The Territorial Impact of COVID-19: Managing the Crisis and Recovery across Levels of Government

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The regional and local impact of the COVID-19 crisis is highly heterogeneous, with significant implications for crisis management and policy responses. This paper takes an in-depth look at the territorial impact of the COVID-19 crisis across its different dimensions: health, economic, social and fiscal. It provides a comprehensive overview of national and subnational government response measures to manage the vaccination campaigns across levels of government and mitigate the territorial effects of the crisis. Finally, the paper offers a forward looking perspective on the crisis' implications for multi-level governance, as well as points for policy-makers to consider as they build more resilient regions.

Key messages

The COVID-19 pandemic is requiring all levels of government to act in a context of great uncertainty and under heavy economic, fiscal and social pressure. With the onset of new waves of infection in many countries since mid-2020 and the emergence of variants, governments are confronted to the limited ability to sequence policy action. National, regional, and local governments find they cannot count on following a straight or linear course of policy action to manage, exit and recover from the crisis. Instead, governments must act on all fronts simultaneously and in synchrony. This need for *flexibility and adaptability* is leading governments to reconsider their multi-level governance systems and reassess their regional development priorities.

Vaccinating the global population against COVID-19 is the only long-term strategy to contain the coronavirus crisis (WHO, 2021[1]). Vaccination campaigns began in December 2020 and were amplified in the first quarter of 2021. Yet, they present a significant logistical challenge in all countries and carry significant territorial and multi-level governance implications. As of 10 May 2021, 12% of the population in OECD countries had been partially vaccinated and 15.8% fully vaccinated, compared to 2.5% and 1.6% in developing countries. Around the world, 4.2% and 4.1% of the population had been partially or fully vaccinated, respectively.

The territorial impact of the COVID-19 crisis

The COVID-19 crisis has a strong territorial dimension, as regions have not been affected in the same way and the medium- and long-term impact will vary significantly across regions.

- **The health crisis**. The health crisis has markedly different outcomes across regions and municipalities within countries in terms of declared cases and related deaths. Regional disparities in mortality rates are high in some countries, reflecting heterogeneous access to health services, differing vulnerability to the disease (e.g. demographic criteria, different comorbidity rates, etc.) and the diversity of socio-economic conditions across places. In the early phase of the pandemic, densely populated urban areas were the hardest hit, but in the second half of 2020, and in 2021, COVID-19 spread towards less dense regions in some countries. There is growing evidence in many countries that regions at the bottom of the income distribution and deprived neighbourhoods have higher mortality rates.
- **The economic crisis.** The economic impact of the COVID-19 crisis differs across regions. Regional economic specialisation in sectors directly or indirectly exposed to the crisis and participation in global value chains have amplified the impact of the crisis, especially in regions with a high share of SMEs (OECD, 2021[2]). Regions are also affected differently depending on "telework-ability", which is compounded by digital divides. Even setting aside these digital divides, on average, the share of jobs amenable to remote working in cities is 13 percentage points higher than in rural areas. Unemployment increased dramatically in many OECD regions during the second half of 2020 compared to the same period in 2019, with stark regional differences in Chile, the Czech Republic, Greece Mexico, and Spain, for example. In these countries, changes in the unemployment rate in the most affected regions were twice as high as in the country as a whole.
- **Subnational Finance:** Data for 2020 confirm the negative impact of the health and economic crisis on subnational government expenditure and revenue. This impact is however, of a lower magnitude than what initial surveys indicated in some countries, such as Finland, France, Germany, Japan, and Spain. This can be attributed, at least in part to significant central/federal government measures to support local finance, as well as savings in expenditures, and deferrals or cancellations of investment projects. However, considerable uncertainty over the longer term remains. Behind this are a number of factors. First, there are uncertainties around the health

situation and vaccine rollout. Second, many essential expenditures that were deferred in 2020 cannot be deferred indefinitely. Third, in many countries, tax revenues in 2020 reflected activities in 2019 not 2020. Fourth, the impact on subnational finance in 2021 and 2022 will depend on the continuation and extent of support provided by higher levels of governments.

Recovering from COVID-19: Policy responses

The differentiated regional impact calls for territorialised policy responses on the health, economic, social, fiscal fronts, and for strong inter-governmental coordination.

Territorial dimension of health responses

- Many countries moved from an approach that was applied nationally when the crisis hit in spring 2020, to a more territorial and differentiated approach across regions. In this way they adapt the crisis responses to local needs and limit the costs of national lockdowns. In many countries, specific measures regarding masks, school and restaurant closures, and full lockdowns have been adopted for specific localities or regions to limit their economic impact, e.g. in Australia, Canada, Colombia, Finland, France, Germany, Italy, Spain and the UK. While such a differentiated territorial approach is natural in federal countries, where health responsibilities are largely decentralised, it is also increasingly seen in a number of unitary countries. Since mid-2020, regional and local governments have also been more actively adjusting their response measures to the local context.
- Beginning in December 2020, vaccination campaigns are being rolled out and implemented, with significant territorial and multi-level governance dimensions. For the most part, vaccination campaigns are led by national governments. Their implementation, however, is generally in coordination with subnational governments and health agencies to better address local needs and demographic differences (i.e. the share of the regional population falling into vaccination-priority groups). Challenges can arise when subnational governments were not sufficiently involved in design of the vaccination delivery strategy. Some countries are currently exploring adopting a territorial approach to vaccination campaigns focused on communities or regions with higher risk level or a higher incidence of COVID-19 cases.
- During the first quarter of 2021, significant challenges hindered vaccine deployment. Important challenges include limited vaccine supplies in some advanced economies and most developing countries due to constrained production capacity, and a highly inequitable and inefficient distribution of existing supply between countries. Varying capacity to plan and execute mass vaccination campaigns, in particular a lack of coordination across levels of governments and the effect of emerging viral variants of concern (VOCs) on the effectiveness of existing vaccines are also issues during the early phase of vaccination campaigns.
- Within countries, regional disparities in accessing vaccines are generally limited, which indicates that there is an effort to make access universal across regions but also shows that regions with the highest incidence have not been prioritised. In countries where regional disparities are significant, they are often driven by factors relating to health or demographic factors and therefore differing shares of prioritised populations. Vaccine uptake rates may also differ across regions due to differences in local preferences or vaccine acceptance.

Economic responses

- Governments have provided massive fiscal support to protect firms, households and vulnerable populations. Global fiscal support amounts to USD 13.8 trillion, with USD 7.8 trillion in additional spending and forgone revenue and USD 6 trillion in equity injection, loans and guarantees since March 2020. This is much more than what was provided during the 2008 global financial crisis. Many countries, and the EU, are directing new financing and reallocated public funding to crisis priorities, supporting health care, SMEs, vulnerable populations and regions particularly hit by the crisis. With social protection as a key responsibility, subnational governments are pivotal in supporting vulnerable populations, which are at high health and economic risk. Subnational governments also play an important – and growing – role in supporting SMEs and the self-employed. For example, in the EU 30% of surveyed subnational governments provided large direct support to businesses and the self-employed in 2020.

- While immediate fiscal responses concentrate on protecting workers, the unemployed and vulnerable populations, in the second half of 2020 many governments also announced large recovery packages focusing on public investment. These investment recovery packages target priority areas, which include the transition to a carbon neutral economy; digitalisation; the strengthening health systems; and social infrastructure. Given the territorial differentiation of COVID-19's impact, and the level of public investment in the hands of subnational governments (57%) it is crucial that recovery strategies have an explicit territorial dimension and involve all levels of subnational government early in their implementation. While this is the case in some countries, it remains a challenge for many.
- The COVID-19 crisis has accelerated awareness of the urgent need to shift to a carbon neutral economy at all levels of government. Post-crisis recovery strategies are a unique opportunity for governments to allocate recovery funds to sustainable initiatives and take measures to reduce the carbon-intensity of economic activities. However, there are often significant gaps between intentions and the concrete policy measures that are adopted. At the national level, an analysis of OECD and OECD key partner countries' recovery packages found that the USD 340 billion in green recovery measures announced so far is still an order of magnitude smaller than the overall amounts devoted to recovery measures: the spending allocated to green measures represents about 17% of recovery spending or 2% of total COVID-19-related spending in OECD countries, Costa Rica (accession) and Brazil, China, India, Indonesia and South Africa (OECD, 2021[3]). At the subnational level, a survey of local governments in the EU found that although more than two-thirds of the 300 regional and municipal respondents stated that the transition to a low-carbon economy should shape long-term regional development policy to a large extent, less than half were considering using recovery strategies to achieve green objectives.
- Different instruments have been activated to maintain or accelerate public investment projects at the subnational level, e.g. improving self-financing capacity, relaxing budget rules, increasing capital transfers and subsidies, easing the access to long-term projects on bank credit and capital markets and supporting projects preparation and implementation. Other financing mechanisms may be activated such as public-private partnerships schemes or equity financing.

Subnational finance

- In 2020, almost all OECD countries introduced measures to support subnational finance. The measures included revenue-side measures, expenditure-side measures, financial management measures and measures related to fiscal and debt rules, including to facilitate the use of debt for short and long term needs. Revenue-side measures and measures related to fiscal rules and debt seem to be the most frequently applied. Prospects for 2021-2022 are highly uncertain. Some countries have announced the continuation of support packages in 2021. Yet, they could also be reduced, as well as targeted to the subnational governments most affected by the crisis (e.g. Austria, Chile, Costa Rica, France, Italy, Korea, Norway, Slovenia, Sweden). Crisis and recovery plans are also offering an opportunity to launch or accelerate local finance reforms in some countries (e.g. France, Iceland, Spain, UK).

Key recommendations

1. **Ensure safe and fair access to vaccines across regions within countries through effective coordination mechanisms between national and subnational governments**, for example by sharing dose delivery projections. This is particularly important as all levels of governments must anticipate the surge in supply and ensure that the logistics and infrastructure is ready as vaccine deliveries accelerate. Involve subnational governments in vaccination campaigns to ensure faster and better territorial coverage. Involving local actors, who are better informed about the local population and infrastructure, is essential to successfully reach people that need vaccines first (e.g. the elderly, people with pre-existing illnesses and healthcare workers) and relieving the pressure on the healthcare system.
2. **Consider adopting a "place-based" or territorially sensitive approach to recovery policies**. Introduce, activate or reorient existing multi-level coordination bodies in order to minimise the risk of a fragmented recovery response. Use such bodies to refine strategies, develop solutions, and agree on decisions with profound economic, social, and societal implications. Strengthen the quality of micro-level data within and between regions to improve understanding of the crisis and its impact.
3. **Support cooperation across municipalities and regions to help minimise disjointed responses and competition for resources during a crisis.** Facilitate inter-municipal cooperation to support recovery strategies by ensuring coherent safety/mitigation guidelines, pooling resources, and strengthening investment opportunities, for example through joint borrowing. Actively pursue and promote cross-border cooperation in order to promote a coherent recovery approach across a broad territory (e.g. border closure and reopening, containment measures, exit strategies, migrant workers).
4. **Strengthen national and subnational-level support to vulnerable groups** to limit further deterioration in circumstances and to strengthen inclusiveness in the recovery phase. Accomplishing this can include simplifying and facilitating access to support programmes, ensuring well-targeted services, introducing adequate and/or innovative fiscal support schemes, and identifying the needs for revising fiscal equalisation policies. Use digital opportunities (e.g. e-health, e-education) to help ensure continued service delivery, being sensitive to territorial, economic, and social disparities in access.
5. **Avoid withdrawing abruptly fiscal support.** Continue helping subnational governments reduce the gap between decreasing revenues and increasing expenditures resulting from the COVID-19 crisis to avoid sharp cuts in subnational operating and capital expenditure, resulting in underfunded and unfunded mandates. Foster subnational governments' participation in recovery plans. Foster multi-level and multi-stakeholder dialogue and fiscal coordination, for example with national associations of subnational governments and other consultative bodies. Promote coordinated responses to the crisis' fiscal impact, using shared evidence and data, and a forward-looking perspective.
6. **Ease administrative burden on core regional and local services and those helping SMEs and the self-employed.** Subnational governments, very aware of local circumstances, can act as brokers of financial support to SMEs and the self-employed. Help SMEs adopt new working methods, including digital technologies. Innovation in public services fostered by the crisis, including services supporting the transition toward a greener and circular economy, represents an important link between subnational government action and the SME environment (OECD, Forthcoming[4]).
7. **Coordinate public investment recovery packages across levels of government**, as highlighted by the *OECD Recommendation on Effective Public Investment across Levels of Government*. Key lessons from the 2008 financial crisis need to be kept in mind throughout the

recovery. Notable among these are ensuring intergovernmental coordination, building sub-national government investment capabilities, investing at the right scale and avoiding stimulus coming at the cost of good investment and risk management practices. Subnational governments, regional and local, should be involved in the territorial implementation of national investment strategies early on.

8. **Balance short-term stimulus objectives with long-term priorities (e.g. sustainability, resilience, smart infrastructure).** Allocate recovery funds to the transition to carbon neutral economies at all levels of government. Introduce measures to overcome the digital divide in crisis recovery strategies plans and investment plan and strengthen the support from the central level for the digitalisation processes especially for SMEs, poorer urban, and remote, rural communities. Help target public investment strategies to green, digital and inclusive priorities by introducing conditionalities.
9. **Support subnational public investment over the medium-term to avoid the massive cuts that occurred after the 2008 crisis.** In addition to improving self-financing capacity, other possible avenues include those offered various classical fiscal instruments, such as temporarily relaxing budget rules for capital spending, increasing capital transfers and subsidies, easing the access to long-term projects on both credit and financial markets and supporting project preparation and implementation.
10. **Reconsider regional development policy to build more resilient regions, better able to address future shocks.** This implies re-evaluating regional policy objectives, including with respect to their urban/rural equilibrium, the climate imperative, the digital divide, the balance between tangible and intangible assets

Looking ahead

The COVID-19 pandemic has challenged governments immediately activate a maximum of regional development and governance policy levers. It has further highlighted the need for a place-based approach to crisis management and recovery and spotlighted the importance of effective leadership. It provides evidence for the importance of coordination, consultation, and a collaborative approach among government and non-government actors. This crisis has also underscored the fundamental role that trust in public institutions plays – not only for crisis management but also for health outcomes – and the power of effective communication with stakeholders and citizens.

The COVID-19 crisis is “revealing” and “accelerating” new trends in regional development policy-making.

- Revealing: the crisis has shed new light on a lack of regional resilience and amplified existing weaknesses, including territorial disparities in access to healthcare and housing, demographic changes, digital gaps across metropolitan and rural areas. In many countries it has brought to the fore the consequences of a decade plus of under-investment in regions and municipalities. There is a risk that these weaknesses will persist well into the medium-long term.
- Accelerating: the COVID-19 crisis has considerably accelerated several mega-trends, such as digitalisation and the imperative to transition to a low carbon economy. The increase in remote working could be a game-changer for the spatial equilibrium between urban and rural areas, which could have significant implications for regional development policy.

COVID-19’s differentiated impact on communities, regions and countries is inspiring broader discussion on the how to increase resilience and how to be better prepared for future health, economic, social or climate-related shocks. Governments at all levels are being led to consider or reconsider more accessible basic services regardless of where people live, reducing digital divides, and ways of achieving net-zero carbon emissions.

The territorial impact of COVID-19

COVID-19 has caused the most serious health crisis in a century and the most serious economic crisis since the Second World War. COVID-19 has spread to almost all countries and has infected more than 140 million people around the world, resulting in 3 million deaths as of April 2021. Governments around the world are facing sudden simultaneous health, economic and social challenges.

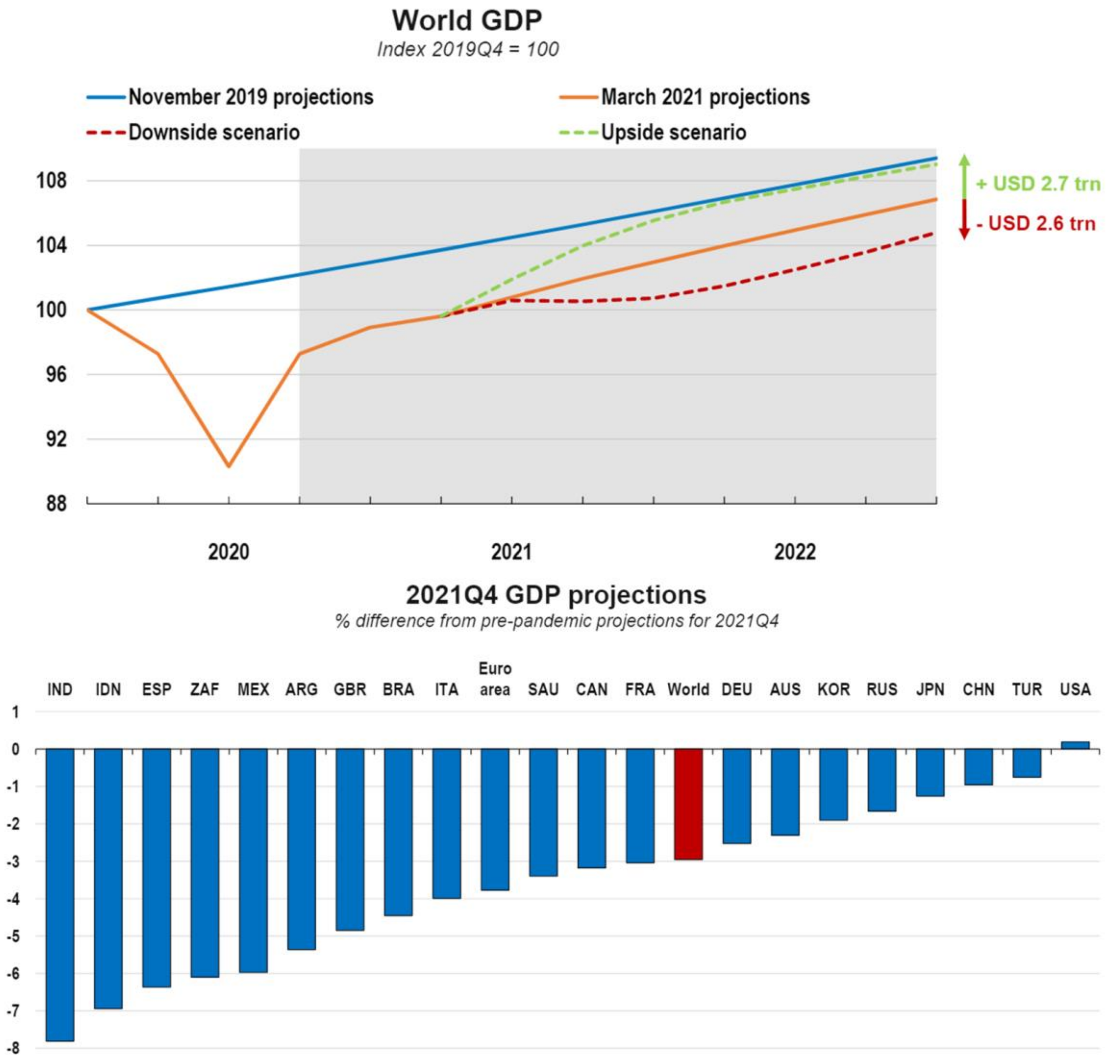
The exit strategy from the crisis is not linear and different regions of the world have adopted different strategies. In Europe, countries take “stop and go” decisions on lockdowns, and it is likely to remain so until a significant share of the general population has received approved vaccines. In Asia-Pacific, many countries have adopted the zero-COVID strategy requiring more stringent border controls and strict localised lockdowns to curb new outbreaks.

Vaccination campaigns in some countries began in December 2020. While the WHO has not given a precise estimate on the proportion of the population that must be vaccinated to attain herd immunity (WHO, 2021[1]), which might not be achievable at all, vaccinating the global population against COVID-19 is the only long-term strategy to contain the coronavirus crisis by protecting individuals. Yet, it presents a significant logistical challenge in all countries and, with it, significant territorial and multi-level governance implications.

Beyond the health and human tragedy of COVID-19, the pandemic triggered the most serious economic crisis since World War II. Most economic sectors are affected, whether through lockdown measures, disrupted global supply chains, weaker domestic and foreign demand for goods and services, subdued international tourism (OECD, 2020[5]) and a decline in business travel. Measures to contain the virus' spread have hit SMEs and entrepreneurs particularly hard (OECD, 2020[6]). Unemployment levels and the number of job seekers have increased, sometimes dramatically.

World output is expected to reach pre-pandemic levels by mid-2021 but much will depend on the race between vaccines and emerging variants of the virus (OECD, 2021[7]). While global macroeconomic projections have improved markedly thanks to the effective deployment of vaccines and the disbursement of additional fiscal stimulus in some countries, real global GDP is only expected to return to pre-pandemic levels in the second half of 2021 (Figure 1), with a heterogeneous pattern across countries and regions, depending on the stringency of containment measures and degree of vaccine roll-outs. Estimates in the OECD's March 2021 *Economic Outlook*, show that real global GDP contracted by 3.4% in 2020, but anticipate growth of 5.6% in 2021 and 4.0% in 2022. OECD unemployment has reached 7.2% in 2020 from 5.4% in 2019 (OECD, 2020[8]) and is expected to peak at 7.4% in 2021 before decreasing to 6.9% in 2022 (OECD, 2021[7]).

Figure 1. Global GDP projections and difference from pre-pandemic projections



Source: (OECD, 2021[9])

Given the multi-faceted nature and unprecedented scale of the COVID-19 crisis, comparisons with past crises, including the 2008-2009 financial crisis, have significant limitations. COVID-19 is proving unique by generating both supply-side and demand-side shocks, and its impact on all sectors and regions of the world. The uncertainty has remained high since the beginning of the crisis even with on-going vaccination campaigns. Governments have been facing for months very difficult challenges: managing the economic recovery and mitigating the impact of additional waves of the virus simultaneously.

The COVID-19 crisis has a strong territorial dimension with significant policy implications for managing its consequences. Two central considerations for policy makers are:

- The regional and local impact of the crisis is highly heterogeneous within countries. Some regions, particularly the more vulnerable ones, such as deprived urban areas, have been harder hit than others. Certain vulnerable populations, too, have been more affected. In economic terms, the impact of the crisis is differing across regions. Differentiating factors include a region's exposure to tradable sectors, its exposure to global value chains and its specialisation in exposed industries, such as tourism, accommodation and food services, and mining and oil and gas extraction. In social terms, access to health and educational services as well as commodity rates also exhibit regional disparities with a strong territorial dimension.

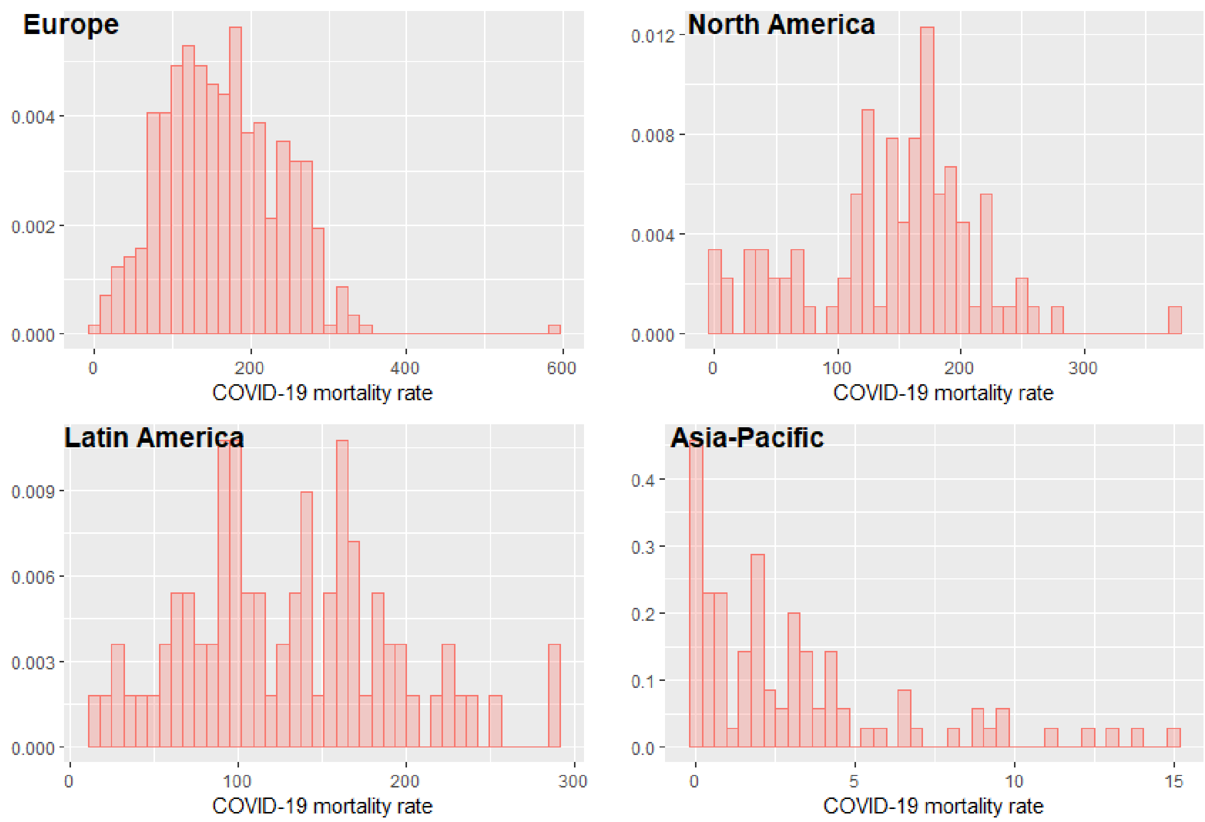
- Subnational governments – regions and municipalities – are responsible for critical aspects of containment measures and the implementation of the vaccination campaign, health care, social services, economic development and public investment, putting them at the frontline of crisis management. Because such responsibilities are shared among levels of government, coordinated effort is critical.

The territorial impact of the health crisis

COVID-19, like all pandemics, has a spatial dimension that needs to be managed (McCoy, 2020[10]). While there are differences in the way that countries define deaths from COVID-19, the broad pattern reveals markedly different outcomes not only across continents and countries, but also across regions and municipalities within countries in terms of declared cases and related deaths. Overall, regions in the Asia-Pacific have been less impacted than in Europe, North America and Latin America (Figure 2).

Figure 2. COVID-19 mortality rates distribution across continents

Density of mortality rates as of April 2021, TL2 regions, by continent



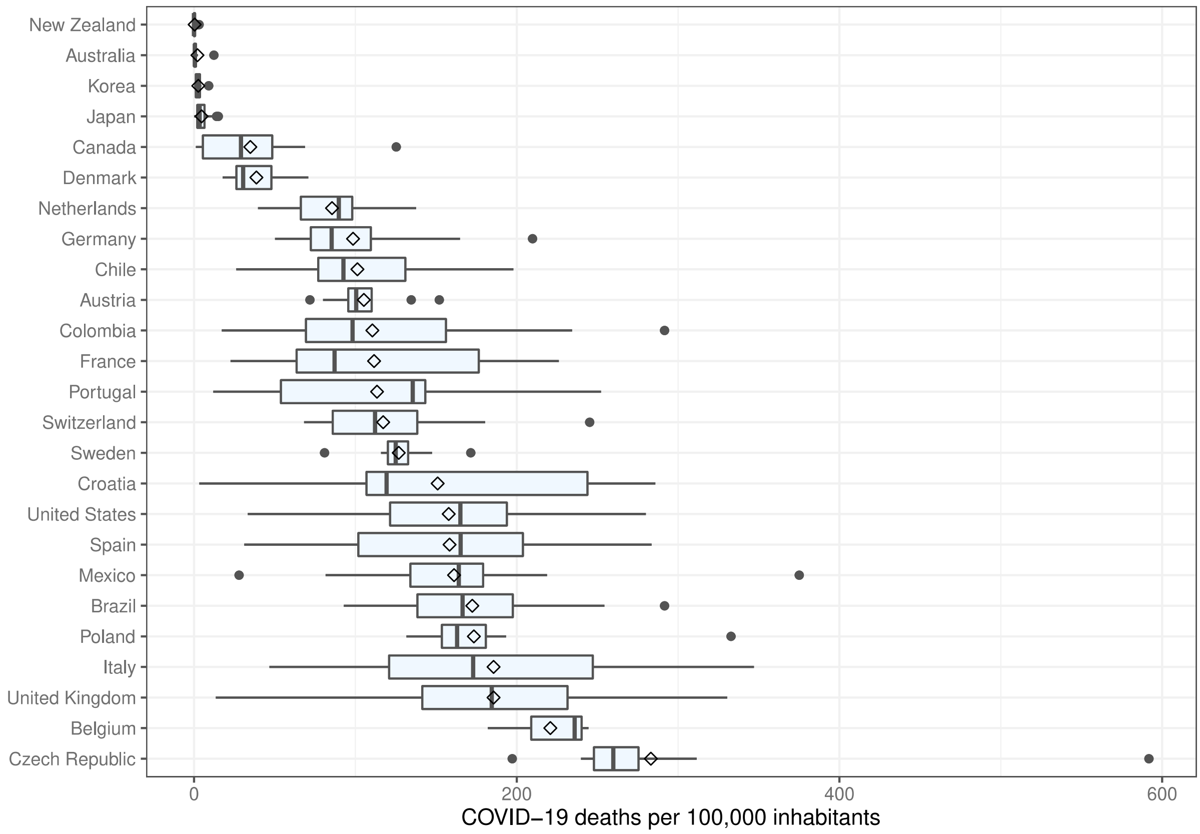
Note: Data accessed on 14 April 2021. COVID-19 mortality rate corresponds to the number of deaths registered as COVID-19-related deaths per 100 000 population inhabitants at the TL2 level and may differ from observed excess mortality. Countries follow different methodologies to report COVID-19 deaths, hence cross-country comparisons are not directly possible, see Annex 3 for more information. Europe is composed TL2 regions from Italy, France, Spain, Austria, Czech Republic, Germany, Netherlands, Poland, Switzerland, Belgium, Denmark, United Kingdom, Portugal, Sweden and Croatia; North America is composed of TL2 regions from Canada, Mexico and United States; Latin America is composed of TL2 regions from Brazil, Chile and Colombia; Asia-Pacific is composed of TL2 regions from Australia, Korea, Japan and New-Zealand;

Source: Own elaboration based on (Australian Broadcasting Corporation, 2020[11]; Austria Federal Ministry of Social Affairs, Health, Care and Consumer Protection, 2020[12]; Belgium Infectious Diseases Data Exploration Platform, 2020[13]; Brazilian Government Covid-19 Data Platform, 2021[14]; Canadian Government Covid-19 Data Platform, 2021[15]; Chile Ministry of Health, 2021[16]; Colombia National Institute of Health, 2020[17]; Czech Republic Ministry of Healthcare, 2020[18]; Dutch Ministry of Health, Welfare and Sport, 2020[19]; French Government Covid-19 Data Platform, 2021[20]) (Italian Ministry of Health, 2020[21]; Japanese Covid-19 Data Platform, 2020[22]; John Hopkins University Centre for Systems Sciences and Engineering, 2020[23]; Mexican Government Covid-19 Platform, 2020[24]; New Zealand Ministry of Health, 2020[25]; Poland Ministry of Heath, 2020[26]; Robert Koch Institute, 2020[27]; South Korea Ministry of Health and Welfare, 2020[28]; Spanish Ministry of Health, 2020[29]; Statens Serum Institut, Denmark, 2020[30]) (Swedish Public Health Agency, 2020[31]; Swiss Government Covid-19 Data Platform, 2020[32]; UK Government Covid-19 Platform, 2020[33])

COVID-19-related mortality rates exhibit strong regional disparities (Figure 3). Within countries, COVID-19 deaths per 100 000 inhabitants can vary greatly, particularly in the hardest hit countries. Regional disparities, measured by the interquartile range in death rates, are particularly high in Croatia, France, Italy Portugal, Spain and the United Kingdom.

Figure 3. Regional disparities in COVID-19 reported mortality

COVID-19 deaths per 100,000 inhabitants, TL2 regions as of April 2021



Note: Data have been retrieved on 14 April 2021. COVID-19 mortality rate corresponds to the number of deaths registered as COVID-19-related deaths per 100 000 population inhabitants at the TL2 level and may differ from observed excess mortality. Countries follow different methodologies to report COVID-19 deaths, hence cross-country comparisons are not directly possible, see Annex 3 for more information. The 25 countries are some OECD countries, Brazil and Croatia. Among the 37 OECD countries, Estonia, Latvia and Luxembourg have no regions at TL2 level; there are no data at TL2 level for Iceland, Ireland, Israel, Finland, Greece, Hungary, Lithuania, Norway, Slovak Republic and Slovenia. For New Zealand, data is available by District Health Boards. For Canada and Japan, one province (Prince Edward Island) and one prefecture (Iwate) respectively are missing. For the United States, only the 50 States are considered. In the United-Kingdom, data is available for upper-tier local authorities.

Source: (Australian Broadcasting Corporation, 2020[11]; Austria Federal Ministry of Social Affairs, Health, Care and Consumer Protection, 2020[12]; Belgium Infectious Diseases Data Exploration Platform, 2020[13]; Brazilian Government Covid-19 Data Platform, 2021[14]; Canadian Government Covid-19 Data Platform, 2021[15]; Chile Ministry of Health, 2021[16]; Colombia National Institute of Health, 2020[17]; Czech Republic Ministry of Healthcare, 2020[18]; Dutch Ministry of Health, Welfare and Sport, 2020[19]; French Government Covid-19 Data Platform, 2021[20]) (Italian Ministry of Health, 2020[21]; Japanese Covid-19 Data Platform, 2020[22]; John Hopkins University Centre for Systems Sciences and Engineering, 2020[23]; Mexican Government Covid-19 Platform, 2020[24]; New Zealand Ministry of Health, 2020[25]; Poland Ministry of Heath, 2020[26]; Robert Koch Institute, 2020[27]; South Korea Ministry of Health and Welfare, 2020[28]; Spanish Ministry of Health, 2020[29]; Statens Serum Institut, Denmark, 2020[30]) (Swedish Public Health Agency, 2020[31]; Swiss Government Covid-19 Data Platform, 2020[32]; UK Government Covid-19 Platform, 2020[33])

There are a number of factors that contribute to the differential impact of COVID-19. One factor relates to where the first "clusters" of cases developed. In many instances, large cities, with their dense international links – including international markets, business travel, tourism, etc. – were often the entry points for the virus in 2020 and were particularly affected. Contagion can spread more quickly in large urban areas, due to proximity, if preventive, protective or containment measures are not introduced early enough.

However, one should not conclude that high density goes hand in hand with high incidence of the disease. Some very densely populated Asian cities, such as Hong Kong (7.5 million), Seoul (9.8 million), Singapore (5.6 million) and Tokyo (9.3 million) saw limited transmission of COVID-19 thanks to early and very proactive measures, mask wearing and extensive testing (OECD, 2020[34]). It appears that density becomes a problem when other factors are prevalent, such as a lack of appropriate measures (e.g. containment, contact tracing), poor housing conditions, and in particular, limited teleworking ability, access to health care and digital services for households at the bottom of the income distribution.

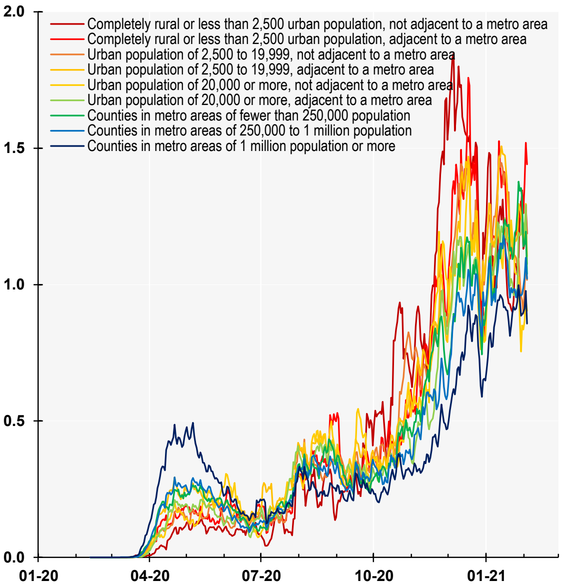
Rural areas also experienced "first clusters", and regions with high numbers of elderly people were more affected. Rural regions tend to be equipped with fewer hospital beds than metropolitan areas and their adjacent regions. In 2018, regions close to metropolitan areas had almost twice as many hospital beds per 1 000 inhabitants than remote regions. This gap has grown significantly since 2000 (OECD, Forthcoming[35]).

Within countries, densely populated urban areas were the reportedly hardest hit in the first half of 2020, but in the second half of 2020, COVID-19 had diffused towards less dense regions in some countries. In rural areas, COVID-19 reported mortality rates increased particularly from August 2020 onwards. Socio-economic differences between rural and urban areas partly explain why, in the second half of 2020, the outbreak was more deadly in rural areas in the United States, France and Italy (Figure 4).

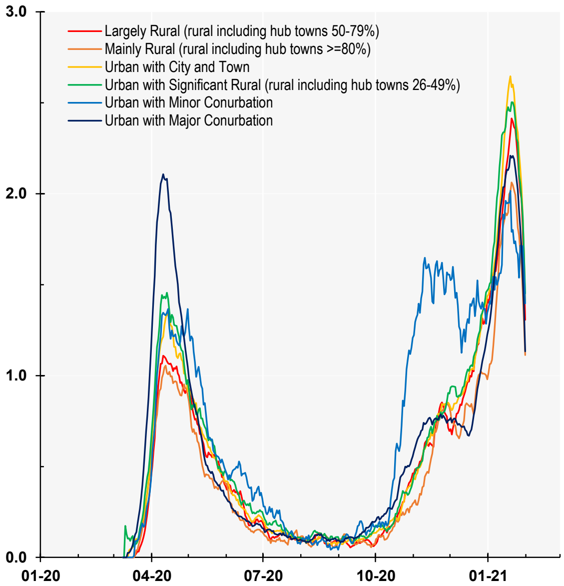
In the United States, rural areas are at higher risk given that rural counties residents are older, have higher rates of chronic diseases or disabilities than non-rural on average (CDC, 2021[36]) while healthcare infrastructure is more limited and financially weaker (Healthline, 2020[37]). Moreover, a larger share of jobs with limited teleworking ability and increased risk of infections, such as agricultural and food processing industries are located in rural counties. In rural areas, residents are therefore more vulnerable to COVID-19 and mortality rates soared once the virus spread within rural communities. Rural counties not adjacent to a metropolitan area recorded the highest number of deaths (as a share of a county's population, over a 7-day rolling average) in December 2020, with daily deaths reaching 1.7 per 100 000, compared to 0.11 in May 2020 and 0.90 in metropolitan areas at the same time.

Figure 4. COVID-19 reported mortality per 100,000 inhabitants, daily average

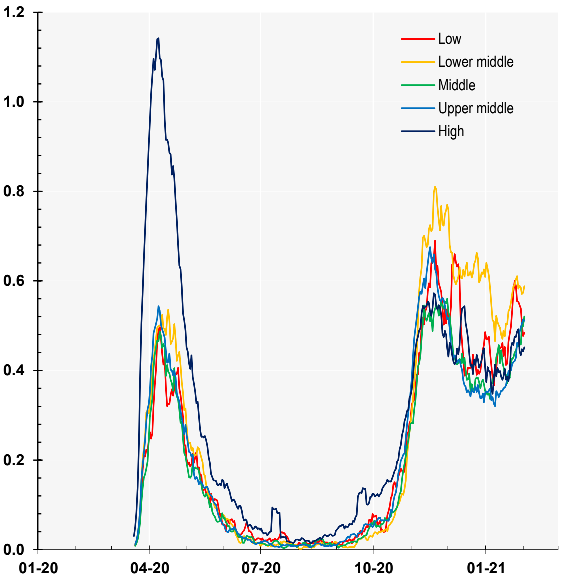
United States, average daily COVID-19 deaths by county (TL3)
(7-day rolling average), by rural-urban classification groups



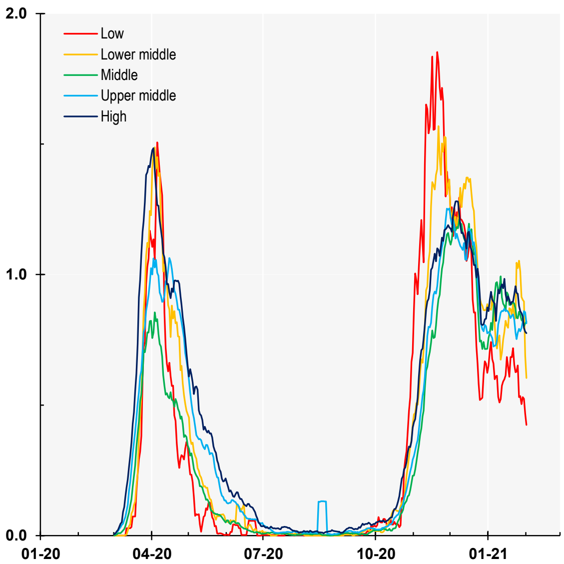
United Kingdom, average daily COVID-19 deaths by LTLA
(7-day rolling average), by rural-urban classification groups



France, average daily COVID-19 deaths by *départements* (TL3)
(7-day rolling average), by population density groups



Italy, average daily COVID-19 deaths by *regione* (TL2)
(7-day rolling average), by population density groups



Notes: COVID-19 mortality rate corresponds to the number of deaths registered as COVID-19-related deaths per 100 000 population inhabitants at the TL2 level and may differ from observed excess mortality. Countries follow different methodologies to report COVID-19 deaths, hence cross-country comparisons are not directly possible, see Annex 3 for more information. In France, population density is low where population per square kilometre ranges from 0 and 45, lower middle for 46 to 67, middle for 68 to 110, upper middle for 110 to 215 and high if greater than 215. In Italy, population density is low where population per square kilometre ranges from 0 to 72, lower middle for 73 to 126, middle for 127 to 171, upper middle for 171 to 268 and high if greater than 268.

Sources: Authors' elaboration based on US COVID-19 data tracker (USA Facts, 2020[38]), USDA ERS rural-urban continuum codes (USDA ERS, 2013[39]), SPF COVID-19 data hub (Santé Publique France, 2020[40]), INSEE, Italian Civil Protection Department COVID-19 data platform (Dipartimento della Protezione Civile, 2020[41]), ISTAT, UK Government COVID-19 data platform (UK Government Covid-19 Platform, 2020[33]), ONS (Office for National Statistics, 2018[42])

Regional disparities in the responses of subnational governments to local COVID-19 outbreaks also exist, for example with respect to the stringency and duration of lockdowns. In Australia, where state governments managed social distancing policies and lockdowns, there was significant variance in the duration of strict lockdowns. In the worst affected state, Victoria, an outbreak in July 2020 resulted in a second major lockdown for 111 days. Victoria correspondingly had the largest annual decrease in household consumption of all Australian States and territories in the third (Australian Bureau of Statistics, 2020[43]) and fourth quarters of 2020 (Australian Bureau of Statistics, 2021[44]).

The pandemic has not been a "great-leveller". Density associated with poverty, poor housing conditions, socio-economic segregation, participation in the workforce as well as limited access to health care services are strong determinants of cross-regional mortality rates, as shown in a study in the United States (Basset, 2020[45]). Within cities, areas with lower incomes, such as the Bronx in New York City, are often the most affected while Manhattan, the borough with the highest population density and per capita income, was not the hardest hit.

Evidence for the United Kingdom shows that the more deprived areas, with higher population densities, in England and Wales, recorded disproportionate rates of deaths due to COVID-19 compared to less deprived ones during the first wave (Iacobucci, 2020[46]). As of April 2021, lower-tier local authorities in the bottom decile of England net income distribution had recorded 250 COVID-19 deaths per 100 000 inhabitants, compared to 194 in higher deciles and 167 in the top decile. Similarly, in France, mortality rates are twice as high in municipalities in the bottom quartile of the national income distribution than in municipalities in higher quartiles (Brandily, 2020[47]).

Most regions were underprepared

Most countries, regions and cities were not well prepared for the pandemic for several reasons: i) they underestimated the risk when the outbreak emerged; ii) many did not have crisis management plans for pandemics; iii) they lacked basic personal protective equipment (PPE), such as masks; and iv) in some countries, the ability of the health care system to respond to the coronavirus crisis was weakened by several years of moderating, or decreasing public expenditure, and investment in health care/hospitals in the aftermaths of the global financial crisis. For example, between 2008 and 2018, the number of hospital beds per capita decreased in almost all OECD countries, declining by 0.7% per year, on average (OECD, 2020[48]).

