European Committee of the Regions

Commission for Economic Policy

ECON

The state of the regions, cities and villages in the areas of socio-economic policies

Contribution to the 2021 EU Annual Regional and Local Barometer

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Acronyms

AI	Artificial intelligence
CF	Cohesion Fund
CoR	European Committee of the Regions
DG REGIO	EU Commission's Directorate-General for Regional and Urban Policy
ECDC	European Centre for Disease Prevention and Control
ECFR	European Council on Foreign Relations
EQI	European quality index
ERDF	European Regional Development Fund
ERTE	Expediente de Regulación Temporal de Empleo
ESF	European Social Fund
EU-27	European Union as of 2020 with 27 member states
EUSF	European Union Solidarity Fund
GDP	Gross Domestic Product
ICT	Information and Communication Technology
ILO	International Labour Organisation
ISCED	International Standard Classification of Education
JRC	Joint Research Centre
LEADER	Liaison Entre Actions de Développement de l'Économie Rurale (Links between the rural economy and development actions)
MICE	Meetings, incentives, conventions and exhibitions/events tourism
NACE	Nomenclature of Economic Activities
NEETs	Young people neither in employment nor in education and training
NUTS	Nomenclature of territorial units for statistics
OECD	Organisation for Economic Co-operation and Development
PPE	Personal protective equipment
Q1	First quarter of the year
QoG	Quality of Governance
SME	Small and Medium-sized Enterprise
TAIEX	Technical Assistance and Information Exchange instrument
UN	United Nations

Summary

What potential impacts will the COVID-19 pandemic have on regions and cities in the EU in the short and medium? Based on COVID-19 outbreaks, lockdown policies and recovery measures as of mid-May 2021, this report provides some answers. It helps build a better understanding of territorial exposures and sensitivities to COVID-19 policy responses.

The report builds on contributions to the 2020 CoR Barometer (European Committee of the Regions, 2020). It updates information on the length and severity of government responses to COVID-19, now covering 1 March 2020 to 15 May 2021. It also updates the analysis on regional sensitivities taking into account recent insights into the most affected economic activities and societal groups. Furthermore, it complements analysis of EU-wide data with nine local and regional case studies casting more light on particular impacts and response capacities.

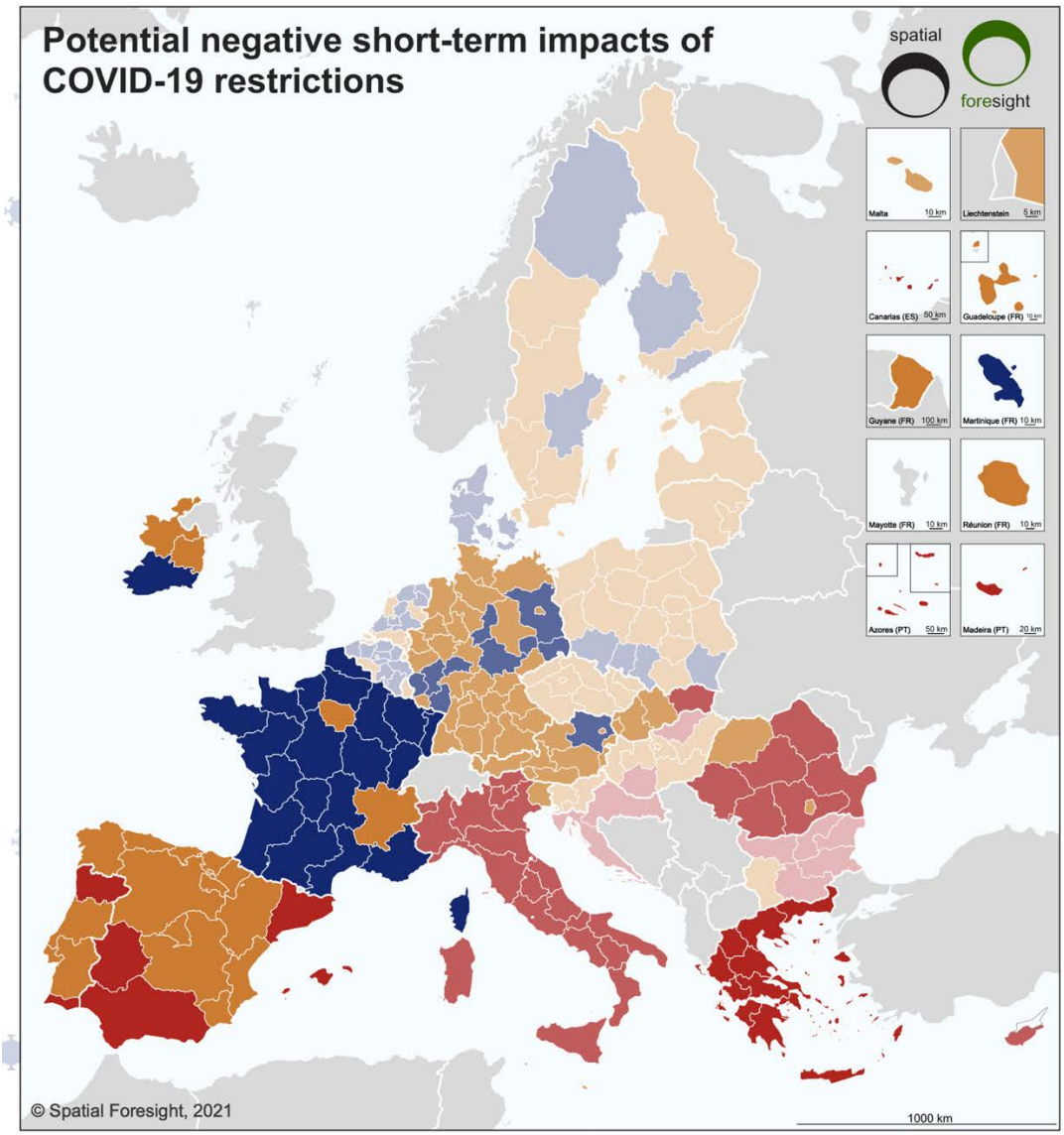
Short term impacts

Short-term impacts vary considerably across European regions. Some places faced very restrictive policies with people only able to leave their houses when absolutely necessary, as in large parts of Italy, France, Spain and Portugal. Some places saw hardly any restrictions, merely recommendations to be careful. Furthermore, even when exposed to similar restrictions the impacts on local and regional development varied due to different socio-economic structures.

Local and regional development is most affected by severe restrictions and sensitive socio-economic structures. Regions potentially hardest hit are mainly in southern Europe, especially Greek regions, the Spanish regions of Extremadura, Catalonia and Andalucía, the Balearic islands and the Portuguese regions of Algarve and Norte (see Map 0.1).

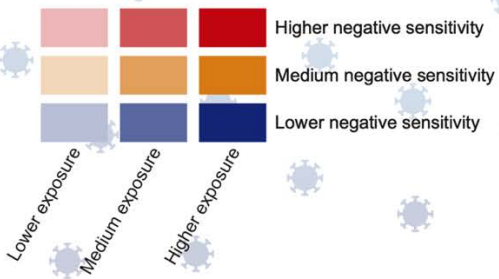
COVID-19 policy responses are a major challenge to regional and economic development. Nevertheless, for some businesses the lockdowns and policy responses also brought new opportunities. Regions that could capitalise on economic opportunities from the crisis vary considerably. They generally faced few restrictions and their socio-economic profile made it easier to adjust. This includes areas with many jobs in the information and communication (ICT) sector or people working from home prior to the pandemic. Examples are regions in Benelux and Nordic countries, as well as in Slovakia, Poland, Hungary, the Czech Republic, and Southwestern Bulgaria.

Map 0.1 Potential negative short-term impacts of COVID-19 restrictions



Administrative boundaries: Eurostat GISCO, NUTS 2 (2016)

Sensitivity and exposure assessment



Source: own elaboration based on following data

Sensitivity: Shares of employment in medium and high risk economic sectors (Eurostat and ILO), Potential negative impacts of COVID-19 lockdown on tourism regions (Spatial Foresight), Share of people (25 to 64 years) with post-secondary non-tertiary education or lower (0-4 in the ISCED scale) (Eurostat), Share of young people (15-24 years) neither in employment nor in education and training (NEET) (Eurostat), Share of people at risk of poverty or social exclusion (Eurostat), Share of employment in Micro-enterprises (ESPON), share of self-employed people over employed people (Eurostat), European Quality of Government Index (University of Gothenburg), Financial measures as percent of GDP (IMF).

Exposure: Stringency and length of government restriction (Blavatnik school of Government at Oxford University), Share of working hours lost in 2020 (ILO).

Although some regions probably face both negative and impacts impacts, these will not balance each other out. Negative impacts outweigh the positive ones. The positive impacts cover only a few sectors employing around 3.5% of people across the EU and at most 13% in one region.

Medium term impacts

The COVID-19 pandemic will affect local and regional development beyond the more obvious immediate effects. Medium-term impacts will be shaped by more durable impacts on some sectors and structural elements, which affect how quickly an area can recover.

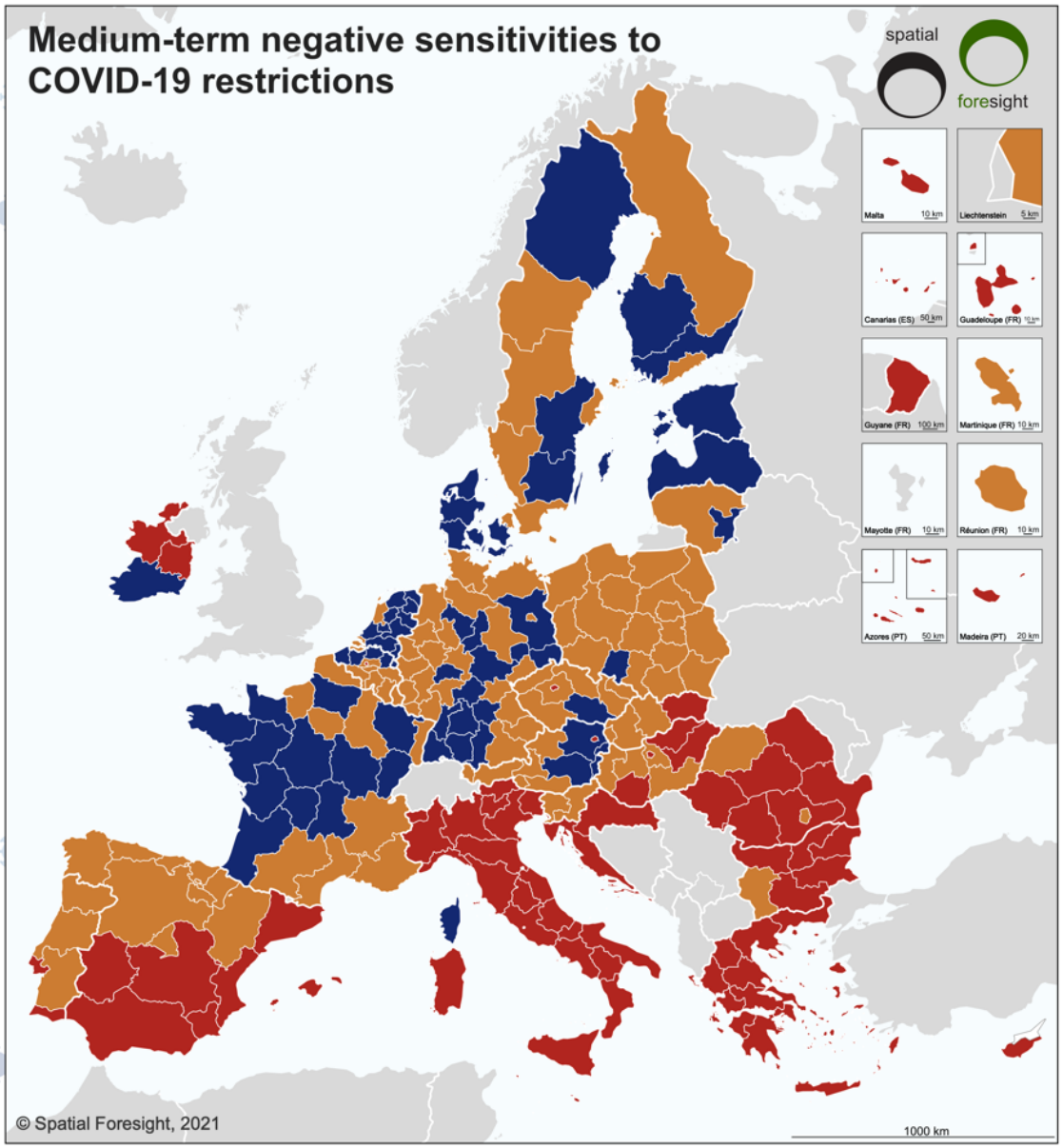
The regions which are expected to struggle for longer are East Macedonia & Thrace, the Ionian islands and South Aegean in Greece, the Canaries in Spain, the Aosta Valley, Liguria and Sardinia in Italy and Madeira in Portugal. These are followed by the remaining Greek and Italian regions, Croatia, Cyprus, Malta as well as most Bulgarian, Romanian and Irish regions (see Map 0.2).

As with the short-term impacts we expect negative and positive impacts in the medium-term. The regions which may see medium-term benefits from the pandemic include Prague in the Czech Republic, Noord-Holland in the Netherlands, Greater Helsinki and Southern Finland, Stockholm in Sweden, and the Balearic Islands in Spain.

The medium-term effects will largely depend on the imprint the pandemic leaves on behaviour. Socio-economic trends are mainly influenced by behavioural changes and restrictions. The pandemic has not so much created new trends but slowed some (e.g. cruise tourism, business travel) and accelerated others (e.g. digitalisation, home working, home schooling, streaming, online shopping). This implies that the territorial impacts of these trends have paused or accelerated. Taking digitalisation as an example, digital infrastructure and literacy affect whether people and businesses in an area get a head start or face transition challenges.

The macro-geographical trends of the past 40 years will most likely continue. The pandemic will not end nor soften polarisation and fragmentation between societal groups and places but rather accelerate these trends. Severe inequalities, geographies of discontent and places left behind will be with us for the foreseeable future. This could mean the divides between cities and regions that prosper and those that struggle will remain, and possibly even widen.

Map 0.2 Medium-term negative sensitivities to COVID-19 restrictions



Administrative boundaries: Eurostat GISCO, NUTS 2 (2016)

Sensitivy assessment

- Higher negative sensitivity
- Medium negative sensitivity
- Lower negative sensitivity

Source: own elaboration based on following data

Share of employment in arts, entertainment and recreation (Eurostat), Share of employment in accommodation and food service activities (Eurostat), Potential negative impacts of COVID-19 lockdown on tourism regions (Spatial Foresight), Share of people (25 to 64 years) with post-secondary non-tertiary education or lower (0-4 in the ISCED scale) (Eurostat), Share of young people (15-24 years) neither in employment nor in education and training (NEET) (Eurostat), Share of people at risk of poverty or social exclusion (Eurostat), European Quality of Government Index (University of Gothenburg).

Resilience

Closely linked to the analysis and discussion of local and regional sensitivity to the pandemic, is resilience to external shock.

Resilience is the ability to 'bounce-back' or return to a pre-shock position. For regional development, resilience is determined by the adaptive capacity of an economy, which affects its ability to maintain long-term growth. This is 'resilience in a narrow perspective'.

Resilience can also be seen as a key to progress since it promotes change. Change is necessary so systems and societies can cope with major challenges such as climate change, loss of biodiversity and increasing social injustice. Key features describing 'resilience in a wider perspective' go beyond those addressed above and include territorial governance capacity, including knowledge management, self-organisation and the capacity to learn and adapt. The wider resilience perspective requires flexibility and reaction capacity, adapting to changing circumstances without major instability. In this sense, resilience is closely linked to active subsidiarity in European policy making.

In this context, factors such as health system capacity (especially medical supplies and personnel) and supply chain resilience were highlighted by interviewees in the Azores and Vorarlberg. Improved planning and governance, rapid response, as well as better monitoring and evaluation of policies were also noted in Paris, Andalusia, Gothenburg and East Flanders. The need for clear and transparent communication with other regions and especially central government was also emphasised across the case study regions.

Conclusions

The geography of the COVID-19 outbreak, as well as the regional diversity of exposures and sensitivities to policy responses show that territory matters. The diversity of European cities and regions translates into different impacts from COVID-19 and varied approaches to managing recovery.

Pandemic impacts could widen territorial differences in the short-term. These increase when going beyond measurable indicators and looking at different types of territories.

The pandemic has demonstrated that European regions and cities are interwoven in tight networks of mutual interdependence. What happens in one place affects developments in other places. This became visible in the territorial spread of the outbreak as well as the impacts of lockdowns and recovery processes.

The pandemic has also illustrated the mismatch of local, regional and national administrative borders to the functional geographies of people´s everyday lives. This could be seen when the outbreak followed functional interactions and

geographies rather than administrative delineations. The mismatch was also evident in the disruptive effects of closed regional and national borders on integrated labour markets and the provision of services of general interest, especially healthcare.

Analysis of potential short and medium-term impacts of the COVID-19 pandemic on cities and regions in Europe suggests there is room to improve resilience to crises and support for socio-economic recovery.

While the pandemic has showcased the importance of nuanced territorial policy making, policies underpinning recovery often weaken place-based decision making and involve local and regional players less.

Therefore, recommendations are:

- **Recovery funding** needs a strategic vision reflecting Europe's territorial diversity, and taking into account local and regional knowledge. Support in regions with high levels of employment in the most affected economic sectors and with many people particularly exposed to negative effects of the pandemic is essential.

- **Governance capacities** need to be strengthened both for the recovery and for increasing resilience, by strengthening multi-level governance in European policy processes.

- **Increase resilience of EU policy making** by strengthening short-term emergency instruments, as well as reviewing and overhauling the architecture of EU policy making to strengthen active subsidiarity and place-based approaches.

These policy pointers can be advanced with specific actions by the European Committee of the Regions (CoR).

- **Continue to advocate the involvement of local and regional authorities.** In particular this concerns the European semester, Recovery and Resilience Plans as well as a broader debate on the need to move towards active subsidiarity in EU policy making.

- **Launch a public debate on more resilient EU policy making.** To increase resilience to external shocks, EU policy making needs to be overhauled. This is a long-term mission needing a wider public debate to ensure that improvements can be introduced in the Multiannual Financial Framework post 2028.

- **Set up a platform for administrative capacity building.** Quality government and administration capacity are key to effective recovery policies and increased resilience. Efforts at local and regional level could

be supported through a central hub for EU-funded capacity building schemes.

- **Launch studies or exchanges among CoR members** to further empower them to participate in multi-level EU policy making. In particular, small municipalities and regions might benefit from additional support. Such studies and exchanges of experience could include unpicking the complexity of EU policy making.

- **Stimulate and encourage CoR members to experiment**, learn from each other and collaborate. Empowering local and regional authorities also depends on them becoming active and exploring possibilities. Some larger and stronger local and regional authorities already do so, others might benefit from extra encouragement or stimulation.

The CoR can do a lot of the above. It certainly helps if the European Commission, European Parliament, the European Investment Bank, as well as national, regional and local authorities support this. Resilient EU policy making can only be achieved if all these players strive to boost active subsidiarity, empower players, a review of the EU policy system and out of the box thinking (daring to experiment and fail).

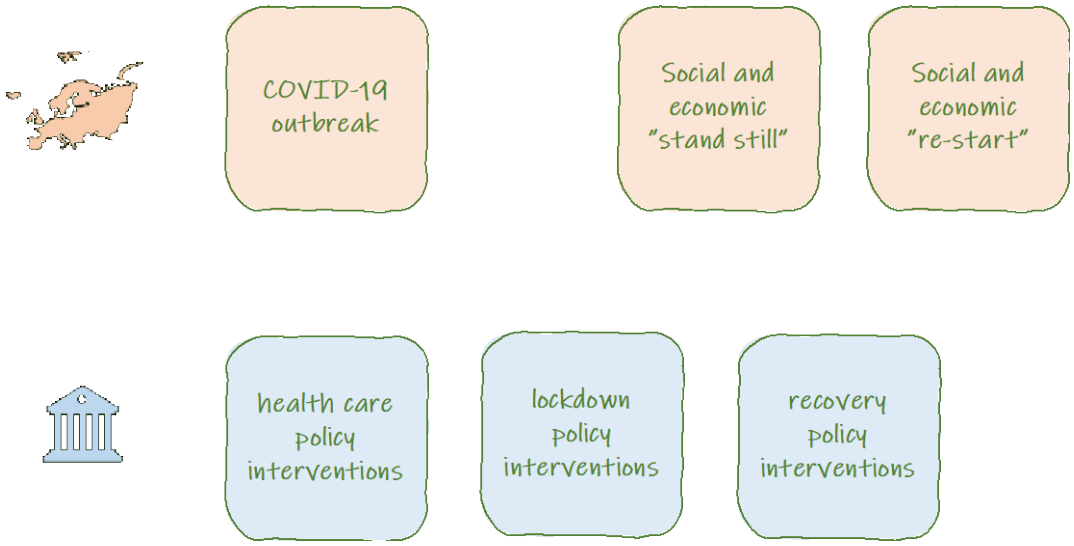
Introduction

Offering input to the 'EU Annual Regional and Local Barometer 2021', this report deepens the analysis of COVID-19 pandemic effects on development and future perspectives for regions and cities in Europe. It focuses on impacts and policy measures linked to lockdowns and travel restrictions, as well as recovery measures and resilience to external shocks.

The report is a development of the CoR study on 'potential impacts of COVID-19 on regions and cities of the EU' conducted for 'EU Annual Regional and Local Barometer 2020' (European Committee of the Regions, 2020). The report is based on updated information concerning the length and severity of government responses to COVID-19 (1 March 2020 to 15 May 2021), and the latest insights on the most affected economic activities and societal groups. Furthermore, the report differentiates between short and medium-term effects of the pandemic, leading to a discussion about resilience. The EU-wide analysis is illustrated by nine local and regional case studies, casting light on particular impacts and response capacities.

Overall, the analysis shows that territorial impacts of the pandemic are highly asymmetric across Europe and within countries in three ways (see Figure 0.1). The pandemic will affect local and regional development beyond the more obvious immediate effects. Furthermore, the report argues that socio-economic recovery from the pandemic should be guided by a broad resilience perspective. Strengthening resilience can be key to progress as it promotes change and reorganisation rather than attempts to 'bounce back'.

Figure 0.1 COVID-19 geographies and policy responses



Source: Böhme et al. (2020)

This report discusses potential impacts of the pandemic on regions and cities in Europe. Chapter 1 provides a general understanding. Potential negative and positive short-term impacts are detailed in chapter 2, which also covers state aid and possible impacts of suspending state aid regulations in the wake of the pandemic. Medium- to long-term sensitivities towards the effects of the pandemic and possible development trends are discussed in chapter 3. Looking beyond the immediate effects also raises discussions of resilience as well as considerations for the future. Arguments for a wider resilience perspective are presented in chapter 4. The analysis of exposures and sensitivities is EU-wide with qualitative reviews and sensitivity assessments at NUTS 2 level, while regional cases studies provide detail. Chapter 5 presents insights on COVID impacts and policy measures, illustrating the previous chapters in more detail. Finally chapter 6 provides conclusions and recommendations.

1 Understanding potential impacts of COVID-19 on regions and cities

Many debates discuss impacts of the COVID-19 pandemic in terms of effects on GDP. However, a review of multiple studies suggests that further detailing the complexity of impacts is worthwhile.

In this chapter, we provide a quick review of studies addressing expected impacts on GDP (section 1.1). We also present a more nuanced understanding of how the pandemic affects local and regional development (section 1.2).

1.1 Expected impacts on GDP

To understand potential impacts of the pandemic on regions and cities in Europe, many studies look at GDP (e.g. Claeys, Darvas, Demertzis, & Wolff, 2021; Conte, Lecca, Sakkas, & Salotti, 2020; Darvas, 2021; European Commission, 2021; Sapir, 2020).

Various scenarios of how the pandemic affects GDP are regularly updated while the course and speed of the recovery is not yet clear. In February 2021, the European Commission published an economic forecast (European Commission, 2021), which envisages a slow economic recovery and increasing divergence between member states. 2020 the drop in GDP was more substantial than during the financial crisis in 2008/9. Real GDP in the EU closed 2020 6.1% lower than in 2019, compared to a drop by 4.3% in 2009. In the EU GDP should reach pre-crisis levels by mid-2022, as it is expected to increase by 4.2% in 2021 and 4.2% in 2020, according to the EU winter forecast (European Commission, 2021). This implies that some member states may be close to their pre-crisis output levels by the end of 2021. Others are expected to need several years, particularly Spain and Italy (European Commission, 2021, p. 18).

Recovery paths and scenarios are even more varied at regional level. JRC has run multiple recovery scenarios with the RHOMOLO[1] model (Conte et al., 2020). The results suggest that regions with more tourism experience greater job disruption. In addition, regional trade integration and sector specialisation shape socio-economic impacts at regional level. The variation of impacts by sector specialisation is also supported by analysis of crisis impacts and possible recovery for various industrial sectors (deVet, Nigohosyan, Ferrer, Gross, Kuehl, & Flickenschild, 2021).

[1] RHOMOLO (Regional Holistic Model) is a spatial computable general equilibrium model at regional NUTS2 level. It has been developed to model impacts of EU investment policies on regional development. More information is available at https://rhomolo.jrc.ec.europa.eu/

The impacts are also mitigated by policy measures cushioning socio-economic consequences of the pandemic or supporting recovery. In the JRC scenarios, Spanish regions seem to receive the most effective boost from policy measures, while regions in Greece, Bulgaria, Romania or Poland for example do not seem to gain a lot from it. (Conte et al., 2020)

GDP might be a difficult indicator to analyse and forecast in light of the pandemic, given the wide range of mitigation measures including furlough and recovery schemes. Indeed, labour market slack suggests that the impact has been worse than suggested by traditional indicators. The decline in hours worked has been more substantial with major differences between sectors and places. (deVet et al., 2021; European Commission, 2021; International Labour Organisation, 2021)

Rather than forecasting effects the pandemic might have on GDP, Bruegel reviewed possible reasons for differences in impacts (Sapir, 2020). The analysis suggests that the stringency of lockdowns, the importance of tourism for local economies and quality of governance explain nearly 60% of GDP differences between countries. The study concludes that quality of governance explains 30-50% of the economic impact differences between southern and northern countries. (Sapir, 2020)

1.2 Towards a more nuanced understanding of how the pandemic affects local and regional development

Initial findings on GDP underline the importance of structural issues to understanding possible short to medium-term impacts. We therefore differentiate the debate between sensitivity and exposure. Exposure addresses the level of COVID-19 related restrictions, sensitivity addresses the regional characteristics that affect how much these restrictions matter for local and regional development.

Understanding exposure and sensitivity

Inspired by the Territorial Impact Assessment (Böhme & Besana, 2020; ESPON, 2013; Essig & Kaucic, 2017; Gaugitsch, Dallhammer, Hsiung, Holstein, Besana, Zillmer, Kruljac, & Ulied, 2020) this analysis provides a snapshot of the exposure and sensitivity of European regions to COVID-19 policy responses. Exposure and sensitivity are understood as follows (Böhme, Besana, et al., 2020; Böhme, Lüer, & Holstein, 2020):

- **Exposure:** how much a region will be affected by a policy (positively or negatively)?
- **Sensitivity:** how much regional development will be affected due to specific regional characteristics and endowments?

The multifaceted exposures and sensitivities are further explained in Figure 1.1. Elements in the blue circle are measures taken in response to the COVID-19 pandemic, but these vary between places. Exposure describes how much a place is affected by a specific measure. Each measure leads to multiple effects on local and regional development. These effects depend on socio-economic characteristics which determine their sensitivities to the measures. All this comes together in Figure 1.1 illustrating a rationale of how the pandemic affects local and regional development.

In short, we differentiate between at least five types of territorial impacts of the COVID-19 pandemic:

- **Infection and death:** Clearly the waves of infections, hospitalisations and deaths have a territorial dimension, with some areas considerably more concerned than others. This territorial dimension of effects on people's health also varies with different phases and waves.
  Although it is dramatic for those people affected by the virus, the impact on territorial development is determined by the restrictions and behavioural changes to limit the virus spreading. The geographic impacts of the social and economic standstill resulting from lockdowns are diverse and differ from the territorial patterns of infections or deaths. It is not necessarily areas with the highest numbers of COVID-19 infections or death which also are most affected by the socio-economic impacts of lockdown measures.

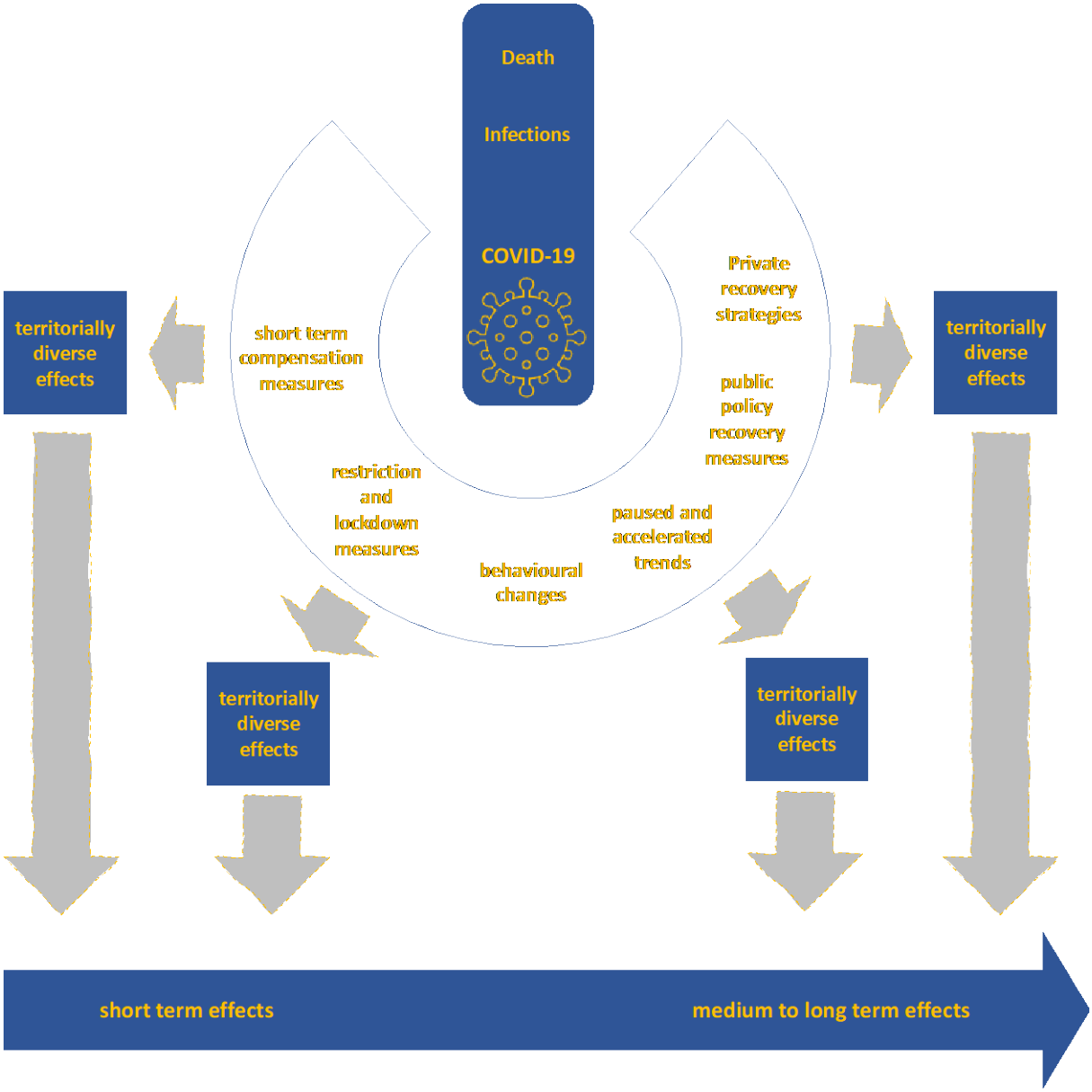
- **Impacts of restrictions and behavioural changes:** A wide range of restrictions were ordered by national, regional and/or local levels of government. These restrictions include periodical closures or limitations for schools, restaurants, theatres, shops, factories and offices, movement including curfews, distance from home or the number of visitors, as well as restrictions on international travel and border closures of borders. These are accompanied by self-imposed restrictions and behavioural changes in individuals and businesses. Examples include less travel or social activities even when allowed or preferring online shopping and deliveries. Policies and behavioural changes to limit the virus spreading have considerable territorial impacts. These impacts are not linked to the geography of infections, restrictions or lockdowns. The territorial impacts depend on multiple factors, not at least a place's economic and social structure. While most of the debate focuses on places facing challenges, some areas have seen opportunities, such as booms in digital industries or domestic tourism. These are crucial to understanding the short- to medium-term impacts on cohesion. This is core to the analysis of short-term impacts (see section 2.1) and sensitivities due to regional socio-economic profiles (see sections 2.2 and 2.3).

