities; and the degree to which firms go out of business, reduce or re-organise activities permanently.

Additionally, the scale of local job losses also depends significantly on local outbreaks of the virus and ensuing changes in individual behaviours and containment measures. Rolling waves of targeted containment measures in regions and cities will likely be a reality until a vaccine is found. This has already been in the case in many countries, where national containment measures were rolled back at different places across regions, or where stricter containment measures were re-introduced in response to local flare-ups. Accordingly, at the same time that economic activity in some places is restarting, in other places, it will essentially be re-frozen. This will undoubtedly have important impacts on local employment beyond what can be deduced based on local economic structure, but where and when cannot be predicted at this stage. However, at the time of this publication, a number of countries, particularly in Europe, were re-introducing stricter nationwide containment measures in response to a second wave of the virus.

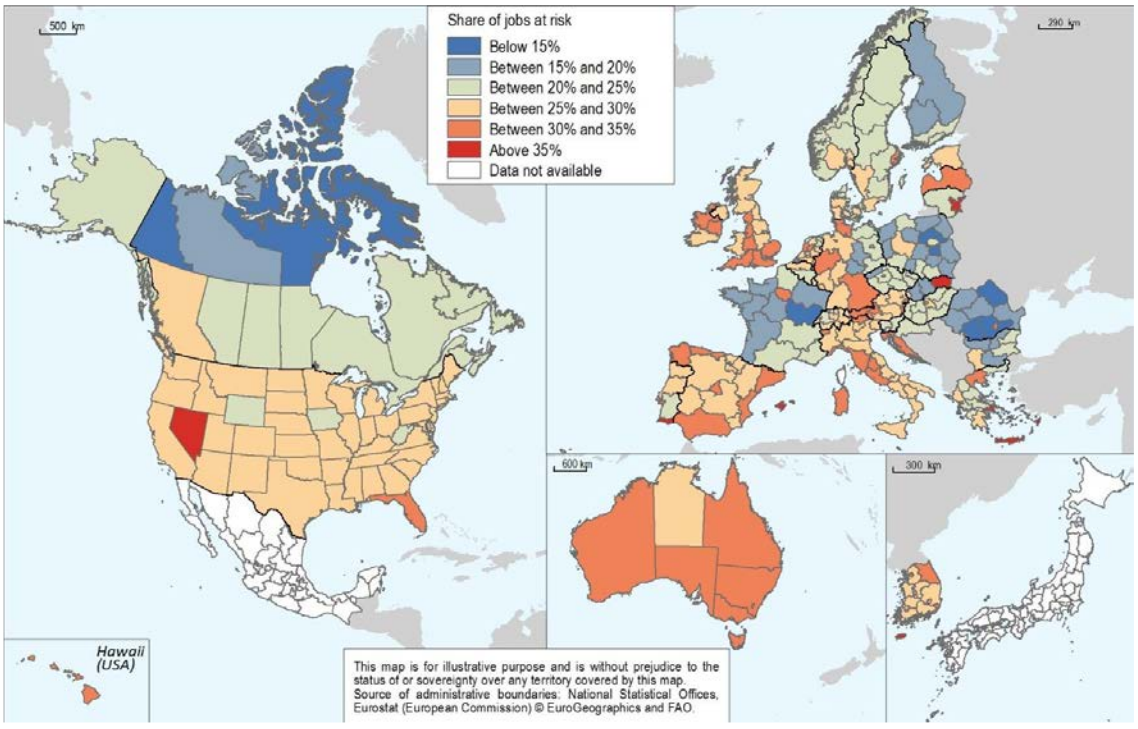
Large cities and tourism destinations have a higher concentration of jobs in the sectors most at risk from strict containment measures

Across regions countries, the share of jobs in the sectors most impacted by strict containment measures represents less than 15% to more than 35% of local jobs (Figure 1.4). [3] In one out of five of these regions, more than 30% of jobs are at risk. These figures are based on OECD estimates that jobs in manufacturing of transport equipment; construction; wholesale and retail trade; air transport, accommodation and food services; real estate services; professional service activities; and arts, entertainment and recreation are most at risk from strict containment measures (OECD, 2020[6]) (see

Reader's Guide for further information on the calculations of the share of jobs at risk). Within countries, the share of jobs at risk can vary by more than 20 percentage points across regions. In Greece, for example, they range from up to 55% in the South Aegean Islands to 22% in Central Greece. Regional differences are also particularly stark in the Slovak Republic, France, and Portugal as well as Romania.

Figure 1.4. Share of jobs in sectors most at risk from COVID-19 containment measures

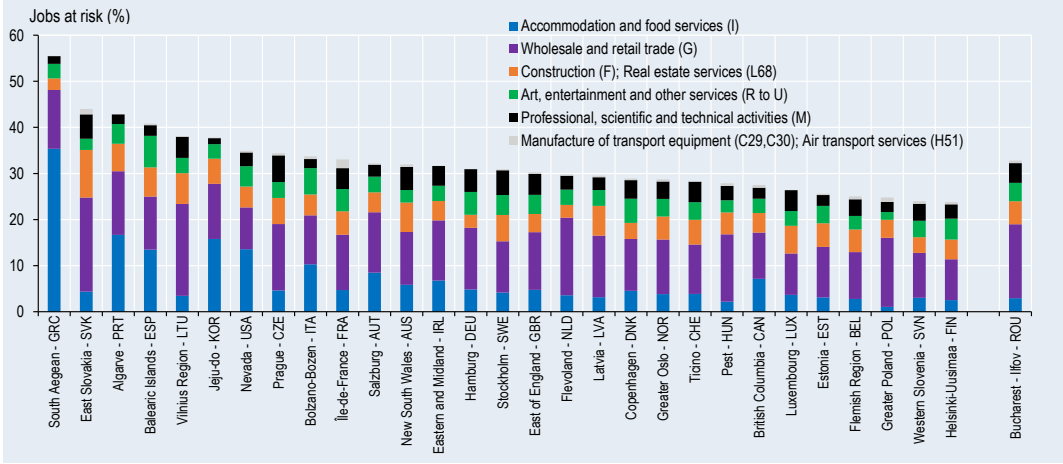
TL2 regions, selected OECD and EU countries



Note: Share of jobs at risk based on estimates of sectors most impacted by strict containment measures, such as those that involve travelling and direct contact between consumers and service providers. The sectoral composition of the regional economy is based on data from 2017 or latest available year. See Reader's Guide for further information the calculations. Some regions are excluded due to lack of data availability and for ease of visual display of the map.
Source: (OECD, 2020[7])

StatLink https://doi.org/10.1787/888934188519

Figure 1.5. Regions with the highest share of jobs at risk by country, TL2 regions



Note: Share of jobs at risk based on estimates of sectors most impacted by strict containment measures, such as those that involve travelling and direct contact between consumers and service providers. The sectoral composition of the regional economy is based on data from 2017 or latest available year. See Reader's Guide for further information the calculations. Data is for selected OECD and EU countries.
Source: OECD calculations on OECD (2020), *OECD Regional Statistics (database)*, https://doi.org/10.1787/region-data-en

StatLink https://doi.org/10.1787/888934188538

Tourist destinations, capitals and other large cities have the largest share of jobs in the sectors most at risk (Figure 1.5). The importance of tourism, local consumption, and services – including large retailers, general-purpose stores, and business in the hospitality industry, such as coffee shops and restaurants – partially explains these relatively high shares. The extent to which strict containment measures are active in tourism high seasons is an important determinant of the extent to which this risk is realised. In Europe, several major tourist destinations, such as Crete, the South Aegean and Ionian islands (Greece), Balearic and Canary Islands (Spain) as well as the Algarve region in Portugal have over 40% of jobs at risk. In Korea, the largest share of jobs at risk is in Jeju-do, a region where tourism represents an important pillar of the economy. For similar reasons in North America, Nevada (which includes Las Vegas) stands out as having the highest share of jobs at risk, followed by Hawaii. Indeed, unemployment in both Hawaii and Nevada spiked considerably in the first half of 2020 (see Figure 1.1).

In roughly one-quarter of countries, the capital region has the highest share of jobs at risk. This includes the Czech Republic, Denmark, Finland, France, Lithuania, Norway, Sweden, as well as Romania. Greece and Spain follow the same pattern if their island regions, which are highly exposed to the decline in tourism, are excluded. In most cases, the higher risk observed in capitals, or other large cities, reflects their specialisation in retail and wholesale trade. This is the case for Athens, Bucharest, Prague, Helsinki, Oslo, Stockholm, and Vilnius. On the other hand, large cities tend to have other protective factors – a more diverse economy, a more skilled labour force, a larger share of jobs compatible with teleworking – which can help them adapt to shocks and could facilitate the economic recovery.

Some of the sectors that have been particularly hard hit by containment measures are unlikely to recover quickly. For example, international tourism is anticipated to decrease by 80% in 2020, and is not expected to rebound quickly (OECD, 2020[8]). As a labour-intensive sector, the impacts on local employment in tourism destinations will be profound. Similarly, culture and creative industries will likely take a deep and prolonged hit. Social distancing brings ongoing challenges to venue-based activities such as theatres and museums, and organisations that rely heavily on public and philanthropic funding and visitor revenues may face greater financial challenges (see Box 1.1). Additionally, the high share of self-employed, freelancers and SMEs in the sector creates unique challenges that general public support schemes are not always well-tailored to address.

Box 1.1. The impact of COVID-19 on culture and creative sectors

Cultural and creative sectors are among the most affected by the current crisis, and account for less than 1 to over 5% of employment across OECD regions. Venue-based sectors (such as museums, performing arts, live music, festivals, cinema, etc.) are the hardest hit by social distancing measures. The abrupt drop in revenues puts their financial sustainability at risk and has resulted in reduced earnings and lay-offs for workers. It also has repercussions throughout their supplier networks, hitting suppliers in both creative and non-creative sectors. Some cultural and creative sectors, such as online content platforms, have seen an increase in demand for cultural content streaming during lockdowns, but the benefits from this extra demand have largely accrued to the largest firms in the industry.

The effects will be long lasting due to a combination of several factors. The impacts on distribution channels and the drop in investment will affect the production of cultural goods and services and their diversity in the months, if not years, to come. Over the medium term, the anticipated lower levels of international and domestic tourism, drop in general demand, and reductions of public and private funding for arts and culture, especially at the local level, could amplify this negative trend even further. In the absence of responsive public support and recovery strategies, the downsizing of cultural and creative sectors will have a negative impact on cities and regions in terms of jobs and revenues, innovation, citizen well-being and overall vibrancy and diversity.

Many of the broad supports to workers and firms rolled out in response to COVID-19 were not well suited to the peculiarities of the sector. Cultural and creative sectors largely consist of micro-firms, non-profit organisations and creative professionals, often operating on the margins of financial sustainability. Large public and private cultural institutions and businesses depend on this dynamic ecosystem for the provision of creative goods and services. Employment and income support measures are not always accessible or adapted to the new and non-standard forms of employment (freelance, intermittent, hybrid – e.g. combining salaried part-time work with freelance work) that tend to be more precarious and are more common in this sector. SME finance measures could also be better adapted to businesses with significant intangible assets. Similarly, innovation supports, largely catering to technological innovations, could be adapted to other forms of innovation more common in the sector, such as innovations in format and content, including through mixed use of different media. Such supports could also recognise that the sector generates innovation through creative skills, new ways of working, new business models, and new forms of co-production.

During lockdowns, many public and private providers moved content online for free to keep audiences engaged and satisfy the sharply increased demand for cultural content. While the provision of free and digitally mediated cultural content is not sustainable over time, it has opened the door to many future innovations. Massive digitalisation coupled with emerging technologies, such as virtual and augmented realities, can create new forms of cultural experience, dissemination and new business models with market potential. To capitalise on them, there is a need to address the digital skills shortages within the sector and improve digital access beyond large metropolitan areas, with the additional consideration that digital access does not replace a live cultural experience or all the jobs that go with it.

Source: OECD (2020[9]).

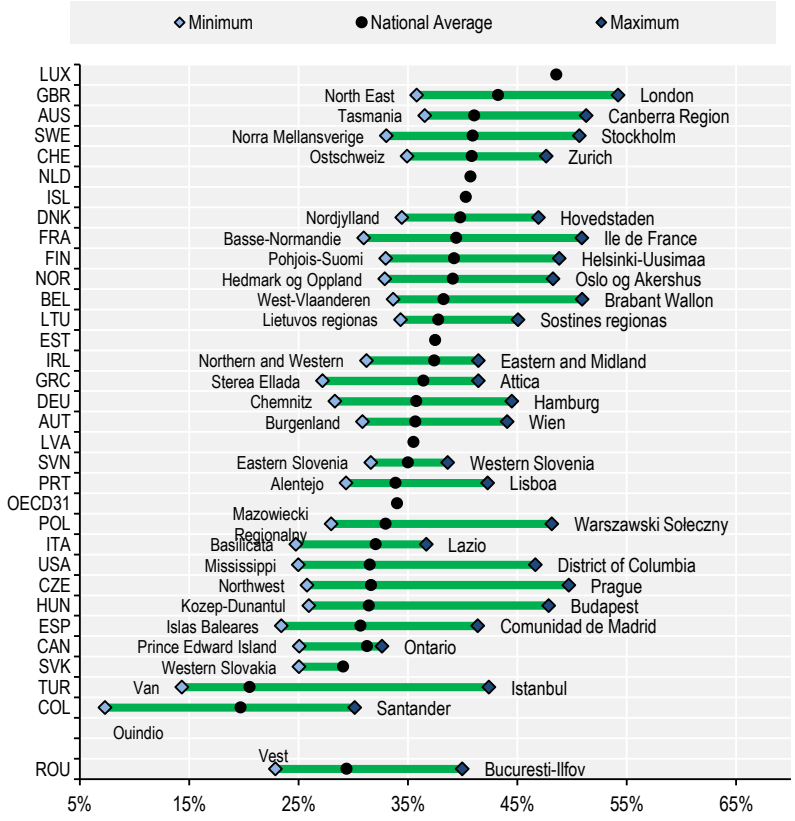
Cities also host more high-skilled jobs that can be done remotely, which could help buffer the shock for some workers

Workers and firms rapidly and widely adopted teleworking during the periods with the strictest containment measures, with many governments providing financial supports and updates to legal frameworks to facilitate this transition. The OECD estimates that an average of 39% of workers teleworked in early 2020 during lockdowns, with significant differences across countries (OECD, 2020[1]). In early April 2020, up to half of American workers were working from home – more than double the amount who worked from home, at least occasionally, in 2017-18 (Guyot and Sawhill, 2020[10]). In France, an estimated 39% of employees were teleworking in May (ODOXA, 2020[11]), while the rate of employees working from home at least once a week was estimated at just 3% in 2017 (DARES, 2019[12]).

Yet the potential for remote working varies significantly across regions: on average, the share of jobs amenable to teleworking varies 15 percentage points across regions within countries (see Figure 1.6). [4] This difference reaches more than 20 percentage points in the Czech Republic, France, Hungary, and the United States, driven by comparatively high levels of potential remote working in their capitals.

Figure 1.6. Regional differences in share of jobs amenable to teleworking are large

Share of jobs that can potentially be performed remotely (%), 2018, NUTS-1 or NUTS-2 (TL2) regions, selected OECD and EU countries



Source: Adapted from OECD (2020[13]) and OECD (2020[14]).

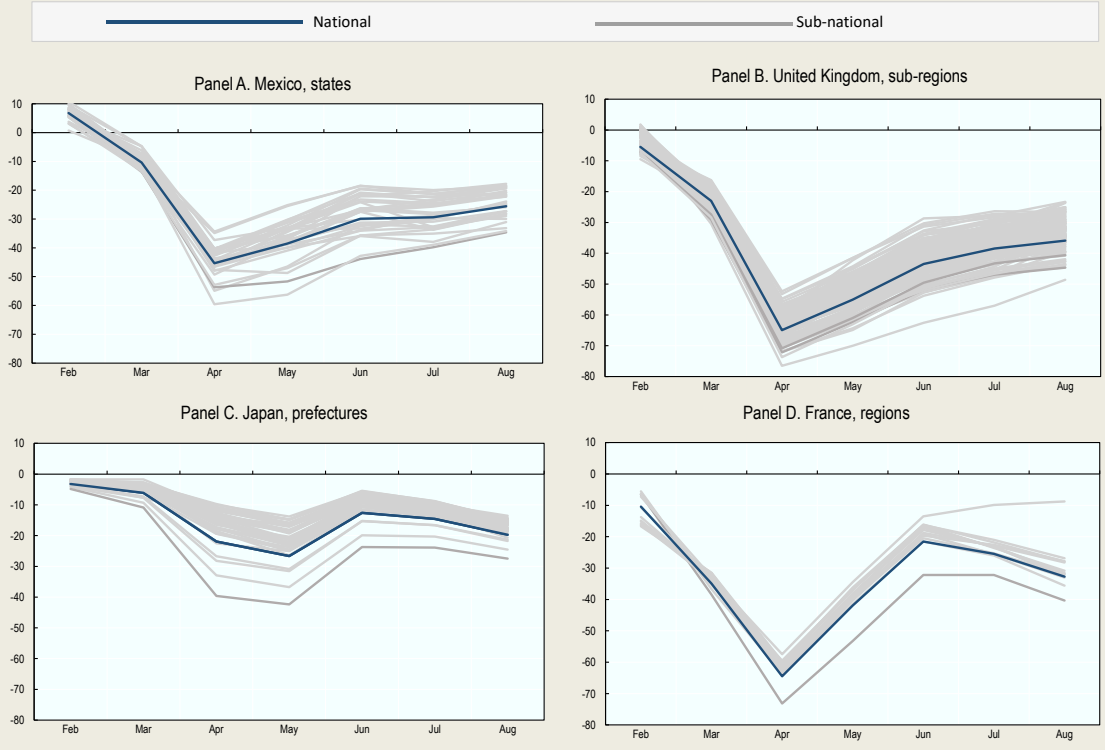
StatLink https://doi.org/10.1787/888934188557

Box 1.2. How visits to workplaces have changed across regions

New data sources, such as anonymised geographic data from smart phones, can also provide insights into how containment measures have impacted mobility and activity in different regions. The charts below give examples of how visits to workplaces changed across regions compared to a baseline period in early 2020. These regional differences may reflect both how local economies were impacted differently by nationwide measures, as well as the impact of more geographically targeted containment measures. While it is impossible to tell from this data whether visits to workplaces reduced because of teleworking, employees being put on short-time work schemes, or lay-offs, it does show significant regional variations in how many people were travelling to workplaces at different phases of COVID-19 containment. However, these data should be interpreted with caution across countries and regions, as differences in how different types of locations are categorised across different types of regions (i.e. urban vs. rural) limits these comparisons.

Figure 1.7. Changes in visits to workplaces from Feb-August 2020

Monthly averages of percentage change in mobility relative to the median value during the 5-week period 3 Jan – 6 Feb 2020



Note: Data for some dates and places may be excluded due to privacy concerns and limited data availability.
Source: OECD calculations on Google LLC (2020), "COVID-19 Community Mobility Reports, https://www.google.com/covid19/mobility/, accessed 11 Sept. 2020.

StatLink https://doi.org/10.1787/888934188576

Cities and capital regions tend to have a higher share of jobs amenable to teleworking (OECD, 2020[13])**.** In Europe, the share of jobs amenable to teleworking in cities (above fifty thousand inhabitants) is 13 percentage points higher than in rural areas. In Croatia, Finland, Hungary and Luxembourg, the gap is larger than 17 percentage points. In towns and semi-dense areas, the potential for remote working is more similar to that of rural areas than that of cities. Unsurprisingly, there is also a strong correlation between the skills of the local workforce and the share of jobs amenable to teleworking. However, other research suggests that while cities have a higher share of jobs amenable to teleworking, this is at least partially compensated by the fact that non-metropolitan areas host other types of jobs that can be considered "safe", i.e. those that are not amenable to teleworking but require a low level of physical proximity – such as in agriculture (Basso et al., 2020[15]). Additionally, the polarised nature of urban labour markets mean that they have both relatively high shares of high-skilled workers who can work remotely, and high shares of low-skilled workers, often in face-to-face service occupations, that are strongly impacted by COVID-19.

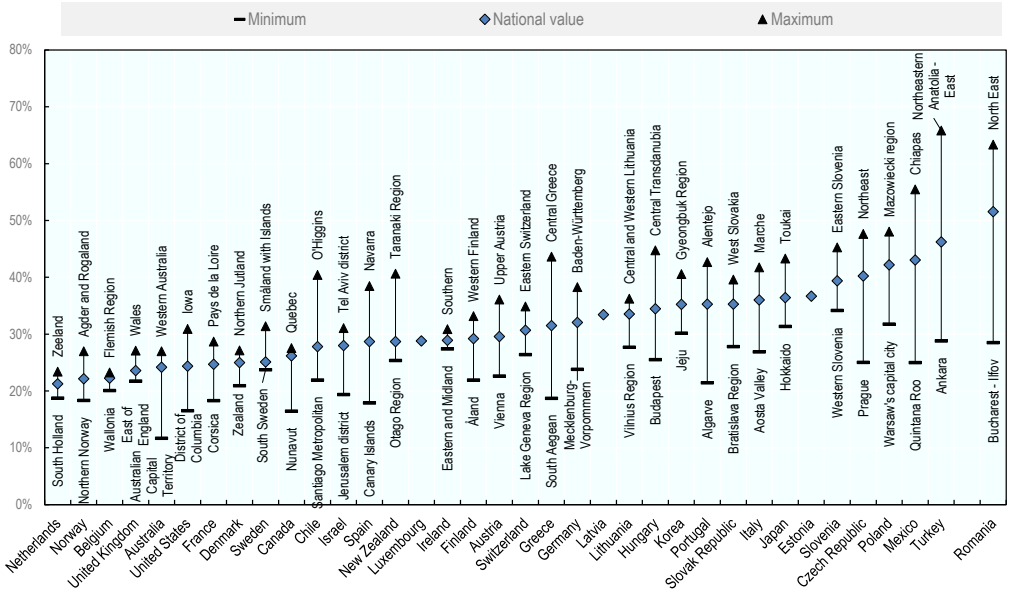
These geographic divides in teleworking have already appeared in the data. An April 2020 survey in France showed that 41% of the labour force was teleworking in Île-de-France, compared to 11% in Normandy (ODOXA, 2020[16]). Additionally, as described in Box 1.2, smartphone mobility data suggests that visits to workplaces changed differently across regions in the first half of 2020. However, this data does not allow for differentiation between reduced workplace visits due to increased teleworking or because people were furloughed or laid off, and therefore should be interpreted with caution.

Within regions, there are also important differences in terms of who can telework: as young people, the low-skilled, and low-wage workers are more likely to hold jobs requiring a physical presence. In May 2020, a French survey found that 89% of managers (*cadres*), 54% of "middle management" (*professions intermédiaires*), 26% of employees (*employés*) and only 3% of manual workers (*ouvriers*) teleworked during the lockdown period (ODOXA, 2020[11]). Other research has shown that higher-income workers are much more likely to be working from home during the pandemic and much less likely to be unable to work at all than lower-income workers (Reeves and Rothwell, 2020[17]). According to smartphone location data in the United States, lower-income workers were more likely to continue daily commuting during the early spring, while higher-paid workers were more likely to stay at home. Although people in all income groups were moving less than before the crisis, higher-income earners were limiting their movement the most, especially during the workweek. In nearly every state, they began doing so days before low-income earners. The differential was particularly high in metropolitan areas with large economic inequalities (Valentino-DeVries, Lu and Dance, 2020[18]). The higher share of young people in jobs requiring a physical presence may be linked to their overrepresentation in sectors such as wholesale and retail trade, and accommodation and food services (Brussevich, Dabla-Norris and Khalid, 2020[19]). Additionally, employees of large firms are more likely to have teleworking as an option compared to SMEs (OECD, 2020[20]).

Trade-exposed regions are likely to face higher short-term risks, but could also have longer-term protective factors

World trade sharply contracted in 2020, and supply chain disruptions impeded activity in a number of sectors. This scaling back of global trade has diverse effects on regions, with places more integrated in global trade potentially hit the hardest initially. Regions with higher shares of employment in tradable sectors (see Figure 1.8)[5] may face higher risks due to disruptions in trade flows, although further study is needed. The longer global trade will take to return to before COVID-19 crisis levels, the harder the downturn could be for the more globalised regions, with potentially stronger rises in unemployment, at least in the short term. However, in the medium term, if global trade returned to pre-crisis levels, more globalised regions could recover faster, in line with trends from previous crises (OECD, 2018[21]).

Figure 1.8. Share of regional employment in tradable sectors



Note: Tradable sectors are defined by a selection of the 10 industries defined in the SNA 2008. They include: agriculture (A), industry (BCDE), information and communication (J), financial and insurance activities (K), and other services (R to U). Non-tradable sectors are composed of construction, distributive trade, repairs, transport, accommodation, food services activities (GHI), real estate activities (L), business services (MN), and public administration (OPQ). Data refer to 2017 for most countries. For France, Japan and Switzerland data is from 2016 and for Turkey form 2015. See notes to Chapter 1 for further discussion. Ceuta and Melilla (Spain) are not included. For France, only the regions in France *métropolitaine* are included.
Source: OECD (2020), "Regional economy", *OECD Regional Statistics (database),* https://doi.org/10.1787/6b288ab8-en.

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Divides could also deepen within local labour markets, as disadvantage becomes more entrenched

COVID-19 will likely not only exacerbate divides *across* local labour markets, but also divides *within* local labour markets. The low-skilled, low-wage workers, and young people may be the most vulnerable to COVID-19-related job losses (OECD, 2020[1]). They are in the sectors most at risk (Berube and Bateman, 2020[22]), they are less likely to hold jobs that allow them to telecommute (OECD, 2020[23]), and are more likely to be on temporary contracts (OECD, 2014[24]). These same groups are also more likely to hold jobs at higher risk of automation (Nedelkoska and Quintini, 2018[25]), a process that firms may accelerate in light of the pandemic (see Chapter 2). While the global financial crisis predominantly impacted male-dominated sectors and occupations, women are more at-risk from COVID-related job losses, as they are over represented in the sectors and occupations most at-risk (OECD, 2020[1]).

The impact of COVID-19 on these groups could persist for some time. Young people, particularly those facing multiple disadvantages, can face "scarring effects" from entering the workforce during periods of high unemployment, with persistent negative impacts for their career and wages, as well as other dimensions of well-being, over the long term (Scarpetta, Sonnet and Manfredi, 2010[26]). Many people from these groups could end up facing long-term unemployment, or dropping out of the labour market all together. In places where childcare and schools remain closed or with limited in-person activities, there may also be important increases in people dropping out of the labour force because of caring responsibilities, which disproportionately impacts women.

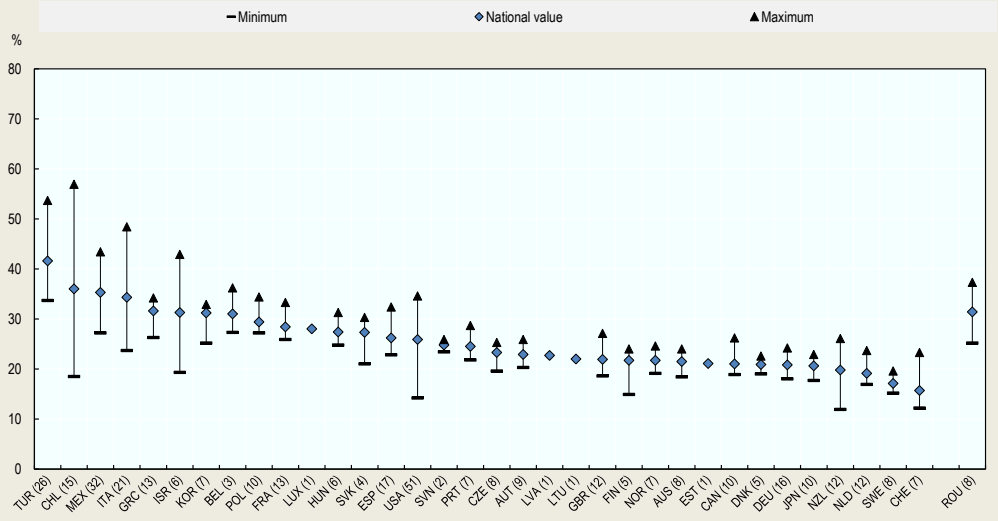
Box 1.3. Economic inactivity and discouraged workers in regions and cities

Pre-COVID-19, there were approximately 270 million adults who are not employed or looking for a job across the OECD (i.e. the "economically inactive"[6]) (OECD, 2019[27]). Young people, the low-skilled, and women are more likely to be economically inactive – the same groups most at risk from COVID-19-related job losses. The economic inactivity rate is 24 percentage points higher for people with low education levels (i.e. below upper secondary education) in comparison to those having attained tertiary education. Around one in three inactive individuals across the OECD is aged 15-24 years, and in all countries, women are more likely to be economically inactive than men (Barr, Magrini and Meghnagi, 2019[28]).

There are already important regional differences in economic inactivity rates, which COVID-19 could accentuate. Across OECD countries with more than one region, the average variation between regions with the highest and the lowest economic inactivity rates is 10.5 percentage points (see Figure 1.9). The variation is less than 5 percentage points in countries such as Slovenia, Denmark and Sweden, but it is above 20 percentage points in Chile, Israel, Italy and the United States. Chile and Italy are also among those with the highest gender gap in the inactivity rate. Evidence suggests the regional differences can be linked to prior job losses, particularly related to places with an industrial legacy, as has been found to be the case in the United Kingdom (Barr, Magrini and Meghnagi, 2019[28]).

Figure 1.9. Some countries have large regional gaps in economic inactivity rates

TL2 regions, share of population aged 15-64 not in the labour force, 2019



Note: Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine* are included.
Source: OECD (2020), "Regional labour markets", *OECD Regional Statistics* (database), https://doi.org/10.1787/f7445d96-en.

StatLink https://doi.org/10.1787/888934188614

While the reasons for economic inactivity vary, from care responsibilities to disabilities to belief that there are no jobs available, at least some of this population could and would like to work. In 2017, the share of the economically inactive who were willing to work was on average 19% across the European Union, representing around 16.6 million people. This figure is above 30% in countries such as Denmark, Italy, Austria and Switzerland (Eurostat, 2019[29]). Pre-COVID-19, in the United States, 4.4 million people were out of the labour force but would like to work, just under 5% of the inactive population (BLS, 2020[30]). However, these official figures may actually undercount the share of people who could

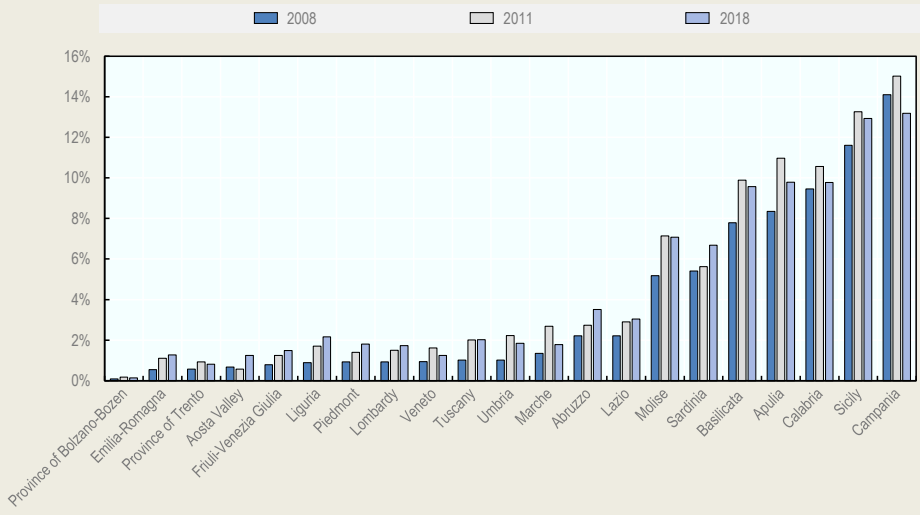
and would like to work if the right supports were available (child care, accommodating workplaces, etc.) Additionally, the rise of teleworking could open up employment possibilities for people with disabilities, for example by removing barriers to commuting and unsuitable workplaces (Ahrendt and Patrini, 2020[31]).

Official statistics show that the share of discouraged workers tends to spike during crises, and can be one of the main drivers of increasing inactivity rates during crises. Discouraged workers are economically inactive people who report in labour force surveys that they would like to work but are not actively looking for a job because they believe none are available. The share of discouraged workers among the extended labour force (i.e. people employed, unemployed and discouraged) increased significantly following the 2008 crisis in some of the hardest hit countries (e.g. Spain, Portugal and Ireland) as well as Romania, and in some cases did not recede even as the overall economic situation improved. Emerging evidence suggests that the numbers of discouraged workers are likewise increasing as a result of COVID-19. For example, in Italy, following five years of decreases, the number of discouraged workers increased by 4.8 percent in Q2 2020 compared to Q1 2019 (Istat, 2020[32]).

Patterns in discouraged workers can vary significantly across regions. For example, in Italy, where the share of discouraged workers is relatively high, the share of discouraged workers was stable between 2008 and 2011 in most regions in the north of Italy, but increased by 2 percentage points or more in the south (Basilicata, Molise, Puglia). Among the seven regions in the south, the share of discouraged workers had returned to 2008 levels in one (Campania) by 2018. In two regions, it remained similar to the 2011 levels (Molise and Sicily), and in one region it had actually further increased (Sardinia).

Figure 1.10. The crisis caused a higher share of people to become discouraged workers in the south of Italy than the north

TL2 regions, discouraged workers as the share of the extended labour force, 2008, 2011, 2018, Italy



Note: Discouraged workers are defined as economically inactive people who would like to work but are not actively looking for a job because they believe none are available. The extended labour force corresponds to the labour force (i.e. employed and unemployed) plus discouraged workers.
Source: OECD calculations based on EU Labour Force Survey data.