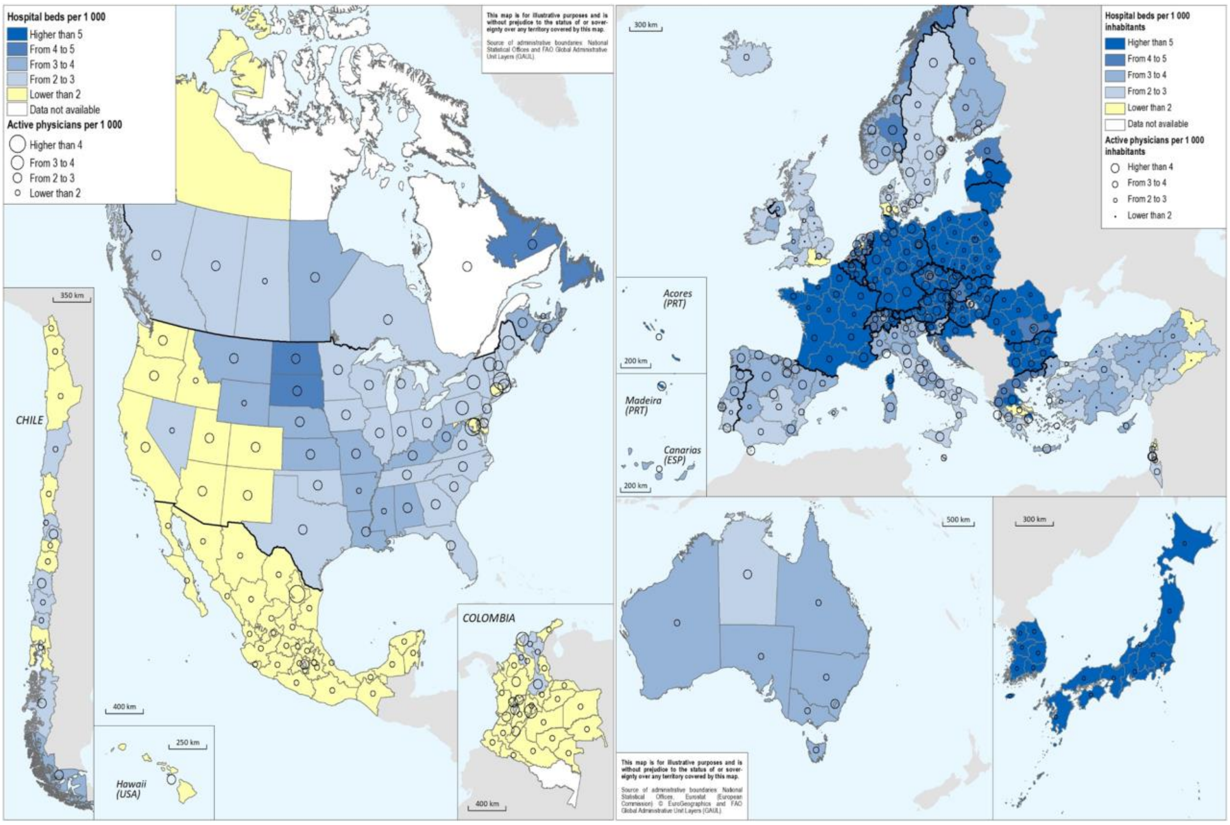
Moreover, in some countries, regional disparities in access to health care can be significant as measured by the number of hospital beds and active physicians per 1 000 inhabitants (Figure 5). For example, in the United States, North Dakota has above 5 hospital beds per 1 000 inhabitants, whereas New Mexico has less than 2. In addition, disparities appear to be independent of whether health care spending is decentralised (see Box 1).

Box 1. Decentralisation and health care disparities

Some research suggests that regional disparities in health outcomes in Spain and Italy have not increased after the decentralisation of health care spending (Lopez-Casasnovasa, Costa-Font and Planas, 2005[49]; Bianco and Bripi, 2010[50]). Furthermore, a 2019 OECD Fiscal Federalism Network study showed that hospital costs are lower in countries with a higher degree of administrative decentralisation, even after controlling for particular treatments (Kalinina et al., 2019[51]). The decentralisation and concentration debates need to be distinguished for the different categories, notably basic health and intensive care. For the most advanced care, there are obvious quality arguments for concentrating (although not necessarily centralising) services. In such cases, however, there remains a need to ensure that travel times to care centres do not prevent service use.

Figure 5. Large regional disparities in access to health services

Hospital beds and active physicians per 1 000 inhabitants, 2018



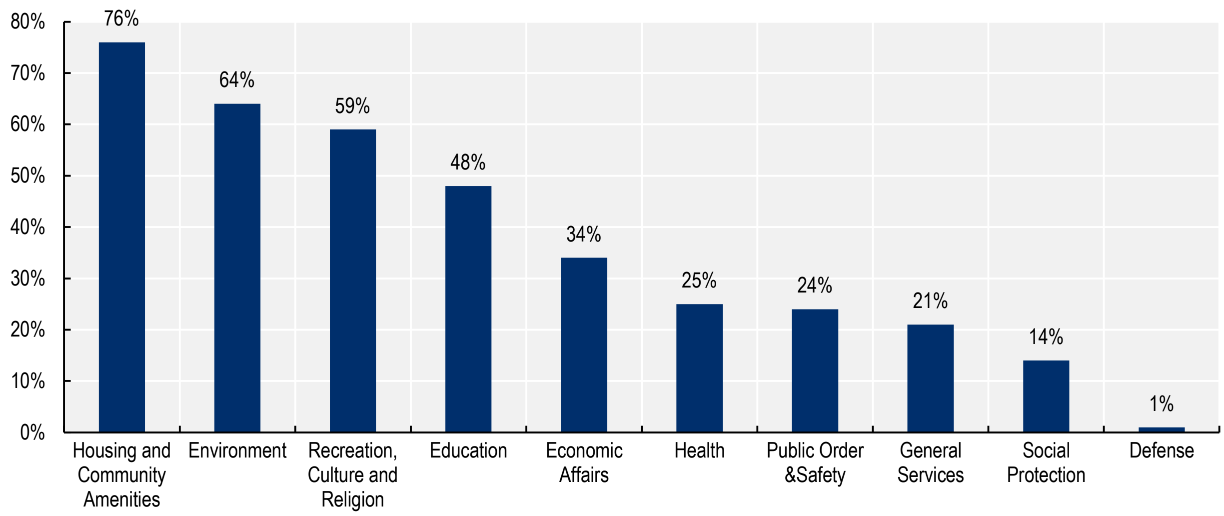
Note: Large regions, TL2
Source: (OECD, 2020[48])

Subnational governments at the frontline of crisis management

Since the outbreak of the pandemic in early 2020, regional and local governments have been at the forefront of managing the COVID-19 health crisis and its social and economic consequences, reflecting the significant responsibilities they have in a number of areas, including those particularly impacted by the

COVID-19 crisis. In many countries, for example, subnational governments are responsible for critical aspects of health care, from primary care to secondary care, including hospital management, accounting for 25% of total public health expenditure, on average (Figure 6). Subnational governments have been active in tracking, testing and isolating patients and are now implementing national vaccination strategies at the local level.

Figure 6. The share of subnational government in public expenditure by sector in OECD countries



Note: The OECD average (unweighted) is calculated for 33 countries (no data for Canada, Chile, and Mexico) with data from 2017. The functional areas correspond the Classification of the Functions of Government (COFOG), which distinguishes 10 areas. The total of general government spending is non-consolidated.
Source: (OECD, 2018[52])

Subnational governments are responsible for nearly half of all education spending and have played active roles in managing the closing and safe re-opening of schools under very strict health measures. They are also often responsible for welfare services and social transfers

It is important to note too, the significant role that subnational governments play in essential public services, such as water distribution and sanitation, waste collection and treatment, street cleaning and hygiene, public transport, public order and safety, and basic administrative services, whose proper delivery is fundamental in managing the pandemic. In some countries, state, regions and municipalities are also responsible for emergency services and police, who have been called upon during confinement periods to ensure control, security and rescue.

Regional and local governments are responding by maintaining essential services, if not at full service-levels then at adjusted ones, and by developing or providing better access to tele-services (tele-health consultations, tele-education). Finally, the emergency situation has led many subnational governments to take initiatives in areas outside the scope of their normal responsibilities, either upon request by the central government or in response to emergencies.

The territorial impact of the economic crisis

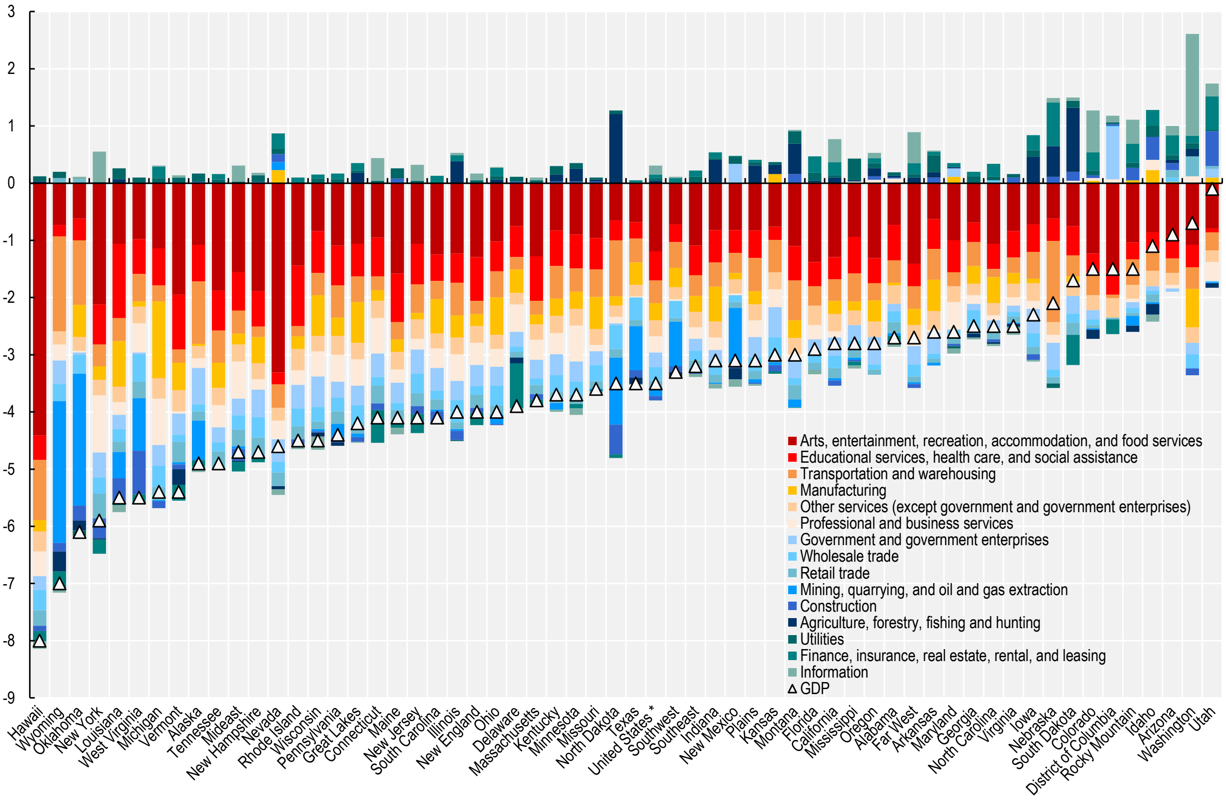
Many comparisons have been made between the COVID-19 crisis and the 2008 global financial crisis, but they radically differ in scope, origin (endogenous in 2008 versus exogenous in 2020), and consequences. Both crises are also very different in their impact on territories, with the coronavirus crisis having a more differentiated impact than the financial crisis of 2008.

The economic impact of the COVID-19 crisis differs across regions, depending on a number of factors, both domestic in nature (such as the region's specialisation in and exposure to sectors most impacted by lockdown measures and capacities to adapt to restrictions) and global (such as the degree of integration into global value chains and dependencies on tourism). Capital regions and other metropolitan regions have a relatively higher risk of job disruption than other regions, particularly in the short term, but at the same time higher capacities to adapt, for example through the adoption of digital tools (OECD, 2020[53]).

In the United States (Figure 7), regional economic specialisation partly explain cross-regional differences in economic outcomes, notwithstanding differences in infections rates and restrictions. Over the first three quarters of 2020, States where mining, quarrying and oil and gas extraction represent a large share of gross value added (Oklahoma, Wyoming, North Dakota and West Virginia) have been hard hit due to the negative demand shock on commodities. States where tourism dominates (Hawaii, Nevada) were affected by travel bans and forced closures. On the other hand, States where economic activity is well diversified or specialized in sectors that have benefitted from the crisis, such as information technology, were able to mitigate the impact on GDP, as in Washington, California and Colorado.

Figure 7. Contributions to change in GDP in 2020, United States, by States

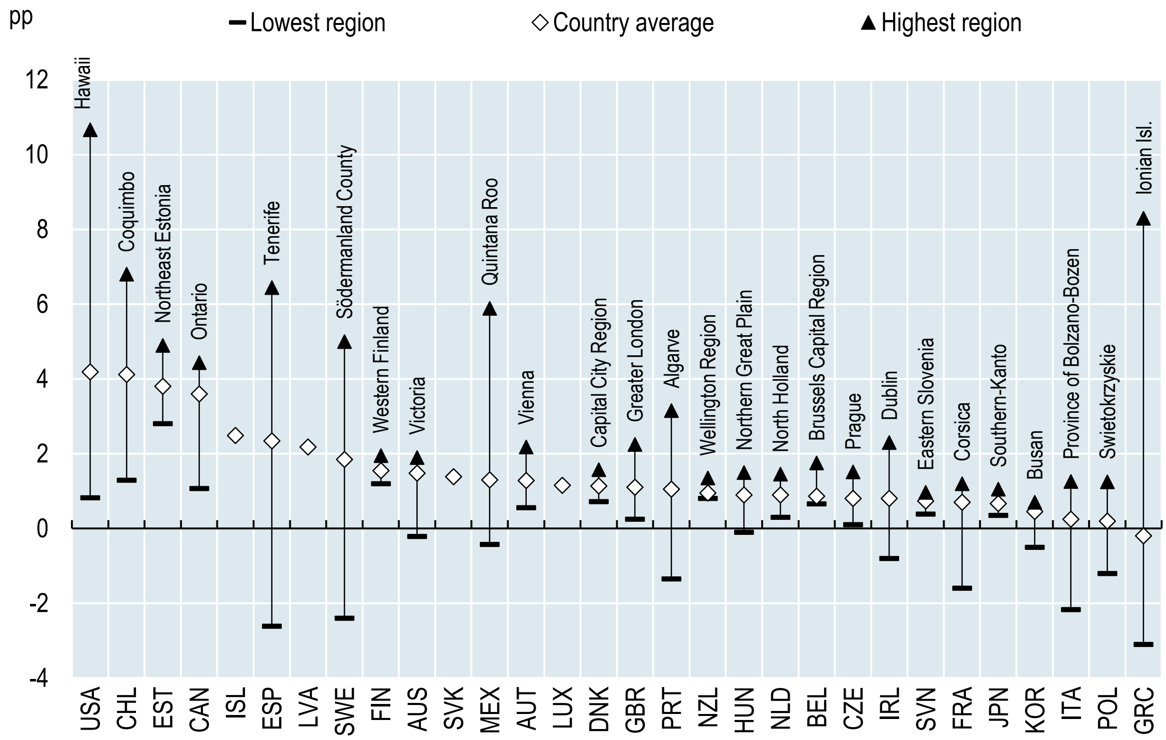
Contributions to percent change in real GDP between 2019 and 2020, by industry



Note: Contributions (by two-digit NAICS industry) to real GDP between 2019 and 2020, by states.
Source: Own elaboration based on data from US Department of Commerce, Bureau of Economic Analysis

The crisis has also had a differential territorial impact on employment. Unemployment has increased dramatically in many regions in OECD countries during the second half of 2020 compared to the same period in 2019 (Figure 8). Unemployment increased by more than 2 percentage points in the majority of US states, although regional differences were stark, in Chile, Mexico, Spain, Greece and the Czech Republic. In those countries, changes in unemployment rate in the most affected regions were twice as high as in the country as a whole. Job losses are particularly sizeable in many islands regions such as the Balearic islands (Spain), Ionian islands (Greece) and Hawaii (USA) with unemployment rates increasing by 6 percentage points in these regions on average over the period.

Figure 8. Change in unemployment rates in TL2 regions, in percentage points



Note: Average growth in percentage points between Q3-2019 and Q3-2020 and Q4-2019 and Q4-2020; except Czech Republic, Estonia, France and Greece (only Q3-2019 to Q3-2020 growth). Large regions, except Spain and Korea (small regions TL3); Spain: data exclude Ceuta and Melilla (Spain); Poland: Warszawski stoleczny (PL91) and Mazowiecki regionally (PL92) data are grouped; Japan: Chugoku (JPH) and Shikoku (JPI) data are grouped; Iceland, Latvia and Slovak Republic: data present country averages; Australia, Canada and United States: average of monthly data.
Source: OECD (2021), OECD Regional Statistics. Ad-hoc data collection.

Stop-and-go measures will continue to be applied until the vaccination allows protecting the general population. The full economic impact on regions for 2020 is yet to be calculated. Previous OECD work shows that the recovery of OECD regions after the 2008 global financial crisis took years: in more than 40% of OECD and EU regions, per capita GDP remained below pre-crisis levels for over 7 years.

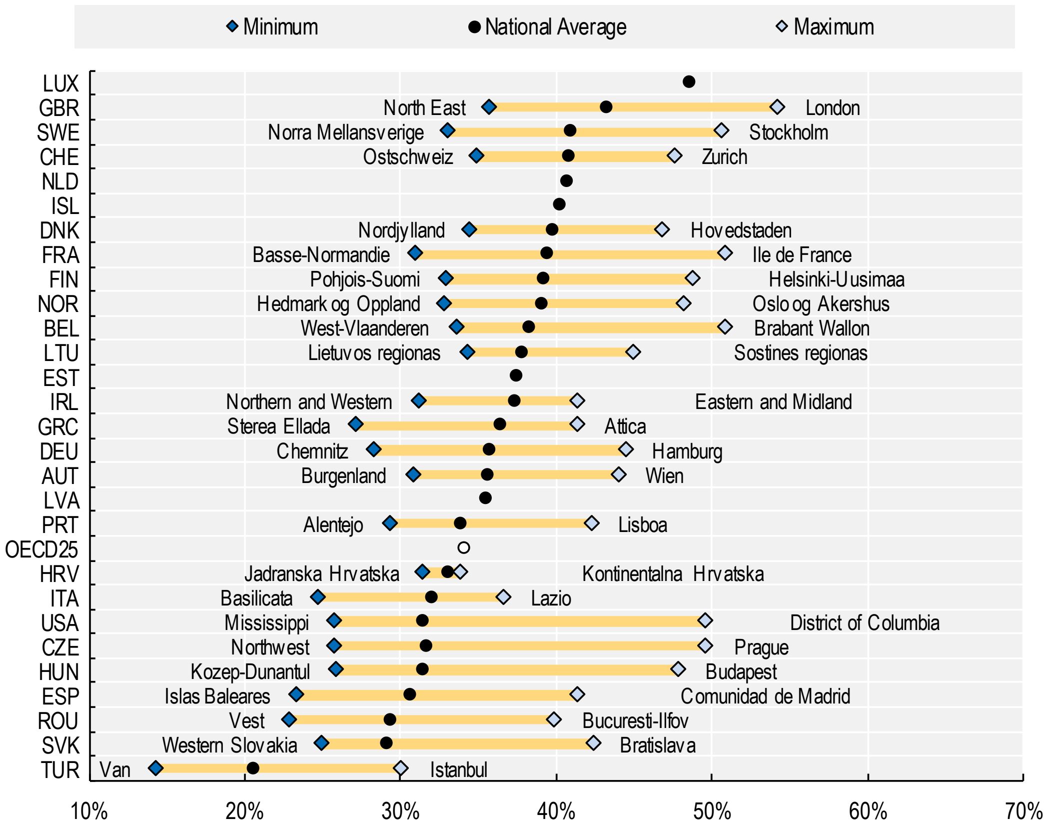
Mitigating the impact of confinement and facilitating social distancing: the impact of telework

The extent to which occupations can be performed remotely is an important mitigating factor with respect to economic impact and cost of COVID-19 containment measures, and the evidence confirms strong regional differences. Urban areas (41.6%) for example have an 11 percentage point higher share of occupations that can be performed remotely than rural areas (30.5%) (OECD, 2020[54]).

In most cases large cities and capital regions offer highest potential for remote working within countries (Figure 9). Such a capacity might contribute to a territorial differentiation in resilience. On average, there is a 15 percentage point difference between the region with the highest and lowest potential for remote working in a given country, and more than 20 percentage points in the Czech Republic, France, Hungary, and the U.S. It is important to note that these findings assume that all workers – regardless of location – have access to an efficient internet connection and to the necessary equipment. Nevertheless, there are often significant disparities in capacities across regions in the OECD, with rural areas often demonstrating lower access to high-speed broadband connections and digital take-up, so actual gaps may even be larger: 1 in 3 households in rural areas do not have access to high-speed broadband on average in 26 OECD countries (OECD, 2020[48]).

Figure 9. The possibility to work remotely differs among and within countries

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



Note: The number of jobs in each country or region that have the potential to be carried out remotely as the percentage of total jobs. Countries are ranked in descending order by the share of jobs in total employment that can be done remotely at the national level. Regions correspond to NUTS-1 or NUTS-2 regions depending on data availability. Outside European countries, regions correspond to Territorial Level 2 regions (TL2), according to the OECD Territorial Grid.
Source: (OECD, 2020[54])

The fiscal impact on subnational governments

The fiscal impacts on subnational governments are asymmetric

From the onset of the crisis in 2020, it quickly became apparent that the impact on subnational finances would be significant, given the exposure of subnational government to the effects of the crisis and their commitment to addressing it.

A June-July 2020, a survey jointly conducted by the OECD and the European Committee of the Regions (CoR) with 300 representatives of regional and local governments in 24 countries of the European Union

(CoR-OECD, 2020[55])indicated that in the short and medium terms 85% of surveyed subnational governments expected the COVID-19 crisis to have a highly or moderately negative impact on their finances, with a dangerous "scissors effect" of rising expenditure and falling revenues. Beyond the European Union, other surveys reported similar impacts. For example, the US National League reported a severe and long-lasting impact on US cities with a loss of own-source revenue reaching 21.6% in 2020 (US National League of Cities,, 2020[56]).

Data covering the whole of 2020 confirm this negative impact, albeit at a lower level than some of the earlier surveys first indicated, in part because of significant central/federal government measures to support local finances (e.g. through emergency and compensation grants or the coverage by the central/federal government of certain types of expenditure) and through savings in expenditures and deferrals or cancellations of investment projects.

However, while the impacts have been less than first feared, there remains considerable uncertainty over the longer term for a number of reasons.

First, because of uncertainties around the sanitary situation. While vaccine rollouts are starting to have positive effects towards containing the pandemic (but also costs to subnational budgets), it remains uncertain how quickly they can be rolled out and how often they will need to be administered (over the longer-term, e.g. boosters or in response to new strains).

Second because many deferred essential expenditures in 2020 (including on investment) cannot be deferred indefinitely, and moreover, because, in many countries, tax revenues in 2020 reflected activities in 2019 not 2020.

Third, because the impact on subnational finance in 2021 and 2022 will depend a lot on the continuation and extent of support that will be provided by higher levels of governments. Withdrawing support too quickly (but with costs related to the crisis, including declines in revenues, still be to incurred) and introducing tight fiscal consolidation measures to address higher borrowing in 2020 will have a significant impact on sub-national finances, subnational public investment, and indeed delivery of essential services, which would have an impact on longer-term growth as was the case after the 2008 financial crisis when public investment was cut heavily in many OECD countries.

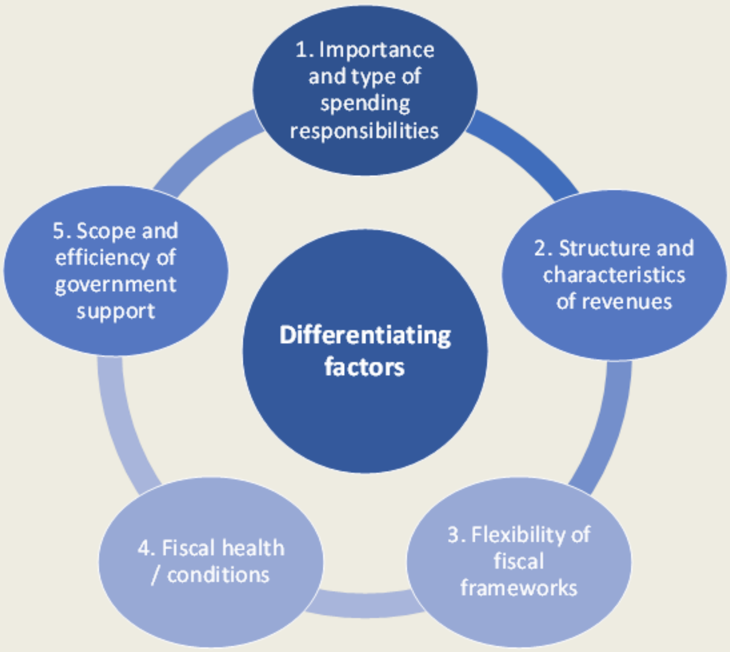
Moreover, the impacts both in 2020 and going forward are asymmetric within countries, reflecting five main factors (Box 2), in addition to factors such as geographic location and socio-economic patterns.

Box 2. Differentiated impact on subnational government finance

The impact of COVID-19 on subnational finance is differentiated among countries, among levels of government, among regions and among municipalities. The varying effects on subnational finance depend on five main factors, all of which need to be taken into account to analyse and compare the fiscal impact of COVID-19 on regions and municipalities:

1. **Importance and type of spending responsibilities:** the role of regions and cities in managing the crisis can vary depending on the degree of spending decentralisation and the scope of subnational government responsibilities (e.g. health, social protection, economic development, etc.);
2. **The characteristics of subnational government revenues**, in particular their degree of sensitivity to economic fluctuations (e.g. drop in tax revenues based on activity, income and consumption, decrease in user charges and fees) and policy decisions (e.g. exemptions, abrogation, postponement).
3. **Flexibility of fiscal frameworks:** the impact will depend on the ability of subnational governments to absorb exceptional stress, their capacity to adjust their expenditure and revenues to urgent needs and to access external financing;
4. **Fiscal health or pre-pandemic financial conditions:** the impact will depend on budget balance and debt situation of a given local government before the crisis as well as the level of cash treasury and set-aside reserves;
5. **Scope and efficiency of government support:** the impact on finance also depends a lot on the scope and efficiency of support policies from higher levels of government and the existence of equalisation/solidary mechanisms.

Figure 10. Five main differentiating factors



Source: Authors' elaboration

The impacts differ according to the country, the different levels of subnational governments (e.g. regions or cities) as well as between subnational governments of the same level.

Between countries, the effects largely differ according to the degree of decentralisation. Perhaps not surprisingly, in countries where the level of decentralisation is high, the impact on subnational government expenditure will also be higher, reflecting in large part devolved responsibilities for spending in areas most affected by the crisis (i.e. health, social protection, education, utility services, economic development, etc.). This is also true for revenue, as confirmed in the OECD-CoR survey (OECD-CoR, 2020[57]). The extent of the impact also differs according to the underlying fiscal strength of the subnational public sector before the crisis. In a number of countries, the fiscal situation of subnational governments was relatively good before the COVID-19 crisis (e.g. the Czech Republic, Denmark, and Switzerland) and so they had higher capacities to absorb the fiscal impacts (S&P Global Ratings, 2020[58]).

Between levels of governments, the impact depend on their respective spending responsibilities and revenue structure. The regional level may be more affected than the local level, and vice-versa. For example, in many countries it is estimated that municipalities will feel the financial shock mostly in 2020, as the loss of revenue mainly comes from the decrease in tariffs and user charges and/or local taxes, but it may be temporary (tourist tax) or delayed (deferrals). Municipalities could be spared in the future compared to regions, whose revenues depend more on taxes sensitive to economic activity, consumption or personal income. The fiscal shock on many regions could be delayed to 2021, and even 2022.

The impact can be also differentiated within the same subnational government level. There are different parameters that have implications for the nature of subnational expenditure and revenues, and then on the degree of fiscal exposure to the crisis. Subnational governments will be more or less vulnerable to the crisis depending on the geographic localisation (e.g. located in an area particularly hit by the health or socio-economic crisis), the population size (large cities versus rural municipalities), the socio-demographic characteristics (e.g. importance of elderly or vulnerable groups, etc.), the economic profile (tourism, manufacturing, mining, etc.) and the resilience of their local economies. For example, touristic regions and municipalities - coastal regions and ski resorts in Austria, France, Italy, and Switzerland, as well as urban tourist destinations - are particularly affected by domestic and international travel restrictions, reduction in tourist attendance the closure of hotels, exhibition and congress centres, tourist sites (museums, natural parks, leisure establishments, etc.), restaurants and cafes, festivals and other cultural facilities. Port cities are particularly hit by the crisis, not only because of declining cruise activities, but also because of the strong slowdown in port activities as a whole (maritime transport, fishery, shipyards, etc.), despite the fact they kept terminals open to boats and ensured a minimum level of continuous activity.

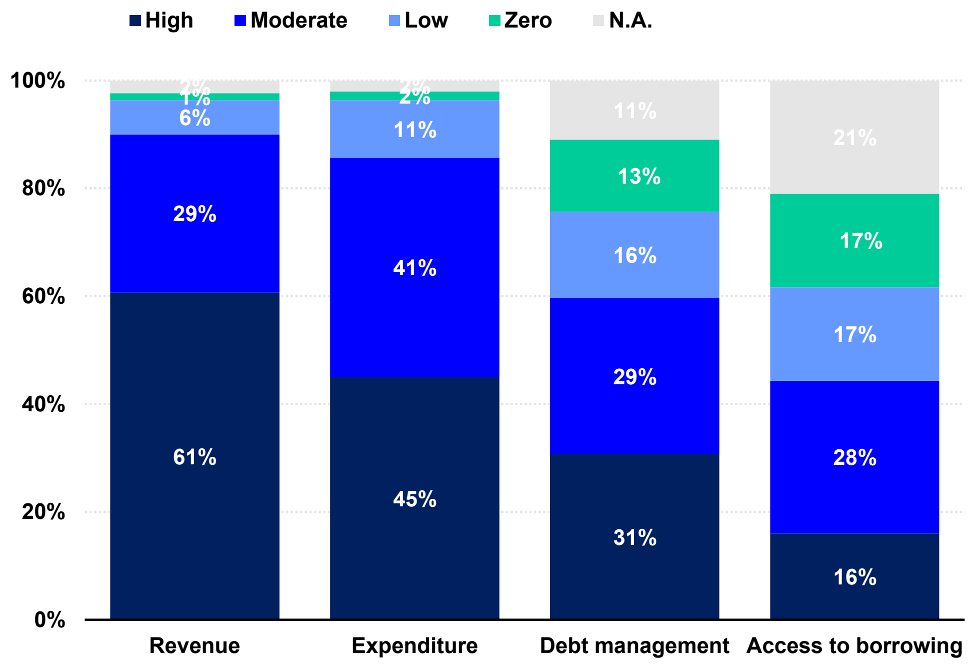
The state of the local government fiscal health prior to the crisis also play a role on the differentiated degree of resilience to the crisis. Some subnational governments may have a low level of indebtedness and important cash reserve. In the US, the level of preparedness for a recession is mixed, with certain states possibly lacking sufficient reserves to absorb the fiscal stress beyond the immediate short term. Some states are most exposed to pressure derived from exogenous shocks given their comparatively weaker credit metrics, including lower reserve levels, cyclical revenue streams, and elevated fixed costs e.g. pensions, debt service, other postemployment benefits (Standard&Poors, 2020[59]).

The impact on revenues, expenditures, debt and assets are also asymmetric

The COVID-19 crisis and the associated policy responses have had a strong negative effect on subnational government finances (Figure 11) which has differed across regions. The crisis is reported to have a somewhat larger impact on revenue than on expenditure.

Figure 11. Impact of the COVID-19 crisis on subnational finance in the European Union

Answers from subnational government officials to the question: How negative do you expect the impact of COVID-19 to be on your revenue, expenditure, debt management and access to borrowing?



Note: Subnational governments submitted their answer to the survey in June-July 2020
Source: (OECD-CoR, 2020[57])

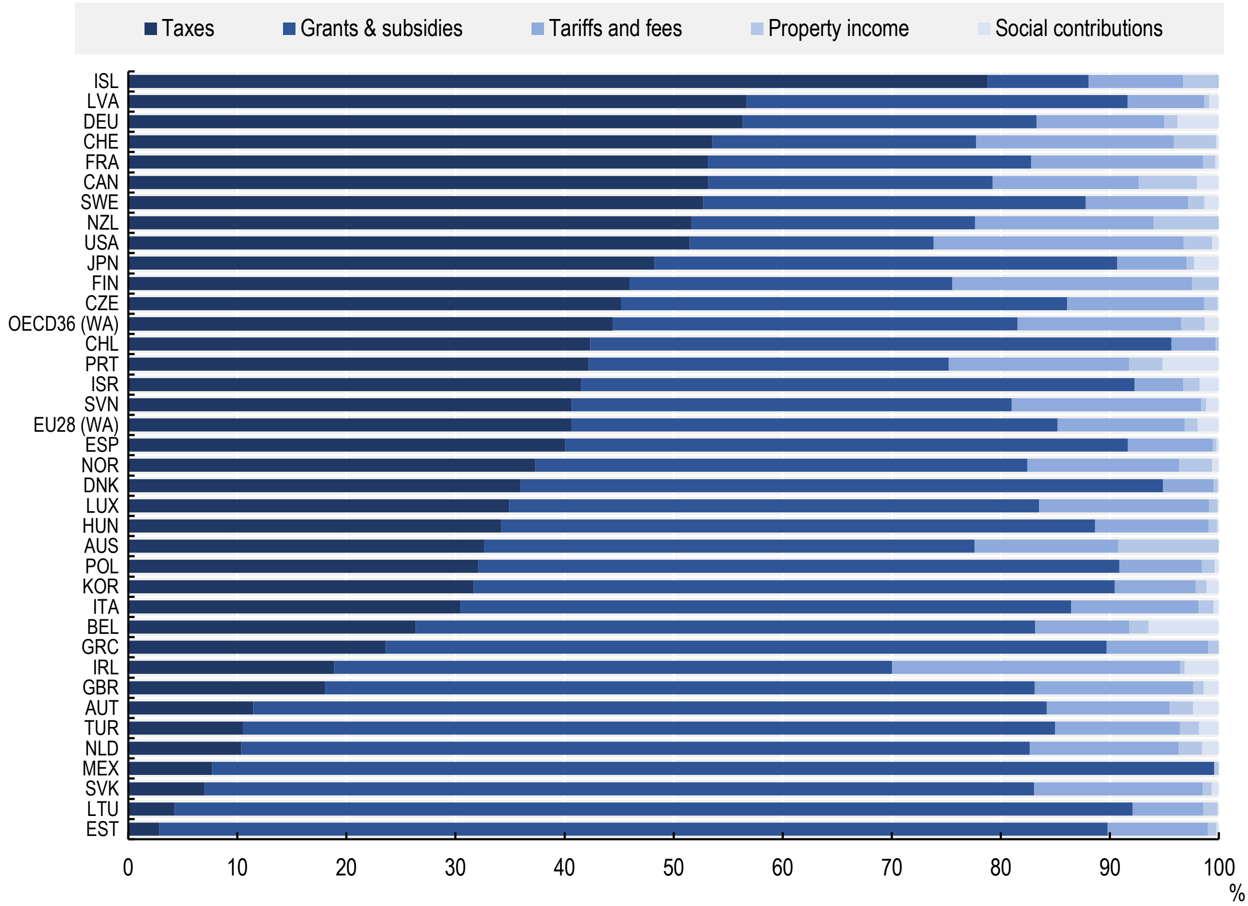
The impact on subnational government revenues

The COVID-19 crisis has generated a significant fall in subnational government revenue: tax revenue, user charges and fees and income from physical and financial assets. Not surprisingly, the impact on subnational governance finance, is likely to depend on the mix of these revenue sources (Figure 12). In countries where subnational governments are largely funded by central governments transfers (e.g. Estonia, Lithuania, Mexico, the Slovak Republic), the negative impact may be smaller[1]. However, in some countries, especially federal countries where most of transfers to local governments come from the state governments, there is some concern about the ability of states to sustain their transfers, such as in the United States (Chernick, Copeland and Reschovsky, 2020[60]).

[1] In practice, this can be difficult if central government grants are financed by national tax receipts which have likely declined

Figure 12. Sources of subnational government revenues vary across countries

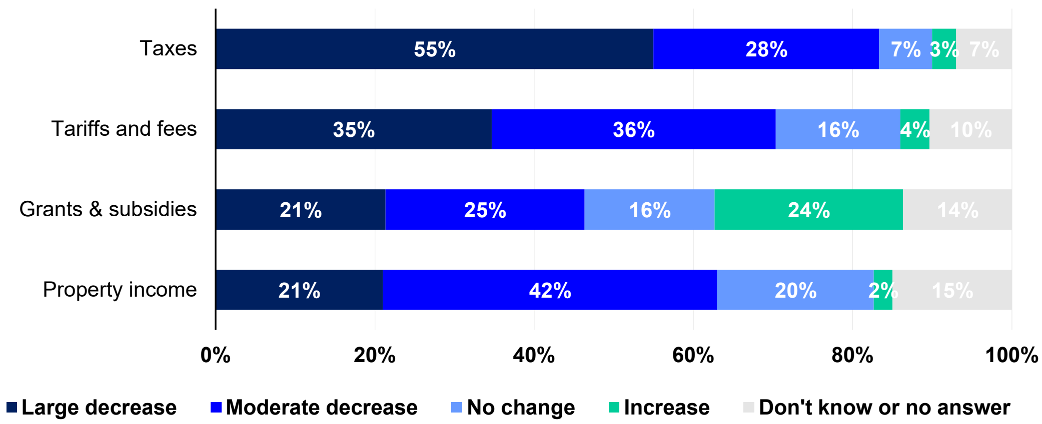
Breakdown of subnational government revenues by category (% of total revenue, 2018)



Note: 1. Australia and Chile: estimates from IMF Government Finance Statistics; 2. 2017 data
Source: (OECD, 2020[61])

In the European Union, according to surveyed subnational governments, tax revenue is anticipated to be the most affected revenue source, followed by user charges and fees. Grants and subsidies, as well as revenue from assets are expected to decrease to a lesser extent, but probably in the medium and longer term (OECD-CoR, 2020[57]) (Figure 13).

Figure 13. Impact on subnational revenue, by revenue source



Note: Subnational governments submitted their answer to the survey in June-July 2020
Source: (OECD-CoR, 2020[57])

The impact on tax revenue is large

The COVID-19 pandemic is expected to result in a strong drop in both shared and own-source tax revenue. Declining economic activity, employment and consumption arising from COVID-19, and particularly containment measures, will automatically reduce receipts from personal income tax (PIT), corporate income tax (CIT) and value added tax (VAT). In addition, measures such as tax breaks, exemptions, deferrals and a drop in rates that were decided within the framework of recovery packages by national and subnational governments as counter-cyclical tax measures, could amplify the mechanical decline in tax receipts. Many regional governments and municipalities have adopted tax relief measures to support firms and households. A majority of these include a number of tax measures that will result in decreased tax receipts for subnational government budgets. Increased delinquencies could also contribute to tax revenue decline. As subnational government revenues are often based on the previous year's activity (e.g. income taxes), most are likely to see the situation deteriorate in 2021 and even 2022, regardless of the degree of national-level recovery. Beyond shared or own-source national taxes – many other subnational taxes may be affected by the economic decline and tax decisions as well. Among these are:

- Taxes on business. Examples include the municipal business tax in Germany (*Gewerbesteuer,* 44% of municipal tax revenue*)* and Austria (*Kommunalsteuer, 68% of municipal tax revenue*), the municipal trade tax in Luxembourg (*impôt commercial communal,* 91% of municipal tax revenue) and the "territorial economic contribution" in France, comprising a real estate tax (*contribution foncière des entreprises or CFE*) and a tax on business value-added (*contribution sur la valeur ajoutée des entreprises* or *CVAE*).
- Taxes on economic activities, such as the regional tax on productive output (IRAP) in Italy, the local income tax in Korea and Japan, and Japan's resident tax levied on individual and business income.
- Taxes linked to real estate activity, e.g. real estate transaction taxes, building permits and rights, etc.
- Taxes related to household and business consumption, e.g. sales tax, motor fuel taxes, taxes on energy products, taxes on cars, taxes on leisure, tourist tax, advertising tax, gambling tax, etc.
- Tax proceeds from commodity sectors.

The recurrent property taxes on land and building should be less affected as they are a less volatile source of revenue. However, if the property tax is calculated on the basis of the market value of property, there may be a risk of decline, but the reduction in property values will be reflected in budgets later (2021 or 2022). It is worth noting however that there has also been an increase in some areas due to an increase of newcomers, who take advantage of teleworking, particularly peri-urban or rural areas with good transport connections (e.g. Auckland prices have increased ~18%).

In addition, there is likely to be a drop in business-property tax revenues as a result of business bankruptcies. A drop in revenue could also come from exemptions and write-offs for some categories of tax payers in financial distress, as well as from increased delinquencies. Subnational governments will need to cope with property tax-payment deferrals. Potential delays that extend through a new fiscal year could pressure budgets and stress liquidity in countries where the property tax is the main source of municipal tax revenue (e.g. Australia, Canada, Estonia, Ireland, Israel, Lithuania, the Netherlands, the US and the UK) (OECD, Forthcoming[62]).

User charges and fees have been strongly affected, in particular in urban areas

Subnational governments may also suffer from a large decrease in user charges and fees resulting from the closure of public facilities (e.g. cultural, recreational, educational and sport venues like swimming pools, golfs, etc.) and reduced demand for local public services, such as public transport, school meals, car parks, tolls, kindergarten fees, administrative fees, etc. Drops in such revenue could be compounded by a rise in delinquent or unpaid fees (e.g. garbage collection, sewage, water provision, etc.). For example, in the US, the public transport sector is experiencing dramatic revenue drops, while also seeing significantly increased costs as a result of COVID-19. According to a study prepared for the American Association of Public Transport, US transit agencies are facing an overall funding shortfall of USD 48.8 billion between Q2 2020 and the end of 2021. Nationally, transit ridership and fare revenues were down in April 2020 by 73% and 86% relative to April 2019, respectively (APTA/EBP, 2020[63]). 76% of municipalities and 63% of regions are forecasting lower revenues from user charges and fees. User charges and fees, resulting from the delivery of local public services, are a more important source of revenues for municipalities than for regions.

The impact on assets-based revenue vary a lot across countries. Income from physical and financial assets could be also affected. This can include drops in rental revenues, lost dividends from local public companies, less revenues from sales of land, and lower royalty revenues resulting from the downturn (e.g. decreased prices for raw material, and lower production). Subnational governments dependent on revenue from oil producers may also experience a substantial revenue decline (e.g. in Australia, Canada, Mexico, Norway, and Russia) (S&P Global Ratings, 2020[64]). About two thirds of subnational governments are anticipating a decline in revenues from assets.

Overall, surveyed regions and municipalities in the European Union expect the crisis to have a slightly larger impact on revenue than on expenditure, especially large municipalities of over 250 000 inhabitants (where two-thirds of respondents forecast the impact to be highly negative, compared to 41% in municipalities where the population is below 10 000 inhabitants (OECD-CoR, 2020[57]).

The impact on subnational government expenditure

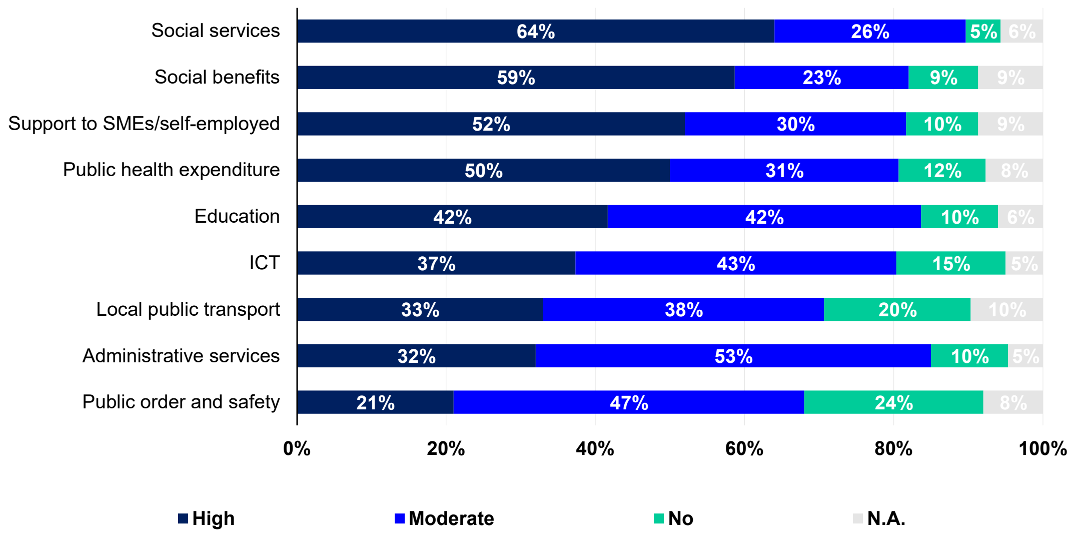
This crisis is calling on regions and cities to increase their expenditure in many areas, with the impact, of course, being more severe in those subnational governments with responsibility for critical aspects of health care systems, including emergency services and hospitals. In 2018, health expenditure accounted for 18% (weighted average) of subnational expenditure in the OECD. Additionally, subnational governments have expenditure responsibilities in social protection, which is particularly affected by the COVID-19 crisis, including social assistance and social benefits (14% of subnational expenditure). Beyond health and social responsibilities, subnational governments are involved in key areas impacted by the crisis, including education (the first spending item at 24%), public administration (15%), economic development and transport (13%), public order and safety (7%), utilities (waste, water, etc.), etc. In the context of the crisis, subnational governments are confronted with a number of complex and costly tasks. They had to manage the full or partial closure of certain services and facilities and then their reopening while having to ensure the continuity of essential public services, adapt services either physically (public transport, collection of waste, cleaning of public spaces) or virtually (tele-health consultations, remote education arrangement, local tax payments, access to government information, etc.) and enable officials and employees to work remotely. Finally, in many countries, subnational governments are involved in delivering support policies for SMEs and the self-employed, as well as infrastructure investment.