- **Impacts of short-term compensation measures:** Mitigating the short-term impacts of restrictions and behavioural changes as well increasing health care infrastructure and services impacts on local and regional development across Europe. The type and volume of measures to compensate businesses and individuals for their losses, or investments in health care vary considerably across the EU and even within countries. To a large degree this depends on perceived needs but also on the political and financial capacities of member states, regions and cities. Recent research even suggests that the quality of government plays a role in the effectiveness of these measures (Sapir, 2020). Taken together this implies that in addition to the territorially diverse impacts of restrictions, behavioural changes and changed trends, the territorial impacts of short-term compensation measures also matter to understand how the pandemic affects cohesion in the EU. This has been included in the discussion on sensitivities, in terms of access to funding to mitigate the short-term effects (see section 2.2) and to support recovery processes (see section 3.1).

- **Impacts of recovery strategies and measures:** Looking further ahead, not only are places affected differently by the pandemic, both public and private recovery strategies are also very diverse. Some public as well as private players seem to follow a business-as-usual approach and do more of the same hoping to go back to a pre-pandemic world. Others see a chance to accelerate towards a 'new normal', focusing on strategic investments and structural changes to give them a better position in future. The variety of approaches as well as future successes will affect Europe's cohesion landscape in the long run. Just consider the resources currently mobilised for recovery in the same way as the Marshall Plan funding after World War II to imagine the possible impacts they may have. This could not be included in the analysis but can be considered in discussions of the conclusions.

- **Impacts of changed development trends:** Linked to the above and partly fed by behavioural changes and restrictive measures, are the effects on broad socio-economic trends. COVID-19 has been a wild card bringing about substantial changes and affecting developments. The pandemic has not so much created new socio-economic or development trends, but paused or slowed down some such as cruise tourism and business travel, or accelerated others such as digitalisation, home working, home schooling, streaming and online shopping. This implies that the territorial impacts of these trends could pause or accelerate, which affects cohesion in Europe. For instance, digital infrastructure and digital proficiency are an advantage given increased digitalisation or transition challenges. To some degree this is addressed in the discussion of future trends (see section 3.2).

Figure 1.1 Multifaceted territorial impacts of the COVID-19 pandemic



Source: Spatial Foresight, 2021

These different territorial impacts will shape the pandemic's effects on cohesion in Europe. Analysing this, time also needs to be considered:

- **Short-term.** In rough terms the impacts of restrictions, behavioural changes, compensation and changed trends will shape short-term impacts on cohesion. There is an overwhelming risk that these impacts will lead to increasing imbalances and inequalities in the EU. Chapter 2 focuses on short-term trends.

- **Medium-term.** The impacts of restrictions and behavioural changes will last for several more years in some areas. Tourism may take 4-9 years to recover depending on the segment, with the business and MICE[2] tourism expected to have slowest recovery (EUROCONTROL, 2020). Furthermore, the impacts of trend changes will play out more strongly in the future. At the same time the impacts of compensation will reduce, which may sometimes accelerate the negative impacts of restrictions and behavioural changes. Furlough schemes and other forms of compensation have kept businesses alive which will still be forced into insolvency, as they have overly high debts or cannot adjust to the post-pandemic market. Chapter 3 focuses on medium-term trends.
- **Long-term.** After adjustments to the post-pandemic new normal, changed socio-economic and development trends as well as the long-term recovery strategies will show results. Their territorial dimension will shape the post-pandemic cohesion landscape in the EU. Discussions concerning long-term trends and developments are raised in the sections on resilience (see section 4) and the broader future outlook (see section 4.3).

[2] MICE describes activities related to busines meetings, incentives, conventions and exhibitions/events.

2 Potential short-term impacts

Restrictions, behavioural changes and compensation measures as well as changed trends will shape the pandemic's short-term impacts on cohesion. There is an overwhelming risk that these impacts will lead to increasing imbalances and inequalities in the EU. This chapter casts some light on short-term impacts of the pandemic we can see now and probably in the next 1 to 2 years.

The following section provides an overview of potential positive and negative short-term impacts. Subsequent sections provide more detailed background information. As short-term impacts are heavily dependent on restrictions, section 2.1 provides more detail on the territorial variations of lockdowns and other restrictions. Adding information on regional socio-economic structures highlights the impacts in terms of exposure and sensitivity. Section 2.2 provides more detail on the most negatively affected regions and Section 2.3 shows regions which could benefit from the pandemic. Taking on board results from the case study work (chapter 5) and some qualitative information, section 2.4 provides a cross-cutting reflection on the short-term impacts of the pandemic. Finally, section 2.5 looks at state aid.

2.1 Exposure to restrictive measures

Places have been subject to different restrictions for different periods of time in the wake of the pandemic which affects the impacts on local and regional development. As pointed out by Sapir (2020), the strictness of lockdowns is one of three factors accounting for most of the differences in the shocks felt by EU countries. Furthermore, as pointed out by Böhme et al. (2020) the regional diversity of lockdown measures is essential to understand a region's structural sensitives (see next section).

A European-wide comparative analysis of exposure can only capture some basic elements of regional exposure to restrictive measures which unfortunately do not allow to capture the regional diversity of exposure within individual member states. Map 2.1 is based on a combination of comparable data sets addressing different types of exposure to COVID-19 restrictions:

- **Overall stringency.** The Coronavirus Government Response Tracker (Blavatnik School of Government, 2020) shows how the response of governments has varied daily, becoming stronger or weaker over the course of the outbreak. The 'stringency index' captures how much lockdowns restrict people's behaviour as well as economic production and consumption. The index covers: a) closing schools and universities; b) closing workplaces; c) cancelling public events; d) restrictions on private gatherings; e) closing public transport services; f) stay at home

requirements; g) restrictions on internal movement; h) restrictions on international travel; i) public information campaigns. These all are brought together in a single composite index. This is the most detailed and constantly updated information source on the rigidity of lockdowns across Europe. The length of these measures is an average over a fixed period. The composite index provides a systematic cross-national, cross-temporal measure to understand how government responses evolved from 1 March 2020 to 15 May 2021.

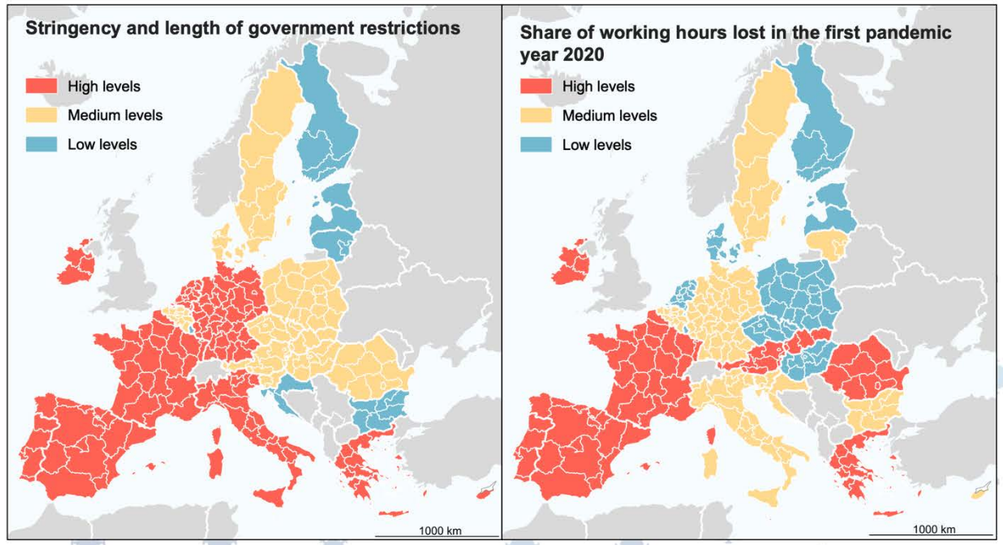
- **Working hours lost.** Lockdowns and related business disruptions, travel restrictions, school closures and other containment measures have had sudden and drastic impacts on workers and enterprises (International Labour Organisation, 2021). The working hours lost vary greatly between countries. Estimates of the working hours lost in each country provide a first indication on the rigidity of lockdowns and how much they have varied between countries.

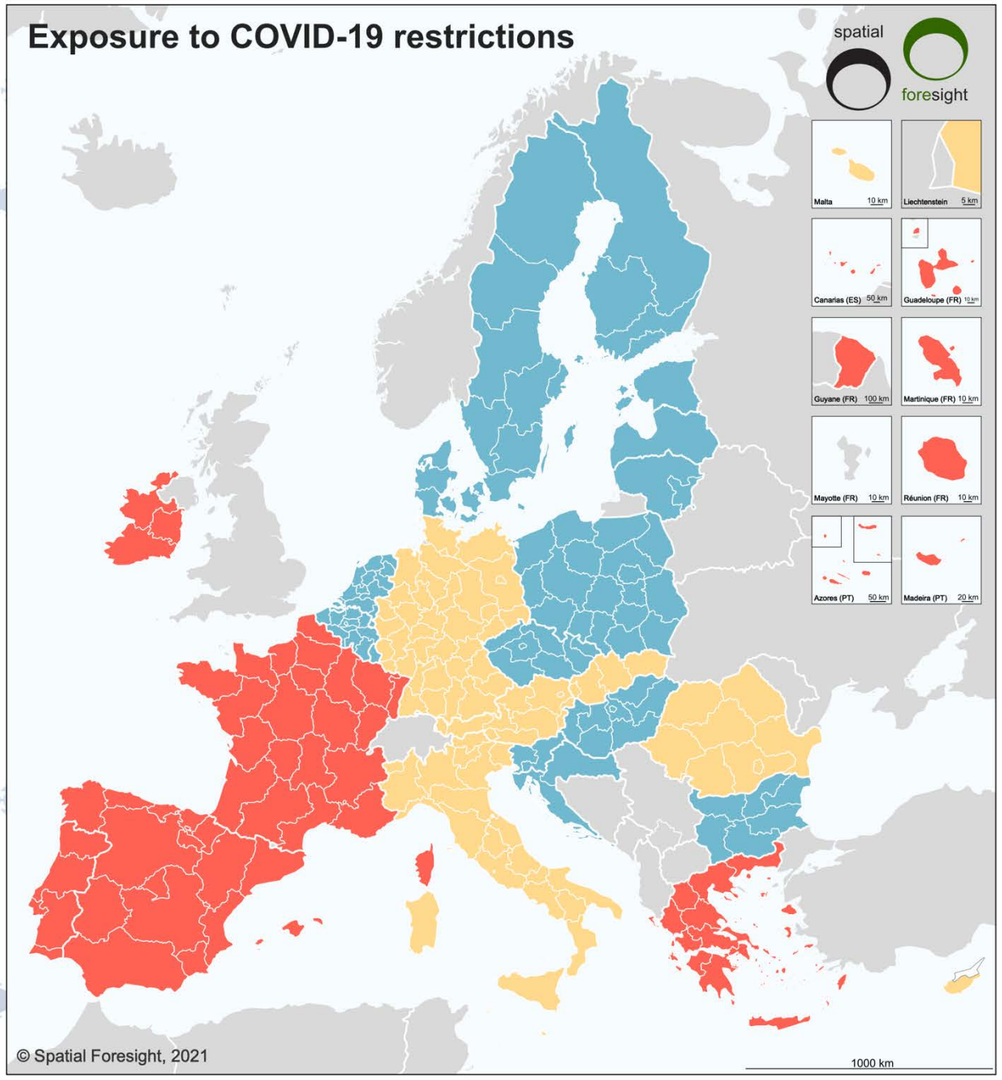
All this exposure information has been brought together in an index for regions. The index value is based two indicators, explained in Table 2.1. The most stringent and long-lasting restrictions are recorded for Portugal, Spain, France, Greece and Ireland (see map).

Table 2.1 Exposure index

Composition of the exposure index: short-term					
Topic	**Exact indicator**	**Source**	**Year of publication**	**Scoring**	**Weight**
Stringency and length of government restrictions, 2020-2021	Average value of the stringency index of restrictive measures in the period 1 March 2020 – 15 May 2021.	Blavatnik school of Government at Oxford University	2020/2021	Each indicator has been divided into three categories based on the European average; Low, Medium, and High. **Medium** covers the interval between the EU average and +/- half the standard deviation: $\bar{X} - \frac{\text{ST.DEV}}{2}; \bar{X} + \frac{\text{ST.DEV}}{2}$. **Low** is below the lower threshold: $< \bar{X} - \frac{\text{ST.DEV}}{2}$ **High** is above the upper threshold: $> \bar{X} + \frac{\text{ST.DEV}}{2}$	3 (high) 2 (medium) 1 (low)
Share of lost working hours in the first pandemic year, 2020	Percentage of lost working hours in the first pandemic year 2020, cumulated for all economic sectors.	International Labour Organisation (ILO)	2021		3 (high) 2 (medium) 1 (low)

Map 2.1 Exposure to COVID-19 restrictions





Administrative boundaries: Eurostat GISCO, NUTS 2 (2016)

Sensitivity assessment

- High levels of restrictions
- Medium levels of restrictions
- Low levels of restrictions

Source: own elaboration based on following data

Stringency and length of government restriction (Blavatnik school of Government at Oxford University), Share of working hours lost in 2020 (ILO).

2.2 Potential negative sensitivities

Restrictions and lockdowns in the wake of the COVID-19 pandemic have had negative effects on local and regional development throughout Europe. However, there are considerable regional variations for these impacts based on two factors. Firstly, the severity of restrictions varied, which has been captured in the exposure assessment (see section 2.1). Secondly, some economic sectors and social groups have been more heavily affected by the restrictions than others. So, structural characteristics affect how hard a region has been hit by the pandemic.

The analysis of short-term potential negative impacts brings together the exposure to restrictive measures (see section 2.1) and negative regional sensitivities. Map 2.2 is based on the combination of structural regional characteristics which suggest that local and regional development is more sensitive to the effects of pandemic:

- **Employment in risk sectors.** Employment is also a good proxy to assess the economic impact of the crisis. Employment enables assessment of the relevance of each economic sector in the regional economy, capturing the strong territorial dimension underlying this crisis (International Labour Organization, 2020b; OECD, 2020c; WIFO, 2020). The analysis builds on employment and the sensitivity of each sector to COVID-19 policy responses. The indicator on employment in high and medium risk sectors is based on Eurostat data and the risk assessment by sector (see textbox).

Risk sectors

The following sectors face medium or high risks for economic decline during lockdowns. Regions with high shares of people working in these sectors will be more impacted than regions with few people.

Accommodation and food services (high risk). Tourism faces the biggest and most enduring negative impact ILO (2021). According to Eurofound (2021) 51% of employees in the accommodation sector, 47% of employees in food and beverage services, and 40% of employees in travel agencies and tour operators did not work in Q2 2020 in the EU.

Arts, entertainment and recreation (high risk). Sectors that require physical proximity, such as the cultural and creative industries, have been hard hit by the crisis (deVet et al., 2021). According to Eurofound (2021) 34% of employees in creative, arts and entertainment activities did not work in Q2 2020 in the EU.

Agriculture, forestry and fishing (medium risk). ILO (2021) considers the loss of working hours and employment in agriculture, fishing and forestry in Q3 2020 compared to Q3 2019 as medium.

Manufacturing (medium risk). Following ILO (2021) manufacturing is a medium risk sector for people not working due to the pandemic. Eurostat data for industrial production shows that the sector was heavily hit in spring 2020 with a decline of 19% in April 2020 compared to April 2019, but started to recover towards the end of 2020. However, there are considerable differences between sub-sectors, as shown by Vet et al. (2021). Contrary to Eurostat and de Vet et al. (2021), scenarios for recovery in the Swedish economy (Tillväxtverket, 2021) are that manufacturing, with the highest monetary losses and third in terms of production losses, may need to wait until 2027.

Construction (medium risk). ILO (2021) considers the loss of working hours and employment in Q3 2020 compared to Q3 2019 as medium. Eurostat figures on production point to a heavy decline in spring 2020 but coming close to the levels of 2019 already by early 2021. A complete recovery to pre-crisis 2019 levels will take until 2023 (deVet et al., 2021).

Wholesale and retail (medium risk). ILO (2021) considers the loss of working hours and employment in Q3 2020 compared to Q3 2019 as medium. Eurostat shows that the retail trade declined by 11% in April 2020 compared to April 2019. Since then, patchy ups and downs are probably caused by various lockdowns and small boosts. Generally, there is a shift to omnichannel retail, led by digital shopping. This means that retail development differs heavily between segments.

Transportation and storage (medium risk). ILO (2021) considers the loss of working hours and employment in Q3 2020 compared to Q3 2019 as medium. According to Eurofound (2021) 45% of employees in air transport did not work in Q2 2020 in the EU27. In Sweden, the transport sector is the second most affected sector after tourism and the decline in working hours is expected to be around 17% for 2020 and 10% for 2021 (Tillväxtverket, 2021).

Administrative and support services (medium risk). The demand for administrative and support services to businesses and offices dived during the lockdowns. This particularly concerned rentals and leasing, employment and placement agencies, travel agencies, tour operator reservation services, private security and investigation, cleaning and organisation of conventions and trade shows. Teleworking meant that many offices were empty. Accordingly, office support was in low demand.

Tourism. Most studies point out that tourism is (one of / if not) the most affected sector (Conte et al., 2020; Eurofound, 2021; Sapir, 2020; Tillväxtverket, 2021). This is also clearly shown in Eurostat's Recovery

Dashboard. In January 2021, nights spent in tourist accommodations were 83% below the levels of January 2020, and commercial flights in February 2021 were 73% below February 2020 (Eurostat, 2021). The information is based on the DG REGIO study of regional impacts of the COVID-19 crisis on the tourism sector (Böhme, Haarich, Toptdisou, Besana, Corbineau, & Hans, 2021).

- **Low education.** The various policy restrictions and changes in behaviour affect low income and low education groups in society more than others. Those who could work from home, compared to having to go to work or being in a furlough scheme, were the lucky ones during the pandemic. The analysis of the share of workers working from home between April and July 2020 in the EU27 reveals clear patterns in terms of education. While only 10% of people with primary education and 30% of people with secondary education were working from home, about 70% of people with tertiary education did so (Eurofound, 2021). Furthermore, the difference between highly-educated and low-educated people in terms of job losses is correlated with the economic shock from the COVID-19 pandemic (Darvas, 2021). The COVID-19 pandemic has further accelerated social disparities in the EU, its member states and regions. Most likely the increased disparities are here to stay and will not disappear once restrictive measures are put aside.

People with low income are more affected

Various sources point to increasing social disparities in the wake of the COVID-19 pandemic.

Within-country income inequality is likely to worsen because of COVID-19, partly because the pandemic disproportionately impacts the incomes of vulnerable groups including women, migrant workers and those employed in lower-skilled occupations or informal sectors (World Bank, 2021). The low paid are hit much harder than the highly paid (even more than in the 2008 financial crisis). These differences can be explained at least in part by the sectors impacted during the crisis. The pandemic has mainly affected service sectors with a high level of social contact, including those dominated by women, where average pay is low (Eurofound, 2021).

Eurofound (2021) studied employment shifts by job–wage quintiles in the EU from Q2 2019 to Q2 2020 and found that employment changes have declined along the job-wage distribution, with the largest increase in employment in the best paid jobs, and the sharpest losses in the lowest paid jobs, suggesting more earnings inequality.

Using data from labour force surveys up to Q3 2020, ILO (2021) highlights the contrast between massive job losses in hard-hit sectors (including accommodation and food services, arts and culture, retail, and construction) and positive job growth in higher-skilled service sectors (including ICT, finance and insurance). Since average incomes are lower in hard-hit sectors, this divergence increases inequality within countries.

Based on EU-Labour Force Survey quarterly data from Eurostat, employment in the EU 27 declined by 4.9 million from Q2 2019 to Q2 2020, a larger fall than the 4.3 million decline between Q2 2008 and Q2 2010 (Eurostat, 2020). Employment losses during the current crisis were larger and occurred more quickly than during the global crisis, despite the huge fiscal support to protect employment.

- **Young people without occupation.** The social dimension of the pandemic extends beyond disparities between high and low income and education, or gender (Azcona, Bhatt, Encarnacion, Plazaola-Castaño, Seck, Staab, & Turquet, 2020). 'Young people are facing multiple shocks from the COVID-19 crisis, which could lead to the emergence of a lockdown generation' (ILO, 2020a). Young people have been disproportionally affected in the labour market (Claeys et al., 2021). This has two very different dimensions. Firstly, young people have a difficult start and secondly they miss out on full education due to home schooling. Compared to the 2008 financial crisis, the share of young people – between 15 and 29 years – who are not in employment, education or training (NEETs), did not jump as much in the pandemic. However, this may change once multiple furlough schemes end.

- **At risk of poverty.** The economic disruption caused by COVID-19 inevitably threatens the most vulnerable groups of society more (see also textbox on low income). People at risk of poverty and social exclusion may face difficulties from job losses that could exacerbate an already problematic situation. Families at risk of poverty before the crisis may face serious difficulties in making ends meet, and more persistent effects in the longer term when opportunities may be scarcer than before. These groups need special attention from policy responses. The Bank of Italy has clearly stated in its annual report that the impact of the crisis will be much harder for poorer families, increasing disparities to an unprecedented level (Banca d'Italia Eurosistema, 2020). One indicator, 'share of people at risk of poverty and social exclusion' has been chosen.

- **Micro-enterprises.** COVID-19 has particularly impacted sectors with many SMEs (ESRB, 2021). The same applies for micro-enterprises which are often even more vulnerable to shocks. Current debates around Europe

suggest that micro-enterprises are particularly challenged by economic developments and many may close. The importance of micro enterprises in a regional economy provides additional insights on the territorial diversity of impacts. The more an economy relies on micro-enterprises, the greater the disruption. If many cease business, both employees and owners will have a very hard time finding alternative jobs, as the economic structure has less capacity to reallocate labour. The indicator for persons employed in micro-enterprises reflects this regional characteristic. (ESPON, 2018b).

- **Self-employed.** Self-employed workers are among the most vulnerable in the current crisis as shown in a study by Bruegel (Anderson, 2020). Self-employed people work disproportionately in sectors hardest hit by the lockdowns: 44% versus 37% for employees. The median self-employed worker earns 18% less than the median employee. Moreover, state assistance is consistently lower for the self-employed than for employees (Anderson, 2020). In light of this, a ratio indicating the share of self-employed compared to total employees captures regional variations across the EU.

- **Low quality of governance.** In general governance quality matters for the effectiveness of public policies and return on public investment (Rodríguez-Pose, 2020b). The pandemic has shown that it also affects the impact of COVID-19 on regional development. The quality of governance explains 30 to 50% of the difference in the economic shock (Sapir, 2020). The marginal utility of investment in infrastructure, human capital and technology for regional economic development is lower in areas with poor government (Rodríguez-Pose, 2020b; Rodríguez-Pose & Ketterer, 2020). Furthermore, high quality regional governments have a trust and skills advantage for handling the recovery. The capacity and processes on which they rely helps implement policies quicker and more effectively. Regions with lower quality government face a bigger threat of being trapped by the uncertainty of the current situation. The quality of government index captures this important factor for territorial imbalances.

- **Limited financial measures.** The impact of the crisis on local and regional development depends also on a region's economic endowment and ability to face economic disruption. Poorer regions and those receiving less recovery funding will have less capacity to absorb the shock. They are less equipped to contain negative impacts on their economies or to help local enterprises keep jobs and reactivate production.

These sensitivities have been translated into indicators for which EU-wide data is available and brought together in a combined negative sensitivity index. This sensitivity index displayed in Map 2.2 shows the regions' accumulated negative

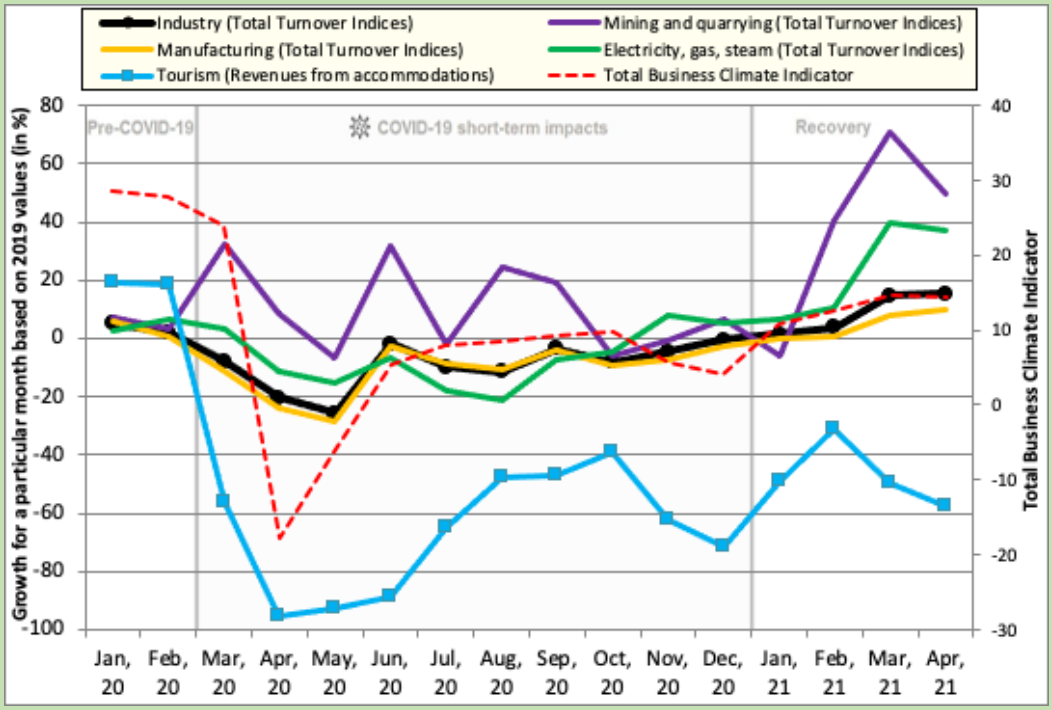
sensitivity. The index value is based on the sum of the regions' scores for the nine individual indicators. Table 2.2 provides the details.

Local and regional development is most affected by the pandemic in areas which faced the most severe restriction measures and have socioeconomic structures which are particular sensitive to these restrictions. Among the regions potentially hardest hit are the Greek regions, the Spanish regions Extremadura, Catalonia and Andalucía, and the Balearic islands, and the Portuguese regions Algarve and Norte.

Among the regions whose local and regional development is potentially least negatively affected are those with comparably low levels of restrictions and low socio-economic sensitivities to these restrictions. Among these are all Belgian regions expect for Brussels, all Danish regions expect Copenhagen, the Dutch regions of Groningen, Friesland and Drenthe, the Polish regions Dolnoslaskie, Opolskie and Podkarpackie, the Finnish regions Western Finland and Greater Helsinki and the Swedish regions East-Middle Sweden and Upper-Norrland.

Spotlight on Bulgaria

The high degree of openness in the Bulgarian economy results in a strong and persistent influence of exogenous factors and rapid transfer of external crises. The Bulgarian economy was severely devastated in the first few months of the COVID-19 outbreak in the country (March – May 2020). There were already some positive trends at the end of 2020 which strengthened in 2021 when some key indicators recovered their pre-pandemic levels.



Source: Hristo Dokov, Sofia University 'St. Kliment Ohridski', 2021

The size of the challenge is shown by the changes in the Total Business Climate Indicator, which collapsed to -17.7 in April 2020 (its lowest level since it was first measured in February 1997). The biggest adverse impact and slowest recovery is in the service sector, with problems for tourism, transportation and education being crucial. In mid-2021 the business climate in Bulgaria is significantly worse than at the beginning of 2020.

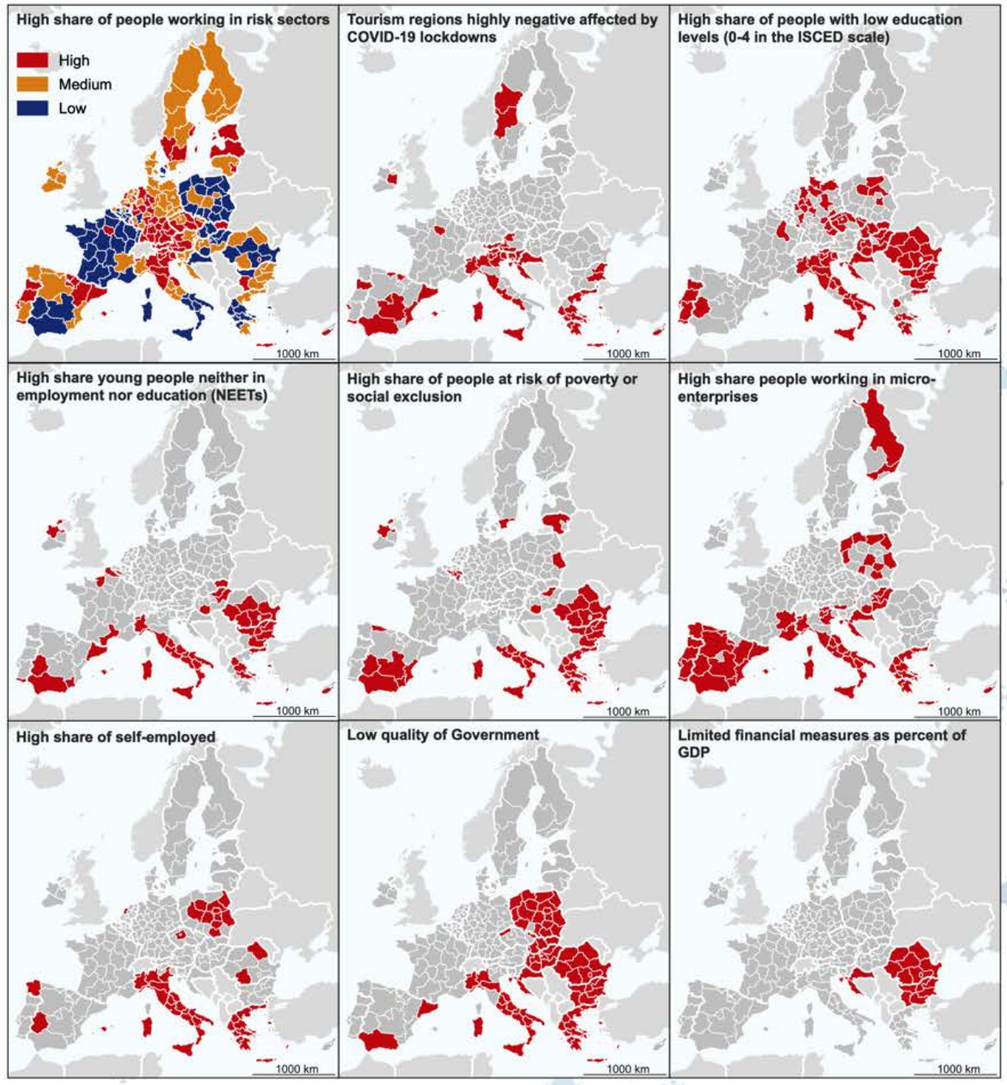
Changes in the Bulgarian economy and asymmetric effects caused by the COVID-19 outbreak can also be perceived in an analysis of transforming industries. A month-by-month comparison of Total Industrial Turnover Indices reveals the deterioration of all industry in the first three months of the pandemic, with the general index falling from 5.2% growth in January 2020 to -25.5% in May 2020. In the next few months industry slowly recovered and in January 2021 the index was once again above 0, with positive trends in all major industrial sub-sectors (mining and quarrying, manufacturing, and electricity).