StatLink https://doi.org/10.1787/888934188633

Source: Ahrendt and Patrini (2020[31]); Barr, Magrini and Meghnagi (2019[28]); BLS (2020[30]); Eurostat (2019[29]); OECD (2019[27]); and Istat (2020[32]).

In some countries, relatively small changes in unemployment rates hide the fact that many formerly employed people have dropped out of the labour force all together. Pre-COVID-19, economic inactivity rates and shares of discouraged workers varied considerably across regions and changed differently as a result of the global financial crisis (see Box 1.3). In Italy, the number of inactive people grew by 5.5 percent between Q1 and Q2 2020, while the number of people officially counted as unemployed actually decreased (Istat, 2020[32]). In Poland, the number of inactive grew by over 200 000 in Q2 2020 compared to Q2 2019, accounting for most of the decreases in the number of people employed. Economic inactivity grew in particular for women and people living in urban areas (Statistics Poland, 2020[33]).

Within local economies, SMEs and the self-employed may face particular challenges

While mass layoffs at large firms make headlines, SMEs account for about 60% of employment and between 50% and 60% of value added across the OECD (OECD, 2019[34]). SMEs are overrepresented in sectors that have been highly impacted by COVID-19. On average across OECD countries, SMEs are estimated to account for 75% of employment in the most affected sectors (OECD, 2020[35]). In Ireland, for example, SMEs accounted for 79% of annual turnover in 2017 in highly affected sectors and 59% of annual turnover in highly and moderately affected sectors combined (in comparison, the share of SMEs in value added in the business economy in Ireland was 44% in 2016) (McGeever, McQuinn and Myers, 2020[36]; OECD, 2020[20]). SMEs are less equipped to manage these shocks since they have much lower equity and financial reserves to draw on than larger firms. According to surveys, more than half of SMEs faced severe losses in revenues as a result of COVID-19, with many having only a few months of reserves to withstand the crisis (OECD, 2020[20]).

On average across OECD countries, about 15% of working people are self-employed, and about one-third of these are employers. The way in which many of the self-employed engage with their customers, suppliers, staff and collaborators are being uprooted by the COVID-19 crisis. Many are losing clients, particularly where their businesses involve consumer or business services that are delivered face-to-face, fields in which the self-employed often dominate. Some of the self-employed are able to mitigate the adverse impacts by going online in terms of customer and staff interactions. However, they are often held back by low existing levels of digitalisation, for example an inability to operate through e-commerce, and emergency support measures are not reaching all self-employed people. Many do not qualify for the measures due to the nature or scale of their activities (see Chapter 3). The full impact on the COVID-19 crisis on the self-employed is not yet known as there are many uncertainties, concerning for example the duration and nature of restrictions on personal and commercial activities, the response of consumer demand and behaviours, bank liquidity supply and so on.

SMEs and the self-employed are particularly dependent on their local economies for demand and access to business support, but local economies and communities also depend on healthy SMEs. Beyond the jobs they provide, they are often active corporate citizens in their communities, and are an important component of dynamic and vital local communities. Thus, the impact of potential SME closures goes beyond just the economic activity and jobs they are directly responsible for.

Even before COVID-19 hit, the labour market picture was not as rosy as national figures suggested

Prior to COVID-19, headlines celebrated the relatively strong labour market position of many OECD countries. Just over a decade after the global financial crisis, the overall OECD unemployment rate stood at 5.4% before COVID-19 hit. This was one of the lowest rates in the last 40 years. However, even during this relatively boom time, these rosy figures masked other issues such as stagnant wage growth and a

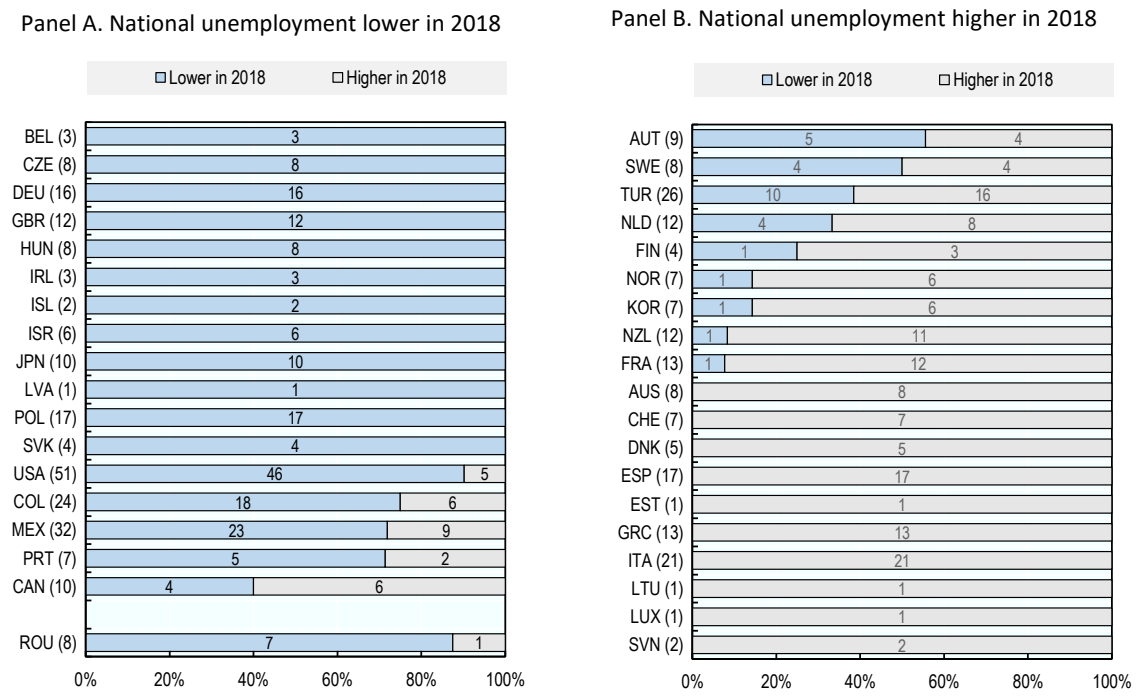
shrinking middle class. National averages also hid the fact that some places were still struggling with the legacies of the crisis when COVID-19, and as well as challenges in adjusting to ongoing structural changes.

Unemployment rates were still above 2008 levels in half of regions in 2018

Nearly half of regions still had higher unemployment rates in 2018 than in 2008 (44%). Only in one-third of countries had unemployment rates recovered in all regions, and in ten countries, *no* regions had yet returned to pre-crisis levels (see Figure 1.11). An even higher share of regions – two-thirds – had higher long-term unemployment rates in 2018 than 2008. In nearly one-third of regions, 40% or more of the unemployed have been out of work for 12 months more. Despite the fact that employment rates are now at record highs in most OECD countries[7] (pre-pandemic), about one-third of regions actually had 2018 employment rates below 2008 levels.

Figure 1.11. Half of regions had not recovered to 2008 unemployment levels by 2018

Share of TL2 regions having lower (higher) unemployment rates in 2018 compared to 2008



Note: For most countries the first year of analysis is 2008. For Ireland it is 2012 and for Poland 2010. The unemployment rate is computed as the share of unemployed people over the labour force, for the age group 15-64. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine* are included.
Source: OECD (2020), "Regional labour markets", *OECD Regional Statistics (database),* https://doi.org/10.1787/f7445d96-en.

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Regional disparities in unemployment remain stark, and are growing or shrinking for the wrong reasons in over half of OECD countries

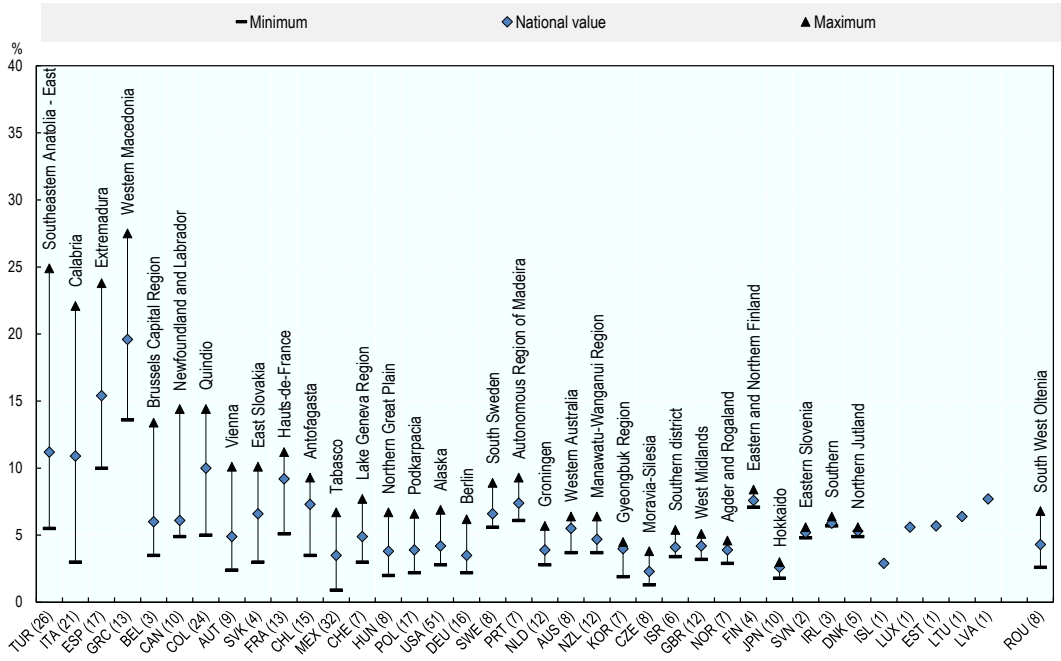
In over half of OECD countries, there is a two-fold or more difference in unemployment rates between the best and worst performing regions (see Figure 1.12 and Annex Figure 1.A.1). Unsurprisingly, OECD countries with higher national unemployment rates tended to have the largest

regional gaps.[8] In Turkey and Italy, regional disparities between the best and worst performing regions were around 19 percentage points, while in Spain and Greece, they were around 14 percentage points. In contrast, Asian countries (Japan and Korea) and some Scandinavian countries (Denmark and Norway) have both relatively low unemployment rates and low regional disparities.

Accordingly, the same national unemployment rate at can actually hide very different regional patterns. For example, both Austria and Switzerland had an unemployment rate of 4.9% in 2018, but in Austria, unemployment actually varied over four-fold across regions, from 2.4% in Tyrol to 10.1% in Vienna. In Switzerland, the regional variation is still significant (over two-fold) but not nearly as stark.

Figure 1.12. Regional unemployment rates can vary by more than two-fold within some countries

TL2 regions, values in percentage, 2018



Note: The unemployment rate is computed as the share of unemployed people over the labour force, for the age group 15-64. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine* are included.
Source: OECD (2020), "Regional labour markets", *OECD Regional Statistics (database),* https://doi.org/10.1787/f7445d96-en.

StatLink https://doi.org/10.1787/888934188671

Across countries, unemployment challenges concentrate in different types of regions. For example, in the Czech Republic and the Slovak Republic, the unemployment rate in the capital region was close to half of that of the national rate, while in Belgium and Austria, unemployment in the capital region was twice the national average. As described in Box 1.4, this may reflect the varying patterns of urban and rural unemployment across countries as a result of both economic and demographic characteristics.

However, in general, the best performing regions tend to stay on top, and the worst performers tend to stay on the bottom over time. In 15 countries, the region with the highest unemployment rate is the same in both 2008 and 2018. This aligns with previous OECD research that shows that employment challenges and successes tend to anchor in specific regions and spaces (OECD, 2005[37]).

Box 1.4. Cities drive growth, but can also concentrate unemployment

Large cities, capital regions and other more urbanised places consistently show the strongest performance along a number of economic indicators. Metropolitan areas (i.e., urban areas with population of greater than 500 000) account for 55% of the total OECD population, 59% of the employed, and around 60% of the total GDP in the OECD. Pre-pandemic, GDP growth was 32% higher in metropolitan areas than in the rest of the country since 2000. Capital regions host one in four firms in their countries and have a net firm creation rate over 60% higher compared to other regions (OECD, 2018[38]). Employment growth in more urbanised regions outpaced growth in rural or intermediate regions in most countries between 2008 and 2018, and capital regions specifically had the highest relative share of net employment growth in half of OECD countries with more than one region.

However, strong economic performance and growth does not always translate into lower unemployment rates. On average in the EU, unemployment is highest in urban areas, followed by towns and suburbs and then rural areas (8.1%, 7.1%, and 6.3% respectively) (Eurostat, 2020[39]). While cities and urban areas host a higher share of high-skilled and high-wage workers, they also concentrate inequalities and host many more vulnerable populations, such as low-skilled workers and immigrants. High levels of residential segregation in cities can also impede access to job opportunities for some populations, and be linked to discrimination in hiring and a lack of beneficial professional networks (OECD, 2018[40]).

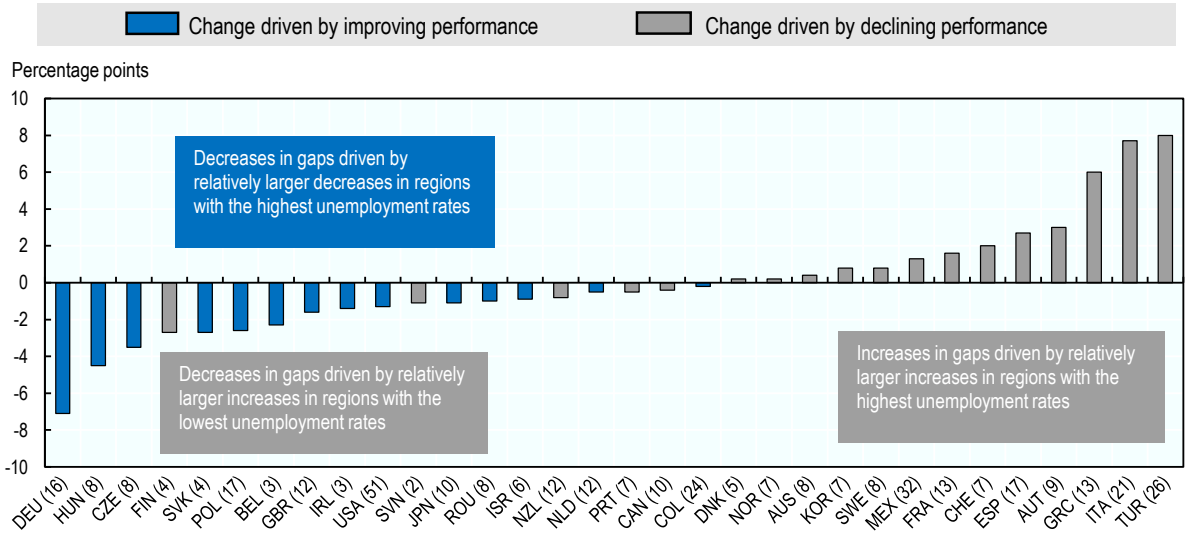
However, across countries, there are different trends in terms of where unemployment is highest. For example, of limited countries with available data, in Korea, Japan, Hungary, and Switzerland, unemployment rates are highest in large metropolitan or metropolitan TL3 regions for the latest year data is available. In France, Norway, Spain, and Sweden, it is highest in non-metropolitan areas with access to a metro. In Denmark and Latvia, unemployment is highest in remote rural areas (OECD, 2020[41]).

Source: Eurostat (2020[39]); OECD (2020[41]); OECD (2018[38]); and OECD (2018[40]).

In the decade following the global financial crisis, regional variation in unemployment rates shrank in most countries (19/32 OECD countries with more than one region and available data plus Romania). (Figure 1.13).[9] The good news is that in most countries with a shrinking gap, gaps were closing for good reasons, i.e. because unemployment rates decreased more in regions where they were relatively high at the beginning of the period. However, in five countries (Canada, Finland, New Zealand, Portugal, and Slovenia), gaps were closing for the wrong reasons: shrinking gaps were mainly driven by increases in unemployment rates in the best performing regions. In countries where gaps were increasing, this was typically driven by a significant increase in the unemployment rates in the regions that were already the worst performing in 2008. In line with previous studies, these findings suggest that regions with low levels of unemployment have limited fluctuation over time whereas regions with higher unemployment tend to show more variation (Beyer and Stemmer, 2016[42]).

Figure 1.13. Regional unemployment gaps shrunk in just over half of countries in the ten years after the crisis, but not always for good reasons

Percentage points change in gap between the highest and lowest unemployment rates, TL2 regions, population 15-64 years, 2008-2018



Note: For most countries the first year of analysis is 2008. For Ireland it is 2012 and for Poland 2010. The unemployment rate is computed as the share of unemployed people over the labour force, for the age group 15-64. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine* are included.
Source: OECD (2020) "Regional labour markets", *OECD Regional Statistics (database),* https://doi.org/10.1787/f7445d96-en.

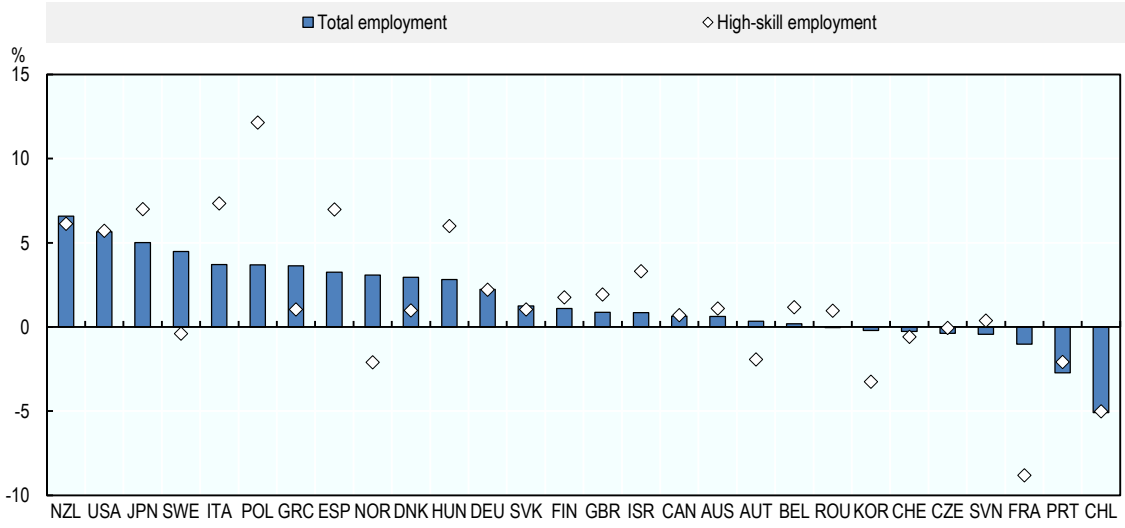
StatLink https://doi.org/10.1787/888934188690

Jobs are increasingly geographically concentrated in most OECD countries

As regions have displayed different capacities to attract and retain jobs and workers over time, employment opportunities have become increasingly geographically concentrated. Jobs (as measured by the number of people employed) still lagged behind 2008 levels in one-third of OECD regions in 2018. Looking at a longer time period (2000-2018), in most countries, jobs (as measured by the number of people employed), have become more geographically concentrated (in 14/27 OECD countries with available data plus Romania, concentration increased by 1% or more; see Figure 1.14). In most of these countries, the concentration of high-skilled jobs has increased even more than for jobs in general. While these patterns could reflect both economic and demographic trends, they suggest a shifting geography of opportunity in most OECD countries, with growing divides between leading and lagging places.

Figure 1.14. Jobs have become more concentrated in most countries

Percent change in HHI for total employment and high-skill occupations in TL2 regions, 2018 compared to 2000



Note: High-skill occupations include jobs classified under the ISCO-88 major groups 1, 2, and 3. Data for France, Hungary and Poland should be interpreted with caution as a change in the regional classification over the period of analysis might have affected the results. The period of analysis for Australia is 2006-16, for Canada 2011-18, for Chile 2010-19, for Germany 2002-18, for Denmark 2007-18, for Israel 2003-18, for Japan 2009-18, for Korea 2011-18, for New Zealand 2006-13 and for Switzerland 2001-18. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine* are included.
Source: Labour Force Survey for EU countries, Chile, Israel, Japan and Korea; Census for Australia, Canada and New Zealand; Occupational Employment Statistics (OES) Survey for the US; OECD (2020), "Regional labour markets", *OECD Regional Statistics (database),* https://doi.org/10.1787/f7445d96-en.

StatLink https://doi.org/10.1787/888934188709

Looking at the past 10 years specifically, more urbanised regions tended to concentrate employment growth. Capital regions specifically saw the highest relative share of employment growth in about half of OECD countries with more than one region. Given that urban areas and capital regions already host an outsized share of employment in general, these trends help to explain why employment has become more concentrated over time.

Job quality is a growing concern, especially in places struggling with other labour market challenges

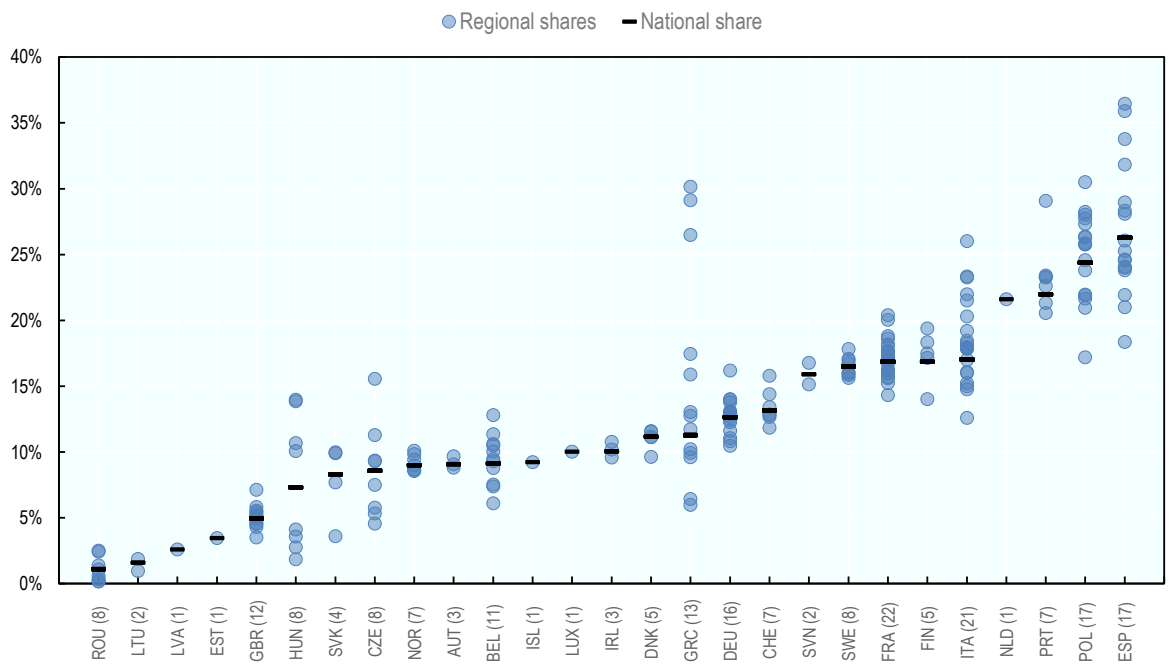
The health of local labour markets cannot be determined just by the number of jobs; the quality of local jobs also matters. While job quality can be measured in a variety of ways, one indicator is the incidence of non-standard work, including temporary and involuntary part-time work. In general, temporary work has increased somewhat across the OECD over the long term, albeit with some cross-country differences (OECD, 2016[43]; 2018[44]). Part-time work has also been generally increasing in recent decades**.** While the increase in part-time work in some cases can be considered a positive development, and may reflect an increase of female labour market performance and a trend towards more work-life balance, an increase in involuntary part-time employment is more worrying. Indeed, involuntary part-time employment (employees working 30 hours or less per week who report either that they could not find a full-time job or that they would like to work more hour) has increased in most OECD countries between 2006 and 2017, particularly in those countries places hit hardest by the crisis (OECD, 2019[45]).

Non-standard workers generally enjoy lower levels of job security and social protection compared to workers in standard employment relationships. Following the 2008 crisis, workers with temporary contracts were disproportionately affected by job losses, although employers also relied heavily on temporary contracts in hiring during the recovery period. Early evidence from the COVID-19 crisis likewise suggests that they are amongst the hardest hit. They are highly represented in some of the most impacted sectors, such as arts and entertainment and tourism; and employers may choose to not renew temporary contracts even when dismissal protection regulations prevent them from laying off permanent workers. Evidence from France, Italy and Canada suggest workers on temporary contracts were indeed among the first to lose their jobs in the spring (OECD, 2020[1]).

Temporary work is not evenly spread across territories, and is more common in regions with a lower-educated workforce, higher unemployment, and a smaller share of gross value added in tradable sectors (OECD, 2018[44]). In over half of European countries with more than one region, the share of temporary employment varies over 5 percentage points across regions, and in several, it varied over 10 percentage points. Overall, low-skilled workers are at higher risk of being in temporary work than the higher skilled, and that likelihood is even higher in rural areas than in cities (OECD, 2018[44]).[10]

Figure 1.15. Temporary employment patterns are not uniform within countries

Temporary employment as a share of dependent employment across selected European countries, TL2 regions, 2018



Note: Includes individuals in temporary contracts, both full- and part-time as a share of dependent employment (i.e. excluding the self-employed and family workers). Data for France *métropolitaine* refer to the old regional classification, which correspond to 22 regions. Ceuta and Melilla (Spain) are not included.
Source: OECD calculations on EU Labour Force Survey.

StatLink https://doi.org/10.1787/888934188728

Some places weathered the last storm better than others

Previous economic shocks have had very different impacts across geographies, and the same will likely be true for COVID-19, albeit some of the dynamics this time may be different. The global financial crisis caused employment to decrease in almost all regions, but the scale of these losses and the time it took employment to rebound varied considerably across territories. The hardest hit places lost 20% or more of their jobs at their respective lowest points, and in many places, employment levels have taken five years or more to recover. While the COVID-19 shock is of a different scale and nature than any other shock in recent history, patterns of local resilience to the last crisis suggest that the hardest hit places will again not bounce back quickly.

While local resilience can be defined and measured in a variety of ways (see Box 1.5), this analyses focuses on how resilient local employment was to the 2008 crisis, i.e. how the number of people employed evolved over the course of the crisis.[11] More specifically, it considers how employment levels changed between 2008 and the respective local trough (i.e. the lowest point) during the crisis, and how long it took employment to bottom out and subsequently recover.

Box 1.5. The concept of local economic resilience

The term resilience was first used in engineering and ecology discourses in the 1970s, but it soon spread to psychology and the broader social sciences. Since then, a significant body of research has explored how the concept can be applied to local and regional economies, how it can be operationalised, and the normative assumptions that these definitions and methodologies imply. Resilience has been used to refer to the adaptive, absorptive or reactionary capacity of systems in response to both abrupt shocks and long-term threats, such as climate change. Resilience can be built in response to a range of economic, financial, social or natural shocks, from earthquakes to recessions.

While definitions of local economic resilience vary, it can generally be understood as the ability of a local economy to resist, recover, and adapt in the face of a shock. Various indicators have been used to operationalise and measure local resilience, from economic indicators (e.g. productivity and output) to labour market indicators (e.g. unemployment rates and employment levels) to social indicators (e.g. poverty rates). Likewise, researchers have explored a variety of factors that could influence local resilience. Factors typically considered include local economic and labour market structures and performance, levels of social capital and inclusion, and other place-based factors, such as local environmental factors or geography. Increasing attention has also been paid to how governance quality and arrangements, as well as international, national and subnational policies impact regional resilience differently across places.

Despite growing attention to this subject, there is no general consensus as to what makes regions resilient, or even a normative agreement on what a resilient region looks like. Can a region that bounces back quickly following a shock in terms of output but with high rates of poverty be considered resilient? If a region relies on large extractive sectors to resist declines in employment following a shock, can this be considered a resilient region over the long term? Accordingly, further research and debate is needed on the concept of local resilience, particularly as COVID-19 magnified and exposed fragilities in our economies and societies in new ways.

Source: Boschma, (2015[46]); Bristow and Healy (2020[47]); ESPON & Cardiff University (2014[48]); Martin et al. (2016[49]); OECD (2014[50]); and Sensier, Bristow and Healy (2016[51]).

Of course, the COVID-19 economic shock is of a scale and nature unseen in recent history, limiting the applicability of some of the lessons from the previous crisis. Not only will the challenges be larger, but the protective and risk factors could be different. For example, while evidence suggest that urban areas tended to fare better in the last crisis, there is an ongoing debate as to whether cities and denser areas are more vulnerable to the spread of the virus during this crisis. Additionally, many regions relied on tourism to pull themselves out of the last crisis (Psycharis, Kallioras and Pantazis, 2014[52]), while tourism dependent regions are likely more vulnerable to this shock. Indeed, even pre-COVID-19, there was a broader ongoing debate within the resilience research as to how static protective and risk factors are over time, across geographies, and in response to different types of shocks (Martin and Gardiner, 2019[53]). Despite these caveats, the experience of previous crisis as well as the early learnings from this crisis can give an indication of what is to come for local economies.

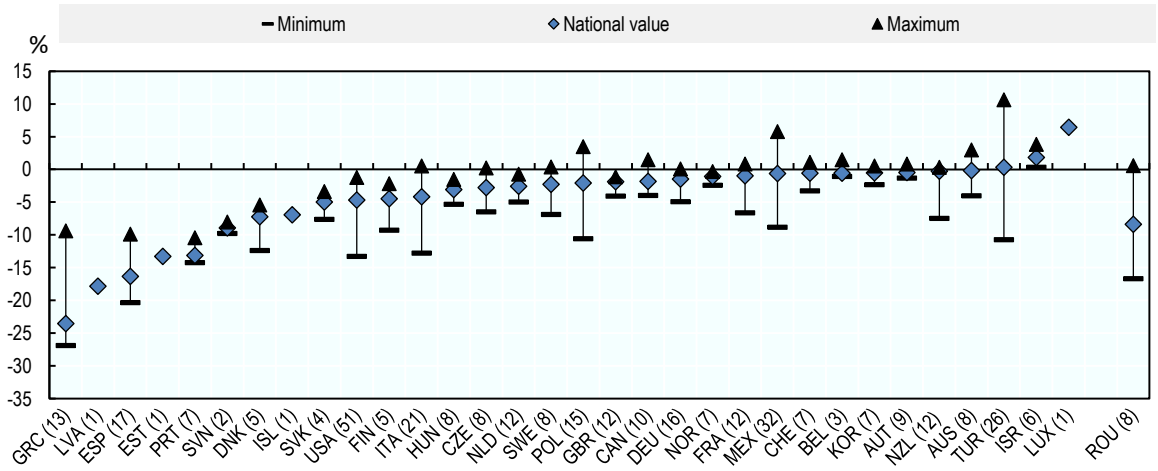
Employment decreased in four-fifths of regions, with some places losing 20% or more of their jobs at their respective lows

The global financial crisis caused wide scale employment losses: in roughly eighty percent of regions, the number of people employed fell at some point post-2008. Unsurprisingly, this largely reflects national trends: of the 20% of regions where employment did *not* decline, most were in countries where national employment did not decline or only declined marginally (i.e. Turkey, Mexico, Israel, and Luxembourg). Only a handful of regions were able resist any declines in employment, despite employment decreasing in their respective countries overall.

At their respective lowest points, employment declined by over 20% in some of the hardest hit regions in Spain and Greece, and by over 10% in some places in the US, Denmark, Italy, Poland, Portugal, and Turkey, as well as Romania. Within countries with more than one region, employment declined by 7 percent points more in the worst performing regions compared to the best performers on average.[12] As shown in Figure 1.16, this difference exceeds 10 percent points in 7 OECD countries, as well as Romania. These large disparities can be seen both in countries that experienced large employment declines at the national level (e.g. Greece, Spain, Italy, as well as Romania), as well as countries that experienced relatively small or no declines nationally (e.g. Mexico and Turkey, where the best performing region actually never saw employment declines over this period).

Figure 1.16. Employment declined by over 10% in the hardest hit regions, while in others, it never dropped below 2008 levels

Percent change in the number of people employed, TL2 regions, 2008 and the year with the lowest level of employment between 2009 and 2018



Note: The overall percentage change is computed as the difference between the lowest number of people employed between 2008 and 2018, and the number of people employed in 2008, divided by employment in 2008. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine*, with the exception of Corsica, are included.
Source: OECD (2020), "Regional labour markets", *OECD Regional Statistics (database)*, https://doi.org/10.1787/f7445d96-en.

StatLink https://doi.org/10.1787/888934188747

It is important to note that employment hit its low point before starting to rebound at different times across regions. National exposure and vulnerabilities to different waves of the crisis can help to explain cross-country differences in terms of when employment reached its respective low (e.g. the collapse of the subprime mortgage industry in the US vs. the Eurozone debt crisis). However, variations *within* countries also suggests that there were different vulnerabilities across any given country's regions. One underlying factor may be local sectoral specialisation, both in terms of the sensitivity of local sectors to the business cycle, and how sectors are impacted differently over time by different waves of the crisis. Sectors such as construction, durable manufacturing and business services tend to be most sensitive to the business cycle. Following the bursting of the housing bubble, the construction industry was immediately impacted in a number of countries, and job losses then spread to manufacturing and business services (OECD, 2009[3]). In Europe, high shares of local public sector employment was initially a protective factor against job losses, but later likely became more of a risk factor in countries that implemented large austerity measures (ESPON & Cardiff University, 2014[48]). For example, in the Czech Republic, unemployment increased more in rural regions with export-oriented economies over the period of 2008-2010, while larger cities were hit harder in 2012-2013 following the implementation of austerity measures (Ženka, Slach and Pavlík, 2019[54]).