Although some expenditure items have been temporarily reduced (e.g. cancellation of events, decrease in intermediate consumption, for example petrol) or deferred in time (e.g. investments), most subnational spending items have increased in the short term (emergency expenditure), and also in the medium-term in response to exit strategies and recovery programmes.

According to the OCDE-CoR survey, over half of subnational governments anticipate significant expenditure increases in social services and benefits, support to SMEs and the self-employed, and public health (Figure 14). More moderate expenditure increases are expected in education, information and communication technologies, adapting local public transport, adapting administrative services and public order and safety. Regions in the EU are more likely than municipalities to experience increased spending on health services, support to SMEs and the self-employed, and adaptation of public transport, in large part reflecting their broader responsibilities in these areas (OECD-CoR, 2020[57]).

Figure 14. COVID-19 pressure on subnational expenditure, by service area

In the following service areas, how much pressure do you expect the COVID-19 crisis to put on your subnational entity's expenditure?



Note: Subnational governments submitted their answer to the survey in June-July 2020
Source: (OECD-CoR, 2020[57])

The impact on health expenditure is very strong

The impact on health expenditure is significant. In a number of OECD countries, states, regions, and municipalities are responsibility for public health services and hospital spending. Subnational governments account for about 24.5% of total public health expenditure in the OECD[2] (Figure 6) and 12% of subnational government expenditure[3]. However, the degree of decentralisation in the health sector varies markedly. The OECD developed the typology to indicate the level of decentralisation in the health sector in OECD countries (see Annex 1) based on the combination of three subnational expenditure spending ratios: *i)* as a share of total public health expenditure; *ii)* as a share of total subnational expenditure; *iii)* as a share of GDP.

Regional and local governments have differentiated responsibilities in health services. Therefore, this crisis will have differentiated impact within the subnational government sector. In most federal countries, health care is a major responsibility of state governments, which are responsible for secondary care, hospitals and specialised medical services. In unitary countries, where health care is almost exclusively a regional-level responsibility, the role of regional governments may be also significant (e.g. Denmark, Italy and Sweden). The role of municipalities in health care generally concentrates on primary care centres and prevention. However, in some countries, municipalities or inter-municipal cooperation bodies may have wide responsibilities in healthcare services and infrastructure.

While it is too early to present fiscal data, the health crisis has led to significant increases in subnational government health expenditure pressures, partly offset by the support from central governments in many countries. The pressure on public health expenditure is particularly high for regions (69% versus 44% for municipalities), in large part reflecting their broader responsibilities in this area in many EU countries (OECD-CoR, 2020[57]). This is linked to spending to acquire healthcare equipment and consumables (masks, ventilators, tests, protective equipment, etc.), cover staff costs (employment of temporary medical staff, overtime payments, bonuses), pay for additional tasks such as the cleaning and disinfection, construction and conversion of temporary emergency facilities, medical transport, vaccinations, etc. Local governments are also distributing masks and participating in testing and contact-tracing programmes in partnership with regional and national governments.

The impact on social expenditure is significant and will be long-lasting

The COVID-19 crisis is placing significant pressure on social protection spending given its impact on population groups with diverse and frequently complex needs. These include elderly and dependant people, those with chronic or long-term illnesses, the poor and low-income families, the homeless, uninsured households, informal workers, migrants, youth, students and children at risk, people with disabilities, isolated people, and women and/or children at risk of domestic violence and indigenous population.

Among OECD countries, social protection represents 14% of total public social expenditure (Figure 6), though this is much higher in countries where subnational governments have significant social protection responsibilities (e.g. Austria, Belgium, Germany, Japan, the Nordic countries, and the UK). There are large disparities in social protection spending among OECD countries. For example, social protection expenditure accounts for 56% of subnational expenditure in Denmark, around 35% in Ireland and the UK but less than 10% in 10 OECD countries. This indicates that subnational governments are not mobilised

[2] 24.5% refers to unweighted average for OECD countries. When taking weighted averages (by population), subnational governments represent 31.8% of total non-consolidated public health expenditure and 38% of consolidated public health expenditure.

[3] 12% refers to unweighted average for OECD countries. When taking weighted averages (by population), health expenditure accounts for 18% of subnational expenditure.

in the same way for social services, despite the fact that local governments are often the first resort for citizens in need. Even if social protection is not a subnational government's responsibility, it often has to respond to social emergencies.

During the emergency, subnational governments have undertaken proactive initiatives to provide social/community support to vulnerable populations (OECD, 2020[65]). In the longer term, social expenditure will certainly continue to increase as more welfare benefits are included due to the rise in unemployment and the number of aid seekers. Unemployment payments, guaranteed minimum revenue, family support, housing subsidies, emergency aid, ageing, etc. will add to the pressure on subnational government social expenditure.

The impact on economic affairs expenditure will depend on the involvement of subnational government in recovery plans

Economic affairs[4] represents 13.6% of subnational spending in the OECD on average. Subnational governments in the OECD account for approximately 34% of total public spending in this area (Figure 6), although in some countries it is more than 50% (e.g. Australia, Belgium, Japan, and Spain), and in the US it has reached 69%. Some state and regional governments, as well as local governments took early action to support their local economies, focusing mainly on SMEs, the self-employed, and informal workers, as well as on sectors that were highly affected, such as tourism, trade, restaurants, etc. In the longer term, as major public investors, subnational governments may be further mobilised to participate in stimulus packages targeting public investment, in order to compensate for a decline in private investment.

The impact on subnational government budget balance and debt

The effects on sub-national finances of course extends beyond the immediate impact on expenditures and revenues and their direct impact on assets and liabilities, there are also indirect impacts on the values of assets that may hamper the ability to borrow. Local public companies are also exposed to the COVID-19 crisis. Some categories suffered from the cessation or slowdown of activity, particularly in the tourism, culture, leisure and transport sectors. Business failures and threats to capitalisation and equity affect subnational governments as shareholders (FEPL, 2020[66]).

Preliminary data on 2020 fiscal accounts show that the impact on budget balances was lower than expected. In some cases, budgetary positions have improved, thanks to the support from central/federal government (which have decided to absorb most of the fiscal shock on the national economy and which in turn saw their budget balances significantly deteriorate in 2020). In 2021, a significant deterioration of subnational budget balance is expected in many countries. Subnational government expenditure may continue to increase in many countries (expenditure related to the recovery, social protection and health) while the support of central/federal, or state government will probably diminish, reducing its stabilising role.

In 2020, subnational government debt - short and long-term - has increased in many countries, also favoured by good financing conditions, in particular low interest rates (see Annex 2). Short-term borrowing has been used to bridge delays in revenue and cover a lack of liquidity in 2020. Many national governments facilitated subnational government access to short-term borrowing and credit lines, including specific COVID-19 credit lines (Colombia, France). By June 2020, 15% of surveyed subnational governments in the EU had increased borrowing to cope with the crisis and 24% were planning to increase borrowing (Figure 15). Short-term and emergency loans represented more than half of new subnational government borrowing in the European Union in June 2020.

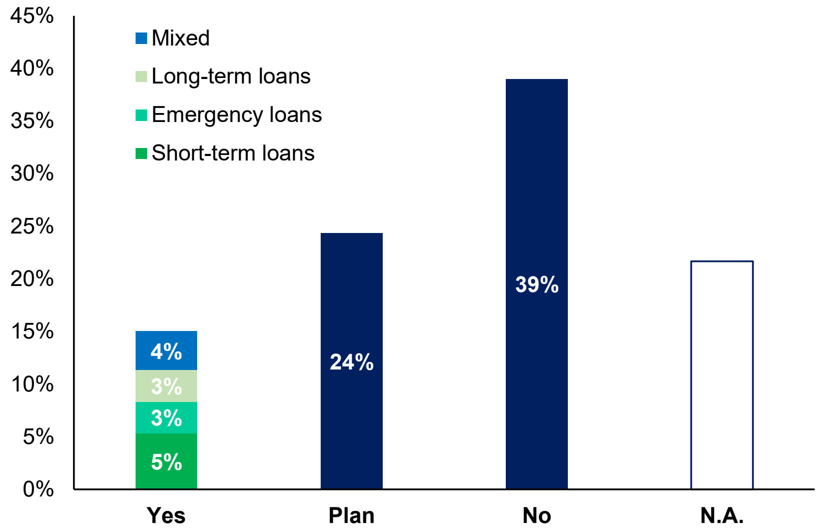
[4] Economic affairs are mainly composed of transport but also including commercial and labour affairs, economic interventions, agriculture, energy, mining, manufacturing, construction, etc.

According to recent estimates, long-term borrowing has increased in 2020 and will continue to increase in 2021 as a result of subnational government activity recovery programmes and public investment stimulus plans, relaxed regulatory constraints on subnational long-term borrowing and eased access to long-term borrowing, notably on capital markets (S&P Global Ratings, 2021[67]).

Going forward, subnational government borrowing will depend on the depth and longevity of the crisis, the availability and amount of support from the central/federal government, and the appetite of subnational governments to continue a counter-cyclical fiscal policy to support the recovery. It will also depend on the fiscal capacity of subnational government to access new borrowing. Many regions and municipalities are already, and will probably be, weakened by lower fiscal performance and creditworthiness. In some cases, the capacity to borrow is limited by the current level of indebtedness of subnational governments.

Figure 15. New borrowing to cope with the COVID-19 crisis

Has your subnational entity increased its borrowing to cope with the COVID-19 crisis?



Note: Subnational governments submitted their answer to the survey in June-July 2020
Source: (OECD-CoR, 2020[57])

Subnational government borrowing could then reach new record at global level. Global borrowing could hit USD 2.25 trillion in 2021, including 40% for China, 20% for the United States, 8% for Germany, 6% for India and 5% for both Japan and Canada. Global bond issuance could average USD 1.9 trillion in 2020-2022, and cover around 84% of regional and local governments. Around half of this will be placed in emerging markets - China, India, Argentina, Russia, Brazil, and Mexico mainly - with the rest issued in developed markets (S&P Global Ratings, 2021[67]). Increased borrowing will push global subnational government outstanding debt to USD 14.6 trillion by the end of 2021 and USD 15.4 trillion by the end of 2022. The debt stock remains quite concentrated. The United States and China account each for 29% of the global outstanding debt, followed by Japan (10%), Canada and Germany (6% each) and India (5%).

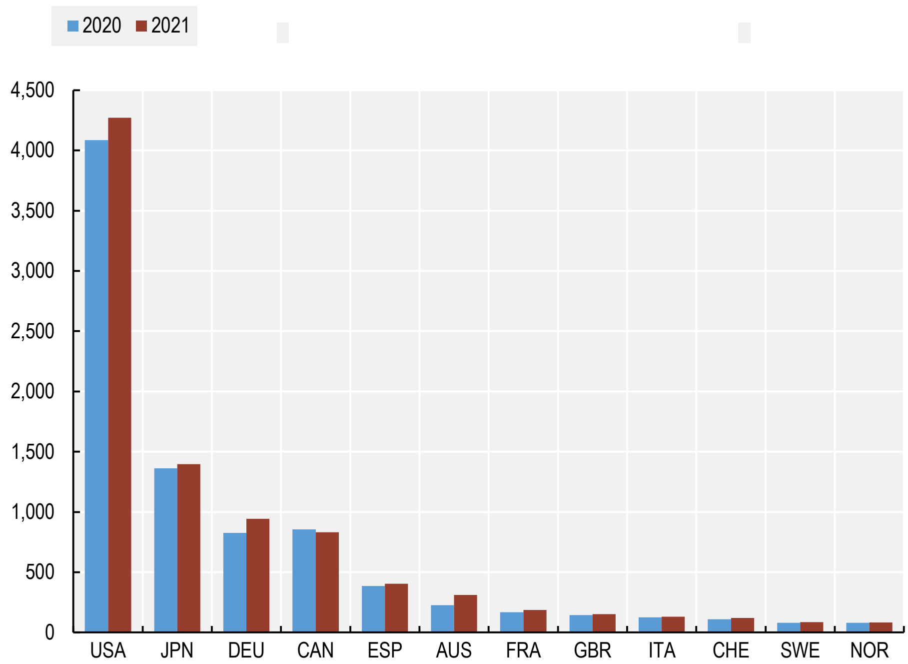
In developed economies[5], subnational government gross borrowing has increased and reached a new peak of USD 1.1 trillion in 2020, roughly 20% higher than the average for 2015-2019 and should remain at this level in 2021 to large extent because of widening deficits and countercyclical fiscal policy measures

[5] 17 countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, New Zealand, Norway, Spain, Sweden, Switzerland, the U.K., and the U.S.

taken to support local economies (S&P Global Ratings, 2021[68]). In most countries, gross borrowing has exceeded pre-crisis projections in 2020 (Annexe 2). Australia, Canada, , France, Italy and Japan should experience a high increase of gross borrowing in 2021 while in the United States, the massive forthcoming stimulus from the federal government will likely result in the tapering of state and local governments borrowing. Bond issuance has represented about 75% of gross borrowings in 2020 (S&P Global Ratings, 2021[68]). Overall, local and regional governments outstanding debt in developed markets would amount to around USD 9.2 trillion by end-2021 and USD 9.4 trillion by end-2022 as net borrowing will remain above zero (Figure 16), the United States accounting for 47%, followed by Japan (15%), Germany (10%), Canada (9%) and Spain (4%) (S&P Global Ratings, 2021[68]).

Figure 16. Subnational debt stock to soar as net borrowing increases

Subnational debt outstanding in 2020 and 2021, USD billion



Source: Own calculations based on (S&P Global Ratings, 2021[67])

Box 3. Insights into COVID-19's fiscal impact on subnational government

- In **Australia**, state and local government tax revenues declined by 2.7% (AUD 769 million) in 2020 according to recently released data from the Australian Bureau of Statistics. Payroll taxes were the most impacted tax revenue stream, declining by 17% through the year. This reflects a continuation of payroll tax relief policies in response to the COVID-19 pandemic. This decline was offset by increase of other tax revenues sources, such as stamp duties and property taxes due to increases in the volume of transfers and rising property prices. The state and local government sector recorded a negative net operating balance of AUD 9.9 billion at the end of 2020. The net operating balance of state and territory governments showed strong regional variation. Western Australia was the only state to record a positive net operating balance due to continued strength in revenues from royalties and stamp duties on conveyances. Victoria recorded the largest decline of its net operating balance due to a second major COVID-19 outbreak and 111 day lockdown, which was accompanied by additional subsidies and health service spending.
- In **Austria,** the repercussions of the pandemic put a strain on state and municipal public finances. Their income shares are directly affected by a lower tax base and tax deferrals. At state level, it is expected that all state governments will be equally affected by the decrease as a result of Austria's fiscal equalisation system, which has a levelling effect across regions (S&P Global Ratings, 2020[69]). At the municipal level, it is estimated that the crisis will cost up to EUR 2 billion in 2020 because of additional spending needs. Revenues could decrease by 5% to 11% compared to 2019 (Wiener Zeitung, 2020[70]). Contributing to this is a decrease in the municipal share of federal taxes (sales tax, wage tax, corporate tax), and a drop in municipal tax revenue (local and tourist tax, fees from services such as childcare, etc.).
- In **Canada**, the consolidated general government sector recorded a deficit of CAD 25.3 billion (1.1% of GDP in 2019) for fiscal year 2019 (ending March 31st, 2020), compared to a surplus in fiscal year 2018. The federal government and the consolidated provincial, territorial, and local governments contributed almost equally to the deficit. Expenses outgrew revenue for both the federal and subnational governments as consolidated revenues increased by 1.7% compared to 2018, the slowest growth since the 2008 financial crisis. Federal grants to the provinces and territories increased by 2.1%, totalling CAD 2,550 per capita for the consolidated provincial, territorial, and local governments. Municipalities may have lost between CAD 10 billion and CAD 15 billion in revenue over the first three quarters of 2020 and unanticipated costs including public safety measures and support for vulnerable populations (Federation of Canadian Municipalities, 2020[71]). A report from the Parliamentary Budget Officer (PBO) stressed an asymmetric fiscal impacts of the pandemic. Updating its assessment of the sustainability of government finances, in particular for subnational governments (provincial-territorial, local and Indigenous governments), PBO estimates that current fiscal policy is not sustainable over the long term because of rising health care costs, the negative impact of the pandemic and oil price shocks results. However, "fiscal gaps" vary a lot from one province to another: Quebec, Ontario, and NS are given "sustainable fiscal policy" rating by PBO but all other provinces/territories are unsustainable with a range within these provinces/territories in terms of the fiscal gap (PBO, 2020[72]).
- In the **Czech Republic,** despite a strong decrease in tax revenues in 2020 (-9.1%) and an increase in both current and capital expenditure, subnational governments have ended the year with budget surplus. This is explained by the extraordinary support of the central government through additional transfers but also by important fiscal reserves and good fiscal health prior to the pandemic (Government of the Czech Republic, 2020[73]).

- In **Finland,** in December 2020, the Ministry of Finance estimated that the Finnish GDP shrinks by 3.3% in 2020 but grows by 2.5% in 2021. Due to the high degree of decentralisation in Finland, the municipalities have been in the forefront of tackling the COVID-19 epidemic. The Ministry of Finance has estimated that the overall fiscal impact for years 2020 and 2021 for the municipal sector is about EUR 5.1 billion which corresponds to about 6.6% of municipal sector expenditures during these years (Finnish Ministry of Finance, 2020[74]; Statistics Finland, 2021[75])While the economic effect of COVID-19 on municipalities will spread over a much longer period, and the final effect is therefore still largely unknown, from finance perspective the year 2020 has been less negative for municipalities than predicted in spring 2020. COVID-19 has not reduced municipal tax revenues as sharply as was predicted in the spring, and the central government has largely covered the extra costs incurred by the municipalities. While the overall effect of COVID-19 for years 2020 and 2021 to municipalities seems to be well covered with central government support, the situation at municipal level varies considerably. Some municipalities have been probably overcompensated, allowing them to build surplus. The municipalities that have been worst hit by the COVID-19, have less positive situation.
- In **France,** according to an update of the Cazeneuve report published at the end of February 2021, the total impact on subnational government finance will be lower than expected at the end of July 2020, thanks to measures taken by the central government in 2020 to support local finance. It would reach EUR 3.8 billion, instead of EUR 7.5 billion. The loss in revenues and increase in expenditure have been lower than initially estimated. Subnational self-financing capacity will decline by approximately 10.5% (instead of 14.6%) (Rapport Cazeneuve, 2020[76]; Rapport Cazeneuve update, 2021[77]). Tax revenues most impacted are the tax on real estate transactions (DMTO), the tax on business value-added (CVAE), the tax on transport, the value-added tax (VAT, though this will be limited thanks to a guarantee mechanism) and the tax on energy consumption (TICPE). Strong disparities remain between the different subnational government levels, as well as within the same category of subnational governments (Rapport Cazeneuve update, 2021[77]). According to new estimates, the fiscal impact will be stronger on *département*s, followed by municipalities and inter-municipal cooperation structures and on regions (Cour des Comptes, 2020[78]). Although municipalities and inter-municipal groupings resist better than expected, large municipalities are more impacted than smaller ones, especially because of the decrease in user charges and tariffs. A study carried out by France Urbaine, based on 78 large cities, shows on average a drop in real operating income of between 1% and 9% (versus 1% on municipal average) and a loss of self-financing capacity between 20% and 30%. French Metropolitan cities suffer from the strong decrease of one of their main source of revenues, a contribution paid by companies to finance public transport, called *Versement Mobilité*. Touristic and mountainous municipalities (ski resorts) are also particularly hit by the crisis. It is estimated that nearly 4 000 touristic municipalities are classified as "at risk" because of the sensitivity to certain revenues such as tourist tax or from casinos, horse racing, ski lifts, taxes on casinos and other seasonal activities (Sénat,, 2020[79]). Overseas territories are also considered at risk. Subnational governments in (Guadeloupe, Guyane, La Réunion, Martinique, and Mayotte) are particularly affected because their revenues are especially sensitive to economic fluctuations *(*e.g. a local VAT on imports, tourist tax, etc.) and they have high social expenditures (AfD, 2020[80]). Similarly, some *départements* will suffer more than others from rising social spending, especially individual solidarity allowances (AIS) which increased by + 5.3% compared to 2019, themselves largely driven by the increase in the minimum revenue, the RSA (+ 7.3%)
- In **Germany**, revised data published by the Federal Ministry of Finance in September 2020 indicated a lower loss of tax revenue than expected: 5.5% (instead of 11% for the Lander) and 9.8% (instead of 15%) for the municipalities. This revision reflects the federal government's

expectation that GDP growth will contract less than initially estimated in 2020. The local level is affected by a significant drop in local business tax receipts (44% of municipal tax revenues), as well as in the municipal share of income tax. However, this decrease has been mitigated by additional support from the Federal and state governments through emergency transfers, in application to the Municipal Solidarity Pact. As a result, the central government and social security funds absorbed most of the shock on public finances in 2020. According to provisional data published in February 2021, state governments and local governments recorded deficits of EUR 18 billion (versus a surplus of EUR 16.6 billion in 2019) and EUR 1.3 billion (versus a surplus of EUR 5.6 billion in 2019) respectively in 2020 to be compared to EUR 139.6 billion for the general government sector i.e. 4.7% of GDP (Destatis, 2021[81]). It was the first deficit since 2013 for the state government sector and since 2014 for the local government sector. In response to the deficit, Lander debt grew by 7.7% during the first three quarters of 2020 (Fitch ratings, 2021[82]). For 2021, the latest estimates a slower recovery slower than expected, and therefore still negative impact on subnational finance.

- In **Iceland,** a report released in August 2020 estimates that municipal revenues will decrease significantly in 2020 due to the COVID-19 crisis, with a total shortfall of over ISK 33 billion, accounting for 8.5% of total municipal expenditure in 2019 (and 1.1% of GDP). Municipal tax revenues, their largest single source of revenue, will shrink significantly. In general, the impact of COVID-19 is the most significant in tourist areas, and in municipalities which assume the most expenditure on social services and financial assistance sectors (Ministry of Transport and Local Government, 2020[83]) A report released in February 2021 estimates municipal operating deficits equal to 5.8% of revenue for 2021 and continual deficits until 2024 at the earliest. Cash reserves are expected to decline from an average of 13.4% of revenue from 2010-2019 to 1% of revenue in 2021. Combined debt and liabilities are expected to increase to 124% of municipal revenue and to continue rising until 2024 (Icelandic Association of Local Authorities, 2021[84])
- In **Italy**, municipalities have suffered from a decrease in tax revenues (personal income tax - IRPEF, tourist tax, property tax IMU and Tosap/Cosap) and user charges combined with an increase in expenditure. Regional governments also face financial difficulties. Most of their expenditure is concentrated on health (85% on average), which have substantially increased. To this are added new exemptions for the regional tax on productive output (IRAP) and a drop in the regional surtax on the personal income tax and the regional tax on vehicles. Drop in tax revenues in 2020 has been however mitigated by significant support from the central government. For 2021, regional and local governments anticipate further spending increases, particularly in the areas of health care and capital spending. Capital expenditures are expected to rise to 8.3% of total expenditure in 2021. On the revenue side, regional and local governments do not anticipate tax revenues surpassing pre-pandemic levels until late 2022 at the earliest. Regional tax revenues are anticipated to be less affected than municipal tax revenues as they are more subsidised by the government (Moody's, 2021[85]).
- In **Japan,** the central government's strong support through several measures, such as subsidies to cover pandemic-related expenditures, has mitigated the fiscal pressure on local and regional expenditure (Moodys, 2021[86]). Prefecture have also used extensively their reserve funds. In July 2020, all 47 regions had already used 58% of their reserves (Asahi Shimbun, 2020[87]). Although an economic recovery is expected in Japan in fiscal year 2021, local tax revenues should decline by 6.5% compared to 2020 as there is time lag of one year. Decline in tax revenues will be stronger for prefectures than cities, given prefectures larger reliance on cyclical corporate taxes (representing 25% of their tax revenues) while cities rely more on property taxes (40% of their tax revenues) which are more stable. Expenditure needs will remain high, in particular social welfare costs driven by an ageing population. An increase in local and regional

debts is expected in 2021, however credit pressures should be limited by low interest rate environment expenditure (Moodys, 2021[86]).

- In **Mexico**, the pandemic has led to subnational governments'' revenue losses and expenditure increases while subnational governments have limited ability to take on short-term debt to cover operating costs. 2021 is an election year and federal legislation requires outgoing administrations to payoff short-term debt before leaving office (Ayala Espinosa, 2021[88]). State and municipal own-revenues are estimated to have declined by 5% in 2020 as a result of the pandemic and lockdown measures, while federal unconditional transfers decreased by an estimated 5.6% (S&P Global, 2020[89]). These transfers account for a substantial proportion of state and municipal revenues, 90% and 65% respectively. This drop in revenue was cushioned by funds from the Federal Entities Income Stabilization Fund (FEIEF) which made up for 75% of the shortfall. States are not expected to receive additional FEIEF transfers in 2021 as they only apply if federal transfers decrease relative to what was budgeted for that year. In 2021, a 6.4% real annual decline in unconditional federal transfers is expected based on the latest federal budget (S&P Global, 2020[89]).
- In **New Zealand**, the Department for Internal Affairs established a COVID-19 Local Government Response Unit in early 2020, which brought together local governments representatives and the National Emergency Management Agency. Priority work streams focused on maintaining essential local government services, inter-agency governance, local government finance and social wellbeing. The group assessed the financial impacts on local authorities and noted that the financial impacts did not fall evenly among councils. The Local Government Funding Agency was noted to have borrowed more than usual on behalf of local councils (Department of Internal Affairs, 2020[90]).
- In **Norway,** a working group consisting of members from KS and the central government has been set up to estimates the fiscal impact of the COVID-19 crisis on municipal finance. In October 2020, a first report estimated that the cost for the municipal sector about NOK 14 billion in 2020 (EUR 1.4 billion). This amount includes revenues losses (user charges and fees, taxes), additional spending (e.g. higher expenses for infection control and temporary staff) but also savings. The impact however differs a lot among municipalities. The report will be updated in 2021 ((Ministry of Local Government and Modernisation, 2020[91]).
- In **Russia**, according to data published by the Russian Ministry of Finance, regional governments ran a combined deficit of 5% of total sector revenue in 2020 and are expected to run a deficit of 2% in 2021 (after balanced budgets or surpluses during the previous four years). This deficit was fuelled by a 13% decrease in corporate income tax receipts, a major source of revenue for regions, and increased pandemic-related expenditures. Despite transfers from the federal government, regions were forced to delay a significant portion of planned expenditures for 2020. Regional debt levels increased by 18% in 2020 due to the deficits and are expected to grow by another 10% in 2021. The 2020 debt growth rate was lower than anticipated as regions were able to draw upon liquidity cushions, however, these reserves are expected to be smaller in 2021 (Moodys, 2021[92]).
- **In Spain,** the fiscal impact of COVID-19 has been absorbed by the Central Administration and to a lesser extent by Social Security, resulting in a very atypical year for subnational government finance. The central government took the political decision to shield the Autonomous Communities and local governments from the budgetary effects of this pandemic. It decided to massively support regional and local budgets and offset both the additional expenses in Health and Education and the fall in subnational taxes (BFF Banking Group, 2020[93]). Significant transfers to subnational budgets through the COVID-19 Fund, Extraordinary Social Fund, National Housing plan' subsidies etc.) resulted in limiting budget balance deteriorations. Overall, it is estimated that the deficit of the Autonomous Communities will close at around 0.6% of GDP

in 2020. That of local authorities will be close to budgetary balance, after recording years of surpluses. This should not hide the fact that revenues from regional and local taxes declined substantially (in particular (23.8% decrease in stamp duties tax collection linked to real estate transactions) as well as that social and health regional spending derived from COVID-19 increased substantially - an increase estimated at more than 6 billion i.e. 0.55% of GDP as of October 2020 (Spanish Ministry of Finance, 2020[94]). For 2021, the Independent Authority for Fiscal Responsibility (AIReF) estimates that the deficit will increase, reaching 0.8% of GDP at regional level and 0.1% of GDP at local level, with a risk of greater imbalances in 2022 (AiREF, 2020[95]).

- **In Sweden,** overall regional and municipal finances fared finally well in 2020 thanks to considerable support from the central government. General government subsidies to municipalities increased by SEK 18.7 billion in 2020 compared to 2019 as a direct response to the pandemic-related costs and loss in subnational revenues. Additional grants were provided for compensating health care and social services costs including COVID-19 testing and tracing, amounting overall to SEK 19 billion. In terms of revenue, municipalities and regions expect sharp declines from public transportation and cultural activities revenue streams, but also a decline in public dental care revenue and municipal tax loss. Thanks to this considerable aid given by the central government to regional and municipal governments, budget surplus is anticipated for both municipalities and regions for 2020. Following years could be more challenging on the fiscal side because of prolonged recovery and long-term effects and pressure from demographic development (SKR, 2020[96]).
- In **Switzerland,** individual cantons and cities may see noticeable differences in COVID-19’s impact on their revenue and expenditures, depending on their economic structure and the resilience of their tax base. Cantons and municipalities tax revenue could drop by an average 6%-8% year on year in 2020 if the country's GDP contracts by 6.5%, as currently forecast. The drop will continue in 2021 as Switzerland's tax collection is spread out over several years. Cantons’ health expenditure have significantly increased as they pay 55% of the invoiced cost of in-patient health care treatment for their residents, and are in charge of hospitals and implementing public health measures. Cantons have also started to support local economies. The crisis will generate additional borrowing needs by around 20%. However, most Swiss subnational government had balanced budgets before the crisis (S&P Global Ratings, 2020[58]).
- In the **UK**, Councils in England anticipate a budget impact of GBP 13 billion in fiscal year 2020-21, based on January 2021 data on council returns and forecasted spending from the Ministry of Housing, Communities, and Local Government (Ministry of Housing Communities and Local Government, 2021[97]). This predicted impact is 42% higher than the GBP 9.1 billion total impact that was forecasted by authorities in May 2020. Council authorities have forecasted a GBP 5.7 billion loss in council tax, business rate, and non-tax income for 2020-21 due to the pandemic (National Audit Office, 2021[98]). Based on data from February 2021, councils have reduced their expectations of losses from uncollected council tax for FY2020-21 by 35% (Rudgewick, 2021[99]); however, this has been counterbalanced by an increase in estimated losses from other revenue sources, namely user fees and charges (Rudgewick, 2021[100]). On the expenditure side, local authorities forecast a GBP 6.9 billion increase in spending, namely for service delivery (National Audit Office, 2021[98]). From December 2020 to January 2021 councils reported a 5% increase in their COVID-related spending due to tighter restrictions, with social care expenditure accounting for 40% of January spending (Rudgewick, 2021[100]). Other recent analysis estimate that English local councils faced a 7.9% increase in expenditure of compared to pre-crisis expenditure in 2020, and a 5.1% decrease in their revenue (council tax, business rates, fees, charges and commercial income). On the expenditure side, local councils face a 15% expenditure increase for housing and homelessness and 12% for adult social care

(Institute for Government, 2020[101]). Forecasts concerning England's local revenues however vary significantly across councils. For example, income loss may account for less than 5% of pre-crisis expenditure for 30% of local councils, while it may decrease by up to 20% of pre-crisis expenditure for 17% of local councils. Most affected councils are shire districts, which are particularly reliant on income from fees and charges on transport and from commercial activities (Institute for Fiscal Studies, 2020[102]). London and the big cities have been particularly badly hit with the economic downturn. Collection rates for the North East of England fell 1.3% for the same period, with a 0.2% fall in the North West (Institute for Fiscal Studies, 2021[103]).

- In the **US**, there is more optimism about the state of subnational public finances than a few months ago. State governments' stronger-than-expected tax revenue collections and continued fiscal support for the federal government have eased some of the pressure on state and local finances (Moody's, 2021[104]). However, the pandemic is still anticipated to cost regional and local governments USD 467 billion in lost tax revenue between 2020-2022 and to cause a 17% decline in subnational tax revenues in the first half of fiscal year 2022 alone (S&P Global, 2021[105]). At regional level, states face a strong decrease in receipts from the personal income taxes, sales taxes and corporate income taxes, combined with an increase of Medicaid spending. In 2021, it should increase by an estimated USD 29 billion (Council of State Governments, 2020[106]). At the county level, a recent report from the National Association of Counties anticipates a decrease in county government revenue through fiscal year 2021, coming from a loss in county-generated revenue (e.g. sales tax) and a loss of state funding (National Association of Counties, 2020[107]). At the municipal level, recent research estimates a drop in municipal revenue of 5.5% (USD 34.2 billion) under the less severe scenario and 9% (USD 55.3 billion) under the more severe scenario (Chernick, Copeland and Reschovsky, 2020[60]). This drop occurs through the decline in own-source revenue but could also occur with the (expected) decline in transfers from states to local governments. The results of a survey of 901 municipalities conducted by the National League of Cities, revealed that in the first nine months of the pandemic municipalities experienced an estimated 21% decline in revenues coupled with a 17% increase in expenditures over the same period. These losses could lead to significant cuts in critical public safety services, parks and recreation, and pay and jobs cuts. This could also affect infrastructure investment (National League of Cities, 2020[108]). The recent federal stimulus package continues to provide direct support to local governments, which in combination with economic recovery, is expected to boost local tax revenues and help to stabilize local finances. (Moodys, 2021[109]) The impact on states and local governments varies among state and local governments, with several risk and resiliency factors explaining why:
    - Concentrated economic activities, particularly in leisure, tourism, energy, and trade are a risk factor. States most dependent on tourism are likely see credit pressures due to revenue losses, spikes in unemployment, and reduced economic activity, and may face a significant lag during the recovery. For example, Hawaii and Nevada are considered to be the most severely affected states based on tourism's share of their economies (S&P Global Ratings, 2020[110]).
    - The level of budget reserves and liquidity and the possibility to access alternative sources to address short-term cash needs (lines of credit, rainy-day-funds, and other liquidity facilities). For example, a number of US states lack sufficient reserves to absorb the fiscal stress beyond the immediate short term, although most states, following the global recession of 2008, prioritized building up rainy days funds for a potential downturn. Average state reserves grew by 170% to about 13% of budgeted expenditures between 2009 and 2019 (National Association of State Budget Officers, 2019[111]).
    - The importance of volatile sources of revenues in budget also puts immediate pressure on subnational governments. For example, the largest revenue shortfalls are expected for cities

more reliant more on transfers from states, and more reliant on local sales and income taxes than on property taxes which are less volatile ((Chernick, Copeland and Reschovsky, 2020[60]).

- Additional risk factors include pension fund investment performance, the level of debt, increased Medicaid expenditures, remaining unemployment benefits, as well as the level of preparedness for a recession (Council of State Governments, 2020[106]).

Managing the territorial impact of the COVID-19 crisis and recovery

The economic, fiscal and social impact of the COVID-19 crisis on territories is differentiated, and its diverse risks vary greatly depending on location. This regionally differentiated impact calls for a territorial approach to policy responses on the health, economic, social, fiscal fronts, and for very strong inter-governmental coordination. Effective coordination mechanisms among levels of government are essential. “Strong coordination between all actors in charge of the response at central and regional levels is the basis of an effective response” (WHO, 2020[112]).

On the health front, the track, isolate, test and treat strategy has allowed countries to subsequently adopt territorial approaches to social distancing policies and lockdowns, but it has not prevented new outbreaks and successive “stop and go” measures. Vaccination campaigns have started in December 2020 in some countries, led by national governments and implemented in coordination with subnational governments, with significant implications in terms of logistics and multi-level governance.

On the economic front, many governments at all levels reacted quickly when the crisis hit in 2020. Governments provided massive fiscal support to protect firms, households and vulnerable populations. Global fiscal support amounts to USD 13.8 trillion, with USD 7.8 trillion in additional spending and forgone revenue and USD 6 trillion in equity injection, loans and guarantees since March 2020 (IMF, 2021[113]). Many countries, and the EU, have accessed new financing and reallocated public funding to crisis priorities, supporting health care, SMEs, vulnerable populations and regions particularly hit by the crisis. In addition, almost all OECD countries have introduced measures to support subnational finance – on the spending and revenue side – and have relaxed fiscal rules.

While immediate fiscal responses concentrated on protecting workers, the unemployed and vulnerable populations, many governments also announced in 2020 large recovery packages focusing on public investment and much larger than those adopted in 2008. These investment recovery packages focus on four priority areas: (i) strengthening health systems; (ii) digitalisation; (iii) accelerating the transition to a carbon neutral economy; and (iv) social infrastructure. Given the territorial differentiation of COVID-19’s impact, it is crucial for recovery strategies to have an explicit territorial dimension. Although this seems to be more visible in some countries, it is still a challenge in many others. It is also crucial to actively involve subnational governments in the implementation of these strategies early on, and not only municipalities, but regions as well.

This section focuses on six categories of measures taken by national and subnational governments to offer territorial responses to the crisis and the recovery:

1. Territorial dimension of health care responses
2. Economic and social responses
3. Digital responses
4. Subnational public finance responses
5. Public investment recovery strategies across levels of government

6. Inter-governmental coordination

A territorial approach to the health crisis

Testing and tracing strategies are at the heart of all countries crisis management strategies, as recommended by the WHO, with varying effectiveness. Effective testing strategies, combined with social distancing, are ways to limit the large costs of confinements while vaccines are being deployed. The nature of the policy response to the crisis in spring 2021 is shaped by the gradual deployment of vaccines across countries and regions. In Israel, where vaccination roll-outs have been rapid, the government has relaxed containment measures (OECD, 2021[9]).

Many countries have moved from an approach that was applied nationally when the crisis hit in spring 2020, to a more territorial and differentiated approach across regions, to adapt the crisis responses to local needs and to limit the costs and necessity of national lockdowns. In the early stage of the crisis in spring 2020, governments' responses to the health crisis were largely centralised and homogenous across regions. In a few countries, response measures were temporarily re-centralised (Eurohealth, 2020[116]), e.g. Italy and Norway, and in federal countries like Austria, Canada, Germany and Switzerland. Since mid-2020, national governments have increasingly adopted a more territorial approach in the response to the health crisis. In many countries specific measures regarding masks, school and restaurant closures, and full lockdowns have been adopted for specific localities or regions to limit their economic impact, e.g. in Australia, Canada, Colombia, France, Finland, Germany, Italy, and the UK. While such a differentiated territorial approach is natural in federal countries, in which health responsibilities are largely decentralised, it is also increasingly taking place in a number of unitary countries. Regional and local governments have also been more active since mid-2020 to adjust response measures to the local context.

Testing and tracing

Testing has been an essential component of exit strategies from containment. Since the pandemic's early stages, the WHO recommends massive testing to fight the coronavirus (WHO, 2020[114]). Frequent virus testing helps identify and isolate people who are infectious before the symptoms develop and prevent the risk of second waves. To reduce the risk of new waves of COVID-19 outbreaks, the OECD highlighted in 2020 that 70%-90% of all people who have been in contact with an infected person need to be traced, tested and isolated if infected (OECD, 2020[115]). This requires a massive increase in testing and can be costly. Yet, the challenges and costs associated with doing so pale in comparison to the costs lockdowns. (OECD, 2020[115]).

Testing and contact tracing was for example at the core of Korea's successful strategy to manage the first wave of infections with local governments responsible for COVID-19 screening stations allowing for quick and safe testing and monitoring of those in self-quarantine. European countries considerably increased their capacities and generalised testing for suspicious cases between May and November 2020. The use of auto-test has also been generalised.

In decentralised countries, while central governments need to ensure financial resources and coordination, the actual policy delivery is the responsibility of regional and local governments. Even in countries with more centralised health service delivery, local and regional governments contribute to organising testing and isolation measures, which leaves room for local initiatives and experimentation. It contributes to managing the pandemic's asymmetric impact, which often requires quick local-level reactivity to identify and control clusters.

Social distancing

Social distancing has been at the core of crisis management since the early phase of the pandemic and is likely to durably affect behaviour and policies. National health authorities and the WHO set out detailed recommendations to limit contagion. Among these are the need to ensure minimum distances between people. Advice on physical distancing affects public transport, schools, and urban mobility. One of the biggest challenges for local governments has been to organise the return to school under the best possible conditions, respecting social distancing rules amid soaring cases. The use of protective equipment to prevent the transmission of the virus has considerably increased. Many subnational and national governments are recommending the use of masks in public transport, shops, and other commercial or public spaces.

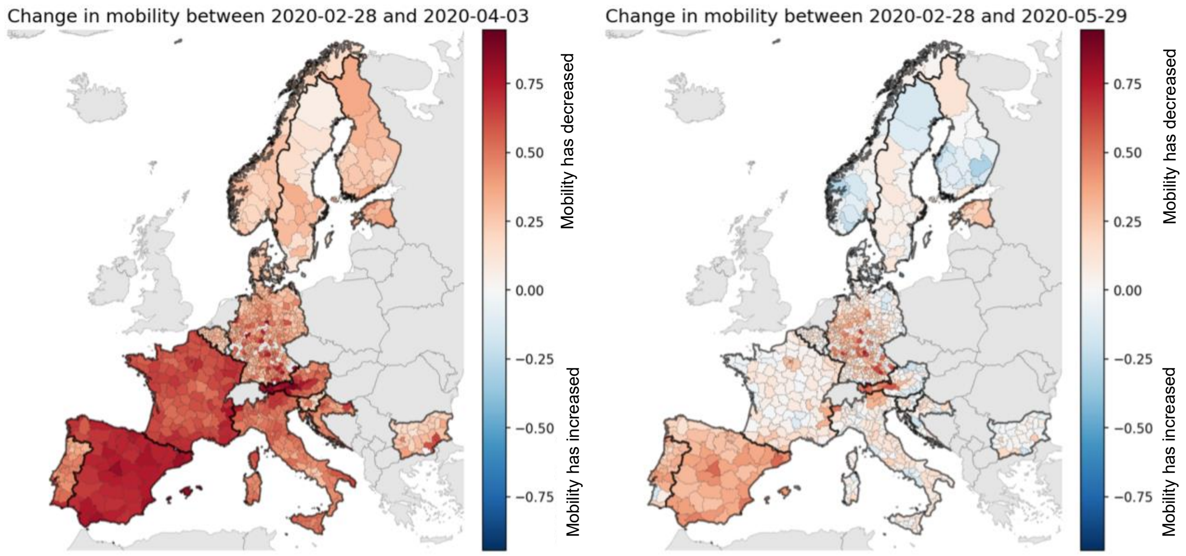
The timing of restriction measures matters at least as much as their duration. During the first outbreak in March 2020, European countries that acted early by enforcing containment and mitigation strategies before the virus spread within communities limited COVID-19 fatalities (OECD/European Union, 2020[116]). Large-gathering adjustments (WHO, 2020[117]) and mandatory face mask covering (WHO, 2020[118]) need to be in place where the level of transmissions increase and place additional strain on the healthcare system. This requires accurate data and efficient testing strategies at the local level. To limit the spread of the virus and restore economic activity, the WHO recommends radically increasing testing as a means to better target social distancing.

Local and national lockdowns

In the early phase of the crisis, regional mobility patterns were broadly uniform but once restriction measures became regionalised, during the first exit phase, regional mobility patterns started to diverge within countries (Austria, Germany, Italy) (Figure 17). Effective coordination between local authorities, health agencies and the central government are essential to manage local outbreaks.