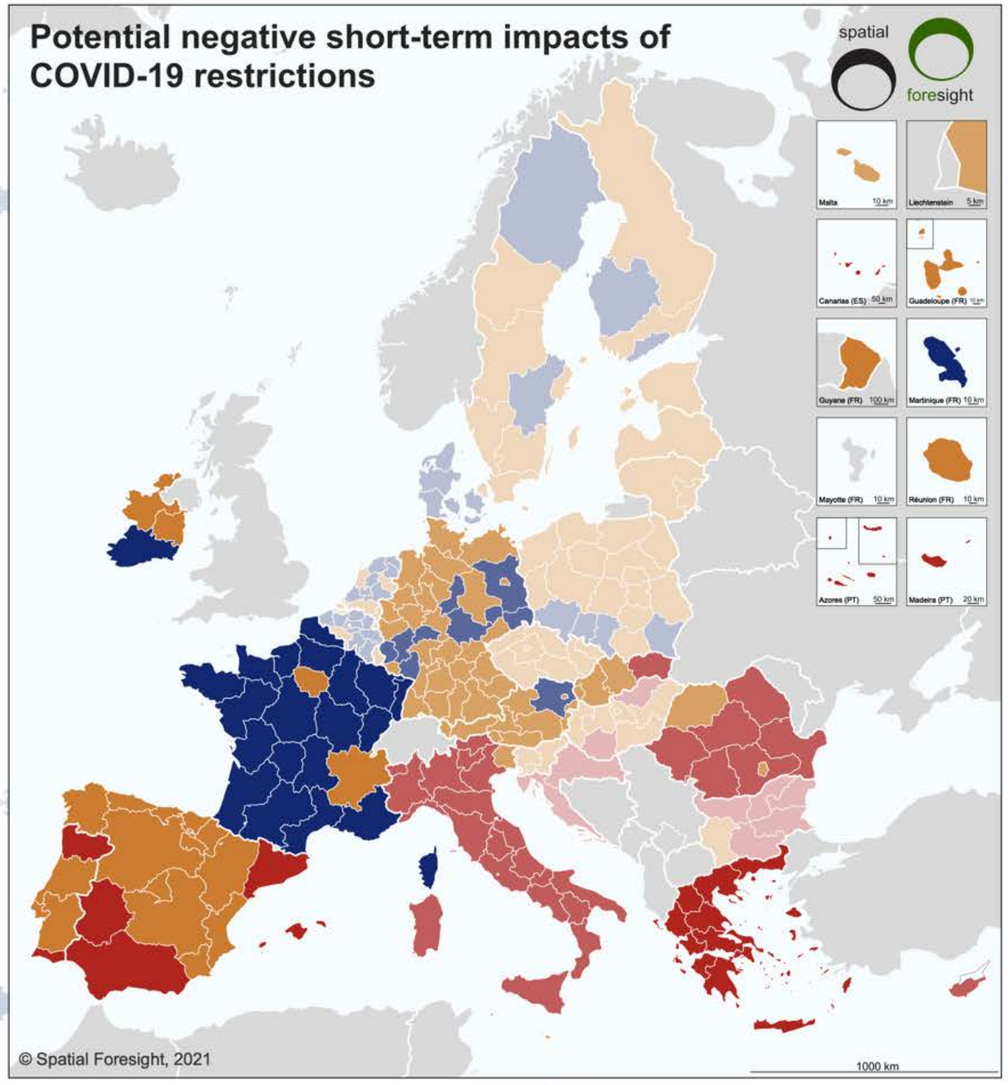
Tourism, which is very important for the economy, suffered the most. Revenues from nights spent in accommodation establishments suggest that recovery for the sector will take a long time and remains a key challenge for regions and places dependent on tourism.

The spatial discourse of the study uncovers diverse territorial impacts of the crisis, with the size, strength and expected duration varying according to social and demographic structures, political responses, sectoral specialisation in local economies and integration into global supply chains among other territorial characteristics. Exposure and sensitivity determine most of the intensity, scale and persistence of COVID-19 multidimensional impacts and territorial implications, suggesting increasing inequalities across Bulgarian NUTS2 and NUTS3 regions.

Text based on an update of Dokov et al. (2020)
by Hristo Dokov, Sofia University ‘St. Kliment Ohridski’, 2021

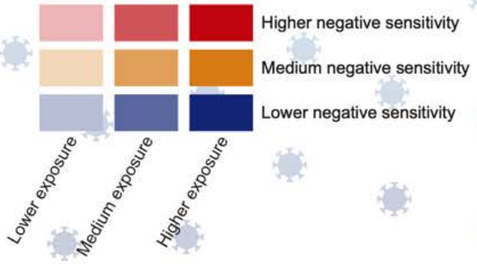
Map 2.2 Potential negative short-term impacts of COVID-19 restrictions





Administrative boundaries: Eurostat GISCO, NUTS 2 (2016)

Sensitivity and exposure assessment



Source: own elaboration based on following data

Sensitivity: Shares of employment in in medium and high risk economic sectors (Eurostat and ILO), Potential negative impacts of COVID-19 lockdown on tourism regions (Spatial Foresight), Share of people (25 to 64 years) with post-secondary non-tertiary education or lower (0-4 in the ISCED scale) (Eurostat), Share of young people (15-24 years) neither in employment nor in education and training (NEET) (Eurostat), Share of people at risk of poverty or social exclusion (Eurostat), Share of employment in Micro-enterprises (ESPON), share of self-employed people over employed people (Eurostat), European Quality of Government Index (University of Gothenburg), Financial measures as percent of GDP (IMF).

Exposure: Stringency and length of government restriction (Blavatnik school of Government at Oxford University), Share of working hours lost in 2020 (ILO).

Table 2.2 Short term negative sensitivity index

Composition of the negative sensitivity index: short-term					
Topic	**Exact indicator**	**Source**	**Year of publication**	**Scoring**	**Weight**
Employment in risk sectors	Shares of employment in in medium and high risk economic sectors, 2018. *See above textbox on risk sectors (Risk 2021).*	Employment data: Eurostat Risk: ILO and own assessment	Employment: 2021 Risk: 2021	Each indicator has been divided into three categories based on the European average; Low, Medium, and High. M**edium** covers the interval between the EU average and +/- half the standard deviation: $\bar{X} - \frac{\text{ST.DEV}}{2}; \bar{X} + \frac{\text{ST.DEV}}{2}$. **Low** is below the lower threshold: $< \bar{X} - \frac{\text{ST.DEV}}{2}$ **High** is above the upper threshold: $> \bar{X} + \frac{\text{ST.DEV}}{2}$	3 (high) 2 (medium) 1 (low)
Tourism regions highly negatively affected	Potential negative impacts of COVID-19 lockdown on tourism regions, 2021.	Spatial Foresight for DG REGIO	2021		1 (high)
People with low education levels	Share of people (25 to 64 years) with post-secondary non-tertiary education or lower (0-4 in the ISCED scale), 2020.	Eurostat	2021		1 (high)
NEETs	Share of young people (15-24 years) neither in employment nor in education and training (NEET), 2020.	Eurostat	2021		1 (high)
People at risk of poverty or social exclusion	Share of people at risk of poverty or social exclusion, 2020.	Eurostat	2021		1 (high)
People working in micro-enterprises	Share of employment in Micro-enterprises (1-9 employees), 2014.	ESPON	2018		1 (high)
Self-employed	Ratio of self-employed people over employed people (15-64 years), 2020.	Eurostat	2021		1 (high)
Quality of governance	European Quality Index (EQI 2021), combining corruption, impartiality and quality pillars, 2021.	University of Gothenburg	2021		1 (low)
Limited financial measures	Financial measures in response to COVID-19 including (a) additional spending or forgone revenue, (b) accelerated spending / deferred revenues and (c) liquidity support) as share of GDP, 2020.	IMF	2021		1 (low)

2.3 Potential positive impacts

The impacts of COVID-19 policy responses are a major challenge to regional and economic development. Nevertheless, for some businesses there were new opportunities. An attempt to understand which regions might capitalise on such opportunities shows considerable territorial variations. This analysis of potential opportunities should stimulate debate on possible strong points in the recovery process.

The analysis of short-term potential positive impacts brings together the exposure to restrictive measures (see section 2.1) and positive regional sensitivities. Map 2.3 is based on the combination of structural regional characteristics which gives a region a comparative advantage for local and regional development and is based on:

- **Employment in the pharmaceutical sector.** The COVID-19 pandemic was a reminder of the importance of the health care and pharmaceutical sector. Pharmaceutical firms along with ICT services should benefit from the crisis (ECB, 2021). Some parts of the sector have seen a particular boom, while other parts faced challenges. However, this mainly concerned the early stages of the pandemic. In general, the pharmaceutical sector was barely hit (deVet et al., 2021). Indeed, employment in the sector increased by 15% between Q2 2019 and Q2 2020 in the EU27 (Eurofound, 2021).

- **Employment in information and communication.** The shift towards digitalisation led to more ICT employment during the pandemic (ILO, 2021). According to Eurofound (2021) employment increased by 6% in telecommunications, 19% in computer programming consultancy and 13% in programming and broadcasting between Q2 2019 and Q2 2020 in the EU27. This is expected to continue, as post-crisis ICT spending is expected to outperform pre-crisis forecasts in 2022 (deVet et al., 2021).

- **Broadband access.** The crisis and lockdown restrictions have disrupted normal working conditions. Tasks that used to be performed in the office have been moved online, to remote points whenever possible. European regions differ in their access to the internet and even more to broadband, which is a minimum requirement for some tasks.

- **Teleworking.** The potential for remote or teleworking is not evenly distributed across regions (Florida, Rodríguez-Pose, & Storper, 2020; OECD, 2020b). It depends largely on the type of job, how easy it can be conducted remotely and infrastructure. For example, about 50% of jobs can potentially be done from home in Luxembourg, Stockholm, Île de France, Brabant in the Netherlands or Prague, but only about 25% in Basilicata in Italy or the Balearic Islands in Spain (OECD, 2020b). Generally, places that

already had comparably high levels of remote working prior to the pandemic, faced less transition time and efforts when the lockdowns kicked in. This gave them a comparative advantage in adjusting.

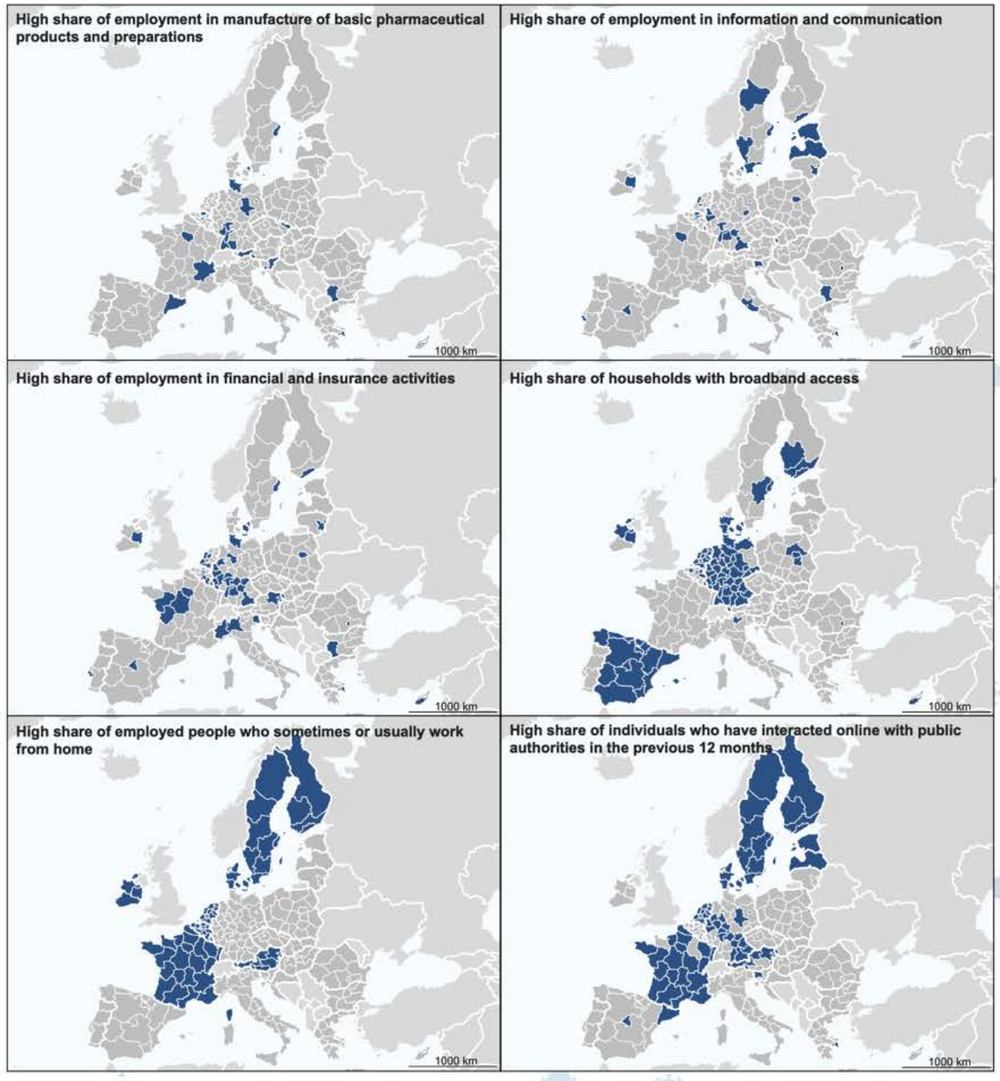
- **E-governance.** Preparedness of individuals for online interaction with public bodies. As many jobs have moved online, public communication and interaction also needed to be digitised. In many cases requests for financial support, assistance and aid for enterprises had to be made outside public offices. European regions vary in their online public services. Regions with existing digital interactions between public bodies and citizens have a comparative advantage in adapting as well as to setting up ad-hoc platforms and migrating services onto existing online frameworks.

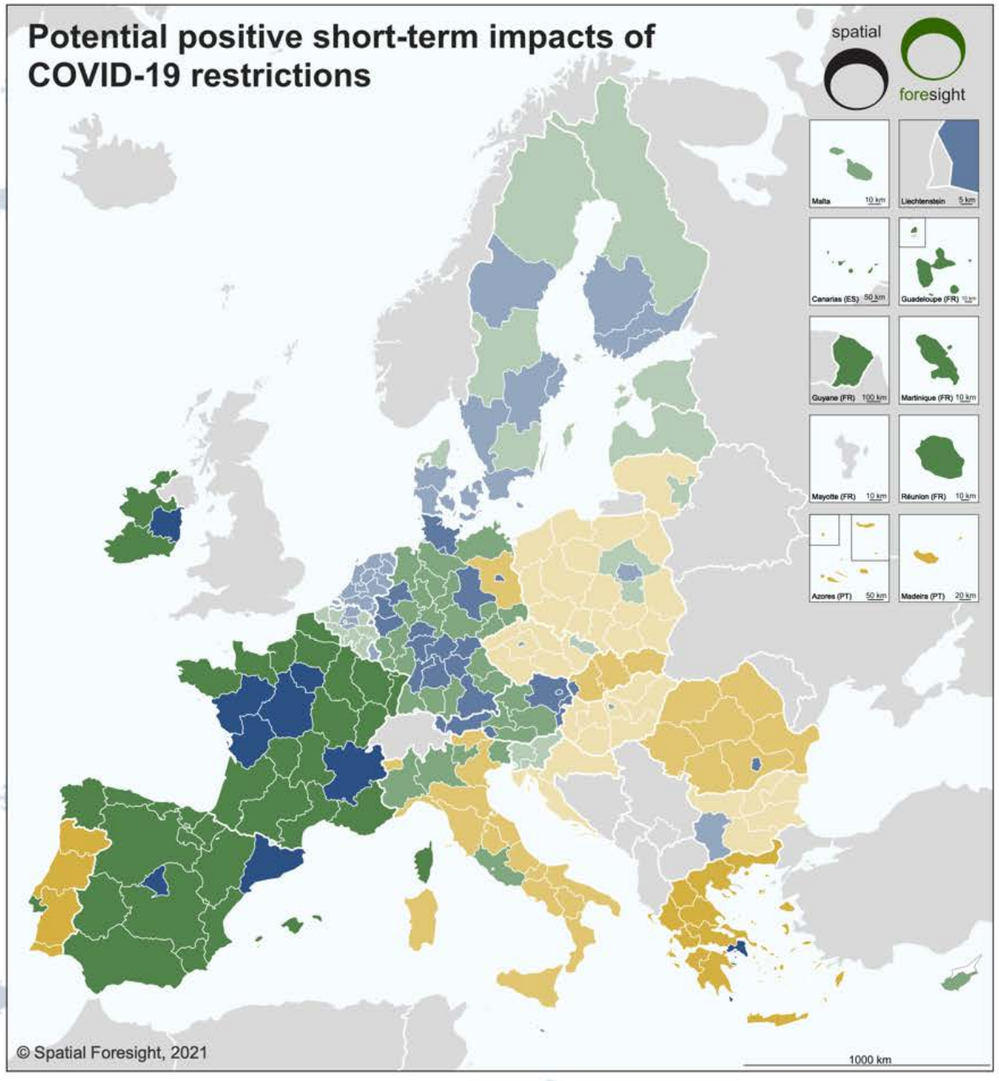
These different sensitivities have been translated into indicators for which EU-wide data is available and brought together in a combined positive sensitivity index. This sensitivity index is displayed in Map 2.3 shows the regions' accumulated positive sensitivity. The index value is based on the sum of the regions' scores for the six individual indicators. Table 2.3 provides the details.

Regions with the potentially highest comparative advantage for local and regional development in the wake of the pandemic faced fewer restrictions (i.e. low and medium exposure) with a socio-economic profile which made it easier to adjust to the changes (i.e. low sensitivity). This includes a high share of ICT jobs or more people already working from home prior to the pandemic. Among these areas are particular regions in the Benelux and the Nordic countries, plus the regions in Slovakia, Poland, Hungary, the Czech Republic, and Southwestern Bulgaria.

Although some regions probably face more negative impacts while benefitting from more positive impacts, these will not balance each other out. Negative impacts will probably outweigh the positive ones. The positive impacts cover only a few sectors employing only 13% of people at maximum in one region and averaging around 3.5% across the EU.

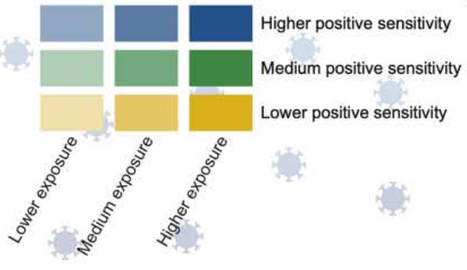
Map 2.3 Potential positive short-term impacts of COVID-19 restrictions





Administrative boundaries: Eurostat GISCO, NUTS 2 (2016)

Sensitivity and exposure assessment



Source: own elaboration based on following data

Sensitivity: Share of employment in manufacture of basic pharmaceutical products and preparations (Eurostat), Share of employment in information and communication (Eurostat), Share of employment in financial and insurance activities (Eurostat), Share of households with broadband access (Eurostat), Share of employed people who have sometimes or usually worked from home (Eurostat), Share of individuals who have interacted online with public authorities in the previous 12 months (Eurostat).

Exposure: Stringency and length of government restriction (Blavatnik school of Government at Oxford University), Share of working hours lost in 2020 (ILO).

Table 2.3 Short term positive sensitivity index

Composition of the positive sensitivity index: short-term					
Topic	**Exact indicator**	**Source**	**Year of publication**	**Scoring**	**Weight**
Employment in pharmaceuticals	Share of employment in manufacture of basic pharmaceutical products and preparations (NACE: C.21), 2018.	Eurostat	2021	Each indicator has been divided into three categories based on the European average; Low, Medium, and High. **Medium** covers the interval between the EU average and +/- half the standard deviation: $\bar{X} - \frac{\text{ST.DEV}}{2}; \bar{X} + \frac{\text{ST.DEV}}{2}$. **Low** is below the lower threshold: $< \bar{X} - \frac{\text{ST.DEV}}{2}$ **High** is above the upper threshold: $> \bar{X} + \frac{\text{ST.DEV}}{2}$	1 (high)
Employment in communication	Share of employment in information and communication (NACE: J), 2018.	Eurostat	2021		1 (high)
Employment in finance and insurance	Share of employment in financial and insurance activities (NACE: K), 2018.	Eurostat	2021		1 (high)
Broadband access	Share of households with broadband access, 2020.	Eurostat	2021		1 (high)
Teleworking	Share of employed people who have sometimes or usually worked from home, 2020.	Eurostat	2021		1 (high)
E-government level	Share of individuals who have interacted online with public authorities in the previous 12 months, 2020.	Eurostat	2021		1 (high)

2.4 Potential short-term impacts

Going beyond the analysis of exposure and sensitivity data (see above) and also taking into account qualitative results of the case study analysis (see section 5), some territorial features can be highlighted. Compared the last year's analysis (European Committee of the Regions, 2020), tourist areas stand out more, while interconnected industrial areas probably are less affected than expected last year. However, generally the findings of last year have been confirmed.

While the new territorial pattern of potential regional impacts from COVID-19 related policy responses is not easy to explain, reviewing the underlying complexity highlights several possible territorial stories (Böhme, Besana, et al., 2020):

- **Tourist area – long-lasting memories:** Tourism areas experienced a standstill in most parts of Europe and their road to recovery will normally be more difficult. Tourism is not expected to quickly return to pre-COVID-19 levels. The recovery also differs in areas with national rather than international tourism. The type of tourism such as events, relaxation, nature or mass tourism as well as accessibility by air, rail and road will also play a role in the recovery.

- **Metropolitan areas – strongly hit and speedy recovery:** The degree that metropolitan areas are impacted by COVID-19 policy responses varies widely. Strongly impacted areas are expected to 'kick-back' quickly due to their economic structures. These would see a harsh impact but also a quicker recovery compared to many non-metropolitan areas.

- **Isolated places – cut off for good and bad:** The impacts of COVID-19 policy responses differ between well-connected places and more peripheral and isolated places (e.g. islands). For more isolated places, lockdowns sometimes considerably restricted connectivity and supply chains, especially flight connections. They were cut off with good (less infections) and bad (supply difficulties) impacts. Their road to recovery will probably differ as well.

- **Interconnected industrial areas – supply chains and possible re-structuring:** Areas with local businesses highly dependent on imports for components or exports to international markets have been particularly affected by the first wave of lockdowns around the world as well as by interrupted transport connections. Some regions may be affected – for good and bad – by relocalisation, reducing the vulnerability of supply chains or attempts to ensure essential goods are produced in a region or country.

- **Small business area – uncertain baby steps:** Regions with high shares of self-employment and SMEs may face particular sensitivities, depending on the sectors. For example, culture and entertainment areas will have a longer road to recovery, while support often focuses on large businesses such as airlines which only partly helps SMEs and the self-employed.

- **Territorial fragmentation – 'my' nation and 'my' region first:** Although there has been a lot of talk about 'solidarity' many COVID-19 policy responses were characterised by attitudes such as 'my' nation and 'my' region first. Examples include unilateral closures of national borders, competition for healthcare equipment and staff between countries, regions and cities, as well as debates about whether visitors from certain regions or countries are welcome. There have been debates in rural areas with high shares of holiday homes about whether guests from metropolitan areas or

areas with high levels of infections are welcome to get the local economy going again or are a health risk and therefore not welcome.

Spotlight on border regions – COVID-19 impacts

Border regions are often considered as particularly sensitive to the policy measures. This was visible in the first wave of infections in spring 2020, when some national borders were suddenly closed. The effects of the pandemic in border regions do not vanish once the borders are open again and border crossings do not require COVID-19 related paperwork (test or vaccine certificates etc.).

Based on analysis in the Nordic countries, Giacometti & Wøien Meijer (2021) underline that the unfortunate handling of the pandemic will lessen companies and commuters operating across borders. Indeed, some companies have already decided to relocate because of restrictions imposed to cope with the pandemic. It seems the lack of coordination between neighbouring countries generates uncertainty and polarisation at local levels, threatening border community resilience.

The pandemic put a spotlight on the sensitivity of border communities to the recentralisation of power and unilateral decision-making. Decisions at the national level often neglected the needs of different regions and their dependence on areas beyond their immediate territory. This makes integrated cross-border functional areas and communities vulnerable and prevents them from becoming more resilient. (Giacometti & Wøien Meijer, 2021)

2.5 State aid

State aid regulations aim at minimising distortions in the European single market from transfers of public resources to economic operators. To increase flexibility of state aid rules and support economic activities during the COVID-19 pandemic, the European Commission adopted a Temporary Framework for state aid measures on 19 March 2020 (C/2020/1863) which introduced rules for five types of aid:

- Grants and advance payments: Member states may set up support schemes to provide up to EUR 800,000 per enterprise to address the most urgent liquidity needs.
- State guarantees for loans: Member states may provide guarantees to ensure that banks continue providing loans to their customers.
- Subsidised loans to companies: Member states may grant loans with reduced interest rates to allow companies to cover urgent working capital and investment needs.

- Safeguards for banks that channel state aid to the real economy: Member states may grant support to safeguard the lending capacities of banks. This is considered as direct aid to customers, not banks.
- Short-term export credit insurance: Additional flexibility for member states that need to demonstrate they are non-marketable risks, to ensure short-term export credit insurance.

The Temporary Framework was adapted to new developments in April, May, June and October 2020, and January 2021. The evolution from the original version to the fifth amendment is a continuous extension of the scope of measures, their prolongation and increased thresholds.

The first amendment adopted on 3 April 2020 (C/2020/2215), extended the scope of the new rules. Member states may provide additional types of support to facilitate economic activities. This includes support for COVID-19 related research and development as well as the development and production of products needed most urgently in the health crisis. Furthermore, member states can defer tax payments and social security contributions and contribute to wages in sectors, regions or types of companies hit hardest by the pandemic.

The second amendment adopted on 8 May 2020 (C/2020/3156) further extends the Temporary Framework to cover recapitalisation and subordinated debts to avoid undue market distortions. It also defines conditions for recapitalisation aid (including transparency and reporting) as well as provisions for entering into and exiting from the capital of companies.

The third amendment adopted on 29 June 2020 (C/2020/4509) enables micro and small enterprises to receive public support under the Temporary Framework even if they were in difficulty before 31 December 2019. It also allows member states to introduce incentives for private investor contributions to recapitalisation measures.

The fourth amendment adopted on 13 October 2020 (C/2020/7127) prolongs the current Temporary Framework thresholds for six months from 31 December 2020 until 30 June 2021. Recapitalisation measures are prolonged for three months from 30 June 2021 until 30 September 2021. Furthermore, member states may support the fixed costs of enterprises that face lower turnover in 2020 of at least 30 % from 2019. In addition, there are conditions for exits from companies where the state already held shares prior to the recapitalisation.

The fifth amendment adopted on 28 January 2021 (C/2021/564) again prolongs the Temporary Framework, this time for all measures including recapitalisation until 31 December 2021. In addition, some thresholds increase significantly, e.g. from EUR 800,000 to EUR 1,800,000 for all companies except those in agriculture (increase from EUR 100,000 to EUR 225,000 per undertaking), or the

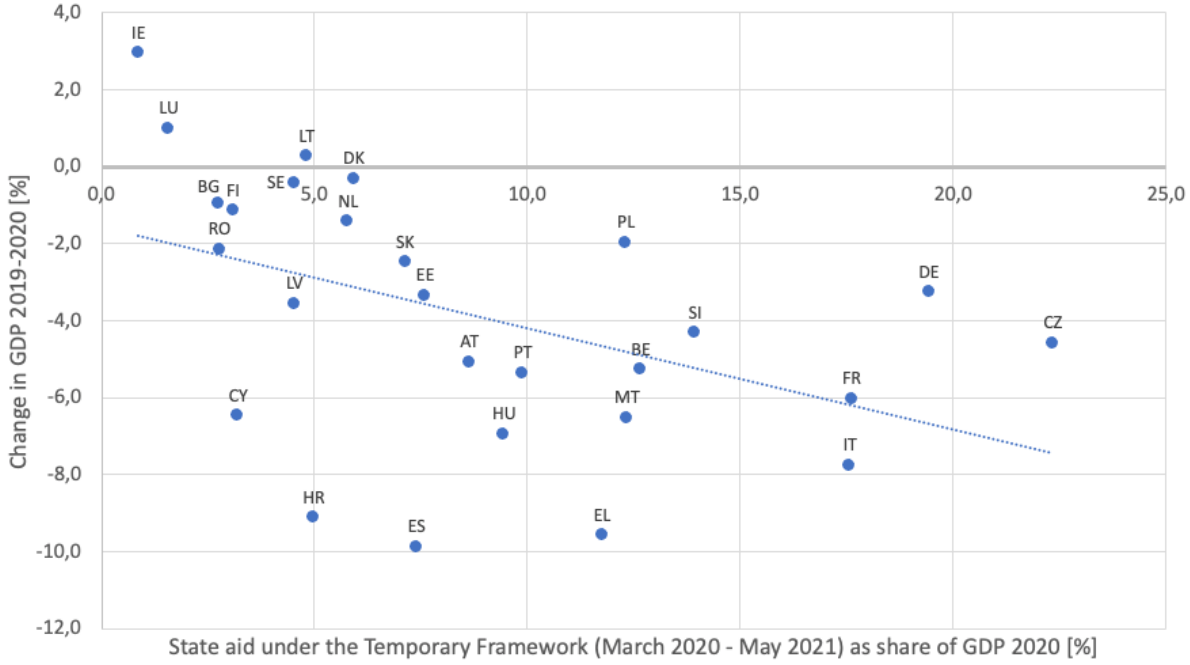
fishery and aquacultural sector (increase from EUR 120,000 to EUR 270,000). The thresholds do not include de minimis aid of up to EUR 200,000 per company over three financial years (agriculture: EUR 25,000; fishery and aquaculture: EUR 30,000). The maximum fixed costs under the fourth amendment increases from EUR 3 million to EUR 10 million. To provide incentives for setting up repayable instruments, member states may now convert repayable instruments (e.g. loans and guarantees) under the Temporary Framework into non-repayable instruments (e.g. direct grants) until 31 December 2022.

The Temporary Framework and its five amendments are an example of the EU's efforts to tackle the pandemic and related crises as serious disturbances for the European Union, its cities and regions. With the Temporary Framework, the European Commission strives for a balance between flexibility for state aid and limiting negative consequences for the single market. For European regions and cities, the question arises whether the modified state aid provisions reduce or increase disparities between and within EU member states. As the full impact will only become visible over the next years, it is still difficult to conduct an in-depth analysis. However, more advanced regions are likely to have various strategic advantages. Enterprises and authorities in these regions are less prone to shocks, simply because they are wealthier. Moreover, the quality of government is often higher in economically stronger regions than in less advanced regions. A high quality of government is a key enabler for fast and comprehensive access to public funding. Finally, authorities and enterprises in stronger regions have more financial means as well as other resources and capacity to accompany and complement national support programmes (Böhme & Lüer, 2020).

Many state aid measures are available across the whole country rather than focused on individual regions. All EU member states have submitted state aid measures under the modified Temporary Framework. However, these measures are not evenly distributed across the EU member states. A first assessment from December 2020 shows that economically stronger countries make more use of state aid programmes (Van Hove, 2020). This might lead to considerable distortions for the European single market and increasing disparities between strong and weak countries. This becomes even more pronounced as countries hit hardest by the crisis have less and smaller state aid measures (ibid.). On the contrary, countries whose economies show high declines in GDP between 2019 and 2020 like Spain, Greece, Croatia, Cyprus and Hungary provide rather little support when comparing the state aid provided in these countries under the Temporary Framework to the respective national GDP in 2020 (Figure 2.1). Whereas countries like the Czech Republic, Germany and Poland that were much less affected, have comprehensive measures. Excessive state aid in countries not so severely affected might distort the single market. In this context, the question of positive cross-border spillovers arises. State aid in one EU member state could

be designed so other EU member states also benefit (ibid.). It remains to be seen how this will play out at local and regional level.