The crisis magnified underlying local weaknesses

Places that experienced larger employment losses tended to already be struggling with other labour market challenges. Relative to national values, evidence suggests that larger employment losses were associated with having higher unemployment rates, a less educated workforce, and lower labour productivity in 2008 (Annex Figure 1.A.3). While further study is needed to confirm these relationships,

they do align with other research on regional resilience that suggests that downturns accentuate local weaknesses and reward local strengths. For example, other research has found a positive relationship between having a highly skilled workforce and resilience in European regions (ESPON & Cardiff University, 2014[48]) and UK local authorities (Bristow, Healy and Kitsos, 2020[55]), Other work in the United States has shown specific types of skills (such as people or cognitive skills) as being especially important for a quicker local recovery (Weinstein and Patrick, 2020[56]).

However, the broader local development pathway may have been as, if not more important, than any static measure of labour market health. In particular, the shock may have exposed fragility in regional growth models, regardless of performance on labour market indicators at any single point in time. Previous OECD research found that the places that lost more jobs between 2008 and 2009 tended to experience faster GDP growth and larger reductions in unemployment from 1999 to 2007. (OECD, 2011[57]). Likewise, European regions that experienced high levels of employment growth prior to the 2008 crisis demonstrated lower levels of resiliency (ESPON & Cardiff University, 2014[48]), and having a more stable growth pattern in the lead up to the last crisis was associated with greater resilience (Webber, Healy and Bristow, 2018[58]). Similar results have been found for the response of local GDP to the crisis (OECD, 2018[21]). However, these patterns may be specifically related to the unsustainable growth patterns leading up to the global financial crisis rather than a dynamic underlying regional resilience to crises more generally.

There is also evidence that a more diversified, rather than specialised, economic structure promotes resilience. Regions vary considerably in terms of the degree of local economic diversification and specialisation. The largest tradable cluster accounts for less than 5% of the workforce in some European regions, whereas in others, it accounts for more than 40% of the workforce (OECD, 2018[21]). While hosting a diversity of sectors may make a region more vulnerable to taking some type of hit from any given shock, it minimises the risk that any given shock will have a large negative impact on the local economy overall. In particular, having a variety of skill-related industries that have few input-output relationships but are of a related variety is thought to enhance regional resilience over the longer term (Boschma, 2015[46]). Indeed, new OECD research on the resilience of U.S. counties shows that the ability of workers to move between local sectors and occupations as being an important factor for local resilience, particularly in rural areas and places with relatively poor performance (Box 1.6). However, the relationship between economic diversity and regional performance is not straightforward – the added value of a more diverse economic structure can vary at different stages of development (OECD, 2018[21]) and may contribute to better performance more during times of shocks than when the economy is relatively strong (Brown and Greenbaum, 2017[59]).

Box 1.6. Local "rewiring" in the United States

New OECD research suggests that factors associated with greater employment growth were different for growing and stagnating (or declining) counties. Looking at the period before and after the global financial crisis, for more well-off places (i.e. those in the middle and at the higher end of economic performance distribution), a local industrial structure concentrated in industries growing nationally (a positive demand shock) helps to boost employment growth and to cut poverty rates. Less well-off counties appear to be unable to benefit from these national growth processes, falling further behind.

Both rural and lagging places performed significantly better in terms of employment growth post-recession if they had an industrial composition that facilitated greater inter-sectoral worker flows (e.g., workers from one sector were able to move into another) and if they enjoyed larger changes in occupational structure, with relatively more people moving from one occupation to another.

These findings suggest that growth of local economies increasingly depends on their ability to "rewire" and adjust to changing labour market realities. Local "rewiring" appears to work particularly well for rural and weaker-performing counties in the United States. Accordingly, encouraging labour flows within the region, ideally from lower- to better-performing sectors, industries, firms and occupations, may be particularly important for lagging regions.

Source: Partridge and Tsvetkova (2020[60])

Cities and capital regions were generally more resilient on average, but not across the board

On average, capital regions and other more urbanised regions saw smaller decreases in employment at their respective lows, although patterns differed significantly across countries. In Austria, Belgium, Sweden, and Switzerland, as well as Romania, employment in capital regions never fell below 2008 levels, despite national losses at some point. However, this pattern does not hold true across the board, particularly in some of the hardest hit countries. In Portugal and Greece, employment declined relatively more in the capital region than in most other regions.

These findings align with previous research that shows considerable variation in resilience across cities and urban regions. Urban regions showed considerable variation in job losses immediately following the 2008 shock, particularly when compared to the pre-crisis period (OECD, 2011[57]). Likewise, other research has shown that patterns of resilience can vary across types of urban areas. For example, in Europe, the presence of a second-tier city in a region made a particularly positive difference (ESPON & Cardiff University, 2014[48]). The United Kingdom is a particularly striking case in point. In studying the resilience of UK cities over four major recessions since 1970, Martin and Gardiner (2019[53]) found varying patterns of resiliency between cities in the north and south over time, with London demonstrating increasingly strong resilience over time. For the two earlier recessions, cities that resisted larger employment shocks also recovered more quickly, while for the last two recessions, this relationship disappeared and even showed a slightly negative pattern.

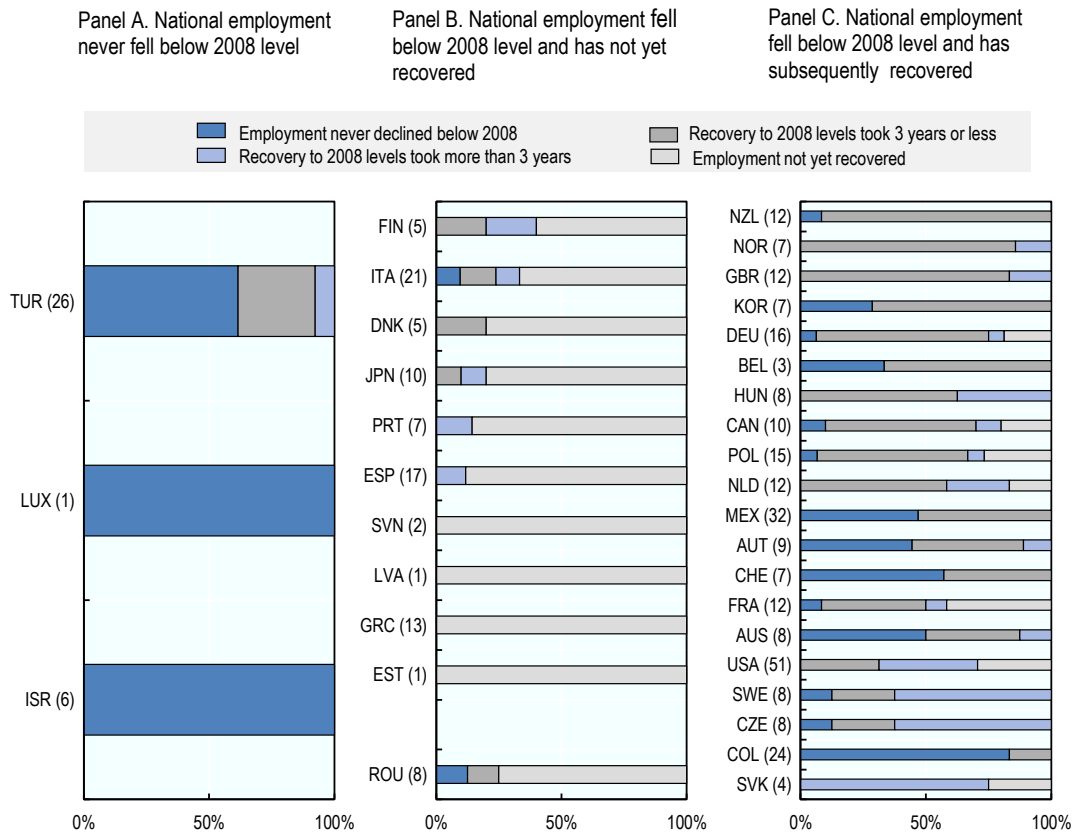
The hardest hit places have taken years to recover, if at all

Employment recovered more quickly in same places than others. In about half of regions where employment declined in the six years following the initial crisis, the recovery took three years or more, or has not yet happened as of 2018. Unsurprisingly, those places that took smaller employment hits recovered more quickly, while it took longer for places that took larger hits to rebound. This suggests that the negative impacts of shocks can linger for years in the hardest hit places. Other research looking at longer time

frames has found that the negative effects can persist for even longer than the time period covered in this analysis. Looking back across the previous five recessions in the United States, the most affected local labour markets experienced employment, population and wage losses that persisted for at least a decade (Hershbein and Stuart, 2020[61]).

Figure 1.17. Employment recovered at a different pace across regions

Number of years it took employment to recover to 2008 levels following its lowest point, TL2 regions, 2009-2018



Note: In identifying regions and countries where employment never declined below 2008 levels, only the period until 2014 is considered to exclude later drops in employment that may have occurred for other reasons. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine*, with the exception of Corsica, are included.
Source: OECD (2020), "Regional labour markets", *OECD Regional Statistics (database)*, https://doi.org/10.1787/f7445d96-en.

StatLink https://doi.org/10.1787/888934188785

The local persistence of economic distress can result from a combination of factors. For one, many job losses during recessions are not cyclical, but rather reflect an acceleration of structural changes. Accordingly, these jobs are unlikely to recover even when the economic situation improves. This can be especially problematic for local economies where concentrated job losses in specific sectors can have negative spillovers for jobs in the local economy more generally (see Chapter 2). Poor labour market outcomes, such as unemployment and low wages, can be associated with a broader range of quality of life challenges at the individual and community level, from poor mental and physical health to drug abuse to crime. Likewise, local downturns can put significant pressure on local public budgets, impacting local quality of life and public services such as education and infrastructure. In the short term, this can make it

hard to attract new residents and businesses, and over the longer-term, affect intergenerational education and labour market outcomes. Many of these factors will be relevant for the COVID-19 recovery, and perhaps even magnified.

Conclusion

All local economies will feel the impacts of COVID-19: large cities where polarised labour markets means strong divides between high-skilled workers with relatively secure jobs and low-skilled workers in face-to-serve service and retail jobs at risk; tourist destinations struggling with historically low visitor numbers; manufacturing regions dealing with supply chain interruptions. Depending on the spread of the virus and the response of consumers, businesses, and investors, unemployment will spike to different levels and at different times across places. But if past patterns hold true, the hardest hit places could struggle for years to come. Even as national economies eventually turn around, targeted actions will be needed to ensure that some places are not left even further behind.

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Notes

[1] Local labour markets vary in size and shape and often do not correspond to administrative boundaries, making it difficult to collect internationally comparable data that correspond to travel-to-work or functional areas. Often, functional local labour markets can operate on a scale smaller than the OECD's TL2 regional classification, but span several TL3 regions. This publication predominantly uses TL2 data to ensure as broad a coverage as possible, as data availability is limited across countries and time for TL3 regions. For many analyses, the regional variation at the TL2 level within a country should be considered the lower bound of the actual variation across local labour markets. For more information, see (OECD, 2018[44]) and (OECD, 2020[62]).

[2] Differences in unemployment rates between countries should be interpreted with caution, particularly in relation to COVID-19. They are influenced by methodological differences in how workers are classified in official surveys, such as those on temporary layoffs or short-time work schemes, and preliminary figures may be revised as further data becomes available.

[3] These estimates are based on an analysis of jobs at risk during the first wave of containment measures in spring 2020. These results were first presented in OECD (2020), "From pandemic to recovery: Local employment and economic development", *OECD Policy Responses to Coronavirus (Covid-19)*.

[4] This analysis was first presented in OECD (2020), "Capacity for remote working can affect lockdown costs differently across places", *OECD Policy Responses to Coronavirus (Covid-19)*. Further information is drawn from OECD (2020), "Exploring policy options on teleworking: Steering local economic and employment development in the time of remote work", *OECD Local Economic and Employment Development (LEED) Papers*, as well as OECD (2020), *Regions and Cities at a Glance 2020.*

[5] The definition of tradable activities in this report allows for comparison across regions in most OECD countries. As disaggregated data is not universally available, harmonisation requires sectoral aggregation. National estimates of tradable activities can therefore differ and offer more precise estimates for individual countries. For example, in logistics hubs, these figures may understate the share of employment in tradeable sectors, as the Transport, Retail and Hospitality group (GHI) combines jobs in both tradeable and non-tradeable sectors, but has been classified as non-tradeable for the purposes of these estimates. Additionally, they are not intended to show how tradeable sectors contribute to regional and national GVA, as there are important productivity differences across regions and countries.

[6] People who are not employed or looking for a job are generally defined as economically inactive.

[7] The United States is also a notable exception to the longer term trend of increasing employment rates – employment rates remain below their early 2000 peak.

[8] The strength of the relationship varies based on the measure of regional variation used (i.e. range, coefficient of variation and 80/20 range) but is always positive.

[9] Robustness checks using the coefficient of variation and the 80/20 range as alternative measures of regional variation over time were conducted. For all countries except for Colombia, Korea, and Poland, the direction of the trend shown by the range matches at least one of these other indicators. For these three countries, both the coefficient of variation and the 80/20 range indicate that the regional variation has gone in the opposite direction than indicated by the change in the range.

[10] Estimates for involuntary part-time work are limited at the regional level due to survey sample sizes.

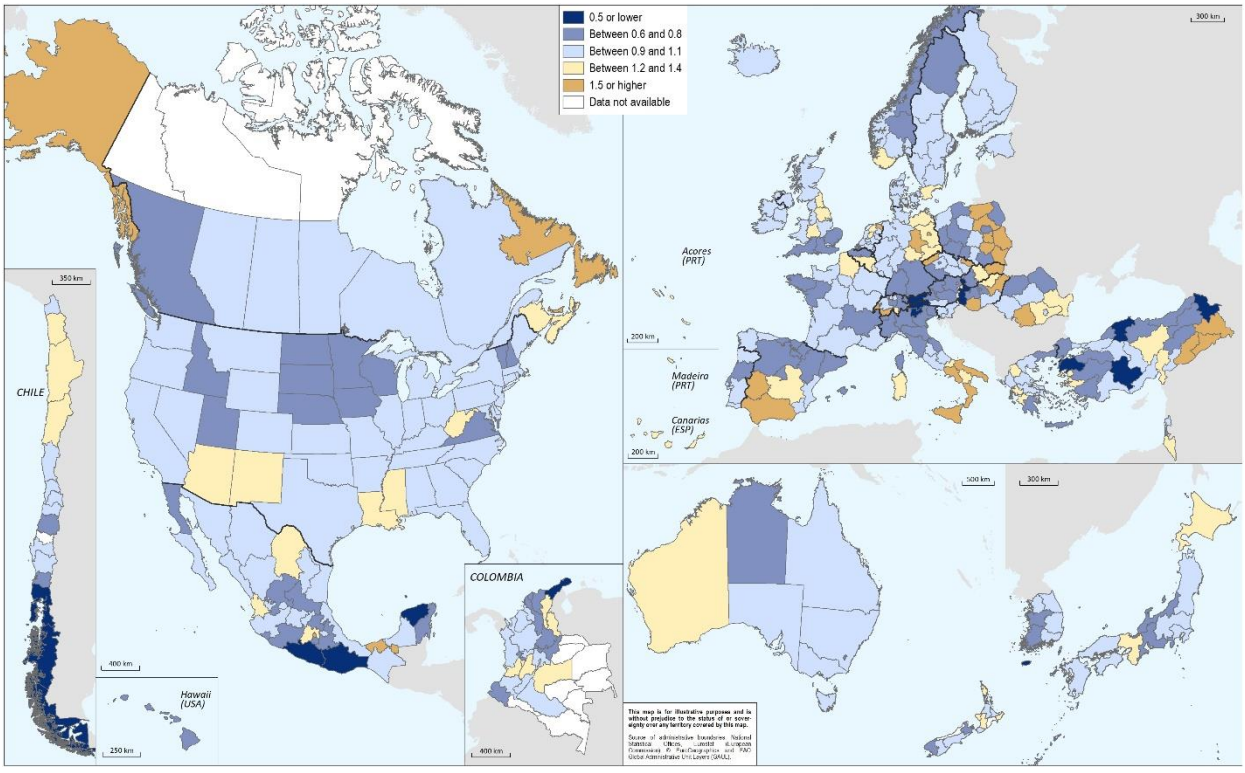
[11] As this analysis considers just the number of people employed, it does not account for the quality of employment, e.g. the share of people working part-time work or on temporary contracts.

[12] This includes differences in countries where employment in the best performing region never declined below 2008 levels.

Annex 1.A. Additional figures

Annex Figure 1.A.1. Regional variation in unemployment rates, 2018

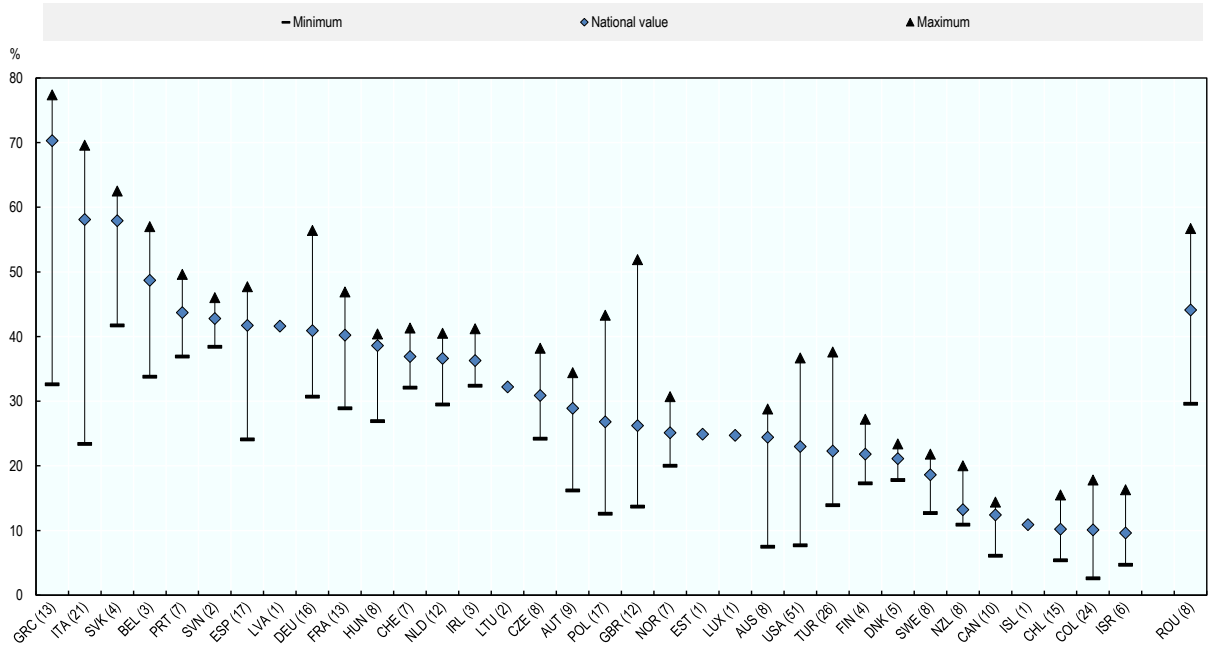
Ratio of regional rate to national rate, selected OECD and EU countries



Note: Regions with a value higher than 1 had an unemployment rate higher than the national rate. Some regions excluded due to data availability.
Source: OECD (2020), "Regional labour markets", *OECD Regional Statistics (database)*, https://doi.org/10.1787/f7445d96-en.

Annex Figure 1.A.2. Regional range in long-term unemployment rates

TL2 regions, population 15-64 years, 2018

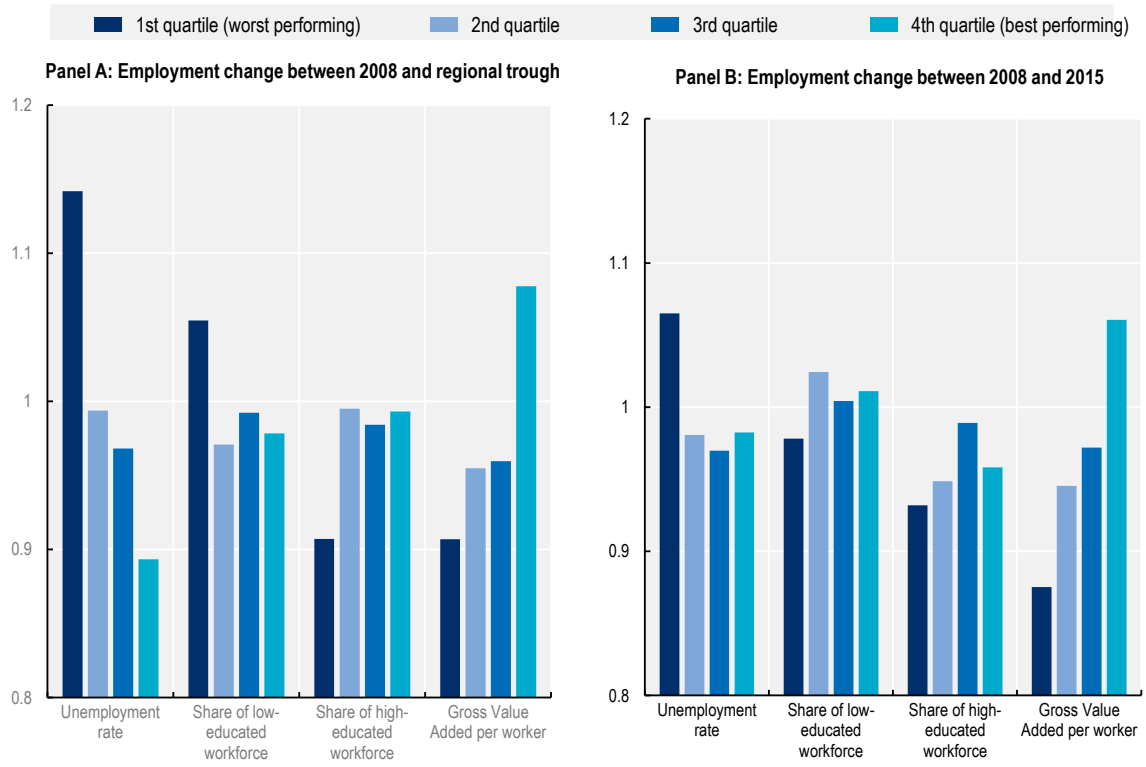


Note: The latest data is from 2018 for most countries. It is from 2019 for Mexico, from 2017 for Israel, from 2016 for Australia and from 2014 for the United States. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine*, are included.

Source: OECD (2020) "Regional labour markets", *OECD Regional Statistics (database),* https://doi.org/10.1787/f7445d96-en.

Annex Figure 1.A.3. Regions struggling with other labour market challenges tended to lose higher shares of employment

Ranking of relative employment losses and other labour market, economic and demographic indicators, TL2 regions



Note: For Panel A, quartiles are based on the change in the number of people employed in 2008 compared to the lowest point between 2009 and 2018. For Panel B, it is based on the change between 2008 and 2015. For each region, the percent change is calculated and then compared to the percent change at the national level. The first quartile represents the regions where employment declined the most compared to national averages, and the fourth quartile represents regions where employment decreased the least (or increased compared to national averages). For all other indicators, values for each quartile are the average of the ratio between the regional value in 2008 and the respective national values. The analysis includes the following 29 countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Japan, Korea, Latvia, Mexico, the Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States.
Source: OECD (2020) "Regional labour markets", *OECD Regional Statistics (database),* https://doi.org/10.1787/f7445d96-en.

2 How COVID-19 could accelerate local labour market transitions

Even prior to COVID-19, local labour markets were undergoing major transitions – automation and technological change, globalisation, the green transition, and demographic change – that were reshaping the geography of jobs, local skills in demand, and the size and composition of local labour forces. Pre-COVID, cities were typically well positioned to benefit from many of these changes, while the risk of other places getting left behind was deepening. While COVID-19 is accelerating the transition to the future of work, it could also re-orient other trends, such as urbanisation, potentially shifting some of these patterns. Governments at all levels will need to accelerate and adapt their responses accordingly.

In Brief

An accelerated transition to the future of work and changes in other underlying local labour market trends

COVID-19 is a tsunami on top of an undercurrent of broader economic, social and demographic shifts that were already ongoing. These shifts will reshape the geography of jobs, the skills in demand, and the composition of local labour forces. More urbanised areas and places already leading the pack have generally been better poised to reap the benefits of these changes, while others risk being left behind. However, COVID-19 may change some of these dynamics.

A shifting geography of jobs and changing skill demands

- **COVID-19 will accelerate digitalisation and automation.** This puts additional pressure on regions with a relatively high share of jobs at risk of automation, which on average already have a lower-educated workforce and are less urbanised. However, this acceleration could also create new opportunities to decentralise jobs outside of traditional high-growth centres, particularly in light of the rapid expansion of teleworking.
- **Past waves of technological change have contributed to job polarisation across almost all OECD regions**, with urban areas being particularly polarised. A polarised labour market may make local economies less resilient to shocks such as COVID-19, and is linked with declining labour market opportunities for non-tertiary educated workers.
- **COVID-19 upended global trade, which was already stagnating in recent years.** Regions reliant on tradeable sectors may face short-term risks as a result, but can also seize new opportunities as countries and firms potentially look to reshore some aspects of supply chains.
- **While the net employment impacts of the green transition are projected to be minimal, natural resource regions will bear the brunt of job losses, and could struggle to reap the benefits of the new jobs created.** The impacts of COVID-19 on the speed and pace of this transition remain to be seen – it could generate new momentum for the green transition, but could also make the trade-offs more acute.

Change to the size and composition of local labour forces

- **The labour force has already shrunk in almost 30% of OECD regions over the past decade**. Going forward, rural areas and communities in countries such as Lithuania, Latvia, Japan, Greece, Korea, Poland, Portugal, and Spain will see the biggest decreases. The challenges associated with a shrinking and ageing labour force could be even more pressing than automation risk for these places. COVID-19 will not dramatically reshape these patterns, but could re-orient them. Should residential preferences shift over the longer-term, rural and other shrinking places could have opportunities to attract new residents.
- **Skilled workers are increasingly geographically concentrated, particularly in urban areas.** In the previous decade, places that already had a highly educated workforce were more successful at attracting and retaining other high-skilled workers, resulting in a growing divides over this time. By 2018, the most educated regions within countries had almost twice as many tertiary-educated adults as the least educated region on average. The increased use of teleworking in the future may slow down or even start to reduce such concentration.

- **Migration brings both opportunities and challenges, both of which tend to concentrate in cities.** Particularly as migrants have become more highly educated, they infuse local labour markets with new skills and can help offset native population decline. However, labour market integration remains a challenge, particularly for low-skilled migrants. COVID-19 has temporarily put the brakes on migrant worker flows, but how this will play out over the medium to long term remains to be seen.

As the jobs of the future may be coming sooner than anticipated, communities and workers will need to rapidly adapt. While older workers will face particular challenges in adapting to ongoing structural challenges, younger workers have been most impacted by COVID-19-related job losses. However, it is the low-skilled who potentially face the largest challenges: they are more vulnerable to job losses related to both structural changes and COVID-19. They are also less likely to participate in training and are less likely to move take advantage of new opportunities.

Introduction

COVID-19 is a tsunami on top of broader economic, social and demographic shifts already reshaping local labour markets. Digitalisation and automation; globalisation; climate change and the green transition; and demographic changes (population ageing, migration, urbanisation) are changing the nature and location of jobs, as well as the composition and skills of the workforce. In most cases, COVID-19 will reinforce these trends, accelerating the need for a rapid policy response. However, for some others, it could re-orient them in new directions (see Table 2.1).

Even before COVID-19, many felt anxiety about the future, as the pace and scale of these changes was disconcerting. Researchers from the McKinsey Global Institute estimate that the changes that will result from megatrends such as urbanisation, technological change, and population ageing are 10 times faster and 300 times the scale compared to the changes of the Industrial Revolution (Dobbs, Manyika and Woetzel, 2015[1]), and 61% of the general population in 28 countries think the pace of change in technology is too fast (Edelman, 2020[2]). Already, 13% percent of all workers in the United States are employed in types of jobs that did not exist in 1970 (Autor and Salomons, 2019[3]). Job stability has decreased in the majority of OECD countries over the past two decades (once accounting for ageing of the workforce), with the less-educated, including both older and younger workers, particularly affected (OECD, 2019[4]). Skills imbalances have also been widening over the last decade, with growing shortages of high-level cognitive and soft skills, and increasing surpluses of routine and physical skills (OECD, 2018[5]). Yet, many of these changes also have positives. People are living longer and healthier lives. Technological change is making workplaces safer and more productive, and creating complementary new jobs.

While these transitions are almost universal, they are not uniform across places. Some of these changes, such as population ageing, will affect almost all communities, although they will be more pronounced in some places than others. Other changes will shift the geography of jobs and skills, potentially deepening the feeling that there are “winners” and “losers” in tomorrow’s economy. National aggregates can overlook these difficult transitions for communities and the people that live there, as the people that lose jobs may not be in the right location or have the right skills for the new jobs created.

Table 2.1. COVID-19 will accelerate many of the local labour market transitions already underway

	Longer-term trends	How COVID-19 could accelerate/decelerate trends
Geography of jobs and demand for skills	**Automation and the digital transition**	
	• Automation and digitalisation will destroy and create jobs, but not necessarily in the same places • Increased demand for digital and complementary skills across local labour markets • Ongoing job polarisation in almost all local labour markets	↑ Automation-related job losses will come sooner than expected ↑ The use of teleworking, e-commerce, and other digital tools has already significantly expanded
	Globalisation	
	• Recent deceleration and shifting patterns of globalisation will have different impacts depending on local specialisation, particularly in tradeable sectors	↓ Managing supply chain risks could result in relocalisation, particularly in strategic sectors such as medical equipment, and shifting regional advantages
	The green transition and climate change	
	• Loss of "brown" jobs could have geographically concentrated disruptions, which may not be offset locally by the creation of "green jobs" • Climate change will result in job losses and changes in local economies most affected	↑ Shift in consumer preferences for greener consumption ↑ Expanded public investment in green infrastructure ? New tensions could emerge between preserving jobs at all costs and transitioning from carbon-intensive sectors
Size and composition of local labour forces	**Population ageing**	
	• Shrinking and ageing labour force in many countries, particularly in rural areas • Growing pressures to help older workers keep their skills up to date in all places	? More rural areas may be able to attract new residents, helping to offset an ageing population
	Urbanisation	
	• Concentration of jobs and workers in cities, particularly at the highest skill levels • "Brain drain" from rural areas	? Some population flows away from large, urban areas ? Rural areas and other places outside of major metropolitans areas may see new opportunities to attract workers and jobs
	Migration	
	• Ongoing international migration, with immigrants concentrating in cities	↓ International movement of workers and students will slow, at least in the short term

Source: Author's own elaboration

The geography of jobs is changing, and skills demands are shifting

Automation and digitalisation, globalisation, and climate change and the green transition will create and destroy jobs, but not necessarily in the same places or for the same set of skills.[1] Already, jobs have become more geographically concentrated in most OECD countries in recent years. Pre-COVID-19, estimates from the McKinsey Global Institute suggested that most net job growth in the United States and Europe through 2030 will be concentrated in a few urban areas, further deepening existing divides. Just 25 cities, high-growth hubs, and their peripheries are predicted to account for 60% of job growth in the United States. While jobs in healthcare will be added nationwide, job growth in other occupations, such as STEM, creative fields, and business and legal professionals, will be more geographically concentrated. In Europe, 48 megacities and superstar hubs are predicted to capture 50% of job growth (Smit et al., 2020[6]; Lund et al., 2019[7]).

COVID-19 could transform these ongoing shifts into abrupt changes, making the transitional period even more difficult for some people and places. While involuntary job losses typically account for a relatively small share of overall labour market churn (see Box 2.1), the number has been rising as a result of COVID-19 containment measures and the more general downturn. There could also be an increase in the number of mass layoffs at the firm and sector level, as industries such as transportation, retail, tourism and hospitality struggle to remain viable. The story is not all negative, however, as COVID-19 could also open up new opportunities for job creation outside of traditional high-growth, urban centres.

Box 2.1. Job displacements, workers and communities

Across the OECD on average, more than one-fifth of jobs are created and/or destroyed, and around one-third of workers are hired and/or separate from their employer annually (OECD, 2009[8]). Workers continually flow across industries and between declining and growing firms within industries. While this can contribute to productivity growth, high job turnover can also be a source of insecurity for workers (OECD, 2016[9]).

Involuntary job displacements are only a small share of this churn, affecting between 1% and 7% of the workforce annually (OECD, 2018[10]). While some displaced workers find new jobs rapidly, many face long periods of unemployment and, even when they find new jobs, are often paid less and have fewer benefits than in the jobs they held prior to displacement (Quintini and Venn, 2013[11]). The majority of displacements are the result of structural, rather than cyclical factors, although the costs of displacement rise during a recession because of longer periods of unemployment and worse re-employment prospects (OECD, 2018[10]).

While mass lay-offs can lead to large displacements in a short time, they do not represent the majority of displacements. Data on mass lay-offs for seven European countries show that they represent less than 15% of all displacements, while in the United States, mass lay-offs account for about a fifth of all dismissals (OECD, 2018[10]). While mass lay-offs can produce a high concentration of displaced workers, who are often older and with more limited re-employability prospects, they do not necessarily lead to worse re-employment prospects than for other forms of displacement (Silva et al., 2019[12]).