Figure 17. Change in mobility in Europe, TL3 regions

Change in mobility between 28 February and 3 April (left) and between 28 February and 29 May (right)



Source: (Santamaria et al., 2020[119])

Country Examples

- In **China**, the battle with new clusters of COVID-19 cases in Hebei Province and elsewhere at the end of 2020 and beginning of 2021 has been dealt with using localised tactics, an approach that avoids widespread shutdowns. The National Health Commission (NHC) guided that local officials needed to avoid “one size fits all” solutions. In the province of Hebei, for example, which has seen hundreds of infections in the beginning of 2021, officials adopted the principle of “one village, one policy” and drew up individual plans for each community (Japan Times, 2021[120]). In Shanghai, though there have been no new recent local cases, many residential buildings have tightened entry restrictions for couriers and rebuilt the control stations that were in place outside every compound early last year. Some local authorities in the city of Langfang placed its five million residents in home quarantine for seven days while rolling out citywide testing. Authorities had imposed similar measures on the provincial capital of Shijiazhuang, barring people and vehicles from leaving the city and halting public transportation within the city (BBC, 2021[121]). More than 20 provinces have urged citizens to forgo travel during the holiday of the Lunar New Year in mid-February (WSJ, 2021[122]).
- In **France**, a generalised curfew has been in place on the national territory since December 2021, but localised approaches are progressively being taken to regulate lockdown and curfew policies at the level of regions, departments and municipalities. A typology was developed to rank regions, and, at a more granular level, departments, to determine their degree of vulnerability to the virus, based on data such as incidence rates of the virus and hospital bed occupancy rates. Since October 2020, Santé Publique France also provides data on COVID-19 contaminations at the municipal level. As of March 4, 2021, 23 French departments were placed under "reinforced surveillance", the higher level of risk (Vie Publique, 2021[123]). This implied the implementation of additional measures in these territories, such as the closing of large shopping centres and the ability for prefects to restrain access to high traffic areas over the weekends. Due to particularly high risk level indicators, specific local measures have also been taken to establish a localised lockdown for the local governments of Mayotte, and a partial lockdown during the weekend for the city of Dunkerque, the Pas-de-Calais Department and most cities along the coastline of the Alpes-Maritimes Department (Vie Publique, 2021[124]).
- In **Germany**, the government announced in March 2021 that it is ramping up its testing and bring in free rapid tests for mass use (RKI, 2021[125]). Every person in Germany will be entitled to a weekly test, either from a test centre, medical practice, or place of work, administered by trained personnel. This is a big change of strategy after scaling back on testing through winter due to worries that labs could not handle processing all the tests. Based on its revised testing strategy, Germany envisaged in early March to move out of lockdown and some progressive re-openings took place in March, with large differences between the German Länder. Following rising infections, the country decided however on 23 March 2021 to extend the current lockdown to April 18 (Germany Federal Government, 2021[126]). . To support regional and local political decision-makers to make a rational assessment of place-based quarantine and test strategies, the German federal health agency (RKI) has developed a software tool in November 2020, based on the reduction of the general risk of transmission[6].
- In **Japan**, local governments are in charge of implementing the testing strategy through local institutions, and local outpatient and testing centres. These are responsible for testing, deploying medical workers to Outpatient Services for Returnees and Contact Persons, and providing drive-through and walk-through medical care facilities in large tents and prefabricated buildings (Prime Minister of Japan and His Cabinet, 2020[127]; Government of Japan, 2020[128]).

[6] The tool is freely available under: https://github.com/CovidStrategyCalculator/CovidStrategyCalculator

- In **Korea**, specific Subnational Centres for Pandemic Countermeasures were established in local governments to implement containment measures and help coordinate local measures with central authorities. Local governments play a large role in the Korean massive testing strategy for combating the coronavirus, including setting up the roadside testing facilities (Chung and Soh, 2020[129]; Business Insider, 2020[130]). Multiple municipalities, led by Goyang, have set up "drive-thru" COVID-19 testing pods where medical staff in protective clothing take samples from people in automobiles. A localised outbreak in Daegu was dealt with specific control measures and tracing jointly by the Ministry of Health and Welfare and the local government.
- In **Spain**, the state of alert imposed by the central government will be maintained until 9 May 2021. However, as infections decrease after the third wave and the vaccination process advances during the first days of March, the Autonomous Communities have been relaxing their respective restrictions depending on the situation in each territory (El Pais, 2021[131]). The vast majority of regions will maintain some measures (like perimeter closures and curfews), but, for example, in communities such as Andalusia, Aragon, Asturias, Cantabria, and Catalonia, the capacity and opening hours of bars and restaurants will be extended. Other regions, such as Castilla-La Mancha, Extremadura and La Rioja, have begun to relax curfews.
- In the **US** the new administration has begun to impose new measures at the national level, such as an increase in testing, the reorganisation of data collection and the obligation to wear masks on interstate travel (The New York Times, 2021[132]). However, most of the restrictions remain at the discretion of each State (The New York Times, 2020[133]). Thus, as of March 2021, more than 33 states have imposed a mandatory use of a mask, while another 13 do not present any restrictions on the matter. On the other hand, most states keep their businesses open and only 8 states remain with mixed measures depending on each county. Finally, only one state (Puerto Rico) maintains an obligation to stay at home, 7 states maintain it as a recommendation and the rest do not present restrictions in this regard.

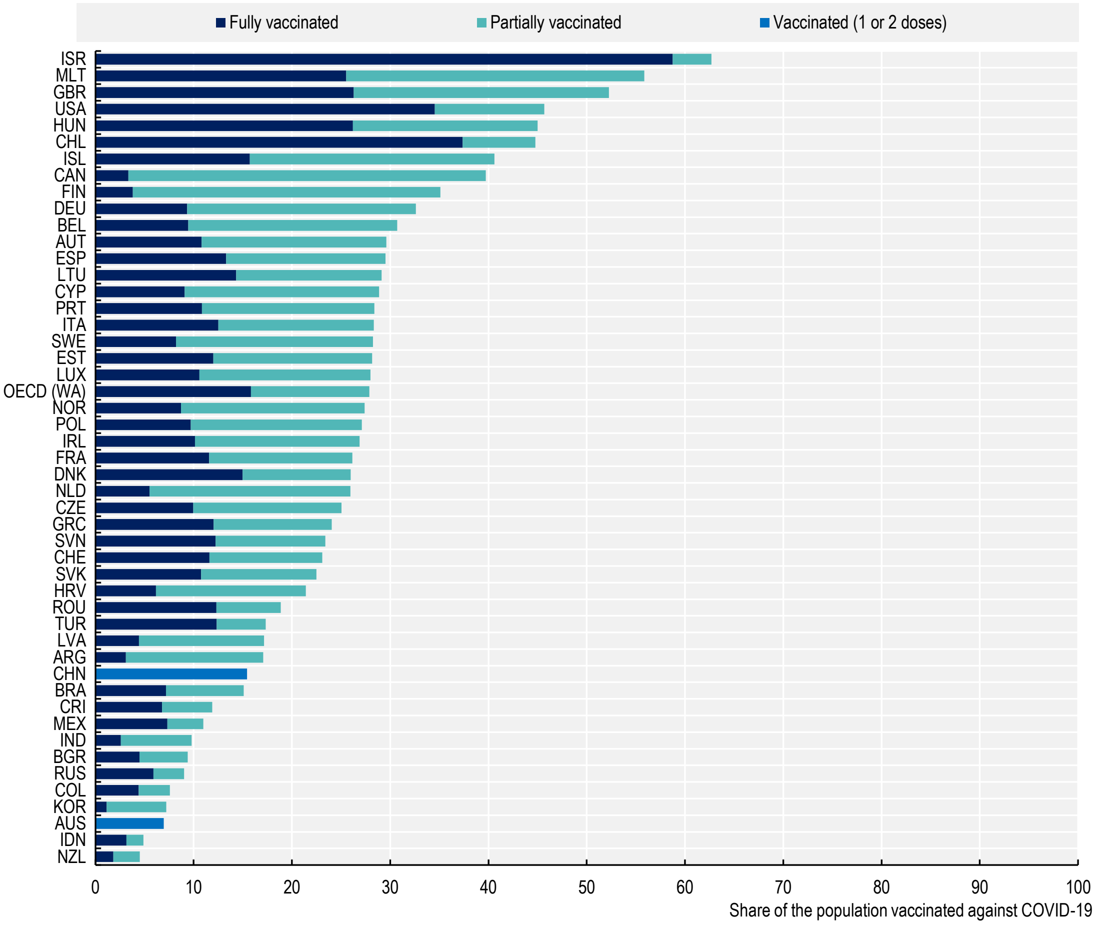
Managing the vaccination campaigns across levels of government

Vaccinating the global population against COVID-19 is the only long-term strategy to safely contain the coronavirus crisis. Vaccination campaigns began in some countries in December 2020. The WHO, despite the availability of efficient vaccines in several countries, does not know whether global herd immunity to COVID-19 can be achieved, and in any case does not expect so in 2021 (AP, 2021[134]), especially given that vaccines deployment takes time due to both upstream and downstream supply chain bottlenecks and the geographical concentration of production (OECD, 2021[135]). In particular, significant challenges were hindering vaccines deployment during early 2021, such as limited supplies of vaccines in some advanced economies and most developing countries due to constrained production capacity and a highly inequitable and inefficient distribution of existing supply between countries. Varying capacity to plan and execute mass vaccination campaigns, in particular a lack of coordination across levels of governments and the effect of emerging viral variants of concern (VOCs) on the effectiveness of existing vaccines were also issues during the early phase of vaccination campaigns. Nevertheless, governments must anticipate the surge in supply and get the logistics and infrastructure ready: by the third quarter of 2021, the United States and EU Member States will likely have received more than one full regimen per person (OECD, 2021[136]). They also need to address distrust and scepticism regarding vaccine safety and efficacy to ensure that populations are willing to be vaccinated.

As of 10 May 2021, 12% of the OECD population had been partially vaccinated and 15.8% fully vaccinated (Figure 18). Vaccination rates markedly differ across countries and it will be at least the end of 2023 before enough doses are manufactured to vaccinate the entire global population (CGD, 2020[137]). High-income countries have purchased 4.6 billion doses. The COVAX facility, which unites 92 low- and middle-income economies, expects the global supply of vaccines to reach 1.8 billion doses in 2021, covering 27% of their population (GAVI, 2021[138]).

Figure 18. Vaccination rates, by country according to the number of doses administered

OECD countries and selected developing economies, 10 May 2021



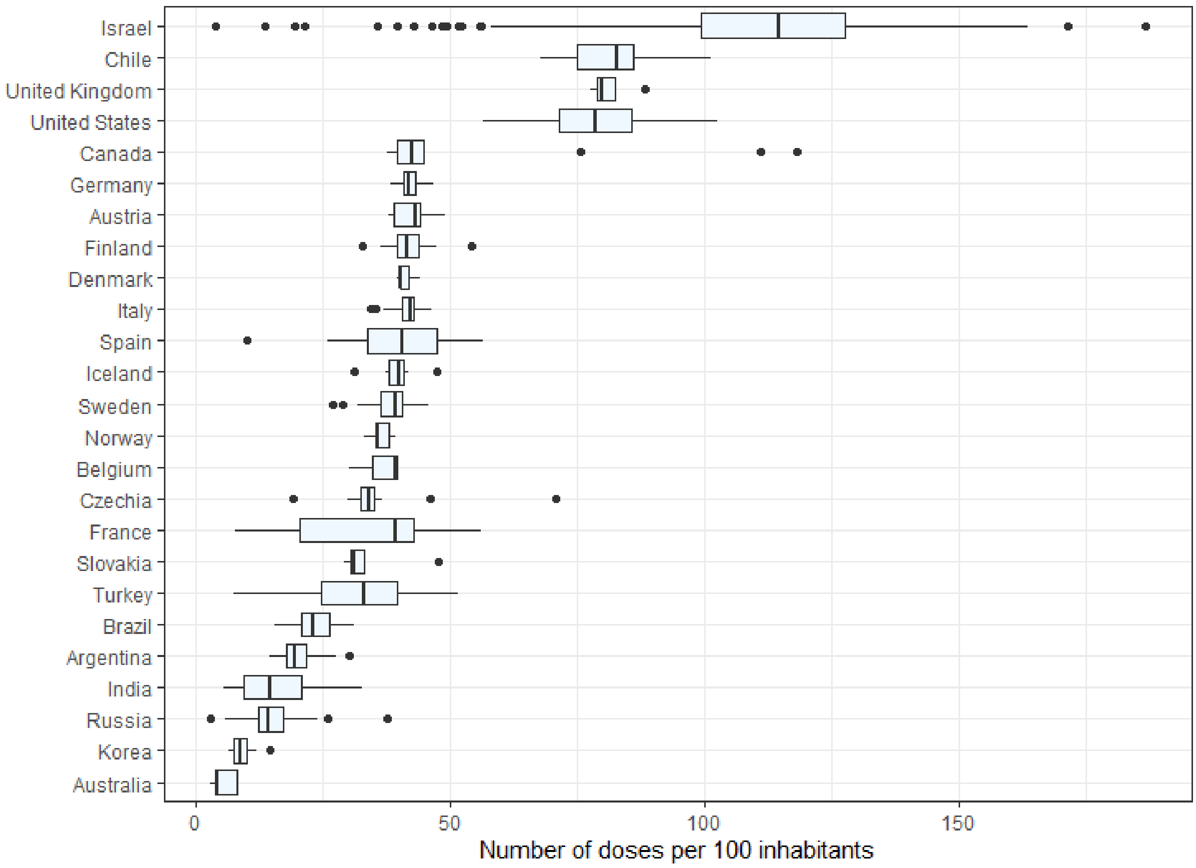
Note: "Fully vaccinated" refers to the proportion of the population that has received two doses, "Partially vaccinated" refers to the proportion of the population that has received only one dose. Data include all OECD countries and Costa Rica. Non-OECD countries include: Argentina, Brazil, Bulgaria, China, Croatia, Cyprus, India, Indonesia, Malta, Romania and the Russian Federation.
Source: Own calculations based on Oxford University - OWID database

The management of the vaccination rollout has significant territorial and multi-level governance dimensions. Vaccination strategies and the allocation of tasks across levels of government differ between countries (Box 4 and country examples). In the European Union, member states have taken a centralised EU approach to securing supplies and providing support for the development of vaccines under the EU vaccines strategy (European Commission, 2020[139]). The vaccination campaign strategy is decided at the national level and implemented across levels of government. In the United States and United Kingdom, states and devolved nations have some autonomy to decide how they allocate doses across populations. Within countries, ensuring safe and fair access to vaccines across places requires effective coordination mechanisms between national and subnational governments, whose responsibilities differ but must work hand in hand to allow for a smooth deployment of vaccines, for example by sharing doses delivery projections.

Regional disparities within countries in accessing COVID-19 vaccines are generally small (Figure 19), which indicates that there is an effort to make access universal across regions but also shows that regions with the highest mortality have not been prioritised. In countries where disparities across regions are significant, they are often driven by social, health and demographic factors, such as the age of the population in a region, resulting in differing shares of prioritised populations. Uptake rates may also be different: in some countries, a lower percentage of the population get vaccinated in disadvantaged neighbourhoods. In England and France, regions with a higher share of elderly populations had higher vaccination rates early in the campaign (NHS, 2021[140]) (Geodes, 2021[141]). In the United States, the federal government allocates vaccine doses to states on the basis of their adult population, while priority groups are defined at the state level (CDC, 2021[142]). In Israel, territorial disparities in vaccines take-up rates are driven by demographics and socioeconomic differences between municipalities (Box 4). Some countries are currently exploring adopting a territorial approach to vaccination campaigns focused on communities or regions with higher risk level or a higher incidence of COVID-19 cases: certain regions under significant pressure have received additional doses, for example in Brazil (CNN Brazil, 2021[143]), France (France Bleu, 2021[144]) or Norway.

Figure 19. Regional disparities in COVID-19 vaccinations, TL2 regions

Number of COVID-19 vaccinations per 100 inhabitants, 10 May 2021



Note: COVID-19 vaccinations per 100 inhabitants refer to the number of doses administered as a share of TL2 population. In Israel, data is provided at the municipality level. In the United Kingdom, data is provided for devolved nations.
Source: (Argentina Ministry of Health, 2021[145]), (Turkey Ministry of Health, 2021[146]), (RKI, 2021[147]), (CDC, 2021[142]), (FHI, 2021[148]), (India COVID-19 vaccine GitHub, 2021[149]), (Spain COVID-19 vaccine GitHub, 2021[150]), (Belgium COVID-19 vaccine platform, 2021[151]), (Czechia Ministry of Health, 2021[152]), (CCODWG, 2021[153]), (Danish Serum Institute, 2021[154]), (Geodes, 2021[141]), (Italy Council of Ministers, 2021[155]), (Austria Ministry of Health, 2021[156]), (Brazil Ministry of Health, 2021[157]), (UK Government Covid-19 Platform, 2020[33]), (PHA, 2021[158])

Box 4. COVID-19 vaccination campaign in Israel

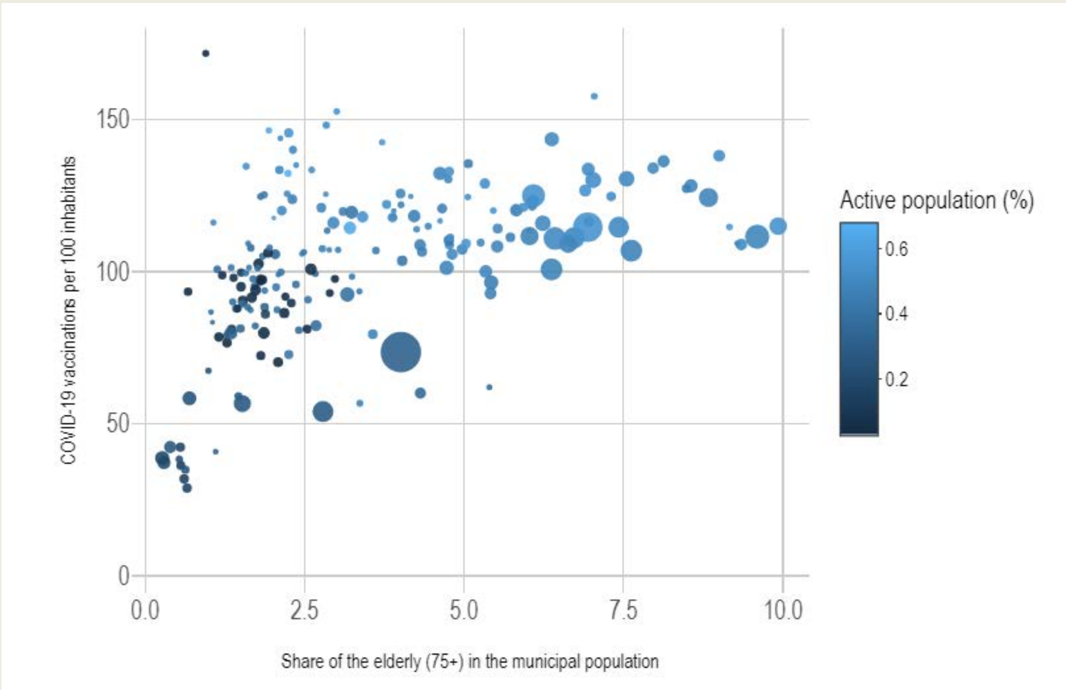
Israel is the only OECD country in which more than 60% of the population had been fully vaccinated by mid-March 2021 and is already seeing the effects of vaccination on population health (OECD, 2021[136]). The vaccination campaign started with a focus on the adult population of over 60 years of age, people at risk due to a pre-existing medical condition, and frontline healthcare workers and subsequently was gradually extended to the general population (Israel Government, 2020[159]). The Ministry of Health has set the target of 4 million inhabitants (44% of the population) vaccinated with 2 doses, 95% of whom would be aged 50 years or over, before starting to fully reopen the economy.

Since the beginning of the vaccination campaign, hospitalisations due to COVID-19 among the elderly have decreased faster than in other age groups, suggesting that vaccines are effective at curbing infections and preventing severe conditions (Weizmann Institute of Science, 2021[160]): between 15 January 2021 and 8 February 2021, 51% fewer cases and 29% fewer critically ill patients were reported among the 60 years and over while 19% fewer cases but 31% more critically ill patients were reported among the rest of the population.

Vaccination rates are not uniform across places and disparities between municipalities are explained by several socioeconomic factors (Figure 20): the proportion of the elderly (over 75 years old), and the share of active population (income earners) in the municipal population are clear drivers of vaccines uptake.

Figure 20. Territorial disparities in COVID-19 vaccination in Israel

As of 25 March 2021



Note: Dot size is proportional to municipal population (in logs) and colour is determined by the share of active population (income earners).
Source: Own elaboration based on data from data.gov.il, Arcgis Israel Coronavirus Response, Israeli Central Bureau of Statistics

These disparities reflect both the national vaccination strategy, namely that the elderly have so far been prioritised, but also that uptake varies across communities. Drawing on citizen trust by providing leadership and evidence-based impact analysis is essential. The Ministry of Health conducted targeted public information campaigns in several languages (Hebrew, Arabic, Russian and Amharic) on the efficacy of vaccines (Global Government Forum, 2021[161]).

Israel vaccination campaign is centralised but leverages community-based health maintenance organisations (HMOs) IT and logistical and organisational capacity to reach peripheral regions, villages and towns. As they operate under logistical constraints, good coordination between the Ministry of Health and local authorities is essential. Vaccination vans and 150 vaccination complexes have been set up to allow vaccinating the population unable to reach vaccination centres (Israel Ministry of Health, 2020[162]). Local officials, communities leaders and HMOs, whom citizens tend to trust more than the central government, have also helped to get populations to accept vaccination (Israel Journal of Health Policy Research, 2021[163]).

Country examples

- In **Argentina**, the government has defined its priority groups and vaccination sequence based on criteria that include risk from exposure or another medical condition (Argentina Ministry of Health, 2020[164]). In addition, they take into account vulnerability criteria, such as belonging to popular neighbourhoods, homelessness, indigenous peoples and others. The vaccine distribution criteria were established by consensus with the provinces according to the target populations defined in the provincial operational plans and the availability of vaccines.
- In **Australia**, the COVID-19 Vaccination Policy defines roles and responsibilities of the central government and state and territory governments (Australia Department of Health, 2020[165]). The former is responsible for selecting and purchasing vaccines and handling their transportation from suppliers to administration storage sites, defining priority groups and specifying vaccination sites minimum requirements. State and territory governments are responsible for developing their own COVID-19 vaccination jurisdictional implementation plans: this include selecting the workforce and vaccination sites and enforcing safety, ethical and reporting regulations (Australia Department of Health, 2020[165]). They closely work with the central government to vaccinate aged care facility residents, indigenous communities and the disabled. Dose allocation is managed by the central government in close collaboration with state and territories and depends on the proportion of priority groups in the local population as well as on the dynamics of local outbreaks.
- In **Brazil**, the vaccination process is undertaken by the Federal Government in partnership with state governments and the Federal District to coordinate the physical implementation in municipalities. The Brazilian government reported on February 15, 2021, that the northern part of the country will be prioritised in the vaccination process, starting with the Amazonas region due to the new virus strain being particularly prevalent in the North (CNN Brazil, 2021[143]). The health ministry reported that it hopes to vaccinate the entire population at risk and all those over 18 years of age in this region, continuing with the following regions, in corresponding order: Roraima, Acre, Amapá, Rondônia and Pará.
- In **Canada**, the National Advisory Committee on Immunization (NACI) recommends that certain key populations be prioritised for early vaccination (Canada Government, 2021[166]). During stage 1, NACI recommends that vaccines be initially offered to: 1) Residents and staff of congregate living settings that provide care for seniors, 2) Adults 70 years of age and older, beginning with adults 80 years of age and older, then decreasing the age limit by 5-year increments to age 70 years as supply becomes available, 3) Health care workers (including all those who work in health care settings and personal support workers whose work involves direct contact with patients), 4) Adults living in Indigenous communities, which include First Nations, Métis, and Inuit communities,

where infection can have disproportionate consequences such as those living in remote or isolated areas where access to health care may be limited. These recommendations, however, are not binding and subnational governments have the ability to adjust vaccine eligibility as needed. For example, in the City of Toronto, eligibility has been expanded to all residents age 18 and older living in 53 postal codes identified as hot spots by the provincial government.

- In **Chile**, the National Vaccination Plan, led by an inter-ministerial work team including the Ministry of Science, Ministry of Health, Ministry of Foreign Affairs and the Presidency, with the advice of the Vaccines and Immunization Advisory Council (CAVEI), is a centralised strategy to deliver –freely and voluntarily– COVID-19 vaccines to the whole population, divided in three phases (Chile Ministry of Health, 2021[16]). The first phase began in December and was aimed at health personnel in intensive care units. The second phase started on January 3rd and was aimed at the elderly population above 71 years. The third phase is being conducting and is aimed at the rest of the population (Chile Ministry of Health, 2021[167]). The vaccination programming is undertaken by the central government and distribution is managed by local governments.
- In **Finland**, the vaccination strategy has been prepared by the Ministry of Social Affairs and Health (Finland Ministry of Social Affairs and Health, 2020[168]) and vaccination began on 27 December 2020. Finland procures vaccines through the EU joint procurement scheme. Hospital districts have prepared vaccination rollout in their areas and coordinate vaccination arrangements for social and health care professionals in their area. Municipalities co-operate with each other and with the hospital district, occupational health services and the private sector to organise logistics. The Finnish Institute for Health and Welfare (THL) monitors the implementation, effectiveness and safety of vaccinations at the national level.
- In **France**, the High Authority for Health issued recommendations, in accordance with which the Ministry of Health developed a three-stage national vaccination strategy aimed at reducing mortality, protecting healthcare workers and ensuring vaccine safety (France Ministry of Health, 2021[169]). In the first phase, the elderly (75 years and over), healthcare workers and high-risk individuals are prioritised. Then, people aged 65 to 74 years old will be vaccinated, before the vaccination campaign is extended to the general population. Vaccines purchases are centralised by the *Agence nationale de santé publique*. Regions have proposed taking greater account of territorial disparities and setting up regional coordination bodies to manage the national strategy at the regional level, as well as a national "Territorial Council on COVID-19 vaccination" (Regions de France, 2021[170]).
- In **Germany**, the National Covid-19 Vaccination Strategy, developed by The Federal Ministry of Health, the standing committee on vaccination (STIKO), the German Ethics Council and the National Academy of Science Leopoldina, prioritises vaccines to health and nursing professions, the elderly, nursing home residents and people with pre-existing illnesses. It is being implemented in three phases: 1) targeted centralised vaccination, 2) expanded centralised vaccination, 3) widespread decentralised routine vaccination (RKI, 2021[171]). In the first two phases, vaccination centre locations and numbers are determined by the Lander and financed jointly by the statutory health insurance funds and the Lander. While the Federal government is responsible for vaccine procurement and financing, jointly with the EU, Lander handle storage and logistics at the local level and finance the necessary equipment and supplies. The centralised approach along with supply and staff shortages and distribution issues in Lander may have hampered the vaccination campaign kick-off (International Long-term Care Policy Network, 2021[172]).
- In **Italy**, the Strategic Plan for COVID-19 vaccination has been prepared by the Ministry of Health, the Extraordinary Commissioner for the COVID-19 emergency, the Higher Institute of Health, the Italian National Agency for Regional Healthcare services and the Italian Medicines Agency (AIFA) (Italy Ministry of Health, 2020[173]). The objective of the vaccination campaign is to guarantee access to everyone, regardless of income and territory. Coordination between the Ministry of

Health, the Extraordinary Commissioner for the COVID-19 pandemic as well as the Regions and Autonomous Provinces ensure the governance of the vaccination plan. Logistics, procurement, storage and transport are the responsibility of the Extraordinary Commissioner.

- In **Japan**, the vaccination campaign started in the second half of February. Front-line health care workers at state-run hospitals are being vaccinated first and are being followed by a further 3.7 million health care workers. The government also prioritises people with chronic conditions and nursing care workers treating the elderly. Local governments have started vaccinating 36 million people aged 65 and over from April 2021 onwards, followed by those aged 60-64 (Japan Times, 2021[174]). All other residents age 16 and older be vaccinated from July 2021. In March 2021, local governments voiced concern over a lack of information sharing from the central government on vaccines delivery forecasts, hindering preparations at the local level (Japan Times, 2021[175]). Local authorities are responsible for the vaccination of their residents and local governments will use large public facilities, such as school gymnasia to carry out the campaign (Nikkei Asia, 2021[176]). Nationwide deliveries will be managed via the V-Sys system, which was developed by the Ministry of Health and will help medical facilities sharing information with the authorities, vaccine makers and other stakeholders.
- In **Korea**, the vaccination campaign started in February 2021. The government initially targets healthcare workers whose work is directly related to COVID-19. At the same time, vaccinations are provided for the elderly in nursing homes and long-term care facilities. Vaccinations for high-risk groups, including individuals who are 65 years of age or older, will start in May. The government aims to achieve herd immunity, set at a 70% vaccine take-up, by November, 2021 but current projections indicate that South Korea is among the countries that will not achieve widespread vaccination until mid-2022 (Economist Intelligence Unit, 2021[177]). The central government has ordered local governments to secure their own manpower and infrastructure to roll out vaccinations. In order to facilitate the implementation of the strategy, 250 vaccination centres are being installed across regions. These centres will handle the Pfizer and Moderna vaccines, which require cryogenic storage. Other types of vaccines will be provided at pre-designated private medical institutions (Jung, 2021[178]), clinics and hospitals. People register through a nationwide system and local governments are responsible for getting their district and municipalities' population vaccinated.
- In **Mexico**, the "National policy on vaccination against the SARS-CoV-2 virus for the prevention of COVID-19", led by the General Directorate for Health Promotion, expects to vaccinate at least 70% of the population in Mexico before July 2022 (Mexico Government, 2021[179]). The priority groups for the vaccination process are: 1) Health personnel facing COVID-19; 2) Older adults, aged 60 and over; 3) People with comorbidity or comorbidities; 4) Teaching staff of the Federal Entities; and 5) The rest of the population (16+ years old). The Federal Ministry of Health issued a decree on 25 January 2021 to precise the conditions under which state governments and private actors may participate in the national vaccination campaign (acquire, import, distribute and apply vaccines) to speed up the vaccination process (Reuters, 2021[180]).
- In **Norway**, the national government decides on the distribution of vaccines, while the municipalities are responsible for the actual vaccination. The elderly and health professionals are vaccinated first, which means that rural areas, which have an older population also have vaccinated a larger portion of its population. From the beginning of March 2021 certain districts in the capital of Oslo and surrounding municipalities, which have been persistently more affected by the virus, have received extra doses. There is an ongoing debate of whether there should be given even more priority to the most affected regions in Norway or whether there should be an even distribution according to population
- In **Spain**, the objective of the strategy is to reduce morbidity and mortality related to the virus in a context of progressive availability of vaccines while protecting the most vulnerable groups (Spain

Ministry of Health, 2020[181]). The Inter-territorial Council of the National Health System (CISNS), which reunites the health councillors of the autonomous communities and cities and the Minister of Health, has prepared and is coordinating the national vaccination strategy on the basis of COVID-19 Vaccination Technical Working Group and the Vaccine Committee recommendations. Spain has adopted a common vaccination strategy for all territories (Grupo de Trabajo Técnico de Vacunación COVID-19, 2020[182]). The Ministry of Health and the autonomous communities and cities work together in the implementation of this strategy, for example to identify vaccination centres. The former finances and provides vaccines, the latter fund the equipment and staff.

- In **Sweden**, there is a close collaboration between the State and regions to ensure efficient vaccination against COVID-19. The 21 administrative regions are responsible for healthcare and are therefore carrying out the COVID-19 vaccination campaign. The Swedish Public Health Agency has defined and is regularly reviewing priority groups in the National Vaccination Strategy to advise regions based on local conditions (epidemiological situation, prevalence of other diseases, low vaccination coverage, etc.) (Swedish Public Health Agency, 2021[183]). The State is responsible for purchasing and distributing vaccines and compensating regions for costs arising from the vaccination campaign, including investment in the vaccination infrastructure, logistics and communication (SALAR, 2021[184]). The State will provide SEK 400 million for preparatory measures and incentivise vaccination: SEK 700 million will be paid in special compensation to regions reaching vaccination coverage targets set in the agreement and SEK 275 per dose given.
- In the **United Kingdom**, COVID-19 vaccines delivery was prepared by the Vaccine Taskforce, regional NHS, Public Health England, research institutions and armed forces, as well as local governments (UK Government, 2021[185]). Vaccination plans have been developed in each of the UK devolved nations. In England, the NHS aimed to offer a first vaccination to all care home residents, those above 70 years of age, frontline health and social care workers and clinically vulnerable individuals by 15 February 2021. National, regional and local governments are cooperating to best serve communities regarding the type of vaccination sites (larger vaccination centres, hospital hubs and local vaccination services), the identification of eligible population, in particular frontline healthcare and social care workers and the support to people who are prioritised to receive a vaccine.
- In the **United States**, vaccines doses are allocated at federal, state and local levels. The Federal Government allocate doses to states on the basis of their adult population. States and local health departments have developed their own formulas to allocate doses to local hospitals, clinics and nursing homes, while following CDC guidelines to prioritise frontline health care workers, the elderly and other citizens at risk (The New York Times, 2021[186]). There are differences across states in the allocation criteria. For example, while Oregon prioritises teachers over the elderly and Tennessee establishes priority counties on the basis of CDC Social Vulnerability database and COVID-19 health impact, New Jersey has put smokers ahead of educators. The National Strategy for the COVID-19 response and pandemic preparedness, published by the new administration, stresses that reaching communities across states, in particular those that need vaccines most, is the cornerstone of the national vaccination strategy (US Government, 2021[187]). Leveraging demographic data and local and community-based organisations knowledge allows targeting the hardest hit communities. Moreover, the Federal government has pledged to extend available vaccines supplies, holding back less reserves, improving the allocation process by providing States and localities with consistent delivery projections and encouraging them to vaccinate priority groups more quickly as a result. The Federal government is also working with state and local governments to create vaccination venues (federally run community vaccination centres, federally supported state and locally operated vaccination sites, community health centres, rural health clinics, mobile occupational clinics etc.) and, with CDC, support vaccination progress with technical assistance plans for states and local governments and providers. In larger population centres or more densely populated areas, local governments are more involved in the distribution of vaccines where they

have established public health clinics, whereas less densely populated, more rural regions rely more on private actors through large stores where pharmacies and healthcare providers are located. To expand vaccination participation, the Federal government is funding vaccine supply and will allow state and local governments to reimburse vaccination administration, local-site workforce and equipment expenses through the FEMA Disaster Relief Fund.

Pointers for action

- Vaccines should be fully deployed and accessible by the general population as soon as possible: this requires securing doses for priority groups in the short term and anticipating the surge in supply in the medium-term with adequate logistics and infrastructure (OECD, 2021[136]).
- Subnational governments should be more involved in vaccination campaigns to ensure faster and better territorial coverage. Leveraging local actors, who are better informed about the local population and infrastructure is essential to successfully reaching those people who need vaccines first, such as the elderly, people with other illnesses and healthcare workers and relieving the pressure on the healthcare system.
- When relevant, a territorial approach should be introduced into the health-crisis responses according to the severity or spread of the virus in a region, for example through localised approaches to lockdowns.
- Vaccination campaign plans should be clearly and regularly communicated to the public by all levels of government, establishing easily understood and explicit guidelines for vaccination, and creating platforms for questions, answers and exchange.

A territorial approach to the economic and social crisis

Support to SMEs and the self-employed at regional and local levels

Across the OECD, small and medium-sized enterprises (SMEs) account for 99% of all businesses and between 50% and 60% of value added. SMEs are particularly vulnerable during the crisis (OECD, 2020[6]). In addition to SMEs, the self-employed represent a considerable share of total employment in a number of OECD countries. Amounting to slightly less than 15% on average, self-employment is particularly prevalent in Greece, Italy, and Turkey where it exceeds 20% (OECD, 2020[6]). The self-employed are often less protected by unemployment benefits compared with standard workers.

The restrictions put in place to tackle the epidemic directly and indirectly affect local businesses and the self-employed. Some businesses, such as restaurants and cafes, closed during lockdowns, while other small and medium sized businesses and self-employed were able to continue operating but with considerably reduced demand. Some furloughed or dismissed their personnel. In many countries, local businesses were able to restart in large scale in June 2020, however new lockdowns across Europe, and targeted lockdowns elsewhere, hampered the recovery, particularly in the service sector.

To help avoid running into liquidity bottlenecks and bankruptcies among local business and self-employed workers, most national governments have taken strong actions to support SMEs and micro-businesses, self-employed, artisans, liberal professions, retailers. This is especially the case in highly affected regions, for example those where there is a predominance of SMEs, such as in Northern Italy (OECD Trento Centre for Local development, 2020[188]) or whose economies depend significantly on tourism, culture, leisure and recreation, transport, construction, wholesale and retail trade, accommodation and food services, real estate, professional services, and other personal services (e.g. hairdressing) (OECD, 2021[2]).

Many subnational governments also took early action to support their local economies by supporting SMEs, artisans, retailers and self-employed affected by the crisis. Emergency measures taken by regional and local government cover a wide range of areas, from financial support to more indirect support schemes, including:

- Financial support: non-repayable grants, concessional loans at low or zero interest rates, liquidity loans, facilitating access to external financing through guarantees, deferring loan instalments,
- Dedicated measures to support start-ups (which are often the most affected (bridge financing, guarantees, loans, tax measures, liquidity support, direct equity investment, capital risk funds, etc.)
- Fiscal support: deferring tax and fees collection, granting exemptions and tax reliefs
- Administrative support: introducing more flexibility in administrative procedures, relaxing certain restrictions easing regulations and permits required from businesses,
- Public procurement: simplification and acceleration of procedures
- Temporarily lowering rents (deferment or reduction of rent payments for tenants when premises belongs to subnational governments) and advancing payments to service providers
- Technical assistance and support services to local economic actors: free or reduced consultancy services for businesses, promotion of webinars and similar training activities to contribute to business development, collaborative online platforms e.g. to promote "buying local" and regional/local marketplaces, creating labour pools, etc. (EU Committee of the Regions, 2020[189]).

In several countries, support packages for the self-employed has been delegated to subnational governments because they are best informed about local conditions and needs. Since such support is comparable to social welfare for families and individuals, for which subnational governments are responsible in normal times, subnational governments are appropriately organised to carry out these measures (OECD, 2020[190]).

In the EU, based on the OECD-CoR survey, 30% of subnational government respondents indicated that they were providing large direct support to businesses and self-employed (e.g. subsidy schemes, regional funds for capital risks), in addition to coping with the health emergency. Moreover, 28% declared that they largely provided technical assistance and support services to local economic actors, 26% that they have already granted tax incentives and relief to businesses and self-employed (e.g. exemptions, reduced or deferred rent payments for the business premises owned by local governments) and finally 25% indicated that they supported them indirectly, by offering advantageous credit lines, guarantee schemes or repayable advances, for example (OECD-CoR, 2020[57]). In this area, regional governments and large municipalities (OECD, 2020[191]) were more active than smaller ones, reflecting their broad responsibilities in economic affairs, particularly in the most decentralised countries.

Country examples

- In **Austria**, all nine Bundesländer set up aid packages for SMEs that complement and expand the measures taken by the federal government. These include non-repayable grants (Burgenland to cover fixed costs and rental costs, Tyrol hardship fund, Vienna, Upper Austria), guarantees and bridge loans to support the liquidity of SMEs (Burgenland, Styria, Vorarlberg, Vienna, Upper Austria), deferrals of states taxes and waives interest (Carinthia, Salzburg), coverage of consultancy costs for SMEs that need support to apply for federal support measures (Carinthia), coverage of infrastructure costs to switch to telework (Styria new "Telearbeit!Offensive" support programme) and digitisation of SMEs (Tyrol). In addition, Upper Austria and Lower Austria have developed start-ups support packages consisting of a special consulting service by the regional start-up consulting and support council "tech2b Inkubator" (Upper Austria) and the Chamber of Commerce (Lower Austria)" (OECD, 2021[2]).

- In **Belgium**, the Brussels capital, Wallonia and Flanders regional governments adopted several measures such as non-repayable subsidies for companies that have to close during the lockdown, tax deferrals (Brussels, Flanders) and waiver of utility payments (e.g. energy bills) (Wallonia, Flanders), guarantees on bank loans and easier access to credit, prohibition of evictions (Flanders) (OECD, 2021[2]; EU Committee of the Regions, 2020[192]). On 19 March, Brussels capital and Flanders introduced a EUR 4 000 payment for companies that have to close their doors among other measures. Wallonia pays EUR 5 000 (OECD, 2021[2]).
- In **Canada**, the federal government established the Regional Relief and Recovery Funds (RRRF). With nearly CAD 1 billion committed the RRRF will help to mitigate the financial pressure experienced by businesses and organisations to allow them to continue their operations, including paying their employees and support recovery business projects. RRRF are channelled to the different localities through the national network of six Regional Development Agencies, including a further CAD 1.7 billion support package, which includes several support measures for small businesses and was announced on 17 April 2020 by the government (OECD, 2021[2]). Provinces have also developed their own support programmes. For example, the provincial government of British Columbia, as part of its COVID-19 Action Plan, launched income supports, tax relief and funding for people, businesses and services in response to the COVID-19 pandemic. As a next step, it has develop an Economic Recovery Plan, called “StrongerBC” focusing on supporting businesses among other objectives. StrongerBC introduces new supports to help businesses in B.C. reopen, adapt, hire, rehire, and grow. Support includes a new Small and Medium Sized Business Recovery Grant, a 15% Increased Employment Incentive tax credit, a 100% PST rebate to buy select machines and equipment, and fast-track skills training programs. British Columbia has also granted Rebate on Select Machinery and Equipment on the temporary provincial sales tax (PST) program to help corporations recover from the financial impacts of COVID-19 (Government of British Columbia (Canada), 2020[193]).
- In **Chile**, the central government is implementing the “Step by step, Chile Recovers” (“Paso a Paso, Chile se recupera”) recovery plan, which, in addition to employment incentives and investment support, has an important focus on SMEs (Chile Government, 2021[194]). The FOGAPE-COVID state loan system for small enterprises was created, which as of August 2020 registered 228,000 loans for an amount of US $ 10,523 million. Various technical training programs with special emphasis on facilitating the digital transformation of SMEs were promoted, such as "Digitize your SME", "SMEs Online" and "Digital Route", all of which aim to develop digital skills and promote the adoption of e-commerce and other technological marketing channels. Various tax relief measures have also been implemented, such as a reduction of the first category tax from 25% to 10% and the extension of the VAT payment term to 3 months. All of these –and other recovery initiatives– are centrally managed and overseen, although regional work tables have been established to analyse territorial cases and advise central offices. The tourism area has incorporated an important territorial component, since the National Tourism Promotion Plan, which seeks to encourage domestic travel and internal consumption, contemplates a coordinated work with the Regional Governments in raising the funds for its financing.
- In **Colombia**, the national government, through the National Guarantee Fund (Fondo Nacional de Garantías), will back the credits that MSMEs acquire with the financial system for the payment of their payroll and working capital (Colombia Government, 2021[195]). The Colombian government injected USD $ 4.4 million (COP $ 16 billion) to: 1) support disbursements from private banks to cover the monthly payroll of small companies; 2) support disbursements to cover working capital; and 3) offer flexible guaranteed loans for independent workers through private banking and fintech companies. The central government has also held a few days of exemption in the payment of VAT (“Días sin IVA”) as a way of relieving fiscal pressure on small businesses.
- In **Finland**, municipalities are responsible for delivering lump sum aid to the self-employed who can apply for support from the municipalities where they are located (Finland Ministry of Economic

Affairs, 2021[196]). The amount of aid to self-employed is EUR 2 000. The aid is granted to cover the operating costs of business of self-employed. The entrepreneur's business must be full-time, and profitable, with yearly income stream of at least EUR 20 000. Support from the municipality can be parallel with the unemployment benefits for entrepreneurs, paid by the unemployment insurers, but the amount will be considered when the self-employed apply for the benefits. The aid is to ensure that the company could continue to operate profitably after the crisis caused by the coronavirus. Municipalities will be compensated by the central government for the support they pay to the self-employed. In addition to the lump sum, some municipalities also try to help their local SMEs and self-employed with voluntary measures by deferring fee collection, easing regulations and permits required from businesses, temporarily lowering rents and advancing payments to service providers. For example, in the spring 2020 the City of Helsinki decided to suspend the rents of commercial and other business premises leased from the City up to three months (City of Helsinki, 2021[197]). Currently, companies that have provided services or goods to City of Helsinki can now request payment of the invoice or invoices they sent to the city before the due date. City of Helsinki has also established an advisory service to entrepreneurs and start-ups during the COVID-a19 crisis.