Figure 2.1 The economic impact of COVID-19 and related state aid[3]



Source: own elaboration based on Eurostat, 2021[4] (GDP data) and European Commission, 2021[5] (state aid data)

[3] The data includes all state aid measures adopted under Articles 107(2)b, 107(3)b, 107(3)c TFEU and the Temporary Framework as reported to the European Commission by the end of May 2021. As the expected total budgets are not available for all measures, the numbers presumably underestimate the amount of state aid. Hence, the figure should be interpreted with caution and understood as a proxy for the overall pattern.

[4] https://ec.europa.eu/eurostat/databrowser/view/NAMA_10_GDP/default/table?lang=en.

[5] https://ec.europa.eu/competition-policy/state-aid/coronavirus/temporary-framework_en.

3 Medium-term outlook

Looking towards the future, it is important to have insights on sensitivities towards longer lasting effects of the pandemic, e.g. a slow recovery of the tourism sector. This involves also discussions about trends that might shape future developments.

3.1 Medium-term sensitivities

Looking somewhat further into the future, the COVID-19 pandemic will affect local and regional development beyond the immediate effects to be noted at presence. From a 5-10 year perspective, exposure to restrictions during the pandemic (see section 2.1) will be less relevant. The medium-term impacts will be shaped more by longer-lasting impacts on some sectors and structural elements which affect how quickly an area can recover. As with the short-term impacts we expect negative and positive impacts in the medium-term.

3.1.1 Negative medium-term sensitivities

The analysis of medium-term negative sensitivities displayed in Map 3.1 is based on following sensitivity indicators:

- **Tourism.** COVID-19 sensitivities to changes in the tourism sector will also affect medium-term recovery processes, as the sector is expected to need several years to recover. The information is based on the DG REGIO study on regional impacts of the COVID-19 crisis on tourism (Böhme et al., 2021).
- **Employment in the accommodation sector.** While the DG REGIO study takes a broader approach to assessing the impacts on tourism, areas with high shares in accommodation employment are particularly at risk for longer lasting impacts. Therefore, areas with high shares of employment in accommodation have been included in the sensitivity analysis.
- **Employments in arts and cultural activities.** Besides tourism, the arts and culture have been particularly hard hit. Also here the recovery might take longer due severe cuts and drastic measures during the pandemic. Therefore, areas with high shares of employment in arts and culture have been included in the sensitivity analysis.
- **Young people without occupation.** Education and entrance into the labour market have been particularly troublesome for younger people. As the recovery will take a few years, NEETs will continue to face more challenges. Therefore, areas with high shares of NEETs have been included in the sensitivity analysis.

- **People with low education levels.** The pandemic has also affected people with lower education levels harder. They were more often in furlough schemes, laid off or missed out on the possibility to advance in their jobs and increase their income. The gap between low and high education has been widening and will not close soon. Therefore, areas with high shares of people with lower education levels (0-4 ISCED) have been included in the sensitivity analysis.

- **Risk of poverty.** The COVID-19 pandemic widened the social gap even further for people living in poverty or are at risk of it. They have often been particularly exposed to the pandemic. Given that the economic recovery will take years, their prospects are not particularly bright. Therefore, areas with high shares of people at risk of poverty have been included in the sensitivity analysis.

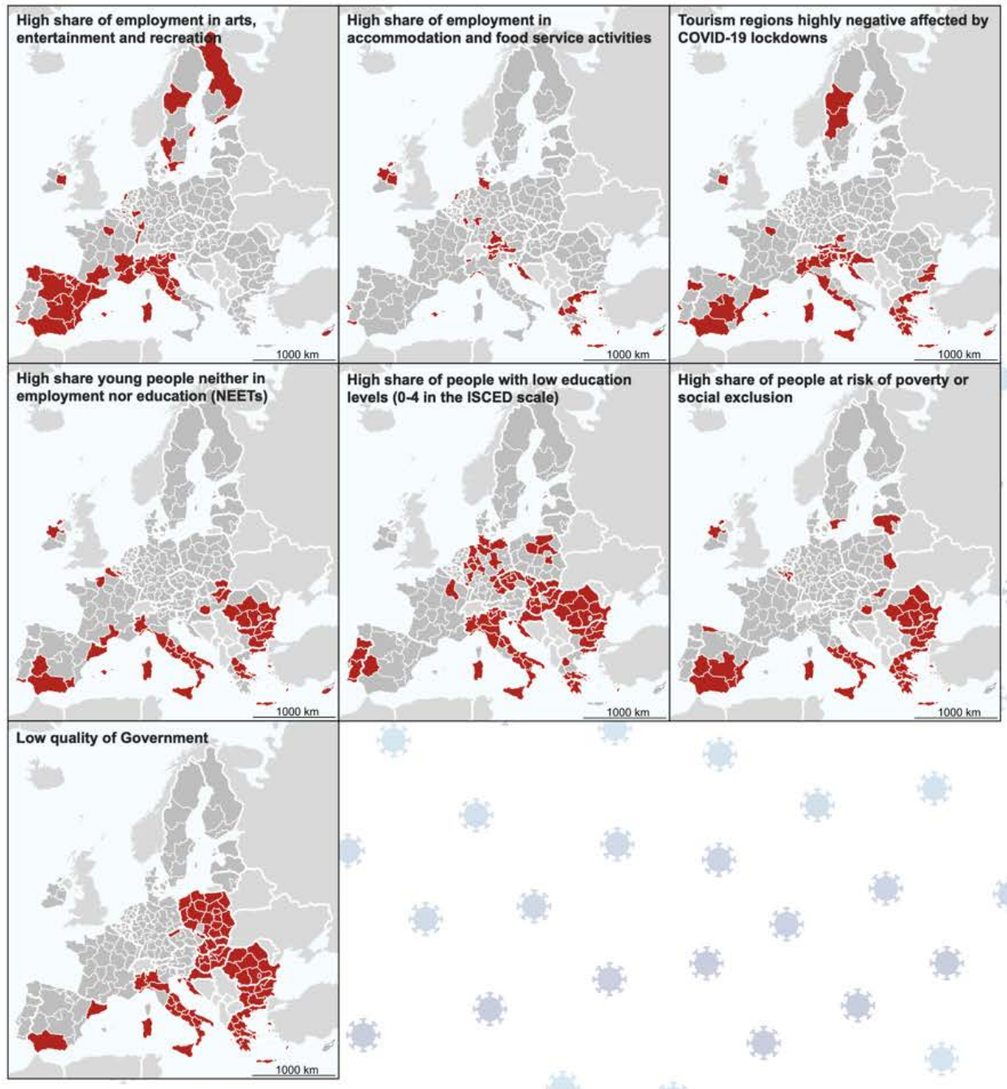
- **Low quality of government.** As mentioned, the quality of government plays a considerable role in an area's capacity to cope with the crisis and manage recovery. Therefore, areas with low quality of government have been included in the sensitivity analysis.

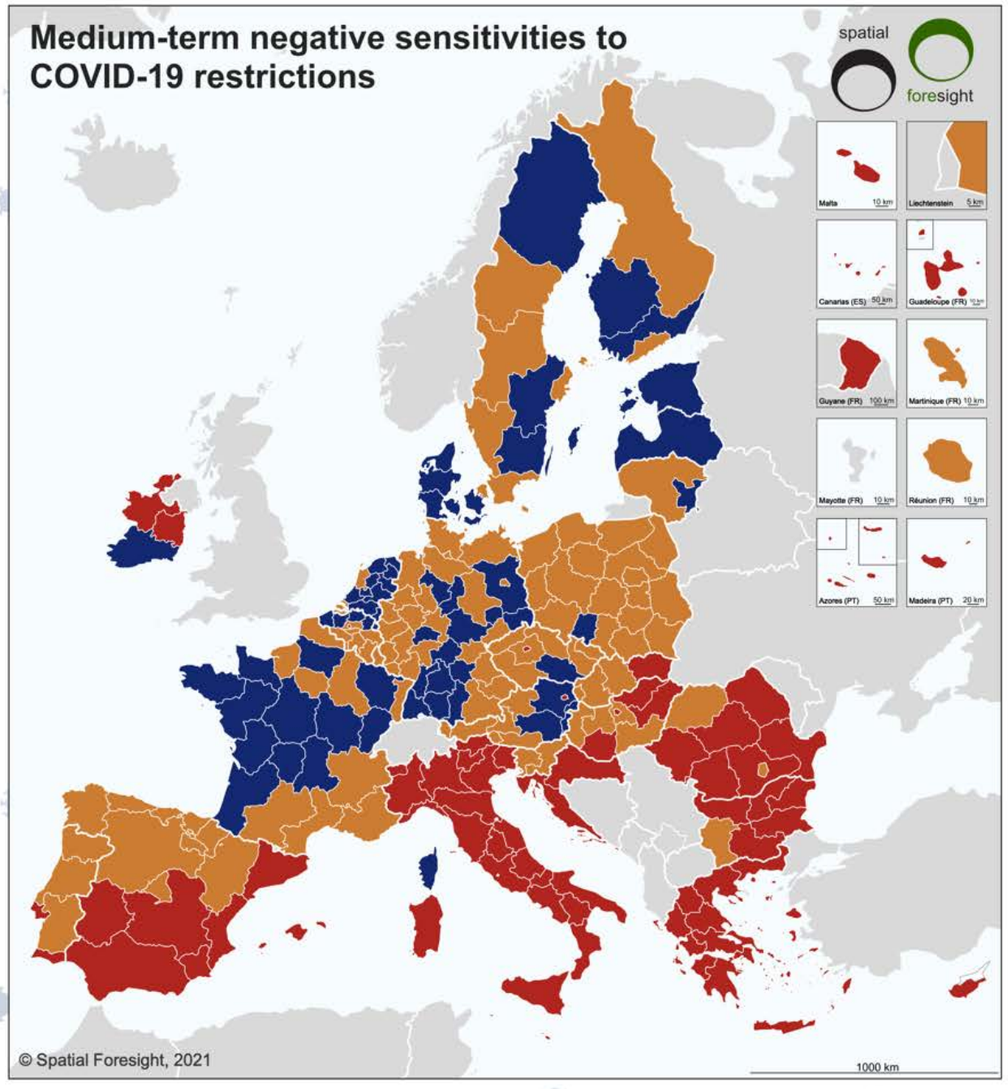
Taken together these indicators provide insights on regions which might struggle with longer lasting impacts of the pandemic and the recovery. This sensitivity index displayed in Map 3.1 shows the regions' accumulated medium-term negative sensitivity. The index value is based on the sum of the regions' scores for the seven individual indicators. The below table provides the details. Table 3.1 provides the details.

The regions which are expected to struggle most with long-lasting impacts are in particular East Macedonia & Thrace, the Ionian islands and South Aegean in Greece, the Canaries in Spain, the Aosta Valley, Liguria and Sardinia in Italy and Madeira in Portugal. Furthermore, the remaining Greek and Italian Regions, Croatia, Cyprus, Malta most Bulgarian, Romanian and Irish regions are also expected to face more long-lasting negative impacts. Other regions in this group are Prague in the Czech Republic, Guadeloupe and French Guiana, Algarve, Lisbon and Azores in Portugal, Eastern Slovakia, Vienna in Austria and the regions of Budapest, Southern Transdanubia, Northern Hungary and the Northern Great Plain in Hungary.

Apart from French Guiana which has been highly exposed, most outermost regions face medium exposure to COVID-19 restrictions. However, the Canaries, Azores and Madeira are highly sensitive to the measures. Martinique is the only outermost region with low sensitivity.

Map 3.1 Medium-term negative sensitivities to COVID-19 restrictions





Administrative boundaries: Eurostat GISCO, NUTS 2 (2016)

Sensititivy assessment

- Higher negative sensitivity
- Medium negative sensitivity
- Lower negative sensitivity

Source: own elaboration based on following data

Share of employment in arts, entertainment and recreation (Eurostat), Share of employment in accommodation and food service activities (Eurostat), Potential negative impacts of COVID-19 lockdown on tourism regions (Spatial Foresight), Share of people (25 to 64 years) with post-secondary non-tertiary education or lower (0-4 in the ISCED scale) (Eurostat), Share of young people (15-24 years) neither in employment nor in education and training (NEET) (Eurostat), Share of people at risk of poverty or social exclusion (Eurostat), European Quality of Government Index (University of Gothenburg).

Table 3.1 Medium term negative sensitivity index

Composition of the negative sensitivity index: medium-term					
Topic	**Exact indicator**	**Source**	**Year of publication**	**Scoring**	**Weight**
Tourism regions highly negatively affected	Potential negative impacts of COVID-19 lockdown on tourism regions, 2021.	Spatial Foresight for DG REGIO	2021	Each indicator has been divided into three categories based on the European average; Low, Medium, and High. M**edium** covers the interval between the EU average and +/- half the standard deviation: $\bar{X} - \frac{\text{ST.DEV}}{2}; \bar{X} + \frac{\text{ST.DEV}}{2}$. **Low** is below the lower threshold: $< \bar{X} - \frac{\text{ST.DEV}}{2}$ **High** is above the upper threshold: $> \bar{X} + \frac{\text{ST.DEV}}{2}$	1 (high)
Employment in accommodation & food	Share of employment in accommodation and food service activities (NACE: I), 2018.	Eurostat	2021		1 (high)
Employment in arts and cultural activities	Share of employment in arts, entertainment and recreation (NACE: R), 2018.	Eurostat	2021		1 (high)
Young NEETs	Share of young people (15-24 years) neither in employment nor in education and training (NEET), 2020.	Eurostat	2021		1 (high)
People at risk of poverty or social exclusion	Share of people at risk of poverty or social exclusion, 2020.	Eurostat	2021		1 (high)
Quality of governance	European Quality Index (EQI 2021), combining corruption, impartiality and quality pillars, 2021.	University of Gothenburg	2021		1 (low)

3.1.2 Positive medium-term sensitivities

The analysis of medium-term positive sensitivities displayed in Map 3.2 is based on following sensitivity measures:

- **Employment in ICT.** Digitalisation accelerated during the pandemic. This will continue and areas with companies and skilled people in the sector are more likely to profit from this development in the near future. Post-crisis ICT spending is expected to outperform the pre-crisis forecasts in 2022 (deVet et al., 2021). For example, artificial intelligence and automation are seen as a short-term responses to the pandemic. It is likely that artificial intelligence will benefit in the longer term as spending on this is expected to rise by 33% between 2020 and 2023, despite budget reductions following

the pandemic (deVet et al., 2021). Therefore, areas with high shares of ICT employment have been included in the sensitivity analysis.

- **Employment in construction.** The COVID-19 pandemic was a mixed experience for the construction sector in Europe. However, the construction sector is expected to play a considerable role in the recovery. Some parts need to catch up with paused activities. In addition, there are expectations that the demand for housing (especially in greener areas) might increase in the near future and considerable amounts of the EU recovery funds may find their way into the construction sector. This could include new infrastructure as well as green-renovation of existing buildings. Therefore, areas with high shares of employment in the construction sector have been included in the sensitivity analysis.

- **Employment in micro-enterprises.** Many micro-enterprises were particularly challenged by restrictions. There is a risk of more insolvencies once the support measures end. At the same time micro-enterprises are often much more agile, able to adjust to changing circumstances and carried by entrepreneurial spirit. This will be crucial for the recovery and adaption of regional economies to new contexts. Therefore, areas with high shares of employment in micro-enterprises have been included in the sensitivity analysis.

- **Self-employed.** For the self-employed the same rational applies as for micro-enterprises. Therefore, areas with high shares of self-employed have been included in the sensitivity analysis.

- **Home office.** During the pandemic people working in jobs that can be transferred from office to home had a particular advantage. Mostly, they could continue to work with lower risks of being laid off or put on furlough schemes. In the widening social gap, they tend to have the upper hand. This advantage will also pay off in the near future. Therefore, areas with high shares of employed persons working from home have been included in the sensitivity analysis.

- **Broadband access.** For an area to benefit from increasing digitalisation needs not only people working in relevant sectors, but also infrastructure. Digital infrastructure needs some time to be rolled out, so the medium-term development potential will be affected by existing internet infrastructure. Therefore, areas with high shares of broadband access have been included in the sensitivity analysis.

- **Online interaction with public administrations.** In addition to infrastructure and types of jobs, digitalisation also depends on behavioural factors. This includes a willingness to shift from physical to digital

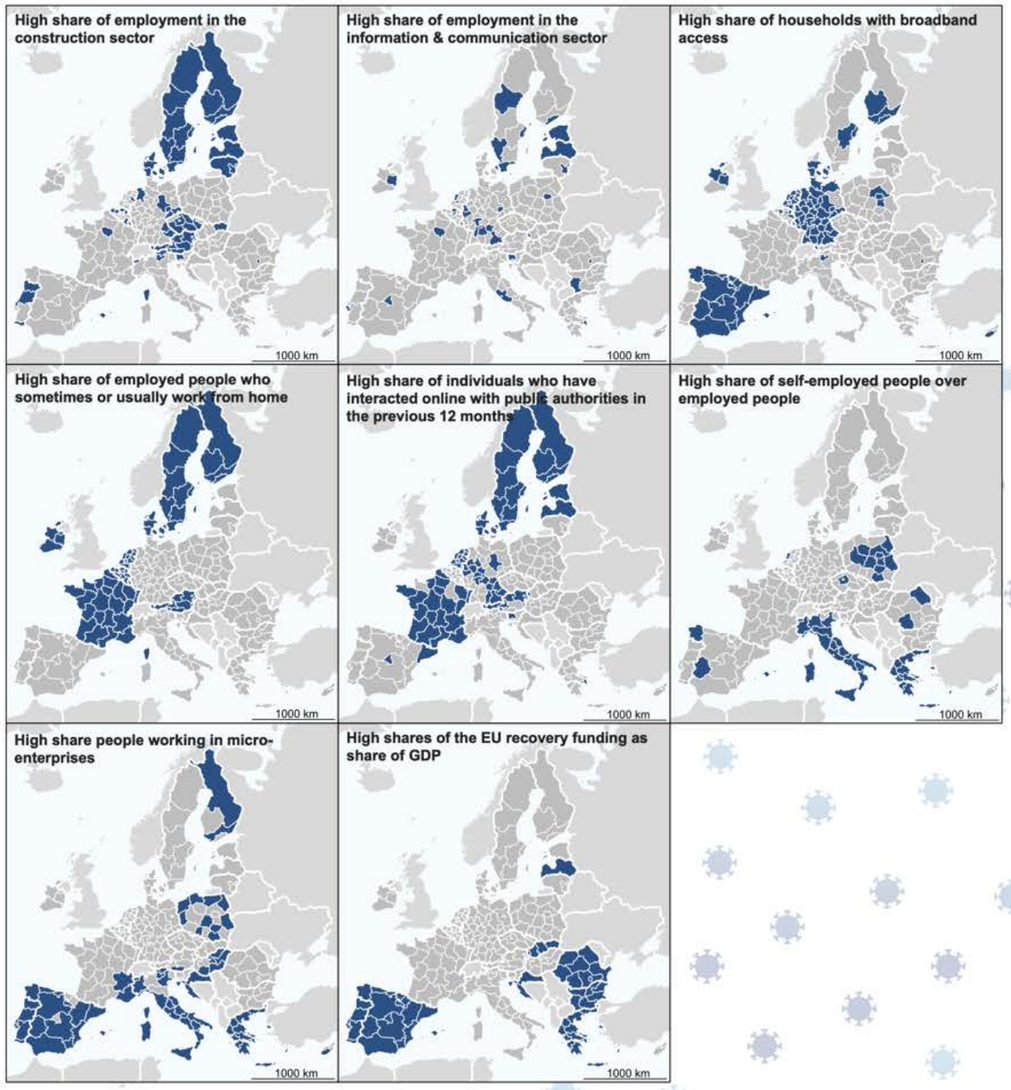
interactions. Geographical differences in the shift to online shopping during and after lockdowns illustrate that attitudes to digitalisation play a role. Online interaction with public administrations may serve as a proxy for the digital mindset in an area. Therefore, areas with high shares of online interaction with public administrations have been included in the sensitivity analysis.

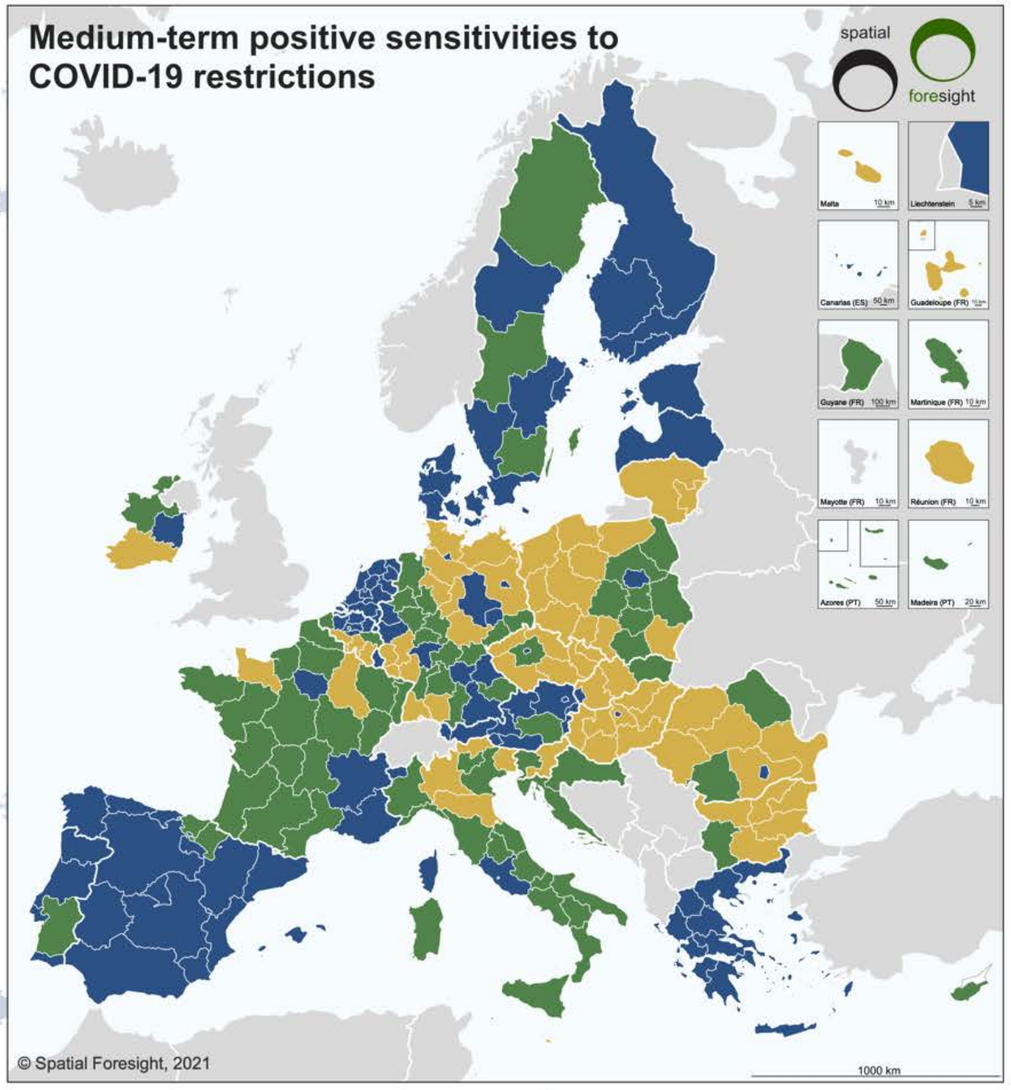
- **EU recovery funding.** Recovery is certainly also helped by access to funding. In particular, longer lasting funding schemes with a more future-oriented focus are of interest. EU recovery funding may serve as a proxy for this. Therefore, areas with high shares of EU recovery funding have been included in the sensitivity analysis.

Taken together these indicators provide insights on which regions might face some comparative advantages in the medium-term recovery from the pandemic. This sensitivity index displayed in Map 3.2 shows the regions' accumulated medium-term positive sensitivity. The index value is based on the sum of the regions' scores for the eight individual indicators. The below table provides the details. The below table provides the details.

The regions which may expect some medium-term benefits from the pandemic are Prague in the Czech Republic, Noord-Holland in the Netherlands, Greater Helsinki and Southern Finland, Stockholm in Sweden, and the Balearic Islands in Spain. Furthermore, large parts of Finland, Denmark, the Netherlands, Greece, Spain and Luxembourg, Lithuania, Estonia and Austria are expected to be able to benefit from changes in the medium-term. Also major urban areas in Germany, Warsaw, Dublin, Bucharest, Budapest, Bratislava, Prague, Île de France, Rhône-Alpes and Corsica fall into this group.

Map 3.2 Medium-term positive sensitivities to COVID-19 restrictions





Administrative boundaries: Eurostat GISCO, NUTS 2 (2016)

Sensitivity assessment

- Higher positive sensitivity
- Medium positive sensitivity
- Lower positive sensitivity

Source: own elaboration based on following data

Share of employment in the construction sector (Eurostat), Share of employment in the information & communication sector (Eurostat), Share of households with broadband access (Eurostat), Share of employed people who have sometimes or usually work from home (Eurostat), Share of individuals who have interacted online with public authorities in the previous 12 months (Eurostat), Share of self-employed people over employed people (Eurostat), Share people working in micro-enterprises (ESPON), shares of the EU recovery funding as share of GDP (European Commission).

Table 3.2 Medium term positive sensitivity index

Composition of the positive sensitivity index: medium-term					
Topic	**Exact indicator**	**Source**	**Year of publication**	**Scoring**	**Weight**
Employment in construction	Share of employment in the construction sector (NACE: F), 2018.	Eurostat	2021	Each indicator has been divided into three categories based on the European average; Low, Medium, and High. M**edium** covers the interval between the EU average and +/- half the standard deviation: $\bar{X} - \frac{\text{ST.DEV}}{2}; \bar{X} + \frac{\text{ST.DEV}}{2}$. **Low** is below the lower threshold: $< \bar{X} - \frac{\text{ST.DEV}}{2}$ **High** is above the upper threshold: $> \bar{X} + \frac{\text{ST.DEV}}{2}$	1 (high)
Employment in communication	Share of employment in the information & communication sector (NACE: J), 2018.	Eurostat	2021		1 (high)
Self-employed	Ratio of self-employed people to employed people (15-64 years), 2020.	Eurostat	2021		1 (high)
Quality of governance	European Quality Index (EQI 2021), combining corruption, impartiality and quality pillars, 2021.	University of Gothenburg	2021		1 (high)
Broadband access	Share of households with broadband access, 2020.	Eurostat	2021		1 (high)
Teleworking	Share of employed people who have sometimes or usually worked from home, 2020.	Eurostat	2021		1 (high)
E-government	Share of individuals who have interacted online with public authorities in the previous 12 months, 2020.	Eurostat	2021		1 (high)
EU recovery funding	Ratio of the EU recovery and resilience facility (grants) over countries' GDP pre-pandemic, 2021.	EU Commission and Eurostat	2021		1 (high)

3.2 Medium- to long-term trends

The COVID-19 pandemic has been the most disruptive crisis in living memory for most Europeans. Until 2020 it was just one of many wild cards that could bring about substantial changes and affect expected trend developments. Then the unexpected and – in recent past – unprecedent event happened with dramatic consequences in many regions and possible further consequences for local and regional development. It will leave an imprint on our behaviour and collective psyche (McKinsey, 2021).

The effects on socio-economic trends are mainly fed by behavioural changes and restrictions. The pandemic has not so much created new socio-economic and development trends, but slowed existing trends (e.g. cruise tourism, business travel) or accelerated emerging trends (e.g. digitalisation, home working, home schooling, streaming, online shopping). This implies that the territorial impacts of these trends have paused or accelerated. Taking increased digitalisation as an example, digital infrastructure and literacy affect whether people and businesses in an area get a head start or face transition challenges.

3.2.1 Nothing new under the sun: Accelerated trends

The pandemic has accelerated trends which were already around in 2019 and some are discussed below. The pandemic did not really bring anything new under the sun in terms of trends, but rather functioned as accelerator for existing trends.

Accelerated digitalisation: Omnichannel futures. It goes without saying that the restrictive measures gave a tremendous boost to digitalisation in Europe. This ranges from home working, videoconferencing, online education and e-governance to online shopping and e-entertainment. In some areas, the push towards digital solutions might be temporary and fade with the pandemic. In other areas, long anticipated developments have accelerated and changed mainstream behaviour, which will be further shaped in the years to come. Among others working from home is expected even after the pandemic though estimates of how much vary widely and probably depend on the work and location. Videoconferences are certainly here to stay, and business travel may not return to pre-pandemic levels for some years (European Travel Commission, 2021). e-governance and e-entertainment improved online offers and changed behaviour, although many people will be more than happy to complement e-versions with live events. The increasing shift towards a co-existence of digital and physical offers might be most pronounced in the retail sector. The pandemic has brought a shift to omnichannel retail, led by digital shopping, which will be further developed and refined in the years to come. Omnichannel approaches are also expected to be used more in education. While primary and secondary education will most likely mainly return to classrooms, digital solutions and omnichannel

offers will increase in tertiary education. This may alter our understanding of universities in the long run. Does the shift to increasingly omnichannel solutions led by digitalisation finally bring about the end of geography as discussed since the mid-1980s by e.g. O'Brien (1992)?

Possible territorial implications

Accelerated digitalisation and omnichannel interaction will affect regions and municipalities in many ways. Firstly, they risk widening digital gaps between places and social groups. The potential for teleworking varies widely depending on digital infrastructure and the type of economic activity. According to an OECD (2020b) study among the top regions for remote working capacity are Walloon Brabant, Paris and Stockholm. On the other hand, in many Spanish regions less than one quarter of the workforce could easily shift to teleworking during the pandemic. The same applied to Basilicata region in Italy and Western Romania. In general, it will be more challenging for intermediate cities, towns and rural areas to benefit much from remote work. In addition, many people cannot telework as they do not work in agglomeration economies (Florida et al., 2020).

In the same way, people in rural areas tend to have less e-grocery options, given the delivery ecosystems (at the same time rural areas may benefit from more online shopping for other types of retail).

Retreat into the private: Cocooning in the safety shell. At present European societies display a tremendous urge to throw off the shackles of lockdowns and social distancing. However, it remains to be seen whether we see a post-pandemic euphoria and a catch up effect for socialising. During the pandemic most people spent considerably more time at home. This might accelerate trends of 'home nesting', also accelerating the pre-pandemic 'hygge trend'. Many people also invested more in their surroundings and may want to make use of their 'upgraded homes'. With more activities at home, people value space more, affecting home buying and renovation. In addition, for some, their home became a 'safety shell' where pandemic risks are lower. The mental image of the home as a 'safety shell' and limited physical contacts may very well also leave their mark. People might become more distanced and less outgoing than they were prior to the pandemic. Many people may not find it easy being in crowded places with 'too many people' being 'too close'. 'Home-nesting' is expected to stick as high-income households prefer to work from home and low-income households retrain low cost at-home alternatives such as digital entertainment (McKinsey, 2021). Does this trend towards more home-nesting with a private 'shell of safety' accelerate what Popcorn (1991) described as 'cocooning' thirty years ago?

Possible territorial implications

Becoming more private and cocooning in safety shells will affect regions and municipalities in many ways. Inner cities would become less busy, while greener and less densely populated areas might be more sought after. This has implications for office and shopping areas. It also has considerable implications for people living in more cramped urban districts who cannot afford larger homes in greener areas or cannot shift to remote working. Territorial and social fragmentation may widen.