Some workers are more affected by displacements more than others. Older workers and those with low education levels typically show higher risk of displacement, struggle more to get back into work and suffer greater earning loss. On the other hand, young people, while also facing a higher risk of displacement, find work relatively quickly after displacement. Workers with relatively short job tenure as well as those employed by smaller firms are also at higher risk (Quintini and Venn, 2013[11]; OECD, 2018[10]). Workers in construction and manufacturing tend to be more affected than average in most countries, with craft workers and machine operators more likely to be displaced than managers (Quintini and Venn, 2013[11]).

Displacement is often geographically concentrated. Of the limited countries with comparable data available, Korea and Portugal, as well as Australia, Finland and the United Kingdom, show substantial regional variation in displacement rates, while territorial differences are limited in Denmark, Russia and Japan (Quintini and Venn, 2013[11]). Mass layoffs in particular are more common in regions that are undergoing structural changes, as measured by declines in the manufacturing share (Silva et al., 2019[12]). The classic example of this is cities or regions highly dependent on a specific industry, such as the automotive industry in Detroit or "company" towns with a single, predominant large employer that closes.

However, the impacts of mass layoffs on local employment and development can vary considerably depending on the sectors and occupations affected. For example, several rounds of layoffs in companies such as Microsoft and Nokia in regions in Finland have had less detrimental effects on regional development than layoffs in other types of regions. The skills of these high-tech workers remained in demand, and significant efforts have been undertaken to leverage these skills for entrepreneurship and to attract other high-tech businesses (Simonen, Herala and Svento, 2020[13]).

Source: OECD (2018[10]); OECD (2016[9]); Quintini and Venn (2013[11]); Silva et al (2019[12]); and Simonen, Herala and Svento (2020[13]).

If not addressed properly, automation and digitalisation could reinforce existing divides between places

Even pre-COVID-19, almost half of jobs across the OECD were expected to change as a result of automation

Technological changes, from industrial robots to artificial intelligence and ongoing digitalisation, are reshaping labour markets and the geography of jobs. They are replacing specific work tasks or entire jobs, shifting the occupation structural of the labour market and the skills in demand (see Box 2.2). They are also boosting labour productivity and leading to the creation of new jobs that are complementary to these technologies. They are also creating new opportunities to decentralise jobs, production and public services, thanks to the rise of telecommuting, new production technologies, and e-services.

Almost half of jobs across the OECD are expected to change as a result of automation: 32% could see significant changes, while an additional 14% are at a high risk of automation all together (Nedelkoska and Quintini, 2018[18]).[2] ("High risk of automation" refers to a 70% or above risk of automation, while "significant risk of change" reflects a risk of automation between 50% and 70%.) Manufacturing and agriculture have the highest share of jobs at risk on average. Comparatively, only a few service sectors – e.g. postal and courier services, land transport and food services – face relatively high risks. In contrast, the sectors with the *lowest* relative risks are predominantly service sectors, including many knowledge-intensive services. Across sectors, the occupations at the highest risk tend to be those that do not require specific skills or training – food preparation assistants, assemblers, labourers, refuse workers, cleaners and helpers – followed by occupations that require at least some training and include interacting with machines, mainly in the manufacturing sector (machine operators, drivers and mobile plant operators, workers in the processing industry, skilled agricultural workers, metal and machine workers etc.). Generally, the risk of automation decreases as the skill level of jobs increases (Nedelkoska and Quintini, 2018[18]).

Box 2.2. The demand for basic digital skills will grow in all places, while demand for specialised skills may be more regionally concentrated

The demand for digital skills has grown rapidly over the past decades and will continue to grow. COVID-19 has rapidly accelerated the demand for digital skills, as a result of the imperative to adapt business models to expand online service and e-commerce, and the increased use of digital tools such as videoconferencing and online collaboration tools. Pre-COVID-19, nearly 4 million of the United States' 13 million new jobs created between 2010 and 2016 required high-level digital skills (Muro et al., 2017[14]). Similarly, from 2010 to 2017, jobs associated with the digital economy in Canada grew over four times faster than the economy as a whole, reaching a total of 886 000 (Lamb and Vu, 2019[15]). According to the Survey of Adult Skills (PIAAC), nearly half of adults in the OECD lack basic digital skills (i.e. scored below level 1 or failed ICT core test or had no computer experience) (OECD, 2019[16]).

Digital skills include those related to the use of digital technologies (e.g. use of word processing or spreadsheet software) as well as the development of digital goods and services (e.g. programming and coding). Analysing 7 million English-language job postings from 2012 to 2018, the Brookfield Institute for Innovation + Entrepreneurship has found that the digital skills most in demand include baseline digital skills, such as proficiency using the Microsoft Office suite, in particular Excel, as well as more specialised digital skills such as SQL, a querying language, and Java, a programming language (Lamb and Vu, 2019[15]). Demand for the former will be universal in many jobs/firms/places, while the second may be more concentrated in specific sectors and places.

Source: Muro, et al. (2017[14]); OECD (2019[17]); and Lamb and Vu (2019[15]).

COVID-19 will accelerate automation, and could speed up the pace of job losses

COVID-19 will likely accelerate automation, as firms turn to labour replacing technologies to respond to sanitary requirements and labour shortages resulting from containment measures (Field and Murphy, 2020[19]). Longer-term social distancing requirements, as well as broader shifts in business and risk management strategies, could further the uptake of automation. Already in the February/March 2020 EY Global Capital Confidence Barometer, 36% of high level executives across the world said they were accelerating investment in automation as a result of COVID-19, and a further 41% said they were currently re-evaluating their strategies in this area (EY, 2020[20]). For example, automation is anticipated to rapidly increase in the retail sector, impacting warehouse and delivery operations (e.g. use of drones and robots in fulfilment centres); e-commerce (e.g. customer marketing, order tracking); as well as brick and mortar locations (e.g. robot cleaners, automatic check-out) (Sillitoe, 2020[21]). Some of these changes could occur relatively quickly, while other more capital-intensive investments may take several years.

Downturns in general have also been shown to accelerate automation (Muro, Maxim and Whiton, 2020[22]). In previous recessions, employers have shed less-skilled workers and replaced them with technology and complementary higher-skilled workers, increasing labour productivity. Over the past three decades, 88% of job losses in routine occupations in the United States took place following a recession, and these jobs were unlikely to be recovered post-recession (Jaimovich and Siu, 2020[23]). Similarly, other research has found that firms in metro areas the hardest hit by the Great Recession tended to replace workers who performed automatable and routine tasks with a mix of technology and higher-skilled workers (Hershbein and Kahn, 2018[24]). While similar trends have been found in Canada (Blit, 2020[25]), different patterns have been found in other countries (Graetz and Michaels, 2017[26]). This suggests that the relationship between technology and jobless recoveries deserves further study in different national contexts (Jaimovich and Siu, 2020[23]).

Regions already struggling have a higher share of jobs at risk

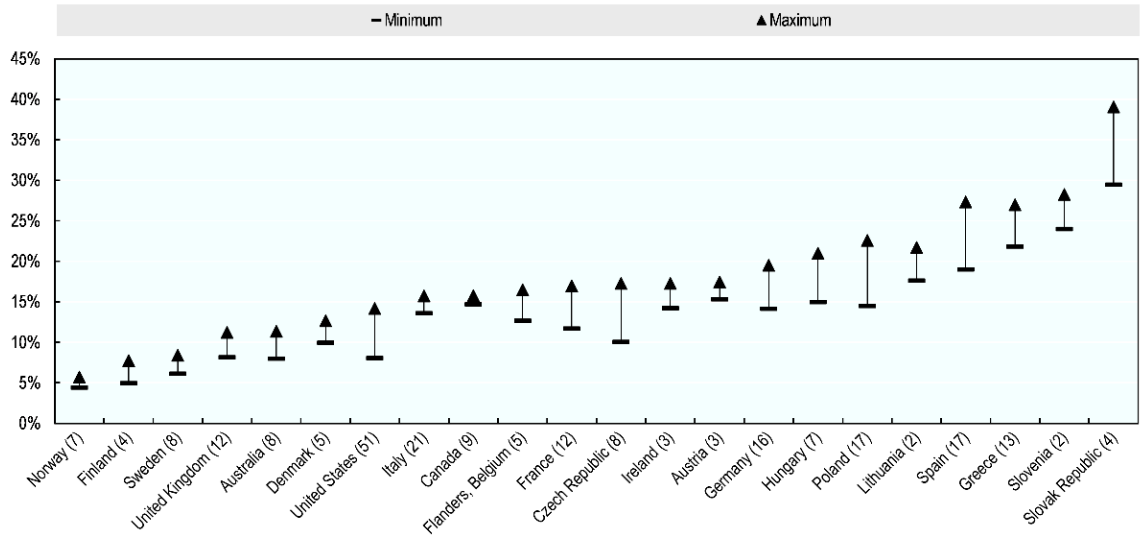
Across countries, Scandinavian countries tend to have a lower share of jobs at risk, while higher shares can be found in some Eastern and Southern European countries (e.g. Slovak Republic, Lithuania, Greece, Spain). While both sectoral and occupational structures contribute to national differences in automation risk, most of the differences across countries results from the fact that countries have very different occupational mixes within sectors. Even within occupations, the types of tasks performed vary across countries, changing automation risks (Nedelkoska and Quintini, 2018[18]).

In addition to national differences, regional differences within countries in the share of jobs at high risk of automation can reach 10 percentage points (Slovak Republic) or be as low as 1 percentage point (Norway). Across OECD regions, the share of jobs at high risk of automation reaches nearly 40% in some regions (for example, West Slovakia) but can be as low as around 4% in others (the region around Oslo)**.** However, even these figures underestimate how automation will vary across communities, as the differences between communities *within* regions can be stark, as described in Box 2.3 for Canada.

Regions already struggling with other labour market challenges tend to have a higher share of jobs at risk. Regions that have a highly-educated workforce and a strong tradable services sector, and that are more urbanised, have fewer jobs at high risk of automation. Regions that have low productivity growth and high unemployment tend to have higher shares of jobs at risk (OECD, 2018[27]). Additionally, some places face the risk of a double hit from both accelerated automaton and direct COVID-19-related job losses (see Box 2.4).

Figure 2.1. The share of jobs at high risk of automation varies from 4% to almost 40% across regions

Regional variation in the share of jobs at high risk of automation, TL2, 2018



Note: "High risk of automation" refers to the share of workers whose job faces a risk of automation of 70% or above. Data for Australia is from 2016. The analysis for Austria is conducted at the NUTS1 level and for Flanders (Belgium) at the NUTS2 level as defined by Eurostat. In Hungary, the old regional classifications are used. Ceuta and Melilla (Spain), Canadian territories as well as Prince Edward Island are not included. For France, only the regions in France *métropolitaine*, with the exception of Corsica, are included.
Source: OECD Calculations on Canadian and EU Labour Force Survey, Australian Census data and US Occupational Employment Statistics (OES) Survey.

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Box 2.3. Canadian provinces face a similar risk of automation, but differences within provinces can be wide

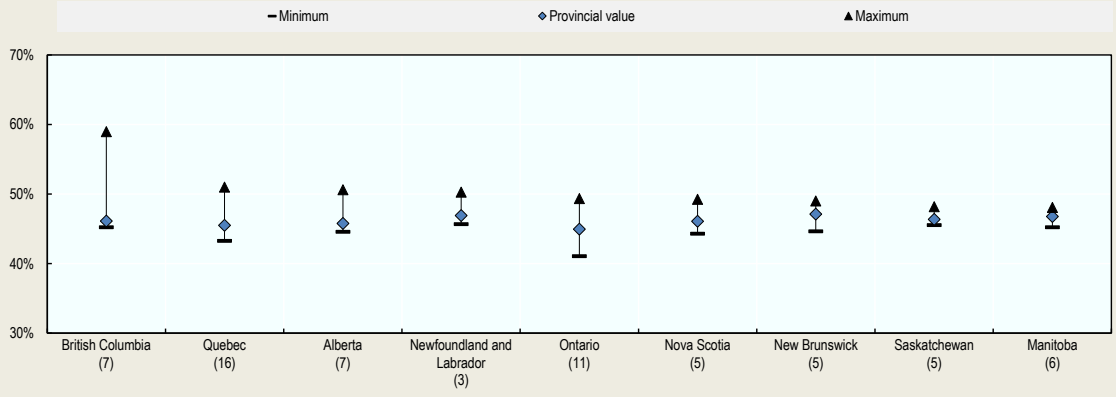
Overall, In Canada, the share of jobs at either high risk of automation or risk of significant change is broadly similar across provinces (ranging from 45% in Ontario to 47% in New Brunswick), but looking within provinces, the differences can be substantial (see Figure 2.2). In British Colombia, there is almost a 15 percentage point difference between its economic regions facing the highest risk and lowest risk (Northeast with 59%, and Vancouver Island and Coast with 45% of jobs at risk of automation respectively). Northeast is a vast area of mountains, forests and lakes where the economy is based on natural resources, particularly mining and oil and gas activities. Other important industries in the region include forestry, agriculture and utilities.

Disparities are also pronounced in Ontario, Quebec and Alberta. This could be partly explained by the coexistence of economic regions clustered around large metropolitan areas in these provinces, typically drivers of high-skill jobs less at risk of automation, and economic regions where manufacturing and agriculture are a large source of employment.

Within the Province of Ontario, the share of total jobs at risk of automation ranges from 41% in Ottawa to 49% in Stratford-Bruce Peninsula. Economic regions within Ontario with relatively high employment shares in goods-producing sectors, including agriculture, utilities, forestry, construction and manufacturing, tend to have a higher risk of losing jobs to automation. Stratford-Bruce Peninsula has the highest share of employment in construction and agriculture among Ontario regions, amounting to 12% and 8% respectively in 2018. Regions facing a higher risk of automation in Ontario also tend to face other labour market challenges: they have lower shares of the working age population, have experienced net migration outflows, are characterised by lower educational attainment, and have experienced modest or negative employment growth over the past decade.

Figure 2.2. Disparities in the risk of automation wider within than across provinces in Canada

Jobs at high risk of automation or risk of significant change, economic regions by province, 2018



Note: The number of economic regions in each province is included in parenthesis. "High risk of automation" refers to the share of workers whose job faces a risk of automation of 70% or above. "Significant risk of change" reflects the share of workers whose job faces a risk of automation between 50% and 70%.
Source: OECD calculations on Canadian Labour Force Survey.

StatLink https://doi.org/10.1787/888934188823

Source: OECD (2020[28])

The number of local jobs that are at risk can be daunting. For example, in the Basque Country (Spain), over 200 000 jobs are at high risk of automation, with a large share in the industrial sector (OECD, forthcoming[29]). Dealing with a challenge of this scale will require training at a large scale to help workers transition to other jobs within or across sectors, as well as efforts to transition entire local sectors to higher value-added production and services. Additionally, as described in Box 2.4, some regions risk facing a double hit from automation and COVID-19.

Both local and national factors will determine how these trends play out, as a high share of jobs at risk is not destiny. While many communities that previously specialized in traditional manufacturing activities have struggled with such large-scale structural changes in the past, others have bucked the trend**.** Akron, Ohio; Albany, New York, and Pittsburg, Pennsylvania in the United States, as well as Dresden, Germany and Eindhoven, Netherlands have been highlighted as success stories. These older industrial cities managed to transition from traditional manufacturing to centres of advanced industrial production (e.g. in polymers, nanotechnologies, and semiconductors) and innovation, in part due to their collaborative and multidisciplinary approach to innovation (van Agtmael and Bakker, 2016[30]). OECD research on places undergoing industrial transition similarly suggests the importance of fostering “high-road competitiveness” strategies, built around innovation-led growth and that broadly share the benefits of this growth across people and places (OECD, 2019[31]).

Broader, national institutional settings will also play an important role in how these trends play out in different communities. In looking at the adoption of industrial robots, local labour markets in different countries appear to have responded differently. In the United States, the local uptake of industrial robots has led to declines in the employment rates and wages within the local commuting zone (Acemoglu and Restrepo, 2017[32]). However, in studying the adoption of industrial robots in local labour markets in Germany, local job losses in manufacturing were offset by gains in the business service sectors. Manufacturing job losses were not due to displacement of incumbent workers, who tended to take on new roles within their organisation, but rather fewer manufacturing jobs for new labour market entrants (Dauth et al., 2018[33]). While further study is needed, mitigating factors could include different labour market institutions, regulations and traditions across countries.

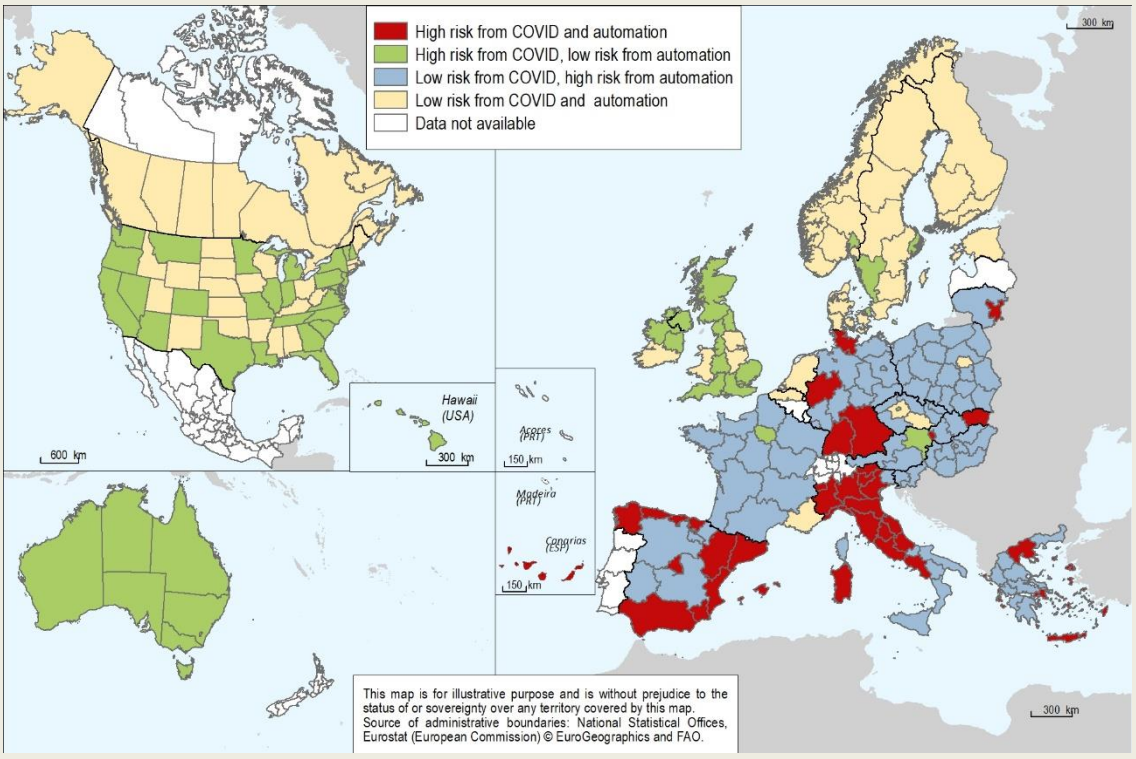
Box 2.4. Some regions could take a double hit from automation and COVID-19

Going forward, the combined effect of automation and the COVID-19 shock could hit some places particularly hard (Figure 2.3). European regions tend to face higher combined risks, which are particularly pronounced in a number of places. The majority of regions facing particularly high combined risks are located in Germany, Greece, Italy, and Spain, as well as a few regions in Lithuania and Slovak Republic. In such places, policymakers could face difficult trade-offs between encouraging productivity-enhancing automation and fostering local job creation, as the pandemic increases both the incentives to automate and the imperative to support job retention and creation. However, national institutional contexts and the specific COVID-19 policy responses will mediate these impacts.

However, places that generally face low-risks related to automation do not necessarily face low risks related to COVID-19, or vice versa. Other work looking at automation and risk of COVID-19 transmission for different occupations in the United States has found similar patterns, as automation risks are geographically concentrated, while COVID-19 risks are more disperse (Chernoff and Warman, 2020[34]).

Figure 2.3. Some places could be facing a double hit from COVID-19 and automation

Regional risks from COVID-19 and automation, selected OECD countries



Note: Quadrants are divided by the median risk across all regions with available data for both indicators. The risk of automation includes the combined share of jobs both at "high risk of automation" and at "significant risk of change". "High risk of automation" refers to the share of workers whose job faces a risk of automation of 70% or above. "Significant risk of change" reflects the share of workers whose job faces a risk of automation between 50% and 70%. The risk of COVID-19 is based on regional jobs in the sectors most at risk, as described in Chapter 1 of this publication. Data for Australia is from 2016. Some regions excluded due to data availability.
Source: OECD Calculations on Canadian and EU Labour Force Survey, Australian Census data and US Occupational Employment Statistics (OES) Survey, and OECD Regional Database.

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Box 2.5. New technologies and the death of distance: long shot or on the horizon?

Recent advancements in technologies could change the way companies manufacture and deliver products. 3D printing enables small quantities of customised goods to be produced at relatively low costs near to or even by consumers on just-in-time printing machines, and is being applied by industries such as defence, aerospace, automotive, medical and metals manufacturing. Some advocates call 3D printing a new industrial revolution and compare it to the personal computer or internet in terms of disruption in the production process (see, for example, Berman (2012[35]) and Birtchnell and Urry (2013[36])). Similarly, the capability of drone technology has improved, its price has plummeted, and its availability has greatly increased over the past decade, with many industries beginning to consider the benefits of drone technology for their businesses. Drone applications in industries such as agriculture, construction and infrastructure, energy, logistics, and mining take advantage of their ability to fly quickly and safely at high altitudes (Maghazei and Netland, 2019[37]).

These technologies could offer some new opportunities to decentralise production and promote local job creation outside of high-growth centres. Industrial manufacturing has typically been a centralised process, with companies investing large amounts of capital in specialised equipment. 3D printers can help decentralise parts of the manufacturing process. For small lot sizes, some experts have argued that 3D printing could reduce the advantages of producing in low-wage countries (Berman, 2012[35]), bringing manufacturing closer to markets and consumers (Bonnín Roca et al., 2017[38]). At the same time, drones could increase productivity and reduce costs of manufacturing, speeding up the performance of certain tasks, such as inspections, reducing hazardous tasks in some operations and increasing data collection efficiency (Maghazei and Netland, 2019[37]).

However, the benefits of these new technologies might be limited in practice. Recent studies point to challenges related to highly-specialised training, as well as safety and technical issues that could prevent technologies such as 3D printing from being used in mass manufacturing. In addition, 3D printing requires several post-production steps, which would allow traditional concentrated manufacturing to maintain its advantage. 3D printing is more likely to rapidly penetrate high-cost, low-volume industries such as prototyping, automotive tooling, aerospace and some medical devices, but make fewer inroads in moderate cost, moderate-volume industries (OECD, 2017[39]). 3D printing's flexibility might also be negatively affected by regulations on how the technology can be configured (Bonnín Roca et al., 2017[38]). Rather than investing large sums in 3D printing in the hope of "bringing back manufacturing", governments could focus on identifying sectors where their industries are competitive and support the development of focused 3D printing.

Similarly, the true impact of drones on production processes may be limited, for example due to technological (e.g. battery capacity) and operational limitations (e.g. most current drone applications are manual pilot operations that are flown within the line of sight). Organisational constraints linked to the availability of skilled professionals to fly drones, as well as uncertainty around regulations, and potential public negative perception of drones, are further challenges to wider spread adoption of drones (Maghazei and Netland, 2019[37]).

Source: Berman (2012[35]); Birtchnell and Urry (2013[36]); Bonnín Roca et al. (2017[38]); Maghazei and Netland (2019[37]); and OECD (2017[39]).

New jobs will also be created, but where?

Some forces will contribute to an increasing concentration of jobs in urban areas, but other forces – especially in relation to COVID-19 – could push jobs to deconcentrate. Generally, cities that already had a highly-skilled labour force disproportionately benefited from past waves of technological change. They have been able to attract more high-skill jobs and workers (OECD, 2019[17]; OECD, 2018[27]), as well as reap the spillover effects in terms of creating other local jobs (e.g. as a result of increased demand for local services such as restaurants, hairdressers, etc.). Although there is debate on the scale of these effects, evidence generally shows that new high-tech, skilled or tradeable sector jobs have larger spillovers for local economies than other types of jobs (Moretti, 2012[40]).[3]

While similar patterns could repeat themselves this time around, new technologies and digitalisation could also create opportunities to decentralise some jobs. For example, some argue that 3D printing could help to decentralise some elements of production, giving more opportunities to places outside of traditional high growth centres (see Box 2.5). Evidence also suggests varying urban/rural patterns for different types of new jobs emerging from changing technology, shifting tastes, and rising incomes (Autor and Salomons, 2019[3]). Jobs related to producing, installing, maintaining, and deploying new technologies (i.e. "frontier" work) and providing in-person services for affluent consumers (i.e. "wealth work") have concentrated in denser, urban labour markets in the United States. In contrast, last-mile jobs (carrying out nearly-automated tasks that retain only a residual set of human components) are somewhat less prevalent in urban than in non-urban areas, as many do not require face-to-face interactions.

Additionally, if COVID-19 indeed sparks a longer-term trend towards increased teleworking, there could be a further dispersion of jobs. Many employers had to quickly invest in cloud technologies and other digital tools to pivot to teleworking during strict confinement periods. This rapid pivoting could open up the door for a broader adoption of teleworking over the long term. Many large firms, particularly in the tech sector, have already announced plans to significantly expand teleworking over the long term, or even permanently (Sandler, 2020[41]). Cities have a larger share of jobs amenable to teleworking compared to smaller towns, villages and rural areas (see Chapter 1), suggesting that a move to more remote working could impact jobs traditionally performed in cities the most.

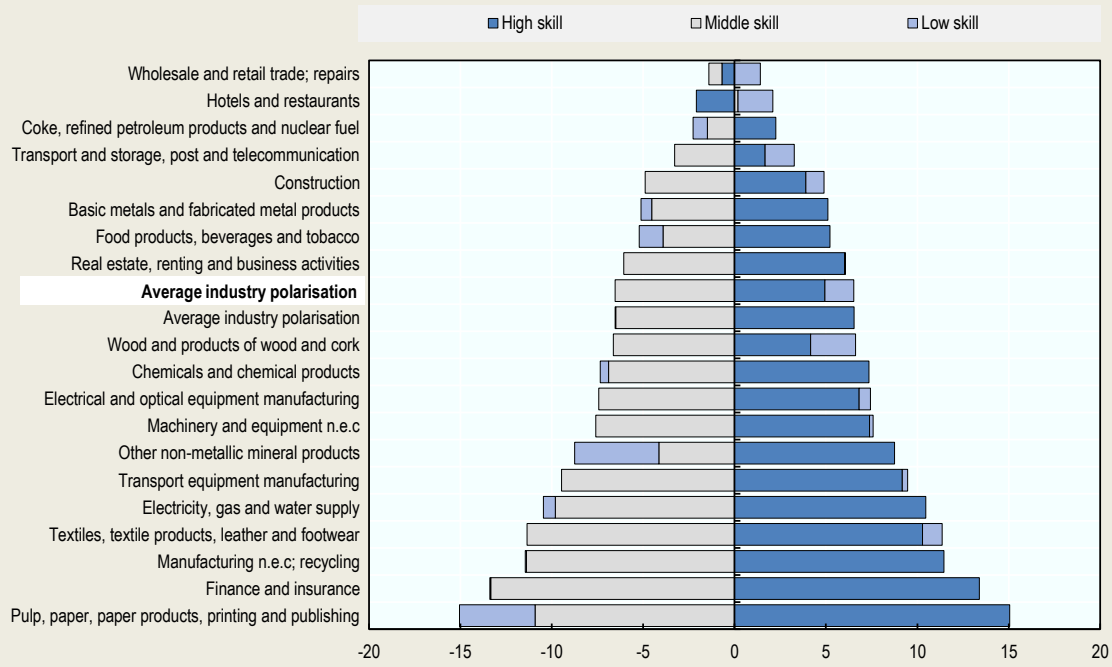
Past waves of automation have contributed to job polarisation across sectors and regions

A major impact of technological change has been a declining share of routine, middle-skill jobs, i.e. job polarisation, across most OECD countries, sectors, and regions (OECD, 2017[42]). Middle-skill jobs, such as clerical and production jobs, typically entail routine manual or cognitive tasks and are considered easier to automate given the current state of technological developments. On the other hand, low-skill jobs tend to involve non-routine manual tasks, for example requiring manual dexterity. High-skill jobs, such as managerial and professional occupations, are considered to be complemented, rather than substituted, by new technologies (Autor, Levy and Murnane, 2003[43]). Polarisation has previously been documented by others in the United States (Autor, Katz and Kearney, 2006[44]) and Europe (Goos, Manning and Salomons, 2009[45]). In most cases, this loss of middle-skill jobs has been accompanied by an increase in high-skill jobs. A large share of this polarisation is the result of in-sector shifts (see Box 2.6).

Box 2.6. Job polarisation within and across sectors

The decline in manufacturing employment has played an important role in job polarisation as countries and regions deindustrialised or shifted to less labour-intensive production, but polarisation pervades all sectors. Computers have replaced secretaries in offices while advanced machinery and robots have replaced middle-skill factory workers (Tüzemen and Willis, 2013[46]). In fact, OECD research suggests that *within* sector shifts actually account for almost two-thirds of polarisation (OECD, 2017[42]).

Figure 2.4. Job polarisation across industries, 1995 to 2015



Note: Countries included in the chart are Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, the United Kingdom and the United States. For further methodological information, see (OECD, 2017[42])
Source: (OECD, 2017[42])

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The good news is that most of the middle-skill jobs lost within specific sectors have been replaced by high-skill jobs in the same sector. This trend has been particularly evident in those sectors that have witnessed the largest decline in middle-skill occupations, such as manufacturing industries (e.g. chemicals and transport equipment manufacturing), but also services (e.g. finance, real estate and business services) (OECD, 2017[42]). For example, in Europe, the relative employment shares of management positions, compared to clerks, craft workers and manual workers, has increased in both manufacturing and services over the past decades. Management positions have increased from 24.1% to 32.9% as a share of total employment in manufacturing between 1999 and 2011, while in services they have increased from 30.1% to 34.4% over the same period (Cirillo, 2018[47]).

The continued shift of employment from manufacturing to services is not irrelevant, however, and is estimated to account for about a third of job polarisation across the OECD (OECD, 2017[42]). Jobs in the service sector tend to be more divided between high-skill professional and managerial jobs that require non-routine cognitive skills, and low-skill jobs that require non-routine manual skills (Goos and Manning, 2007[48]), although routine cognitive tasks are also important in services. Manufacturing, in contrast, provided more opportunities for middle-skill workers performing routine tasks. This is also reflected by stronger polarisation in regions that had a higher share of manufacturing employment in the 2000s. But this relationship is far from deterministic, in line with the finding that all industries experienced polarisation. It is worth noting that some developing countries seem to experience deindustrialisation at relatively low levels of wealth compared to more advanced economies, which could be prematurely reducing growth opportunities and opportunities for middle class growth. This shift away from manufacturing is strongest in Latin American countries and largely absent in Asian countries (Rodrik, 2016[49]).

Source: Cirillo (2018[47]); Goos and Manning (2007[48]); OECD (2017[42]); Rodrik (2016[49]); and Tüzemen and Willis (2013[46])

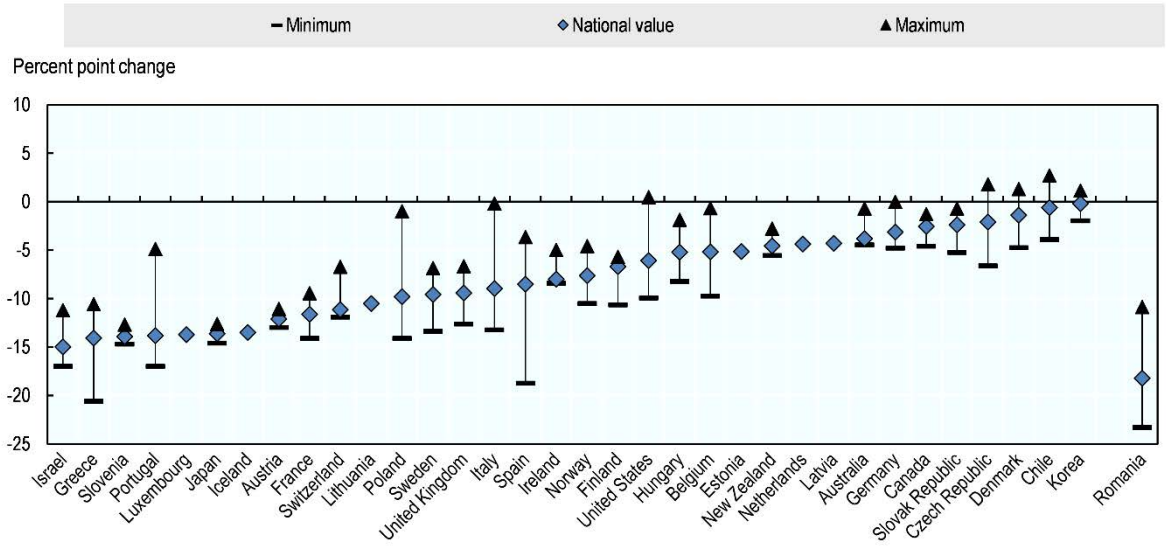
Almost all OECD regions have seen a decrease in the share of middle-skill jobs since 2000. In over a quarter of regions, the share of middle-skill jobs decreased by 10 percentage points or more. Only Chile, the Czech Republic, Denmark, Korea, and the United States have one or more regions where the share of middle-skill jobs increased. In most of these regions, the increase has been relatively small (1 to 2 percentage points or less). While polarisation is generally accompanied by upskilling, in about one out of six regions, it was accompanied by downskilling (i.e. growth in the share of low-skill jobs outpaced growth in high-skill jobs). Over half of countries with available data have at least one region in this situation (see Annex Table 2.A.1).