- In **France**, joint action was taken between national and regional governments to manage the crisis as part of the new Economic Council Etats-Régions established in December 2019. This included regional task forces that incorporate development banks (BPI) in order to accelerate support measures for businesses. In addition, regional governments unlocked EUR 250 million (in addition to EUR 750 million allocated by the State) to participate in the National Solidarity Fund for artisans, retailers and small businesses. This National Fund has two components: i) monthly aid to very small enterprises, self-employed people, micro-entrepreneurs and liberal professions experiencing turnover losses of more than 50%; ii) a one-time additional payment for the most fragile small businesses. Almost all French regions have developed support programmes for SMES and the self-employed (BPI France, 2020[198]). Several regions have additional regional funds that complement the National Solidarity Fund set up by the French government and the regions. For example, the region Pays de la Loire created a Territorial Resilience Fund (Fonds Territorial Résilience). The Region Grand Est has set up Platform called "To be Stronger Grand Est" (Plus Forts Grand Est) to facilitate the connection between around 50 innovative companies and communities, companies, associations, healthcare establishments etc. in the regional to identify innovative products and service that could help overcome the crisis and rebound (regional governments websites and (BPI France, 2020[198])
- In **Germany**, in addition to aid from the federal government, almost all federal states have set up their own regional programs for SMEs, solo self-employed and start-ups. Among the main instruments are direct non-repayable grants (Hesse Thuringia, Schleswig-Holstein, Brandenburg, North Rhine-Westphalia, Hamburg, Bavaria), loans (Bavaria, Rhineland-Palatinate, Saxony, Schleswig-Holstein), liquidity loans or grants (Baden-Württemberg, Bremen, Mecklenburg-Western Pomerania, Saarland), guarantees (Baden-Württemberg) or a mix of all these (e.g. Saxony-Anhalt Lower Saxony (Deloitte, 2020[199]). Baden-Württemberg and Thuringia also pay self-employed persons and freelancers a so-called fictitious entrepreneur's wage of up to EUR 1 180 euros per month. As a reaction to the recent lockdown, In Berlin and in Schleswig-Holstein, bars and restaurants that normally generate their main turnover in the late evening or at night, but are now affected by curfew can receive a rent subsidy of up to EUR 3 000 (Sparkasse, 2021[200]).
- In **Greece**, the Thessaly regional government provides a support package of EUR 160 million (through the Thessaly NSRF 2014-2020) to support local companies manage the impact of the COVID-19 crisis. This package includes EUR 80 million through the programme "Reinvest and Invest in Thessaly", EUR 50 million for employees of closed companies, and EUR 30 million as a non-repayable subsidy to strengthen the working capital of small businesses affected by the coronavirus pandemic (ΑΠΕ-ΜΠΕ, 2020[201]).

- In **Italy**, simplification measures were introduced by 14 regions to streamline administrative and regulatory procedures for SMEs. These include deferring the application deadlines for public funding programmes and for reporting on investment plans subject to public incentives, and simplifying public procurement (OECD Trento Centre for Local development, 2020[188]). Many regional governments also established and strengthened complementary regional sections to the National Guarantee Fund for SMEs established by the central government. Many regions have adopted specific measures to support their SMEs, which be divided into six policy macro-areas: facilitating access to bank credit and reducing related cost; public financing; simplified procedures; labour and welfare; tax relief and planning and budgeting (OECD Trento Centre for Local development, 2020[188])
- In **Mexico**, 26 of the country's 32 federative entities designed fiscal measures to support companies and vulnerable populations face the economic impact of COVID-19 mitigation measures. Mexico City launched the "Integral Program of Contingent Support and Economic Reactivation to Address the COVID-19 pandemic in Mexico City". It consists of an increase of MXN 500 million in the Social Development Fund that will serve to grant 50 000 credits of MXN 10 000 each to micro companies. In September 2020, Mexico City Government launched the Economic Reactivation for the Well-being of Mexico City plan, which in its 7th axis on Digitalisation, Simplification and Accessible Credits pursues three objectives aimed to help SMEs: 1) Helping SMEs to move to digital services and online sales; 2) Reduction of due procedures and paperwork from 2,400 to 966; and 3) Facilitating access to loans in conjunction with private banking (City of Mexico, 2020[202]). This plan also includes in its 1st axis on Direct Support to inhabitants a series of microcredits to micro-entrepreneurs.
- In the **Netherlands**, as part of the third economic support package announced on 28 August 2020, it is planned for municipalities to offer new services to independent entrepreneurs, such as additional training and reorientation starting in January 2021. This is part of the Programme "Temporary Bridging Scheme for Independent Entrepreneurs" (Tozo) (Dutch Government, 2020[203]).
- In **Sweden**, support for SMEs and the self-employed (e.g. cash aid, loans and guarantees, and deferred tax payments) is the responsibility of central government agencies and ministries (Government of Sweden, 2020[204]). Meanwhile, regions and municipalities focus on giving "indirect" support to SMEs in their areas, such as providing expert support for restructuring the day-to-day business or preparing new business models (Region of Skane, 2020[205]). Municipalities have also deferred SME payments of fees and invoices for municipal services, introduced free parking, eased permissions and regulations, and advanced payments to their suppliers.
- In **Spain**, regions actively support local economies and develop comprehensive responses to support SMEs and self-employed, complementing measures adopted by the Government of Spain, contained in Royal Decree-Law 8/2020. The Principality of Asturias for example provides a non-repayable aid to freelancers, grant a tax deferral for self-employed entrepreneurs, SMEs and micro-SMEs and a new credit line fully guaranteed by Asturgar to improve business liquidity to SMEs. The regional government of Madrid has passed a financial support plan of EUR 220 million for SMEs and self-employed, to help them cope with the economic impact of the crisis (economic aid and financing schemes). The Basque Country launched a set of measures including an extraordinary fund for SMEs and the self-employed, an emergency credit line at zero cost through the Basque Institute of Finance (IVF), a line of working capital guaranteed by the region at zero cost, refinancing and adaptation of the conditions on repayable advances, technical advice on the implementation of teleworking to freelancers and SMEs (EU Committee of the Regions, 2020[192]).
- In **Switzerland**, to secure bank loans to qualified start-ups, the cantons pay 35% of the guarantee to complement the federal guarantee (65%) (OECD, 2020[6]). (OECD, 2021[2]).

- In the **UK**, in addition to the support provided by the UK government in England, devolved administrations have received support to counter the effects of the outbreak, in particular help them support their regional economy. Wales set up an Economic Resilience Fund (ERD) whose third phase also includes a Lockdown Business Fund which will be delivered by local authorities to eligible small businesses. Impacted by the crisis (Welsh Government, 2020[206]). The Scottish government launched a helpline for small business to cope with the outbreak and set up a rescue package for business, which includes business rates relief for retail, hospitality and leisure sectors, grants to small businesses in sectors facing the worst economic impact of Covid-19, a Newly Self-employed Hardship Fund, a Pivotal Enterprise Resilience Fund (PERF), to support vulnerable SMEs which the government deems as vital to Scotland's economic future, or to the economies of local areas throughout the country (OECD, 2021[2]).
- In the **US**, in addition to the support measures included in the Coronavirus Aid, Relief, and Economic Security (CARES) package, many state and local governments, including New Mexico, Ohio, Maine, Massachusetts, Michigan, New York, Oregon, Wisconsin and Florida, have established their own programmes for small businesses. Several cities adopted measures to halt or defer financial burdens placed on small businesses such as paying utilities, taxes, or licensing fees by waiving for example financial penalties for late tax payment or deferring payment (Seattle, New Orleans, San Francisco). Other support measures are the creation a local relief fund with a blend of financing options such as Jersey City (redeployment of State Community Development Block Grant (CDBG) funds to small businesses), City of Philadelphia (Small Business Relief Fund to provide grants and zero-interest loans to impacted businesses), San Francisco zero-interest loan fund and city Resiliency Fund), Chicago (Small Business Resiliency Fund) or else Denver (Small Business Emergency Relief). Some cities also have created a central, online repository for resources and information for SMEs, providing enhanced consultancy support to businesses app or granted zero-interest emergency loans repayable (New York City, Los Angeles) (US National League if Cities, 2020[207]; OECD, 2021[2]).

Pointers for action

- Given the role of subnational governments in supporting SMEs and entrepreneurs, it is important that national and subnational governments coordinate the policy responses to avoid duplication and loss of transparency in public measures.
- Consider direct financial and fiscal support for local entrepreneurs and workers in the short-term, and turn to other forms of economic support in the medium- and long-terms, such as favourable pricing of land and buildings, eased loan and guarantee arrangements, easing permits and regulations, and equity financing.
- Consider developing further structural policies to help SMEs and entrepreneurs adopt new working methods, including teleworking, digital technologies and green practices to strengthen their resilience and that of the region.
- Adapt public procurement systems to provide adequate responses in the case of emergency and force majeure and support SME development.

Territorial approaches to support vulnerable populations

Vulnerable populations are doubly affected by the crisis. First, because they are often more at risk from a health standpoint. Second, because they are particularly hard hit by the economic crisis. Subnational governments have undertaken proactive initiatives to manage the emergency and support vulnerable groups, including elderly people, people with chronic or long-term illnesses, disabled, poor households, homeless, underprivileged children and students, migrants, and other vulnerable populations, etc. Households without health insurance are also particularly vulnerable as they may be unable to access medical treatment, and may not be included in the case count. Indigenous communities are also particular fragile. Given the conditions in which these communities live, the threat of COVID-19 is aggravated due to factors ranging from poor health conditions and overcrowding, to the lack of access to adequate sanitation facilities. Indigenous populations are often also the most vulnerable in terms of economic consequences (Lustig and Tommasi, 2020[208]).

Social protection is a key responsibility of subnational governments (see section 1). In particular, municipalities, which are closer to the population, play a crucial role in social protection of the most fragile groups, which are physically and economically more exposed to the pandemic (OECD, 2020[191]).

Support measures to vulnerable groups are very diverse and include food/nutrition programmes for children and the elderly, meal and pharmaceuticals delivery, special care for the elderly and disabled people, emergency shelters and housing, vouchers to purchase essential goods, installation of sanitary facilities, exemptions or deferrals from rental payments for residents of social housing, mortgage payment assistance, waiver or relief of utility payments e.g. energy or water bill, emergency phone lines, engaging unemployed people in socially useful work, direct subsidies to pay for social services (e.g. early childhood services for children), prohibition of housing eviction, distribution of masks, etc. Subnational government expenditures related to social services and social benefits in EU regions and municipalities is anticipated to be the number one expenditure most impacted by the crisis (OECD-CoR, 2020[57]).

In some countries, local governments have worked with national government authorities, as well as with NGOs and community volunteers to meet the social challenges. In several countries, subnational governments also provide financial support to ensure the proper functioning of services provided by social economy organisations (EU Committee of the Regions, 2020[189]). These organisations have also been highly affected by the crisis, and they play a crucial role in in addressing and mitigating the impact of the COVID-19 crisis on vulnerable populations ((OECD, 2020[209]).

Country Examples

- In **Australia**, State and Territory governments announced fiscal stimulus packages amounting to AUD 11.5 billion (0.6 percent of GDP), which include cash payments to vulnerable households (IMF, 2020[210]).
- In **Canada**, while the federal government doubled the Reaching Home Program that provides funding for the homeless, provinces and municipalities are also establishing emergency funding through family and community support services. Indigenous Services Canada (ISC) is working closely with the Public Health Agency of Canada, other departments, and provincial and territorial counterparts to protect the health and safety of First Nations and Inuit communities to support them in responding to public health threats, including the novel coronavirus.
- In **Chile**, the central government has established two support programs for the most vulnerable population, which are delivered depending on the income levels and the municipality of residence of the family (Chile Government, 2021[211]). The first, the Emergency Family Income (IFE), is aimed at the 60% most vulnerable living in communes in phase 1 or 2 (quarantine and transition). The second, the COVID Bonus, is a monetary contribution that all people subject to the Family Subsidy (SUF) and who reside in communes in phase 3 or 4 (preparation and initial opening) receive automatically.
- In **Colombia**, the Government of the city of Bogotá implemented the "Bogotá Solidaria en Casa" program during the quarantine, an initiative that included three benefits for the most vulnerable sectors of the area: 1) Monetary transfers to cover 65% of the monthly expenditure of the poorest families (up to US $119 and US $50 for poor and low income households, respectively); 2) vouchers redeemable for grocery shopping and other expenses; and 3) transfers in kind for families that for different reasons have not accessed the above benefits (Bogota Como Vamos, 2020[212]). In addition to the work of governments, NGOs have played an important role in coordinating and implementing aid actions for vulnerable sectors both in Bogotá and in other departments of the country. Initiatives such as "Solidarity in Action" of the Ciudad en Movimiento organisation and the food collection campaign of Querendona Cívica stand out (France24, 2020[213]).
- In **Costa Rica**, at the beginning of the pandemic, the national government announced a package of measures to help workers and SMEs. Some of these measures included actions to: a) make credits cheaper; b) make debt readjustment more flexible; c) establish a temporary tax delay; and d) improve insurance options (Government of Costa Rica, 2020[214]).
- In **France**, subnational governments, particularly the départements and municipalities, are monitoring and addressing the specific needs of vulnerable populations, including migrants. The départements have actively supported the most vulnerable since the beginning of the crisis to ensure the continuity of social services and protect and support the most vulnerable in the face of the health emergency. They support purchasing masks, reinforcing human and financial resources in retirement homes creating of emergency centres for youth and children in difficulty, setting up dedicated telephone numbers, etc. (Assemblée des Départements de France, 2020[215]). French cities are also major social actors, in particular through their municipal centres for social action (CCAS). Many cities and metropolitan areas have taken measures to address the problem of food insecurity. The municipality of Brest has expanded its emergency food supply at the end of 2020, by launching a referral system to identify the most vulnerable people, and send them food vouchers to be used in the majority of grocery stores (UN, 2020[216]). In some municipalities, these measures have been more specifically targeted to support young people, particularly students, who have been particularly hit by the economic crisis. The municipality of Paris has opened up emergency food aid to students, who were not previously concerned, and the metropolitan area of Bordeaux and nearby municipalities have jointly contributed to finance a "Food Bank", allowing the distribution of one lunch basket per week to vulnerable students. The Metropolitan area of Rennes has set up a EUR 1 Million fund to support vulnerable households who are struggling to pay their

rents, in collaboration with the Department of Ile-et-Vilaine (Rennes Métropole, 2021[217]). This Emergency Housing Fund is dedicated to those who have suffered a drop in resources due to the COVID-19 crisis, in addition to the Housing Solidarity Fund already existing at the level of the department. The City of Marseille also adopted a range of emergency measures for the most vulnerable, allocating a budget of over EUR 1 million in November 2020. These measures include a doubling of food aid for the homeless, with the distribution of 1 000 meals per day, and a EUR 200 000 subsidy to the Communal Social Action Center (CCAS), to help vulnerable families meet their daily needs.

- In **Greece**, the Ministry of Interior Initiative, in cooperation with the Central Union of Municipalities of Greece and with the support of the Ministry of Digital Governance, launched #CitySolidarityGR to help vulnerable citizens access supplies and services offered by organisations that expressed interest in contributing to the effort. Also in Greece, under the current emergency measures, local authorities must create a record of citizens requiring assistance, including the indigent. Vulnerable households will be assigned care workers who will ensure that such households receive necessary medicines and household supplies, as well as ensuring access to basic sanitation and health services.
- In **Iceland**, the central government and local authorities established a contingency fund to provide scope for the necessary actions in social services and specific services for vulnerable groups to address the effects of COVID-19 (SAMBAD, 2020[218]).
- In **Korea**, the government plans to consider medical service accessibility a critical element in the National Minimum Standards for Living Infrastructure, scheduled to be introduced in 2020, so that medical services will not be neglected in lagging regions. These Standards, part of a central and regional governments support for vulnerable groups, are designed to ensure that all people across the nation have easy access to infrastructure that is essential to their daily lives.
- In **Mexico**, the federal government set up a centralised website to inform all the regional initiatives. The government of Mexico City (through a coordinated effort of the Secretary of Health of Mexico City, the Public Health Services of Mexico City and the Digital Agency for Public Innovation of the Government of Mexico City) announced the delivery of financial and in-kind support to sick people or people with COVID 19 symptoms and their relatives, through a specific procedure that will consist of a delivery of a COVID-19 medical kit, a food package and a 'help card' (with money paid). In addition, during August 2020, the city government implemented a program that supported all girls, boys and adolescents who are at the preschool, primary and secondary level of the public schools of Mexico City, consisting of the delivery of support for the acquisition of school supplies, with the aim of alleviating family economies. Other support programs included fuel bonuses, school scholarships, unemployment support funds, support programs for non-salaried workers, among others.
- In **Portugal**, Lisbon provided financial support to various organisations that offer social support services to vulnerable groups (e.g. homeless, persons with disabilities, families with lower incomes, children, etc.), enabling them to ensure the continuity of their services throughout this crisis. The city increased the Social Emergency Fund for families, and created a network of volunteers to support the various tasks that could support most vulnerable sectors of the population (i.e. senior citizens, persons with disabilities, patients under quarantine, etc.), including shopping for food and medication, pet care and maintaining social contact (e.g. as a way of preventing or detecting cases of domestic violence) (PES Group of the CoR, 2020[219]).
- In the **US**, the Coronavirus Response and Relief Supplemental Appropriations Act of 2021 extended benefits and programmes initially part of the CARES Act (2020) (US Department of the Treasury, 2021[220]) and designed to provide direct economic support to workers and their families in the form of USD 600 payments per adult and up to USD600 per qualifying child, as well as small businesses. In addition, two additional programmes for vulnerable populations were introduced in

2021. In January, the Emergency Rental Assistance programme was also introduced, providing USD 25 billion available to help households that are unable to pay rent and utilities as a result of the COVID-19 pandemic (US Department of the Treasury, 2021[221]). The funds are provided directly from the Federal Government to the individual states, US Territories, local governments and Indian tribes. Grantees use the funds to provide assistance to eligible households through existing or newly created rental assistance programmes. The Emergency Capital Investments Program (ECIP) was introduced in February to encourage financial institutions in low- and moderate-income communities to increase their effort to support community small businesses and consumers (US Department of the Treasury, 2021[222]). As part of this programme, the US Treasury will directly provide up to USD 9 billion in capital to certified Community Development Financial Institutions or minority depository institutions to provide loans, grants and forbearance for small businesses, minority-owned businesses and consumers, especially in low-income and underserved communities that might be disproportionately affected by the economic impact of the pandemic. In March 2021, the US passed a USD 1.9 trillion economic stimulus plan that would expand the child tax credit, raising it to as much as USD 3 600 per child up to 5 years old and USD 3 000 for children ages 6 to 7. This benefit would be fully available to low-income households that are currently ineligible or receive only a portion of the child tax credit. It would also expand the child and dependent care tax credit for 2021. The plan also extends USD 300-per-week payments to the unemployed, supplementing payments linked to the December 2020 stimulus plan, in addition to other financial provisions supporting those who lost jobs and received unemployment benefits in 2020 (The New York Times, 2021[223]).

Pointers for action

- Consider providing additional grants to subnational governments to finance expenses corresponding to increased social service needs. In particular, establish temporary formula-based grants to compensate subnational government support given to vulnerable groups during the COVID-19 crisis. If necessary, such grants could be complemented with discretionary grants and other financial measures aimed at reducing financial burden of the most vulnerable populations.
- Clearly and regularly communicate the support available to vulnerable populations and how to access it, and simplify its allocation.
- Provide financial support to social economy or civil society organisations that help vulnerable populations and mobilise networks of volunteers.
- Facilitate horizontal cooperation among municipalities to address the growth in vulnerable populations, and their shifting profiles.
- Develop programmes targeted at indigenous communities.

Upscaling the use of digital tools in regions and cities

The COVID-19 crisis has accelerated several mega-trends and transformations, such as digitalisation. Digital government policy response to COVID-19 crisis spans different time horizons: react in the short term, resolve in the medium term and reinvent in the long term (UN, 2020[224]). Information-sharing, e-participation and two-way communication through the use of digital platforms permitted accurate reactions to the crisis in the short term. Public services, such as education and health care, shifted to a digital mode within in a few weeks’ time. Meanwhile, remote working is proving effective to reinforce social distancing and mitigate the economic impact of the crisis. COVID-19 has accelerated the digitalisation of public administration and public services delivery in regions, cities, and rural areas. In the medium term, subnational governments should leverage this experience to upgrade government digital services and enhance digital partnerships with other levels of government and the private sector. Nevertheless, unprepared and incomplete digitalisation poses significant challenges for regional and local governments, and the capacity to deal with these varies significantly. The current crisis may widen these disparities, as many subnational governments were not necessarily prepared to go digital. In more remote and rural regions, digitalisation is likely to be particularly challenging if adequate IT infrastructure is lacking. In the long-term, greater convergence in the access to digital infrastructure would help address the urban-rural divide and increase the resilience of healthcare and public service delivery (UN, 2020[224]).

Subnational governments and the use of digital tools to track the pandemic

Regional and local governments are increasingly mobilising digital tools to track and stop the spread of the coronavirus. Expanded use of digital tools for tracking and information purposes in the pandemic has served to: *(i)* inform decision-makers, helping them adopt appropriate measures and contain the pandemic; *(ii)* to communicate with citizens transparently, strengthening trust, which is key to ensure compliance with containment measures.

Digital tools have been crucial for regions and cities to better manage their immediate response to the crisis. Some new applications helped reduce the spread of COVID-19, and supported the gradual lifting of confinement measures by informing citizens if they were in proximity of people infected by the virus, and if so, encouraging them to inform health authorities, isolate and request support. Data tracking, as well as accurate and timely reporting, are essential components of crisis management, and can help prevent – or at least minimise – additional waves. Strong network effect may be at play as digital tools efficiency is increasing with the number of users.

The use of these tools has also raised challenging questions regarding data protection and confidentiality. While acknowledging the benefits that tracking apps may bring to crisis management, they also affect the privacy of information. While in many countries the legal framework does not permit this type of data use, in others the use has been easier to implement. In order to minimise the risks regarding privacy and data protection, the European Commission, for example, has developed guidelines and a toolbox for developing COVID-19 related apps aiming to guarantee sufficient personal data protection.[7]

Making use of digital tools for data monitoring and reporting is also proving essential to keep citizens well informed and improve the interaction between citizens and governments. Many jurisdictions have developed specific web sites to disseminate information on the crisis' development, communicating daily, for example, the number of cases and new measures adopted. Even when there is no dedicated website, most cities and regions around the world provide information about the pandemic situation on their own website, and provide links to their Ministry of Health's website, their country's national COVID-19 platform, or to the WHO website. The realisation of the potential benefits of digitalisation in this matter depends crucially on the relevance, quality and user-friendliness of the information being generated by the digital systems and made available to the public. To ensure a good and efficient use, it is important to involve key stakeholders (CSOs and other groupings of users of public services) early in the process of designing these systems.

Accelerated digitalisation of services at the local level and digital divides across places

Confinement measures have accelerated the digitalisation of services, broadening the range of services provided on-line, including online administrative services, e-education and e-health. Trends towards the digitalisation of services were increasing even before the COVID-19 crisis. Across OECD countries, access to government services through digital portals has tripled since 2006 (de Mello and Ter-Minassian,

[7] On 13 May 2020, EU Members States, with the support of the European Commission, adopted interoperability guidelines for approved contact tracing mobile applications in the EU.

2020[225]). Prior to the crisis, the results of a survey on the use of digital information systems by local governments suggested that, on average, the degree of digitalisation was larger for local services in spatial planning, construction, tourism and culture and sports, and smaller for social services.

- Digitalisation of education: with more than 1.5 billion children outside of school during the confinement in spring 2020 (over 60% of the world's student population) according to UNESCO, the COVID-19 crisis led to a massive shift towards e-education and online courses since March 2020 (UNESCO, 2020[226]). In a number of countries, local governments have broad responsibilities for delivering education policy. This puts them in the lead with respect to the digitalisation process, including in the current crisis context. Before the crisis hit, some regions and cities were spearheading the digital transition of education, particularly in Europe's northern and western cities. Northern European regions, for example, provide a very wide range of digital services with online applications for admission, online monitoring of progress, and online learning materials (de Mello and Ter-Minassian, 2020[225]). With schools being closed, cities have been increasingly promoting the use of digital tools to continue classes. The challenge for local governments is twofold, as on the one hand they need to ensure online classes, and on the other they need to ensure equal access for all – a striking challenge especially in more disadvantages areas. Some cities (e.g. Fuenlabrada, Gdansk the Hague, and Madrid) are working to ensure equal opportunities for all pupils by providing low-income families with digital devices for their children to follow online school courses from home.
- E-Health services: in a context in which social distancing is a critical containment and prevention factor, e-health services offer important benefits, and their use has increased significantly since March 2020. This is especially true of e-prescriptions and telemedicine. In the US, some preliminary research shows that as the number of COVID-19 cases increases, so does the population's interest in telehealth. Local and regional governments can encourage such developments, especially in countries where health care is more decentralised. While e-health may be also a way to deal with territorial inequalities in access to health, support from the central level is crucial to ensure that the distribution of e-health is balanced throughout the territory by supporting the development of institutional and technical capacities. Some barriers to wider use, like access to broadband, will be difficult to tackle in the short term, highlighting the need to strengthen health care provision in rural and low-resource settings (OECD, 2020[227]).

Digital divides across regions and across urban-rural areas

The pandemic has also further revealed the digital divides within countries and has, in some cases, accelerated digital inclusion responses. In OECD countries, access to, and use of, the internet varies significantly within countries. Regional differences in the percentage of households with broadband access are strongly pronounced both in countries with a high ICT penetration, such as France, Israel, the United States and New Zealand, and countries with low average ICT access such as Mexico or Turkey (OECD, 2018[228]). In the US, for example, nearly 25% of 15 years old with disadvantaged backgrounds have no access to a computer. In the poorest regions of Italy, 42% of families have no access to a computer/tablet at home and 20% of 6-7 year-old children are in that same situation. In addition, substantial gap remains in access to high quality internet among urban and rural households. Across OECD countries, 85% of urban households vs 56% of rural households have access to high quality Internet (OECD, 2020[48]). This inequality gap risks being accentuated as some municipalities do not have the capacities to follow the digital transition in the short and medium term. To reduce this risk, local initiatives need to be accompanied by nation-wide initiatives to tackle the digital divide (de Mello and Ter-Minassian, 2020[225]).

E-Democracy at the local level

While there was a growing tendency among governments to adopt e-democracy tools (e-government, e-governance, e-deliberation, e-participation and e-voting), the pandemic has accelerated it. Regional and local governments, which were often reluctant to adopt such measures, have been forced by the circumstance to overcome this in order to ensure the continuity of their work. Proof of this is that many regional and local councils, for example, have moved to permit on-line debating and voting (de Mello and Ter-Minassian, 2020[225]).

Country examples

Use of digital tools to track the pandemic

- In **Argentina**, all provinces have implemented different digital solutions for the following of the progress of the pandemic and to provide effective information to citizens. For example, the province of Santa Cruz established a Telegram channel ("Saber para prevenir") in which citizens can access official material and announcements. The government of Buenos Aires, for example, offers on its information platforms the possibility of knowing details about the "DetectAr" tracking system and the geolocation of its service points. On the other hand, the central government, through the health ministry, has set up a website for data monitoring and a mobile application ("Cuidar") for self-assessment of symptoms.
- In **Brazil**, the Federal Government set up a portal, Covid-19 No Brasil, with different data visualizations and digital tools for monitoring the pandemic. This portal allows access to information disaggregated by regions and municipalities. There are also regional and local initiatives, such as the "Painel Coronavirus COVID-19" set by the State Government of Rio do Janeiro, in which citizens can follow the evolution of cases, check the map for risk areas, access open data files and get information on regulations and service provision.
- In **France**, the Ministry of Health is leading the Programme Répertoire opérationnel des ressources (ROR) to develop an automatic-updated data repository for health resources (such as the availability of beds in each hospital). The ROR is managed in a decentralised manner, so each region has an ROR solution, but these solutions are interoperable so that the exchange across regions is ensured. During the COVID-19 pandemic, this programme is further tailored to identify and map out care units dedicated to coronavirus cases and normal health care resources to ensure a normal provision of health care (Ministry of Health, 2020[229])
- In **Italy**, several regions developed different digital solutions for tracking and containing infection based on the analysis of movements and gatherings generated by anonymous data. For example, Lazio activated a portal for reporting gatherings called “Unique Alert System”. The Lazio Region also launched Lazio DrCovid, an app that provides secure bidirectional text-audio communications via smartphone between the citizen and their doctor. In some cases, it is also accompanied by diagnostic kits for home monitoring. Liguria, Lombardy, Sardinia and Umbria have started analysing phone records and interactions. Citizen health status is monitored in regions like Lombardy, which created the “LOM Alert” app. Piedmont has designed "COVID-19 Piedmont Region Platform" for the Regional Crisis Management Unit to track and monitor all the activities concerning patients with COVID-19. Puglia and Tuscany also have regional web platforms that support assistance, care and monitoring of patients from a distance.
- **Korea** has developed and operated the COVID-19 Smart Management System to support epidemiological investigation. This system is based on the country’s smart city data hub technologies for collecting and processing a large volume of urban data. Korea has implemented this system for a wide range of statistics analysis to backtrack the movements of infected persons, identify transmission routes, or locate an infection source in a large-scale outbreak. The location

data of the infected persons before they were diagnosed is collected from mobile base stations, credit card transactions, etc. within the permitted range under the Infectious Disease Control and Prevention Act. With full consideration of privacy, information deemed necessary is provided anonymously to the public so that people themselves can check whether they have crossed paths with the infected persons, and get tested if necessary.

- In **Mexico**, the majority of the federal entities have activated contingent phone numbers to assist and inform permanently about COVID-19. In Chihuahua, Nuevo León and Querétaro, apps were developed to inform, register and guide people with symptoms or people already infected. In the case of Mexico City, the system "SMS COVID-19" was activated, in which the people with symptoms answer some questions that allow the identification of possible cases (acute or severe) of coronavirus.
- In **Norway**, the government launched a mobile application called Smittestop, to help health authorities limit the transmission of the coronavirus. Using the data provided by the application, the Norwegian Institute of Public Health can analyse movement patterns in society and develop effective infection control measures.

Informing and engaging citizens

- In **Chile**, the government has set up a website with detailed statistical information on the progress of the pandemic through daily updated figures on the number of infected, dead, mechanical ventilators and hospital beds available, among many other items, all of which have territorial specificity by regions or communes. In this platform you can also access official reports, a 3D viewer and statistical files with the official data. In addition, the Territorial Visor app allows citizens to follow all the COVID relevant information on an interactive data visualization dashboard: daily summary and progress of numbers (active cases, deaths, percentage of used beds, exams undertook), georeferenced statistics, municipalities' quarantine status, neighbourhood level cases data, and others.
- In **Colombia**, the Ministry of Health and Social Protection offers two different centralized data websites for citizens to follow the evolution of the pandemic. With daily updates, both sites -one in the Ministry's domain and the other in the Public Health Institute's- present data dashboards for several variables and comprehensive GIS maps with the situation at department and municipality level. At the local level, the work of the Government of the city of Bogotá stands out, which developed a web platform in which local residents can access not only interactive dashboards with up-to-date and downloadable information on infections and other daily statistics, but also learn about available social help programs, community aid campaigns, accessible funeral services and even a fact-checking section to analyse and disprove fake news.
- In **Estonia**, Järva Vald is using their community engagement app to info citizens on national and local level actions and guidelines to prevent and stop the spreading of the coronavirus. The engagement app publishes targeted question cards, feedback, calendar events, social media content and notifications. City officials can also detect how many users have seen the shared info and when (Open Government Parnership, 2020[230]).
- In **Korea**, an interactive and up-to-date webpage was created, mapping out COVID 19-cases within the country, as well as the places that patients reported having visited. Authorities identified high-priority cases and back-tracked the routes of infected persons thanks to artificial intelligence and data driven measures via location data collected from mobile base stations, credit card transactions and data-mining of CCTV footage, then published extremely detailed lists of their whereabouts. Massive testing has also been the major strategy for combating the coronavirus (Government of Korea,, 2020[231]).
- **Norway** has developed digital solution to making the relevant data available to inform policy at both national and regional levels on COVID-19. The Norwegian National Institute of Public Health

(NIPH) collaborated with The Norwegian Association of Local and Regional Authorities (KS) to generalise the use of the District Health Information Software 2 (DHIS2). This mobile phone application permits offline data capture, making it possible to generate analyses from data on health in real time (Skjesol and Tritter, 2020[232]).

Moving towards e-governance and digital services

- In **Canada**, the province of Ontario developed its own website where businesses can directly indicate their ability to furnish emergency products (e.g. ventilators, masks, etc.), submit innovative solutions to fight COVID-19 by supporting virtual mental health services, provide financial advice for small businesses, or submit a proposal for ideas, other products or services that could help Ontarians. Canada has also introduced legislation that permits municipalities to fully conduct Council, local board and committee meetings electronically in local and province-wide emergency situations, empowering the municipalities to respond quickly when in-person meetings cannot be held.
- In **Chile**, like the government and some ministries, many municipal and regional councils are holding their sessions remotely.
- In **Germany**, the city of Bamberg established an online platform with exercises and working materials for students. These serve a dual function, as they also relate to Bamberg's cultural heritage. Dusseldorf is also turning to the internet and telephone for education support, as well as having developed a hotline for the elderly and other high risk populations to get help and advice ((Eurocities, 2020[233]).
- In **Italy**, Bologna's Institution for Education and Schools (IES) has been offering online educational resources to families with children aged 0-6, to help and keep them entertained, educated and exercised without leaving the house. The municipality of Palermo, through its innovation office has created a "digital toolbox" that provides the tools, procedures and information necessary to work online. It includes essential information for municipal staff to work remotely at home. Some of the information included in the toolbox includes instructions for the management applications to work remotely at home, tutorials for using digital signature, to manage video meetings, to draft and share documents with colleagues on Google Drive, among others (Eurocities, 2020[234]).
- In **Mexico**, the federal government set up a website with all the centralized information on the progress of the pandemic in the country. This platform includes an interactive dashboard to follow the evolution of infections and other variables both at the national and local level (cities and neighbourhoods).
- In the **Netherlands**, the law on digital decision making within municipality council meetings allows municipal councils to take legally binding decisions through a digital meeting.
- In **Spain**, legislative adjustments were made to permit representative and governing bodies of local entities to hold remote sessions by electronic or telematic means.

Addressing digitalisation challenges: bridging the digital divide

- In **Iceland**, the central government is taking measures to strengthen digital services and coverage within local authorities in the framework of the Second Phase of Economic Response Package to the COVID-19 Crisis. Vulnerable areas across the country are currently being identified and mapped (Government of Iceland, 2020[235]).
- In **Italy**, the city of Milan has used dashboards to understand where citizens were located on the city map and how they could connect them to private sector offering services. Based in this data, and in partnership with a telecommunications company, the city was able to provide free internet access to vulnerable families connected to the internet (UCLG, 2020[236]). On 4 August, the European Commission approved a EUR200 million voucher scheme to help low-income

households' access high-speed broadband services and cover the provision of the necessary equipment. It aims to narrow the digital divide by supporting teleworking activities and granting increased access to educational services.

- In **Spain**, in September 2020, nine Spanish regions benefited from a EUR 1.2 billion reallocation from the European Regional Development Fund to strengthen their healthcare system capacity, support SMEs, and develop ICTs in education in response to COVID-19.
- In **Portugal**, in October 2020, the European Commission approved the reallocation of EUR 1 billion from EU Cohesion policy funds to support seven Portuguese regions, in response to COVID-19. Funds will support the digitalisation of schools, SMEs, and the tourism sector.

Pointers for action

- Collect and share information and data among all levels of government in a timely, transparent, and regular fashion.
- Support data and information dissemination across jurisdictions to help manage the inter-jurisdiction disparities and uncertainties generated by a crisis, and to promote knowledge-sharing and good practice exchange.
- Strengthen the quality of micro-level data within and between regions to improve understanding of the crisis and its impact.
- Take advantage of the insights that digital tools and big data offer to track and stop the spread of the coronavirus, but give equal consideration to matters of data privacy and data protection.
- Use digital opportunities (e.g. e-health, e-education) to help ensure continued service delivery, being sensitive to territorial, economic, and social disparities in access. Encourage good practice exchange in this area among local authorities, and frequent users (e.g. medical professionals, teachers, students, etc.).
- Introduce measures to overcome the digital divide in crisis recovery strategies plans and investment plan and strengthen the support from the central level for the digitalisation processes especially for SMEs, poorer urban, and remote, rural communities.
- Create incentives for subnational government cooperation to build digitalisation opportunities across jurisdictions, for example through financing possibilities.
- Encourage the development of pilot projects on digitalisation at the local level to test, experiment and encourage innovation by local governments.

Supporting subnational finance

The expenditure effects of COVID-19 on subnational governments are considerable, especially in countries with decentralised service provision, and the revenue effects are even greater. Without sufficient compensation for the extra spending and the revenue losses caused by COVID-19, many subnational governments could be forced to implement sharp cuts on operating and capital spending. This could endanger the efforts for a coordinated recovery response, and weaken the equity and quality of service availability among subnational governments.

Supporting subnational finance

A majority of federal/central governments adopted a range of measures in 2020 to help subnational governments cope with the fiscal shocks. State governments in federal countries have also implemented measures to support local government finance. In several countries, such as the Czech Republic, Finland, France, Japan, Spain or Sweden, central/federal/state government support through emergency funds and compensation grants has limited the negative impact on subnational finance in 2020 (see section 1.3 "The fiscal impact on subnational governments").

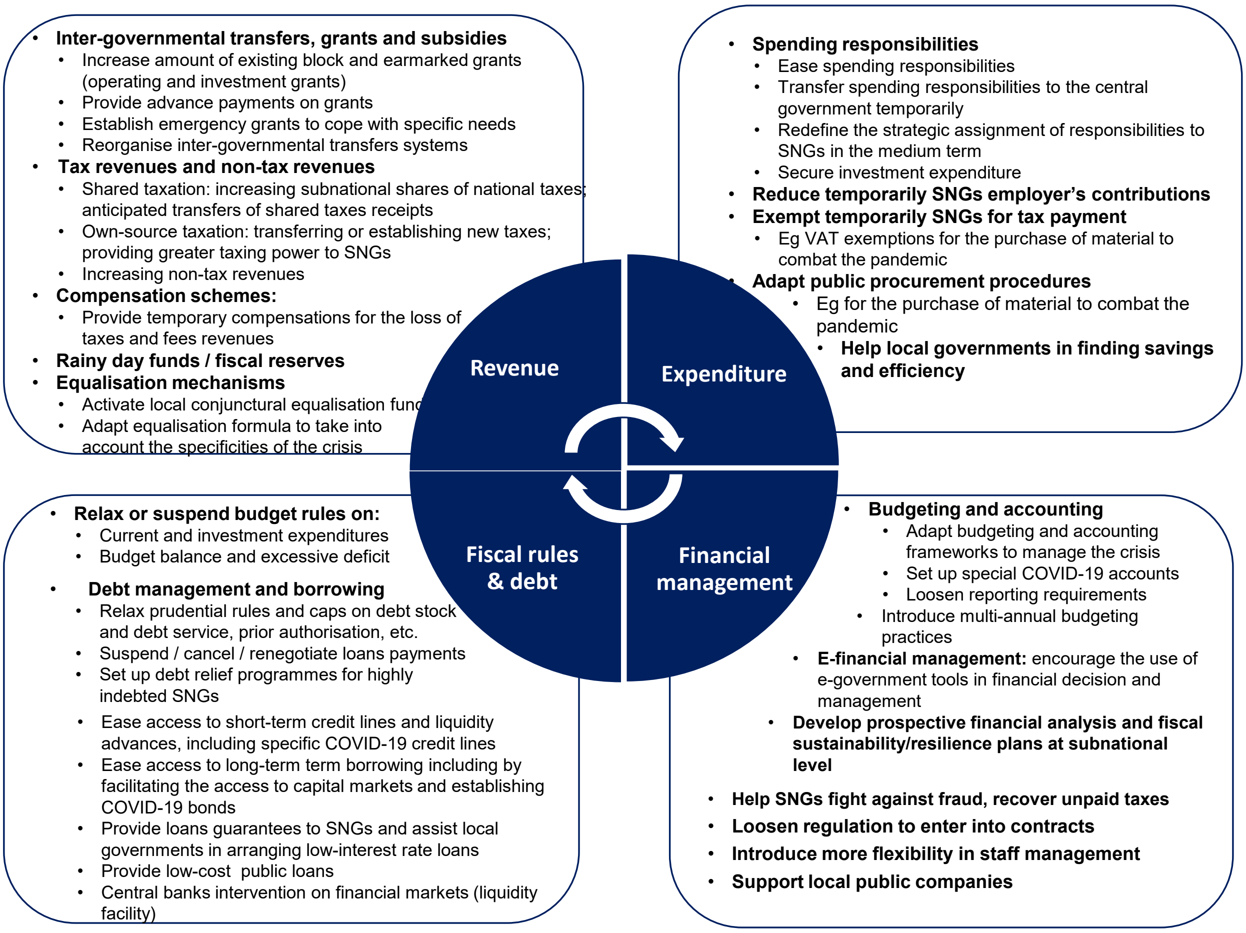
In 2021, some countries have announced the continuation of support packages, but they could be reduced depending on how the situation develops at the subnational level and at the national level. Many central/federal governments have absorbed the fiscal shocks of the COVID-19 crisis and substantially increased their deficit and debt. More governments target their support to subnational governments most affected by the crisis and/or confronted to specific socio-economic challenges (Austria, Chile, Costa Rica, France, Italy, Korea, Norway, Slovenia, Sweden, etc.). Previously, support was distributed quite uniformly because of the emergency situation. Now, governments have a better knowledge of areas and subnational governments that have suffered the most during the crisis.

Crisis and recovery plans provided an opportunity to initiate or accelerate local finance reforms in some countries (France, Iceland, Spain, England/UK, etc.). The objectives are diverse. They include the need to find ways to compensate for the (temporary or permanent) abrogation of some local taxes to accelerate the economic recovery (e.g. local business taxes in France, IRAP in Italy). They also aim at improving the resilience of subnational finance systems to cope with future crises and ensure more solidarity through equalisation and stabilisation mechanisms (e.g. reform of the Fiscal Stabilisation program in Canada). One objective is also to take into account long-term challenges such as demographic challenges that are generating a financing gap for the local government sector in many countries, such as Belgium, Finland, Japan or Sweden.

Four categories of supporting measures

The measures implemented in countries can be classified into four categories (Figure 21). They include revenue-side measures, expenditure-side measures, financial management measures and measures related to fiscal rules and debt, including to facilitate the use of debt for short and long term needs. Revenue-side measures and measures related to fiscal rules and debt seem to be the most frequently applied measures, although measures to improve financial management are also quite widespread. For example, in the EU, 46% of CoR-OECD survey respondents reported in 2020 that some fiscal rules have been relaxed or are planning to be (18%) in the near term (OECD-CoR, 2020[57]).

Figure 21. Measures to support subnational government finance



Source: Authors' elaboration

Revenue-side measures include increasing existing inter-governmental operating and capital transfers or creating new funds to cope with specific needs (numerous countries, including Austria, Bulgaria, Chile, Czech Republic, Estonia, Finland, Flanders/Belgium, France, Germany, Italy, Korea, Japan, Latvia, Norway, Spain, Sweden, United Kingdom, etc.), accelerating grants and subsidies payment including increase and advance of EU structural funds (Austria), increasing/advancing revenues from non-tax revenues and from taxes, in particular subnational shares of national taxes (Austria, Finland, Canada, Latvia, Poland, Portugal), developing compensation schemes for the loss of taxes and fees revenues due to the recession or tax decisions (Wallonia/Belgium, Canada, China, Denmark, England/UK, Estonia, France, Germany, Italy, Norway, Netherlands, etc.), activating rainy-day funds and fiscal reserves (Czech Republic, Japan, Luxembourg, Mexico, Slovak Republic, United States, etc.).

In some countries, the activation of equalisation mechanisms has mitigated the differentiated impact of COVID-19 among subnational governments (Luxembourg, Switzerland, Germany). Although equalisation systems might help mitigate regional disparities, the effect could be limited and dependent on the equalisation system's distribution formula. In addition, as many equalisation systems are funded either by appropriations from central government revenues or horizontal transfers among subnational governments, both of which may be susceptible to contractions in economic activity, there are some concerns about the sustainability of equalisation systems. According to a survey by OECD Network on Fiscal Relations, 8 out of 17 country respondents anticipate a fall in total equalising transfers, whereas only Canada anticipates an increase to one of its two equalising transfers (i.e. the Territorial Financing Formula). Overall, this suggests that equalisation systems may have a pro-cyclical impact on subnational finance (OECD, 2020[237]).

Expenditure-side measures have included easing spending responsibilities (Slovenia), reducing some expenditure items (taxes and contributions to be paid by subnational governments, e.g. Poland), supporting temporarily some spending costs (Germany), securing investments projects (Poland), adapting public procurement procedures (e.g. to buy personal protective equipment or testing and tracing equipment) and helping local governments to find savings and efficiency (Canada/Ontario).

Fiscal rules, whose purpose is to mitigate subnational fiscal risks through the imposition of constraints on fiscal policy, are susceptible to pro-cyclical tendencies if they are too rigid or subject to short time frames. During a crisis, it may be possible to relax such rules (budget balance rules, spending limits, etc.) along two lines, either formal escape clauses that can be triggered by prescribed circumstances, and/or an effective suspension of the rules in practice when it is unreasonable to expect subnational governments to comply (OECD, 2020[237]). Many countries have used these instruments such as Flanders/Belgium, China, Denmark, Germany, Iceland, Poland, Portugal and the Slovak Republic. Support measures also include relaxing debt prudential rules (Colombia, Poland, Portugal), reducing debt burden (Brazil, Italy) as well as facilitating the access to short-term borrowing and credit lines (with sometimes COVID-19 credit lines), developing access to long-term borrowing and capital markets (Mexico, COVID-19 bonds in China) in particular for EU co-funded projects (Latvia, Slovenia), or establishing municipal liquidity facilities (the Federal Reserve in the United States, Italy).

Finally, they include diverse measures related to financial management, such as limiting administrative burden by easing current regulations and promoting new practices. This covers a large scope of measures including budget management, accounting (France, Italy, Poland), developing the use of ICT in financial management, supporting the preparation of subnational forward-looking fiscal analysis and fiscal resilience plans, introducing more flexibility in staff management and contracts practices, help subnational governments fight against fraud and evasion, support local public companies such as regional and local public transport companies (Denmark, France, Italy).