Widening social gaps. All public policies should increase citizens' well-being and quality of life. This includes living conditions, productive or main activities, health, education, leisure, social interactions, economic and physical safety, governance and basic rights, as well as the natural and living environment. Prior to the pandemic the debate about people and places left behind already pointed at growing social gaps. As discussed above, the pandemic affected people differently depending on their education, income and digital literacy, which has widened gaps and increased inequalities between social groups. This will most likely carry over to the medium and long-term, as the starting positions for recovery and post-pandemic prosperity have become more unequal. In other words, the pandemic has strengthened barriers and exclusion. Increasingly this is not about people being left behind but about people being locked out. Do increasingly diverse development outlooks accelerate economic and social polarisation trends, as described before the pandemic for people by e.g. Piketty and Saez (2014), or places by e.g. Rodríguez-Pose (2020c)?

Possible territorial implications

Bigger social gaps will affect regions and municipalities in many ways. As the pandemic is widening the gap between low- and high-income households for education and economic prospects, it accelerates the divide between winners and losers, subjectively and objectively. Perceived economic deprivation and social marginality translates into a lack of trust in political decision making. This often has also a spatial dimension and thus social fragmentation links with territorial fragmentation. People living in areas which are economically worse off have bleaker development prospects, less access to services of general interest and are less likely to believe that politicians care about their areas. They have lower 'communotropic trust' (McKay, Jennings, & Stoker, 2021), which leads to stronger 'geographies of discontent' and places feeling left behind (Dijkstra, Poelman, & Rodríguez-Pose, 2018; Rodríguez-Pose, 2020c).

Balancing self-centred and openness. The pandemic put Europe's social fragmentation on display. One of the biggest dividing lines which became clear is between self-centred/self-sufficiency and openness which have become highly contested. The pandemic accelerated divides and fragmentation in our societies.

This also made it clear that currently there is no shared vision of our European society. Is this another version of the debates between Goodhart's (2017) 'somewheres' rooted in communities and 'anywheres' being more footless and flexible, or the Economist's (2016) 'drawbridge uppers' and 'drawbridge downers'?

Possible territorial implications

Balancing values such as self-centred/self-sufficiency and openness has a spatial dimension. As with increasing social gaps, this trend risks fuelling the fragmentation between social groups and territories. Though the diving lines will probably be different to the social gaps above.

Even within the Schengen area, responses to the pandemic made national borders visible again. This has affected personal behaviour as well as supply chains and in many regards people and companies have drawn lessons from this. Borders will stay in our minds more strongly as dividing lines in Europe and discussions about nation states 'taking back control' have moved from words to deeds. Spatial integration comes with a question mark.

National protectionism. The pandemic has also further increased a focus on national interests and protectionism. The reflex of decision makers to turn to national responses in times of crises and uncertainty was put on display by the pandemic. In the EU this included unilateral border closings and travel bans. Even joint efforts for vaccination and recovery include countries struggling against each other rather than a united front. Does the reflex to turn to national responses in times of crisis accelerate pre-pandemic tendencies of putting own interests and country before common solutions? Do we face an increasing 'tragedy of the commons' as already addressed half a century ago by Hardin (Hardin, 1968) or the classic 'prisoner's dilemma'?

Taking a more optimistic point of view, the EU could have become more united in this crisis. As in previous crises, the EU has shown that it can take steps with 'Seven Mile Boots'. The best examples are the agreements on the historic budget for NextGenerationEU and on joint debts for parts of it. So, does the pandemic accelerate trends towards a more integrated EU as mutual interdependencies were displayed so clearly?

Possible territorial implications

Short term spatial implications of national protectionism might be best linked to repatriation, onshoring, reshoring or nearshoring for producing strategic goods. These could include health care equipment and pharmaceuticals, but also microelectronics, artificial intelligence and batteries among others, as described in the section on value chains. For some areas this may imply development opportunities with new economic activities. For others this might bring challenges

to their industries as they need to reposition themselves in changing supply and value chains when they lose important suppliers or clients.

3.2.2 Trends which might be temporarily boosted

The pandemic has pushed some trends, perhaps only for a short period of time.

Travel coming back soon. The tourism and travel sector has been highly affected by the pandemic and many segments may take a few years to recover to pre-pandemic levels. In the short-term there will be fewer tourists, much less business travel and so-called MICE[6] and intercontinental tourism will take several years to recover. The aviation sector may need several years to regain previous levels of activity (EUROCONTROL, 2020). At the same time a stronger focus on domestic tourism might stay around for a while.[7]

Possible territorial implications

An on-going DG REGIO study shows the regional diversity of impacts on tourism regions, also which segments are expected to bounce back and how quickly (Böhme et al., 2021). Some decisive factors explain the impacts on local and regional economies (Joint Research Centre, 2020; OECD, 2020d; WTTC, 2020). Areas with high shares of international (especially intercontinental), MICE, mass and group tourism are heavily affected and might need more time to recover. Destinations with limited potential to replace international with domestic tourists and a high share of the regional economy depending on tourism will be the most severely hit.

Repartition of value chains. The pandemic has shown how economies are highly interconnected and complex value chains are vulnerable. The pandemic also accentuated the strategic importance of value chains for pharmaceuticals, protective medical equipment, microelectronics, autonomous driving, batteries, and AI in light of the accelerating digital transformation and growing demand for electric vehicles (deVet et al., 2021). Political discussions about ensuring that essential goods can be produced within the EU are matched by discussions in the private sector about reorganising international value chains and onshoring to increase resilience and diverse activities. Often this relates to reduced globalisation, including within Europe. Even if the pandemic has led to considerations about their vulnerability, the EU will continue to rely on global supply chains and other countries on the EU. Still the pandemic might lead to adjustments in some sectors. Whether this leads to long-lasting changes in supply chains or only to temporary adjustments and which sectors are actually concerned still needs to be seen.

[6] MICE describes activities related to busines meetings, incentives, conventions and exhibitions/events.

[7] See also https://www.spatialforesight.eu/tourism.html.

Changes in global value chains

Discussions about reorganising value chains and onshoring, reshoring or nearshoring are caused by concerns over the security of global value chains and strategic considerations. Among others, value chains for pharmaceuticals, protective medical equipment, microelectronics, autonomous driving, batteries and AI have increased in importance due to the accelerated pace of digitalisation caused by the COVID-19 pandemic and the wider strategic goals of the EU. This also highlights the dependency of EU industry on imports, as well as the strategic importance of value chains.[8]

Therefore, it is important to build on EU strengths by investing in strategic industries, R&D and skills and not try to force self-sufficiency. In addition, innovation, the circular economy, diversification and domestic sourcing can reduce dependencies. (deVet et al., 2021)

3.2.3 Trends shaping our future regardless of the pandemic

There are also trends and changes which will continue to shape our futures regardless of the pandemic. These include exogenous technological trends (e.g. digital society, post-carbon and circular economy), social change (e.g. migration, ageing, fluid social institutions and shifts in values) and environment (e.g. adapting/mitigating climate change and managing scarce resources).

Climate change and loss of biodiversity. The biggest challenges in the decades ahead remain climate change and the loss of biodiversity. Addressing these may require much more radical actions than for COVID-19. In many ways, the pandemic has shown that our society is capable of taking radical steps to meet challenges. Even if the urgency of addressing climate change and the loss of biodiversity has been overtaken by the pandemic, it has not gone. On the contrary, dealing with the pandemic will influence how we deal with climate change. The disruptive pandemic could shape an economic and societal transition towards carbon neutrality and more global justice. If we change how we live and what we prioritise, we might also find more effective responses to climate change.

Missing this opportunity could accelerate climate change and the loss of biodiversity. Regardless of our final choices and actions, climate change will affect development perspectives in the decades to come. The loss of biodiversity and pollution of the land and sea will become ever more relevant. All these may disrupt the basis of livelihoods, the economy and spatial development. Indeed, environmental trends have negative impacts on the structural challenges outlined above. A related topic is energy production and consumption, where major

[8] For example, nearly 80% of semiconductor foundries and assembly operations are concentrated in Asia, while for processed materials and components for Li-ion batteries, China, Japan, and South Korea account for 86% of the global supply.

disruptive effects might be expected as more and more governments pledge to turn carbon neutral in the decades to come. Failure to solve the management of the (global) commons will have more devastating impacts than the COVID-19 pandemic. It is sneaking up on us rather than coming in a storm.

Ageing and migration. Demographic change with ageing, domestic and intra-European migration, including depopulation, will continue regardless of the pandemic. In the coming decades, the population in Europe is expected to grow before declining, accompanied by ageing and migration rather than natural population growth (see e.g. ESPON, 2010; Eurostat, 2018). The EU-27 is expected to decline from 447.6 million people in 2020 to 441.2 in 2050 and the median age is expected to increase from 43.9 years to 48.2 years. As a result, the old-age dependency ratio increases from 32 to 52. This means by 2050 there will be less than two persons of working age for each person aged 65 and over. These demographic dynamics have severe social implications including increased social exclusion and inequalities, as well as challenges for public service provision, labour markets and housing (Territorial Agenda, 2020). On top of this is global migration. Inflows of migrants to Europe will be countered by an outflow of young and talented people to more thriving and prosperous places elsewhere on the planet.

New technologies. Technological progress is a driver of economic and social change, potentially substantially impacting spatial development in Europe. New technologies and a 4th industrial revolution blurring the lines between physical, digital and biological systems are expected to be disruptive. Working methods, social engagement as well as industry, health and education systems will be transformed. There will also be a spatial impression and more inequalities. Industrial transformation is expected to accelerate 'winner takes all', fuelled by low institutional implementation capacity in many lagging places (Foray, Morgan, & Radošević, 2018; Radošević & Kaderabkova, 2011). This in turn may increase fragmentation and territorial disparities with some places becoming hotspots of disadvantage and inequality. This fragmentation would also increase place interdependencies as technology drives societies and economies to become more fluid. Frictions between governmental territoriality and technical fluidity fuels expectations of the internet moving from a word-wide-web into a splinternet or cyber-balkanisation, with parallel transnational networks connecting like-minded parts of the world.

Shortage of production materials. For some time several resources have clearly been depleting due to population growth, environmental stress, etc. (Institute for Futures Studies and Technology Assessment, 2014). Current examples are shortages of wood leading to slowdowns in the construction sector and microchips leading to reduced car production (e.g. due to increasing global demand, climate

change effects, protectionism). Is this something we might see more of – temporary shortages of parts and raw materials, a 'peak of everything'?

Winner takes all. Increased digitalisation is expected to lead to more 'winner takes all' markets, products, people and geographies. In other words, the best performers are expected to capture the lions share of rewards, while the remaining competitors are left with very little (Réchard, Noonan, Schmertzing, Windle-Wehrle, Frey, & Cesluk-Grajewski, 2016). This implies that early adopters are likely to lead the way. The challenge is to keep that position and even encourage more players in more places to test the field and develop new solutions (Böhme, Antikainen, Zillmer, Hans, & Pyykkonen, 2016). However, it also means being first to deal with any social impact, especially social setbacks. The same concentration trends are also seen in territorial development. Further polarisation through demographic and economic concentration drains less well-off areas, decreasing their well-being. At the same time, concentration does not necessarily lead to increased well-being in urban agglomerations, as shown by major urban areas in western Europe delivering a mixed picture (Hanell, 2018). The pandemic seems to put a spotlight on agglomeration disadvantages and the advantages of less densely populated areas. Nevertheless, the agglomeration advantages and attraction of major cities are expected to linger. The winner takes all economic geography of global cities will continue (Florida et al., 2020).

Global embeddedness. Europe is not a remote and isolated island but embedded in global interdependencies. Europe's post-pandemic future depends not only on developments and decisions in Europe, its regions and cities but has a strong global dimension. As the pandemic is a global phenomenon, it requires global action. At least, decision-making needs to consider the global dimension. This concerns vaccination strategies, the social and economic transition towards carbon neutrality and more global justice.

Currently, it seems that China and the US will strengthen their global position. Economically underdeveloped countries risk falling further behind. If they do not get sufficient access to vaccines, new mutants might evolve. This could cause new pandemic waves and economically stronger or less affected countries may respond by imposing travel bans and reducing exchanges with affected regions and countries. This would further accelerate the divide and weaken global losers from the pandemic implying increasing instability and new migration to Europe or the southern US border, for example. As in the 2015 Schengen crisis, such developments would affect the perspectives of migrants hoping for a better future. They would also entail conflicts between and within European countries about the policy response. More fundamentally, they challenge our way of life and our understanding of human dignity.

3.2.4 Conclusion on trends

Although the pandemic has affected some development trends, it seems it did not dramatically alter the expected developments. As Florida et al. (2020) point out, the macro-geographical trends of the past 40 years will most likely continue.

The pandemic will not end nor soften polarisation and fragmentation between societal groups and places but rather accelerate these trends. Severe inequalities, geographies of discontent and places left behind will be with us for the foreseeable future. This could mean the divides between prosperous cities and regions and struggling areas will remain, and possibly even widen (Florida et al., 2020).

Some people hope the pandemic might bring a revival for places left behind. The risk is they are misled by a short-term deviation from overarching mega trends.

Widening social and economic disparities in Europe have a spatial dimension such as segregation within towns, cities and rural areas, regions, countries and Europe as a whole (Territorial Agenda, 2020). Increasing inequalities and disparities impact social cohesion for well-being and quality of life, poverty, social exclusion, health and access to services of general interest.

4 Resilience

Closely linked to the analysis and discussion of local and regional sensitivity to the pandemic, is the question about resilience to external shock.

The pandemic crisis as chance to change to a new normal has been lost. The tendency is to try to go back to a pre-pandemic 'normal' is widely accepted as impossible as the pandemic has left too many scars. This is a lost chance for a transition of our society, economy and value systems towards a post materialistic economy[9], reductive modernism or green/environmental Keynesianism[10], able to achieve sustainable management of the commons (as opposed to the current tragedy of the commons) while keeping social disparities in check (Holzinger, 2020). In short, it is a lost opportunity to move towards resilience in a wider perspective.

Resilience describes the ability of a system to 'bounce-back' or return to its pre-shock position. For regional development resilience is determined by the adaptive capacity of an economy, which affects its ability to maintain long-term growth (ESPON, 2014a). In that sense resilience and sensitivity are closely related. Both are structural characteristics of a region which help address the impacts of an exogenous development.

The discussion about what is needed to be resilient depends on the type of 'shock to the system'. In the current debate about local and regional development, resilience can be understood as resistance to change, e.g. to disruptions such as the COVID-19 pandemic. This means resilience prevents change and ensures that the old normal can be sustained or re-built if necessary. This is 'resilience in a narrow perspective'. Resilience can also be seen as a key to progress as it promotes change. Change is necessary so systems and societies can cope with major challenges such as climate change, loss of biodiversity and increasing social injustice. This is 'resilience in a wider perspective'.

4.1 Resilience in a narrow perspective

Considering the potential impacts of the COVID-19 pandemic and future trends, decisive factors for resilience to external shocks in a narrow perspective may be diverse economic sectors, competitiveness, entrepreneurship and innovation and good governance (see e.g. Duit, Galaz, Eckerberg, & Ebbesson, 2010; ESPON, 2014a; OECD, 2020a; Rodríguez-Pose, 2020b).

[9] see e.g. Barušs & Mossbridge (2017); Jordaan & Dima (2020).

[10] see e.g. Blackwater (2012); Fulai (2010); Richardson (2013); Tienhaara (2019); UN-DESA (2012).

- **Economic diversity.** As usual, diversity helps resilience. A broad variety of economic activities tends to help adjustments to changing external factors and increases the likelihood of being less affected. In general, more diverse economies tend to be more resilient as they can adapt to changing circumstances. Promoting diverse markets and avoiding dependencies on particular firms or market segments helps to develop more resilient economies. (ESPON, 2014a, 2014b)

- **Openness and innovation.** With shocks or rapid changes, the ability to adjust to changing circumstances depends on openness to change and experimentation. Innovation capacity and culture also play a role. Adaptive, open and innovative places may adjust to changing circumstances more easily than those sticking to 'old habits'. This links to the discussion about entrepreneurship.

- **Social capital.** This is important for regional diversification and a region's capacity to 'bounce back' after an economic shock. However, the type of social capital matters for the resilience of a regional economy. Generally, bridging social capital[11] is more important for growth in regions, while capital bonding social capital[12] has a negative connection with economic growth (Muringani, Fitjar, & Rodríguez-Pose, 2021). However, the picture changes in times of crisis or economic shocks. Drawing lessons from the 2008 financial crises in Italy, Antonietti & Boschma (2018) conclude that during a crisis, bonding social capital makes regions resilient. It reduces the probability of industries unrelated to existing specialisations in a region failing.

- **Good territorial governance.** Local and regional development follows complex dynamics in which many stakeholders – in the area and outside – need to cooperate. Good territorial governance with trust, inclusiveness and transparency helps to provide unity and mobilise resources in times of shock. (Duit et al., 2010; Rodríguez-Pose, 2020b)

- **Access to funding and resources.** Implementing changes or outliving crises is also a matter of access to financial resources. Consequently, the ability to mobilise funding and investments can be important for resilience.

Quality of governance

The quality of governance is increasingly important for regional and local development, as traditional factors such as technology, physical and human capital can explain some variations in regional development in Europe. Quality

[11] **Bridging social capital** refers to open networks that link heterogeneous groups.

[12] **Bonding social capital** refers to closed networks that link homogenous groups.

of governance positively impacts the marginal utility of investment in infrastructure, human capital and technology then public investments need to emphasise efficiency-enhancing measures. In principle successful public investment relies on a sound investment environment including decision making processes and a wider planning framework.

- **Accountability, transparency and anticorruption.** An analysis of governance quality shows that disparities within Europe tend to be stable but have large scale geographical patterns. To improve the quality of government, public investments need to build capacity in eastern and southern Europe. Furthermore, public investment beyond EU Cohesion Policy to support higher quality government needs to strengthen accountability, transparency and anticorruption.
- **Capacity building.** At all levels, but especially smaller local and regional, authorities often meet capacity limits. Public investments are needed to build and maintain capacity, possibly also through pooling or the 'central' provision of capacities.
- **Trust building.** The quality and efficiency of governments and governance also have to do with citizens' trust in public decision-making processes. With increasing discontent and fragile or even declining public trust, especially among economically disadvantaged groups, there is a case for the broader involvement of people and localities in investment and policy decisions. Large scale investments should involve participatory or co-creative processes bringing citizens on board.
- **Better planning.** Physical investments also require engagement with local and regional planning procedures. Local and regional planning and its integration in investment decision processes varies considerably across Europe. This also concerns public consultation, which is critical to addressing the perception of spatial inequality. Therefore, investment decisions should be properly linked to local and regional planning processes.

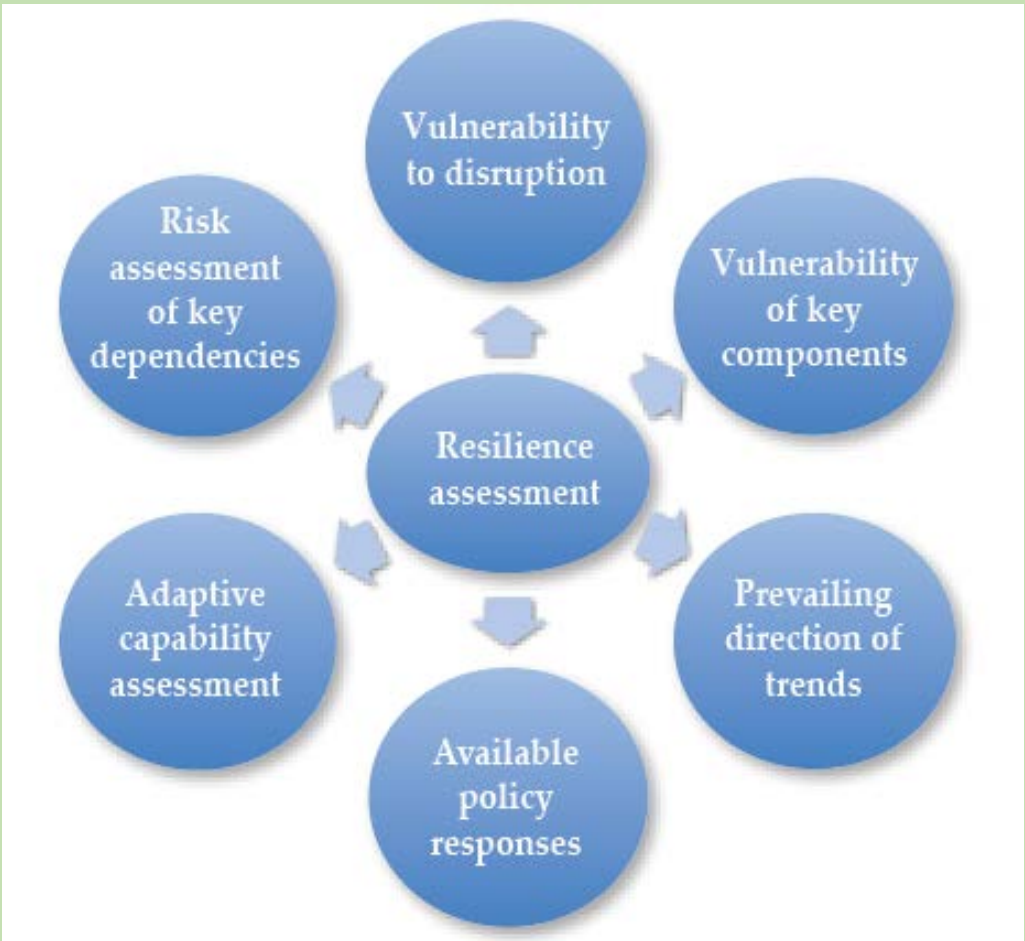
Anticorruption, greater accountability and stakeholder involvement is needed if low-growth regions are to experience sustainable levels of development and greater convergence towards the rest of the EU. Following this understanding, resilience varies considerably between regions and between municipalities. ESPON conducted detailed studies on resilience following the 2008 financial crisis (ESPON, 2014a, 2014b). These show that regional resilience is strongly influenced by national patterns. Most regions have similar resilience to the national average, with some deviations. In many regards the financial crisis increased inequalities across Europe as regions in Portugal, Spain, Greece, Bulgaria and Romania were especially affected.

The Quality of Governance Indicators (Charron, Dijkstra, & Lapuente, 2014) and Innovation Scoreboard (European Commission, 2020) might provide a proxy for resilience. In both cases, this would point to more inequalities. In rough terms, regions and countries in the North and centre of Europe often perform better than many Southern and Eastern regions and countries. This might suggest less resilience for the latter. However, resilience also needs to be related to the impact – in terms of exposure and sensitivity – as discussed earlier in this report.

ESPON proposal for a regional resilience dashboard

In the wake of the 2008 financial crises ESPON developed a resilience dashboard (ESPON, 2014b). An important role for policy makers is to monitor the potential vulnerability of their area to economic shocks, not to predict shocks, but to absorb the effects. Here, traditional indicators may be of limited value. Of more significance is a future orientated perspective and the shared knowledge that is developed of an economy in a more qualitative sense.

Figure 4.1 ESPON Resilience Dashboard



Source: ESPON (2014b, p. 18)

4.2 Resilience in a wider perspective

Resilience as the ability to ‘bounce back’ or ‘return to equilibrium’ is actually a misconception. It would imply that there is a ‘true equilibrium’. Furthermore, it would increase our vulnerability to the growing predicaments of rapid global environmental change (Duit et al., 2010, p. 367). Therefore, resilience in a wider perspective needs to be understood as the ability to reorganise after a shock.

The question is which shocks are considered and how big they have been. Such ideas about resilience are always shaped by the system and the shock.

While the COVID-19 pandemic has happened, other shocks are imminent or ongoing. Climate change, loss of biodiversity and increasing social inequalities are expected to bring much more severe shocks than the pandemic. For these a wider resilience perspective is considerably different from the narrow perspective.

The different perspectives are best described in relation to global environmental challenges. They share three fundamental characteristics (Duit et al., 2010). Firstly, they require decision-making where costs and benefits are separated by long time-lags. Secondly, they are about intrinsically complex socio–ecological systems. Thirdly, they are about producing global collective goods that go beyond the scope of unilateral ‘single-best efforts’ of any player.

Therefore, key features describing resilience need to go beyond those addressed above. They mainly relate to territorial governance capacity, including knowledge management, self-organisation and the capability to learn and adapt.

Territorial governance capacity. Governance in the narrow resilience perspective focuses on trust, accountability, transparency and anticorruption. The wider resilience perspective stresses flexibility and reaction capacity, to be able to adapt to changing circumstances while balancing stability and flexibility. The answer seems to lie in diverse governance systems. Governance systems with more semi-independent networks and organisations, through their diversity and flexibility, are more resilient as they have more alternatives. Incrementally implemented, heterogenic and piecemeal mixes of policy instruments, institutions, networks and organisations are usually better equipped to adapt to challenges rooted in complex system dynamics (Duit et al., 2010). In this sense, resilience is closely linked to active subsidiarity in European policy making (see also Valenza, Hickey, Zillmer, & Georis, 2020).

The basic question is about how to ensure the capability to navigate during uncertainty. Knowledge, self-organisation and the capacity to learn and adapt are crucial for wider resilience. This can be translated into some key points:

- **Preparedness.** Knowledge is key to the wider resilience perspective. This concerns knowledge about the complexity of our present world and its

dynamics. More important is the forward-looking perspective of knowledge. Learning from foresight means many disruptive changes come with early warning signals. However these are often weak signals that easily go unnoticed, or are only noticed by a few players (A. Steinmüller & Steinmüller, 2003; K. Steinmüller, 2006). Some signals are even noted but their urgency is not fully understood by policy makers (Randers, 2012; Rosling, Rosling, & Rönnlund, 2018). Climate change, loss of biodiversity and rising inequalities are prime examples.

- **Capacity to react.** Going beyond knowledge and foresight, the capability to learn and adapt is crucial for wider resilience. There is no 'true equilibrium' which means constantly finding 'new' equilibriums balancing stability and flexibility. This requires the capacity to react and think about alternatives and new scenarios and how to achieve them (Burmeister, Fink, Schulz-Montag, & Steinmüller, 2018; ESPON, 2018a, 2019; Gaub & European Strategy and Policy Analysis System, 2019; Prognos, Öko-Institut, & Wuppertal-Institut, 2021). Beyond the capacity to think and discuss possible futures and their implications it also involves the capacity to act in response to changing circumstances (see above).

- **Transformation willingness.** Knowledge, foresight and adaptive capacity only help if there is a willingness to transform. This goes together with a shared vision of how a desirable future responding to changing circumstances could look. This implies overcoming societal inertia to use a shock as an opportunity for long-term strategic change. Indeed, resilience in terms of future-wise willingness and capacity to adjust to changing circumstances is weak.[13] It is difficult enough to define a shared vision for the future which is substantially different from the present, but transformation willingness needs to move from vision to action. There is no blue print of the future so action will need to balance experimentation and self-organisation with a powerful and fullhearted effort to change. In other words it needs to balance diverse semi-independent networks and players to test different ways to the vision (Duit et al., 2010) and a full out 'mission economy' where all efforts are aligned (Mazzucato, 2021). This combination is possible as described by Mazzucato (2021) in her work on the 'moonshot guide to change' drawing lessons from the Apollo programme.

[13] see also Eurobarometer e.g. https://europa.eu/eurobaromesurveys/detail/2262 or https://europa.eu/eurobarometer/screen/home on April 2021 on social March 2021 on future of Europe.

Climate Neutral Germany 2045

The report on a climate neutral Germany by 2045 (Prognos et al., 2021) illustrates a ‘mission economy’:

- A climate-neutral Germany is possible by 2045. Compared to the target year 2050, this saves almost a billion tons of CO_2 in the atmosphere. With such a goal, Germany would become an international pioneer in climate protection and a leading market and supplier for climate protection technologies.
- A target of 65% by 2030 is a suitable milestone on the way to climate neutrality in 2045 and creates the conditions for an accelerated transformation after 2030.
- Climate neutrality by 2045 means faster structural change than for a target of 2050. With the expansion of renewable energies, climate-neutral industry and a switch to heat pumps and electromobility, the transformation will accelerate after 2030. In addition, this will promote an agricultural turnaround as well as CO_2 capture and storage.

4.3 Future outlook

In the short and medium-term the COVID-19 pandemic is likely to deepen existing differences between places and people in Europe. Even with the enormous EU recovery funds, it will be hard to avoid rising inequality. Convergence in the EU may be reversed. As shown in the impact discussion many areas suffering from negative impacts of the pandemic are in the south of Europe. On the other hand, most regions that might benefit from the pandemic are in the core and North of Europe. On top of this, these areas were better off already. With their more stable economies and greater fiscal capacities, they also had more room to help ailing businesses and make use of looser EU state aid rules. (Busse, Loss, Puglierin, & Zerka, 2020)

The medium-term impacts of the pandemic, expected development trends and especially the discussion about wider resilience show that the future needs to be different from the present or pre-COVID-19. Things need to change. The question is what future do we want?

Today’s driving forces for change tend to be responsive rather than proactive. In many cases change is driven by fear and a nostalgic desire to revive the past, which seems to have been accelerated by the pandemic. Today, change seems more rarely to be driven by positive future visions or dreams. Positive exemptions are to be found in the debates about sustainable development (as far as it is not driven by the fear of the consequences of climate change), gender equality and LGBTQ+ rights.

Suckert and Schommertz (2021) describe this as ‘future fatigue’ in society: ‘After a crisis decade in which social divisions have become stronger, it is increasingly difficult even under normal circumstances for fragmented societies to establish a shared vision of what a positive future might look like. The future, it seems, is itself in crisis.’

This links to the debate about imaginary crises (Mulgan, 2020) and the need to move from ‘what is’ to ‘what if’ to create the future we want (Hopkins, 2019).

To come out of this crisis and prepare for better resilience we need a commonly shared vision for Europe and its territory (cf. ESPON, 2019). This needs to offer a future for all places and people in Europe (Territorial Agenda, 2020) and guide a wide range of policies and investments – following the idea of a ‘mission economy’ (Mazzucato, 2021).

Outlook without vision

The ECFR Cohesion Barometer paints a bleak picture with little hope for overcoming today’s ‘future fatigue’. (Busse et al., 2020)

It seems the pandemic has affected people’s feelings about the future and views about the EU more than the views about their own countries. This may lead to an increasing deterioration of people’ willingness to engage with the EU.

In the EFCR Cohesion Barometer, four of the five indicators for individual cohesion have been significantly affected by the pandemic, against just one of the five indicators for ‘structural cohesion’.

The consequences for structural cohesion are likely to be negative, with pandemic impacts straining economies. For individual cohesion, however, change could be positive if shared experiences of lockdowns and common suffering generate new support for the European project.

5 Case studies on impacts and policy responses

To get a deeper understanding of local and regional impacts of COVID-19 and policy responses to boost recovery the above analysis is complemented by nine case studies.

5.1 Case study approach

The severity of the second wave of COVID-19 necessitated further lockdowns across member states and regions of Europe. Case study analyses have focused on socio-economic and environmental impacts of the pandemic and lockdown measures in EU-27 regions and cities. Each case study focusses on specific aspects, such as tourism activities, unemployment and vulnerable population groups. As such, these case studies do not aim to be exhaustive in terms of covering all impacts of COVID-19 and the associated containment measures, but rather focus on impacts which are specific to the analysed region or cities.

The methodological approach of the case studies consists of desk research and stakeholder interviews. The desk research includes policy documents and indicators and the development of the socio-economic and environmental situation since these measures were imposed. Interviews with regional stakeholders (e.g. public officials, policy experts etc.) provide insights into the background for policies and qualitative insights into impacts. The findings from the interviews are presented in summary tables.

The nine case studies were selected according to the following criteria:

- Geographical representativeness – to reflect a balanced mix of regions across the EU-27,
- Territorial scope – to include a balanced mix of regions and cities,
- Severity of the pandemic – to account for differences in infection rates (during the first and second waves),
- Socio-economic development – to ensure a balanced mix of regions in terms of socio-economic development.

The broad territorial scope provides insights into the interplay between territorial and socio-economic characteristics, the types of measures and policies, and the severity of the crisis.