Particularly large regional variations in the scale of polarisation can be found in countries hard hit by the 2008 crisis (Greece, Portugal, Italy, Spain), Eastern European countries (Poland and Romania), as well as in the United States (see Figure 2.5). For example, in Italy, the decrease in the share of middle-skill jobs ranged from 13 percentage points in Marche to 0.2 percentage points in Calabria. In Israel, Slovenia, Greece, France, and Finland, the capital region experienced the smallest percent point change in share of middle-skill jobs, while in Austria, Belgium and Poland, the capital region experienced the largest change. Regions with high initial shares of employment in middle-skill jobs tended to experience the strongest polarisation over the time period considered.[4] This suggests that polarisation is a pervasive phenomenon that all places will have to contend with eventually, if they have not already.

Recent studies within countries also find that job polarisation has been more pronounced in large, urban areas, even if the initial share of middle-skill jobs is relatively low.[5] Research in France highlights the important distinction between different types of urban areas. Nearly all French cities saw the share of middle-skill jobs decline, but large cities saw a sharper contraction of middle-skill jobs and a shift towards high-skill jobs, i.e. they “upskilled”, whereas smaller cities shifted towards low-skill jobs, i.e. they “downskilled” (Davis, Mengus and Michalski, 2020[50]). As regions typically combine cities of different sizes there is no clear relationship between the level of urbanisation at the TL2 level and polarisation over time in this analysis. Having a larger share of the population living in urban areas is indeed positively related with the shift towards more high-skill employment, and relatively fewer middle-skill jobs in 2018.

Figure 2.5. The change in the share of middle-skill jobs can vary by over 10 percentage points across regions within countries

Percent point change in share of middle-skill jobs, early 2000s to latest year available, TL2 regions



Note: Middle-skill occupations include jobs classified under the ISCO-88 major groups 4, 6, 7, and 8. For most countries, the years of analysis are 2000-2018. For Australia it is 2006-16, for Canada 2011-18, for Chile 2010-19, for Germany 2002-18, for Denmark 2007-18, for Israel 2003-18, for Japan 2009-18, for Korea 2011-18, for New Zealand 2006-18 and for Switzerland 2001-18. Åland (Finland), Ceuta and Melilla (Spain), Canadian territories as well as Prince Edward Island are not included. For France, only the regions in France *métropolitaine*, with the exception of Corsica, are included.
Source: OECD calculations on Labour Force Survey for EU countries, Canada, Chile, Israel, Japan and Korea; Census for Australia and New Zealand; Occupational Employment Statistics (OES) Survey for the US.

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Polarisation, at least in European OECD countries, is predominantly linked to changing labour market opportunities for new labour market entrants, including declining opportunities for those without a tertiary degree compared to previous cohorts (OECD, 2020[51])**.** Recent OECD research suggests that new labour market entrants are now less likely to hold a middle-skill job relative to a low- or high-skill job than in the past, and workers without a tertiary degree are now more likely to be employed in low-skill occupations. The share of women without a tertiary degree in low-skilled jobs in particular has grown. However, those middle-skill workers who do lose their jobs may find it difficult to transition to a comparative job, particularly in places where job losses are part of larger structural transitions or local labour market shocks (such as the closure of large manufacturing plants). Additionally, the transition from middle-skill to higher-skill occupations requires up-skilling in terms of both cognitive and task-based skills, making it easier for workers in the middle of the skill distribution to move to lower-skill occupations rather than high-skill occupations as a result of a job loss (Bechichi et al., 2018[52]).

Polarisation could also have implications for local labour market resilience, particularly in light of COVID-19. Emerging evidence on the geography of COVID-19 related job losses suggests that low-skill service workers are particularly vulnerable to job losses in wealthy urban areas, i.e. places with more polarised labour markets. In such places, a higher share of low-skill jobs are dependent on the discretionary spending of local high-income earners, which has been slower to recover than spending of other income groups (Chetty et al., 2020[53]). Additionally, the rising shares of women without a tertiary degree working in low-skill jobs (OECD, 2020[51]) may be linked to the disproportionate share of COVID-19-related job losses they have experienced.

Global trade and supply chains will not be rapidly expanding

Trade had already been stagnating

Globalisation has brought many benefits – productivity improvements, technological and innovation diffusion, opening up of new consumer markets, and lowered costs of goods and services. At the regional level, specialisation in tradeable sectors has been an important factor helping lagging places catch up and bounce back from the shock of the global financial crisis (OECD, 2016[54]; 2018[55]).

Yet, globalisation has also generated considerable public anxiety, and trade growth was stagnating even pre-COVID-19. Compared to the early 2000s, when global trade was rising at more than twice the pace as output, it has risen only marginally faster in recent years (OECD, 2020[56]), and global value chains stopped expanding about a decade ago (OECD, 2020[57]). A public backlash against globalisation has sparked a re-emergence of protectionist policies and trade tensions in recent years. (OECD, 2019[58]). While the overall scale is still limited, reshoring, or the relocalisation of manufacturing back to developed countries has been of growing importance even pre-COVID-19 due to factors such as declining cost advantage of emerging economies and the need for production to be close to markets and innovation (De Backer et al., 2016[59]). Actors in a number of countries have launched economic development strategies to help reshore some aspects of production (for example, Reshore UK). Additionally, some argue that new production technologies, such as 3D printing and automation, as well as shifting consumer demands, may further contribute to deglobalisation (Livesey, 2018[60]).

COVID-19 upended global trade, with potentially longer-term reverberations

COVID-19 upended global trade in the short term, and could lead to further stagnation over the longer term. Trade decreased by over 15% in the first of 2020 (OECD, 2020[61]). Going forward, European countries are expected to face particularly sharp declines, reflecting strong cross-border relationships, the importance of tourism in some economies, and the vulnerability of commodity-exporting economies to the drop in demand (OECD, 2020[56]).

Disruptions in supply chains are causing firms and governments to reassess the risks associated with complex global supply chains more generally. Shortages in essential medical equipment or pharmaceuticals produced abroad in particular have brought these questions squarely into the public debate. This could lead to a longer-term shift of re-shoring of strategic production activities, notably in relation to priority goods in health care. Shorter food production chains may also be promoted. Already in April, for example, Japan announced a stimulus package that includes USD 2 billion to support firms in shifting production back to Japan.[6]

More globalised regions face both risks and opportunities in this new reality

A reduction in global trade could hurt more globalised regions acutely in the short term (see Chapter 1) but also offer new opportunities. Should reshoring become a significant trend over the longer term, local economies may be able to diversify economic activity and restore some middle-skill jobs, although some argue that the impact on jobs will primarily benefit high-skilled workers (De Backer et al., 2016[59]). Re-shoring will be easier in places that are already more diversified or with strong local skills bases in related sectors or occupations. Additionally, should global trade rebound, more globalised regions may be able to bounce back more quickly, a trend seen in the last crisis.

Transition costs associated with previous trade shocks – positive or negative – have indeed been geographically concentrated in the places with high shares of jobs in the most affected sectors. In particular, the entry of China into global markets had more persistent, localised impacts than anticipated. In the United States, sectors exposed to trade competition from the entry of China into global markets

tended to be geographically concentrated. Losses were not isolated to manufacturing employment directly exposed to this competition, and these local labour markets experienced longer-term and more persistent negative impacts in terms of unemployment, labour force participation rates, and wages than economists traditionally predicted (Autor, Dorn and Hanson, 2016[62]). Similar impacts for reductions in manufacturing employment have been found for Norway and Spain, although spillovers to the local labour markets more generally varied (Donoso, Martín and Minondo, 2015[63]; Balsvik, Jensen and Salvanes, 2015[64]). In Germany, the impact of Chinese import competition was attenuated by increased trade with Eastern European countries following the fall of the Iron Curtain, albeit with different impacts for import- and export-competing regions (Dauth, Findeisen and Suedekum, 2014[65]).

A few recent studies provide some insights as to how local economies may fare when globalisation retreats, rather than advances. In modelling the geographic impacts of tariff hikes put in place by the United States and its trade partners in 2018, researchers found that the Great Lakes region of the Midwest and the industrial areas of the Northeast benefitted the most from tariff protection, while the rural regions of the Midwestern plains and Mountain West faced higher tariff retaliation in the short-run (Fajgelbaum et al., 2019[66]). Some experts have suggested that Brexit will have a longer-term negative impact on the places already struggling, potentially further exacerbating existing geographic divides in the United Kingdom (Carter and Swinney, 2019[67]).

The green transition could be an opportunity for job creation building on local conditions

The green transition has already started, but will need to pick up speed

While governments have made important commitments to addressing climate change, concrete actions to invest in renewable energy and reduce our economic dependence on fossil fuels remain well below the scale needed. Accordingly, the bulk of the green transition is still on the horizon. Fully scaling up the transition to a greener economy will result in job destruction in “brown” sectors and job creation in “green sectors”, as well as macro-level impacts resulting from changes in demand patterns, GDP, etc. However, most macroeconomic models predict minimal net employment changes as a result of the green transition. The OECD estimates, for example, that job churn as a result of climate action across sectors (summing up the creation and the destruction of jobs) will only be 1.5% of total employment by 2050 (OECD, 2017[68]).

COVID-19 could both generate new momentum for the green transition, and make the trade-offs more acute

How COVID-19 will impact the green transition over the longer-term remains an open question.[7] In the short term, COVID-19 containment measures and the more general downturn are expected to reduce global CO2 emissions by 8% in 2020 compared to 2019 (IEA, 2020[69]). However, this drop is only temporary, reflecting the drastic slowdown of economic activity and travel, and emissions have typically rebounded following other recession-based dips. Looking forward, COVID-19 could generate new political will to tackle this type of collective, global crisis. Behavioural changes and shifts in consumer preferences could also be longer-lasting, such as a reduction in business travel, international tourism, or daily commuting. The unprecedented stimulus packages many governments are now rolling out could also accelerate investment in green infrastructure, if properly targeted.

However, COVID-19 could also create new tensions between preserving jobs at all costs, and transitioning carbon-intensive sectors to greener production methods. For example, governments may face strong pressures to bailout struggling carbon-intensive industries, such as airlines or carmakers. These bailouts present an opportunity to make support contingent on reducing emissions, but this is not a given. Additionally, while green stimulus packages can help reorient economic development and deliver

growth over the long term, some evidence suggests that they may be less efficient at creating jobs in the short term (Popp et al., 2020[70]), although further research is needed. This may make them less politically appealing than other types of stimuluses that create jobs more immediately.

Natural resource regions could bear the brunt of job losses, and struggle to reap the benefits from the new jobs created

Even if net employment impacts are predicted to be minimal, the green transition implies significant adjustment and transition costs at the local level, particularly for natural resource regions. Material-intensive or extractive sectors tend to cluster around specific places with natural resources or enabling infrastructure, and thus are highly geographically concentrated. In Canada, for example, nearly one-third of Alberta's GDP and 6% of jobs are tied to the fossil fuel industry, compared to 8% and 1% respectively nationally, without even taking into account indirect or induced employment (Mertins-Kirkwood, 2018[71]).

The transition to a more circular economy implies a shift away from employment in materials-intensive activities towards service-driven activities, and from industry and primary production sectors to secondary production and services sectors. Accordingly, jobs in the circular economy are less reliant on the natural resources, and firms are more mobile to locate where they can find the right type of workers**.** Thus, while there is a good chance that places that specialise in material-intensive or extractive sectors will lose jobs in this transition, their ability to reap the benefits of the complementary job creation is less assured (Laubinger, Lanzi and Chateau, 2020[72]). While this research refers to countries and international regions, the same arguments can also apply within countries.

Some circular economy activities will be more geographically dispersed than others. For example, low-skill recycling and repair jobs will be needed across territories, and therefore are not likely to concentrate specifically in urban or rural areas. Others, however, rely on sufficient demand or density (e.g. specialised repair jobs, sharing economy), and are more likely to cluster in urban areas (Laubinger, Lanzi and Chateau, 2020[72]).

A study of green jobs in the United States over the period of 2006-2014 found that they were more geographically concentrated than comparable non-green jobs, but that there was some catching up effects over this time period. The places with the highest shares of green employment were wealthier and more high-tech, and were more likely to host public R&D laboratories, have more green patents per capita, and a higher-than-average share of employment in high-tech manufacturing and knowledge-intensive services (Vona, Marin and Consoli, 2018[73]). In the Netherlands, urban areas were found to have the highest density of circular jobs per square kilometre, with urban peripheries concentrating core circular jobs linked with traditional manufacturing, and city centres concentrating enabling circular jobs linked more to knowledge-intensive activities and services (Circle Economy and EHERO, n.d.[74]).

Climate change itself will also impact regional economies differently due to changes in tourism patterns, the location of agricultural production, and demand for energy. Extreme events such as hurricanes, flooding, and droughts will also have extremely localised impacts. In Australia, the drought beginning in 2017 is projected to decrease farm GDP by 30% by 2020, with the Murray–Darling Basin, which accounts for around one-third of the total value of Australia's agricultural production, severely impacted (Reserve Bank of Australia, 2020[75]). Projections for Europe suggest large parts of Southern Europe – which are dependent on tourism and agriculture – as well as the Alps (tourism) and South Eastern Europe (agriculture) are particularly sensitive to the economic changes as a result of climate change, as well as some parts of Scandinavia due to changing energy demands (Greiving, Fleischhauer and Lindner, 2013[76]). In the United States, evidence suggests that the economic impacts of climate change could further entrench existing geographic divides: the poorest 10% of counties are estimated to face economic losses 9.5 times larger than the richest 10% of counties (Hsiang et al., 2017[77]).

Labour mobility will not be enough to respond to a shifting geography of jobs, especially for the low-skilled and people outside cities

The low-skilled will face particular challenges in adapting to this new world of work. They are more likely to be employed in jobs vulnerable to automation and face increasing competition from middle-skill workers who have been displaced from traditional middle-skill jobs. Some research also suggests that low-skill workers will be most impacted by decarbonisation policies (Chateau, Bibas and Lanzi, 2018[78]), and as discussed in Chapter 1, they are particularly vulnerable to COVID-19-related job losses.

Relying on labour mobility to help counterbalance the shifting geography of jobs will likely not be sufficient. For one, most moves are not actually for job-related reasons. On average across OECD countries with data available, only 9% of residential moves were for job-related reasons**.** This compares to 41% for housing-related reasons and 34% for family-related reasons (Causa and Pichelmann, 2020[79]).[8] Higher-skilled individuals and households tend to be more geographically mobile (Eurostat, 2017[80]; Causa and Pichelmann, 2020[79]). In Europe, people living in cities are also more mobile on average (Eurostat, 2017[80]), and in the United States, when people do move, they tend to move to similar communities, rather than to megacities or high-growth hubs (Lund et al., 2019[7]).

Geographic mobility also varies considerably across OECD countries. This could be the result of both cultural factors, as well as the institutional framework (housing policies, occupational licensing, other labour market regulations, etc.). While international comparisons of internal mobility are difficult to construct,[9] evidence suggests that domestic residential mobility it is relatively high in Nordic countries, Australia and the United States, and relatively low in southern and eastern European countries (Causa and Pichelmann, 2020[79]; Caldera Sánchez and Andrews, 2011[81]) (although international migration is relatively more important in the latter). These findings have been generally confirmed by other research, which also finds relatively high rates of mobility in Korea and Canada as well (which were not included in the other studies) (Bell et al., 2015[82]). Even in some traditionally mobile countries, mobility is declining, including the United States (US Census Bureau, 2017[83]) and Australia (Charles-Edwards et al., 2018[84]). In the United States, the share of people moving annually has almost halved since data first started being collected over fifty years ago.

While labour mobility cannot be the only solution, varying trends over time and across countries do suggest that there is room for policy interventions. Addressing occupational licensing restrictions and housing market rigidities can help reduce existing barriers to mobility. However, further study is needed to understand the degree to which labour mobility can offset employment challenges, as some research suggests that even greater geographic mobility would only marginally reduce unemployment rates (Marinescu and Rathelot, 2018[85]).

The size and composition of local labour forces are changing

Changes to the size and composition of local labour forces will be just as important as the demand side factors reshaping the future of work. Population ageing and shrinking, as well as mobility within and across countries, will have significant impacts on local labour markets. In fact, some experts suggest that demographic shifts will be even more important than technological changes in reshaping labour markets.[10]

COVID-19 is unlikely to have a significant impact on broader demographic changes such as population ageing and shrinking national labour forces, but could affect mobility patterns within and across countries. However, it remains to be seen if some of the short-term changes sparked by COVID-19 will persist, such as decreases in international migration and movement out of more urban areas.

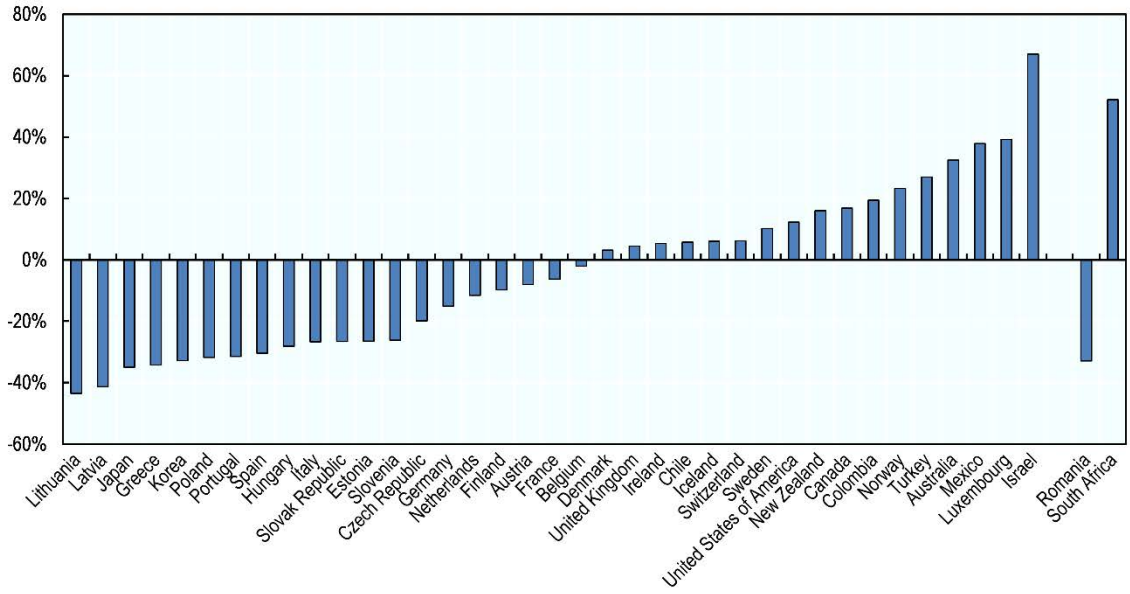
Facing the reality of an ageing and shrinking labour force, particularly in rural areas

The working age population will shrink in over half of OECD countries by 2050

Longevity increases and declines in birth rates have led to a general trend of population ageing in OECD countries. By 2050 it is estimated that over half of OECD countries will have a smaller working age population than in 2010. As shown in Figure 2.6, Lithuania, Latvia, Japan, Greece, Korea, Poland, Portugal, and Spain are projected to have the biggest relative decreases.

Figure 2.6. Half of OECD countries are projected to have a smaller working age population by 2050

Projected percent change in working age population age 15-64, 2010-50



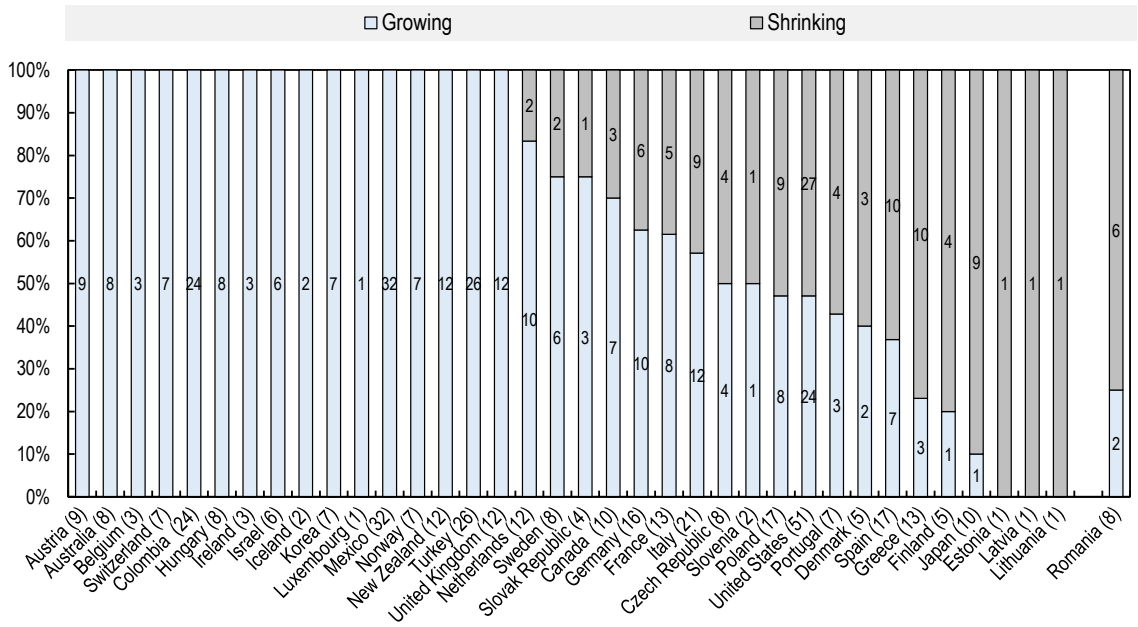
Source: OECD calculations on United Nations, Department of Economic and Social Affair (2019[86])

StatLink https://doi.org/10.1787/888934188899

Almost 30% of TL2 regions with available data have already seen the size of their labour force decrease in the past decade (see Figure 2.7)**.** This is despite the general trend of increasing labour force participation rates, and likely reflects both differences in local age profiles as well as inter-regional migration patterns**.** In Japan, Greece and Finland, more than three quarters of regions had a shrinking labour force, and in seven additional countries, between 50% and 75% of regions have seen their labour force shrink (Czech Republic, Denmark, Poland, Portugal, Slovenia, Spain and the United States).[11]

Figure 2.7. The labour force has shrunk in almost 30% of regions over the past decade

Share of TL2 regions with growing/shrinking labour force (15-64), 2008-2019



Note: For most countries the first year of analysis is 2008. For Ireland it is 2012 and for Poland 2010. The latest year available for Colombia is 2018. The labour force includes the age group 15-64. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine* are included.
Source: OECD (2020), *"Regional labour markets", OECD Regional Statistics (database)*, https://doi.org/10.1787/f7445d96-en

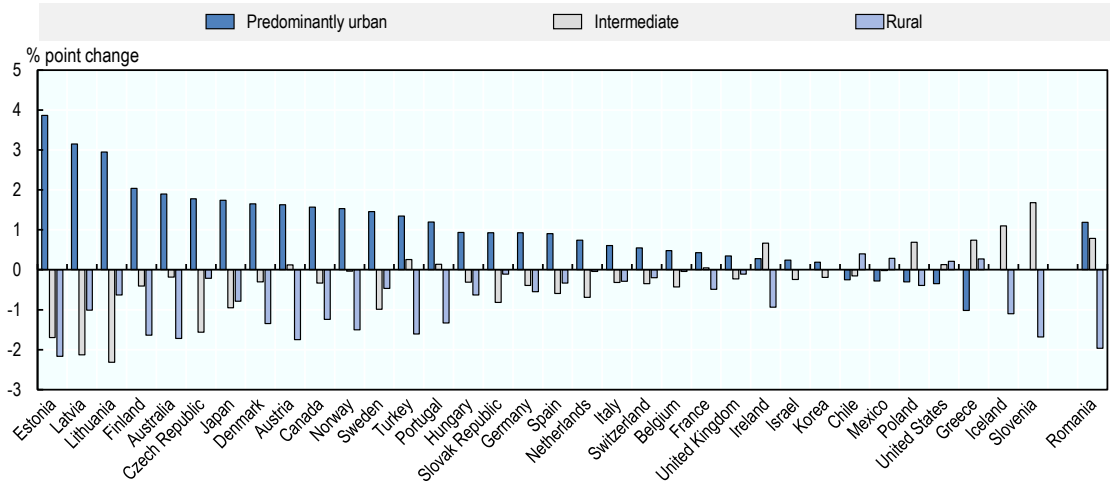
StatLink https://doi.org/10.1787/888934188918

Rural areas face particularly acute challenges

Natural population decline (i.e. due to declining birth rates) is further compounded by internal mobility and migration, particularly movement from rural to urban areas. Although the pace of urbanisation is decelerating in most OECD countries, people continue to move from more rural to urban areas in many countries. In almost 80% of OECD countries, the share of national populations living in urban regions has increased between 2008 and 2018. Conversely, rural and intermediate regions saw declining shares in most places (Figure 2.8).

Figure 2.8. Urban areas continue to grow in many countries

Change in the share of national population by degree of urbanisation, TL3 regions, 2008-2018



Note: This figure shows the percentage point change in the share of people living in rural, intermediate and urban areas between 2008-2018
Source: OECD (2020), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en

StatLink https://doi.org/10.1787/888934188937

However, population shrinkage does not strictly follow urban/rural lines. A significant share of cities are also losing population. In five countries, including Chile, Greece, Mexico, Poland, the United States, the share of people living in urban regions decreased between 2008 and 2018. Almost one in four cities (23%) with more than 50 000 inhabitants in the OECD has shrunk in population since 2000. Smaller cities (i.e. less than 250 000 residents) account for the bulk of cities losing population (OECD, 2019[87]). In contrast, in the United States, the three biggest metropolitan areas – New York City, Los Angeles and Chicago – have all registered population declines in recent years (US Census Bureau, 2019[88]).

COVID-19 could decelerate urbanisation, and make places outside of large cities more attractive to a broader range of people

COVID-19 could slow down or even reverse some of these trends. As discussed in Box 2.7, factors such as a rise in teleworking and the changing value of urban amenities could shift patterns in urbanisation, The movement of workers away from the largest metropolitan areas could open up opportunities for more rural communities or smaller metropolitan areas to attract residents, or lead to more growth in suburban areas. Indeed, some communities have already been pursuing teleworkers: pre-COVID-19, Vermont (US) and Tulsa, Oklahoma (US) launched programmes to offer financial incentives to attract teleworkers.[12] However, any predictions about how COVID-19 could impact demographic trends is purely speculative at this point, as much remains to be seen about how the crisis and its impacts will unfold.

Box 2.7. Will COVID-19 spark longer-term changes to urbanisation?

Since the initial outbreak, the popular press, academics and policymakers have debated about how COVID-19 will impact cities and urbanisation patterns. While some headlines have declared the "end of cities", others suggest that COVID-19 is merely a short-term blip in the longer-term rise of cities. At this stage, there's no way to know for sure what the future holds for different types of cities in OECD countries, as a number of factors are in play.

- **The expansion of teleworking could free workers to leave cities, or move to outlying areas.** As cities generally have a higher share of workers in jobs amenable to teleworking, the rapid expansion of teleworking will have a disproportionate impact on urban populations. Some share of jobs will likely become entirely remote, and these workers could choose to leave urban areas all together. However, other jobs will move to hybrid models which combine physical presence in the office with teleworking. Workers holding these jobs are unlikely to leave urban areas all together, but may leave central cities for suburbs or outlying areas with good transit connections. This could further reinforce the existing trend of commuting zones growing faster than city centres in most OECD countries (OECD, 2016[89]).
- **Containment measures and changes in individual behaviours in response to COVID-19 have decreased the value of some urban amenities, at least in the short term.** Many of the urban amenities that help cities attract and retain residents have been impacted by COVID-19 – restaurants, cultural and sporting events, etc. Strict lockdown periods also made the trade-offs of living in centrally-located but relatively small apartments, often without outdoor space, particularly acute. Should cost of living and quality of life take increasing precedence over the location of jobs as a factor in residential decisions, more affordable second or third tier cities, or rural areas that offer amenities such as good weather, access to nature, etc. could attract more residents.
- **COVID-19 could disrupt moves associated with changes in life stages: fewer young people may move to cities to study, and young families may leave sooner than they would have otherwise.** Young people often initially move to cities to study, and then stay for employment opportunities. In England and Wales, for example, students account for almost one-quarter of all residents in city centres (Thomas, Serwicka and Swinney, 2015[90]). Should universities and colleges move to online learning more permanently, young people may be less likely to move to large cities for their studies, especially given the relatively high cost of living. Pre-COVID-19, young people tended to leave cities as they aged and started families. For example, in Europe young adults tend to move to the regions surrounding the main urban centres when they consider starting a family (Eurostat, 2016[91]). COVID-19 could speed these types of moves associated with life stage changes, particularly for families with young children.
- **Slowdowns in international migration would have the most impact on urban areas.** New international migrants represent an important share of population flows into cities. Should restrictions on the international movements of people persist and international migration flows slow down over the long term, cities would feel the impact most strongly.
- **Whether unfounded or not, the fear that COVID-19 and potentially other future pandemics spread more quickly in denser cities could discourage urban living.** Research is still ongoing as to how density impacts the spread of the virus, as outbreaks have occurred in both urban and rural areas. Regardless of the research outcomes, a general public fear of the virus spreading more quickly in urban areas could further encourage people to leave cities.

Source: Eurostat (2016[91]); OECD (2016[89]); and Thomas, Serwicka and Swinney (2015[90]).

Labour shortages could contribute to a vicious cycle of local decline

Even if COVID-19 decelerates urbanisation, many places will be facing labour shortages in the coming years. A vicious cycle can set in at the local level, with employers relocating their operations because they cannot find the local workers they need, more people relocating as economic opportunities decline, etc. Already in Japan, where the working age population has been shrinking for years, more than 80% of employers surveyed in a 2017 poll expect labour shortages will restrict the number of services they can provide (OECD, 2019[92]). Loss of local employers and jobs, in turn, could lead to a decrease in tax revenues to invest in infrastructure and services, in turn leading to more out-migration. Thinner labour markets, characterised by fewer workers and employers, are also thought to be have lower quality worker-employee matches and result in longer spells of unemployment (Moretti, 2011[93]).

A number of strategies can help offset such shortages: activing those currently out of the labour force, attracting new domestic or international residents, and adopting labour saving technologies. As discussed in Chapter 1, at least some of the current inactive population could and would like to work if the right supports and labour market opportunities were available to them. Addressing the barriers that prevent them from doing so, such as access to childcare or mental health care, could help close these gaps. Attracting international migrants to help offset the decline of native-born populations is another approach. As discussed later in this chapter, migrants tend to cluster in urban areas, but there are opportunities for them to help revitalise more remote areas (Galera et al., 2018[94]). Boosting productivity will also be essential. Some research already suggests that the uptake of new automation technologies, such as industrial robots, has helped offset some of the pressure of an ageing labour force in the United States (Acemoglu and Restrepo, 2018[95]).

For places with an ageing workforce, the imperative for lifelong learning will grow

As the average age of the workforce and the length of working lives increases, so does the risk that skills will become outdated in the face of new technologies or other labour market changes. Already, results from the OECD Survey of Adult Skills (PIAAC) show that one-third of 55 to 65 year olds have no computer experience or fail core ICT tests. Only one in ten older workers have medium to good skills related to problem solving in technology-rich environments (OECD, 2019[96]). While all places will have to find ways to support older works in keeping their skills up-to-date and relevant, it will be particularly urgent for those places where population ageing is most pronounced. In the EU, 62% of city residents have basic or above digital skills, compared to 55% of people in towns and suburbs and 48% in rural areas (Eurostat, 2020[97]).

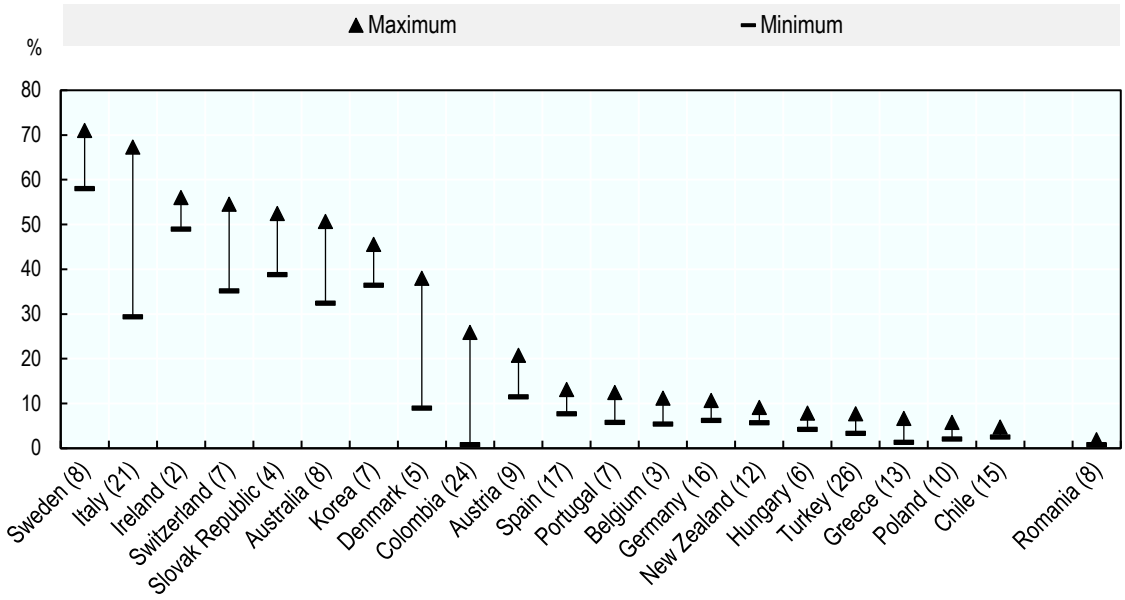
Older workers, particularly blue-collar workers, may face specific challenges in bouncing back in terms of time to re-employment and earnings loss after being displaced from their jobs (OECD, 2018[98]), (Quintini and Venn, 2013[11]) (see Box 2.1). As their experience often has declining relevance, a significant mismatch between their skills and the new types of jobs available is a contributing factor. Older workers are also less geographically mobile than their younger counterparts on average, and thus may be less likely to move to pursue a job opportunity (Causa and Pichelmann, 2020[79]). They may also face age discrimination in hiring. Regardless of the reasons, they are particularly vulnerable to negative repercussions of job losses discussed above, and less likely to be able to benefit from the new jobs created because of skills and/or geographic mismatches.