These measures can be further divided according to the time span of the effects. For example, allocating additional grants to subnational governments permit a relatively quick compensation of lost tax revenue and increased expenditure. Transferring or creating new taxes or providing more taxing powers to subnational governments are effective in the medium and long terms, but not always adequate for responding to immediate needs. Also transferring service responsibilities from subnational governments to central governments is likely to be slower than transferring additional resources to subnational governments to secure service provision. Some measures are meant to be temporary, others can be implemented in a more permanent way.

Increases in central or state government transfers are likely to be insufficient to fully offset decreased revenues from taxes, user charges and tariffs, and property income. Furthermore, in the longer term, central government transfers will probably be cut to rebalance public budgets and restore fiscal stability, for example through future austerity measures. While in the short term the support from higher levels of government may help fill the fiscal gap created by the crisis, subnational governments need to prepare for the crisis recovery phase, and possible consolidation plans. The crisis is likely to have negative medium and long term effects on subnational government finances. Reforms that ensure the stability, the operational capacity and the resilience of subnational finance are important, and should be carefully planned and implemented.

Support to subnational government finance can also be indirect, by supporting related entities, such as public transport agencies, energy companies and other utility companies. In Germany, the federal government will take over the costs of housing benefit for welfare recipients from the municipalities (EUR 4 billion) and support local public transport networks (EUR 2.5 billion) (BNP Paribas, 2020[238]).

In Latvia, municipal capital companies, whose turnover has decreased by 50% due to the COVID-19 crisis, may receive a state budget loan to increase the company's share capital in order to finance its maintenance costs. In the US, the CARES Act includes USD 25 billion for transit agencies to compensate for part of the revenue gap.

The methods used to prepare these measures vary from country to country, depending on existing inter-governmental fiscal relations, and the culture and practices of dialogue and negotiation between the central and subnational governments. In countries where fiscal coordination is already well developed and effective, support measures have been developed and discussed between the different responsible ministries and representatives of subnational governments. In several countries, the discussions about urgent support, compensation schemes and other financial measures have been discussed and agreed upon with the national associations of subnational governments, resulting in formal agreements or more informal deals.

Country examples

- In **Australia,** the Australian Government, States and Territories signed a cost sharing arrangement at the start of the COVID-19 crisis to cover the public health costs incurred by States and Territories in treating the virus. On 29 May 2020, a new 2020-2025 health reform agreement was signed by the Commonwealth and the states and territories. It includes a guarantee to all states and territories that no jurisdiction is left worse off as a result of the COVID-19 pandemic (Federal Ministry of Health, 2020[239]). In addition, the Australian Government, in co-operation with the state jurisdictions and local government, is further examining and discussing methods of identifying the pandemic's impact at the small area level (sub-state regions, local governments) and developing targeted recovery and reconstruction assistance that might be required in the medium and longer term.
- **In Austria,** the Government announced measures for supporting state finances in 2021, in particular special purpose grants up to EUR 1 million to finance equipment in the care sector. The federal states should also be involved in the implementation of the new "1-2-3 climate tickets" for public transports, favouring interregional mobility (Austrian Federal Ministry of Finance, 2020[240]). At the municipal level, the federal government has adopted a second municipal support package in January 2021, increasing the fiscal support for municipalities by EUR 1.5 billion to amount a total of EUR 2.5 billion. This package is made up of three measures: an increase in the municipal tax share for 2021; special advances on municipal tax shares; and an increase in structural funds for particularly financially weak communities (Wiener Zeitung, 2021[241]).
- In **Belgium,** regional governments announced support measures for local finance. Wallonia's municipalities were allowed in 2020 to increase their budget deficit, and encouraged to use their reserves or to borrow to boost local economic recovery (La Libre Belgique, 2020[242]). On the revenue side, the Walloon region will provide in 2021 a financial aid of EUR 21 million to the municipalities and provinces under its jurisdiction, to compensate for the elimination of several local taxes and fees in 2020, particularly those affecting the restaurant, entertainment and tourism sectors (Wallonie Interieur SPV, 2020[243]). In Flanders, the Flemish Government adopted several measures in 2020 to support municipalities, including: a grant of EUR 15 million for poverty reduction as a result of the COVID-19 pandemic; an emergency fund of EUR 87 million to support local authorities in the culture, youth and sport sectors, a fund to stimulate sustainable mobility (e.g. local improvements for walking and cycling), and various subsidies for infrastructure and operation of a vaccination centre (Flanders National Administration Agency, 2021[244]). Flexibility has been allowed for the local budgets (subject to monitoring coronavirus impact) (Flemish Government, 2020[245]).
- In **Brazil,** in May 2020, the Federal government enacted a BRL 120 billion plan that included a variety of measures for states and municipalities. As part of this plan, states received BRL 30 billion in general use transfers and BRL 7 billion in transfers to cover healthcare and social services costs;

municipalities received BRL 20 billion in general use transfers and BRL 3 billion in healthcare and social services transfers. The plan also included the suspension and renegotiation of debts with federal banks, permission for subnational governments to renegotiate loans with international bodies, and the suspension of municipal social security debts (BRL 5.6 billion) (FTI Consulting, 2020[246]). Furthermore, in August 2020, the federal government enacted a law to compensate municipalities and states for funding losses from the Municipality Participation Funds and the State Participation Funds. Using a different strategy, early on in the pandemic, the federal government supported municipalities by reducing the Import Tax on a list of medicines municipalities had deemed essential for tackling the pandemic (KPMG, 2020[247]).

- In **Bulgaria**, as part of the 2021 Draft Budget Proposal released in October 2020 the central government plans to provide additional transfers to municipalities to compensate their costs in relation to the adverse impact of the COVID-19 crisis. To this end, an additional BGN 15 million will be transferred to the municipalities in 2020. In 2021, the resources to recover the costs of the municipalities related to the pandemic are expected to amount to BGN 30 million. (National Association of Municipalities of Bulgaria, 2020[248]).
- In **Canada**, the federal government supported municipal finance in 2020 by providing advances from the Federal Gas Tax Fund. The Federal Government announced its intention to reform the Fiscal Stabilisation program to act as a more effective backstop to provinces that face extraordinary drops in revenue. Since its creation in 1976, the program provides financial help to any province faced with an annual decrease of more than 5% in its non-resource revenues, or of more than 50% in its resource revenues. Payments are currently capped at $60 per person for a given fiscal year (Government of Canada, 2020[249]). On top of that, the government also provided direct support to the provinces and territories (CAD 24 billion), part of the Safe Restart Agreement, a federal-provincial agreement to support subnational governments with increasing testing and contact tracing capacities, personal Protective Equipment procurement, and to fund enhanced sanitation measures to protect the elderly and most vulnerable. As part of this funding, CAD 2 billion is earmarked for helping municipalities manage COVID-19 operating costs and CAD 2.4 billion is for public transport. The federal government also created the Regional Relief and Recovery Fund, providing significant funding through Canada's Regional Development Agencies. Provinces, which have jurisdiction over the municipalities, have also started to provide exceptional support to municipalities. This support will continue in 2021. For instance, the Province of Ontario announced in early 2021 CAD 500 million of additional funding to municipalities to help address operating cost increases due to the pandemic as well as to keep capital projects on track. Ontario is also supporting municipalities in finding budget savings and efficiencies through the Audit and Accountability Fund and Municipal Modernization Program (Province of Ontario, 2021[250]).
- In **Costa Rica,** the central government implemented some measures to relax fiscal spending limits for subnational governments. In addition, the central government is making a diagnosis of the economic and fiscal impacts of the pandemic on subnational governments to provide a differentiated response depending on the needs of each of them, in coordination with local authorities (IADB, 2020[251]).
- In **Chile**, the government provided for the transfer of more than USD 220 million from the Solidarity Fund (*Fondo Solidario*) to 342 out of 345 municipalities in the country with the purpose of address the COVID crisis and counteract the decrease in the income of subnational governments. A first instalment of USD 100 million was announced in May 2020, and a second one of USD 120 million in July 2020, (SUBDERE, 2020[252]).The amounts transferred were established taking into consideration the population of each municipality and their level of vulnerability (SUBDERE, 2020[253]). Whereas the funds were previously earmarked for extra expenditures related to the pandemic, such as the purchase of medicine, the second instalment was made for flexible, enabling municipalities to use the funds to cover their operating expenditures in general, to be spent until 2022. The 2021 Budget Law also provides for a liquidity advance to the municipalities

that have seen their own income diminished during the pandemic, and more flexible terms of reimbursement (postponed to 2022). In November 2020, the mayors of the three national associations of municipalities signed a Protocol of Agreement with the Government, to formalise the financial support related the Covid-19 crisis (Portal Pirque, 2020[254]).

- In **China,** the Government continues the implementation of the committed transfers of CNY 2 trillion to local governments for fighting against the pandemic (ODI, 2020[255]). This is expected to be funded by allowing the deficit-to-GDP ratio to expand to over 3.6% (first time over 3%) for 2020, which adds CNY 1 trillion to the budget deficit, and by issuing CNY 1 trillion in special COVID-19 bonds that enable local governments to channel funds to where they are most needed. It is emphasised by the national government that special transfer mechanisms will be established to accelerate the implementation of these funds, which should not be retained or intercepted by the provincial level (Yicai, 2020[256]). In February 2021, the central government announced that for 2021 the deficit-to-GDP ratio will scale back to 3.2%, and no special COVID-19 bonds will be issued this year (S&P Global Ratings, 2020[257]).
- In **Colombia,** on 21 May 2020 the Colombian government announced a series of fiscal measures, including: more flexibility in the use of several sources of income to finance extraordinary operating expenditure (which are normally earmarked); the possibility to use resources from the National Pension Fund of Territorial Entities (Fonpet); the possibility to contract short-term borrowing (credit lines) that will not be counted in indebtedness ratios; and a relaxation of debt rules.
- In the **Czech Republic,** the central government has increased by 40% its transfers to municipalities to mitigate the decline of municipal tax revenues in 2020. Each municipality has received a bonus of CZK 1 250 per inhabitant, corresponding to non-earmarked grant. (Government of the Czech Republic, 2020[73]).
- In **Denmark**, fiscal rules have been temporarily eased for municipalities, lifting expenditure ceilings for both coronavirus-related operating expenditures and investments (Information, 2020[258]). The government also provided extra funding to local governments in order to cover for expenses related to the pandemic (e.g. protective equipment and sanitising in schools and day care centres) and to ensure that the level of service provision could be maintained (Ministry of Finance, 2020[259]). Following a concertation between the central government, the national association of local governments and Danish regions, it has been agreed that the regional transport companies will receive full compensation for additional expenses and loss of income as a result of COVID-19 throughout 2020. (KL, 2020[260])
- In **Estonia**, municipalities have received a financial support package of EUR 100 million from the central government to compensate the loss of revenue, to cover extraordinary direct costs of the crisis borne by municipalities, and to finance additional public investment that can stimulate economic recovery.
- In **Finland**, the central government has supported municipalities with relatively generous temporary grants and by increasing the municipal share of corporate tax revenue. With the decisions taken by end of year 2020, the central government COVID-19 support to municipalities amounts to EUR 5.1 billion during 2020 and 2021. This corresponds to about 6.6% of total municipal expenses (Finland Ministry of Finance, 2020[261]). The package consists of various specific compensation and support measures, which are defined mostly using a formula. The total support package includes, among others, EUR 600 million compensation to hospital districts (these are joint municipal authorities), EUR 520 million temporary increase in municipal share of corporate income tax revenue, EUR 2 billion compensation of direct costs caused by COVID-19 to municipalities, and EUR 1.4 billion increase in block grants (Statistics Finland, 2021[262]). The latest reports on municipal economic situation suggest that the central government financial support has been sufficient to cover the both the new spending and lost revenue caused by COVID-19 to municipalities. The compensation scheme for municipalities is based on formulas, which aim to

measure the extra costs and revenue losses experienced by municipalities (Association of Finish Municipalities, 2020[263]).

- In **France,** the emergency plan of EUR 4.5 billion, announced in May 2020 took into account the fiscal situation of the different levels of government as well as the specificities of particular categories (e.g. touristic municipalities). The emergency focuses mainly on municipalities (EUR 1.8 billion) and departments (EUR 2.7 billion), to help them meet increased social spending requirements. The emergency plan comprises three main components: i) subnational governments will have the possibility to record COVID-19 related operating expenditure in a special account and to absorb them over three years or even to finance them through borrowing; ii) the current Support Grant for Local Investment (*Dotation de soutien à l'investissement local* or DSIL) will receive an additional EUR 1 billion; iii) guaranteed resources in 2020 for municipalities, based on government compensation for the loss in tax revenues and a portion of user charges (e.g. car parks), calculated by comparing the revenue in 2020 to the average for 2017 to 2019. These measures will be extended throughout 2021, together with new measures such as compensation for rent cancellation and support for public transportation (Vie Publique, 2020[264]). The announcement of the national recovery package in July 2020 triggered additional measures, including further support to subnational investment, as well as new fiscal compensatory measures following the lowering of taxes based on production (including the property tax on developed land – TFPB, and the local economic contribution - CET, which were devolved to local and regional authorities). To compensate for this loss, fiscal measures will provide, among others, the transfer of a portion of VAT to the regions to replace the regional share of CVAE, and compensation based on changes to the tax bases of production taxes for local authorities. Finally, the recovery strategy clearly states that a greater attention will be paid to directing resources and funding at local levels rather than within the central government, and that local authorities will be allowed to develop public policies more aligned with regional needs and deviate from the national laws, when appropriate (French Ministry of Finance, 2020[265]).
- In **Germany,** the Parliament has suspended the constitutionally enshrined "debt brake" thereby allowing *Länder* to run deficits to respond to pandemic induced fiscal pressures. Using net-funding pre-approved allowances, the *Länder* have been able to partially cover budget deficits in 2020 and have the flexibility to use any leftover funds from these allowances in the coming years to fund pandemic-related costs and revenue losses (Moody's, 2021[266]). In addition, the Federal Government compensates declining revenues and provides additional grants to compensate crisis spending. For the local level, the federal and state governments have decided in September 2020 on an aid package to support cities and municipalities during the COVID-19 crisis and maintain municipalities' investment capacity in the coming years. In particular, According to this aid package, the federal government covers for half of the municipalities' local business tax losses for 2020, and *Länder* cover for the other half. In addition, the central government also contributes to the costs of accommodation and heating of municipalities, increases the federal share in municipal welfare spending, provides additional capital grants for kindergarten, hospitals, public transport, digitalisation and local health services. This federal support comes on top of support provided by the *Länder* to the local governments. In particular, the *Länder* have decided to loosen the fiscal rules applied to municipalities by suspending the balanced budget rule and the duty for cutback measures as well as spending freezes. In addition, regulation for short term credits has been eased.
- In **Iceland**, in the framework of the Supplementary Budget for 2020 the central government is providing municipalities with an extra grant of ISK 30 million to address the challenges posed by Covid-19 in social services and child protection. This grant is dedicated to the most sparsely populated municipalities of the country (Ministry of Transport and Local Governmment of Iceland, 2020[267]). In December 2020, the government launched a public consultation relative to a bill on amendments to various laws related to municipalities and COVID-19. The bill was drafted in the

Ministry of Transport and Local Government in collaboration with the Association of Icelandic Municipalities and the Municipal Debt Fund. The bill aims, among other, to ensure that municipalities have scope to make increased investments and meet the impending operating expenditure triggered by the pandemic. It also aims to authorise municipalities to deviate from the debt and balance rule of the Local Government Act until the year 2025, as well as to include temporary provisions in the Act on the Municipal Loan Fund, to facilitate lending to municipalities (Icelandic Association of Local Authorities, 2021[268]).

- In **Italy**, since March 2020, three fiscal packages with a direct fiscal impact in 2020 to counter the effects of the pandemic have been adopted, including support measures for regional and local governments: the Law Decree no. 18 adopted on 17 March ('Cura Italia' decree); the Law Decree no. 34 adopted in May ('Recovery' decree) and the Law Decree no. 104 adopted in August 2020 ("August decree"). Measures includes additional resources to compensate for additional costs incurred by local and regional governments to allow them perform their functions. In total, the additional funds for local governments amounted to EUR 5.17 billion for 2020 (of which EUR 4.22 billion for the municipalities) while extra funds for regional authorities and autonomous provinces mounted to EUR 4.3 billion (EUR 2.6 billion for the autonomous provinces and € 1.7 billion for ordinary-statute regions). In addition, additional resources have been allocated to make up for the lower revenues from local taxes (€ 86 million); to support local public transport and regional railways and to support local authorities with a structural deficit (€ 180 million) and for regional disputes (€ 210 million). . As part of the August Decree, Southern Italy should be given as special treatment. The Decree N°34/20 also supports the debt of regional and local authorities, by enabling them to renegotiate or suspend mortgages and other forms of loans contracted with banks, financial intermediaries and *Cassa Depositi e Prestiti* during 2020. The Decree also established a fund of EUR 12 billion to ensure an advance of liquidity for the payment of certain liquid and due debts of regional, autonomous provincial and local authorities and national health service bodies in 2020. Measures supporting subnational investment have also been adopted (Italian Ministry of Finance, 2020[269]). Finally, accounting rules for local authorities were amended to allow local authorities to use the free portion of the administration surplus, as well as proceeds from buildings permits and sanctions, to finance current expenses related to the epidemiological emergency in 2021.
- In **Korea**, the government implemented several financial packages to stimulate the economy, including measures to support local governments. The First Financial Stimulus Package of KRW 4 trillion included a policy support related to internal and local tax. The 2020 Supplementary Budget amounted to KRW 11.7 trillion including support to most severely hit areas for Daegu City and North Kyeongsang Province (MOEF, 2020[270]; Government of Korea,, 2020[231]). Support to local governments, in particular for the recovery, are also included in the Korean New Deal.
- In **Latvia,** the draft budgetary plan 2021 provides for an increase of local government special grant by 10%, compared to the previous year, as well as a redistribution of the PIT between local governments and the central government (75% versus 25% respectively, compared to 80% and 20% respectively in 2020). The government also increased the local governments borrowing limit (Latvian Ministry of Finance, 2021[271]).
- In **Luxembourg,** in a circular of May 2020, the Ministry of Interior indicated the possibility of activating several mechanisms to limit municipal budget deficits and offset and cope with spending needs, including the use of rainy days funds, the activation of the local conjonctural equalisation fund (*Fonds communal de péréquation conjoncturel - FCPC*) and borrowing.
- In **Mexico,** the Stabilisation Fund for Federal Entities (*Fondo de Estabilization de Ingresos de las Etidades Federativas* - FEIEF) is a rainy day fund managed by the federal government. In July 2020, the federal government transferred MXN 10 billion to federated entities through this fund, to compensate for the reduction in grants from the central government due to the economic crisis (El

Economista, 2021[272]). 20% of this amount is earmarked to supporting municipalities (Aristegui Noticias, 2020[273]). However, the resources for this fund come from oil revenues and federal contributions, which are declining (Fitch Ratings, 2021[274]). To mitigate the impact on state governments, transfer of the Fund's resources have been carried out monthly, rather than quarterly. The government is considering additional measures to ease the financial pressure on state and municipal governments, including federal transfers and modifying some regulations to allow greater access to financing on capital market.

- In the **Netherlands,** the government and the association of municipalities (VNG) concluded agreements on the compensation of various additional costs and lower income due to the coronavirus measures. In some areas, specific agreements have been made about how compensation levels from fellow authorities will move with the crisis, such as compensation for loss of income, extra costs of regional municipal health services (GGD) and safety; extra costs arising from the Temporary COVID-19 Act, including in Supervision and Enforcement; extra costs related to public transport; and temporary self-employment income support and loan scheme (Tozo).
- In **Norway**, municipalities were compensated for the effects of the COVID-19 outbreak with a total of NOK 17.7 billion in 2020. Direct additional financial support was provided to municipalities and counties to compensate for COVID-related expenditure and loss of subnational revenue. Funding is provided as general subsidy, with a share of discretionary funds. A specific fund has been set up for the most vulnerable municipalities. The Minister of Local Government and Modernization has asked the county governors to map the situation in the municipalities in their county in order to identify which municipalities have had particularly large costs as a result of the corona crisis, to determine which municipalities will received the funds (Ministry of Local Government and Modernisation, 2020[275]).. These measures were designed in collaboration between representatives of the state and subnational governments, through a Working Group set up by the government for assessing the economic consequences the pandemic has had for the municipalities, whose work will extend until August 2021 (Ministry of Local Government and Modernisation, 2020[276]).
- In **Poland,** the government has established anti-crisis packages called “Anti-crisis shield”. In March 2021, this was the version 8.0. Support measures for local governments were included in the “Anti-crisis Shield 4.0” adopted in June 2020. Aimed at compensating for the decrease in revenues, especially tax revenues, the Act include a range of measures targeted at subnational governments: higher share for counties and cities with county status of income through the management of State Treasury's real estate; possibility for 2020 to exceed the ratio of balancing current income and expenditure by the amount of a loss in income caused by the COVID-19 epidemic; relaxation of debt rule (possibility to increase the debt limit by the amount of factual decrease in tax income; possibility to postpone the payments made by local governments (e.g. taxes paid by local governments to the State Treasury; increasing the flexibility of utilising the funds from the tax on alcoholic beverages in 2020 and advance payments on grants (Government of Poland, 2020[277]). The Government has also established a Local Investment Fund (see below).
- In **Portugal**, it was announced that municipal expenditures incurred to combat the COVID-19 crisis will fall outside the debt limits provided for in the Local Finance Law. The relaxation of balanced budget rules and spending rules were also approved, as well as the postponement of cash reimbursement to the Municipality Recovery Fund (Ministry of Finance, 2020[278]). Furthermore, the authorisation of short-term loans was simplified and recourse to medium long term borrowing was facilitated (i.e. no prior authorisation needed from the municipal assemblies). In addition, local authorities can request advanced/early transfers of their portion of state taxes. Support to municipal treasuries also includes the possibility of using accumulated fiscal year balances of past years.
- In **Russia**, support for regional governments falls into two categories: structural measures and liquidity support measures. Structural measures include increases in federal government transfers

and the temporary removal of legal limits on budget deficits and debt burdens (S&P Global, 2020[279]). In the first eight months of 2020, the regions received RUB 2.13 trillion in transfers from the federal government, a RUB 697 billion increase compared to the same period in 2019. For 2021, the regions are expected to receive RUB 100 billion in grants from the federal government (Intellinews, 2020[280]). Liquidity support measures include deferral of budget loan payments, a short-term treasury facility, and the ability for regions to provide budget loans between themselves (S&P Global, 2020[279]). The budget loan payments deferral will last until 2034, with the newly freed up sums being used by regions to support pandemic measures (Klimanov et al., 2020[281]).

- In the **Slovak Republic,** the Lex Korona Package announced on March 31 provides support measures to cities, municipalities and higher territorial units (regions) in order to help them finance extraordinary expenses and fill the loss of tax revenues. Until the end of 2021, local governments will be able to use reserve funds, capital income and loans for their current expenditures. In addition, several budgetary rules have been softened, such as the possibility to receive advances from public funds, relaxation of fiscal discipline rules, including possibility to incur a budget deficit (Slovak Republic Ministry of Finance, 2020[282]).
- In **Slovenia,** the draft budget for 2021 mentions the adequate financing of municipalities, and highlights their needs. It recognises that the country's development is based on the development potential of municipalities, and their role in the absorption of European funds. In November 2020, the Committee on Internal Affairs, Public Administration and Local Self-Government discussed and approved the proposal for the Financial Relief of Municipalities Act (ZFRO). The basic proposal of the ZFRO is that the state will take over the financing of compulsory health insurance from municipalities for unemployed Slovenian citizens and foreigners. Other measures include additional funding for municipalities with Roma settlements, enabling municipalities to borrow for "soft" investment European projects, and the more flexible use by municipalities of investment subsidies from the state, to be used as current transfers ((ZMOS, 2020[283]; Republic of Slovenia, 2020[284]).
- In **Spain,** the Royal Decree-Law 8/2020 on extraordinary urgent measures to face the economic and social impact of COVID-19 includes a measure to support local finance. Local governments are allowed to use their surplus to finance expenses corresponding to social services. An Extraordinary Social Fund was also created. At the regional level, a dedicated fund was established for the Autonomous Communities to combat the coronavirus and mitigate the emergency's economic effects. The fund is earmarked to three main spending categories: healthcare (EUR 9 billion), education (EUR 2 billion) and compensating for the decrease of economic activity (EUR 5 billion). Funding is distributed based on a variety of criteria, including incidence of the virus in the territories, intensive care admissions, and population. This COVID-19 fund will not be accounted as regional public debt, and Autonomous Communities are responsible for its allocation within their territories (WHO, 2021[285]). Individual Autonomous Communities have, in parallel, developed support schemes for the municipalities within their jurisdictions. The Catalan Government developed funding stream to cover local administrations' expenditures related to COVID-19. Andalusia unveiled an Exceptional Financial Collaboration Programme, dedicated to local entities with a population equal to or less than 1 500 inhabitants, with the aim to reinforce and guarantee the provision of public services during the crisis (Junta de Andalucia, 2021[286]).
- In **Sweden**, in September 2020, the central government presented amendments to the 2020 budget and its budget proposal for 2021. It approved an additional SEK 10 billion in general transfers to municipalities (receiving 70% of the total subsidy) and regions (30%) for 2021 and SEK 5 billion for 2022. This is in addition SEK 5.5 million in support to municipalities to cover COVID-19-related costs in 2020, including enhanced crisis support, counselling and trauma support for staff working in health care and elderly care. The government is also investing SEK 250 million for 2021–2023 to establish a new municipal delegation. The purpose is to support individual municipalities and regions with major challenges (Ministry of Finance of Sweden, 2020[287]).

- In the **United Kingdom**, additional resources for devolved administrations are allocated to the three devolved nations to cover health expenditure, local government support, and public transport expenditure. The global envelope of almost GBP 19 billion of funding for 2020 is broken down into GBP 9.7 billion for the Scottish Government, GBP 5.85 billion for the Welsh Government and GBP 3.3 billion for the Northern Ireland Executive. The extra funds are allocated through the Barnett formula, on top of regular allocations. A further GBP 2.4 billion was announced for 2021-22 to be channelled through the Barnett formula (GBP 1.2 billion for the Scottish Government, GBP 740 million for the Welsh Government, GBP 410 million for the Northern Ireland Executive), and GBP 1.4 billion of funding outside the Barnett formula (HM Treasury, 2021[288]). The devolved administrations decide how to respond to COVID-19 in their areas, including through emergency financial assistance to local authorities (Institute for government, 2021[289]). Regarding local councils in England, the UK Government delivered financial support up to GBP 10 billion, divided between a first package of GBP 7 billion in 2020 and an additional one of approximately GBP 3 billion in 2021. The 2021 package was the result of a public consultation launched in early 2021. Out of the GBP 3 billion, 52% are transferred as non-earmarked grants for local councils, 27% are part of a guarantee scheme to make up for 75% of local tax losses for 2020-21 and 22% are dedicated to supporting councils engaged in reducing council tax bills. New measures also include the extension of the Sales, Fees and Charges income support scheme until June 2021. This scheme aims to compensate local councils for losses generated by service delivery, up to 75% of the claimed loss, including a 5% deductible rate (UK Government, 2021[290]) The devolved administrations have also implemented their own measures to support local authorities. In Wales, this consisted mainly in increasing current transfers from the Welsh Government to local authorities by 3.8% in 2021-22 (Welsh Parliament, 2021[291]). The Scottish Government, for its part, set up a GBP 30 million Discretionary Fund, which is distributed as a one-off grant to each local authority to help them provide additional support for businesses in their area. This fund seeks to empower local authorities to direct additional financial support to the business community, where they consider this to be specifically necessary, based on the distinct characteristics of their local economies. (Scottish Government, 2021[292]).
- In the **US**, out of the USD 2 trillion Coronavirus Aid, Relief, and Economic Security (CARES), USD 150 billion in grants were set aside through the Coronavirus Relief Fund to help state and local governments cover costs directly related to the coronavirus. The CARES Act also allotted USD 30.75 billion to the Education Stabilization Fund. CRF funding was generally transferred to state governments based on their population, or could be directly channelled to local governments with a population over 500 000 inhabitants. Originally, the CRF could be used in support of not previously budgeted expenditures related to the coronavirus incurred between March 1 and December 30, 2020 (Congressional Research Service, 2021[293]). In addition, the Families First Coronavirus Response Act, raised the share of Medicaid allocated to States by 6.2 percentage points. The date for the use of funds was extended to 31 December 2021 through the Consolidated Appropriations Act of 2021 (US Department of the Treasury, 2021[294]). Furthermore, to help state and local governments manage cash flow stresses caused by the coronavirus pandemic, the Federal Reserve established a Municipal Liquidity Facility offering up to USD 500 billion in lending to states and municipalities (Federal Reserve, 2020[295]). These measures have been complemented by the State and Local Coronavirus Fiscal Recovery Funds legislation, passed in February 2021 part of the American Rescue Plan Act of USD 1.9 trillion. The bill includes a package of USD 350 billion (split between USD 195.3 billion for states, USD 65.1 billion for counties and USD 65.1 billion for municipalities, USD 20 billion for tribal nations and USD 4.5 billion for US territories. Allocation formulas vary across the types of subnational governments: states' allocations will be based on the share of unemployed workers, whereas the municipalities' allocation will be based mainly on population and poverty, and the county's one on each county's share of the total US population (Center on Budget and Policy Priorities, 2021[296]).

Pointers for action

- Foster multi-level and multi-stakeholder dialogue and fiscal coordination, including with national associations of subnational governments and other consultative bodies, on the crisis' fiscal impact, using shared evidence and data, and a forward-looking perspective.
- Continue helping subnational governments reduce the gap between decreasing revenues and increasing expenditures resulting from the COVID-19 crisis to avoid underfunded and unfunded mandates and possible sharp cuts in subnational operating and capital expenditure, and help subnational governments participate in recovery plans:
    - Develop special grant schemes by central governments, and states in federal countries to help close fiscal gaps.
    - Explore fiscal tools and measures, including tax arrangements, easing fiscal rules and access to external financing (debt), and introduce more flexible, modern and innovative financial management tools. Some measures should remain temporary while others could be more permanent.
    - Focus on reviewing subnational financial management and strengthening expenditure and revenue effectiveness as a means to contribute to restoring fiscal stability and build resilience over the medium and long terms.
    - Undertake a comprehensive subnational government finance review to improve fiscal resilience and flexibility, through a better balance in revenues sources (between taxes, grants, debt, and other revenue sources) and spending assignments, sufficient autonomy, and reactivity to adapt to spending needs and revenue shortfalls especially in times of crisis, but also to take into account longer term challenges (e.g. demographic trends).
- Consider the differentiated impact of the crisis in national-level support to subnational governments:
    - Evaluate the degree of asymmetry and differentiate aid schemes to align with the asymmetric impact of COVID-19.
    - Distribute fiscal support to subnational governments in a transparent manner.
    - Consider giving greater weight to subnational governments with higher shares of elderly, children and poor, in order to account for the higher costs of service delivery during the COVID-19 emergency.
    - Review and strengthen existing equalisation mechanisms to smooth the impact of crisis and reduce regional and local disparities and promote greater social inclusion.
- Ensure that that COVID-19 assistance packages support subnational government services past 2020-2021 and promote multi-year approaches:
    - Design support packages that can be implemented and adjusted over several years to account for time-delayed effects.
    - Assess the effectiveness of support measures.
    - Promote multi-year planning and budgeting at subnational levels to enable fiscal systems to adapt to changes in revenues and evolving spending needs.
    - Establish stabilisation, rainy day funds and reserves funds, or encourage subnational governments to do so individually.
- Improve the collection, dissemination and exchange of reliable and transparent fiscal data on subnational government finance (financial flows, assets and liabilities).
- Encourage subnational governments to conduct prospective/foresight fiscal analysis and to prepare fiscal emergency plans

- Invest in ICT and e-government tools for fiscal and financial management and skilled financial managers to help financial decision and management, especially in times of fiscal crisis

Public investment recovery strategies

National investment recovery strategies

Immediate fiscal responses to COVID-19 focused on supporting firms and households. Since June 2020, many national governments have announced large economic recovery packages, focusing largely on public investment. Next Generation EU, the recovery plan for the European Union (Box 5), will bring additional public investment stimulus. These investment recovery packages have sought to stimulate employment and economic growth, while maintaining a longer-term focus on three broad priorities: (i) strengthening health systems; (ii) digitalisation; (iii) accelerating the transition to a carbon neutral economy. The OECD and the IMF have made a strong call to scale-up public investment to address the challenges for COVID-19 recovery. Subnational governments play a key role in this area as they are responsible for 57% of public investment in OECD countries.

It is important for investment recovery strategies to have an explicit territorial dimension. Although this seems to be more visible in some countries, for example in Australia, Canada or France, it is still a challenge in many. It is also crucial to actively involve subnational governments in their implementation early on, and not only municipalities, but regions as well.

Quality infrastructure investment is part of the answer to the COVID-19 crisis (OECD, Forthcoming[297]). National and subnational governments need to invest more – by better exploiting the existing and potential fiscal resources for investment and mobilising private investment. The IMF Fiscal Monitor estimates that a 1% GDP increase in public investment in advanced economies and emerging markets has the potential to push GDP up by 2.7%, private investment by 10%, and to create between 20 and 33 million jobs, directly and indirectly (IMF, 2020[210]). Local, regional and national governments also need to invest in a smarter way, by prioritising needs, focusing on post crisis priorities in health, digital and environment infrastructure and better managing public investment at all levels of government (OECD, Forthcoming[297]).

The demand for infrastructure was already high before the COVID-19 crisis, not only for new construction but also for operating and maintaining existing stock. For example, it was estimated by the OECD in 2017 that USD 95 trillion in public and private investment will be needed in energy, transport, water and telecommunications infrastructure, globally, between 2016 and 2030 (OECD, 2017[298]). Cities and regions have important needs for maintenance and new investment in renewable energy, low-carbon buildings, energy efficiency, waste and pollution management systems, and clean public transport. Developed countries will have to invest heavily in infrastructure, in particular to maintain, upgrade or replace existing (and often obsolete) infrastructure. US infrastructure, for example, is in need of investment, according to the American Society of Civil Engineers, which estimates that the US needs to spend some USD 4.5 trillion by 2025 to repair the country's roads, bridges, dams and other infrastructure, such as schools and airports. Similar issues are evident in Europe. In Germany, the KfW, Germany's state investment bank, calculated that municipalities need to spend at least EUR 138 billion to bridge the backlog of urgent infrastructural investments.

Public investment programs at national and subnational government levels aim to stimulate short and medium term employment and economic growth while also addressing long-term priorities and maintaining good investment practices. Governments can balance these priorities through their choice of investments and investment strategies. Large investment projects, such as new transport infrastructure, take many years to plan and deliver, meaning that any stimulus effect will arise over a long period (International Transport Forum, 2021[299]). Smaller investment projects, or scalable investment programs, can be implemented more rapidly but should still address long-term priorities and should avoid being implemented without inter-governmental coordination. To balance these priorities, many governments are seeking to deliver timely public investment by using existing investment frameworks and by directly distributing additional funding to regional and local governments (e.g. US, Australia, European Union). Investing in known maintenance backlogs (where the underlying infrastructure is not becoming obsolete) can help to address long-term priorities and allow the use of existing delivery processes, which should support timely and better quality investment. Targeting and distributing investments to regional and local governments can allow for the territorialisation of investment recovery strategies in line with local needs and may be one of the quicker ways to deliver investments (International Transport Forum, 2021[299]).

Investment recovery strategies need to be well targeted to a few priority areas, well-coordinated across levels of government and well managed, as highlighted by the *OECD Recommendation on Effective Public Investment across Levels of Government* (OECD, 2014[300]). Recovery investment strategies should align with ambitious, long-term policies to tackle climate change and environmental damage. Post-crisis recovery strategies are a unique opportunity for governments to allocate recovery funds to sustainable initiatives and take measures to reduce the carbon-intensity of economic activities. Technologically advanced, sustainable and resilient infrastructure can pave the way for an inclusive post-COVID economic recovery (WEF, 2020[301]). It is also essential to look beyond physical infrastructure investment, and consider investment needs in skills development, innovation and R&D. It is particularly important to ensure that investments from stimulus packages do not impose large stranded asset costs on the economy in coming decades, for instance because they bet on declining technologies or place projects in high-risk flood zones (World Bank, 2020[302]).

It is important to draw some lessons and avoid mistakes made with the 2008 crisis when considering investment recovery strategies associated with the COVID-19 crisis (OECD, 2020). While many public investment projects can be launched in the short-term, care must be taken not to focus on speed as the only criteria. A balance needs to be found between atomising funding in small infrastructure projects, to spend the money rapidly, and investing in larger and long-term priorities (e.g. sustainability and resilience). In the implementation of investment recovery strategies in 2008-09, funding was sometimes fragmented into small projects at the municipal level – rather than the regional level. For example, while Spain's 2008 investment recovery plan allowed for joint applications through the state fund for local investment, most municipalities did not use this option. Only six out of more than 1 000 associated municipalities applied for project funding. For the COVID-19 recovery, intermediary levels of government – regions, states, provinces – should be included in implementing national investment recovery strategies. Regional and local governments should be supported to develop the required capabilities to manage investment programs where they do not already have them.

Supporting subnational public investment

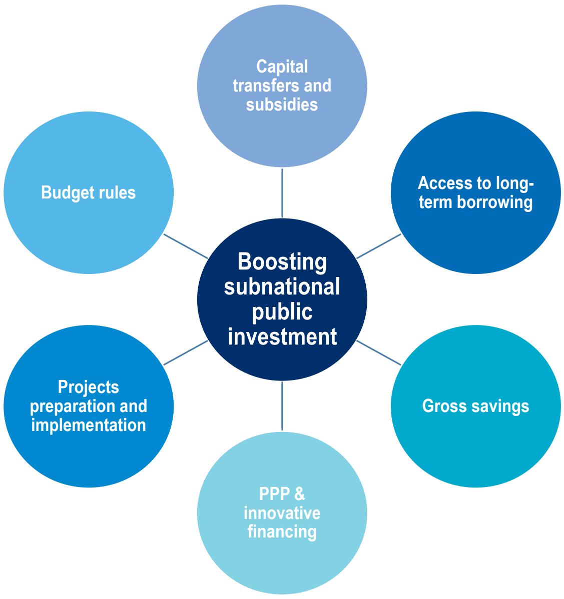
Public investment by subnational governments will be a crucial part of the recovery from the COVID-19 crisis. Subnational governments are responsible for 57% of public investment in OECD countries and they are at the frontline of managing the crisis. Furthermore, subnational governments are able to deliver a territorial dimension in recovery plans that accounts for the social and economic shocks on local economies, which is particularly important given the heterogeneous impacts of COVID-19 on regions. Subnational governments, however, are particularly vulnerable to the financial impacts of COVID-19 crisis and may need to build new capabilities to support effective public investment.

To a large extent, the fiscal impact of the COVID-19 crisis on subnational governments depends on the support provided by central or federal government to maintain, or boost subnational investment through stimulus packages (capital transfers), as well as to build the capacity of subnational governments to access long-term borrowing. While watching the sustainability of public finances over the longer-term, it is important for countries to avoid replicating the scenario that took place after 2010, when drastic cuts in subnational public investment created a pro-cyclical effect impeding the recovery. In some regions and cities, public investment projects are already cancelled or postponed.

More than two-thirds of subnational government respondents to the OECD-CoR survey stated in July 2020 that the transition to a sustainable and low-carbon economy should shape long-term regional development policy to a large extent. This contrasts with the fact that less than 50% of respondents were then considering the use of exit plans and recovery strategies to promote a greening policy or sustainability agenda. It is critical that subnational governments make the most of their recovery strategies by integrating green and climate priorities.

Different instruments are being activated to maintain, or even accelerate, public investment projects at the subnational level (Figure 22). In addition to improving self-financing capacity i.e. gross savings, these include various classical fiscal instruments: relaxing budget rules, increasing capital transfers and subsidies, easing the access to long-term projects on both credit and financial markets and supporting projects preparation and implementation. Other financing mechanisms may be activated in the future such as public-private partnerships schemes or equity financing.

Figure 22. Boosting public investment at subnational level



Source: Authors' elaboration

In the EU, only a minority of national authorities have been actively involving local and regional authorities in their consultations to prepare national Recovery and Resilience Plans (COR-CEMR, 2021[303]). Their involvement in the governance process appears to be even lower than in the previous years' amid little willingness from national governments to involve subnational governments, strong decision-making centralisation and the lack of effective discussions across levels of governments. In some countries, subnational governments receive transfers from higher levels according to a block grant formula, as in the United States (Vox, 2021[304]). In countries where local authorities are invited to apply to get specific grants, as in France, they may face tight deadlines or lack the technical and staff resources to apply to national recovery programs and receive additional funding successfully. Disparities across regions may lead to uneven public investment dynamics in the short term.

In some instances, governments have placed conditionality on the financial support provided for subnational public investments. This seeks to align financial investments to longer term national or supranational priorities. An examples of this includes the European Council recovery package (European Council, 2020[305]), which allocated a portion of stimulus funding to health, digital and climate objectives.

Building subnational public investment capacity

Effective public investment by subnational governments requires the appropriate capacities to be developed. In line with the guidelines provided in the OECD *Making Decentralisation Work: A Handbook for Policy-Makers* (OECD, 2019[306])*,* subnational capacity is required to support the performance of functions effectively, efficiently and sustainably. Subnational government capacities vary enormously within countries. Smaller municipalities are hampered by having an inadequate pool of managerial and technical talent and service providers. Larger municipalities, on the other hand, face complex transport, urban planning and infrastructure tasks and do not have always the workforce skills to address these tasks effectively. In some countries, subnational governments can have less public investment management capacity than national governments (Inter-American Development Bank, 2020[307]).

Country examples

National investment recovery strategies

- In **Australia**, the AUD 1 billion COVID-19 Relief and Recovery Fund supports regions, communities, and industry sectors that have been most strongly affected by the COVID-19 crisis. This includes a regional package of more than AUD 550 million to support regions to recover from the impact of COVID-19 (as part of the 2020-21 Budget), mainly targeted at regional tourism recovery, the improvement of broadband and health services in rural areas, primary industries, and agriculture. Among other benefits, this initiative has already provided AUD 4.8 million for the delivery of free financial counselling services to small regional businesses facing hardship, and AUD 100 million to fund Regional Recovery Partnerships, which will coordinate investments with other levels of government to support recovery and growth in 10 regions (Australian Government, 2021[308]). In addition, in June 2020, the Australian Government announced a AUD 1.5 billion stimulus package in response to COVID-19 for local road and community infrastructure projects to be delivered by local governments: AUD 1 billion in funding for shovel ready projects; and AUD 500 million for Targeted Road Safety Works delivered by states and territories (Australian Government, 2020[309]).
- In **Chile**, the Public Investment chapter of the “Paso a Paso” plan considers an additional amount of US$ 4,500 million over the regular budget of the Ministries for public investment between 2020 and 2022. Among other things, the portfolio of projects to be financed will prioritise direct support to municipalities and enhance mobility and integration of cities. Municipalities will be supported with resources for the development of local investment initiatives with an additional USD 125 million (Chile Government, 2021[310]). These resources will be used through the Neighbourhood Improvement Program with a focus on providing minimal sanitary conditions (sewerage, drinking water and electrification) and through the Urban Improvement Program with a focus on minor infrastructure such as squares, parks, fields and bicycle lanes).
- In **Estonia**, part of the EUR 100 million government financial support package helps municipalities finance additional public investment that can stimulate economic recovery.
- In **France**, the government has doubled funds allocated to its 4ème *Plan d’investissement d’avenir régionalisé* (4th Investment for the future program for Regions, PIA4 regionalised), from EUR 250 million to EUR 500 million (France Government, 2021[311]). The State-Regions framework agreement relates to the territorial implementation of the PIA4 and will support new territorial development models through initiatives like *Territoires d’innovation* or Territoires numériques éducatifs. The government has also decided to increase the local investment support grant (DSIL), which supports the financing of municipalities’ major investment priorities through EUR 570 million in grants per year, with an exceptional complementary budget of EUR 950 million for fiscal years 2020 and 2021 (France Government, 2021[312]). The government has also maintained investment grants to municipalities and inter-municipal authorities, such as the 1.046 billion euros equipment

grant for rural areas (DETR) (France Relance, 2021[313]). The government also encourages the development of regional funds to strengthen SMEs balance sheets with a grant supporting regional investment funds (France Government, 2021[314]). Some regions decided to provide municipalities and inter-municipal authorities with exceptional regional aid to finance local public investment: in Pays de la Loire, the regional government has increased its support to local governments from 182 to 232 million euros (Region Pays de la Loire, 2021[315]). The government is also simplifying and unifying existing contracting systems into two levels of contractualisation: State-region plan contracts (CPER) and *Contrats de relance et de transition écologique* (CRTE) for inter-municipal communities (EPCI and groupements). CRTE aim at supporting projects which enhance territorial cohesion and the environmental transition (Ministère de la Cohésion des territoires, 2020[316]). They are proposed to every territory to coordinate the national stimulus plan with local governments and ensure a differentiated and decentralised approach to the recovery effort (French Government, 2020[317]). CRTE will formalise the State financial assistance to local authorities and prioritise immediate support to territories economic activity in the short term while defining a sector-by-sector approach to the territorial transformation in the medium-term.