Table 5.1 Overview of case study regions and cities

Name of region	Type
Bavaria, Germany	Region
Gothenburg, Sweden	City
Bratislava, Slovakia	Region
Andalusia, Spain	Region
East-Flanders, Belgium	Region
Prague, Czechia	City
Vorarlberg, Austria	Region
Paris, France	City
Azores, Portugal	Region

Source: Project team, 2021

5.2 Synthesis of the case study findings

The nine case studies allow for some overall findings on the restrictions or containment measures and regional response capacity.

5.2.1 Impacts of COVID-19 and containment measures

Irrespective of mix of implemented containment measures, impacts were severe across the case study regions. However, the degree of regional specialisation on certain economic sectors (particularly services and tourism) can make a difference in regards to overall vulnerability. As an illustrative example, the city of Gothenburg, despite not imposing as restrictive measures as the other case study regions, also experienced severe economic imbalances and social impacts, as other case study regions.

In terms of negative impacts, regions with specialisation on tourism were highly affected. This concerns in particular cities with a high reliance on city tourism (such as Paris, Bratislava, and Prague), but also regions with a high specialisation on tourism in general, such as the Azores, Andalusia, and Vorarlberg. Another key vulnerability is the reliance on supply chains: regions with a strong manufacturing specialisation (Vorarlberg and Bavaria) saw disruptions in the supply chain due to the pandemic as particularly detrimental. This concern is also relevant to the Azores as an outermost region: disruptions in the supply chain can cause significant problems with the distribution of essential equipment, such as protective gear.

A key negative impact is the increase in unemployment. While unemployment was likely cushioned by the implementation of short-time work schemes across the EU-27, unemployment among vulnerable groups increased and often stabilised at higher levels despite signs of recovery (such as e.g. in Bavaria,

Vorarlberg, and Gothenburg). Most affected were long-term unemployed, inhabitants from other countries, and women. In addition, access to social infrastructure, health, and education are key concerns which the pandemic and the associated containment measures exacerbated. These concerns were highlighted in, e.g., the regions of Paris, the Azores, and Bratislava.

However, the pandemic also saw positive impacts across the case study regions. In terms of short-term trends, most case study regions highlighted improvements in the environment related to reduced economic activities. As the regional economies recover, these effects will likely dissipate. Across most regions, digitalisation seem to have increased in governance and businesses. Some regions (e.g. Paris and Prague) saw increased networking and cooperation with other regional actors (such as neighbouring regions) as a positive impact. Sustainable development was also embraced across the regions (e.g. Bratislava and Prague). The crisis as an opportunity also holds true in Paris and East Flanders which saw increased rates of start-ups.

5.2.2 Response capacity

The case study regions implemented a relatively uniform mix of containment measures in the crisis. The table below presents a synthesis of the mix of containment measures and support measures implemented in the case study regions and cities. The overview per case study region and city is provided in the annex.

Table 5.2 Synthesis of measures implemented across the case study regions

Measure	Degree of implementation across case studies
Workplace closure	Across most regions, except Gothenburg. Most restrictions are related to closure of non-essential services.
Home office	Recommended by central government across most case study regions, in some cases made mandatory by regional/city actors (Bratislava) or central government (East Flanders)
School closure	Across most regions, except Gothenburg. In Gothenburg this came as a recommendation from the central government with voluntary implementation by the city.
Cancellation of public events	Across all regions
Restriction of size of gathering	Across all regions
Restrictions in movements	Across most regions, except Gothenburg.
Targeted economic support	Across all regions
Short-time work	Across all regions

Source: based on interviews and desk research in the case studies

In most regions, implementation was decided by the central government and implemented by the region or city in a top-down approach. In some cases (e.g. Bratislava) actors implemented stricter measures than required. In more federal systems, such as Germany, decisions on implementation came jointly between federal and state governments. Two exceptions are the Azores and Gothenburg. In the Azores, the regional government decided on the implementation of the measures and imposed a strict set of measures due to the dispersed medical infrastructure. In Gothenburg less restrictive measures than in other case study regions were implemented on the basis of government recommendations. Regional and city governments played a crucial role by implementing local measures to complement containment measures, such as by providing testing facilities or sheltering homeless people, or by providing communication campaigns and managing the containment measures.

The bulk of the relief measures came from the central government. However, regional actors played an important role in tailoring and complementing these packages with their own measures to regional specificities. This was the case in Paris (with a strong focus on vulnerable groups) and the Azores (with a strong focus on employment and tourism).

With regards to future resilience, the interviewed stakeholders highlight factors such as readiness of the health system (in relation to medical supplies and sufficient personnel) and resilience of supply chains (e.g. the Azores and Vorarlberg). Improved planning and governance, rapid response, and better monitoring and evaluation of policies (such as in Paris, Andalusia, Gothenburg and East Flanders). The need for clear and transparent communication channels with other regions and especially the central government was also emphasised across the case study regions.

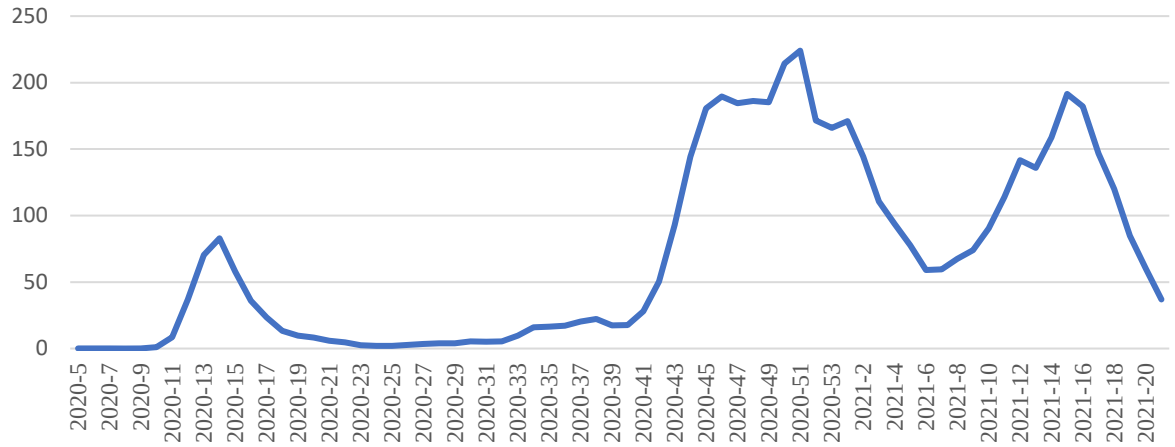
5.3 Bavaria, Germany

The federal state of Bavaria had a population of approximately 13.1 million in 2020. It is one of the wealthier federal states with GDP per capita of around EUR 46,000 in 2020, above the German average of EUR 40,000. In May 2021, unemployment was at 3.6%. Bavaria was hit harder in the second wave and cases peaked in the penultimate week of 2020 (see Figure 5.1). In early 2021 cases rose again, peaking in calendar week 16.

Bavaria is an important location for manufacturing industries and particularly exposed to fluctuations in global demand for industrial goods. Bavaria is also a major domestic tourism destination which is expected to increase. In 2020, the primary sector contributed to less than 1% of regional value added. The manufacturing sector remains important, accounting for 31% of value added. The

most important sector is services, providing 48% of value added from private services and 19% from public services[14].

Figure 5.1 Seven-day incidence per calendar week



Source: Bayrisches Landesamt für Gesundheit und Lebensmittelsicherheit, 2021[15]

Table 5.3 Case study region profile – Bavaria

Type	City
GPD per capita (EUR)	EUR 46,000 (2020)
Unemployment rate	3.1% (March 2020)
Population	13.1 million (2020)
Population density	186 per km² (2019)

Source: Eurostat, Bavarian State Office for Statistics and Data (2021)

5.3.1 Impacts of COVID-19

Negative developments

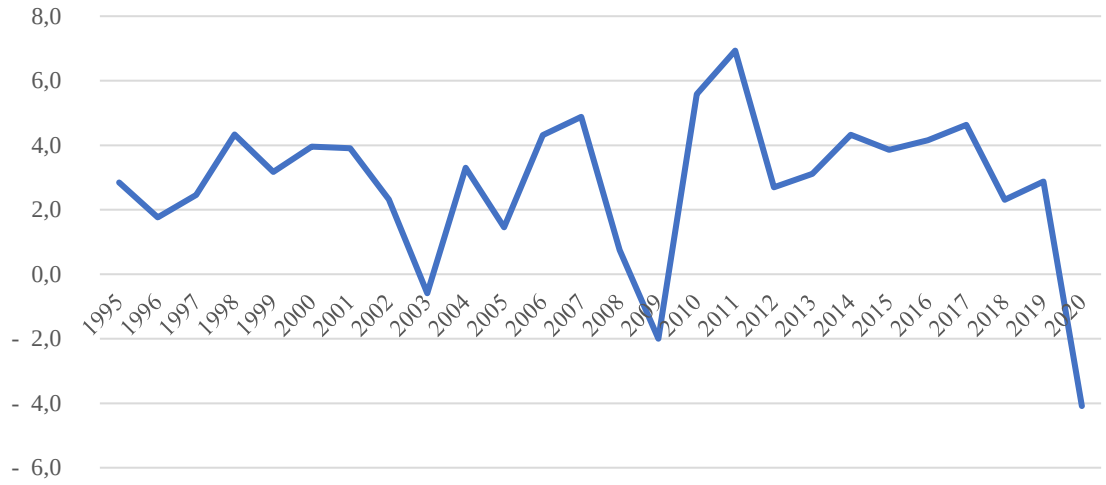
The COVID-19 pandemic was accompanied by a significant macro-economic shock. Regional GDP contracted by approximately 4% in 2020. Gross value added declined by approximately 3.7% in 2020, with the strongest contractions in the primary sector (-10.7%), followed by the manufacturing sector (-6.4% and production industries hit hardest, -10.9%)[16].

[14] Source: https://www.statistik.bayern.de/statistik/gesamtrechnungen/vgr/index.html#link_1.

[15] Source:https://www.lgl.bayern.de/gesundheit/infektionsschutz/infektionskrankheiten_a_z/coronavirus/karte_coronavirus/#meldedatum.

[16] Source: https://www.statistik.bayern.de/statistik/gesamtrechnungen/vgr/index.html#link_1.

Figure 5.2 Annual regional GDP growth (%)



Source: Statistik Bayern, 2021.[17]

The interviewed stakeholder points to a series of specific short-term and long-term impacts due to the pandemic and the containment measures. In terms of short-term developments, particularly economic difficulties are highlighted. These include disruptions to supply chains, as well as closures of the cultural and hospitality sectors. In terms of short-term social impacts, school and care activities combined with remote working led to heavy burdens on families. Children may also experience these negative impacts, particularly related to education, sport and nutrition. In terms of long-term impacts, mobility and contact restrictions made work in associations difficult, especially related to recruiting new members and ensuring generational renewal.

Unemployment increased rapidly in Bavaria, as illustrated in, to over 4% by August 2020 (orange line). Currently, unemployment follows cyclical patterns at a higher level, indicating more long-term unemployed. Between March 2020 and May 2021, the most impacted population groups were women (increasing by approximately 40%), foreign-born inhabitants (+ 39%), long-term unemployed (approximately doubling) and individuals aged 55 years or older (+ 33%).[18].

Positive developments

The economic impacts of COVID-19 were asymmetrical. The pandemic coincided with a construction boom which saw value added increase by 9.6% in 2020.[19]. The interviewee also identifies one specific long-term trend, namely digitalisation, as a positive result of COVID-19 and the containment measures. The interviewee identified two other impacts, namely reduced traffic and reduced

[17] Source: https://www.statistik.bayern.de/statistik/gesamtrechnungen/vgr/index.html#link_1.

[18] Bundesagentur für Arbeit (2021). Arbeitsmarktreport (Monatszahlen) – Land Bayern – Mai 2021.

[19] https://www.statistik.bayern.de/statistik/gesamtrechnungen/vgr/index.html#link_1.

emissions. However, these are short-term results tied to reduced economic activity.

5.3.2 Key measures

Bavaria underwent three lockdowns in 2020 up until 2021 with varying intensities. The lockdowns were implemented jointly by state and federal government. Two hard lockdowns were implemented (between 22 March to 6 May 2020 and 16 December 2020 to 3 March 2021) and a light lockdown (2 November and 13 December 2020). Key differences in approach were tied to the extent of workplace closures and contact restrictions.

Since 24 April 2021, a set of federal guidelines called the “Corona emergency brake” devolved the application of containment measures to local levels. Municipalities with a seven-day incidence of over 100 cases per 100,000 inhabitants for more than three days in sequence would have to implement contact restrictions and a curfew. This mirrors the hotspot strategy implemented between May and November 2020, where Bavaria opted for lower incidence thresholds than federally required.

The state implemented a mix of stimulus measures, complementing federal aid. This includes support to businesses for digitalisation, direct economic aid to individuals and enterprises and relief aid. The interviewee deems short time work payments (to safeguard employment and income) and direct economic support to enterprises as the most effective for mitigating the effects of the pandemic and the containment measures.

5.3.3 Future perspectives and developments

The interviewee deems that the state of Bavaria has to become more creative and effective when implementing governance instruments. Where municipal leadership acted quickly and introduced measures, the effects of the pandemic were mitigated better. In regards to future resilience and preparedness, there should be stocks of protective gear and support material. Additionally, production or acquisition of these should be possible in the short-term or under time constraints.

5.4 Gothenburg, Sweden

Gothenburg a population of 583,056 in 2020, an increase of 3,755 from 2019. Approximately 28% of the residents were born outside of Sweden. Approximately 40% of the surface area is forested. Average monthly incomes were SEK 28,117 (approx. EUR 2,796) in 2019.

Table 5.4 Case study region profile – Gothenburg

Type	City
GPD per capita (EUR, PPS)	68,502 (2018)
Unemployment rate	5.6% (2018)
Population	536,056 (2020)
Population density	1,199 per km² (2020)

Source: Statistics Sweden (2021)

5.4.1 Impacts of COVID-19

Negative developments

Unemployment has risen significantly in Gothenburg since March 2020. By May 2021, the unemployment rate was at 7.3%[20]. Across all age groups, unemployment rose by approx. 30% in between March 2020 and May 2021, a stronger increase than the 21% across Sweden. Particularly youth unemployment was affected, rising by approx. 40% between March 2020 and April 2021, larger than the 11.6% increase across Sweden. In addition, the number of people unemployed for more than 24 months increased by 24%. This was also reflected by the interviewed stakeholder from the labour administration: unemployment rose especially among two target groups: young and foreign born. Whether this is a long or a short-term impact is still unclear, as long-term unemployment (longer than 12 month) has stabilised at a high level.

Tourism was also severely impacted with a large reduction in guest nights from domestic and international visitors: occupancy rate was 21% in the first quarter of 2021, less than half of the occupancy rate of the first quarter of 2020 (50%). The vacancy rate of offices continues to rise in Gothenburg, standing at 9.5% in spring 2021. This is likely due to remote work: the city centre has a low night-time population[21].

The interviewed stakeholder from the labour department points to a specific negative impact in the fields of labour market integration. Adult education services were implemented under to distance learning. This is expected to be a short-term trend, a gradual return to classroom-teaching is expected.

[20] Arbetsmarknard och vuxenutbilding (2021) Omvärldsrapport 2021. Retrieved from: https://www4.goteborg.se/prod/intraservice/namndhandlingar/SamrumPortal.nsf/93067769790BC6A5C12586ED00451C91/$File/10%20Omvarldsrapport%202021.pdf

[21] Arbetsmarknard och vuxenutbilding (2021) Omvärldsrapport 2021. Retrieved from: https://www4.goteborg.se/prod/intraservice/namndhandlingar/SamrumPortal.nsf/93067769790BC6A5C12586ED00451C91/$File/10%20Omvarldsrapport%202021.pdf

Positive developments

In 2020 record low levels of air pollution were measured in Gothenburg. The levels of nitrogen dioxide (NO2) were at record low levels in 2020, and also the levels of particles (PM 10 and PM 2.5) were lower than usual[22]. This can be explained by a combination of favourable weather, reduced traffic volumes and increasingly cleaner exhaust fumes from road traffic. Traffic patterns have changed significantly compared to earlier years, partly due to extensive construction and infrastructure work, and partly due to pandemic restrictions. This specific impact is highlighted by the interviewed stakeholder from the environmental administration. However, this is likely only a short-term impact as it is related to traffic patterns. Also, other factors may influence the development of the pollution level, such as weather conditions.

The finances of the region of Västra Götaland (in which Gothenburg is situated) further improved in 2020 as compared to 2019: the budget surplus rose from SEK 835 million in 2019 (at expenses of SEK 61,027 million) to SEK 2,629 million in 2020 (at expenses of SEK 63,817 million). This increase is due to the relief funding by the central government[23].

A consequence of the pandemic is the sharp fall in travel in Gothenburg over the course of 2020. Residents and visitors opted out of travel and also changed their mode of transportation, favouring cycling. Cycling is the only mode of transport that has increased during 2020 (increasing by 8%). Travel by public transport is estimated to have decreased by 31% and car journeys by 8%[24].

The labour administration points to a specific positive development (likely mid to long-term), namely improved digitalisation in the public administration. Digital solutions were embraced within the administration and will likely be used more frequently after the pandemic.

5.4.2 Key measures

The approach to containment measures set Gothenburg apart from other EU-27 regions. Instead of mandating strict restrictions, such as in terms of social distancing or work place closures, the government focused on providing recommendations to the general population combined with light restrictions. Remote work and remote teaching were only recommended by the central government and not actively mandated. Support was implemented via the central government and complemented by city decisions. Measures such as short-time

[22] The Environmental Administration City of Gothenburg, 2021: 12 Luften i Göteborg Annual Report 2020

[23] https://www.scb.se/hitta-statistik/redaktionellt/coronabidrag-ger-overskott-i-alla-sveriges-regioner-2020/

[24] The City of Gothenburg. (2021). Annual Report 2020 The Swedish Transport Administration.

work were implemented by the central government. Targeted support (such as digitalisation support) was complemented by city decisions.

5.4.3 Future perspectives and developments

In regards to lessons learned from the crisis, interviewed stakeholders point to the importance, and challenge, of designing appropriate and effective measures to mitigate the crisis rapidly and proactively. At the same time, it is important to act on limited information regarding crisis impacts and long-term trends. To improve regional resilience, the interviewed stakeholders deem measures to develop and maintain resilience at public institutions important.

5.5 Bratislava, Slovakia

The city of Bratislava is the capital and the largest city of Slovakia. The city borders two sovereign states, Austria, and Hungary, making it an important cross-border link. The city was hit especially hard during the second wave in Slovakia, reporting very few cases in the first wave.

The governing entity is the Bratislava Self-Governing Region, which is responsible for regional transport, regional development and planning, culture, cross-border cooperation, secondary education, healthcare and social welfare.

The city of Bratislava is not only the cultural and political, but also the economic centre of Slovakia. It is the most economically prosperous and wealthiest in Slovakia with the highest GDP per capita among the new EU member states regions. In recent years, Bratislava region has benefited from excellent infrastructure, foreign direct investment and considerable human capital. The most important sector in the region is the automotive industry.[25]

Table 5.5 Case study region profile – Bratislava

Type	City
GPD per capita (EUR, PPS)	40,000 (2019)
Unemployment rate	3.4 % (2020)
Population	669,592 (2020)
Population density	328 per km²

Source: Eurostat (2021)

[25] Source: https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/bratislava-region

5.5.1 Impacts of COVID-19

Negative developments

Because Slovakia was implementing a lockdown practically since December 2020 till May 2021, many businesses, especially in the tourism, culture, the gastro industries, transport sectors, and other services had to be closed. As a result, people consumed less, and the overall economic turnover was smaller than before the pandemic. The interviewed stakeholder points out increases in unemployment: unemployment rose from 2.7% to 5% between April 2019 and April 2021, increasing the risk of poverty. Furthermore, there have been delays in medical treatments in 2020 and 2021[26].

Interviewees pointed out the impacts on city finances and public companies. Bratislava Public Transport Company (DPB) loses about EUR 2 million every month. From March 2020 until April 2021 the financial loss is approximately EUR 25 million. The city of Bratislava is currently compensating for the lost, but this situation is unsustainable in the long run. Rationalisation measures, including a 20% reduction in the number of administrative staff, a reduction in the operating regime and austerity through public procurement, reduced its cost to EUR 11 million since the start of the pandemic crisis. The city budget declined due to high unforeseen expenses, combined with increased expenses for localised hygienic measures (disinfectants, mobile testing facilities etc).

Further, interviewees point to the increase in the price of building materials which caused mainly by stocking shortages and delivery delays and is expected to persist till the end of 2021. There is a housing shortage in the Bratislava region and especially in the capital city. The increase in the price of building materials is slowing down the construction while also making construction work more expensive. This has knock-on impacts on the implementation of EU funded projects, as construction costs increases.

As per the interviewees, vulnerable groups were highly affected in the long-term. Worsening mental health among the elderly in social facilities occurred due to contact restrictions, isolating them from friends and family. Disadvantaged communities from the Roma were negatively affected in their education prospects due to lack of internet access.

Positive developments

The interviewees identified a series of positive developments tied to social and economic aspects. The crisis led to increased trust between the inhabitants and the

[26] The Bratislava Region observed that in 2020, radiation oncology patients in the Bratislava region received examination 10 days later in average than in 2019. Also, patients went to oncological surgeries on average 40 days later in 2020 than in 2019

city due to timely and reliable information provision. From the beginning of the crisis, the city of Bratislava has regularly published timely and transparent information and recommendations concerning the latest developments related to the new coronavirus on the city's website as well as on social networks. Digitalisation was boosted as well. The city is currently part of a digital transformation program with Bloomberg Philanthropies and Harvard where the city is improving the citizen's experience with their digital services. The city's goal is to transform the tax service and follow with other digital services to increase their use online as well as satisfaction of citizens.

5.5.2 Key measures

The city of Bratislava partially implemented stricter pandemic control measures or implemented measures such as school closures earlier than the central government. In addition, the city implemented targeted measures to fill gaps left by the central government, such as developing anti-epidemiological standards when no standards were available, opening a quarantine townlet for the homeless (Quarantine Village). Economic support to businesses and individuals was implemented mainly via the central government. For the interviewees key measures include large-scale vaccination in the city and region of Bratislava.

5.5.3 Future perspectives and developments

The interviewees highlights that the crisis made the city adjust many decisions as well as the direction of the city's urban policies. The struggle to protect the most vulnerable groups of the population while ensuring the running of the city was very demanding in terms of the city's efforts and funding. The city hall had to deal with the problems the city and had not been able to prepare for in advance. Because of the failures perceived in how the government managed the processes and communication, the city hall took some matters into their own hands.

The most important lessons learned of city of Bratislava were to focus on protection of the public and vulnerable groups of residents, to communicate transparently and openly towards the citizens, and to focus on the development of digital services. In addition, the city made use of volunteers to help with the implementation of hygienic measures (such as in Quarantine Village).

The interviewees highlight that the regions were able to manage some of the policy measures and initiatives, to some extent, better than the national government. Therefore, regional authorities might obtain more competences in

the future (e.g. in the health policy). The pandemic has also highlighted the importance of local governments and authorities[27].

In regards to future resilience, the city of Bratislava would prefer better and more transparent communication with the national level, in some matters the local governments should be considered as equal partners. The interviewee of the Bratislava Region sees the strengthen the national healthcare system. The vulnerability is tied to structural factors: shortage of personnel, wages and low levels of digitalisation. Also, the communication among the stakeholders in the sector needs to improve, e.g. between actors on the national and on the regional level.

5.6 Andalusia, Spain

Andalusia is Spain's most populated region (8.4 million inhabitants in 2019, 18% of the total population)[28]. Once Spain's poorest region, Andalusia has become a dynamic region with a steadily growing GDP (+ 3% between 2017 and 2018) and employment (+2.9% in 2019 compared to 2018). The regional economy is primarily driven by a strong tertiary sector, which in 2018 accounted for 74% of the regional GVA. In 2019, 16% of the country's workforce (aged 15-74) was employed in Andalusia, of which 76% were in the tertiary sector. Andalusia is one of the most attractive European tourism destinations. Industries are less relevant and the secondary sector represented 18% of regional GVA in 2018. The dynamism of the region is also echoed by steadily decreasing unemployment, which reached a low point in 2019 (at 22%) although the national average was 14%. As per the Regional Innovation Scoreboard (RIS) 2020, Andalusia's main strength is public sector R&D, sales of new-to-market and new-to-firm innovations, and marketing/organisational innovations. There are weaknesses in collaboration between innovative SMEs and product/process innovations[29].

Despite its vitality, Andalusia has been direly affected by the pandemic with very high infection rates. The region's principal economic activities relate to tourism and have been severely impacted. According to the Spanish National Statistics Institute, the number of tourists between July 2019 and July 2020[30] fell by 71%. As a result, the region's GDP decreased by 5.25% in Q1 2020 and 15.6% in Q2

[27] For example, the government of the Bratislava – Old Town city district implemented a measure where the rent for all entrepreneurs who rent space owned by the city district and who have requested help was halved for the entire duration of the restrictions imposed by the central government.

[28] Source : https://ec.europa.eu/eurostat/cache/digpub/regions/

[29] Source : https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/andalusia-0

[30] Source : https://www.ine.es/daco/daco42/frontur/frontur0720.pdf

2020[31]. Travel restrictions severely limited the inflow of (international) tourists and affected businesses and livelihoods along those value chains. Redevelopment of the tourism sector to focus more on sustainability and away from mass tourism by fostering digitalisation was highlighted in a recent press-release of the CoR[32].

Table 5.6 Case study region profile – Andalusia

Type	Region
GPD per capita (EUR, PPS)	19,681 (2019)
Unemployment rate	22.3% (2020)
Population	8,478,083 (2020)
Population density	9.4 per km² (2019)

Source: Eurostat (2021)

5.6.1 Impacts of COVID-19

Negative developments

The interviewees highlighted that it is still too early to comprehend the extent of the pandemic's impacts, in particular on business closures. For example, in the tourism sector, it is expected that about a third of the 1,700 travel agencies in the region would close. In terms of specific economic impacts highlighted by the interviewees, GDP contracted by 10.3% in 2020. The most affected sectors were linked to consumption, e.g. trade, transport and accommodation (-23.2%) and cultural, artistic and leisure activities (-24.4%). Also, as highlighted by the interviewees, the number of enterprises registered decreased by 3.2% and the number of employed people decreased by 3.2% in 2020. These are all short-term developments.

Positive developments

While the full socio-economic impacts of the crisis are still unknown, with the combined approach and collaboration adopted by regional and local governments there are early signs of recovery. Andalusia saw one the largest declines in unemployment in May 2021 (-2.9%). Interestingly, the region is also seeing one of the highest increases in the country for self-employment.

In terms of specific developments, the interviewees point to improved social dialogues between actors: Measures addressing the economic crisis have been

[31] Moreno-Luna, L.; Robina-Ramírez, R.; Sánchez, M.S.-O.; Castro-Serrano, J. Tourism and Sustainability in Times of COVID-19: The Case of Spain. Int. J. Environ. Res. Public Health 2021, 18, 1859. https://doi.org/10.3390/ijerph18041859

[32] CoR (2020). Digitalisation and sustainability: Andalusia's strategy for the tourism sector after COVID-19. https://cor.europa.eu/de/news/Pages/digitalisation-and-sustainability-andalusia-strategy-for-the-tourism-sector.aspx

taken within the framework of social agreement. Also, the crisis has led to a greater use of digital resources both for remote work and for economic and commercial relations. However, the interviewees assessed these specific developments as short-term.

5.6.2 Key measures

The containment measures were implemented by via a mix of national and regional measures. The second lockdown saw a higher emphasis on regional measures. The mix of measures implemented in both lockdowns included workplace closures, voluntary home office, school closures, restrictions in movement and contact restrictions.

A key mitigating measure was the implementation of the temporary employment regulation programme (ERTE)[33]: according to the interviewees, this programme mitigated unemployment. Further, the interviewees mentioned two key elements in mitigating the impacts of the pandemic: support for liquidity and solvency of companies and self-employed workers and support to economic sectors, in particular commerce, crafts and industrial SMEs.

5.6.3 Future perspectives and developments

According to the interviews, key lessons learned include the value of mutual cooperation. Cooperation between administrations to take coordinated decisions[34] and achieve better results. In addition, the importance of monitoring and evaluation was highlighted. An independent, external evaluation with a robust methodology must inform major economic decisions and measures. This would enable public authorities to understand the results, differentiate effective measures and learn from mistakes. The preparation of experience-based protocols and rapid application is important. Also strategic industrial capacity within the EU should be emphasised. An Industrial Policy is needed to guarantee self-sufficiency for strategic products, similar to the Common Agricultural Policy, starting with sanitary products.

To promote regional resilience, stakeholders point to targeted support to economic sectors that would suffer most in an adverse situation. This support should entail specific actions targeted at larger companies (by number of employees), greater specialisation and industrial capacity, more digitisation for businesses, public administration and citizens, and increasingly evidence-based

[33] ERTE (Expediente de Regulación Temporal de Empleo) is a job retention scheme implemented in 2020. The scheme will be extended to September 30, 2021. https://www.sepe.es/HomeSepe/que-es-el-sepe/comunicacion-institucional/noticias/detalle-noticia.html?folder=/2021/Mayo/&detail=Aprobada-la-prorroga-de-los-ERTES-hasta-el-30-de-septiembre

[34] from basic input to setting citizen mobility rules homogeneously between territories

governance, with continuous evaluation and expert knowledge, internal and external to the administration.

The economic and social fallout of the crisis has challenged development in Andalusia. Tourism has been severely hit but as containment measures are dropped, tourism activities are starting again. The crisis has led to changes in the tourism industry, e.g. in Andalusia, rural and inland tourism have seen increased demand. A larger range of tourism options have been developed, following specific and more specialised requests from clients, beyond the traditional, mass coastal tourism.

5.7 East Flanders, Belgium

Around 1.525 million people live in East Flanders, making it a very densely populated region with more than 500 inhabitants per km².[35] The region contains one major urban centre, its capital Ghent, and is close to several highly urbanised areas, Antwerp and Brussels. The more-developed region of East Flanders was strongly impacted in the first and the second COVID-19 waves, with hospitalisations peaking at 700 in late March 2020 and at 900 in early November 2020. Particularly strongly affected was the largest city in the province, Ghent.

Table 5.7 Case study region profile – East Flanders

Type	Region
GPD per capita (EUR, PPS)	37,961 (2019)
Unemployment rate	2.7% (2020)
Population	1.525 million
Population density	500 per km²

Source: Eurostat (2021)

5.7.1 Impacts of COVID-19

Negative developments

The COVID-19 pandemic is associated with the largest recession registered since 2004 with a drop of 11.1% of the real economic growth[36]. This drop is expected to be recovered to 8.6% in 2021, if no new major containment measures are taken. This drop is also mostly attributed to the decline of labour productivity in 2020 as its real growth dropped of 10.5% as opposed to the employment growth which only declined by 0.6% this year.

[35] Based on Statbel (2021). Structuur van de bevolking. Retrieved from: https://statbel.fgov.be/nl/themas/bevolking/structuur-van-de-bevolking.

[36] Based on Statistiek Vlaaderen (2021). Real economic growth. Retrieved from: https://www.statistiekvlaanderen.be/en/real-economic-growth-0.

The government measures in terms of employment stabilisation seem to have been efficient. The funding developed for enterprises also seem to have had positive effects as the number of bankruptcies at country level in 2020 felt to its lowest since 2005[37]. However, the labour productivity is expected to recover rapidly whereas employment growth should further decline in the coming years.

Also, to be noted, the shrinkage of labour productivity hit the Flemish region harder than the rest of the country, as the Flemish economy hosts branches more affected by the pandemic such as trade, catering and the equipment and consumer goods industry[38].

The social groups with the lowest employment rate are among persons with impediment due to disabilities or prolonged health problems and people with lower education[39]. However, people whose employment situation was affected by the crisis the most were young people, low-skilled or self-employed persons as well as employees with a temporary contract[40].