While older workers face more risks adapting to these longer-term structural changes, younger workers have been more impacted in the short term by COVID-19-related job losses and reduction in working hours. As discussed in Chapter 1, extended periods of unemployment at a young age can leave “scarring effects” in terms of employment and wages over the longer-term. Thus, expanding access to learning and training will be important across all ages.

Life-long learning can help workers adjust to these transitions, but there are important regional differences in the rate of participation in training. The regional difference in the share of adults participating in training is above 10 percentage points in a number of countries, including Australia, Colombia, Denmark, Italy, Slovak Republic, Sweden, and Switzerland. However, further study is needed to see if these variations are just artefacts of different skill composition or age profiles of local labour forces, or rather reflect other regional differences in access to training.

Figure 2.9. Regional variations in participation in training can be large

Regional variation in share of the population aged 25-64 participating in formal and/or non-formal training, 2018 or latest year available, TL2 regions



Note: Data is from 2018 for Portugal and Germany; 2017 for Austria, Chile, Colombia, Denmark, Greece, Hungary, Ireland, Latvia, New Zealand, Poland, Spain and Switzerland; 2016 for Australia, Italy, Slovak Republic, and Sweden; 2015 for Belgium, Romania and Turkey. Ceuta and Melilla (Spain) are not included.
Source: OECD (2020), *OECD Regional Statistics (database)*, https://doi.org/10.1787/region-data-en

StatLink https://doi.org/10.1787/888934188956

Brain drain and the concentration of skilled workers in cities

Labour forces are becoming more educated everywhere, but at a faster pace in urban areas

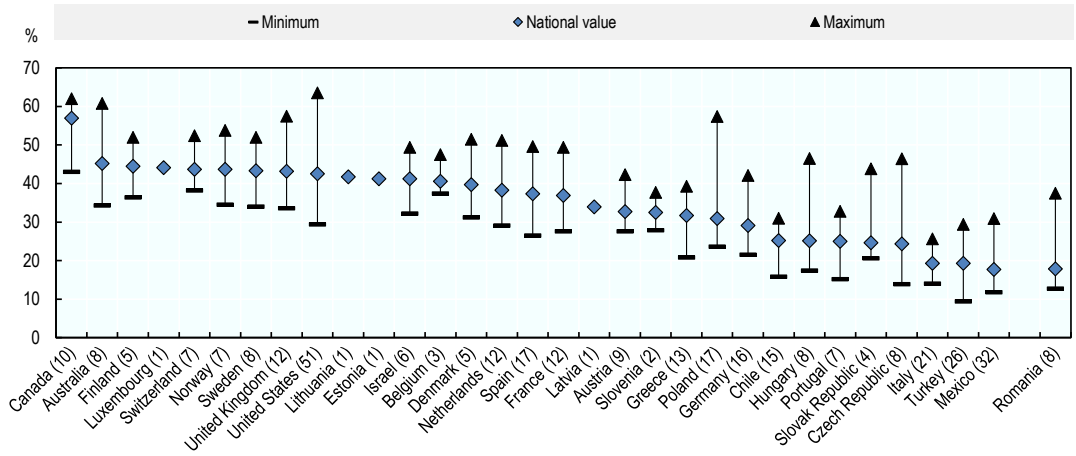
Rising levels of education are a general trend across the OECD: in 2000, 22% of adults in the OECD had completed tertiary education, while in 2018, 37% had. In several countries, the share of adults with a tertiary education doubled over this period (e.g. Czech Republic, Ireland, Italy, Korea, Luxembourg, Poland, Portugal, Slovak Republic, Slovenia, and Turkey) (OECD, 2020[99]).

This trend holds true across virtually all regions, but some places have benefited more than others. In 2018, the share of tertiary-educated adults in the best performing region was almost double (1.9) that of the worst performing region on average within OECD countries with data available. Additionally, as discussed in Box 2.8, some places struggle to put high-skilled workers to good use. Employment rates for tertiary educated adults can vary by as much as 10 percentage points across regions within countries.

Even for those who are employed, the OECD estimates that over one-fifth of workers are overqualified for their jobs, a rate that can exceed 30% in some regions (see Box 2.8).

Figure 2.10. The best performing regions have almost twice the share of highly educated adults as the worst performing regions

Regional variation in share of tertiary-educated population, 2018, population aged 25-64, TL2 regions



Note: Data for Australia, Chile, Israel and the United States is from 2017. Data for Canada is from 2016 and for Mexico from 2015. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine*, with the exception of Corsica, are included.
Source: OECD (2020), *OECD Regional Statistics (database),* http://dx.doi.org/10.1787/region-data-en

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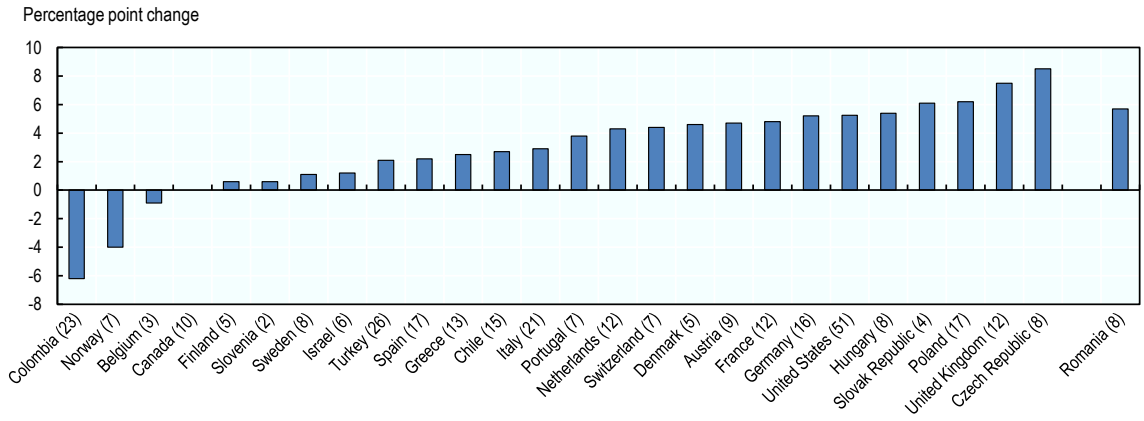
Urban areas, and in particular capital regions, tend to have a more highly-educated population. In almost all countries with available data (25 out of 27), capital regions had the most highly educated population in their respective countries. In most countries, places that already had relatively high shares of tertiary-educated adults in 2008 saw a greater increase over the following decade, resulting in an increasing gap between the best and worst performing regions, with Norway, Belgium and Latvia as the only exceptions (Figure 2.11). In contrast, regional differences in the share of the population with at least an upper secondary education have generally declined over the past 15 years, an education level reached by almost 79% of the adult population in the OECD (OECD, 2018[100]). This suggests that the geographic concentration of skills is most pronounced at the highest skills level.

A number of factors may contribute to these regional disparities. For one, urban areas tend to attract young people, students and the highly skilled because of education and employment opportunities as well as the amenities. In most OECD countries, almost all within country youth migration (95%) is directed towards metropolitan regions (OECD, 2020[101]). OECD PISA data suggests that the quality of initial education may vary across urban and rural areas.[13] In almost two-thirds of OECD countries with available data, urban students outperform rural students in science, although these differences disappear once socio-economic conditions are taken into account, suggesting that socio-economic factors play a bigger role than any inherent urban/rural divides. Urban and rural students may also have different educational aspirations. On average across the OECD, only 30% of students in rural schools expect to complete at least a university degree, compared to nearly half of the students in urban schools. Unlike gaps in

performance, these gaps in aspirations do *not* disappear once socio-economics are taken into account (Echazarra and Radinger, 2019[102]).

Figure 2.11. Variation in the gap between the region with the highest and the lowest share of people with tertiary education, 2008-2018

Population aged 25-64, TL2 regions, difference in percentage points



Note: The first year of analysis is 2009 for Chile, 2010 for Slovenia, 2012 for Canada and Israel, and 2013 for Hungary and Poland. The last year of analysis is 2017 for Chile, Israel and the United States, and 2016 for Canada. Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine*, with the exception of Corsica, are included.
Source: OECD (2020), *OECD Regional Statistics (database),* http://dx.doi.org/10.1787/region-data-en

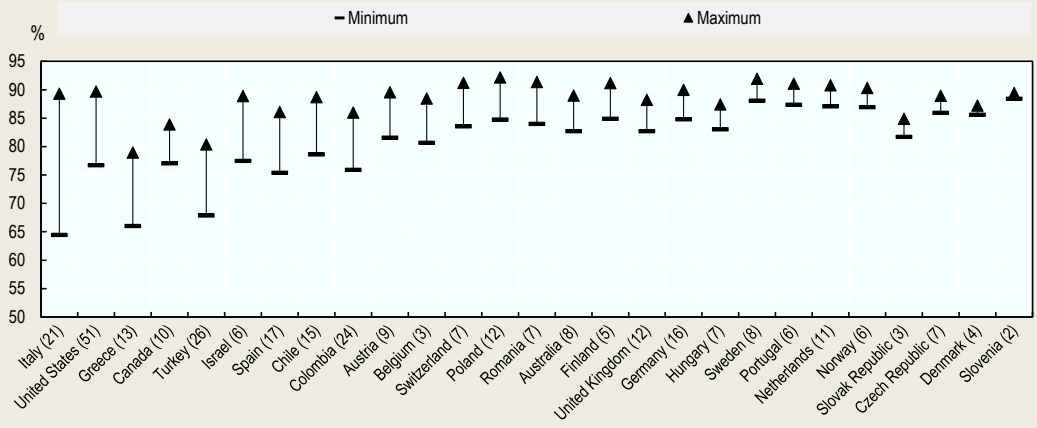
StatLink https://doi.org/10.1787/888934188994

Box 2.8. Not all places put talent to good use

The skills of the workforce are only beneficial to the degree to which they are put to good use. In other words, are high-skill workers able to find jobs in the local economy, and do local jobs make good use of their skills? Generally, the tertiary-educated population has a higher employment rate than the rest of the adult population. Across the OECD, the employment rate for the tertiary-educated population is 86%, compared to 59% for below upper secondary and 77% for upper secondary, non-tertiary (OECD, 2020[103]). However, as shown in Figure 2.12, there are important differences across regions in some countries. In 9 OECD countries (around one-third of those with available data), the difference between employment rates for tertiary-educated populations in the best and worst performing regions was over 10 percentage points. In general, these patterns seem to reflect overall regional variations in employment rates.

Figure 2.12. Regional variation in employment rates for the tertiary-educated population

Population age 25-64, TL2 regions, 2018



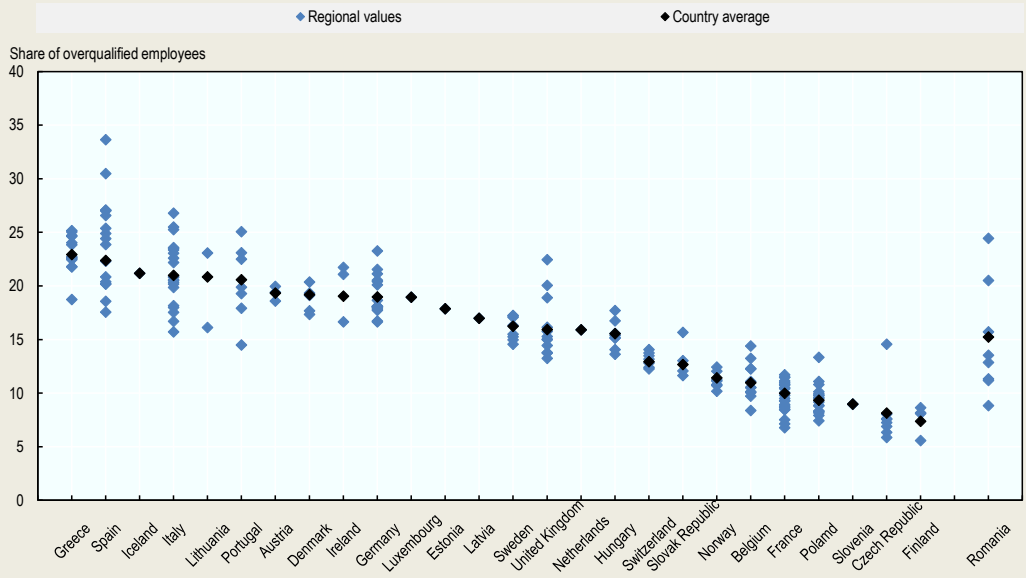
Note: Data from 2017 for Australia, Chile, Colombia, Israel, Latvia and United States. Data from 2016 for Canada. Ceuta and Melilla (Spain) and Canadian territories are not included.
Source: OECD (2020), "Regional education", *OECD Regional Statistics (database)*, https://doi.org/10.1787/213e806c-en

StatLink https://doi.org/10.1787/888934189013

Even for those who do have jobs, data from the OECD Survey of Adult Skills (PIAAC) suggests that about 22% of workers report being overqualified (i.e. have a higher qualification than those required to get their job) (OECD, 2016[104])**.** Skills mismatch can have negative repercussions for both individuals and economies, including negatively impacting labour productivity because of the inefficient allocation of available human capital (Adalet McGowan and Andrews, 2015[105]). Again, there are important regional variations in the rate of overqualification, from a high of 34% in Navarra (Spain) to a low of 6% in Helsinki-Uusimaa (Finland) and Central Bohemia and the Northwest regions (Czech Republic).

Figure 2.13. Many workers are overqualified for their jobs across local labour markets

Share of employees that are over qualified in their job (%), TL2 regions



Note: Over qualification is computed by comparing an individual's qualification level to the level required in the occupation the person is employed in. The "required level" is based on the most commonly observed level (i.e. the mode) in that occupation. More information on the methodology can be found in (OECD, 2017[106]). Ceuta and Melilla (Spain) and Canadian territories are not included. For France, only the regions in France *métropolitaine* are included.
Source: OECD calculations on EU Labour Force Survey

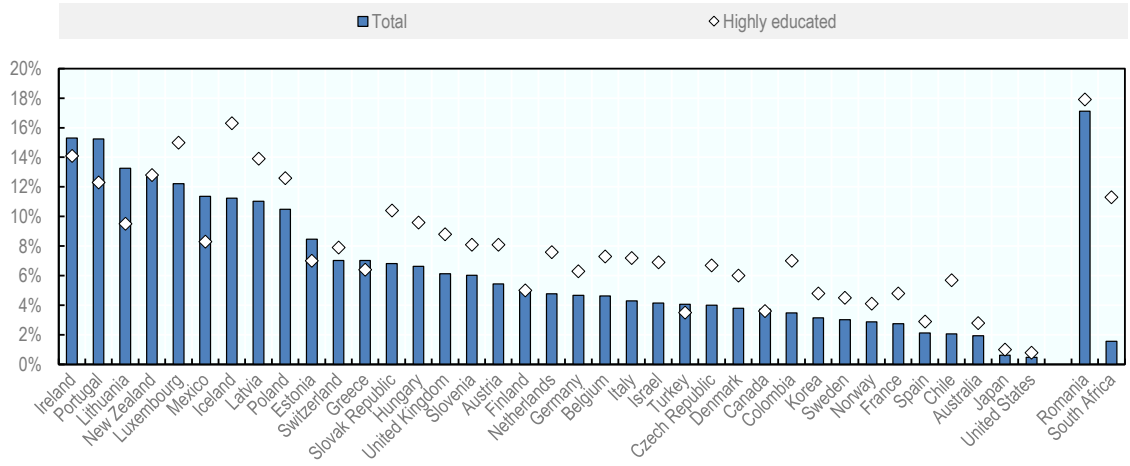
StatLink https://doi.org/10.1787/888934189032

Source: OECD (2020[103]); OECD (2017[106]); OECD (2016[104]); Adalet McGowan and Andrews, (2015[105]).

For a number of OECD countries, emigration, i.e. people moving abroad, is also a significant factor in shaping local skills supply. Nine OECD countries had 10% or more of their population living abroad in 2015/16 (Figure 2.14). For three-quarters of OECD countries, the highly skilled are more likely to emigrate. In some countries, high rates of emigration are accompanied by high rates of immigration (e.g. New Zealand, Luxembourg) while in others, population flows are more unidirectional (e.g. Portugal, Lithuania, Mexico). In Europe, the share of high-skill EU movers in the total EU employed population tripled between 2004 and 2016. Poland, Slovakia, Estonia, Bulgaria, Croatia, Latvia, Portugal, Lithuania and Romania were the main outgoing countries (i.e. high proportion of citizens living in another EU country and low proportion of other EU citizens living there) (ICF, 2018[107]). However, the countries facing the biggest "brain drain" are small, developing countries outside of the OECD (OECD/AFD, 2019[108]).

Figure 2.14. Some countries have large shares of emigrants, particularly amongst the high skilled

Stock of emigrants, total and highly-educated, by country of birth, 2015/16



Note: High education includes ISCED categories 5, 6, 7 and 8. This data refers to stock of emigrants, not flows, and only includes those people who immigrated to OECD countries. The emigration rate of a given origin country in a given year is defined as the share of the native population of country i residing abroad at this time: mi = Mi /(Mi+Ni) where Mi is the emigrant population from the country living abroad, and Ni is the native non-migrant population of the country.

Source: OECD Database on Immigrants in OECD and non-OECD countries (DIOC-E) 2015/16, https://www.oecd.org/els/mig/dioc.htm

StatLink https://doi.org/10.1787/888934189051

COVID-19 could slow down the concentration of skilled workers in cities

As discussed in Box 2.7, COVID-19 could decelerate the concentration of skilled workers in cities. Indeed, there is reason to think that high-skilled workers may be the group most likely to move as a result of COVID-19. They are generally more geographically mobile, and are more likely to hold jobs compatible with teleworking. Additionally, should universities expand online learning more permanently, young people may be less likely to move to urban centres for higher education.

Migration brings both opportunities and challenges, which concentrate in cities

OECD countries receive millions of migrants per year, and they are increasingly highly-educated

Approximately one in ten OECD residents are foreign-born, and in 2018, 5.3 million new permanent immigrants arrived in OECD countries. Since 2000, the immigrant population has increased across OECD countries, with only a few exceptions (Estonia, Israel, Lithuania, Latvia and Poland) (OECD, 2019[109]). The number of tertiary-educated immigrants in OECD countries more than doubled between 2000/01 and 2015/16 (OECD/Bertelsmann Stiftung, 2019[110]) and in 2015/16, there were more tertiary-educated immigrants in OECD countries than low-educated immigrants, a reversal of the figures from 2000/01 (OECD/AFD, 2019[108]). While migration flows can vary over time as a result of changes in the political and economic context, prior to COVID-19, there was no reason to think migration flows would slow or reduce over the long term.

COVID-19 has disrupted migration in the short term, and could decelerate it in the longer term

However, COVID-19 has disrupted international migration, at least in the short term (OECD, 2020[111]). As part of containment measures, countries put unprecedented restrictions on the international movement of people, with border closures a common feature of national responses during the strictest lockdown measures**.** While strict measures are easing in some places, this immediate response to COVID-19 could reduce the openness of many communities to international visitors and migrants, which could translate into a desire over the longer-term to be less open. Additionally, international moves may become less desirable for students, for example if universities move to online classes over the longer-term, as well as to highly-skilled workers. How these dynamics will play out over the longer-term, and the impact for local communities, remains to be seen.

Changes to migration patterns would impact cities the most

Approximately two-thirds of migrants live in metropolitan regions (OECD, 2018[112]). Between 2005 and 2015, areas with larger existing migrant communities also experienced the greatest increases in the population share of migrants (Diaz Ramirez et al., 2018[113]). Highly skilled migrants are also more likely to settle in regions with a more highly skilled native-born population.

Accordingly, cities have historically concentrated the challenges and opportunities associated with migration. Integrating migrants can present important challenges related to language, skills recognition and mismatches, etc, but also opportunities to invigorate local labour markets with new talents and skills. However, the experience and success of integrating migrants and their families in cities can vary considerable across and within countries, and even within cities across neighbourhoods (Crul and Mollenkopf, 2012[114]). Additionally, for many places, immigration has been important in offsetting declines in native-born populations, particularly as the age profile of immigrants tends to skew younger. Should migration patterns change, cities will feel the impact most strongly.

Conclusion

As a result of COVID-19, the jobs of tomorrow may be coming sooner than anticipated. The task at hand hasn't so much radically changed, but rather became more pressing in terms of scale and scope: how to ensure the short-term livelihoods of people, firms, and entire communities, while still keeping an eye on these broader transitions. Sacrificing longer-term economic resiliency for short-term gains would be a mistake, but this is a hard argument to make when unemployment is spiking, and finding a job – any job – is a first order priority for many. The following chapter – Chapter 3 – provides recommendations for how national and local actors alike can respond to short-term needs in relation to the COVID-19 economy, but in a way that builds longer-term local resilience.

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Notes

[1] Population ageing will also impact the demand side of the labour market as consumer demands shift over the lifecycle, for example an increase in demand for health care services.

[2] OECD estimates are based on the analysis of PIAAC data for 32 OECD countries from 2012 and 2015 (Nedelkoska and Quintini, 2018[18]).

[3] There are ongoing debates about the scale of the local job multipliers, as well as the differing effects of and impacts on jobs in tradeable and non-tradeable sectors and the local economic and institutional conditions that impact these multipliers (What Works Centre for Local Economic Growth, n.d.[115]; Bartik and Sotherland, 2019[116]). For example, studies in the US have found that for each manufacturing job created in a given city, 1.6 jobs in the non-tradeable sector are created. This figure rises to 2.5 for skilled tradeable jobs (Moretti, 2010[121]), while high-tech jobs have been found to have a multiplier of 5 (Moretti, 2012[40]). Other research has found a local job multiplier of between 3.9 and 4.4 for high-tech jobs in Europe, although with significant regional differences. (Goos, Konings and Vandeweyer, 2018[117]), while others have found significantly lower multipliers for high-tech jobs, such as .7 in the UK (Lee and Clarke, 2019[118]).

[4] These findings are robust with and without country fixed effects, although stronger without country fixed effects.

[5] See, for example Davis, Mengus and Michalski (2020[50]) for France, Terzidis, Maarseveen and Argiles, 2017 (2017[119]) for the Netherlands, and Autor (2019[120]) for the United States.

[6] See, for example, https://www.bloomberg.com/news/articles/2020-04-08/japan-to-fund-firms-to-shift-production-out-of-china

[7] See OECD (2020), "COVID 19 and the low carbon transition: impacts and possible policy responses" http://www.oecd.org/coronavirus/policy-responses/covid-19-and-the-low-carbon-transition-impacts-and-possible-policy-responses-749738fc/ for a further discussion of these issues.

[8] These figures are based on the percentage of households that changed residence within the last 5 years, and thus includes both local residential moves and longer-distance moves. Job-related reasons are likely more important for the latter, but comparative international data is not available.

[9] Challenges include differences in data collection (censuses, registers, surveys), time frames used, and spatial frameworks. See Bell et al. (2015[82]) for a further discussion.

[10] For example, Hal Vernon, the Chief Economist of Google estimates that the net effect of demographic changes on wages will be 53% greater than that of automation. See https://voxeu.org/article/automation-versus-procreation-aka-bots-versus-tots for more information.

[11] Estonia, Latvia, and Lithuania also saw their labour force shrink over this time period, although there is only one TL2 region in each of these countries.

[12] See, for example, Program that pays workers $10,000 to move to Vermont and work remotely is now accepting applications (14 January 2019) and Tulsa wants to pay you $10,000 to move there and work remotely (29 October 2019).

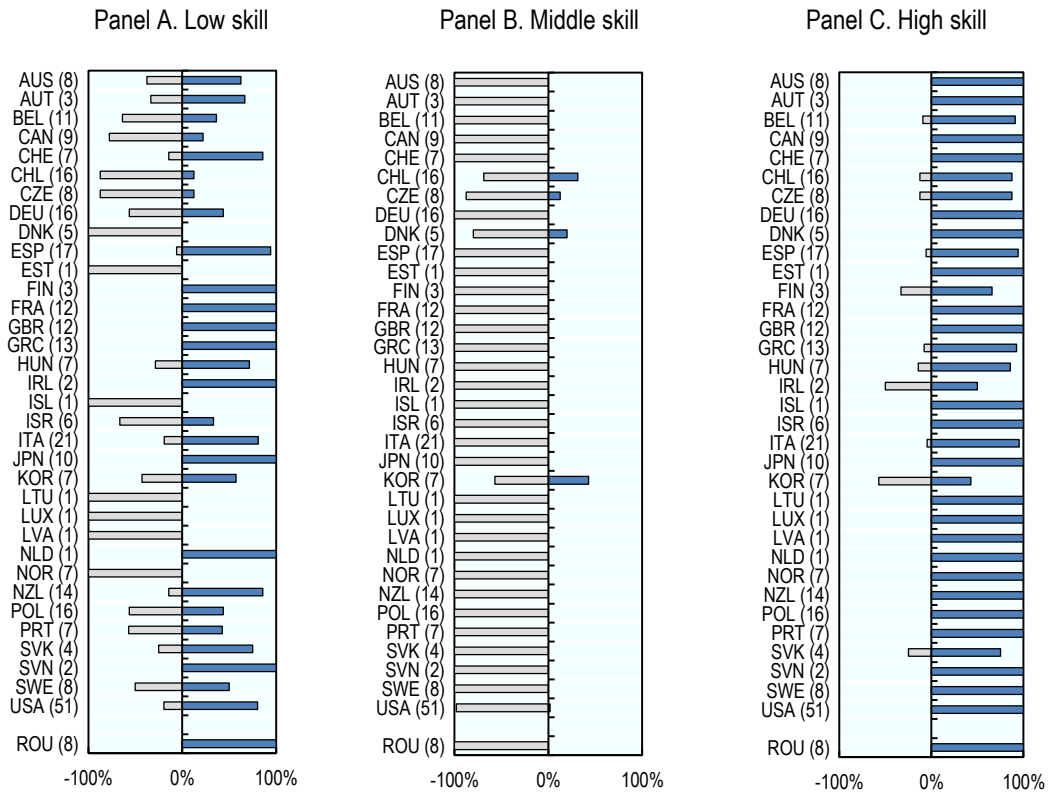
[13] For the purposes of PISA, rural schools are considered those located in rural areas or villages with fewer than 3 000 inhabitants, while urban schools are located in cities with 100 000 inhabitants or more.

Annex 2.A. Job polarisation

Additional Figures

Annex Figure 2.A.1. The share of middle-skill jobs has decreased in most regions in the OECD

Percent of regions in the country with decreases/increases in share of low-, middle- and high-skill jobs, TL2, 2000-18 or closest years available

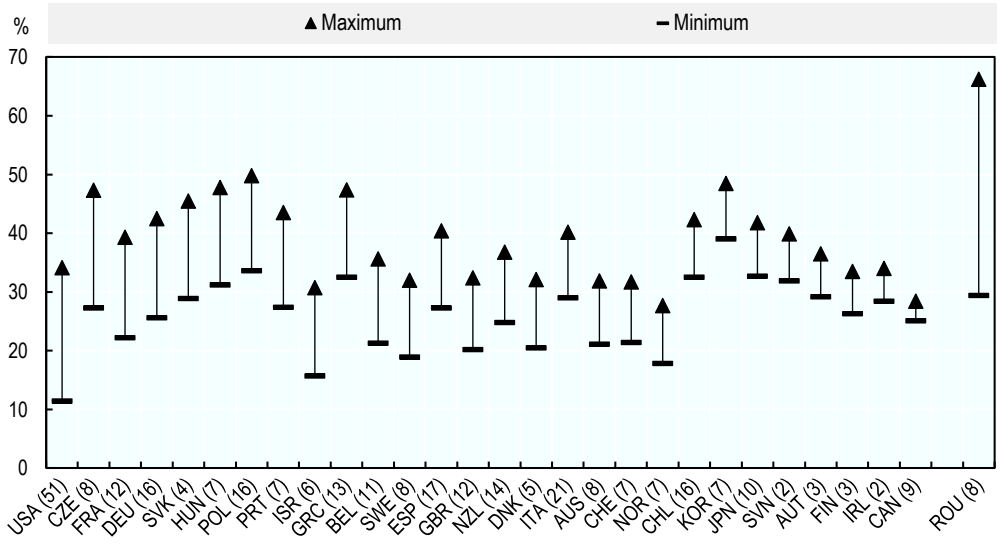


Note: The number in parenthesis shows the number of regions included in the analysis for each country. Åland (Finland), Ceuta and Melilla (Spain), and Canadian territories as well as Prince Edward Island are not included. For France, only the regions in France *métropolitaine*, with the exception of Corsica, are included.

Source: OECD calculations on Labour Force Survey for EU countries, Canada, Chile, Israel, Japan and Korea; Census for Australia and New Zealand; Occupational Employment Statistics (OES) Survey for the US.

Annex Figure 2.A.2. Regional variation in the share of middle-skill jobs, 2018

Share of middle-skill jobs (%), TL2, 2018 or closest year available



Note: The year for Australia is 2016 and for, Chile 2019. Åland (Finland), Ceuta and Melilla (Spain), and Canadian territories as well as Prince Edward Island are not included. For France, only the regions in France *métropolitaine*, with the exception of Corsica, are included.
Source: OECD calculations on Labour Force Survey for EU countries, Canada, Chile, Israel, Japan and Korea; Census for Australia and New Zealand; Occupational Employment Statistics (OES) Survey for the US.

Annex Table 2.A.1. Unpacking polarisation, upskilling and downskilling by region

	Polarising (share of middle-skilled jobs decreasing)		Not polarizing (share of middle-skilled jobs increasing)	
	Upskilling (growth in share of high-skill jobs outpaced low-skill jobs)	**Downskilling** (growth in share of low-skill jobs outpaced high-skill jobs)	**Upskilling** (share of high-skill jobs increasing more/decreaing less than the share of low-skill jobs)	**Downskilling** (share of low-skill jobs increasing more/decreaing less than the share of high-skill jobs)
Australia	8 (100.0%)	-	-	-
Austria	3 (100.0%)	-	-	-
Belgium	10 (90.9%)	1 (9.1%)	-	-
Canada	9 (100.0%)	-	-	-
Chile	9 (56.3%)	2 (12.5%)	5 (31.3%)	-
Czech Republic	6 (75.0%)	1 (12.5%)	1 (12.5%)	-
Denmark	4 (80.0%)	-	1 (20%)	-
Finland	-	3 (100.0%)	-	-
France	12 (100.0%)	-	-	-
Germany	15 (93.8%)	1 (6.3%)	-	-
Greece	3 (23.1%)	10 (76.9%)	-	-
Hungary	5 (71.4%)	2 (28.6%)	-	-
Ireland	1 (50.0%)	1 (50.0%)	-	-
Israel	6 (100%)	-	-	-
Italy	17 (81.0%)	4 (19.0)	-	-
Japan	-	10 (100.0%)	-	-
Korea	3 (42.9%)	1 (14.3%)	1 (14.3%)	2 (28.6%)
New Zealand	16 (100%)	-	-	-
Norway	7 (100%)	-	-	-
Poland	16 (100%)	-	-	-
Portugal	7 (100%)	-	-	-
Slovak Republic	2 (50.0%)	2 (50.0%)	-	-
Slovenia	2 (100%)	-	-	-
Spain	12 (70.6%)	5 (29.4%)	-	-
Sweden	8 (100%)	-	-	-
Switzerland	7 (100%)	-	-	-
United Kingdom	10 (83.7%)	2 (16.7%)	-	-
Unites States	47 (92.2%)	3 (5.9%)	1 (2.0 %)	-
Romania	4 (50.0%)	4 (50.0%)	-	-

Note: For most countries, the years of analysis are 2000-2018. For Australia it is 2006-16, for Canada 2011-18, for Chile 2010-19, for Germany 2002-18, for Denmark 2007-18, for Israel 2003-18, for Japan 2009-18, for Korea 2011-18, for New Zealand 2006-13 and for Switzerland 2001-18. Åland (Finland), Ceuta and Melilla (Spain), and Canadian territories as well as Prince Edward Island are not included. For France, only the regions in France *métropolitaine*, with the exception of Corsica, are included.
Source: Labour Force Survey for EU countries, Chile, Israel, Japan and Korea; Census for Australia, Canada and New Zealand; Occupational Employment Statistics (OES) Survey for the US.

3 Local actions for recovery and rebuilding better

Governments at all levels have taken unprecedented actions to contain the spread of COVID-19 and mitigate the potentially devastating financial impacts on people and firms. As emergency supports wind down and the recovery and rebuilding phase revs up, “going local” will become even more important. The challenges and opportunities facing local economies will become more differentiated, and local actors are often responsible for the types of policies that can help firms, workers and communities transition to the new normal (e.g. active labour market, skills, and economic development policies). The scale of local job losses and unemployment will be daunting. However, if designed strategically, the policies and stimulus packages put in place can help move local communities towards a more inclusive, sustainable and resilient future, in line with the Sustainable Development Goals.