- In **Germany**, in addition to the comprehensive economic stimulus package that was launched in June 2020, Germany presented in January 2021 its draft recovery plan which corresponds to the key objectives of the European recovery plan Next Generation EU and its Recovery and Resilience Facility (German Federal Government, 2021[318]). The focus of the recovery plan is on tackling climate change and the digital transformation. The climate-friendly measures cover a broad spectrum, from decarbonisation by means of renewable hydrogen, to climate-friendly mobility, all the way to climate-friendly construction. The digitalisation measures cover investment in the rapid digitalisation of infrastructure and the private sector and a national digital education initiative.
- In **Iceland**, the government and local municipalities are initiating a special investment programme within the framework of the economic response package to the COVID-19 crisis. The investment programme will focus on transport, public construction, and technology infrastructure. It also includes financial support for the tourism sector. Additional measures aim to facilitate municipal investment. These include a temporary VAT refund for work performed until end of 2020, special support for municipal sewage projects, and grants from the Local Government Equalisation Fund to finance construction projects to improve access for people with disabilities to municipal property, structures and outdoor areas. Municipalities are authorised to temporarily deviate from the budget balance and debt rules in order to have more leeway to investment (Parliament of Iceland, 2020[319]).
- In **Korea**, the Korean New Deal, announced on July, 2020, plans to invest KRM 160 trillion and to create 1.9 million jobs by 2025. The Deal is built around three main pillars: a Green New Deal, a Digital New Deal, and a Regionally Balanced New Deal, with the aim to strengthen the employment and social safety net, increase resilience towards economic uncertainties, and correct uneven development between urban and rural areas (The Diplomat, 2021[320]). The New Deal is strongly focused on local economic recovery, and aims to guarantee that the future economic development will be balanced regionally, by investing half of the total budget outside of the Greater Seoul area (KDI, 2021[321]). When selecting the winning projects of the New Deal public offering, the Ministry of Security and Public Administration intends to promote projects that take into consideration regional development issues. Local and regional governments will be responsible for developing the projects together with state-run organisations located across the country. A series of discussions were organized by the Policy Planning Committee in the regions to discuss the specific needs of citizens in each localities, and integrate them in the New Deal proposals. Local projects will include projects such as smart-city development and natural disaster management systems. As of March 2021, most of the 17 regional governments have established their own New Deal plans and submitted project proposals, such as Gangwon Province's project to develop hydrogen-fuel related technologies. The central government will support local governments in handling issues

related to the Korean New Deal by establishing a body dedicated to balanced new deal programmes and aid local governments in hiring staff specialising in related issues (Korea Policy Planning Committee, 2020[322]). The central government will fund the majority of the spending, covering KRW 114 trillion, while local governments and the private sectors will match those funds with a total of KRW 46 trillion.

- In **Lithuania**, the government established an economic recovery package that includes EUR 1 billion to "boost the economy". The Economic and Financial Action Plan supports accelerating investment programmes, speeding up payments and increasing the intensity of funding.
- In **Mexico**, the Mexican Federation Expenditure Budget Project 2021 (*Proyecto de Presupuesto de Egresos de la Federación,* PPEF) details public investment expenditure, which amounts to around MXN 830 million. Of this, 85% (MXN 707.7 million) corresponds to budgetary physical investment; 2% (MXN 14.4 million) is dedicated to subsidies for the social and private sectors, and for the states and municipalities; and the remaining 13% (MXN 107.2 million) goes to other investment projects. Investments are made in programmes for urban enhancement, the (continued) construction of the General Felipe Ángeles airport, road construction, and the construction of the inter-urban train between México and Toluca (Mexican Secretariat of Finance and Public Credit, 2020[323]). In October 2020, the Mexican government announced an investment plan in conjunction with the private sector for USD 14,000 million to alleviate the effects of covid-19. This plan will start with 39 projects in the communications, energy and environment sectors and is expected to generate up to 190,000 jobs, mainly in the energy industry.
- In the **Netherlands**, the cabinet has released EUR 255 million to co-finance EU programmes dedicated to regional development, innovation, sustainability and digitalisation.
- In **New Zealand**, the 2020 budget invested NZD 1.1 billion in environmental conservation programs with the aim of addressing the impacts of Covid-19 and creating regional jobs (Department of Conservation, 2020[324]). The funding included supporting new regional environmental projects and additional biosecurity, weed and pest control throughout New Zealand. Part of the funding was allocated to charitable trusts, such as QEII and Landcare Trust, which works directly with local communities on environmental projects.
- In the **United States,** the federal government announced The American Jobs Plan on March 2021, a USD 2 trillion investment program to rebuild infrastructure and create employment following the COVID-19 crisis (White House, 2021[325]). The plan, if approved, will provide substantial funding to states (approximately USD 300 billion was detailed) and local communities for transport, water, electricity, digital and housing programs. Key elements of the plan include:
    - USD 621 billion of transportation infrastructure and resilience programs • USD 50 billion of investments to improve infrastructure resilience
    - USD 111 billion of water infrastructure investments
    - USD 100 billion of digital infrastructure investments
    - USD 100 billion of power infrastructure investments
    - USD 213 billion in affordable and sustainable housing.

  The plan proposes to direct investment towards sustainable, digital and inclusive priorities at a national, state and local level. The plan proposes to create incentives for state governments to support sustainable and inclusive investments, including to support the building of a network of 500,000 electric vehicle charging stations, and looks to place conditionality on states to receive some funding. For example, the proposal seeks that States remove exclusionary zoning as part of the USD 213 billion investment in affordable and sustainable housing.

Box 5. The EU Recovery Plan

In December 2020, the European Council agreed a recovery package of EUR 750 billion and a 2021-2027 budget of EUR 1,074 billion to help the EU rebuild after the pandemic and support investment in green and digital transitions (European Council, 2020[305]). The recovery package and budget are accompanied by good governance and conditionality requirements that seek to ensure spending meets agreed targets focused on priority spending areas. The long-term EU budget, the Multiannual Financial Framework, covers a 7-year period and includes a specific focus on digital, resilience, cohesion and the environmental objectives. The recovery package - Next Generation EU - seeks to address the challenges posed by the COVID-19 crisis. Spending will go to countries and sectors most affected by the crisis. Seventy per cent of the funding is required to be committed in 2021 and 2022. It is focused on seven spending areas:

- Recovery and Resilience Facility: €672.5 billion (loans: EUR 360 billion, grants: EUR 312.5 billion)
- ReactEU: EUR 47.5 billion
- Horizon Europe: EUR 5 billion
- InvestEU: EUR €5.6 billion
- Rural Development: EUR 7.5 billion
- Just Transition Fund (JTF): EUR 10 billion
- RescEU: EUR 1.9 billion (European Council, 2020[326]).

Thirty per cent of expenditure of the combined long-term EU budget and recovery package will contribute to climate-related projects. Within the recovery package, Next Generation EU, 37% is set aside to support the green transition and 20% for supporting digital initiatives. This spending must align with the EU objective of climate neutrality by 2050, the EU 2030 climate targets and the Paris Agreement. Green budgeting tools are required to track the spending, including the use of the EU's green finance taxonomy for classifying green projects (EURACTIV, 2020[327]). As part of the governance of the program, Member States are required to prepare national recovery and resilience plans that contribute to green and digital transitions, boost growth and jobs, and reinforce economic and social resilience. Disbursement of grants is contingent on achieving agreed targets.

The December 2020 package was in addition to previous commitments during 2020 that rapidly redirected funds to help Member States tackle the COVID-19 crisis, for example:

- EUR 37 billion from the EU budget to support healthcare systems, SMEs and labour markets through the Coronavirus Response Investment Initiative;
- up to EUR 28 billion in structural funds from 2014-2020 national envelopes not yet allocated to projects for crisis response;
- up to EUR 800 million from the EU Solidarity Fund directed at the hardest hit countries by extending the scope of the fund to public health crises.
- Unlike after the global financial crisis in 2008, in 2020 the EU strongly mobilised cohesion policy to address the COVID-19 crisis, lifting or modifying the rules that apply to European Structural and Investment Funds. As of October 2020, more than 100 programmes were changed to respond to the COVID-19 crisis (European Council, 2020[328]). The EU also adopted measures to ensure additional flexibility in the use of structural funds. Through the Coronavirus Response Investment Initiative Plus, Member States could transfer money between different funds to meet their needs. Resources can be redirected to the most affected regions, thanks to a suspension of the conditions on which regions are entitled to funding. Finally, Member States could request

up to 100% financing from the EU budget between 1 July 2020 and 30 June 2021 for programmes dealing with the pandemic's impact.

The EU has enabled maximum flexibility in the application of EU rules on:

- state aid measures to support businesses and workers
- public finances and fiscal policies, e.g. to accommodate exceptional spending

Specific measures to support subnational public investment

- In **Austria**, a EUR 1 billion package was established to support municipal investment by increasing federal capital transfers from 25% to 50% of municipal investment (Municipal Investment Act 2020). It can be used for projects that start between June 2020 and December 2021 (Parliament of Austria, 2020[329]). This special-purpose investment grant is intended in particular to promote investments in the green and digital transition, including sectors such as public transport, construction of renewable energy generation plants, water supply and sanitation, extension of broadband networks and charging infrastructures for e-mobility (Austrian Federal Ministry of Finance, 2020[330]).
- In **Canada**, the federal government has adapted an existing public investment program to respond to the impacts of the pandemic. A new temporary COVID-19 Resilience stream of the program has been set up, with over CAD 3 billion in existing funding available to provinces and territories to fund quick-start, short-term projects to enhance climate and health resiliency. Provincial and territorial governments can channel up to 10% of funds from allocations made under the original investment program to support their resiliency projects (Canana Government, 2021[331]). At the provincial level, the Alberta government is providing CAD 500 million in funding to municipalities and Métis settlements for capital infrastructure investment through its Municipal Stimulus Program (Alberta Government, 2020[332]). The Safe Restart Agreement (July 2020), a federal investment of more than CAD 19 billion, helps provinces and territories to safely restart their economies. It focuses on several key priorities over a 6 to 8 month period, including: testing and contact tracing; healthcare system capacity; childcare for returning workers; sick leave; and support for municipalities, including for public transit. In addition, funds from the Regional Relief and Recovery Fund (RRRF), a federal initiative, are channelled to the different localities through the national network of six Regional Development Agencies (Government of Canada, 2020[333])
- In **China**, the government has approved a quota of CNY 3.75 trillion for new special local government bonds to be issued for 2020 (CITIC, 2021[334]). These bonds prioritise new infrastructure and urbanisation initiatives (S&P Global Ratings, 2020[257]). By the end of September, around 30% of the new local special bonds are used for urban infrastructure projects (including 5G technology network), 20% are allocated for transport and around 20% for social public services. The share of projects for land development and housing reconstruction decreased significantly in 2020 compared to 2019. The central government announced in February 2021 that the scale of special local bonds for this year will be CNY 3.65 trillion, slightly lower than that of 2020. It also emphasised that the on-going projects will be prioritised.
- In **Denmark**, the investment ceiling for municipalities and regions was lifted, a move that was estimated to increase public investments in 2020 by 0.1 per cent of GDP. Projects that can be started quickly and, as a benchmark, can be completed in 2020 are targeted as a means to support employment. Regions and municipalities are encouraged to bring forward investment projects which were planned for 2021 or 2022 (Denmark Stability Programme 2020).
- In **Colombia**, the Territorial Development Bank (FINDETER) launched the 'Compromiso Colombia' credit line with a total fund of US $199 million (COP $713 billion) which, in addition to injecting resources to boost the private sector, offers benefits to subnational governments (municipalities

and departments) to finance public investment in areas such as energy development, tourism, environment, ICTs, drinking water and basic sanitation, sports, recreation and culture, and creative industries.

- In **France**, as part of its emergency plan and recovery measures, the government will increase the current Support Grant for Local investment from EUR 0.6 billion to EUR 1.6 billion, placing particular emphasis on investments in the sector of health, environmental transition and heritage preservation. To further support subnational investment towards the green transition, the government also developed in November 2020 a new contractual framework between the State and the territories, with the creation of the Contracts for Recovery and Ecological Transition (CRTE) (France Urbaine, 2021[335]). The Recovery Plan also includes a package of measures to promote subnational investments geared towards regional development and cohesion (e.g. digital inclusion, expansion of the High-Speed Broadband Plan to step up the country-wide deployment of fiber networks, etc). In addition to the transformative nature of these investments, they will provide short-term support designed to stimulate activity as the crisis ends (French Government, 2020[336]). In December 2020, the French government published a “Handbook for mayors to handle the recovery plan” (French Government, 2020[337]). This guide has been designed to make the measures of the Recovery Plan legible and accessible to mayors, by listing the appropriate measures, the available funding and practical details in each investment category. In addition, a dedicated website was created, under the name France Relance, which compiles all the measures that are available to subnational governments as part of the recovery plan. While the contraction in tariff revenues and mobility payment receipts for Regions hinders their investment capacity, the 2021 Finance law supports pre-crisis investment decisions with a EUR 600 million regional investment grant to finance energy performance renovations for buildings, develop soft mobility solutions and new means of transport. This grant will be managed by regional prefects in coordination with regional councils (French Senate, 2021[338]).
- In **Italy**, a series of measures are aimed at encouraging subnational investment. In particular, resources previously planned for the year 2030 were reallocated to the 2020-24 period. The Budget Law 2020 set up new investment funds: the Central Government Investment Fund, the Green New Deal Fund, and the Fund for relaunching investments for municipalities’ sustainable infrastructure development. The “South Plan 2030” was also presented to support public investment in southern Italy, with a focus on education, social infrastructure, strengthening Green New Deal commitments in the South and inland areas, developing innovation and strengthening Special Economic Zones (ZES). Capital grants have been assigned to municipalities for investments in urban regeneration projects (EUR 8.5 billion in 2021-2034) and for building and land security (EUR 8.8 billion in 2021-2034), as well as to the Regions (approximately EUR 3.3 billion in 2021- 2034) for road and safety measures and for the development of public transport systems. In addition, resources are planned for Regions, Metropolitan Cities and Local Authorities to purchase new ecological buses for local public transport (Italian Ministry of Economy and Finance, 2020[339]).
- In **Latvia**, the government increased the municipal borrowing limit by EUR 150 million for local investment projects in 2020, in order to support subnational investments in high-readiness projects co-financed by EU funds and other foreign financial assistance with economic significance, as well as investment projects submitted by the Ministry of Environmental Protection and Regional Development (Council of Europe, 2020[340])
- In **Poland**, the government has established the “Local Investment Fund”, a state-provided funding program for ready-made public and private investment projects, aimed at improvement of infrastructure such as local roads, bridges, modernisation of schools, digitalisation, energy transformation, environment protection and municipal facilities. As of December 2020, the Fund amounted 12 billion PLN of non-repayable subsidies (Government of Poland, 2020[277]).The fund consists of national resources, independent from EU support. However, the flexibility proposed by the EU in the use of cohesion funds is also mobilised.

- In **Portugal**, in October 2020, the European Commission approved the reallocation of EUR 1 billion from EU Cohesion policy funds to support Portuguese regions, in response to COVID-19. Funds mitigated the short-term impact, namely allowing payments to beneficiaries, expenses retroactively eligible and SMEs adaptation. Then, it provided further financial support to businesses, the health sector, and labour markets, particularly in the tourism sector.
- In the **United Kingdom**, several measures have been announced to support the COVID-19 recovery at local level in England, in particular through the launch of three investment programmes: the Levelling Up Fund, of GBP 4.8 billion, the UK Community Renewal Fund of GBP 220 million, and the Community Ownership Fund of GBP 150 million. These programmes will form part of the UK Shared Prosperity Fund, and should be delivered directly at the local level by the councils (UK Goverment, 2021[341]). In Scotland/UK, the Scottish Government has involved local authorities in the recovery strategy, through the creation of two funds totalling GBP 4 million: the City Centres Recovery Fund and the Regional Recovery Fund. Cities and regional bodies can apply to each of these funds by submitting proposals focused on recovery planning, local job creation, accelerating delivery of City Region and Growth Deal investment and developing regional recovery plans. (Scottish Government, 2021[342])
- In the **United States**, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) provides the U.S. Department of Commerce Economic Development Administration (EDA) with USD 1.5 billion for economic development assistance programs to help communities "prevent, prepare for, and respond to coronavirus." The EDA works directly state and local governmental entities, institutions of higher education, not for-profit entities, and federally recognised Tribes to catalyse locally developed strategies to build capacity for economic development based on local business conditions and needs. The EDA's recovery grants will support a wide variety of assistance including: Planning and Technical Assistance to EDA's Economic Development Districts (EDDs), Tribal Grantees, and University Centres, and others; Capitalization and Recapitalization of Revolving Loan Funds (RLFs), which provide access to capital for businesses; Innovation grants and construction of infrastructure and other economic development projects. In addition, the USD 1.9 trillion American Rescue Plan allocates USD 350 billion in emergency funding to state, local and territorial governments to create employment, support vaccine distribution and maintain vital services. State and local government funding has various funding conditions, including adequately funding education and protecting students in low-income communities. The Economic Development Administration was granted USD 3 billion to support bottom-up economic development through grants to state and local government agencies, tribal institutions and non-profits. A USD 5 billion package to support home energy and water costs included some funding for states to invest in clean energy and energy efficiency projects that reduce bills for families in disadvantaged communities (White House, 2021[325]).

A number of states and regional governments are also developing initiatives to support public investment in their areas, and to support local government investment projects.

- In **Belgium**, the Flemish Minister for Mobility and Public Works announced EUR 2.2 billion in mobility investments for 924 different projects in 2020. The objective is to provide a social and economic boost to the road and hydraulic engineering sector, but also to the entire economy, as part of the COVID-19 recovery. The priorities are road safety, waterways and rail systems, public transport (hybrid buses, trams, e-bus charging systems) and climate and noise measures, including switching from lighting to LED, installing functional plants and noise barriers, tree control, etc. (Intelligent Transport, 2020[343])
- In **Germany**, several federal states (Bavaria, Baden-Wuerttemberg, Hesse, North-Rhine Westphalia, Saxony-Anhalt and Saxony) announced comprehensive packages that include measures to support infrastructure investment. In addition, many Länder provide additional support to municipal finances for investments, which are hit by lower tax revenues and higher

countercyclical expenditure in connection with the Corona pandemic. In addition, in some Länder, and notably in Mecklenburg-Vorpommern and in Hesse, a discussion is underway that state funds provided to municipalities should be tied to certain uses such as education, sustainable economy and climate protection (KommunalWiki, 2021[344]).

- In **Italy**, the Lombardy region has introduced a three-year investment plan worth EUR 3 billion. EUR 400 million is earmarked for local authorities and EUR 2.6 billion targets support for the local economy (including EUR 400 million for strategic investments). Of the EUR 400 million for local authorities, Milan and surrounding areas will receive EUR 51 million for public works (roads and schools); the remainder can be spent by other communities on energy efficiency, renewable energy, urban re-development and sustainable development, sustainable mobility, heritage, and hydro-geological works, for example. Separately, the region foresees using the "Lombardy Bond" to finance EUR 10 million for producing medical and personal protective equipment, and EUR 82 million in bonuses for health workers who have been involved in combating the epidemiological emergency (European Committee of the Regions, 2020[345]) (Varese News, 2020[346]) (First Online, 2020[347]).

Pointers for action

- National investment recovery strategies should have an explicit territorial dimension to manage the differentiated impact of COVID-19 and to allow complementarities across sectors, as highlighted by the OECD Recommendation on Effective Public Investment across Levels of Government (OECD, 2014[300]).
- Public investment programs should address short-term stimulus objectives while maintaining good investment practices and addressing longer-term priorities (e.g. sustainability, resilience, smart infrastructure). Investment programs to support existing maintenance backlogs may be an effective way to balance these objectives in the short term.
- Subnational governments should be involved in the implementation of national investment strategies early on, at both a regional and municipal level. Fund allocation criteria should be guided by strategic regional priorities.
- Lessons from the 2008 crisis should be drawn and applied to the COVID-19 crisis, and the investment recovery strategies, in an effort to avoid the mistakes of the past. Key lessons include ensuring intergovernmental coordination, building sub-national government investment capabilities, investing at the right level of government and avoiding stimulus coming at the cost of good investment and risk management practices.
- Align the short-term emergency responses with long term-economic, social and environmental objectives as well as international obligations (e.g. the Paris Agreement, the SDGs, etc.).
- Help target public investment strategies to green, digital and inclusive priorities by introducing conditionalities.
- Encourage regional and local authorities to invest in digital infrastructure targeting full territorial coverage and ensuring adequate weight is given to regional digital inclusion.
- Balance infrastructure investment with public investment in skills development, innovation, R&D, and other forms of “soft infrastructure”.
- Subnational governments should avoid using public investment as an adjustment variable in the wake of the COVID-19 crisis. This may require additional national government support.
- Public investments should focus on enhancing regional resilience and supporting local infrastructure development.
- National governments should identify different levers to support subnational public investment. In addition to improving self-financing capacity, these include various classical fiscal instruments, such as relaxing budget rules, increasing capital transfers and subsidies, easing the access to long-term projects on both credit and financial markets and supporting project preparation and implementation. Other financing mechanisms may be activated in the future such as public-private partnerships schemes or equity financing.
- National governments can support subnational government capacity development to ensure effective public infrastructure investment.

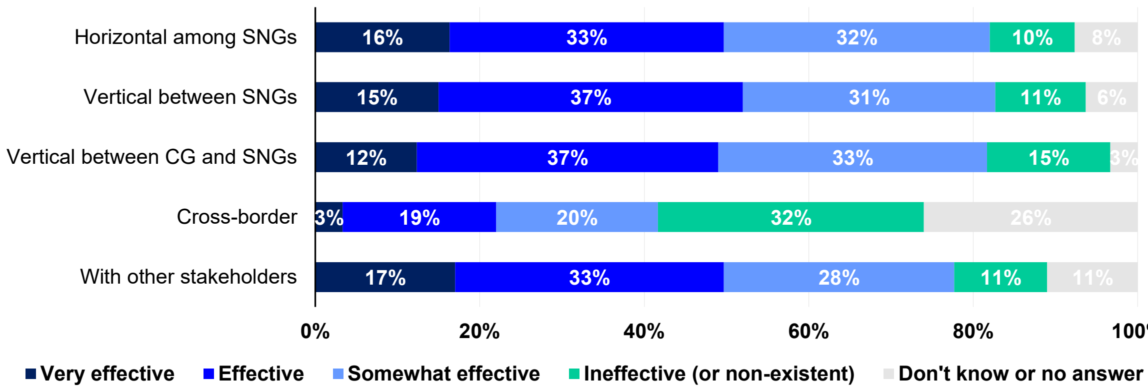
Inter-governmental coordination: an essential driver

International co-operation is proving essential for tackling this global challenge, and so is domestic coordination among levels of government, particularly for addressing regional and local socio-economic issues and long-term recovery. A coordinated response by all levels of government can minimise crisis-management failures. Effective coordination between national and subnational governments, and across jurisdictions, is required in all countries, be they federal, unitary, centralised or decentralised, and for all dimensions of the crisis – health, economic, social and fiscal.

To handle the crisis, coordination mechanisms and bodies have been reactivated in some countries to involve regional authorities and associations of municipalities in the decision-making or consultation process (Council of Europe, 2020[348]). In the OECD-CoR survey, 71% of EU subnational government respondents surveyed in the European Union highlighted that the lack of coordination (vertical and horizontal) with other levels of government is among the biggest challenges they face in managing the health crisis (OECD-CoR, 2020[57]). Coordination mechanisms effectiveness was limited during the first phase of the crisis (Figure 23).

Figure 23. Coordination mechanisms effectiveness during the first phase of the crisis

Answers from subnational government officials to the question: How effective have the following coordination mechanisms been in managing the COVID-19 crisis in your country?



Note: Subnational governments submitted their answer to the survey in June-July 2020
Source: (OECD-CoR, 2020[57])

Vertical coordination among national and subnational governments

Coordination among national and subnational governments is the "first step of an effective response", as stated by the World Health Organisation (WHO) at the pandemic's outset. Non-coordinated action among levels of government can generate collective risks, such as "passing the buck", and conflicting responses. In places where subnational governments operate with high degrees of autonomy, policy responses are more likely to be fragmented. In countries where bottom-up coordination and communication is weak, there is a greater possibility of operating with one-size-fit-all measures that may not address local needs. These problems can be avoided or curbed through effective vertical coordination.

Many countries have experienced coordination challenges between national and subnational governments. Less than half (49%) of respondents representing subnational governments in the EU believe that vertical coordination mechanisms with the national government have been effective in managing the COVID-19 crisis in their country (OECD-CoR, 2020[57]).

Associations of regional and local governments are playing an important role in supporting vertical coordination. On the one hand, they act as interlocutors between national and subnational governments On the other hand, they continue to coordinate efforts, identify solutions, and support the implementation of emergency measures. Regular dialogue between the national government and these associations can be particularly valuable to address crisis-generated social and economic damage throughout a country.

The coordination bodies established during the crisis should continue to be mobilised to coordinate and communicate response and recovery strategies.

To support the recovery from the crisis, national governments can use or adapt existing multi-level governance frameworks and processes to direct public investment at subnational levels. Using existing frameworks may support a more prompt adoption of recovery plans and provide higher certainty of outcomes, as the existing mechanisms already have a common understanding. Further to this, national governments should continue the increased use of vertical coordination displayed during the crisis to support the planning and execution of recovery strategies. This includes focusing on clarity of roles and responsibilities across different levels of government and establishing coherent guidelines for each level of government, while ensuring sufficient flexibility for adjustment to situations 'on the ground'.

Country Examples

Health responses: vertical coordination

- In **Australia,** the Government introduced a National Cabinet to address health and economic issues related to managing the COVID-19 crisis and recovery, bringing together the Prime Minister and the First Ministers of each Australian State and Territory. The National Cabinet is advised by the Australian Health Protection Principal Committee, a parallel group composed of all state and territory Chief Health Officers, and chaired by the national Australian Chief Medical Officer. In May, the National Cabinet released a three-step exit strategy, which provides a pathway for jurisdictions to move towards COVID safe communities in a way that best suits local specificities. States and territories are able to move between the steps on the pathway at different times, in line with their current public health situation and local conditions, and make decisions as to when each step will be implemented locally (Prime Minister of Australia, 2020[349]).
- **Canada** has developed a "whole-of-government action" based on seven guiding principles including collaboration. This principle calls on all levels of government and stakeholders to work in partnership to generate an effective and coherent response. These principles build on lessons learned from past events, particularly the 2003 SARS outbreak, which led to dedicated legislation, plans, infrastructure, and resources to help ensure that the country would be well prepared to detect and respond to a future pandemic outbreak (Canada, 2020[350]).
- In **Chile**, the government established the Social Committee for COVID-19 (Mesa social por COVID-19) formed by representatives of municipal associations (mayors), government authorities, academics and professionals from the health sector. The Committee meets twice a week to help strengthen the Action Plan COVID-19 (Government of Chile, 2020[351]). This Committee has been replicated at the regional level (Government of Chile, 2020[352]).
- In **Costa Rica**, in a meeting between the government and mayors, the UNGL reported that actions would be coordinated at the local level - most of them through the municipal police - to implement the health guidelines issued from the central government, both at the prevention and control levels.
- In **Korea**, the government strengthened the "whole-of-government approach" in the fight against COVID-19. The Prime Minister chairs the Central Crisis Management Committee, on which are represented all relevant central government ministries, as well as Korea's seventeen provinces and major cities (Government of Korea,, 2020[231]).
- In **Portugal**, the Government established a contact line for municipalities to answer questions from other municipalities. The contact channel is operated by the General Directorate of Local Authorities (DGAL) of the Ministry of State Modernization and Public Administration. The DGAL published guidelines for municipalities, making these available on the Autárquicoa Portal. It also requested that municipalities, metropolitan areas and inter-municipal bodies prepare contingency plans in line with the guidelines issues by the DGAL.

- In **Spain**, the Conference of Presidents is a multi-lateral cooperation body between the Government of the Nation and the respective Governments of the Autonomous Communities. It has become the operative instrument for multi-level dialogue and facilitates communicating containment measures, and coordinating resources based on territorial needs.
- In **Turkey**, development agencies at the regional level are implementing the "Covid-19 Struggle and Resilience Financial Support Program" (resourced with approximately EUR 30 million). They will support projects that prioritise: (i) containing and mitigating the spread of the virus; (ii) emergency preparedness and public health responses; (iii) reducing the impact the epidemic on the country and regional economy. Agencies will also identify the social and economic impact of the epidemic in the provinces and will provide strategies for areas where intervention is required.

Economic and social responses: vertical coordination

- In **Australia,** the Prime Minister has announced a new National Federation Reform Council (NFRC) to replace Council of Australian Governments (COAG) meetings, with the National Cabinet to remain at the centre of the NFRC. The NFRC has been agreed to by Premiers, Chief Ministers and the Prime Minister. Once a year, National Cabinet, the CFFR and the Australian Local Government Association (ALGA) will meet in person as the NFRD to focus on priority national issues. It is intended that the new model will streamline processes, enabling improved collaboration, communication and effectiveness. The National Council has been meeting fortnightly during the COVID-19 pandemic, and is planning to meet monthly once the pandemic is over. The previous COAG meetings had previously occurred twice per year, with a more detailed agenda (ABC, 2020[353]).

Coordinated fiscal responses

- In **Costa Rica**, the central government informed in July 2020 the National Union of Local Governments (UNGL) and the National Association of Mayors and Intendances (ANAI) of the details and reasons why the budget for transfers to provinces and municipalities was reduced as a result of the fall in tax revenues caused by the pandemic. (Costa Rica Government, 2020[354]).
- In **France**, the Cazeneuve report promotes the creation of an observatory for the follow-up of the crisis and its impact on local finances based on a real-time sharing (updated every two months) of financial statements, and a common methodology for calculating the costs of the crisis.
- In **Italy**, the Ministry of Economy and Finance established a Technical Committee (Tavolo tecnico) in May 2020, chaired by the State Accountant General, and with mixed State/region membership. It is tasked with examining the impact of the COVID-19 emergency on fulfilling fundamental functions, with reference to the possible loss of revenue relating compared to the expenditure needs of each entity[8].
- In **Sweden**, County Administrative Boards are responsible for coordinating the state, the regions and the municipalities in terms of infection control aspects, and for ensuring that important societal functions are maintained in the country. To deal with the COVID-19 outbreak, the Public Health Agency of Sweden relies on these Boards to know about the specific challenges and conditions prevailing in each area. On July 1, 2020, the Swedish Government established a Corona Commission, responsible for evaluating COVID-19 actions by the Government, Government agencies, regions and municipalities, and for comparing the Swedish strategy to that of other countries. An initial report is anticipated in late November 2020, with a final report in February 2022 (Government Offices of Sweden, 2020[355]).
- In the **United Kingdom**, the Scottish Government has created a City Centre Recovery taskforce, led by the Economy Secretary and carried out through the Scottish Cities Alliance, a partnership

[8] Source: https://temi.camera.it/leg18/temi/misure-di-finanza-locale-in-relazione-all-emergenza-covid-19.html

between Scottish Government and Scotland's seven cities, to improve multi-level and multi-stakeholder coordination throughout the recovery (Scottish Government, 2021[342])

Pointers for action

- Introduce, activate or reorient existing multi-level coordination bodies in order to minimise the risk of a fragmented crisis response. Use such bodies to refine strategies, develop solutions, and agree on decisions with profound economic, social, and societal implications.
- Foster coordination across levels of government to agree on joint solutions and enhance the acceptance of measures at all levels.
- Mobilise coordination bodies to coordinate and communicate response, exit and recovery strategies throughout government and across a territory. Technical bodies that can help transform strategic thinking into operational plans should also be considered and consulted.
- Clarify roles and responsibilities among different levels of government to optimise crisis response, exit and recovery strategies, as well as resource deployment.
- Establish coherent guidelines for each level of government to follow, while also ensuring sufficient flexibility for adjustment to situations 'on the ground'.
- Work with national associations of regions and/or municipalities to strengthen vertical coordination in a crisis context – for example to disseminate information, identify and share solutions to pressing problems, to support the implementation of emergency measures and agree on fiscal support packages. Encourage knowledge sharing among members. Maintain knowledge sharing during the recovery.

Supporting cross-jurisdiction cooperation

Horizontal cooperation across jurisdictions – be they countries, regions, or local governments – is just as important as vertical cooperation, particularly in in decentralised and federal countries, which have more differentiated approaches across territories. Externalities linked to the coronavirus are so high, that no single jurisdiction, or country, can manage these on its own. Coordination across regions is essential to avoid disjointed or contradictory responses, which pose a collective risk to a country's population. For example, in federal systems, there may be limited incentive for cross-jurisdiction cooperation (e.g. sharing equipment, skilled personnel, etc.) if supporting a neighbour jeopardises one's own ability to adequately respond to a crisis situation. Cooperation is an imperative – and not an option. The role of national governments is essential in minimising coordination failures and ensuring a coherent approach, even in federal countries.

Cooperation across jurisdictions is fundamental to limit the risks of new waves of infections or to mitigate the impact where cases have already rebounded. Information about new cases and clusters needs to be communicated extremely quickly to avoid propagation – across states and regions, and especially among municipalities belonging to the same functional area.

Cross-jurisdiction cooperation is also required to support recovery efforts and avoid a fragmented approach to public investment recovery strategies. Cooperation among jurisdictions can encourage better planning of neighbouring investments, support joint borrowing programs, ensure better coordination of resources during the recovery, support the standardisation of guidelines and encourage knowledge-sharing among jurisdictions. Regional and local governments can learn from the successes and missteps of other jurisdictions during the recovery.

The assessment by EU subnational governments on the effectiveness of horizontal cooperation mechanisms is very heterogeneous across categories: 75% of inter-municipal groupings (IMC bodies) and 55% of regions consider they have been effective in managing the crisis compared to 42% of municipalities (OECD-CoR, 2020[57]).

Such cooperation extends across-borders, too. A critical issue emerged in cross-border regions where cooperation has been made more difficult because of borders closure, restrictions on mobility in particular for cross-borders workers, and the lack of effective coordination arrangements. In many cases, EU Member States have implemented uncoordinated border closures and unilateral measures. In Nordic countries, the failure to leverage existing collaborative coordination platforms and the lack of communication between states undermined local governments authority on service provision along borders (Nordregio, 2021[356]). In the OECD-CoR, the lack of cross-border coordination was the strongest coordination issues. Around one-third of respondents reported that cross-border cooperation between subnational governments was broadly ineffective or non-existent, while only 22% found such cooperation effective or very effective (OECD-CoR, 2020[57]). However, several cross-border cooperation mechanisms did function well through the crisis and, arguably, allowed for increased resilience and paving the ground form reinforced cooperation (EU Committee of the Regions, 2020[189]).

Country examples

Many countries, regions, cities and associations of subnational governments have put in place specific measures to support horizontal and cross-border cooperation. A few examples are highlighted below.

Cooperation across municipalities

- In **Denmark**, municipalities have joined forces to purchase protective equipment for their personnel. With the Aarhus Municipality taking the lead, the Municipal Protective Equipment Purchasing Unit collaborative (Kommunalt Værnemiddel Indkøb) was created for joint procurement of protective equipment on behalf of Denmark's 98 municipalities (Aarhus Kommune, 2020[357]).
- In **Chile**, during the first months of the pandemic, mayors of several municipalities, organized through organizations such as the Association of Municipalities of Chile (AMUCH), largely led early immediate response strategies to the needs of the populations in their territories. Even without having the necessary powers to deploy health strategies or make discretionary use of emergency budgets, the rapid and effective responses of the municipalities revealed the importance of subnational administrations in managing, more efficiently than the national government, an important part of the responsibilities of the public administration. In this context, groups of mayors repeatedly warned about the territorial inequalities that the COVID crisis was revealing throughout the national territory, and, as a result of this debate, many articles were published in the press demanding greater autonomy for municipalities. This has become a hot topic in the context of the constituent process that Chile is going through, and various actors are demanding greater autonomy for subnational governments in the new constitution. In Chile, "Fundación Chile Descentralizado" (Decentralised Chile Foundation) has led the debate on the transfer of greater institutional powers to regional and municipal governments and in recent months has devoted a significant part of its efforts to highlight the relationship between the crisis unleashed by the pandemic and the importance of advancing in more decentralisation. In recent months dozens of articles have been published on the matter and the foundation, in alliance with other organizations, has organised talks and conferences to debate the issue.
- In **France**, inter-municipal cooperation bodies have large responsibilities and budget, based on own-source tax revenues. In the front line of the crisis, inter-municipal groupings have multiplied initiatives to support their member municipalities, citizens, NGOs and local economic actors. Through their federative capacities, their skills and their technical or financial means, they often

play a role as a platform, but also as operational actor in direct contact with the local needs (Assemblée des Communautés de France, 2020[358]).

- In **Israel**, local authorities share knowledge via the Ministry of the Interior, the Union of Local Authorities and the National Initiative 265 for Development and Knowledge-sharing to Advance the Digitization of Local Authorities. This website was developed in collaboration with the Ministry of the Interior. Additional forums devoted to inter-local authority topics operate on an informal basis for exchanges of information and joint projects. This includes the advisory group of strategic planning and work plan managers in local authorities, which holds frequent consultations (Tel Aviv-Yafo Municipality, 2020[359]).
- In **Latvia**, eight municipalities have established strong common working relations during the ongoing pandemic in order to better deal not only with COVID-19 but also its aftermath. Thanks to their joint efforts and by sharing supplies among each other, South Kurzeme's municipalities managed to provide free protective equipment to seniors in the region (Stoyanov, A., 2020[360]).
- In **Sweden**, the four largest municipalities have joined forces with a guarantee for a credit of half a billion, which is issued by Kommuninvest to SKL Commentus. The credit will be used for the purchase of protective equipment for all Swedish municipalities and the equipment will be distributed based on the needs compiled by the County Administrative Board in their coordination assignments.

Cooperation across regions

- In **Belgium**, federal authorities and federated entities agreed on more intensive coordination in the overall distribution of personal protective equipment to the care sector, for example, by sharing information on reliable suppliers, stock levels, orders, deliveries, etc. They also created a solidarity stock, available to all federated entities to meet urgent and acute needs in their regions.
- In **Switzerland**, the Conference of Cantonal Governments (KDK) coordinates activities related to the COVID-19 crisis with the Federal Council and among cantons. In particular, the KDK is coordinating specialised conferences with all 26 cantons in order to meet regularly and discuss topics related to the crisis (Conference of Cantonal Governments (KDK), 2020[361]).
- In the **United States**, there have been cross-region coordination initiatives among states. For example, the governors of New York, New Jersey, Connecticut established a common set of guidelines on social distancing and limits on recreation, which Pennsylvania subsequently joined as well (New York State, 2020[362]). The governors of California, Oregon and Washington agreed to work on a shared approach to re-opening their economies after the first lockdown in spring 2020. While each state has its own state-specific plan, they also committed to a series of principles guiding these plans and articulated in the Western States Pact (Office of the Governor of California, 2020[363]). The principles include putting the health of state residents first; using health outcomes and science to guide decision making; and working with local leaders. In addition, the Pact articulates a set of shared goals for controlling the virus: protecting vulnerable populations, ensuring the states enough equipment and medical workers to provide appropriate care (for COVID-19 and other conditions), mitigating the non-health impact of COVID-19, particularly on disadvantaged communities; and developing a strategy to test, track and isolate COVID-19 cases in order to protect the general public.

Cross-border cooperation

- The minister-president of Rhineland-Palatinate created a cross-border task force with Dutch and Belgian regions to coordinate actions against the novel coronavirus. In France, both the central government and the Grand-Est region are involved in this cooperation.

- The European Region Tyrol-South Tyrol-Trentino at the Italian-Austrian border faced several challenges posed by the mobility restrictions implemented by both the Italian and the Austrian national authorities, resulting from the lockdown and the closure of the borders. Despite the situation, the regions of Tyrol, South Tyrol and Trentino managed to maintain a very high level of cooperation during the crisis. A coordination unit was set up in February within the Euroregion. South Tyrol sent protective equipment to Tyrol and Trentino and hospitals in the Tyrolean towns of Innsbruck, Hall and Lienz took care of South Tyrolean patients in need of intensive care. In Nordic countries, due to the high degree of dependence between municipalities in the Bothnian Arc region, which spans across Finland and Sweden, governments have granted exceptions on cross-border movements. In Svinesund, frontier workers in key sectors were allowed to cross the Swedish-Norwegian border.

Pointers for action

- Strengthen cooperation across municipalities and regions to help minimise disjointed responses and competition for resources during a crisis and the recovery.
- Facilitate inter-municipal cooperation to support recovery strategies by ensuring coherent safety/mitigation guidelines, pooling resources, and strengthening investment opportunities, for example through joint borrowing.
- Promote inter-regional or inter-municipal collaboration in procurement, especially in emergency situations (e.g. purchasing alliances, networks, framework agreements, central purchasing bodies). Promote the use of e-government tools and digital innovation to simplify, harmonise and accelerate procurement practices at subnational level
- Actively pursue and promote cross-border cooperation in order to promote a coherent response recovery approach across a broad territory (e.g. border closure and reopening, containment measures, exit strategies, migrant workers).

Looking ahead: How COVID-19 is reshaping multi-level governance and regional development

The COVID-19 crisis is reshaping multi-level governance systems and changing regional development priorities. The arrival of COVID-19 has thrown the significance of multi-level governance into relief – highlighting the need for a place-based approach to crisis management and recovery, shedding more light on the balance of centralised versus decentralised approaches to crisis management, the need for effective leadership balanced with effective coordination, consultation, and a collaborative approach among government and non-government actors. It is underscoring the role that trust in public institutions plays – not only in crisis management but also in health outcomes – and the power of effective communication with stakeholders and citizens.

During the crisis, all levels of government have had to demonstrate flexibility and adaptability. They have faced a challenge of sequencing that has required new coordination arrangements and policies to be adopted. During the recovery, governments will have to focus on continuing to adapt governance arrangements and regional development policies so that they are targeted to address territorial impacts.

COVID-19 has further highlighted the need for a place-based approach to crisis management and recovery, and highlighted the need for effective leadership that is balanced with effective coordination, consultation, and a collaborative approach among government and non-government actors. It has underscored the role that trust in public institutions plays – not only in crisis management but also in health outcomes – and the power of effective communication with stakeholders and citizens.

The COVID-19 crisis is “revealing” and “accelerating” new trends in regional development policy-making.

- Revealing: the crisis has shed new light on a lack of regional resilience, and in particular through its amplification of pre-existing weaknesses , such as those associated with territorial disparities in access to healthcare and housing, demographic changes, digital gaps across metropolitan and rural areas, and the consequences, in many countries, of a decade of under-investment in municipalities and regions. There is a risk that these amplifications may could last well into the medium-long term.
- Accelerating: the COVID-19 crisis has considerably accelerated several mega-trends, such as digitalisation and the imperative to transition to a low carbon economy. The increase in remote working could be a game-changer for the spatial equilibrium between urban and rural areas, which could have significant implications for regional development policy.

It is also leading governments to take an even closer look at regional development as a tool for building regional resilience, including through more accessible basic services regardless of where people live, reducing digital divides, achieving net-zero carbon emissions, and building on the opportunities of globalisation. COVID-19’s differentiated impact on communities, regions and countries is inspiring broader discussion on the how to increase resilience and how to be better prepared for future health, economic, social or climate-related shocks.

Navigating the emergency: flexibility and adaptability in multi-level governance

The COVID-19 pandemic is requiring all levels of government to act in a context of great uncertainty and under heavy economic, fiscal and social pressure. Since mid-2020, and especially with the onset of new waves of infections in many countries, a new challenge has been revealed: the limited ability to sequence policy action. National, regional, and local governments find they cannot count on following a straight or linear course of policy action to manage, exit and recover from the crisis. Instead, governments must act on all fronts simultaneously and in synchrony.

This need for *flexibility and adaptability* is leading governments to reconsider their multi-level governance systems, revaluate their policy tools, and reassess their regional development priorities. Key elements of success during the emergency include:

- Mobilising and coordinating multiple policy sectors and all levels of government.
- Adopting a place-based approach for the health and economic crises.
- Clear leadership, balanced with effective coordination, consultation, and a collaborative approach among government and non-government actors.
- Reinforcing trust in public institutions and harnessing the power of regular communication with stakeholders and citizens.

The COVID-19 crisis highlights the importance of effective multi-level governance in managing crises. It is leading countries to re-evaluate their multi-level governance systems and regional policy instruments in an effort to make them more “fit for purpose”, more flexible, and better able to respond to the differentiated needs of regions. Doing so could mitigate the sequencing difficulty, helping subnational governments to simultaneously manage new eruptions of the virus, or other emergencies, recover from the crisis, and achieve greater resilience.