In terms of specific negative impacts, the interviewees identified short-term economic turbulences tied to declining turnover during lockdowns. Furthermore, specific social impacts also include estrangement from social networks, friends, and family among the inhabitants of the region. In addition, mental health statuses have deteriorated, with vulnerable groups finding increased barriers to accessing relevant care services. These specific impacts may develop over the short to long term, as the prolonged effects are to be seen.

Positive developments

The interviewees highlight several positive impacts of the pandemic and the containment measures, such as higher number of start-ups (which is likely a short-term trend) and more awareness of work/life balance. The positive impacts on the environment are expected to be short-term, as they are linked to the reduced economic activity and lower commuting levels during lockdowns.

5.7.2 Key measures

The two waves saw strict lockdowns, with the closure of non-essential businesses, mandatory teleworking, and mobility restrictions. Federal crisis management in

[37] Based on Statbel (2021). 7,203 bankruptcies resulted in 17,882 job losses in 2020. Retrieved from: https://statbel.fgov.be/en/news/7203-bankruptcies-resulted-17882-job-losses-2020.

[38] Based on Statistiek Vlaaderen (2021). Real economic growth. Retrieved from: https://www.statistiekvlaanderen.be/en/real-economic-growth-0.

[39] Based on Provincies incijfers (n.d.). Report Poverty and Vulnerability Gent. Retrieved from: https://provincies.incijfers.be/jive/report/?id=rapport_armoede&input_geo=gemeente_44021.

[40] Based on Statistiek Vlaaderen (2021). Results COVID-19 survey: Work, income and lifelong learning. Retrieved from: https://www.statistiekvlaanderen.be/nl/sv-rapport-%E2%80%98resultaten-covid-19-bevraging-werk-inkomen-en-levenslang-leren%E2%80%99.

the first and second waves introduced uniform rules throughout Belgium. Provinces and local authorities have to implement federal measures and may need to apply additional measures locally. Prior to the federal measures, local and regional authorities were primarily responsible for health measures. Financial support for enterprises from the central and regional governments was organised and broadly used.

5.7.3 Future perspectives and developments

The temporary COVID lifeline support to firms was deemed as a good and necessary measure by the interviewed stakeholders. However, broad and rapid distribution might have prolonged the life of unviable enterprises, potentially creating zombie firms. Respondents found governance at all levels has shown remarkable adaptability and resilience in an unparalleled crisis. The crisis revealed the need for clear leadership and flexible roadmaps for all domains (economy, health, education, etc.) to avoid drastic measures such as the first hard lockdown during the pandemic. In the future, a coordinated, flexible road map covering all domains of society to tackle such a crisis is required. This should be elaborated in close collaboration with all levels of government.

5.8 Prague, Czechia

Prague is the capital and largest city in the Czech Republic, home to about 1.3 million residents. The city is not only the political and economic centre of Czechia, but also its cultural centre, making it one of Europe's most favoured travel destinations.

In 2019 the GDP per capita was EUR 46,618 (PPS), making it the one of the best performing region in the EU at 205% of EU-27 average. Prague's economy additionally accounts for 25% of Czech GDP. Since 1990, the city's economic structure has shifted from industrial production to services. Pharmaceuticals, food processing, computer technology and electrical engineering are important but the most significant are financial and commercial services, restaurants, public administration and hospitality.

Table 5.8 Case study region profile – Prague

Type	City
GPD per capita (EUR, PPS)	46,618 (2019)
Unemployment rate	2.3% (2020)
Population	1,324,000 (2020)
Population density	2,714 (2019)

Source: Eurostat (2021)

5.8.1 Impacts of COVID-19

Negative developments

Czechia reported its first COVID-19 case on 1 March 2020. For the first time in the country's modern history the government declared a state of emergency on 12 March 2020. On 16 March the country closed its borders, issued a nationwide curfew, and forbade foreigners from entering the country without a residence permit. Originally planned to be effective until 24 March the lockdown lasted until 17 May 2020.

Although the Czech Republic seemed to get through the first wave relatively safely, deaths and positive cases started to rise rapidly. As of June 2021, the Czech Republic has the fourth highest death rate per 100,000 population in the world (282.64), behind Bosnia and Herzegovina (283.97), Hungary (305.45) and Peru (572.35). An election in October 2020 prevented the government from introducing new rules on restrictions. The second lockdown, in November 2020, came too late.[41]

The two lockdowns and drastic countermeasures have had a major impact on the economy. Employees, employers, banks, business owners, and the public sector are all experiencing severe consequences. Domestic and international activities were brought to a halt during March and April 2020. Since the borders were closed international tourist arrivals dropped by 64% heavily affecting the tourism, gastronomy and culture sector.[42]

The interviewees highlight several specific negative economic and social impacts. Reduced tourism inflows due to the containment measures significantly affected many businesses in the region. Prague relies on the tertiary sector (tourism, hospitality, cultural events, etc.). The number of tourists decreased by 90% compared to the pre-pandemic values. In addition, there have been increases in unemployment and negative psychological impacts on vulnerable groups. The unemployment rate doubled since the beginning of the pandemic, but still is relatively low (3.8 %)[43]. Lockdown, school closures and restricted businesses had the most significant economic and psychological impact on the vulnerable groups within the society. These impacts were assessed as mid-term impacts.

[41] Source: https://www.vlada.cz/en/media-centrum/aktualne/measures-adopted-by-the-czech-government-against-coronavirus-180545/#economic.

[42] Source: https://credendo.com/en/knowledge-hub/czech-republic-slovakia-poland-and-germany-sectorial-impact-covid-19-2020.

[43] The highest unemployment rate was after the world financial crisis in 2007 to 2012 (4.4 %).

Positive developments

The interviewees highlight several specific developments as a result of the pandemic and the containment measures. The city identified a long-term need for cooperation with neighbouring regions, particularly due to the incoming commuting streams. Travelling bans between regions showed the need for coordinated measures of Prague and its neighbouring region Central Bohemia, as some 250,000 people commute daily to Prague from Central Bohemia. In addition, there have been increases in digitalisation in governance and businesses. The city of Prague developed open data platforms and digital participation tools. The pandemic highlighted the benefits of flexible forms of work (e.g. home office). There is also an increased emphasis on sustainable development. The city of Prague sees the uncertain situation as an opportunity for innovation, better resilience and for tackling climate change (e.g. “green recovery” after the pandemic, becoming a leader in the climate policy).

5.8.2 Key measures

The city saw the implementation of most containment measures mandated by the central government, with limited regional measures. The city of Prague implemented partially stricter measures than the central government, e.g. the city of Prague was one of the first cities introducing mandatory masks. In both lockdowns, restrictive measures were introduced. In response to the threat of a declining economy, the government adopted income and employment protection measures in addition to measures to prop up the economy. The city of Prague introduced targeted measures, such as accommodations for homeless people, hotel accommodations for quarantined people. The interviewee stated the systematic mass testing, mass vaccination programs, and mandatory masks in the city of Prague as the most effective approaches to mitigate containment measures.

5.8.3 Future perspectives and developments

According to the interviewee, despite unprecedented challenges, the city of Prague has decided to approach this uncertain situation as an opportunity for innovation, better resilience and for tackling climate change. Further, during the pandemic, the city of Prague has boosted efforts to improve development in several strategic areas. The aim is to ensure that the city of Prague will not simply return to the state before the pandemic, but will strive towards a “more sophisticated and visionary new normality” (e.g. green recovery, digitalisation, sustainable tourism, affordable housing). In regards to future resilience, according to the interviewee, the city of Prague has had very limited competences regards of the COVID Pandemic. The most measures were introduced or managed by the central government, the Ministry of Health or the regional branch of the National Public Health Institution.

5.9 Vorarlberg, Austria

Vorarlberg is the westernmost federal state of Austria. Although it has the second-smallest population and is the second-smallest geographical area after the capital Vienna, it also has the second-highest population density, also after Vienna. Germany, Switzerland, and Liechtenstein border the region. Its biggest cities are Dornbirn (49,845 residents), Feldkirch (34,192 inhabitants) and Bregenz (29,698 residents), which is also the capital of Vorarlberg. About 37% of its 2,601 km² area is forested and a large extent is also mountainous.

In 2018 Vorarlberg was accountable of 4.9% of the Austria's economic output, with a GDP of EUR 19.1 billion. Vorarlberg and especially the Rhine Valley is one of the wealthiest areas in the world. The two most important economic sectors in the region are production and tourism. Companies like Alpla (plastic packaging), Gebrüder Weiss (transport and logistics), Doppelmayr (cable cars) and Rauch (beverages) are some of the biggest in Austria. The tourism industry employs about 12,000 people, approximately 11% of the workforce in 2015. Since Vorarlberg is in a very mountainous area the focus is on the winter season.

Table 5.9 Case study region profile – Vorarlberg

Type	Region
GPD per capita (EUR, PPS)	48,560 (2019)
Unemployment rate	3.6% (2020)
Population	397,139 (2020)
Population density	156 per km² (2019)

Source: Eurostat (2021)

5.9.1 Impacts of COVID-19

Negative developments

In Austria the first positive cases of COVID-19 were reported on 25 February 2020. From 16 March 2020, the Austrian government enacted a far-reaching lockdown including social distancing, closure of schools and kindergartens, travel restrictions, closure of restaurants, hotels and all non-essential shops. There was a ban on public gatherings and general restrictions on accessing public spaces. Unemployment peaked in May 2020, particularly among the long-term unemployed and among people born outside of Austria[44]. In addition, in 2020 due to persistently reduced economic activity (particularly in manufacturing),

[44]AMS(2021). 2020/03-2021/05 Region Vorarlberg 800: Arbeitsmarktdaten für Österreich bzw. Bdl (GÜ000).

reduction in the share of people in short time work schemes remained the lowest compared to other states, declining only by 53%.[45].

In terms of specific impacts, the interviewed stakeholder points to disruptions in the supply chain of businesses and declines in sales. In regards to increases in unemployment, while there is the expectation that unemployment will recover to return to lower levels, the interviewee is uncertain whether pre-pandemic levels can be achieved. These impacts are likely all short term.

Positive developments in Vorarlberg

The desk research and the interview highlighted two specific positive impacts due to the pandemic and the containment measures. In 2020 there was a significantly lower level of surface sealing (0.6 km² in 2020, a decline from 2.7 km² in 2019)[46]in Vorarlberg. However, this is likely a short-term trend. In addition, the interviewed stakeholder points to an increased focus on regionality in Vorarlberg. This is likely a long-term trend. Increased awareness of regional procurement (companies) and regional groceries (private individuals). However, there is the question whether this will stay that way. There was a peak in regionality during the pandemic, but it may decline again, likely not below the pre-pandemic level.

5.9.2 Key measures

The course of the pandemic was different in Vorarlberg than in the rest of Austria. Three lockdowns were implemented by the national government with similarly restrictions (voluntary home office, closure of non-essential businesses, contact restrictions, and curfews). Because of low rates of COVID-19 infections Vorarlberg began to serve as a 'model federal state' for reopening the gastronomic sector, which started on 15 March 2021. Other states followed with Vienna being the last on 19 May 2021.

Trying to cushion adverse economic and social effects, the Austrian government introduced various measures, such as short-time work, additional financial transfers to families with children, and relief to enterprises (deferred tax and insurance payments, public guarantees on debt and fixed costs subsidies). Additional regional measures were targeted at the tourism sector. Vorarlberg was the first region to present a comprehensive strategy for winter tourism. The code[47] consisted of legally binding measures, voluntary commitments by industry as well

[45] BMSGP (2021). COVID-19: Analyse der sozialen Lage in Österreich, p. 180.

[46] UBA GmbH (2021). Flächeninanspruchnahme. Retrieved via: https://www.umweltbundesamt.at/umweltthemen/boden/flaecheninanspruchnahme.

[47] Winterkodex Vorarlberg. Sicher ein guter Winter' (Wintercode Vorarlberg: Surely/Safely a good winter) launched on 21 October 2020.

as projects and measures, such as the region's cancellation insurance or digital contact tracing, which is free of charge.

From the interviewee's/business perspective, measures such as short-time work and the default bonus were helpful instruments for the survival of companies. Vorarlberg supported tourism businesses with an additional short-term support program.

5.9.3 Future perspectives and developments

Due to the high importance of manufacturing in the regional economy and lower reliance on tourism as compared to neighbouring federal states, the federal state of Vorarlberg had a relatively higher level of resilience as compared to other federal states. However, tourism and transport activities are vulnerable sectors [48].

The interviewee states that the pandemic has made companies aware of the highly interconnected economy. The economy is very interconnected and if there is a disruption, it can cause major disruptions (e.g. Suez Canal). Companies are dependent on their suppliers. There was a growing awareness that procurement needs to be more diversified, regional, and supply chains need to be more broadly set up to reduce the impact of supply chain disruptions. Consumers have become more aware of regionality. These effects are all short-term, and the interviewee asks what will be left of them in two years.

In regards to future resilience, the tourism strategy of the federal state for 2030 sees a stronger emphasis on image and quality improvements, increases in efficiency and cooperation, and improved resilience[49]. This foresees a stronger emphasis on regional value added and cooperation, increases sustainability and reduced resource consumption. According to the interviewee, the crisis showed the need for diversification of value chains and regionalisation of value chains.

5.10 Paris, France

Paris is a major population centre in France. The Paris region contains 12.2 million inhabitants and is the richest in France. In 2018, the region accounted for 31% of French GDP[50]. The city has specialised on services and knowledge-intensive sectors specifically. Between 2000 and 2016, the Paris region was the French region with the highest productivity growth and levels. However, youth unemployment is higher than average[51].

[48] WIFO (2020). Regionale Unterschiede der ökonomischen Betroffenheit von der aktuellen COVID-19-Krise in Österreich – Ein Strukturansatz auf Ebene der Bundesländer.

[49] Source: https://www.vorarlberg-tourismus2030.at/.

[50] Source: https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/ile-de-france-0.

[51] OECD (2018) OECD Regions and Cities at a Glance 2018. Retrieved via: https://oe.cd/pub/2n9.

Table 5.10 Case study region profile – Paris

Type	City
GPD per capita (EUR, PPS)	60,603 (2019)
Unemployment rate	8.2% (2020)
Population	12.2 million (2020)
Population density	1,026 per km² (2019)

Source: Eurostat (2021)

5.10.1 Impacts of COVID-19

Negative developments

Paris' economy was particularly hit by the crisis as activity in Q2 2020 fell by 20% for Paris (compared to 18% for all France)[52]. This is due to the high dependence on tourism, culture, restaurants, business support and small retail businesses. Around 15,200 establishments closed, including 25% of Parisian bars, restaurants and cafes. The occupation rate in Parisian hotels also dropped to 8% in November 2020 (compared to 83% in 2019). 38,600 jobs were lost between January and September 2020 resulting in 15.7% unemployment in Paris. The re-opening of the French economy since 19 May 2021 did not benefit Paris as much as the rest of France[53]. Indeed, the lack of international and business tourism cannot be compensated by national consumption. This also has repercussions on the Parisian region as 60% of employees live outside Paris.

This also had social consequences as the number of households benefiting from, work welfare (revenu de solidarité active), rose by 15% compared to 8.5% in all France. With this increase came a shift from an older population in long-term unemployment to a younger population (+ 24% between March and December 2020) employed before the crisis but whose contract did not give rights to the usual unemployment welfare. Along with single-parent families, students were also deemed as particularly impacted by the pandemic, being highly dependent on catering jobs and highly isolated. If the number of work welfare beneficiary decreased since December 2020, experts warn for a new increase coming with the expiration of state help to enterprises. This sudden decrease in revenue combined with the closure of the markets, the cafeteria and the soup kitchens also revealed a difficulty for a larger part of the Parisian population to make three healthy meal a day.

[52] Based on APUR (2021). Observatoire de l'économie parisienne: données conjoncturelles. Retrieved from: https://www.apur.org/fr/geo-data/observatoire-economie-parisienne-donnees-conjoncturelles.

[53] Based on APUR (2021). Observatoire de l'économie parisienne. Retrieved from: https://www.apur.org/fr/nos-travaux/observatoire-economie-parisienne.

Concerning the most precarious population, they could be (temporarily) sheltered in hotels and in buildings waiting to be renovated (so-called "habitat intercalaire"). However, even with this measure 2,785 persons were found living in the street from Paris the night from the 25th to the 26th of March 2021[54].

The interviewees highlight detrimental social and economic developments as a result of the crisis (see below). In terms of social impacts, reduced access to basic services of vulnerable groups was a negative development. Access was limited as basic service facilities had to operate under restrictions (i.e. fewer users). Also, associations active in this field were reliant on volunteering work by the elderly who were unable to do so during the lockdowns. Third, increasing difficulties to access rights and residence permit renewal were observed. This was especially true for all social services during the first lockdown due to adaptation issues, however, the difficulties to renew residence permits persisted whereas the other social services could reduce their delay.

Positive developments

Some sectors maintained their activity including food retail, health, human resources, the digital sector and construction. Interestingly enterprise creation was also stable compared to 2019 with a peak in autumn 2020, especially for delivering products or meals and cybercommerce.

Noteworthy, the City of Paris developed a Resilience Strategy in 2015[55] and is part of the Resilient Cities Network since the same year[56]. If the management of a pandemic situation was not in the six priorities set in the beginning, some global resilience measures were already on-going or could be activated.

Specific developments highlighted by the interviewees are related to changes in the approach to sustainable development, improved cooperation and mutual support. In regards to improved synergies and cooperation, cooperation occurred between associations and the metropole to buy masks, increased use and accuracy of the Soliguide application (services available nearby), and solution-oriented communication increased between actors. In addition, socially innovative projects were developed[57]. This was deemed a short-term trend.

[54] Based on Paris.fr (2021). Nuit de la Solidarité 2021 : les premiers résultats. Retrieved from: https://www.paris.fr/pages/nuit-de-la-solidarite-2021-17285.

[55] Based on Paris.fr (2019). Paris réslient. Retrieved from: https://www.paris.fr/pages/paris-resiliente-4264.

[56]For example Carreau du Temple and Aurore Association. Based on Paris.fr (2017). Transformer Paris pour renforcer sa résilience. Retrieved from: https://www.paris.fr/pages/transformer-paris-pour-renforcer-sa-resilience-5126.

[57] Based on Actu.fr (2020). Confinement à Paris : le Carreau du Temple accueille les femmes en situation de précarité. Retrieved from: https://actu.fr/ile-de-france/paris_75056/confinement-a-paris-le-carreau-du-temple-accueille-les-femmes-en-situation-de-precarite_37272271.html.

The interviewees identified two specific long-term trends. In terms of social developments, mutual support capacities increased. People were mobilised and therefore learnt to know each other. This should support the resilient approach: to know, recognize and help each other. In terms of environmental and economic developments, interviewees identified the opportunity to implement measures towards a sustainable tourism more quickly.

5.10.2 Key measures

Paris was severely impacted by the pandemic in the first and second waves, with strict lockdowns implemented centrally for all metropolitan France. These measures include social distancing, closure of non-essential businesses, and mobility restrictions. In contrast, schools were not closed during the second wave. As the COVID-19 mitigation measures were not territorially targeted, Paris is an interesting case study.

Indeed, the City of Paris implemented several accompanying measures. The municipality mostly addressed the economic and social domains, tackling financial difficulties for SMEs, housing for lower-income families and increased support for students. Important to note is that the Parisian municipality cumulates the competences of the city and the department giving them all the decentralised competencies possible in the social field. However, the economic development is a direct competency of the region. The City of Paris is therefore only authorised to directly help enterprises from the ESS (Social Solidarity Economy), highly innovative enterprises and business real estate.

Measures implemented by the city include aid and investment programmes targeted at SMEs, funding targeted at residents of social housing (20% of the population) – such as subsidised internet, funding and access to food, and direct aid to students. The Paris Urbanism Agency found the crisis to have amplified tendencies and public policies that were already on-going (e.g. the development of bike lanes, mixed and compact city…).

5.10.3 Future perspectives and developments

A lesson learned according to the interviewed stakeholders is the importance of transparency and solutions-oriented communications. The close cooperation between the city and the social sector was beneficial in tackling the crisis. The advisory committee created in January 2021 was equally praised and was deemed as helping to step back, anticipate the changes and waves to come and learn about the problematic faced by other groups. Some similarities could be found between the problems faced by social services and performance venues as they both face problems welcoming visitors and managing flows of people.

Overall, the stakeholders point to a higher need for accurate trustworthy indicators in order to tailor public policies in the most adapted way. The social and the

economic sector are monitored closely via observatories to follow the evolution of needs and potential risks. The observatory will be updated on a quarterly basis and shall be used as a common basis for discussion for stakeholders.

Interviewees deem that the pandemic revealed deficiencies such as the questions of resilient housing, food provision and democracy during a crisis. The crisis also confirmed the necessity for the city to create a direction for public health and environment gathering several services for a better efficiency, readability and reactivity. A particular attention will also be given to NEETs.

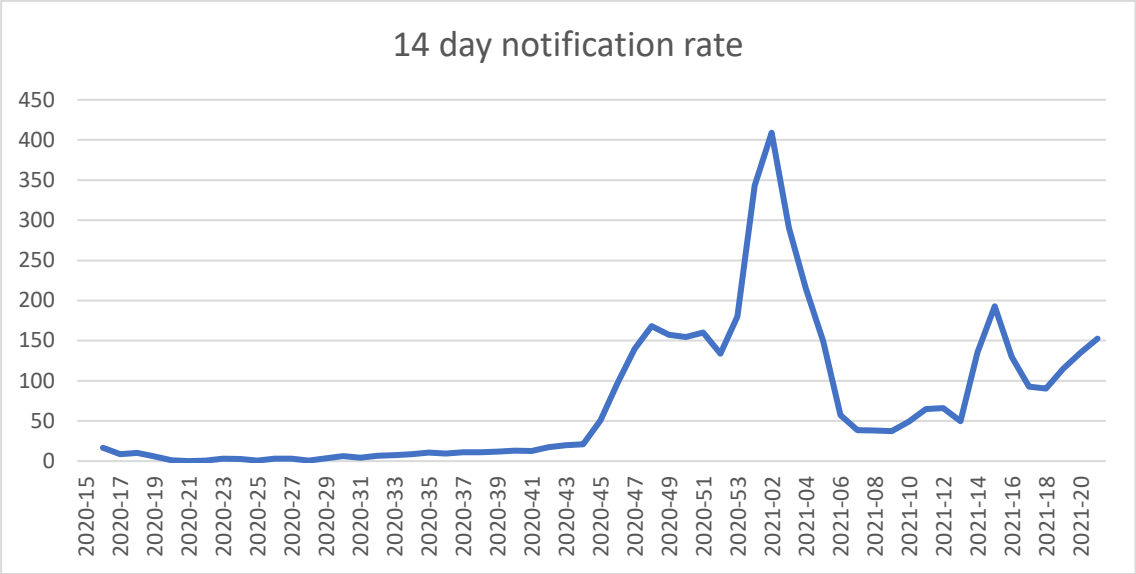
The City of Paris would also rather apply a gradation of measures following the approach: risk reduction and prevention/planification/anticipation where the government developed more “stop and go” measures with an alternance of lockdown and re-openings. On the other hand, the pandemic brought tangible insights on the impact of human activity on its environment. The data gained from this forced experience helped understand the sources and scope of waste generation for example.

5.11 Azores, Portugal

The COVID-19 situation in the Azores was comparatively mild during the first wave, with a relatively few infections. In early November 2020 the situation rapidly deteriorated and peaked at a 14-day notification rate of 175 per 100,000 inhabitants by 27 November[58]. The autonomous region instituted COVID-19 measures independently from the national government in Lisbon. These included mandatory quarantine for incoming travellers, who also need to be tested. The costs are borne by the region. As a region heavily reliant on tourism, travel restrictions pose significant harm to the economy. 2021 saw more infections, with cases peaking in January 2021 at over 450 per 100,000 inhabitants over 14 days.

[58] Based on ECDC (2020). Data on subnational 14-day notification rate of new COVID-19 cases. Retrieved from: Data on the weekly subnational 14-day notification rate of new COVID-19 cases (europa.eu).

Figure 5.3 14-day notification rate per 100 000 inhabitants



Source: ECDC, 2021

Tourism is a strategic sector in the Azores as a driver of economic development and growth (Cuota et al 2020)[59]. Particularly important are adventure and nature tourism, also for branding the region.

Table 5.11 Case study region profile – Azores

Type	Region
GPD per capita (EUR, PPS)	18,402 (2019)
Unemployment rate	6.1% (2020)
Population	242,796 (2020)
Population density	318 per km² (2019)

Source: Eurostat (2021)

5.11.1 Impacts of COVID-19

Negative developments

Health is under regional competences in the Azores. According to the interview findings, the first task at hand was to mobilise all available resources to prioritise the direct health results of the pandemic. As such, other medical interventions were put on hold. The islands of the Azores stretch for over 600km, with hospitals in three of the nine islands and 17 medical centres in total. This prioritisation and mobilisation of medical equipment and PPE were motivated by an attempt to

[59] Couto, G., Castanho, R. A., Pimentel, P., Carvalho, C., Sousa, Á., & Santos, C. (2020). The impacts of COVID-19 crisis over the tourism expectations of the Azores archipelago residents. Sustainability, 12(18), 7612.

contain the spread and due to hospital being located on only the three larger islands.

Schools were closed rapidly and distance learning was introduced rapidly as well, even as incidence was still low in the first wave. These strict measures were motivated by the limited capacity of the hospitals. Remote teaching required increased digitalisation among schools, particularly more PCs and tablets. A measure by the regional government designed to promote programming skills among school children supplied between 2,000 and 2,500 devices to schools to mitigate this equipment gap.

The crisis impacted the tourism sector and other economic sectors on the Azores. Tourism is a rapidly growing economic sector: in 2015 there were approx. 900,000 overnight stays, by 2020 this had risen to between 2-3 million. The tourism sector was severely impacted with a sharp fall in demand. The interviewee deemed this a short-term impact – it may dissipate within two to three years.

Figure 5.4 Monthly visitors in the Azores

Source: Statistics Azores, 2021

The closure of non-essential services also impacted other sectors and activities, such as restaurants and retail. Support by the regional government allowed for the maintenance of other important economic activities, such as agricultural activities (particularly dairy), fisheries, and public works. As a consequence of the reduced inflow of tourists, the economy in the Azores faced significant contractions. This decline was most pronounced after March 2020 and persisted through to the beginning of 2021, marking the strongest economic contraction since January 2017. Unemployment increased significantly from 4.9% in Q2 2020 to 6.7% in Q3 2020. However, despite the increase in unemployment, it remains lower than in 2019.

Positive developments

According to the interviewee, environmental degradation may have declined during the crisis as a result of reduced economic activities and fewer incoming tourists. However, this impact does not compensate for the negative developments of the crisis and is likely short-term.

5.11.2 Key measures

Due to the geographic nature of the islands and the dispersed medical infrastructure, the region moved quickly to contain the infection rate with hard measures in the first wave. Workplace closures and home office were mandated for many economic activities. The public sector and the education sector were placed under teleworking and non-essential businesses were closed. Events (such as cultural events) and gatherings were cancelled. Restrictions were also placed on movement. International movement into the Azores was halted, with the regional airline grounded. Travel between the islands was also stopped except for essential (i.e. emergency) or authorised reasons and transport. Local restrictions in personal travel were also introduced, as several municipalities were placed under quarantine.

Flight connections from mainland Portugal were also stopped by the regional government. The central government also claimed competences over travel and enabled the reintroduction of flights via two carriers between Portugal and the Azores. As a first measure of demanding a 14-day quarantine for incoming visitors was considered unconstitutional by a court, the regional government established an alternative of making mandatory testing, including three tests (before travel, after the sixth day and the twelfth day of arrival). The testing requirement was paired with a voucher system: incoming travellers can test before entering the Azores (instead of in the Azores at arrival) and would get a voucher of EUR 40 in return. This voucher can be spent in local restaurants and others tourism related activities.

The regional government not only created its own support measures but also complemented the economic support package from the central government. The main purpose of the support was income and employment stabilisation. Direct payments to workers and the suspension of fees, taxes and tariffs to enterprises were key instruments to minimise social and economic impacts. Fees were waived (such as processing fees for people engaged in the fishery sector). The support provided by the regional government was linked to maintaining employment in the supported enterprises. Enterprises reducing jobs would not be eligible for funding. The linking of enterprise support with job maintenance proved highly effective as the Azores has the lowest unemployment rate in Portugal.

Another support measure was targeted at stimulating intra-Azores tourism via a voucher system. Azoreans were incentivised to visit the smaller islands and support local businesses on these islands with their spending.

5.11.3 Future perspectives and developments

According to the interviewed stakeholder, containment measures only work if people are willing to follow the restrictions imposed via the measures. As such, the containment measures should be regarded as tools to prepare the response to the virus.

There is an important need to clarify legislation, and in particular the competences between national and regional levels. This was reflected in the legal dispute between the region and the central government on the quarantine requirement for incoming travellers. Legal certainty on the respective competences would have enabled the regional government to plan ahead more effectively.

Supply chains need contingency plans. For the Azores, the safety and functioning of air and maritime transport is vital due to the geographic situation of the Azores as an outermost region and the distance between the individual islands. There need to be sufficient stocks of PPE and other materials on the islands, due to the dispersed nature of the Azores.

In the context of future resilience, according to the interviewee, digitalisation is an important field. A regional project foresees the creation a digital patient registry, enabling medical personnel, such as doctors and specialists, to access patient records from all facilities. Furthermore, remote treatment and monitoring is also planned, in the case inhabitants may need to seek medical advice from specialists on a different island. In the field of education, schools need to be digitalised and prepared. This should account for necessary training and equipment.

The coupling of business support to job maintenance proved highly effective in mitigating unemployment and safeguarding incomes. Enterprises were only eligible for support if they did not reduce jobs. However, vulnerable groups in care facilities, such as people with disabilities and the elderly, were placed under strict visiting restrictions. This approach needs to be revisited.

6 Conclusions and policy pointers

Analysis of potential short and medium-term impacts of the COVID-19 pandemic on cities and regions in Europe suggests that increasing resilience to crises and support for socio-economic recovery could improve.

The geography of the COVID-19 outbreak, the regional diversity of exposure and sensitivities to policy responses show that territory matters. The diversity of European cities and regions translates into varied COVID-19 impacts and recovery approaches.

The pandemic has demonstrated that European regions and cities are interwoven in tight networks of mutual interdependence. What happens in one place affects developments in other places. This became visible in the territorial spread of the outbreak as well as the various impacts of lockdowns and recovery processes.

The pandemic has also illustrated the mismatch of local, regional and national administrative borders to the functional geographies of people´s everyday lives. This could be seen in functional interactions and geographies having more influence than administrative delineations. The mismatch was also evident in the disruptions to integrated labour markets and the provision of services of general interest, especially healthcare, caused by closed regional and national borders.

While the pandemic has showcased the importance of nuanced territorial policy making, policies underpinning the recovery process have largely weakened place-based decision making and involved local and regional players less (Valenza, Iacob, Amichetti, Celotti, Zillmer, & Kotrasinski, 2021).

Therefore, overall policy pointers are that:

- **Recovery funding** needs to be steered by strategic visions towards new development models, reflecting Europe’s territorial diversity, taking into account local and regional knowledge, while supporting cooperation between various players;
- **Governance capacities** need to be strengthened both for the recovery and to increase resilience in Europe, this involves strengthening multi-level governance in European policy processes;
- **Increased resilience of EU policy making** requires strengthening short-term emergency instruments, as well as reviewing and overhauling the architecture of EU policy making to strengthen subsidiarity and place-based approaches.

The three overall policy pointers are further developed in the following sections.

6.1 Funding recovery

Both the EU and member states are working on funding schemes to support recovery and increase resilience to future crises. Funding should help steer changes to increase resilience – a new normal – rather than attempt to 'bounce back'. This should be an opportunity to push for a sustainable recovery with a future for all places and people.

Ensure triple targeting of EU recovery funding. Recovery funding needs to address three types of local and regional needs:

- **Support to cities and regions with highly affected economic sectors.** The socio-economic effects of COVID-19 vary between cities and regions largely due to their economic structure. The share of employment in sectors highly affected by lockdowns and distancing measures matters substantially. This affects not just companies in these sectors but also has wider knock-on effects for other cities and regions. Cities and regions which are highly dependent on tourism, culture or manufacturing and regions with high shares of SMEs and self-employment are particularly at risk from knock-on effects. Recovery measures – whether funded by the Recovery and Resilience Facility, Cohesion Policy or other means – should support these regions and with a focus on moving towards a green economy.