In Brief

Governments at all levels have taken unprecedented actions to contain the spread of COVID-19 and mitigate the potentially devastating financial impacts on people and firms. While most of the large-scale emergency measures to date have been uniform and national in scope, local and regional actors also play an important role. They often implemented emergency support policies on behalf of national governments, complemented them with local actions to fill gaps for specific sectors or populations, and helped local workers and firms navigate the sometimes complex patchwork of schemes.

As these emergency supports wind down and the recovery and rebuilding phase revs up, local actions will become even more important. Regional and local governments often play a leadership role in delivering relevant employment, skills and economic development policies. For example, in almost half of OECD countries with available data, local and regional governments are wholly or partially responsible for implementing active labour market policies. They are also best positioned to coordinate across these policy areas. For example, based on their understanding of local labour market dynamics, they can coordinate with employers to identify and deliver the types of "top up" trainings needed to help displaced workers transition quickly to new opportunities, or coordinate local wrap-around services for the most disadvantaged job seekers. Often this type of coordination is based on the types of personal connections between service providers that are strongest at the local level.

However, regional and local governments will face significant budgetary pressures as unemployment rises and more people become reliant on social safety nets. On average across the OECD, subnational governments are responsible for 14% of spending on social protection, with considerable variation across countries. Increases in spending could have important financial consequences. At the same time, subnational revenues could shrink, particularly where subnational governments rely heavily on cyclical revenue sources, such as taxes and fees. In nearly half of OECD countries, 50% or more of subnational public budgets rely on such sources. Without concerted action, this paradox could derail rebuilding efforts in the hardest hit places, contributing to a downward spiral that is hard to escape.

In the recovery phase, as emergency supports such as broad short-time work schemes are phased out, complementary supports to help firms and workers adapt to the "new normal" will become more important. Recommendations for local action include

- ***Strengthen local employment and training systems to manage the additional pressures***
  - Upgrade frontline public employment service capacities and virtual services, to help places hardest hit in the short term and support broader economic transitions in places facing longer-term challenges
  - Target active labour market policies to both individual and community characteristics, and ensure accountability mechanisms take local conditions into account
  - Adapt local training provision in light of increased demands, system constraints, and local needs
- ***Prevent disadvantage from becoming entrenched for young people, the low-skilled, and women***
  - Expand outreach to hard-to-reach populations, including through partnerships with local community organisations

- Intervene early to prevent longer-term labour market disengagement
- Address other barriers to employment through local coordination of wrap-around services

- ***Work with sectors facing prolonged drops in demand, and address the negative spillovers for local economies more generally***
  - Consider complementary measures for the hardest hit places as broad national schemes are rolled back
  - Support firms in implementing social distancing, including through adaptations to the local built environment
  - Fill gaps for local sectors and populations not well covered by national schemes

In the longer-term rebuilding, COVID has opened a window to rethink local development approaches, and re-orient local economies away from unsustainable development pathways. However, there is a risk that the imperative to create jobs in the short term could overshadow longer-term concerns around sustainability, inclusiveness, and resilience. Additionally, an accelerated digital transition will create difficult periods of transition for some people and places, requiring redeploying and reskilling local workforces at a large scale. Recommendations include

- ***Seize the window to rethink local development approaches***
  - Bring diverse stakeholders together to develop a shared vision for the future of local economies
  - Use new sources of local employment and economic development data to set visions and make course corrections along the way
  - Valorise the role of the social economy, and expand social innovation to address local needs
  - Re-evaluate local strengths and weaknesses in light of changing residential and consumer preferences
- ***Focus on creating good jobs, not just any jobs***
  - Evaluate local job creation measures against economic, social and environmental criteria
  - Support firms in upgrading local job quality and productivity, particularly SMEs
- ***Support firms, people and places through an accelerated digital transition***
  - Identify and build skills that can help local economies continue to transition to the future of work
  - Integrate the use of teleworking by firms into local development strategies
  - Upgrade digital infrastructure, particularly in rural areas

As we move from resistance to recovery to rebuilding, "going local" will become even more important

While the economic impact of the COVID-19 shock has hit regions and cities differently, most of the large-scale emergency measures to date have been uniform and national in scope. In this initial phase, the focus was on securing lives and livelihoods, with policies that could be rolled out as quickly and broadly as possible. Accordingly, nationwide, uniform policies to support workers and firms made sense – they ensured equity across places so were easier to build a political case for, were more straightforward to implement, and aligned with nationwide containment measures that froze economic activity across territories. Even at this stage, however, local and regional actors played an important role in the policy response. They often implemented these policies on behalf of national governments, complemented them with local actions to fill gaps for specific sectors or populations, and helped local workers and firms navigate the often complex patchwork of schemes.

As emergency supports wind down and the recovery and rebuilding phase revs up, local actions will become increasingly important. As discussed in Chapter 1, the challenges facing local economies are becoming more differentiated, with the recovery likely to take hold more quickly in some places than others. New opportunities have also emerged for some places, as COVID-19 has opened a window to address unsustainable development models (e.g. a local overreliance on a single sector or large employer). As the policy response transitions from financial supports to helping workers and firms adapt to the new reality, the types of policies that subnational governments are often responsible for will become more important (e.g. active labour market, skills, and economic development policies). Likewise, local actors have an important role to play in shoring up safety nets as the risk of deprivation increases. Finally, past experience has shown that even as national economies turn around, some regions and cities could get stuck in a downward spiral, emphasising the importance of targeted local responses.

Local challenges and opportunities are becoming more differentiated

In the recovery and rebuilding phase, it will no longer be about just managing the impacts of largely frozen economies across territories. The challenges are more nuanced and differentiated. For example, large cities have many high-skilled workers whose jobs are relatively secure and can be done remotely, but also many low-skilled workers in face-to-face service jobs at risk. Tourism-dependent regions are grappling with visitor numbers that have slowed to a trickle and that are unlikely to rebound soon. Some second-tier cities are facing the closure of or layoffs at large local employers, and will have to manage the ripple effects that will have across the entire local economy. As the spread of the virus evolves, both precautionary measures taken by individuals and geographically-targeted containment measures in "hot spots" will have differing impacts within countries. As some places are moving towards the recovery phase, others may be moving back to resisting.

The opportunities will also differ, as COVID-19 has created a once in a generation opportunity to address risky local growth patterns. In "good" times, diversifying away from sectors such as large-scale tourism or carbon-intensive industries can be politically challenging, as they are important sources of local jobs and incomes. This crisis could create an opening to have these tough conversations, and take the steps needed to diversify local economies (see Box 3.1 for examples of places already rethinking their relationship with tourism). It has also sparked a new understanding of the interconnections between economic development and public health, potentially opening the door to more holistic approaches local development.

Box 3.1. Rethinking large-scale tourism at the local level

Even prior to the COVID-19 outbreak, there were growing concerns about the negative side effects of large-scale tourism in popular destinations. High volumes of tourists were putting significant pressure on infrastructure, the environment, societies, and local communities. An overdependence on tourism income can crowd out other types of economic activity and make local economies more vulnerable to shocks (OECD, 2020[1]). Already in 2019, the Netherlands introduced the Perspective 2030 Strategy to help manage overcrowding around Amsterdam and shift from promoting visitation to managing visitors. Likewise, Dubrovnik's "Respect the City" project aimed to address the challenges of large-scale tourism, and position Dubrovnik as the leader in sustainable and responsible tourism in the Mediterranean.

Other cities are now also revisiting their tourism models given the rapid collapse of international tourism. For example, as part of its Recovery Plan, the Region of Veneto plans to leverage lesser known UNESCO heritage sites, to shift volumes from Venice to different attractions. Florence aims to recover 30% of tourism by the end of the year, but without relying on large-scale tourism. Through its Rinasce Firenze plan (Florence Reborn), it has banned tourist buses from entering the city centre. In the long term, buses will have to stop at the periphery of the city. The plan foresees reinvesting in the centre with an aim towards local uses for residents and businesses, including not issuing new licenses for hotels and restaurants.

Source: OECD (2020[1]); OECD (2020[2]); and OECD (2020[3]).

Local actors are responsible for many policies to help workers and firms transition to the new normal, and for shoring up social safety nets

In general, subnational governments have taken on increasing responsibilities in OECD countries over the past several decades. In two-thirds of OECD countries, the share of public spending undertaken by subnational governments (measured both in terms of share of GDP and share of total public spending) grew between 1995 and 2016 (OECD, 2019[4]). Likewise, regional authority (as measured by the Regional Authority Index) increased in 52 out of 81 countries between 1950 and 2010, and only decreased in 9 (Hooghe et al., 2016[5]). In a number of countries, labour market and skills policies specifically have undergone important governance and decentralisation reforms (see Box 3.2). There has also been a general trend of decentralisation in education policies, with local authorities, school boards and schools having increasing independence (Burns and Köster, 2016[6]).

Box 3.2. Subnational governments are taking increasing responsibility for labour market and skills policies in a number of countries

In many OECD countries, governance or financing reforms have given subnational governments new or expanded responsibilities for labour market and skills policies. Examples include the following:

- In 2013, **Colombia** introduced a new system to coordinate an expanded public employment service network consisting of national, provincial, municipal, private, and non-profit employment service providers. Prior to this, responsibility for providing free, public employment services primarily rested with the *Servicio Nacional de Aprendizaje*, a national agency primarily responsible for vocational training (Avila, 2017[7]).
- Beginning in 2005 in **Germany**, responsibilities for Job Centres, which provide services to the long-term unemployed and those with very low labour incomes, began to be decentralised to local authorities on an asymmetric basis (Mergele and Weber, 2020[8]).
- In **Canada**, Labour Market Development Agreements (LMDAs) provide over CAD 2 billion to provinces and territories to support Canadians with Employment Insurance-funded skills training and employment assistance. The 2017 budget announced an additional CAD 1.8 billion over 6 years for these agreements, and expanded eligibility requirements (Government of Canada, 2020[9]).
- In **France**, governance reforms have given regions new competences for vocational education and training policies in recent years, for example related to career guidance through the *Service public régional de l'orientations* (Régions de France, 2020[10]).
- In the **United Kingdom**, a range of skills policies, programmes and finance have been decentralised to cities, notably through City Deals (to cities), Growth Deals (to Local Enterprise Partnerships) and Devolution Deals (to combined authorities at the city-region level) (OECD, 2020[11]).
- In **Ireland,** 17 Regional Education and Training Boards, which were established as part of government reforms in 2013. These boards are statutory authorities that manage and operate second-level schools, further education colleges, multi-faith community national schools and a range of adult and further education centres delivering education and training programmes (ETBI, 2020[12]).

Source: Avila (2017[7]); ETBI (2020[12]); Government of Canada (2020[9]); Mergele and Weber (2020[8]); OECD (2020[11]); and Régions de France (2020[10]).

As a result, many local and regional governments are responsible for the types of policies that will be important for "rebuilding better". In addition to general competences for local development, local or regional governments are fully or partially responsible for the management of active labour market policies (ALMP) in almost half of OECD countries (see Box 3.3). They also have an important role to play in adult skills policies in many countries (see Box 3.4).

Local actors are also best positioned to coordinate across related policies. For example, based on their understanding of local labour market dynamics, they can help identify and deliver the types of "top up" trainings needed to help displaced workers transition quickly from growing to shrinking local sectors. Partnerships between local economic development agencies and training institutions can help local SMEs to secure financial resources and expertise to integrate new technologies into production processes, and upgrade the complementary skills of their workforces.

Box 3.3. The role of local and regional actors in delivering active labour market policies (ALMPs)

In many federal and quasi-federal countries, as well as a number of other countries, subnational governments have particularly important roles to play in delivering ALMPs. In Belgium, Canada, Mexico, Spain, Switzerland, and the United States, the delivery of ALMPs is decentralised to regional/state governments. Likewise, in Italy, regions are responsible for steering the local employment offices (*centri per l'impiego*), which provide employment services alongside accredited, private providers. The Ministry of Labour and Social Policy consults with the State-Regions Conference to develop three-year strategies, yearly objectives, and minimum service levels. In Denmark and Chile, municipalities are responsible for ALMPs, while in Poland, county (*powiat*) governments are responsible. In the Netherlands and Germany[1], different levels of government are responsible for clients on unemployment insurance versus other types of social assistance benefits.

In other countries (e.g., Estonia, Finland, Hungary, Japan, Latvia, Lithuania, Luxembourg, Portugal[2], Slovenia, Sweden, and Turkey), ALMPs are mainly managed through regional and local offices of national ministries or agencies. Australia and Colombia take somewhat unique approaches. Australia's national system is fully outsourced to private providers, while Colombia operates a network that is a mix of public, private and non-profit providers.

Typically, most funding for ALMPs comes from national sources – either public budgets or specific unemployment funds financed via employer and employee contributions. In countries where the management and delivery of ALMPs is decentralised, these funds are dispersed to subnational actors through various types of grant and reimbursement schemes (e.g. in Labour Market Agreements in Canada, block grants to municipalities in Denmark, earmarked grants for Canton regional employment centres and programmes for the unemployed at the regional level in Switzerland). Some countries, such as the United States and Poland, use performance-based systems to distribute funding to subnational governments. In many EU countries, European Social Funds also play an important role in ALMP funding.

In some countries, regional and local governments also fund some aspects of ALMPs. For example, Mexico has a matching grant system, called "Stimulus to the state contribution". For each peso that the governments of the federal entities assign to the Program of Support for Employment, the Secretariat of Labor and Social Welfare allocates an equal amount. In Spain, ALMPs are funded by the State Public Employment Service's budget, via transfers to the regional public employment services, and through the budgets of the Autonomous Communities. The distribution of funds is agreed annually at the Sectoral Conference on Employment and Labour Matters – comprising both the Central Government and the Autonomous Communities – taking into account the outcomes and indicators of the previous year's Annual Labour Policy Plan. In Australia, most ALMPs are nationally funded, although some states and territories have their own additional labour market programs, such as the Jobs Victoria Employment Network (JVEN). Likewise, in Japan some prefectures operate their own labour market programmes. In Korea, some local governments also operate their own local job centres that aim to help both workers and firms with human resources needs and training.

Source: OECD (forthcoming[13])

Regardless of what level of government is responsible, being able to adapt policies and programmes to local conditions can help create the enabling conditions for local job creation (Froy and Giguère, 2010[14]). Some decentralised systems actually offer limited strategic flexibility to subnational governments, leaving little room for local decisions in designing policies and programmes, managing budgets, setting performance targets, deciding on eligibility, and outsourcing services in response to local

conditions. On the other hand, local offices of national ministries or agencies can actually have considerable leeway to tailor programmes and target groups at the local level (Giguère and Froy, 2009[15]).[3]

Even policies that are nationally uniform in design can have different impacts across places. For example, standard national income support schemes will have differential impacts across places depending on local cost of living, while research suggests that rigid employment regulations have larger detrimental effects in lagging regions (D'Costa, Garcilazo and Oliveira Martins, 2019[16]). Other evidence suggests that national spending has a different "bang for buck" across places, and that national resources can more effectively reduce the share of adults not working in places with higher inactivity rates (Austin, Glaeser and Summers, 2018[17]). Over the medium and long term, fiscal strain will require even more strategic approaches to tailoring national investments to complement local approaches and promote recovery in all places.

Box 3.4. Local actors in adult skills policies

Skills policies are governed by a complex set of actors, often involving several ministries, levels of government, as well as social partners (i.e. employer associations and unions). Education and training providers, which can include public, private and/or non-profit organisations, as well as individual learners and employers also have varying degrees of influence over the how skills policies are designed and delivery across countries (OECD, 2016[18]). Adult skills policies can also encompass many different types of training, from short-term training for the unemployed to employer-subsidised training to longer-term courses leading to certificates, with different governance structures for each.

Within these complex systems, subnational governments often play an important role. For example, in Australia, Belgium, Canada, Italy, Mexico, Spain, and Switzerland, regional/state governments have specific responsibilities for adult skills. In Canada, for example, provinces and territories have the constitutional responsibility to set learning policies for their jurisdiction. In Spain, the national government has the power to establish legal precepts in matters of employment (including vocational training for employment), while the Autonomous Communities exercise executive functions (e.g. decision-making, programming, management, evaluation, monitoring and control of active labour market policies, including vocational training for employment). In Switzerland, adult learning and skills policies are designed in collaboration between the Confederation, cantons and professional organisations. In the United States, states take the lead on managing the community college system, an important institution for adult skills training. Within states, the governance systems can vary considerably (Fletcher and Friedel, 2017[19]).

In other countries, local governments play a particularly important role. For example, Swedish municipalities are responsible for offering and organising municipal adult education both at basic and upper secondary level (including VET) and for outreach to local adults who have the right to participate in the basic education. In Slovenia, municipalities own the premises of Adult Education Centres, can fund adult-learning activities, and are required by law to develop annual plans for adult learning (OECD, 2018[20]). In England, United Kingdom, approximately 50% of the Adult Education Budget (AEB) has been devolved to six Mayoral Combined Authorities and the Greater London Authority. The other 50% is administered nationally by the Education and Skills Funding Agency. In other countries, regional or local education authorities oversee adult skills policies, as is the case with Ireland's Education and Training Boards.

Source: Fletcher and Friedel (2017[19]); OECD (forthcoming[13]); OECD (2018[20]); and OECD, (2016[18]).

Pressure on social safety nets will likely increase, as COVID-19, the general downturn, and an accelerated digital transition could further entrench disadvantage. In addition to the 12% of people in the OECD on average already living in relative income poverty (OECD, 2020[21]), more than one in three people do not have enough financial assets to keep their family above the poverty line for more than three months, should their income suddenly stop (Balestra and Tonkin, 2018[22]). Evidence also suggests that COVID-19 has exacerbated other social challenges, such as mental health problems and domestic violence, homelessness or other housing challenges could increase as temporary support measures are phased out.

Subnational governments, along with other local stakeholders such as social economy organisations, make up an important part of the social safety net. In a number of countries, local or regional authorities or institutions are fully or partially responsible for unemployment assistance or other social assistance benefits, such as benefits for the long-term unemployed or those who do not qualify for contributory schemes. This is the case, for example, in Belgium, Denmark, Germany, Hungary, Latvia, Sweden, and Switzerland[4] for different types of benefits. On average across the OECD, subnational governments are responsible for 14% of spending on social protection, with considerable variation across countries (OECD, 2020[23]).

Even in countries where subnational governments are not responsible for large parts of social benefits directly, it often falls on the shoulders of local actors to support those in the most precarious situations via emergency housing, material assistance such as food banks, health and mental health support, etc. Subnational governments are responsible for 76% of public spending in housing and community affairs, and 25% of health spending on average across the OECD (OECD, 2020[23]). Accordingly, as the economic crisis persists, the demands – and budgetary pressures – on many subnational governments could grow.

Even as national economies turn around, some regions and cities could get stuck in a downward spiral

Even when national economies start to bounce back, there is no guarantee that the recovery will reach all places. Research in the United States over the past five recessions suggests that employment and wages have stayed depressed for over a decade in the hardest hit places (Hershbein and Stuart, 2020[24]).

Budget challenges at the subnational level could contribute to these divergence. Indeed, a looming budget crisis is on the horizon for many subnational governments (OECD, 2020[23]). The situation could be especially problematic in countries where subnational governments are highly dependent on more cyclical revenue sources, such as taxes, user charges, fees and income from assets (see Figure 3.1). In almost half of OECD countries with available data, half of subnational revenues comes from these sources, and in three countries (United States, Switzerland and Iceland), more than three-quarters does. This could mirror the situation following the 2008 crisis, when the combination of higher expenditures and reduced revenues resulted in subnational government deficits in many countries. Eventually, even subnational governments reliant on transfers from central governments may see reductions, as public revenues shrink more generally. Additionally, shrinking subnational budgets could lead to reduced public sector employment, an important source of jobs for many local economies.

Figure 3.1. In almost half of OECD countries, more than 50% of subnational revenue comes from sources that could take direct hits as a result of COVID-19

Structure of subnational government revenue, 2018 (%)

Note: WA refers to the weighted average and UWA to the unweighted average.
Source: OECD (2020[25]), *Subnational governments in OECD countries: Key data*.

A vicious cycle could open up in the places where both revenues and spending are deeply impacted. Should subnational governments seek to balance budgets by cutting spending in other areas – such as infrastructure and public services – the degradation in the local quality of life could make it hard to attract new residents and businesses in the short term. Over the longer-term, it could also affect intergenerational education and labour market outcomes.

Resisting: softening the initial shock

All levels of government, as well as the social economy and private sector, mobilised to protect lives and livelihoods during the initial outbreak of COVID-19. The first order priority was containing the spread of the virus, which required essentially freezing large parts of the economy. Accordingly, the focus of most economic and labour market policies was avoiding potentially devastating financial consequences for firms, including SMEs, and workers (see Box 3.5 for an overview of the types of national emergency policy responses that countries put in place).

Most of the large-scale economic and labour market policy responses were national, but local and regional actors also played an important role (OECD, 2020[23]). Notably, where they had relevant competences, they

- Implemented schemes to support workers and firms on behalf of national governments;

- Complemented these schemes with specific supports for locally important sectors or for firms and workers not well covered by other schemes;
- Helped workers and firms navigate the often complex patchwork of supports available via online and telephone support;
- Connected people with jobs and training opportunities that were available (even if limited); and
- Helped ensure the continuity of essential services and supports for the most vulnerable, often in cooperation with the social economy.[5]

At the time of this publication, we are still learning about what local and national actions were most effective in both the public health and economic response during this initial stage. As a number of countries, particularly in Europe, are re-introducing strict nationwide containment measures in the face of a second wave of the virus, integrating learnings from this first wave of the policy response will be important. There is an opportunity to exploit the variations in containment measures across cities, regions and communities at different stages of fighting the virus to learn about what types of policies were most effective.

Box 3.5. Overview of policies to soften the initial shock for workers and firms

Labour market policies

Countries took a number of different approaches to supporting workers through the COVID-19 shock. A large number of OECD countries put in place **job retention schemes** (i.e. short-time work schemes or temporary layoff schemes, and/or suspension of worker dismissals for economic reasons). Short-time work or temporary layoff schemes are effective in preserving existing jobs in the short term, and may help the economy rebound more when strict containment measures are lifted and demand begins to recover. However, they are less efficient at supporting the reallocation of workers to jobs and industries that are more viable over the medium term, should social distancing measures require longer-term business closures and demand recover more slowly.

Many countries also **expanded unemployment insurance and assistance**, in terms of rates and/or eligibility requirements. Such schemes may be more efficient at supporting worker reallocation over the medium term, but may result in additional social hardships where wage replacements rates are low or where health insurance or pension insurance is linked to employment.

Countries have also adjusted **other types of labour market policies**, such as expanding or extending sick leave coverage or temporarily suspending job search requirements for unemployment insurance.

Support for SMEs

Given their particular vulnerabilities during this crisis, governments have also put in place a wide range of measures to support SMEs in weathering the shock. These include measures to **defer payments** to avoid further liquidity challenges. Most commonly, this includes deferral of corporate and income tax payments, but also includes deferral of social security, debt, rent and utility payments in some countries.

Countries have also introduced a variety of **fiscal instruments** to support SMEs, including extending or simplifying the provision of loan guarantees, enhancing direct lending, and/or providing grants or subsidies.

New **structural policies** include help for SMEs to find new and alternative markets, expand teleworking and digitalisation, enhance innovation and support training and redeployment. Such policies can both help SMEs weather the short-term crisis, as well as help them prepare for longer-term structural shifts.

Other measures in some countries include specific support for start-ups as well as changes to insolvency regimes.

Specific measures for the self-employed

Supporting the self-employed can be more challenging for policy makers than SMEs more generally, as they can be difficult to identify and reach, and that they have little experience in applying for support measures or loans. The self-employed often avoid borrowing, particularly in service sectors where it will be difficult to catch up on lost sales (Welter, Wolter and Kranzusch, 2020[26]). Governments have taken two types of rapid intervention measures to support the self-employed: **finance and liquidity** and **steering self-employed businesses to new ways of working**.

In terms of **financial support**, several OECD governments have introduced temporary measures for the self-employed, including loans, tax deferrals, wage subsidies and better access to social security and unemployment supports. To help the self-employed adapt to new ways of working**, providing information and advice** in a manner accessible to them has been particularly helpful. This is often done through local governments and local branches of business organisations such as chambers of commerce.

Source: OECD, (2020[27]); OECD, (2020[28]); and Welter, Wolter and Kranzusch (2020[26]).

Recovery: smoothing transitions

Once the largest outbreaks are under control, governments will need to remain vigilant in slowing the spread of the virus while mitigating the impacts on jobs, workers and firms. Public budgets cannot absorb the widespread generalised support schemes that were necessary during the resistance phase over the long term. While such schemes were important to preserve jobs and businesses that are viable beyond the pandemic, they will need to be gradually phased out and complemented by supports to help other firms and workers adapt to the “new normal”.

Local employment and skills systems will face considerable stresses, particularly in the places hardest hit. Unemployment already skyrocketed in the spring of 2020 in a number of countries, particularly those without extensive job retention schemes. Even those countries that have managed to stave off these peaks in the short term may see increases in unemployment during the recovery phase, as more businesses close or lay off workers as a result of more prolonged drops in demand and as emergency support measures are phased out. Upgrading public employment service (PES) and training capacities will be critical to meeting these growing demands, but there are constraints. For example, training institutions and employers may be able to take on fewer trainees in light of social distancing requirements.

Disadvantage could also become more entrenched for young people, the low-skilled, and women, as they are more likely to face job losses as a result of COVID-19. Depending on national contexts, other populations may also face considerable challenges, including immigrants, ethnic minorities, and people with disabilities. Beyond providing immediate financial assistance to help bridge employment gaps, targeted actions will be needed to prevent people from dropping out of the labour force entirely and minimise the longer-term scarring effects. Local and regional actors have an important role to play in supporting these populations. They are often better positioned to identify people disconnected from mainstream service providers, and coordinate the wraparound services needed to help them successfully re-enter the workforce. Many of the lessons from the local implementation of youth guarantees in Europe during the last crisis will be relevant, particularly as policy efforts to support youth ramp up (see Box 3.6).

Finally, some sectors and firms will face ongoing challenges at this phase, including prolonged drop in demand and the need to adapt to ongoing social distancing requirements. For sectors that are highly regionally concentrated, such as tourism, there could be significant negative spillovers for local economies more generally. This implies a need for a combination of sector-specific and place-based actions. Other sectors and firms may need additional support in adapting to longer-term social distancing requirements, including actions beyond what any single firm can take, such as adapting the built environment. As described further below, local and regional actors can take important actions to help overcome these challenges**.**

Strengthen local employment and training systems to manage the additional pressures

Upgrade frontline PES capacities and virtual services to help places hardest hit in the short term and support broader economic transitions in places facing longer-term challenges

Public employment services in many countries have already increased and/or re-allocated staff to manage the influx of claims and clients. In countries where large regional differences in the number of unemployed are expected, or where public employment services are managed by regional or local governments, there could be differences in the capacity to meet these needs across places. Both human and IT capacities will need to be reinforced, particularly in places facing the largest job losses.

Local job centres and employment services have already upgraded and pivoted to online, phone-based, and virtual services in many places. This enables them to help workers and firms navigate national and local programmes, such as unemployment benefits, wage subsidy schemes, as well as emergency income support measures, while still protecting staff and clients (OECD, 2020[29]). For many, this represents a whole new way of working and interacting with clients. Going forward, finding the right balance of virtual and face-to-face services will be important to manage high caseloads while still providing more intensive, face-to-face support to those who need it.

The places facing the greatest pressures may shift over the course of the pandemic and recovery, and PES will need to adjust accordingly. Emerging evidence suggests that cities have taken the hardest hits in the short term, but patterns from previous recessions suggest they may also bounce back more quickly. Other places may have taken smaller initial hits, but may face more prolonged employment challenges, including the need to support local workers and firms through broader, local economic transitions.

Target active labour market policies to both individual and community characteristics, and ensure accountability mechanisms take local conditions into account

Given an anticipated increase in caseloads, public employment services will need to strategically target services, triaging the types and levels of support different clients receive. Client profiling as well as the use of evaluation evidence on the effectiveness of different types of ALMPs in different economic and geographic contexts can both inform this targeting. A strong grasp of local labour market conditions is particularly important: which local jobs are under stress in the short term but are likely to recover, where longer-term job losses are expected, and where there may be immediate hiring needs that align with client experience.

Accordingly, it is critical for local PES centres to have access to real-time, local demographic, industry, and occupational data. This can help them better understand how local labour markets have been hit by COVID-19, the impacts on the wider economy, as well as the composition of the unemployed themselves. Likewise, this type of data should be taken into account in designing performance management systems to ensure that accountability mechanisms are well-tailored to local conditions.

However, the degree to which local conditions are taken into account in targeting and evaluating ALMPs varies. For example, many countries use statistical profiling tools to target services to clients, but only some consider regional labour market opportunities as one of the inputs into their model (e.g. Austria, Ireland, Italy, Latvia, Sweden and the United States) (Desiere, Langenbucher and Struyven, 2019[30]). This suggests there is further room to take local economic conditions into account.

Adapt local training provision in light of increased demand, system constraints, and local needs

Local training systems will likely face considerable short-term stresses. There may be a spike in demand for training from unemployed workers or from young people struggling to find an initial foothold in the labour market. On the other hand, both classroom and work-based training will have to be adapted in light of social distancing, which may require decreases in enrolment numbers. Employers also tend to take on fewer trainees during downturns (Karmel and Oliver, 2011[31]), which could further decrease places available.

A number of strategies can help meet these demands. Skills profiling can help identify the types of short top-up trainings to help unemployed people rapidly transition into new jobs. Broader efforts could be taken to identity the types of transferrable skills workers from sectors heavily impacted by COVID-19 could use in other sectors, such as people from the tourism and hospitality sectors. Likewise, digital talent exchanges can help connect companies that are hiring and workers with relevant skills but who may need additional training to enter these jobs.

Many such efforts are already underway. For example, in Sweden, cabin staff from Scandinavian Airlines who were furloughed as a result of COVID-19 and who had already undergone medical training and were accustomed to dealing with high stress situations were offered a 3.5 day training to help them support nurses and doctors (Enders, Haggstrom and Lalive, 2020[32]). In Australia, the Government has announced an AUD 62.8 million Local Jobs Program to support Australia's economic recovery from the COVID-19 pandemic. The Program will bring together expertise, resources and access to funding at the local level to focus on reskilling, upskilling and employment pathways for people across 25 regions throughout Australia.

Increasing online learning can also help education and training providers reach new economies of scale and expand the types of courses on offer, particularly in remote or rural areas. Education and training providers have already rapidly adapted in the face of COVID-19 – from moving to online and virtual trainings where possible to adjusting work-based learning and assessment regimes (OECD, 2020[33]). However, attention will still be needed to ensure that learners are steered towards courses and curriculum that are relevant to local demands, such as through career guidance or financial incentives to undertake training in locally in-demand fields. Some parts of the population, such as low-wage or older workers, may lack the digital skills to access these trainings, and may need more face-to-face support to successfully complete trainings (OECD, 2020[34]). New forms of learning, such as augmented or virtual reality, can also offer potential as a middle ground between virtual and face-to-face delivery. Ongoing professional development for teachers and trainers, as well as upgrades to IT systems, will also be needed to ensure that online learning offers the same quality of instruction as traditional settings.

One of the lessons from the global financial crisis was that apprenticeships are often effective in smoothing the transition to work. Those countries that maintained a lower youth unemployment rate in the years following the crisis were countries with a strong tradition of apprenticeship training, such as Austria, Germany, and Switzerland. However, COVID-19 restricts the ability of apprentices to be physically at work and complete the hands-on portion of their training. Furthermore, as job losses have mounted, many firms are cutting their apprentices numbers.

Finding alternatives for young people who would have traditionally pursued work-based learning or finding new ways to incentivise employers to take on trainees will be important. Many countries have already started adapting, including wage support to firms to retain apprentices, or adjusting programme curriculum to reflect on-going realities. For example, in the United Kingdom, employers are being offered GBP 2 000 for each new apprentice they hire aged under 25, and GBP 1 500 for each new apprentice aged 25 and over.[6] This includes taking on an apprentice who has been made redundant. Employers who want to take advantage of the offer can apply through a digital apprenticeship service. In the state of Victoria, Australia, the government has recently established a register of retrenched apprentices and trainees and is actively working with affected apprentices and trainees to sign them up for training, as well as place them with appropriate employers.[7]

Prevent disadvantage from becoming entrenched for young people, the low-skilled, and women

Expand outreach to hard-to-reach populations, including through partnerships with local community organisations

Proactive outreach, including partnering with other local organisations with well-established connections in such communities, will be needed to reach the most disconnected. While some members of these groups will already be on the radar of local employment service providers, more active outreach may be needed to reach other members of these groups. For example, young people that lost their jobs as a result of COVID-19 and who are registered as unemployed may be easier to reach, but young people who are not registered as unemployed, nor enrolled in education and training, may be less easily identifiable. Likewise, people in informal employment pre-COVID-19 may not be on the radar of any employment or social service provider. As discussed in Box 3.6, local partnerships with organisations that have access to such communities, including schools in the case of young people, has been important in the success of many youth guarantee programmes in Europe. For example, in Denmark, municipal Youth Guidance Centres (UUs) follow young people until they reach the age of 25 and schools must inform them about young people dropping out of schools. Social economy organisations can also play a role, as they are often well known and trusted organisations in disadvantaged communities.

Intervene early to prevent longer-term labour market disengagement

Intervening early in an unemployment spell is crucial, as the longer someone is unemployed or out of the labour force, the harder it is to re-engage them. Employment services can work closely with local employers to be proactive in supporting jobseekers when business closures or large lay-offs are expected, an approach that practitioners have found particularly effective for supporting dislocated workers (OECD, 2018[35]). For young people, partnerships across local organisations can support a “pathways” approach, where young people are followed from education and training through finding a job, to sustaining employment. Particularly in communities experiencing significant job losses, finding means to keep the unemployed engaged when prospects for immediate re-employment are slim will be important, such as supported employment programmes or training.