As shown below, the balance between centralised and decentralised territorial management is being reconsidered, as are coordination mechanisms. The COVID-19 crisis underscores the fundamental need for a coordinated response to emergencies and their aftermath, and accentuates the risks associated with uncoordinated and/or heavily bureaucratic approaches to crisis management – regardless of whether a country is federal or unitary, centralised or decentralised.

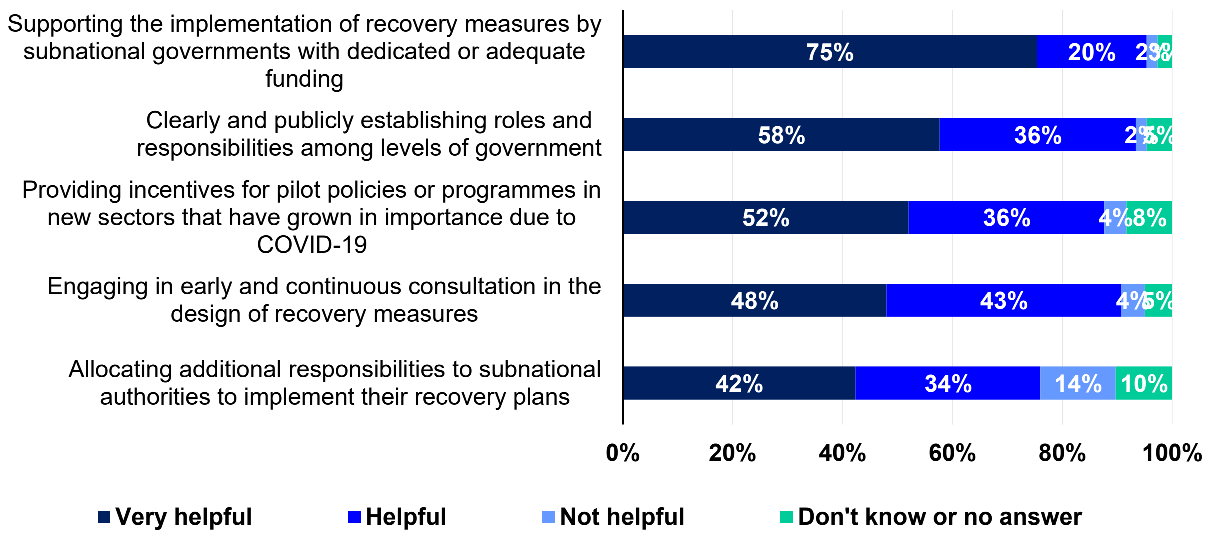
Coordination is just as necessary across and among levels of government as it is between government and non-government actors, including citizens. Successfully managing the pandemic's differentiated impact rests with differentiated responses, emphasising the potential advantages of experimentation and a place-based approach to exit and recovery strategies.

Success also depends on a strong partnership between national and subnational governments, as well as with the private and third sectors, civil society and citizens. Contributing factors to an effective partnership include effective central-level leadership, particularly in setting strategy and guidelines to support coherent responses and minimise competition among jurisdictions, setting a clear assignment of roles and responsibilities, and ensuring that subnational governments have the capacity to act in a manner coherent with meeting the immediate needs and long term priorities of their territories are.

The COVID-19 pandemic is also reinforcing how national governments can best support regional and municipal authorities manage and recover from a crisis. Among the 300 EU regional and municipal governments surveyed by the OECD and the Committee of the Regions (CoR) in June 2020, 75% indicated that funding was one of the most helpful levers for addressing the next crisis (OECD-CoR, 2020[57]). This highlights the increasing importance of subnational finance and well-funded mandates. On the one hand, this could lead to a re-evaluation of traditional budget sources, it could also mean identifying external funding possibilities. Higher-level government support is particularly welcome in relation to clearly establishing roles and responsibilities among levels of government (58%) and offering incentives for pilot policies or programmes in sectors increasingly important since COVID-19 (52%) (Figure 24). A change in how responsibilities are assigned and financed among levels of government, including for crisis response and management, and more experimentation though pilot policy actions and initiatives could result in more flexible multi-level governance systems and facilitate territorially differentiated responses.

Figure 24. Multi-level governance policy reforms

How helpful would the following national government measures be to manage the next crisis?



Notes: Subnational governments submitted their answer to the survey in June-July 2020
Source: (OECD-CoR, 2020[57])

A centralised or decentralised approach in equilibrium

The COVID-19 crisis has revealed advantages and disadvantages to both highly centralised and highly decentralised approaches. For instance, a centralised approach to managing aspects of the public health emergency can support a rapid and uniform response across a country, overriding potential inequalities, be they in resource capacity or in the treatment of individuals (e.g. quarantining those who traveling from a specific country, state, region or province). This is evident in the ability of national governments to transfer patients from hospitals in highly affected regions to less affected ones, as seen in France. In the early days of the pandemic, for example, the French government transferred patients from hospitals in the most affected regions, such as Grand-Est to those less affected in the South. It can also facilitate quick information and knowledge sharing, which is essential in times of crisis (Silberzahn, P., 2020[364]). On the other hand, a decentralised system can support greater flexibility and experimentation in the face of uncertainty, making room for "bottom-up", innovative approaches (Silberzahn, P., 2020[364]) that can be applied elsewhere, if successful and appropriately adapted. The multi-pronged "Veneto approach" to controlling the COVID-19 virus originated in a single Italian town, Vò-Euganeo, then extended to entire Vento region and was eventually adopted, in part or in full, by other Italian regions. Additionally, decentralised approaches create space for regional and local governments to react and respond quickly. The decentralised networks of German laboratories were instrumental in realising the proactive testing strategy put in place by the country.

Furthermore, COVID-19 is reinforcing centralisation/decentralisation as a means to achieve objectives and not an end-state (OECD, 2019[306]). A good illustration is the fact that some governments are temporarily recentralising while others are temporarily decentralising in order to manage the crisis. Many countries adopted state-of-emergency laws, giving central or federal governments the right to take over some subnational responsibilities. By contrast, some countries decided to decentralise additional powers to subnational governments, at least temporarily. For example, Switzerland has temporarily recentralised health management in response to the crisis. In the early days of the pandemic, the UK temporarily decentralised health management, and as the pandemic continues the government is evaluating how to engage more with devolved governments.

Successful short, medium and long term responses to the coronavirus-induced crisis does not depend heavily on whether a country is federal or unitary or on its degree of decentralisation. Rather, it depends more on the coordination mechanisms applied, as well as on the ability of government actors to align priorities, implement joint responses, support one another, and foster information sharing, including with citizens (OECD, 2019[306]). The crisis is accentuating the importance of a risk management strategy, a clear assignment and understanding of responsibilities among levels of government, particularly in responding to a crisis, and of ensuring properly funded mandates at the subnational level. This contributes to meeting the immediate needs that keep arising, but also to ensuring future capacity to do so.

Emergency or crisis situations demand rapid response capacity to prevent escalation and control damage. The ability to adapt to uncertainty and change, and to course correct as needed becomes central to successful crisis management. Because an emergency's immediate impact is felt locally, regional and local governments need room to act quickly, effectively and responsibly – regardless of whether they operate in centralised or decentralised contexts. Such capacity, however, can frequently depend on having sufficient flexibility and discretion to mobilise resources, for example, or to make and enact decisions that can help mitigate or prevent further crisis-induced damage. It can also mean temporarily or permanently reducing burden and red-tape surrounding administrative procedures, making it easier for subnational governments to fulfil responsibilities and take decisions, and for eligible businesses and citizens to apply for and receive emergency support.

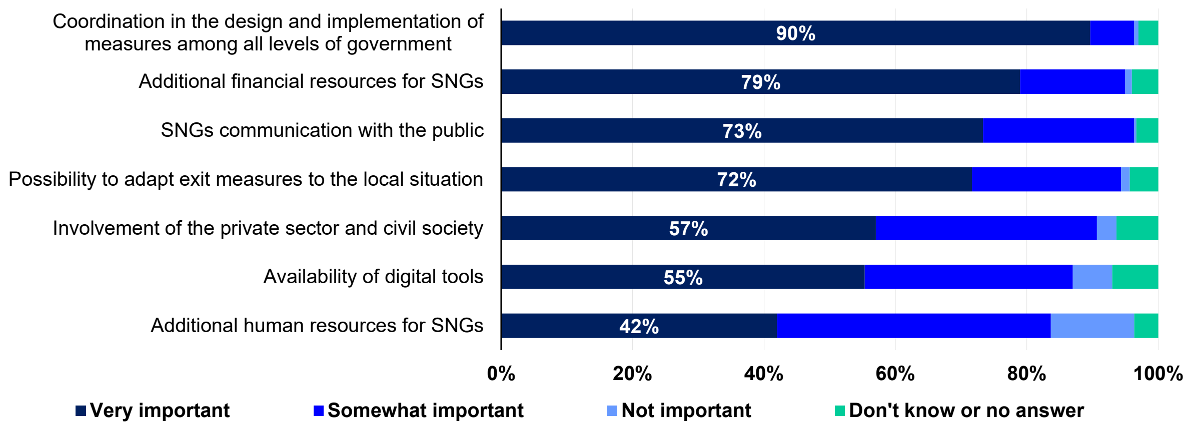
Finally, managing COVID-19's differentiated impact requires a degree of flexibility to allow for territorial responses that are place based and adapted to the most pressing needs and the preparedness of specific localities. This is can support a region in taking non-sequential but coherent action – addressing the emergency, containment and recovery demands based on the pandemic's status in a region. This differentiated territorial approach is as apparent and relevant in federal or highly decentralised countries as it is in unitary or highly centralised ones. The importance of a place-based approach in response to the health crisis has consistently grown. In many countries specific measures regarding masks, closure of schools or restaurant closures, and full versus partial lockdowns are adopted for specific localities and territories, rather than applied to the national level, to limit the economic impact.

Good coordination minimises the risk of crisis management failures

A coordinated response by all levels of government, in both federal and unitary systems, can minimise crisis-management failures. Many countries with past experience in crisis management seem better prepared to tackle the COVID-19 crisis in terms of coordination. The main risk of non-coordinated action in a crisis is to "pass the buck" to other levels of government, which can result in a disjoined response and generate collective risk. For example, in federal systems, there may be limited incentive for cross-jurisdiction cooperation (e.g. sharing equipment, skilled personnel, etc.) if supporting a neighbour jeopardises one's own ability to adequately respond to a crisis situation. Horizontal coordination is essential to minimise coordination failures and avoid disjointed responses that can lead to collective risk. Countries are approaching this in a variety of ways and at different levels of government.

When consulted on how to manage a successful exit strategy, respondents to the OECD-CoR survey indicate coordination and financial resources as of utmost importance: 90% of subnational governments report that coordination in the design and implementation of measures among all levels of government is very important, and 79% cite additional financial resources for subnational entities as being very important. Communication with the public and the possibility to adapt measures to the local situation are also considered as key in a successful exit strategy (Figure 25). While results are broadly homogeneous between the different subnational government categories, regions and municipalities have slightly different priorities. Regions place more emphasis than municipalities on adapting exit measures to the local context (76% versus 68%), while municipalities are more likely than regions to highlight the need for additional human resources (48% versus 33%).

Figure 25. Policy tools at the core of a successful exit strategy



Note: Subnational governments submitted their answer to the survey in June-July 2020
Source: (OECD-CoR, 2020[57])

The more decentralised the country, the greater the need to mobilise coordination platforms to minimise the risk of a fragmented policy response. National associations of subnational governments are also playing a role to ensure vertical coordination efforts – disseminating information, identifying and sharing solutions, and supporting the implementation of emergency measures by their members. Effective crisis response highlights that robust vertical and coordination mechanisms are more important than ever.

The value of partnerships and communication for crisis management and beyond

No single government, or level of government, can meet the demands of crisis management alone. The COVID-19 crisis, given its scope and magnitude, is challenging all levels of government to reinforce their partnerships – with each other, with the private and third sectors, and with citizens. If priorities are mutually identified and agreed upon, and initiatives are designed with sufficient information exchanged between the developers and implementers, then the likelihood of an effective support programme will be greater. While this certainly requires coordination, it also means a clear delineation, understanding and agreement of roles and responsibilities, and mutual respect, in the short, medium and long term.

Quickly mobilising necessary public, private and third sector actors can help governments respond to a crisis more effectively. Countries are applying this insight in various ways. Asian countries, for example Korea, are drawing on their experience with SARS. In Attica Greece, the regional government is working with the Medical Association of Athens to establish preventive measures against the coronavirus (European Committee of the Regions, 2020[365]). Crisis management plans used in Asia and in the Nordic countries, for example, can help rapidly mobilise diverse actors to meet crisis-induced challenges, such as those arising from this pandemic.

Clear, transparent, rapid, and accurate communication among all parties is fundamental on many levels. First, it helps government and emergency personnel respond in a targeted manner. New Zealand's COVID-19 Local Government Response Unit (New Zealand Government, 2020[366]) is an example of such an activity. Second, it can promote knowledge sharing which then leads to the application of more effective solutions. Portugal's General Directorate of Local Authorities established a contact line to support information exchange and peer learning among municipalities. The Local Government Association in England provides communications templates to help City Councils share good practices and exchange information (Local Government Assocciation, 2020[367]). Third, and perhaps most importantly, it contributes to trust in the institutions and people leading the crisis management effort, which in turn can mitigate the crisis' negative impact. Effective crisis communications depends on the relationships across all levels of government and with the public and private sectors. It means communicating early, clearly, regularly and with a coherent message. Subnational governments need to know what they are facing and what is expected of them – their role must be clear. Citizens and businesses need to be reassured that the government has a strategy for each stage of the crisis. Like subnational governments, they too need to know what is expected of them, and feel reassured that they are supported through a difficult period (Smith, N., 2020[368]). There is evidence that in the face of COVID-19 people expect government to lead in all areas relevant to the pandemic: containment, information dissemination, economic relief and support, helping people cope, and getting the country back to normal (Edelman, 2020[369]). Less is expected of business, NGOs and media.

One of the most powerful aspects of a partnership is the ability to generate agreed upon objectives, priorities and plans. Taking unilateral decisions can lead to non-compliance with measures at a minimum, and larger-scale demonstrations or conflict at a maximum, as seen in France (Marseille), Italy, Spain, the UK and the US during this crisis. Bringing together a territory's various levels of government to identify objectives and design measures in collaboration can lead to stronger implementation of containment and recovery efforts. It is also important to ensure sufficient and timely consultation with other stakeholders, including business owners, service providers, teachers and parents, and civil society. This can increase the possibility that measures are followed, despite "virus-fatigue", and can lead to more locally appropriate, more innovative initiatives. A September 2020 survey on the perception of EU citizens regarding the role of regional and local authorities in managing the COVID-19 crisis, and subnational government influence in EU politics and policies more broadly, indicates that about two-thirds of Europeans think that regional and local authorities have insufficient influence on decisions made at the EU level (EU Committee of the Regions, 2020[189]). Specifically, Europeans would like their regional and local authorities to have more influence on policies related to health (45%), employment and social affairs (43%), and education, training and culture (40%). Furthermore, 58% of surveyed Europeans think that greater influence of regional and local authorities would have a positive impact on the EU's ability to solve problems (EU Committee of the Regions, 2020[189]), and, implicitly, those associated with the coronavirus.

The importance of trust in all levels of government

In some countries, trust in national government has increased during this crisis. Where it is not, the gap is often filled by increased trust in local government, which tends to be higher even in non-emergency times (Edelman, 2020[369]). Europeans tend to trust regional and local authorities (52%) than the EU (47%) or their national government (43%) (EU Committee of the Regions, 2020[189]). Regional or local authorities are taking, and will continue to take, appropriate measures to overcome the economic and social impact of COVID-19 crisis for 48% of Europeans. Citizen trust in government can help mitigate the impact of "virus-fatigue" that contributes to a more lax uptake of virus control measures (e.g. confinement, social distancing, wearing masks), and jeopardise the success of emergency actions and vaccination campaigns.

Citizen trust in government results in greater compliance with government response measures. Mobility restriction measures are more effective where trust is high. This relationship holds between countries and within countries. In the United States, for example, a given increase in stringency is associated with a bigger decline in mobility where trust is relatively strong and therefore, most likely, in a bigger decline in the spread of the pandemic figure. In Europe, compliance with public health policies is also higher where trust is high (Bargain and Aminjonov, 2020[370]). The effectiveness of restrictions on reducing COVID-19 mortality rates depends on the mediating effect of trust between restriction and mobility/social interactions.

This further highlights the importance of successful multi-level governance. Each level of government depends on the other for different aspects of policy and service design and delivery to manage the impact of COVID-19. At the same time, ensuring policy success will depend heavily on subnational governments and their ability to deliver solutions. Citizen trust can play a role in ensuring compliance with containment measures and mitigate the impact of "virus-fatigue". In this context, it is important to ensure that subnational governments have appropriate and adequate support from higher levels of government to deliver solutions and maintain citizen trust.

While this crisis may be generating rising levels of trust in government, the challenge for public officials will be to continue building it up and maintain it. All levels of government may want to take stock and evaluate the trust-building actions. While it can take many years to build trust, it can be rapidly lost (Edelman, 2020[369]).

Rethinking regional development policy post COVID-19

COVID-19's differentiated impact on individuals, communities, and regions and the potential risk of its accentuating territorial disparities lends new urgency to a place-based approach to regional development and generating greater inclusiveness during the recovery. The role of effective partnerships and trust among different sets of actors, the need for flexibility and adaptability, and the importance of an equilibrium between top-down and bottom-up action serves to reinforce this urgency. It has also rekindled policy dialogue around regional resilience. The pandemic, with the demands it places on all levels of government, is generating a shift in regional development priorities towards reinforcing regional resilience (Figure 26).

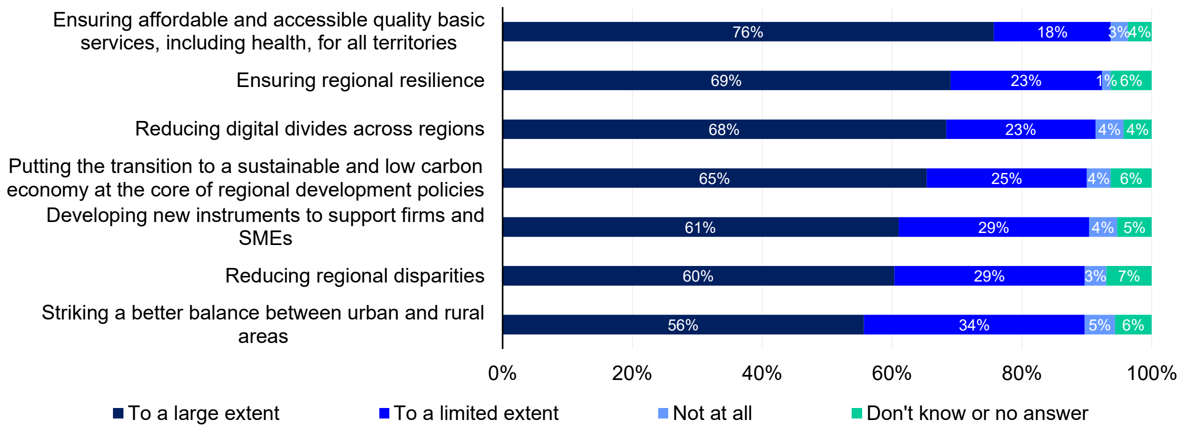
Generating more resilient regions means first ensuring that regions are able to absorb, recover (or bounce-back) from and/or adapt to the impact of economic, financial, environmental, political and social shock or chronic pressure; and then that they are able to continue meeting the needs of citizens and businesses at least as well as – and ideally better – than before a crisis.

Post-COVID-19, building more resilient regions may see greater national and subnational-level investment in health care and other public services. In the EU, 76% of surveyed regional and municipal governments believe that regional development strategies should place greater emphasis on accessing quality public services, including health in all territories (OECD-CoR, 2020[57]).

It is also likely to result in a re-evaluation of regional policy objectives, including with respect to their urban/rural equilibrium, the digital divide, the balance between tangible and intangible assets (infrastructure such as broadband, public transport, and social housing, R&D, innovation), well-being and culture, productivity and industrial profiles, and how to best meet higher-level aims, including those relating to the climate imperative.

Figure 26. Identified regional development policy priorities arising from the COVID-19 crisis

To what extent would you like the COVID-19 crisis to reshape regional development policy priorities in the future by putting more emphasis on the following elements?



Note: Subnational governments submitted their answer to the survey in June-July 2020
Source: (OECD-CoR, 2020[57])

Urban/rural spatial equilibrium and the role of telework

The future of telework may have a significant long-term impact on urban and rural development. The COVID-19 pandemic and its aftermath might contribute to strengthening urban-rural links. Teleworking is a significant factor in a territory's ability to mitigate the crisis' economic impact. It has required investment and adaptation (including cultural and behavioural) on the part of employers and employees. While there is some discussion around whether increased possibilities for teleworking will lead people to leave large cities and establish residence in smaller cities or rural areas, the attractiveness of cities has not disappeared; e.g. employment opportunities and access to services and amenities. At the same time, medium-sized cities could see a boom, as well as smaller municipalities adjacent to larger cities. The long-term impact on the urban/rural spatial equilibrium is difficult to predict, though telework, or other more flexible work formats, is likely to remain a permanent feature of work to some degree.

In Iceland, for example, COVID-19 has accentuated the value of a government employment programme to ensure that 10% of all advertised jobs at ministries or their institutions not be associated with a specific location. In other words, place of residence should not influence ministry staff selection or a candidate's consideration of the job opportunity. Instead, attention is focused on the job in question. If a staff member is appointed whose residence lies outside of daily travelling distance to the hiring ministry or institution, the employer must try to find adequate working facilities that are closer to home. By the end of 2021 5% of all jobs advertised should operate without a set location, to reach 10% by 2024. The success measure is the number of jobs in individual ministries and institutions that are performed off-site compared to 1 January 2018. This initiative is led by the Ministry of Finance and Economic Affairs.

Participation in global value chains and industrial policy

Globalisation has an ambivalent relationship with resilience in the COVID-19 crisis and in the climate challenge (OECD, 2021[371]). The impact of COVID-19 on national, regional and local economies is propelling governments to rethink their industrial policies and production processes and the length of global value chains. Consideration is being given to the opportunities associated with reshoring strategic industries. Doing so in raw materials, for example, could reactivate rural economies as hosts of these industries. Also beneficial to rural economies can be the potential jobs created if the manufacturing sector uses and produces services in addition to goods. Greater emphasis on local production processes can favour shorter lead times and also shorten supply chains, making these more sustainable by reducing carbon emissions – a popular point with consumers.

There are challenges to manage, however, and these can vary according to a region’s industrial drivers. For example, regions with major ports or logistics centres and those with large shares of employment in manufacturing or other tradeable sectors may be more affected by disruptions in global value chains. In addition, reshoring or producing locally can be more costly than offshoring. Production shifts can also be difficult to accomplish if a region lacks the necessary resources or skills as inputs. Meanwhile, regions with a productivity profile reliant on SMEs may be less resilient to disruptions, such as COVID-19, as these enterprises often operate in a limited number of markets and rely on a short list of suppliers and buyers.

Despite these challenges, the COVID-19 crisis can be used as an opportunity to accelerate the reconstruction of productive processes, industries and regions that were latent or growing only moderately. It may also be a good moment to reinforce investment in reorganising production methods in areas that did not exist during previous crises (e.g. 3D-printing and production, e-commence, digital technologies that support easier teleworking, etc.). The COVID-19 crisis could introduce an exponential shift in the circular economy, the relocation of production, short circuits, logistical reorganisation, and the digitalisation of companies, for example (Assemblée des Communautés de France, 2020[372]). Finally, COVID-19 may create space for improved and expanded services, contributing to regional attractiveness in remote and rural areas.

The climate imperative: integrate carbon neutrality targets into recovery plans at all levels

Climate change poses risks to the foundations of human wellbeing, including health, with potential systemic know-on effects. They also vary across regions and cities and, as in the Covid-19 crisis, require a place-based response (OECD, 2021[371]). Regions and cities are ideally placed to create links between COVID-19 recovery packages and the climate change policies. They are responsible for about 64% for the public investment dedicated to climate and environmental initiatives. Using this power to invest in the green transition and properly target local needs, could further turn the COVID-19 crisis into an opportunity. For example, investing to reduce health risks can reinforce or be reinforced by investing to reduce pollution levels, as health and a clean environment can be positively related and contribute to a community’s resilience. Regions and municipalities should link emergency infrastructure to long-term objectives.

While green priorities are announced by many governments as central in the recovery, there are still significant gaps between rhetoric and the concrete policy measures that are adopted. Postponing bold decisions can have huge costs. In the G20, only 16% of the stimulus going to sectors relevant for cities (energy, transport and waste) is sustainable as measured by the Green Stimulus Index (Coalition for Urban Transitions, 2020[373]), which represents about 1% of total stimulus. The spending allocated to green measures represents about 17% of recovery spending or 2% of total COVID-19-related spending in OECD countries, Costa Rica (accession) and Brazil, China, India, Indonesia and South Africa (OECD, 2021[3]).

Adopting new regional policy instruments and reinforcing multi-level governance systems

New challenges arising from the crisis, and others that pre-dated the crisis, are require territorialised responses. The lack of trust in government, particularly in national governments, is raising democratic challenges and leading to a rise in geographies of discontent. High levels of national level public debt and increased subnational public debt is creating limited fiscal space in the medium-term, beyond the recovery packages. Disparities are being amplified between jurisdictions that have the administrative, fiscal and strategic capacities to attract private funding and those without.

These challenges create opportunities for new regional policy instruments to be adapted and for a reinforcing of multi-level governance systems. Priorities during the recovery include:

- **Reinforcing the flexible and adaptable multi-level governance systems** required during the emergency to allow for continuing timely responses to territorial situations and differentiated responses to the needs of regions, while supporting good governance during the recovery.
- **Strengthening partnership-based approach** – with each other, with the private and third sectors, and with citizens – to overcome the new collective challenges.
- **Re-evaluate the way responsibilities are assigned and financed**, and assess areas for improvement to better manage future shocks.
- **Develop risk management strategies at all levels** to build more resilient regions into the future
- **Identify new sources of financing**, from traditional budget sources to external sources of funding and private sector collaboration.

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Annex 1. Decentralisation in the health sector in OECD countries

Three groups of countries with high, medium and low levels of decentralisation in health provision are identified (Figure 27). Most federal countries (except Belgium and Germany) and some unitary countries (Italy and three Nordic countries) have highly decentralised health care sectors. At the opposite end, 15 unitary countries, plus Belgium and Germany, are in the group where health care is mainly managed by central/federal or social security funds. This interpretation can be nuanced, as health expenditure in unitary countries can be a delegated expenditure made on behalf of the central government, with little or no choice as to how expenses are allocated. In federal countries however, state governments can still have shared decision-making responsibilities with the federal government (OECD, 2019[374]; Beazley et al., 2019[375]; OECD, 2020[237]). The public part of health expenditure may also be funded by social insurance schemes, and not directly by the central or federal government. In Belgium, Luxembourg, Germany and France, social insurance accounted between 85-95% of public expenditure in 2017. It is also important to recognise that while health care provision is usually a public sector responsibility, the private sector often plays a large role in service production, side-by-side with public sector producers.

Figure 27. The level of decentralisation in health care in the OECD countries

	High	Medium	Low
Share of subnational government health spending	> 40% of total public health spending > 20% of total subnational government spending > 4% of GDP	15% - 40% of total public health spending 10% - 20% of total subnational government spending Subnational government health spending 0.5% - 4% of GDP	< 15% of total public health spending < 10% of subnational government spending < 0.5% of GDP
Countries	**Federal & quasi-federal**: Switzerland*, Spain, Australia, Austria, United States **Unitary:** Sweden, Italy, Denmark, Finland	**Unitary:** Poland, Norway, Latvia**, Lithuania, Estonia, Japan, Czech Republic	**Federal:** Belgium Germany **Unitary:** Korea, Slovenia***, Netherlands, Portugal, Slovak Republic, Hungary United Kingdom, France, Turkey, Luxembourg, Iceland, Israel, Greece, Ireland, New Zealand

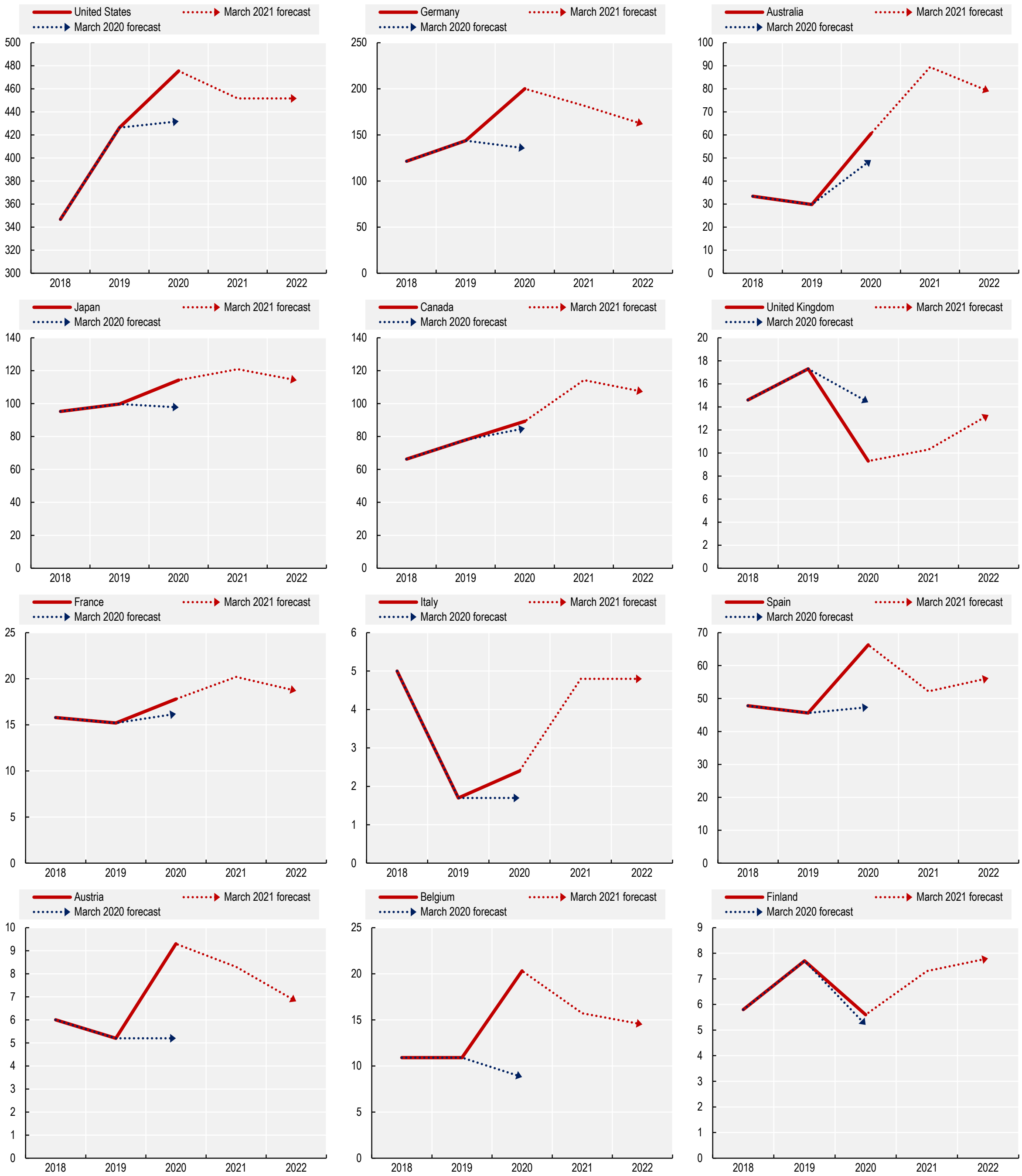
Note: No data for Canada, Chile and Mexico; * Switzerland: subnational government health expenditure accounts for less than 20% of subnational government expenditure and 4% of GDP; ** Latvia: subnational government expenditure is 8% of subnational government expenditure; *** Slovenia: subnational government expenditure is around 1% of GDP and 12.4% of subnational government expenditure.

Source: OECD based on (OECD, 2020[376])

Annex 2. Subnational borrowing (2018-2022)

Figure 28. COVID-19 impact on subnational borrowing

Local and regional governments new gross borrowing (USD billion) versus pre-pandemic forecast



Source: Own calculations based on (S&P Global Ratings, 2021[68]).

Annex 3. Definitions of COVID-19 deaths per country

Country	Definition	Source
Australia	A COVID-19 death is defined for surveillance purposes as a death in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID19 (e.g. trauma). There should be no period of complete recovery from COVID-19 between illness and death.	https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-current-situation-and-case-numbers
Austria	COVID-19 death is defined - for surveillance purposes - as a laboratory-confirmed case of COVID-19 with the outcome death, with the status "recovered / cured NOT" between the status "illness" and the status "death".	https://covid19-dashboard.ages.at/basisinfo.html
Belgium	A COVID-19 death is defined as a death in a probable or confirmed COVID-19 case. These include deaths reported by authorities supplemented, as of March 24, 2020, by data reported by hospitals. Initially, only deaths of cases confirmed with a laboratory test or chest scan suggestive of COVID-19 were reported. Since May 5, 2020, deaths of possible cases in hospitals are also included. Possible case deaths are patients who did not have a diagnostic test for COVID-19, but who met the physician's clinical criteria for the disease. Out-of-hospital deaths (e.g. nursing homes, other residential communities, home, etc) are reported by regional authorities and include deaths of confirmed and possible cases. COVID-19 deaths in Belgium are classified by region based on the place of death.	https://covid-19.sciensano.be/sites/default/files/Covid19/Derni%C3%A8re%20mise%20%C3%A0%20jour%20de%20la%20situation%20%C3%A9pid%C3%A9miologique.pdf
Brazil	Any death of a person diagnosed with COVID-19 confirmed, inconclusive or discarded (negative test) should be immediately notified to the local epidemiological surveillance system. According to the document, confirmation of death by COVID-19 and inclusion in state and national statistics depends on the result of laboratory tests that testify to the presence of the virus.	https://www.gov.br/saude/pt-br/coronavirus/centrais-de-conteudo-corona/manejo-de-corpos-no-contexto-da-covid-19_-nov.2020
Canada	Statistics Canada and provincial and territorial vital statistics agencies use two codes to identify COVID-19 reported as a cause of death: U071 for COVID-19 specified as confirmed by a positive test result and U072 for COVID-19 described as "possible," "probable," or "pending a (positive) test result". The total number of deaths due to COVID-19 is determined by adding counts in these two categories. The former also includes those deaths where the certificate makes no specification as "positive", "possible," "probable," or "pending". In Canada, the majority of COVID-19 deaths were classified as U071 (86%).	https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00087-eng.htm
Chile	A death due to COVID-19 is defined for surveillance purposes as a death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery from COVID-19 between illness and death. Deaths are registered by region of residence.	https://www.minsal.cl/nuevo-coronavirus-2019-ncov/informe-tecnico/
Colombia	A death due to COVID-19 is defined for surveillance purposes as a death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery from COVID-19 between illness and death.	https://www.dane.gov.co/files/investigaciones/poblacion/defunciones-covid19/presentacion-defunciones-covid-2020-02mar-01nov.pdf
Croatia	For monitoring purposes, a COVID-19 death is defined as death caused a disease that is clinically compatible with probable or confirmed cases of COVID-19, except when there is a clear other cause of death that cannot be associated with COVID-19 (e.g., trauma). There must be no period of complete recovery from illness between the time of illness and death COVID-19. Death caused by COVID-19 cannot be attributed to another disease (e.g. cancer) and should be counted separately from pre-existing diseases suspected to be triggers for severe COVID19. COVID-19 are allocated geographically based on the place of residence.	https://www.hzjz.hr/wp-content/uploads/2021/03/Smjernice-za-%C5%A1ifriranje-uzroka-smrti-COVID-19.pdf / https://www.koronavirus.hr/zupanije/139

Czech Republic	A COVID-19 death is defined as the death of persons who have tested positive for COVID 19 (by PCR testing), regardless of the causes of their deaths, and whose deaths occurred within or outside the hospital. COVID-19 deaths are reported by regional hygienic stations.	https://onemocneni-aktualne.mzcr.cz/api/v2/covid-19
Denmark	A COVID-19 death is defined statistically by the Danish Health Authority as a death that occurred within 30 days after a person has been tested positive with SARS-CoV-2 by PCR test. This means that COVID-19 is not necessarily the underlying cause of death. The number of COVID-19 deaths reported by the SSI is collected from both the Danish Civil Registration System (CPR) and the Cause of Death Register, which may generate some delay between the date of death (as indicated in those registers) and the date on which the deaths are included in SSI's updates. The geographical distribution is based on the places of residence of the deceased.	https://www.sst.dk/en/english/corona-eng/status-of-the-epidemic/covid-19-updates-statistics-and-charts
France	COVID-19 deaths that are reported by Santé Publique France compile data from various reporting channels. It includes deaths at the hospital (obtained via the Victim Tracking Information System (SI-VIC) through electronic certifications), in addition to deaths in medico-social facilities, which are reported separately by the medico-social facilities. Deaths in elderly care homes (EPHAD) are also reported separately. Deaths from COVID-19 is defined as the death of persons diagnosed with COVID-19 by PCR test or chest scan, regardless of the initial cause of admission of the patient at the hospital (for the hospital count). Deaths are recorded in the commune in which they occur (and not in the place of residence of the deceased).	https://dashboard.covid19.data.gouv.fr/
Germany	The statistics of the RKI include the COVID-19 deaths in which there is laboratory-confirmed evidence of SARS-CoV-2 (direct pathogen detection) and who died in relation to this infection. Both people who died directly from the disease ("died of") and people with previous illnesses who were infected with SARS-CoV-2 and for whom it cannot be conclusively proven what the cause of death was ("died with") are currently being recorded. In general, it is always at the discretion of the health department whether a case is deemed to have died or is transmitted to the RKI with COVID-19 or not.	https://www.rki.de/SharedDocs/FAQ/NCOV2019/gesamt.html;jsessionid=BBCB91D5358FF46A7DF6F885514A2817.internet081?nn=13490888
Italy	To define a death as due to COVID-19, all of the following criteria must be present: 1) Death occurred in a patient definable as a confirmed case of COVID-19 (a case with a laboratory confirmation of SARS-CoV-2 infection, carried out at the National Reference Laboratory of the National Institute of Health (ISS) or by Regional Reference Laboratories, regardless of clinical signs and symptoms.). This definition is in line with the information flow of the national COVID-19 surveillance system which is based on the collection of cases confirmed by regional reference laboratories with molecular tests of SARS-CoV-2 and among which deaths are reported; 2) Presence of a clinical and instrumental picture suggesting COVID-19; 3) Absence of a clear cause of death other than COVID-19 or in any case not attributable to SARS-CoV-2 infection (for example trauma). A pre-existing disease is defined as any disease that preceded the SARS-CoV-2 infection or that contributed to death while not being part of the sequence of causes that led to the death itself. 4) Lack of full clinical recovery period between illness and death.	https://www.istat.it/it/files//2020/06/Rapporto-ISS-Istat-cause-di-morte-COVID-19-49_2020.pdf
Japan	The definition of COVID-19 death varies by local government. In some prefectures, cases judged to have other causes of death are excluded from the count, while in others, local government counted all of them as COVID-19 related deaths regardless of their cause of death. Since the announcement made on May 8, 2020, the data source for domestic cases (excluding those related to charter flights) has been an accumulation of data published by the relevant municipalities on their websites. Before that, the data was an accumulation of individual records collected by the MHLW. Domestic cases do not include cases of airport quarantine, regardless of whether a municipality (the data source) may have enumerated such figures in their publications. The cumulative number of deaths calculated by accumulating individual cases may differ from the figures given in the municipalities' press releases. When a municipality reviews its enumeration of cases that have an unclear association with COVID-19 and announces this on its website, the date on which the municipality announced and updated these figures will be the reported date, in accordance with the government announcement made on June 17, 2020.	https://www.mhlw.go.jp/stf/covid-19/open-data_english.html
Korea	COVID-19 deaths are recorded as the number of deceased confirmed COVID-19 patients. To declare a confirmed case, all of the following 5 items must be satisfied: 1) Fever of 38°C or higher persists for more than 24 hours in children and adolescents under 19 years of age; 2) Laboratory evidence of inflammation (ESR, CRP, fibrinogen, procalcitonin, d-dimer, ferritin, LDH interleukin 6 , increase in neutrophil, decrease in albumin, etc.); 3) Severe condition requiring hospitalization that invades two or more multi-organ organs (heart, kidney, lung, blood, gastrointestinal tract, skin, nervous system); 4) Other pathogens causing inflammation have not been identified; 5) Evidence of current or recent COVID-19 infection * Positive diagnostic test (PCR test, antibody test, antigen test) result	http://ncov.mohw.go.kr/upload/140/202010/1601875824179_20201005143024.pdf

	(or) In case of exposure to Corona 19 within 4 weeks before the outbreak. Regions are classified based on the location where each case has been reported.	
Mexico	A death due to COVID-19 is defined for surveillance purposes as a death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery from COVID-19 between illness and death.	https://coronavirus.gob.mx/wp-content/uploads/2020/04/Correcto_llenado_del_certificado_de_defuncion_muertes_por_COVID-19.pdf
Netherlands	Number of reported deceased patients per day at the time of publication. The actual number of deceased COVID-19 patients is higher than the number of reports in the surveillance, because not all deceased patients are tested. Municipal division based on the zip code of the patient's place of residence, coded according to CBS. From January 1, 2021, a municipal reclassification has taken place. Until January 7, 2021, the old municipality classification has been used for the open COVID-19 data. Records from January 7, 2021 have been compiled according to the new municipality classification: Municipalities of Appingedam, Delfzijl and Loppersum have been merged into the new municipality of Eemsdelta Gr. The municipality of Haaren has been merged into the municipalities of Oisterwijk, Tilburg, Vught and Boxtel. With the division of Haaren, the safety region of Central and West Brabant has become slightly larger, at the expense of the safety region of Brabant-Noord.	https://data.rivm.nl/geonetwork/srv/dut/catalog.search#/metadata/1c0fcd57-1102-4620-9cfa-441e93ea5604
Poland	The National Institute of Public Health indicates COVID-19 in death certificates should be reported as follows: 1) If death due to COVID-19 has been confirmed through testing, COVID-19 should be recorded in the death certificate as the underlying cause of death; 2) If death due to COVID-19 is suspected, the underlying cause of death should be recorded as 'suspected COVID-19' in the death certificate and the physician can also add one of the following descriptions: 'equivocal test result' or 'failed test' or 'death before obtaining test result'; 3) If the test result is negative, COVID-19 cannot be recorded as the cause of death.	https://www.covid19healthsystem.org/countries/poland/livinghit.aspx?Section=1.4%20Monitoring%20and%20surveillance&Type=Section
Portugal	Every death of a person with a confirmed infection of SARS-CoV-2 is a COVID-19 death. Those who have died undiagnosed at home or in care homes are not counted as COVID-19 deaths. All COVID-19 deaths are reported to local health authorities and collected on a daily basis.	https://www.lse.ac.uk/social-policy/Assets/Documents/PDF/working-paper-series/10-20-Anne-West.pdf
Spain	A death due to COVID-19 is defined for surveillance purposes as a death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery from COVID-19 between illness and death.Only in cases of violent deaths or where there is suspicion of criminality or in any other in which a judicial procedure has been initiated is an autopsy carried out.	https://www.cgcom.es/sites/default/files/u183/n.p._cerfificaciones_de_defuncion.28032020.pdf
Sweden	The statistics on the deceased are based on data reported so far to the Swedish Public Health Agency, there are differences with the regional reporting. The statistics show the number of people with laboratory-confirmed COVID-19 who have died, regardless of the cause of death, and are reported as dead in the SmiNet database. The deaths have either been reported by the treating doctor or have, according to the population register, died within 30 days after a COVID-19 diagnosis. In a limited number of cases, it may be known by the Infection Control Unit that the cause of death was non-covid related and then the death is removed from the statistics. Municipal affiliation for the cases is based on data from the population register with the information that was available at the beginning of May 2020, which means that there may be differences between the regional reporting and the data presented here.	https://www.folkhalsomyndigheten.se/smittskydd-beredskap/utbrott/aktuella-utbrott/covid-19/statistik-och-analyser/bekraftade-fall-i-sverige/
Switzerland	OFSP records all laboratory-confirmed infection for the consideration of these deaths as caused by SARS-CoV-2.	https://www.bag.admin.ch/dam/bag/fr/dokumente/mt/k-und-i/aktuelle-ausbrueche-pandemien/2019-nCoV/bericht-todesfaelle-februar-2021.pdf.download.pdf/Rapport%20concernant%20les%20d%C3%A9c%C3%A8s%20li%C3%A9s%20au%20COVID-19%20en%20Suisse%20et%20en%20comparaison%20internationale.pdf

United Kingdom	Deaths recorded as number of people who had had a positive test result for COVID-19 and died within 28 days of the first positive test.	https://coronavirus.data.gov.uk/details/deaths
United States	A confirmed case or death is defined by meeting confirmatory laboratory evidence for COVID-19.	https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/about-us-cases-deaths.html

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