Address other barriers to employment (childcare, mental health challenges, transportation) through local coordination of wrap around services

These populations may face additional barriers that impede employment, **requiring interventions outside of traditional employment and skills policies**. For example, women are not only disproportionately represented in the sectors most impacted by COVID-19, but also bare more of the burden for balancing work and childcare (OECD, 2020[36]). Expanding the availability of safe and accessible childcare will be an important component of ensuring that COVID-19 does not deepen gender divides in

employment. COVID-19 has also exacerbated mental health problems for many, which can affect employment prospects (United Nations, 2020[37]). Already, pre-COVID-19, people with mild-to-moderate mental illness were twice as likely to be unemployed, while people with severe disorders were, in many countries, four or five times as likely to be jobless (OECD, 2015[38]). Therefore, integrating mental health supports into re-employment supports may be important. Other social issues are also becoming more prevalent: evidence suggests that domestic violence has also increased as a result of COVID-19, while homelessness may also spike when eviction moratoriums are lifted.

Box 3.6. Youth guarantees: learning from local experiences

Youth guarantees have been used by a number of OECD countries since the early 1980s to combat youth unemployment and foster school-to-work transitions. They received renewed interest in Europe following the 2008 crisis and the rising rates of youth unemployment. In 2013, all EU countries committed to ensuring that all young people under the age of 25 receive a good quality offer of employment, continued education, apprenticeship or traineeship within four months of becoming unemployed or leaving formal education. These commitments were supported through the Youth Employment Initiative, which provided EUR 9 billion to support the implementation of Youth Guarantees, particularly in regions where youth unemployment was over 25%. Based on case studies of similar programmes in 15 regions in 8 countries, the OECD identified a number of lessons and recommendations to inform the further development of youth guarantees.

- **Giving local areas flexibility to tailor national programmes to local contexts**. For example, a "work-first" activation focus may not always deliver the most sustainable results when there are only poor quality jobs with no progression prospects available in the community and/or individuals have significant skills deficits. Additionally, effective coordination with partners requires that local level actors have the flexibility to adjust programmes, targets, etc. as needed. Flexibility in programme delivery at the individual level is also important, as there is no "one size fits all" approach to working with youth.
- **Deepening and broadening local partnerships**. Holistic approaches that follow young people from education/training, to finding employment, to sustaining employment are more effective than single shot interventions. This type of "pathways" approach requires the coordination of schools, training institutions, public employment services, employers, etc. to ensure that services are aligned and that young people are guided from one stage to the next. Having the data to identify the young people in need of services is a prerequisite for this coordinated approach, but requires trusting relationships between partners to share often sensitive data.
- **Allowing for sufficient human and financial resources.** Lighter touch services appeared to do little for the youth most at risk of long-term labour market exclusion; the type of support they need is more intensive. Public employment service (PES) staff need small caseloads to work closely with such youth, and adequate budgets to get them the services and supports they need to be set up for labour market success (training, wage subsidies, etc.).
- **Ensuring both early and follow-up interventions.** Early intervention is critical to success, and local providers use a variety of methods. Joint work with schools varies from providing information sessions in the classroom to more intensive actions where the PES offers individual sessions to prepare young people well ahead of the actual recruitment sessions. However, intervening within the desired four-month window is particularly difficult in large cities where PES caseloads are generally higher and where personal advisers need time to build a good rapport with their clients. Follow-up support once a young person has been placed into education/training or employment is also important. Youth measures generally tend to focus on the "point of entry" and often stop once the young person has been placed into education or

employment, which can be problematic, given that labour market churning and recycling are major risks with youth activation policies (Sunley, Martin and Nativel, 2001[39]).

- **Focusing on quality of placements.** Case study participants reported that internships and work placements were not always of the highest standards. While measures are taken to ensure quality (control visits, blacklisting, etc.), it is not always possible for PES staff to systematically monitor placements. This problem could be alleviated at the national level with the creation of specific auditing teams tasked with ensuring that quality meets agreed standards. Special compliance or accreditation frameworks which reward business for people management already exist (e.g. the Investors in People award in Britain) and similar bodies could be set up to monitor youth guarantees.
- **Tackling the lack of reliable data and indicators**. Difficulties collecting data and indicators are found at both national and local level, in terms of target population, services, and outcomes. In many case study areas, no organisation had specific responsibility for identifying young people not in education, employment or training. Additionally, not all the local PES offices interviewed were able to report on the number of young people currently registered for active labour market interventions. Obtaining data on the proportion of young people directed to each option (education, training, employment, etc.) often proved even more difficult. Finally, PES staff are rarely able to report on those who obtained secure employment as a result of taking part in a youth activation scheme.

Source: Nativel (2015[40]) and Sunley, Martin and Nativel (2001[39]).

Providing wrap around support can often best be done locally. Many of the supportive services needed to address these barriers are the responsibility of local governments, from housing to health to public safety. Additionally, the delivery and timing of these services will need to be coordinated, e.g. ensuring women have access to childcare during training hours, or providing substance abuse counselling before starting re-employment supports. Effective coordination is often dependant on local relationships between different local providers, including personal connections.

Work with sectors facing prolonged drops in demand, and address the negative spillovers for local economies more generally

Consider complementary measures for the hardest hit places as broad national schemes are rolled back

As national governments roll back broad emergency supports, such as universal short-time work schemes, more differentiated supports will be needed (see OECD (2020[41]) for further discussion of the transition from emergency to medium-term supports).[8] While there has already been much discussion about how this roll back should be tailored to different sectors, less attention has been paid to how these roll backs could impact regions differently. Specific consideration is needed for how to support places that have particularly high concentrations of jobs and sectors that have been hard hit. For example, complementary measures may be needed for tourism destinations, in places where stricter social distancing or lock down measures are needed because of localised outbreaks, or places where the closure of a large employer could have important local spillovers. At the same time, attention will also be needed to ensure that these complementary measures are not designed in a way that props up jobs that are not viable over the long term, but rather act as short-term bridging measures that support the transition to growing occupations and sectors.

There is already some precedent for such actions, as some countries allow for regional tailoring of their general unemployment insurance or assistance. For example, in Canada, unemployment rates

for each of the 62 economic regions determine the qualifications, rate and length of unemployment insurance benefits. In Australia, some income support recipients living in a remote area may be eligible for the Remote Area Allowance, a fortnightly supplementary amount paid on top of their income support payment. In Germany, the reimbursement ceiling for unemployment insurance and short-time work varies slightly between eastern and western Germany due to cost of living differences.

A number of countries also have specific labour market policies targeted towards places undergoing structural transitions. In the Netherlands, for example, following the decision to phase out gas production in northern Netherlands by 2022, special labour market programmes have been put in place to support workers through this transition. In other countries, targeted programmes are initiated upon notification of large layoffs or employer restructuring, such as Job Security Councils in Sweden or the Trade Adjustment Assistance (TAA) programme in the US. Unfortunately, rigorous evaluation evidence on the impacts of such programme is sparse (OECD, 2018[35]).

Support firms in implementing social distancing, including through adaptations to the local built environment

Local governments, chambers of commerce, and business development organisations, can support firms, particularly SMEs, in adapting business models, physical infrastructure, and work organisation to social distancing. This can include some combination of financial support (e.g. grants or loans), as well as technical support and advice (e.g. to digitalise services or commerce, implement teleworking, or adapt physical workplaces). Some places have also developed new platforms to help small businesses upscale online commerce and deliveries. Such support is important both for adapting to current social distancing requirements, and in some cases, can help prepare firms for the broader digital transition.

In cases where firms cannot take unilateral actions to implement social distancing, local governments may need to adapt the built environment or planning codes to create more space for social distancing. Many cities have already done so by allowing restaurants and cafes to expand outdoor spaces on sidewalks and streets. Important efforts are also underway to expand bike paths and reconfigure public transportation to ensure that workers can commute safely (OECD, 2020[3]). In the short term, these adaptations have focused on repurposing existing infrastructure, i.e. turning parking spots into patios, closing streets to car traffic. As new investments in urban infrastructure are made, such adaptations may become more permanent design features.

Fill gaps for local sectors and populations not well-covered by national schemes

Generalised support schemes were not always well adapted for some of the sectors and related supply chains particularly hard hit by COVID-19, such as culture and creative sectors. For example, many artists and artisans pair standard employment with part-time gigs and contracts, but many self-employment schemes do not cover self-employed income that comprises less than 50% of income. Lending institutions may also be more reluctant to lend to SMEs in this sector, as they struggle to value intangible assets such as specialised skills and expertise, or reputation in specific creative communities (OECD, 2020[42]). Going forward, further attention will be needed to understand how to better reach and adapt policies to these sectors. Box 3.7 looks more in-depth at culture and creative sectors as one such example. Some cities and regions are already taking action to close these gaps. For example, the city of Seoul has created three different Emergency Support for the Arts funds, targeting artists, arts companies, planners, art educators and freelancers.

Additionally, some entrepreneurs did not benefit to the same degree from generalised, emergency support measures, putting them on unequal footing. For example, relatively more women entrepreneurs may have fallen through the cracks with respect to eligibility and access to COVID-19 relief programmes. Emerging evidence suggests that women entrepreneurs have been less likely to use direct government grants and loan programmes and are also less likely to use bank loans, which can also reduce access to public support programmes since many measures rely on pre-existing relationships with commercial lenders for speed of delivery (Facebook, OECD and World Bank, 2020[43]). In addition, some entrepreneurs, including some women and new start-ups, are ineligible for emergency support measures due to revenue thresholds and requirements related to previous tax filings. The crisis has also reduced access to paid childcare, affecting many women entrepreneurs' time availability and business continuity (OECD, 2020[44]).

Box 3.7. Supporting culture and creative sectors through the COVID-19 crisis

Cultural and creative sectors (CCS) are important in their own right in terms of their economic footprint and employment, but also spur innovation across the economy, as well as contribute to numerous other channels for positive social impact (well-being and health, education, inclusion, urban regeneration, etc.) They are sectors among the hardest hit by the pandemic, with large cities often containing the greatest share of jobs at risk. Policies to support firms and workers during the pandemic can be ill-adapted to the non-traditional business models and forms of employment in the sector. In addition to improving short-term support for artists and firms, which comes from both the public and private sector, policies can also capitalise on culture in their broader recovery packages and efforts to transform local economies.

In the short term, this implies efforts are needed to

- Ensure that public support for COVID-19 relief does not exclude CCS firms and workers due to their non-traditional business models and employment contracts
  - Consult with CCS network organisations, representatives of self-employed professionals, small cultural and creative businesses, and sectoral employer organisations to raise the efficacy of policy measures
  - Address gaps in self-employment support schemes by simplifying eligibility criteria and making them accessible to hybrid forms of employment (e.g. those that combine salaried, part-time work and run their own business as a self-employed person as well).
  - Include non-profit institutions (e.g. museums) in support programmes designed to help small businesses retain employees
- Ensure that the support to cultural organisations reaches artists and other creative professionals
- In parallel with income and business support measures, invest in cultural production to help the sector rebound after the crisis
- Consider tax incentives for corporate and individual donations to promote investments in the sector
- Encourage private and non-profit sector mobilisation in support of CCS firms and workers

In the medium and long term,

- Introduce measures for the recovery to help the self-employed and other small firms adapt to structural changes (e.g. shifts in consumer habits) and seize new opportunities, including digital tools

- Widen innovation strategies and policies to better account for the role of cultural and creative sectors
- Invest in digital infrastructure that can amplify advances in cultural and creative sectors
- Promote greater complementarities between culture and other policy sectors (e.g. education and health)
- Develop new local strategies for cultural tourism that address the socially and environmentally unsustainable practices of many large-scale or intensive tourism centres
- Use targeted cultural policies to address social issues such as intercultural dialogue or the integration and valorisation of minorities and migrants
- Support cultural and creative entrepreneurship as catalysts of new models of economic and social value creation

Source: OECD (2020[42])

Rebuilding better: orienting workers, firms and local economies towards a new normal and jobs of the future

Even once the health emergency has been resolved, our economies will not return to the pre-COVID-19 status quo. While restoring jobs, income and demand will continue be a priority, local and regional actors will also need to be strategic in using COVID-19 stimulus and policy packages to ensure that their communities come out of the crisis more resilient, inclusive and sustainable than before.

COVID-19 has opened a window to rethink local development approaches. It has exposed underlying weaknesses of existing models, such as an overreliance on large-scale tourism, while creating new opportunities for cities and regions outside of high growth centres to attract new residents. Local actors can come together to learn from this experience, reflect on the strengths and weaknesses of different development models, and chart a new path for their community's future. Innovations in how local employment and economic development data is collected and used can help set this broader vision, and serve as useful course corrections along the path to achieving it. The role of the social economy and social innovation during the emergency response has also shown that there is significant potential to better leverage these sectors for local growth and well-being more generally. Additionally, green stimulus packages and a push for more local production and consumption, as well as reduced commuting, could help further the green transition.

However, there is a risk that the imperative to create jobs in the short term could overshadow longer-term concerns around sustainability, inclusiveness, and resilience. To ensure that the large investments in job creation measures through stimulus packages contribute to both these goals, a broader range of economic, social and environmental criteria should be used to guide policy decisions. Targeted efforts will also be needed to upgrade the quality of existing jobs, particularly for essential workers.

Some of the biggest changes to jobs going forward will come as a result of accelerated automation and digitalisation. Past waves of technological change have contributed to a deepening geography of winners and losers, and there is a risk these divides could further deepen, as communities with a high share of jobs at risk struggle to adapt. As teleworking becomes a more permanent fixture of workplaces, local development strategies will also need to adapt in response. For example, in addition to providing incentives to attract firms, incentives to attract remote workers may become more common. Attention will also be needed for how to maintain the vibrancy of local main streets and business districts in light of increased teleworking and online commerce.

Seize the window to rethink local development approaches

Bring diverse stakeholders together to develop a shared vision for the future of local economies

Local development or employment advisory boards are already commonplace in many countries. However, COVID-19 has made the work of such boards/councils more urgent, and made it even more important to include a range of stakeholders in such planning, from public sector representatives traditionally involved in such efforts (e.g. local authorities as well as economic development, education and training, and labour market professionals) to local employers, industry representatives, and unions, in addition to public health professionals. Such efforts are already underway in a number of places, but further research is needed to understand what makes efforts more or less effective.

COVID-19 has also emphasised the importance of strategic foresight and scenario planning in such efforts, as much remains uncertain about how the situation will evolve in the short and long term (e.g. when a vaccine will be available and widely disseminated, whether changes in consumer preferences and behaviours shift permanently – see OECD (2020[45]) for further discussion). Beyond this specific pandemic, COVID-19 highlighted the importance of planning for these types of large-scale events more generally as part of building local resilience. In other words, beyond planning for just the recovery and rebuilding from this shock, local economic strategies should better take into account new, other and perhaps different potential systemic shocks. Mapping out not just different scenarios, but also how these scenarios could impact different populations and businesses of different sizes and sectors will be important. Additionally, developing plans for local financial sustainability given likely subnational budget pressures will be essential.

Use new sources of local employment and economic development data to set visions and make course corrections along the way

Traditional sources of labour market information (e.g. labour force surveys, censuses) have been unable to capture the realities of the rapidly changing situation. And in many cases, social distancing measures made it difficult if not impossible to rely on traditional surveying tools, such as face-to-face data collection. Accordingly, there has been a flurry of activity to use new and innovative sources of employment and economic data to capture the evolving situation in real time, from analysis of web searches, online job postings, geographic mobility data captured on cell phones, to credit card spending data. Using such data effectively, however, will require upgrading local capacities to conduct and use this type of analysis.

Such data can be used over the longer-term to capture more accurate and real time snapshots of local economic health, as well as map potential development pathways. Of course, it will be important to reflect on privacy concerns as well as the reliability of such data compared to traditional data collection techniques. Integrating spatially-relevant evaluation into the policy cycle can also help to ensure policy responses take into account lessons from past crises, and that the impact of new policies can be assessed for different local conditions.

Valorise the role of the social economy, and expand social innovation to address local needs

Traditionally, the purpose of the social economy has been seen to "repair" social problems (such as homelessness, labour market exclusion and other forms of social exclusion). However, the social economy can play a much larger role going forward, inspiring transformation to a more inclusive and sustainable economy and society. For example, the social economy has already proven to be a pioneer in identifying and implementing social innovations and alternative ways of organising economic activities that were later more broadly adopted, such as fair trade, organic food or ethical finance. Social economy

organisations have also played a longstanding role in overall regional development in some places, for example the Mondragon Corporation, in the Basque Country of Spain or the role of electricity and telecommunications co-operatives in transforming rural economies in the United States in the 1930s.

Policymakers can ensure that social economy organisations have a clear role in plans to "build back better" and support social innovation through funds to support experimentation and innovation as is done for technological innovation. Efforts to diversify the financial resources available to social economy organisations – through updates to legal frameworks and public programmes – and develop tools to document social impact can also be valuable; see OECD (2020[46]) for further discussion.

Re-evaluate local strengths and weaknesses in light of changing residential and consumer preferences

A shift in residential preferences away from cities towards less dense communities over the long term could open up new opportunities for all types of places. Small and medium cities, as well as rural areas, may be able to seize these changing preferences to attract new residents. For example, Mazamet, a town of 10 000 people in France, launched a social media campaign in June 2020, titled "Déconfinez vous pour toujours... à Mazamet" (Deconfine forever, in Mazamet), and Savannah, Georgia in the United States launched a grant programme to attract remote tech workers in May 2020. For large, urban areas, this could help to alleviate housing affordability challenges, and offer new opportunities to attract young people and creative workers who had previously been off put by high housing costs.

Specific attention will also be needed to maintain the vibrancy of local main or high streets. In many communities, these were already facing challenges even prior to COVID-19, due to local population decline and the rise of online shopping and big box retailers. There is a risk that COVID-19 could further accelerate the decline of main streets, as commerce rapidly moved online and SMEs, restaurants and cafes, and local cultural institutions, all important components of vibrant main streets, were hit particularly hard by the crisis. Beyond local vibrancy and identity, this also has implications for the quantity and quality of local jobs (store clerks versus delivery drivers) and their location (main streets versus warehouses).

In addition, should businesses downsize office spaces as a result of increased telecommuting, repurposing office spaces and revitalising business districts will become increasingly important. One alternative is to convert them to housing or creative spaces as has be done with declining industrial districts in many places. For example, in the United Kingdom, community ownership models are being used to revitalise such districts, including Baltic Creative in Liverpool which has helped bring over 250 local, social and community businesses to the Baltic Triangle (Brett and Alakeson, 2019[47]).

Look beyond short-term returns in terms of job creation

Evaluate local job creation measures against economic, social and environmental criteria

The policy response to COVID-19 will likely make use of a variety of direct job creation instruments, which each have their own relative strengths and weaknesses (see Table 3.1). For example, self-employment supports may only be appropriate for a small number of unemployed people, but can be an effective instrument when well-targeted (see Box 3.8).

Table 3.1. Strengths and challenges of different types of direct local job creation instruments

		Description	Strengths	Challenges
Public works programmes		Direct creation of jobs in the public sector to compensate for shortcomings in private sector job creation.	• Macroeconomic stabilisation • Direct job placement • Social cohesion	• Mitigated long-term effects (high if potential for experience and progression, low for jobs with few progression opportunities) • Mixed evidence on effectiveness for distressed communities
Job retention schemes and employment subsidies	Wage subsidies	Provision of subsidies to firms to lower costs of hiring or retaining labour.	• Avoid lay-offs • Stimulate job creation and earnings • Support aggregate demand • Social protection for workers at risk of job loss	• Timing and targeting difficulties • Potential to support unviable jobs
	Short-time work (STW)	Provision of subsidies to firms to support incomes of workers facing reduced hours due to economic conditions.		
Supported employment		Schemes involving individualised coaching, job preparation and follow-up that help people with disabilities or other vulnerabilities integrate into paid work in the open labour market.	• Support into permanent jobs • Inclusive approach to labour market integration	• Challenges to involve employers • Risk of marginalisation of people with disabilities
Start-up incentives		Providing financial and "soft" support (e.g. training, business consultancy) for new start-ups.	• Opens another avenue to move people into work • Improves survival rates of start-ups • May generate additional job creation • Stronger effects when start-up measures are tailored and targeted, e.g. youth, women	• Public support could keep start-ups operating when the market would have otherwise led to a firm exit • Requires high commitment from participants and only appropriate for specific targets • Requires multifaceted support for best outcomes

Source: Author's own elaboration based on Caliendo (2016[48]); Card (2014[49]); European Commission (2012[50]); Frøyland, Andreassen and Simon (2019[51]); ILO (2016[52]); and OECD (2020[53]).

In response to the scale of the jobs crisis at hand, there may be pressure to create jobs "at any cost". This may provide short-term returns in terms of employment but not actually contribute to longer-term gains or effectively reach the populations most impacted. Using a broader set of objectives – social and environmental in addition to economic – in selection processes and evaluations can help to avoid such situations. Traditional criteria include the effectiveness of generating new jobs, the relative cost, and the timeframe for the expected returns, while expanded criteria could include issues such as greening local infrastructure or creating new opportunities for populations particularly impacted by COVID-19-related job losses.

In particular, there is a risk that "standard" public investment strategies may miss the mark post-COVID-19. For example, one study of the gender dimension of public investment has found that traditional public investment strategies often focus on physical infrastructure, which tends to create more jobs in male-dominated fields. Investment in social infrastructure (e.g. caring industries), would lead not only to significantly more job creation, but more jobs for women given gender differences in construction versus care employment (UK Women's Budget Group, 2016[54]). Likewise, investing in physical infrastructure projects not be the most efficient means for improving local employment outcomes. For example, one study of the 2009 American Recovery and Reinvestment Act (ARRA) found that while spending on "shovel-

ready" road-construction projects increased local construction payrolls and wages, there was little discernible impact on local employment overall (Garin, 2019[55]).

Innovative approaches to preserving and creating local jobs are already emerging in a number of places. For example, a number of cities and regions have created health service corps, training jobseekers for jobs to help fight COVID-19, such as contact tracing. One such programme is the Chicago Contact Tracing Corps, which provides USD 56 million to community-based organisations to hire 600 contact tracers, with priority given to people living in neighbourhoods with high levels of economic hardship.[9] In Lille (France), the *Fonds Rebond* scheme provides funding for micro-enterprises, artisans and merchants, with the requirement that recipients make a commitment to supporting the green transition.[10]

Box 3.8. Quality self-employment as one route back into employment

Following the 2008 financial crisis, the share of workers who were self-employed without employees increased slightly in the EU between 2009 and 2012 (OECD/European Union, 2019[56]). This increase in self-employment is partly due to an increase in the number of unemployed people who created a business and became self-employed. It is therefore reasonable to expect that self-employment will similarly increase as a growing number of people who lost their jobs as a result of the COVID-19 crisis consider self-employment as a way to return to work. While not all unemployed people who become self-employed will successfully create a sustainable business, it is an important option because the costs of long-term unemployment or withdrawing from the labour market are very high, both for an economy as well as for the individuals. Evaluation evidence from Denmark, France, Germany, Hungary, the Netherlands, Poland, Spain, Sweden and the United Kingdom indicate that supported start-ups by the unemployed can have similar business survival rates as those started by the mainstream population and some actually grow and create jobs for others (OECD/European Union, 2014[57]).

Source: OECD/European Union (2019[55]) and OECD/European Union (2014[56]).

Support firms in upgrading local job quality and productivity, particularly SMEs

In addition to efforts to create new jobs, local development actors can also support employers in improving the quality of existing jobs. The question of job quality for essential workers in particular has received considerable attention, as they provided vital services during confinement periods, often at increased risk to their personal health. A number of places instituted hazard pay and other types of bonuses for these workers. These short-term initiatives could be an important first step in broader efforts to improve job quality over the long term, and address disparities in the share of quality jobs across local labour markets. Researchers have also noted that COVID-19 has created a window for employers to reorganise operational models and invest in frontline workers to help improve both job quality and competitiveness (Ton, 2020[58]).

Local development actors can support these efforts in a number of ways, particularly for SMEs. Human resource consulting services or technical assistance to improve workplace organisation and skills can support firms in transitioning to high performance workplace practices. Manufacturing extension services or supporting knowledge exchange between firms through industry clusters that increase competiveness can also have knock-on effects for quality job creation (see OECD/ILO (2017[59]) for more information). Local actors can also support the development of cooperative platforms owned and managed by workers in health care, grocery, or retail. Such platforms can be built around the principles of inclusive governance, fair distribution of value, data ethics, production of commons, and cooperation between members in the spirit of the social and solidarity economy.

Support firms, people and places through an accelerated digital transition

Identify and build skills that can help local economies continue to transition to the future of work

For local economies, accelerated automation and digitalisation presents a double-edged sword. In the short term, it has helped maintain economic inactivity under strict containment measures. Over the long term, it can help boost local productivity and competiveness and help some places manage a shrinking labour force. However, it can also result in significant job churn, and the new jobs created may not be in the same places where jobs are lost or require the same skillset. Accordingly, the challenge for local economic development actors is to both support the adoption of new technologies to promote the resilience and competitiveness of local industries and firms, while also supporting workers who may be displaced in the process.

In addition to steering new labour market entrants into growing occupations, many communities will also have to reskill and/or redeploy large parts of the existing workforce. Doing so in a way that contributes to longer-term local resiliency will require both investments in transversal skills relevant to a broad range of occupations and sectors, as well as specific skills that fill local demands. Close collaboration with employers in designing, steering and implementing these trainings can help to ensure their relevancy and effectiveness. At the level of local economies, identifying sectors with related skills and knowledge bases can help target the types of training, innovation, and business supports that can facilitate diversification into related activities.

Mapping the scale and scope of local jobs at risk, occupations projected to grow, skills linkages, and the types of training that can support these transitions can all help. This includes providing guidance and training for workers to transition between roles within firms as new technologies or processes are adopted; to supporting workers transitioning within similar roles across growing and shrinking sectors; and supporting workers transitioning between occupations that have a similar skills base (see Box 3.9 for one such example). For example, some research in Europe suggest that while demand for shop sales assistants is declining, with additional training, workers in these roles may be able to transition into growing occupations such as personal care assistants. Likewise, administrative assistants can transition into roles such as office managers, and eventually into positions in broader operations (Smit et al., 2020[60]). However, this same research found that there are more related skills between occupations that are both declining or both growing, highlighting some of the challenges of bringing this approach to scale.

Local SMEs may need particular support in adopting new technologies and diversifying activities. They tend to be less digitally fluent and make less use of new technologies on average. Manufacturing extension programmes and business advisory offer pathways for doing so.

Box 3.9. Supporting economic transitions

Communitech in Canada's Kitchener Waterloo Region

In Canada, Communitech was founded in 1997 by a group of entrepreneurs committed to making the Kitchener Waterloo Region a global innovation leader. Today, Communitech is a public-private innovation hub that provides resources to more than 1 400 companies — from start-ups to scale-ups to large global players. Communitech provides tools to enhance talent strategies from the recruitment process to employee engagement and development; a platform for firms to exchange ideas on innovation; consulting help including Peer2Peer groups; marketing products in domestic and international markets; as well as help to tech workers to support their own career development.

For example, Communitech has been working with employers to develop career paths that would take mid-career workers from industries more vulnerable to disruption to technology-driven firms and industries. From a survey of employers in the Kitchener-Waterloo-Cambridge region, Communitech in collaboration with the Brookfield Institute of Ryerson University, identified a set of seven job families that were in high demand in the tech sector but could be found also in other industries. These job clusters were software development, artificial intelligence, data science, sales and marketing, production management, user experience, and business management skills for the tech sector. These job families are then used to identify potential talent for recruitment from other industries. Communitech uses these job families to offer employers a range of services to recruit. The survey revealed that tech employers in the region have been successful in talent acquisition from other industries at the mid-career level. Survey findings also suggest that mid-career workers holding a wide range of jobs in older industries are an under-utilised opportunity for tech employers (OECD, 2020[61]).

The Skill Inventory Project in Turkey

In Turkey, the Turkish Employment Agency (İŞKUR) is responsible for implementing the Skill Inventory Project ("Mesleki Beceri EnvanterI Projesi") that aims to improve the matching of supply and demand of skills in the Turkish labour market. As a first step, the project documents the skill set of the Turkish workforce by collecting data on workers' skills, education level, and work experience. In a second step, the project aims to match the workers with jobs based on the skill demand of these positions. Additionally, the project aims to provide guidance and support on the provision of training programmes to equip the labour force with the digital and vocational skills that are increasingly demanded in the labour market.

Source: OECD, (2020[61])

Integrate the use of teleworking by firms into local development strategies

While many efforts are already underway, continuing to support the uptake of teleworking and other digital tools will remain relevant for the foreseeable future. As teleworking becomes more commonplace, supportive policies may transition from short-term emergency responses, to part of a broader vision for local development. For example, local actors may make financial or technical assistance available over the longer term to help SMEs implement teleworking, move to cloud-based services, uptake other digital technologies, or improve cyber security.

Communities can also take advantage of increased teleworking to attract new types of local residents. This may entail reorienting relocation incentive packages to attract individuals, rather than firms. While already common in urban areas, small towns and rural areas may also invest in the creation of co-working spaces that can be attractive to teleworkers once social distancing requirements are relaxed (see Box 3.10).

Box 3.10. Local approaches to attracting remote workers

Several cities and states in the United States saw the potential of remote worker attraction policies even prior to the pandemic. In 2018, the Vermont legislature passed the Remote Worker Grant Program to encourage professionals interested in moving to Vermont. Tulsa, Oklahoma launched a similar initiative in the same year (Business Wire, 2018[62]). Both schemes provide remote workers with reimbursement grants of up to USD 10 000. Their stated goals include fighting against depopulation and attracting high-skilled workers. Between January and September 2019, the Vermont programme awarded over USD 300 000 to 84 new remote workers (Kurrle, Goldstein and Ziter, 2019[63]). In its first year, Tulsa Remote received more than 10 000 applications and welcomed nearly 100 participants to Tulsa. In its second year, Tulsa Remote is more than doubling that number by selecting 250 people to receive the incentive package (Business Wire, 2019[64]).

Attraction policies have also been implemented by smaller towns in Europe. As of 2019, Wittenberge (19 000 inhabitants) in Brandenburg (Germany), is home to a pilot private-public initiative aimed at attracting creative and digital workers. Private investors provide working facilities (a renovated oil mill turned into a co-working space), while the municipality provides housing (requalified vacant houses offered at low rental fares, in addition to paying desk fees). Other places in Eastern Germany, whose population has been declining since reunification, have taken similar initiatives, such as Upper Lusatia (Saxony) and Eberswalde (Brandenburg). In the second semester of 2020, 20 digital workers relocated to Wittenberg's co-working space. More generally, a number of regions and cities from throughout Germany and other European countries, spanning from France to Bulgaria, are experimenting with co-working spaces in rural areas as a new solution to requalify empty buildings and fight against the exodus of young people.

Source: Business Wire (2019[64]); Business Wire (2018[62]); Kurrle, Goldstein and Ziter (2019[63]) and OECD (forthcoming[65]).

Upgrade digital infrastructure, particularly in rural areas

Public investment or regulatory updates can help to ensure coverage of high-speed internet across geographies, including in rural areas that continue to struggle with digital connectivity. Public-private partnerships with specialised companies, such as satellite internet providers, can help reach residents of rural or suburban areas where cable or fibre internet connections are not available. Hybrid fixed-mobile technologies (FWA) are another option worth exploring, considering their higher performance: the goal in this case would be to bring 4G infrastructure (5G in the near future) to remote areas that private operators have few economic incentives to cover with full-fiber technologies (FTTH, "fiber-to-the-home") OECD (forthcoming[65]).

Conclusion

Governments across the OECD have taken unprecedented measures to protect lives and livelihoods in the face of COVID-19, and the role of local actors will continue to grow going forward. While the bulk of the strictest national lockdown measures are hopefully behind us, we are just now starting on the path to recovery and rebuilding better. Local actors will play an increasingly large role moving forward, as the challenges across communities become more differentiated and the types of policies subnational government are often responsible for become a more central part of the policy response. Better tailoring national policies to local conditions, and ensuring that local actors have adequate capacities and flexibility, can help to ensure that no place gets left behind even as national economies turn around.

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Notes

[1] Germany is a somewhat unique case, as the decentralisation of job centres, which are responsible for unemployment benefit II (*Arbeitslosengeld* II, ALG II), is asymmetric, and fully decentralised in only some municipalities. For more information, see (ILO, 2015[67]).

[2] Portugal's autonomous regions are an exception, as they have their own competences for these services.

[3] This type of strategic flexibility is distinguished from operational flexibility, which refers to the leeway given to individual case officers to decide on the type of policy intervention that should be used to serve a client (OECD, 2014[66]).

[4] Some cantons and cities provide their own unemployment or other types of social assistance benefits.

[5] For a fuller description of the role of subnational governments in the initial emergency response, see OECD (2020), From Pandemic to recovery: local employment and economic development, http://www.oecd.org/coronavirus/policy-responses/from-pandemic-to-recovery-local-employment-and-economic-development-879d2913/.

[6] For more information, see https://www.gov.uk/guidance/how-to-take-on-an-apprentice.

[7] For more information, see https://www.coronavirus.vic.gov.au/program-retrenched-apprentices-and-trainees.

[8] At the time of this publication, a number of countries, particularly in Europe, were re-introducing broad national support schemes in response to the second wave of COVID-19 and the ensuing stricter containment measures.

[9] For more information, see https://www.chicago.gov/city/en/sites/covid-19/home/chicago-covid-contact-tracing-corps.html.

[10] For more information, see https://www.lillemetropole.fr/sites/default/files/2020-06/Dossier%20de%20presse%20relance%20%C3%A9co.pdf.

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