- **Support to cities and regions with structural challenges.** Economic development challenges for cities and regions have increased due to COVID-19 policy responses. Areas with structural weaknesses or geographic specificities, notably islands, risk more severe impacts. This can be due to reduced transport and communication services and often to lower preparedness to work from home. Therefore, to avoid an uneven playing field, recovery funding needs to give particular support to regions with economic or geographical challenges prior to COVID-19. Otherwise, there is a risk that socio-economic gaps and disparities between regions in Europe will widen.

- **Support to cities and regions with social challenges.** The socio-economic effects of COVID-19 play out differently across society. Weaker groups (including the elderly and migrants) and low-income groups are often more affected than others. This concerns economic losses (reduced income due to job losses or part-time unemployment), losses of social integration and disruption to support structures. Cities and regions with high shares of people in these groups need particular support to ensure that social disparities and imbalances do not widen. The risk is that increasing social disparities in these places translate into increasing disparities between these and other places with less social cohesion in Europe and more 'places that

do not matter'. Recovery measures – whether funded by the Recovery and Resilience Facility, Cohesion Policy or other means – should focus on these regions.

Ensure long-term transition to a sustainable and digital Europe. Boosting economic recovery could support transition towards a more sustainable and digital Europe (see also Umweltbundesamt, 2020). At the same time, there are risks that more substantial shifts to sustainability and digitalisation could be side-lined if they are too cumbersome and time-consuming given the need for quick economic recovery.

Balance short-term flexibility and medium-term quality. Many recovery measures increase flexibility in the current regulatory framework, especially for state aid, with lower administrative requirements for spending under the Recovery and Resilience Facility compared to Cohesion Policy. While this is welcomed by many players, it comes with risks which need to be addressed. Firstly, increased flexibility risks a focus on 'easy and quick' projects rather than structural investments. So, the quality of governance, accountability, innovation and result-orientation might decrease. Secondly, different levels of administrative requirements may lead to downward competition between funding instruments, in particular the Recovery and Resilience Facility and Cohesion Policy. Thirdly, flexibility on state aid risks leading to member states, regions and cities which are doing well making money available more easily than areas with tighter budget constraints. This way, flexibility may lead to increasing long-term disparities.

6.2 Governance capacities

Supporting recovery and increasing resilience are often about governance, government quality and administrative capacity (e.g. Dijkstra et al., 2018; Rodríguez-Pose, 2020b, 2020a; Rodríguez-Pose & Ketterer, 2020). Indeed, government quality is an increasingly important development factor, as the marginal utility of an investment in infrastructure, human capital or technology is lower in areas with poor government. Governance-related differences impact the effectiveness of recovery policies and funding in European cities and regions.

Review multi-level governance and coordination. In many cases vertical coordination – between levels of government – within countries seems to have functioned in accordance with established routines. However, it seems there are mixed experiences with horizontal coordination between sectors or between regions and cities within a country (Böhme, Besana, et al., 2020). An EU-wide reflection and analysis of lessons learnt on multi-level governance within countries may help experience sharing and mutual learning. This in turn may help to increase resilience. When it comes to the National Recovery and Resilience Plans, there is room to strengthen multi-level governance dimension in most

countries. Quick and pragmatic decisions have often been centralised with little room for local and regional authorities to contribute to policy development (Valenza et al., 2021).

Strengthen cooperation between cities and regions in Europe. EU cities and regions have had very different experiences with pressure on the healthcare system, how to deal with policy responses, how to support citizens and businesses during the lockdowns and how to boost recovery. Strengthening experience sharing and learning from each other is important. It enables authorities to be better prepared as well as to strengthen networks and trust to draw on in any future crisis. Most local and regional authorities were looking for solutions elsewhere in the EU to guide them in the lockdown and recovery phases. CoR and EU networks have already been recognised as useful sources for such information. Interreg programmes offer a good platform, but more is needed.

Support internal staff reallocations in public administration. Internal organisation was an important issue, also there were good experiences in cities, regions and countries which managed to move administrative staff between public sector bodies and agencies during the crisis. This allowed flexible and fast increases of personnel in administrative sectors under particular pressure such as contact tracing, information for citizens and businesses as well as handling emergency measures. Lessons learnt from this could be shared so organisational obstacles for such staff reallocations can be identified and removed.

Stimulate local and regional testing and experimenting. The COVID-19 pandemic and the need for sustainable recovery highlight the importance of new ideas and approaches for local and regional development and resilience. There is no blueprint and there will not be a one-size-fits-all solution. Therefore, it is important to support local and regional players in exploring new paths, testing and experimenting, even if there are no guarantees of what the results will be. This could overcome the 'crisis of imagination' and enable places to gather, curate and promote imaginative ideas (Mulgan, 2020). Platforms can exchange new approaches and first experiences and stimulate the use of EU and national funds to support experimental activities. Interreg programmes offer a good starting point, as they are established institutional/ policy innovation platforms familiar to local and regional authorities.

6.3 Increase resilience of EU policy making

The pandemic has displayed the challenges for EU policy making to cope with external shocks. The EU has yet again shown its ability to react swiftly and comprehensively in times of crisis (Böhme & Lüer, 2020). European cooperation has surpassed itself with the volume of financial support, the speed it was

mobilised, flexibility in the use of EU funding, as well as the agreement to join forces to purchase vaccines.

Nonetheless, the need to set up new funding instruments and introduce exceptions to existing instruments shows how fragile the EU policy making system is. Indeed, it does not fit the points spelled out in section 4.2 for resilience in a wider perspective. As new external shocks are likely to hit Europe in the coming decades, lessons from the financial crisis in 2008 and the COVID-19 pandemic, might be used to overhaul EU policy making to increase its resilience. The aim should be to move towards a system which can navigate external shocks without the need to set aside parts of the system (e.g. state aid regulations) and rush emergency policy responses. The suggestions below offer ideas for a more resilient approach to EU policy making.

6.3.1 Boost short-term response capacity: Strengthen the EU Solidarity Fund

In 2002, the European Union Solidarity Fund (EUSF) was set up to respond to major natural disasters and express European solidarity to disaster-stricken regions within Europe. In response to the COVID-19 outbreak, the scope of the fund has been extended to also encompass major public health emergencies.

To support immediate responses to external shocks or crises, the European Union Solidarity Fund could be further developed into a ‘first aid tool kit’ for a wider range of disasters. Going beyond natural disasters and emergencies, it might also cover technical disasters and social shocks (e.g. external migration waves). Enlargement of the thematic scope would need to come with appropriate budgetary decisions.

As a sort of all-round emergency fund, it could increase the resilience of policy making. Offering first aid, it could respond swiftly to unexpected events and buy time for the development of appropriate responses. This would be a first step to increase resilience in EU policy making, by boosting the short-term response capacity of the EU.

6.3.2 Increase long-term resilience: Strengthen subsidiarity and place-based approaches

Strengthening the resilience of EU policy goes beyond setting up new emergency funds. Indeed, it requires a systematic review and overhaul of EU policy making processes. EU policy making in general – not just Cohesion Policy – needs a more systemic and forward-looking perspective. Otherwise in a future crisis, responses could again be made in emergency mode, side-lining local and regional needs and players.

Key elements for such a review and overhaul are a stronger focus on subsidiarity and a place-based approach.

Active subsidiarity – towards a dynamic 'give and take'. In recent decades EU policy making has become increasingly rigid. The need for accountability and result-orientation have made budgeting and programming more and more inflexible. Increasingly complex systems of policy making and implementation, including various power struggles, have clarified the competences of the bodies involved, but made the overall architecture inflexible. This stable and well-balanced architecture of EU policy making works well when there are no external shocks.

The COVID-19 pandemic has illustrated that more flexibility is needed to respond to external shocks. As the context changes, the distribution of competences needs to be adjusted. In some areas, it is more efficient to join forces, moving competences upwards in the system, as with pooling vaccine purchases. In some areas, it is more efficient to do it alone or move competences to lower levels to ensure place-based responses.

This calls for a more dynamic and flexible approach to the division of competences and active subsidiarity. Active subsidiarity is more than a power sharing principle laying down legal demarcation of competencies. It is as dynamic and open as multi-level governance. Following the idea of active subsidiarity, power sharing between various levels is not carved in stone, but subject to dynamic adjustments and constant dialogue responding to changing contexts. Fully embedding active subsidiarity in European policy making would enable local and regional authorities to play a more active role in shaping EU objectives while also encouraging more effective and efficient implementation of EU policies (Valenza et al., 2020).

Governance support – empower to assume responsibilities. Active subsidiarity works only if all stakeholders have the administrative capacity to shoulder their responsibilities. This especially concerns smaller players at local and regional level. If administrative capacity is inadequate, active subsidiarity risks to turn into 'survival of the fittest'. This could include larger and better equipped local and regional authorities outplaying smaller and weaker ones. It could also result in EU or national players not involving local and regional authorities as that would be too cumbersome, as happened with the Recovery and Resilience Plans.

To make the EU policy making more dynamic and flexible, governance capacity and government quality needs to be strengthened, in particular among weaker players. This could encompass:

- **One-stop-shop for EU capacity building schemes.** Different EU programmes and initiatives offer diverse forms of capacity building and governance support. There are various efforts to enhance administrative

competences and capacities supported by ERDF, CF and ESF. In addition, there are specific schemes to promote administrative capacity building in the form of stand-alone tools, initiatives under operational programmes, or actions developed within networks. Examples are TAIEX, REGIO PEER 2 PEER, Integrity Pacts, S3 Platform, Urban development network, Interreg Europe Policy Learning Platform, fi-compass, etc. For small local and regional authorities lacking administrative capacities, it is difficult to get an overview of the various offers and find which is best for them. A central website offering a gateway or one-stop-shop could provide a complete overview of relevant initiatives and a navigation tool to guide people to the most suitable.

- **Simplification of programmes and policy domains.** The difficulty of keeping an overview is not limited to capacity building schemes. Indeed, EU policy making is an increasingly complex field and risks turning into a 'complexity trap' (cf. Benz, 2002; Duit et al., 2010; Graute, 2002; Vester, 2003). The more complex a system, the less players can understand it fully and participate in a meaningful way. The increasing complexity of EU policy making limits the possibility for local and regional players to participate in active subsidiarity. A review of EU policies and programmes as well as possibilities to simplify the system by coordinating policies or merging programmes might help reduce the complexity. Coordination under the European semester might be a good starting point for decreasing the complexity and allowing more players to become active.

- **Code of conduct on active subsidiarity.** The 'European Code of Conduct on Partnership for Structural and Investment Funds'[60] lays down the principles for multi-level governance cooperation. Following this example the idea of a 'Code of Conduct for a structured and ongoing involvement of local and regional authorities in the European Semester'[61] was launched already in 2017. Going one step further, strengthening multi-level governance and moving towards a more dynamic division of labour following the idea of active subsidiarity, Europe would need a 'Code of Conduct on Active Subsidiarity'. This could be overarching, bringing together subsidiarity, proportionality and partnership across all EU policies. This should be a short and concise document on how to ensure a dynamic system, when to join forces, when to go it alone and at what level of government. Such a Code should facilitate moving competences upwards and downwards in the system, reacting to changing circumstances.

[60] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0240&from=EN.

[61] https://cor.europa.eu/en/news/Pages/code_of_conduct_econ.aspx.

- **Debate on subsidiarity and purpose of policies.** Europe needs an open debate to support the governance process and empower players to take on responsibly in the framework of active subsidiarity. The most suitable division of labour can only be found in honest discussions and negotiations between the players. The centre point of this debate needs to be the purpose of a policy and which combination of players is best suited to achieve this. This debate needs to be open and ongoing, as the competences of players, the purpose of policies and external circumstances are in constant flux.

- **Balance flexibility and legal certainty.** Empowering players in active subsidiarity also requires a stable framework. While flexibility is needed to adjust to changing circumstances, all players need to have legal certainty about their decision-making mandates and room for manoeuvre.

Future vision – systemic and forward-looking perspective. To ensure that flexible active subsidiarity does not lead to random decision making, it needs to be guided by a shared perspective or vision for the future. Good governance and government can react promptly to new situations given a clear vision for the city, region or country. This concerns Europe overall, but individual cities and regions also need to have visions for their territories and how they see themselves in a wider European context. ESPON (2019) already proposed the development of a European framework of bottom-up visions.

- **European framework for bottom-up visions.** The development of bottom-up visions across Europe also needs a framework at top levels. This can inspire or provide insights on developing bottom-up visions. It could also serve as a reference so visions can link up when addressing their places' role in a European context.

- **Allowing for diverse visions.** Given its diversity, Europe needs different and multifaceted bottom-up spatial visions for places and functional regions. These visions need to be based on broad participatory processes, be realistic, place-based and address how the place links to a wider European perspective. The objectives of such spatial visions may be multifaceted and even contradictory.

- **Empowerment of players.** The capacity to engage in developing a vision for a place, including links to European perspectives, differs between places and players. Many players and places might need capacity building and empowerment for such a task.

Place-based – matching needs and purpose. European diversity implies that there is no one-size-fits all policy. To utilise the diverse potential across Europe and ensure that policies help places to flourish in line with their preconditions, policy making needs to become more place based (cf. Barca, 2009). A resilient

EU policy architecture requires an even stronger emphasis on place-based decision making. External shocks, like the financial crisis or the COVID-19 pandemic, tend to play out differently in different places and come with slightly different timing. Therefore, places need to have the flexibility and capacity to respond to emerging crises when they occur in their place and not when other European places need to address them. To make European policies more place-based, a few points need to be considered:

- **Focus on the purpose of a policy.** All policies are made for a particular purpose. However, implementation often focuses on the result orientation rather than the purpose of the policy. Steering policies by objectives and expected results creates path dependencies and reduces the flexibility to use a policy to best suit its purpose in a particular place or during changing circumstances. The competition between EU funding instruments, such as the Recovery and Resilience Facility and Cohesion Policy, is an example of this. Can EU policies be designed in a way that their purpose and place specific needs are at the forefront?

- **Balance flexibility and accountability.** Quick and targeted policy responses when dealing with emergencies are essential to local and regional authorities. Place-based policy making comes with more responsibility for implementers. Only then can a policy be swiftly adjusted to a place's preconditions or changing circumstances. Such an agile approach needs to be underpinned by accountability and long-term planning and should be supported by (external) monitoring and evaluation supporting, local and regional decision making. An agile approach must not lead to arbitrariness. Can EU policies balance agile and flexible implementation with accountability and long-term thinking?

Allow for experimentation. Increasing resilience and response capacities requires scope for fresh thinking and experimentation. Reiterations and manifestations of known positions do not necessarily hold the answers to new challenges. Therefore societal imagination needs to be strengthened to promote new solutions, experimentation and learning. Not all experiments will succeed so failure must also be allowed and learning from failure highlighted. In that sense maybe the roots of the LEADER initiative can serve as an inspiration as it offered a platform for testing place-based solutions. Can EU policies enable more experimentation without jeopardising credibility?

6.4 Possible next steps

The above policy pointers can be advanced with specific actions by the European Commission and member states.

⇒ **Launch a public debate on more resilient EU policy making.** To become resilient to external shocks, EU policy making needs to be overhauled. This is a long-term mission needing a wider public debate, to ensure improvements can be introduced in the Multiannual Financial Framework post 2028. This includes broader public debates among EU, national, regional and local authorities concerning:

- **an architecture for more resilient EU policy making,** including active subsidiarity, empowering weaker players, shifting to purpose driven policy making, and balancing agile and flexible policy implementation with accountability and long-term thinking;
- **increased EU short-term response capacity** to crises, e.g. through an enlarged EU Solidarity Fund offering initial aid during unexpected events and buying time to develop appropriate responses.

⇒ **Strenghten the involvement of local and regional authorities.** This especially concerns the European semester, Recovery and Resilience Plans as well as a broader debate on the need to move towards active subsidiarity in EU policy making. The European Commission could develop:

- **concrete recommendations on involving local and regional authorities** in the European semester and in implementation of the National Recovery and Resilience Plans – this may include practice examples showing the added value of their involvement, or a best practice handbook;
- **code of conduct on active subsidiarity** advocating a dynamic system on when to join forces, when to go it alone and at what level of government – this may promote more flexibility to move competences upwards and downwards in the system, reacting to changing circumstances.

⇒ **Set up a platform for administrative capacity building.** Quality of government and administrative capacity are key ingrediencies for effective recovery policies and increased resilience. Efforts at local and regional level could be supported through:

- **a central hub for EU funded capacity building schemes**, providing an overview for local and regional authorities of support schemes and helping to identify the most suitable.

⇒ **Studies or exchanges among regional and local authorities** to further empower them to play an active role in multi-level EU policy making. In particular, small municipalities and regions might benefit from additional support. Such studies and exchanges of experience could include:

- **unpicking the complexity of EU policy making** by reviewing ways to simply the system of EU policies and programmes e.g. by coordinating policies or merging programmes – working towards a less complex system which is easier to understand and subsequently easier to participate in;
- **moving administrative staff between public sector bodies** and agencies in times of crisis to increase response capacity and resilience, including lessons learnt and possible bottlenecks – this can happen within a city, region or country, as well as across Europe;
- **multi-level governance and coordination** systems in member states during the pandemic, also drawing on information collected by the COVID-19 exchange platform.

⇒ **Stimulate and encourage local and regional authorities to experiment,** learn from each other and collaborate. Empowering local and regional authorities also depends on them becoming active and exploring their possibilities. While some larger and stronger local and regional authorities already do so, others might benefit from extra encouragement or stimulation to:

- **think out of the box**, including local and regional testing, experimenting and learning e.g. by sharing experiences of successes and failures;
- **strengthen collaboration among local and regional authorities** and establish links and cooperation outside the framework of specific EU policies or funds – this concerns both cooperation with neighbouring municipalities and regions as well as those further away;
- **strengthen cooperation with partners in other countries** to ensure there are established and trusted contacts to lean on in times of crisis. This can also include staff exchanges under TAIEX, the Technical Assistance and Information Exchange instrument of the European Commission.

If the European Commission, European Parliament, the European Investment Bank, as well as national, regional and local authorities strive to boost the resilience of EU policy making then active subsidiarity, empowered players, a review of the EU policy system and out of the box thinking (daring to experiment and fail) can be achieved.

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7 Annex - Case studies

7.1 Overview of measures per case study region

7.1.1 Measures and development in Bavaria

The interviewee deems short work payments and direct economic support as the most effective for mitigating the effects of the pandemic and lockdowns.

Bavaria underwent three lockdowns in 2020 up until 2021 with varying intensities. A first lockdown between 22 March and 6 May 2020 mandated strict contact reductions, workplace closures, and school closures. This was implemented jointly between state and federal levels. Between May and November 2020, the Bavaria and the rest of Germany implemented a hotspot strategy, where localised containment measures would be introduced in regions with a 14-day incidence in excess of 50 cases per 100 000 inhabitants. Bavaria opted for a stricter approach, choosing an incidence of 35 cases per 100 000 inhabitants instead.

Between 2 November and 13 December 2020, the state of Bavaria was under a light lockdown. This included closures of workspaces (such as services, restaurants and the cultural sector) and contact restrictions. This set of measures was implemented jointly by the federal government and the federal states.

Due to the rising infections, another “hard” lockdown was implemented jointly by the federal states and the federal government by 16 December. The set of introduced measures mirrors the set introduced in the first lockdown, with stronger mask mandates (requirement to wear medical masks and later FFP2 masks in public transport and essential shops). Gradual opening steps were devolved to the federal states by 3 March 2021.

Since 24 April 2021, a set of federal guidelines called the “Corona emergency brake” devolved the application of containment measures to local levels. Municipalities with a seven-day incidence of over 100 cases per 100 000 inhabitants for more than three days in sequence would have to implement contact restrictions and a curfew.

Table 7.1 Overview of implemented measures

Measure	Implemented	Region, city or central government measures?	Implementation
Workplace closure	*Yes*	Joint (state, federal)	First lockdown (22 March to 6 May 2020), second lockdown (16 December 2020 to 3 March 2021). Lockdown "light": 2 November to 13 December 2020
Home office (voluntary)	*Yes*	Joint (state, federal)	Continuous recommendation by the federal government since 22 March 2020
School closure	*Yes*	Joint (state, federal)	First lockdown (22 March to 6 May 2020), second lockdown (16 December 2020 to 3 March 2021)
Cancellation of public events	*Yes*	Joint (state, federal)	First lockdown (22 March to 6 May 2020), second lockdown (16 December 2020 to 3 March 2021) Lockdown "light": 2 November to 13 December 2020
Assembly restrictions	*Yes*	Joint (state, federal)	First lockdown (22 March to 6 May 2020), second lockdown (16 December 2020 to 3 March 2021) Lockdown "light": 2 November to 13 December 2020
Mobility restrictions	*Yes*	Joint (state, federal)	First lockdown (22 March to 6 May 2020), second lockdown (16 December 2020 to 3 March 2021)
Short work	*Yes*	Joint (state, federal)	Continuously
Business support (e.g for digitisation)	*Yes*	Federal and state	Continuously
Economic aid	*Yes*	Federal and state	Continuously
Short work	*Yes*	Federal	Continuously
Transition aid	*Yes*	Federal	Continuously
Relief aid	*Yes*	State	Continuously

Source: Interview

7.1.2 Measures and development in Gothenburg

The approach to containment measures set Sweden (and thereby Gothenburg) apart from other Member States and the case study regions. Instead of mandating strict restrictions, such as in terms of social distancing or work place closures, the government focused on providing recommendations to the general population combined with light restrictions. Remote work and remote teaching were only recommended by the central government and not actively mandated. However, the central government mandated restrictions in gatherings by 11 March, disallowing meetings with more than 50 participants. In November 2020, gatherings of more than eight participants were prohibited.

Table 7.2 Overview of implemented measures

Measure	Implemented	Region, city or central government measures?	Implementation
Workplace closure	*No*		
Home office (voluntary)	*Yes*	Implemented by central government with regional adjustments	
School closure	*Partly and from time to time*	Implemented by central government recommendation with city adjustments	
Cancellation of public events	*Yes*	Implemented by central government	
Restriction of size of gathering	*Yes*	Implemented by central government	Since 11 March 2020
Restrictions in movements	*No*		
Short time work	*Yes*	Implemented by central government	Continuous
Support to business (e.g. for digitalisation)	*Yes*	Implemented by central government and city decisions	Continuous

Source: Interviews

7.1.3 Measures and development in Bratislava

Table 7.3 Overview of implemented measures

Measure	Implemented	Region, city or central government measures?	Implementation
Workplace closure	Yes	Central government	Mid-March – mid May 2020
Home office (voluntary/mandatory)	Yes	Central government City: - mandatory HO - 2 days of HO per week mandatory	- 9th March 2020 – 8th February 2021 voluntary - 8th February – 19th April 2021 mandatory - 10th January – 10th May 2021 - after 10th May 2021
School closure	Yes	Region and city: - school closure in Bratislava Self-Governing Region and Bratislava Central government	- 9th March 2020 (Region and city) secondary schools were closed from March 2020 – May 2021, primary schools and kindergartens were closed regarding the current pandemic situation. March – August 2020 and October 2020 – May 2021
Cancellation of public events	Yes	Central government	Since 10th March 2020
Restriction of size of gathering	Yes	Central government City: - cancellation of office meetings of 10 or more people	At least December 2020 – app. mid May 2021 - 9th March 2020 – 31st May 2021
Restrictions in movements	Yes	Central government	- 1st January till 28th April (nationwide curfew) - at least December 2020 – 15th May 2021 (cancellation of emergency state)
Short time work	Yes	Central government	Continuous
Support to business (e.g. for digitalisation)	Yes	Central government	April 2020 – at least end of June 2021
Others… - COVID Automat	Yes	Central government	In March 12, 2021 (and a new version in May 15, 2021), the central government implemented a measure called

			COVID Automat that monitors the number of COVID-19 tested, infected and hospitalized in districts (local level) in Slovakia. Based on the data, a centrally predefined restrictions are implemented on a local basis. The restrictions concern work, restaurants, schools, social gatherings, fitness facilities, wellness, hospital visits, public alcohol consumption, sport events etc.

Source: Interviews

Approaches and initiatives to mitigate containment measures listed by the interviewee of the city of Bratislava:

- Temporarily school closures in the Bratislava Region
- Disinfection of all public transport vehicles, automatic door opening
- Developing the COVID-19 Traffic Light System for early warning on the current epidemiological situation
- Senior Helpline to provide support to all senior citizens of Bratislava (e.g. telephone line enabling them to stay in contact and to receive emergency assistance)
- At the time when no anti-epidemiological standards were available, the city of Bratislava developed at the municipal level comprehensive measures and contingency plans on how to deal with the suspect and positive clients, including an own system of COVID-19 PCR testing for the homeless and the clients of senior homes run by the city.
- Sanitation points in public places to give homeless people access to drinking water and basic hygiene (in cooperation with the armed forces)
- Opening of a quarantine townlet in the early stages of the pandemic for homeless people ("Home Quarantine without a Home"). – received the "The Innovation in Politics Awards 2020" in the category "Coping with the COVID Pandemic"
- Assistance in the regular testing during the second wave and vaccination
    - The local self-governments were key actors in the organisation of testing and the communication of relevant guidelines

- When the government launched weekend mass testing, the city of Bratislava insisted on setting up permanent mobile testing sites at the self-government level.
- Vaccination promotion campaign under the motto "It's Time to Hug Again ". The capital city started publishing a vaccination news bulletin, "Together Against COVID", that the city of Bratislava has distributed to all the facilities within the city limits and other seniors living in Bratislava. The capital city is currently expanding this assistance also to seniors living outside of care facilities.

For the interviewee of the Bratislava Region, the most effective measure to overcome the pandemic is the vaccination programme. The Bratislava Region has opened its own large-capacity vaccination centre in Bratislava, the capital city. Thanks to the large capacity of the centre and the speed of vaccination, the Bratislava Region became the leader among Slovak regions in terms of the percentage of vaccinated population.

The interviewee of the city of Bratislava highlighted three initiatives as key elements to mitigate the impacts of the COVID-19 pandemic: a more self-confident city, new system of cleaning the streets, and discount for the one-year tickets for the public transport in the city of Bratislava. Additional aspects highlighted by the interviewees was more support for active mobility (particularly in cycling).

7.1.4 Measures and development in Andalusia

Table 7.4 Overview of implemented measures

Measure	Implemented	Region, city or central government measures?	Implementation
Workplace closure	*Yes*	National (Royal Decree)	1st alarm state[62]: (14/03/2020-20/06/2020)
Home office (voluntary)	*Yes*	Regional/National	1st alarm state
School closure	*Yes*	Regional/National Regional	1st alarm state 2nd alarm state (24/10/2021-9/05/2021) depending on the epidemiologic conditions
Cancellation of public events	*Yes*	National	1st alarm state

[62] As per Article 116 of the Spanish Constitution, there are three legal categories for emergency situations: state of alarm, state of emergency and state of siege. The state of alarm allows the central government to suspend a region's devolved powers.

Restriction of size of gathering	*Yes*	Regional and national	1st and 2nd alarm states depending on the epidemiologic conditions
Restrictions in movements	*Yes*	National and regional	1st and 2nd alarm states
Short time work	*Yes*	National	Continuous
Support to business (e.g. for digitalisation)	*Yes*	Regional	1st and 2nd alarm states

Source: Interview

Approaches and initiatives to mitigate containment measures:

The interviewees listed the following three initiatives as key elements to mitigate the impacts of the COVID-19 pandemic.

- Support to maintain employment (e.g. ERTE)
- Support for liquidity and solvency of companies and self-employed workers
- Support to economic sectors, in particular commerce, crafts and industrial SMEs.

7.1.5 Measures and development in East Flanders

Central government:

Workplace closure: during the first lockdown only critical businesses and services remained open. This approach was eased during the second and third waves when workplaces who could not function with home offices were allowed to open under conditions.

Mandatory Home Office: from 18 March to 3 May 2020 and 19 October 2020 to 8 June 2021. Since then, employees may go back to the office one day a week. There was mandatory home working during the peaks of the pandemic. Short work measures were also used. Essential shops had restricted opening (only Mondays to Fridays) and non-essential shops were completely closed as were hotels, restaurants and cafes. Contact professions such as hairdressers and physiotherapist could open depending on the infection rates.

Voluntary Home Office was implemented from 12 to 17 March 2020 and possibly again from 1 July with a maximum of 50% of employees present, however this depends on the infection rate.

School closed from 12 to 17 March 2020 and 30t October 2020 to 7 March 2021, secondary schools could welcome 50% of students. From 8 March 2021 further

teaching at school was authorised. The official restart of education began on 19 April 2021 with some distance teaching.

Cancellation of public events was implemented during the first wave of the pandemic and is still in place.

Restrictions on gatherings were strict during the first wave (family and two additional people). They were somewhat loosened during the summer (up to 50 people and social bubbles of up to 15). The restrictions were increased again with the beginning of the second wave (social bubble of five people from mid-July) and a so-called “cuddle contact” (a person with whom to have close personal contact) was introduced in October 2020. Since March 2021 social bubbles can meet outside.

Restrictions on movement were in the form of curfews and bans on gatherings. Travelling in and out the country was possible only within the EU, Switzerland, the UK and Norway from March to June 2020 and a colour coded map with associated restrictions was introduced in July 2020. It was followed by the ‘passenger location form’ the same month, which helps contact tracing. This form is still used today. From 27 January to 19 April 2021 only essential travel was authorised.

Financial support for enterprises from the central and regional governments was organised and broadly used.

7.1.6 Measures and development in Prague

In response to the threat of a declining economy, the government adopted income and employment protection measures in addition to measures to prop up the economy. Benefits for family carers were extended and the age limit for a child increased from 10 to 13 years. The same applied to sickness benefits, which are 60% of the base rate. To save jobs ‘short work’ was adopted. Companies that closed due to the lockdown and continued to pay their employees their full wage get 80% of the costs back from the Czech Republic. By shifting employees to part-time they are paid 60% of their usual wage, and the state covers 50%.

Most measures tried to alleviate the impacts of counter measures. Vulnerable groups like single parents and people on short-term contracts are still at risk of financial insecurity. Although the income compensation measures protect households against sudden material deprivation, there is a danger of increasing indebtedness.[63]

[63] Source: https://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=9753&furtherNews=yes.

Table 7.5 Overview of implemented measures

Measure	Implemented	Region, city or central government measures?	Implementation
Workplace closure	*Yes*	National	1st and 2nd alarm state
Home office (mandatory/ voluntary)	*Yes*	Regional and national	1st and 2nd alarm state
School closure	*Yes*	National	1st and 2nd alarm state
Cancellation of public events	*Yes*	Regional and national	1st and 2nd alarm state
Restriction of size of gathering	*Yes*	National	1st and 2nd alarm state
Restrictions in movements	*Yes*	National	1st and 2nd alarm state
Short time work	*Yes*	National	1st alarm state
Support to business (e.g. for digitalisation)	*Yes*	Regional	
Others… (closure of shops, restaurants, hotels and leisure activities)	*Yes*	National	1st and 2nd alarm state
Mandatory masks	*Yes*	National	1st and 2nd alarm state

Source: Interviews

Approaches and initiatives to mitigate containment measures:

The interviewee listed the following three initiatives as key elements to mitigate the impacts of the COVID-19 pandemic: systematic mass testing, mass vaccination programmes, and mandatory masks (Prague was one of the first cities introducing mandatory masks).

The interviewee listed the following policy initiatives as the most effectives ones to overcome the social, economic or environmental consequences of the pandemic:

- Organising Prague's own finance tool called COVID Prague helping businesses in the city which couldn't use governmental support in the first wave of the pandemic – Prague helped by more than 1 billion Czech Crown
- Effective vaccination in the social care services run by the city of Prague
- Effective information campaign about vaccination

- Creating effective digital platforms with live data informing citizens about the capacities of testing and vaccination sites, capacities of hospitals etc.
- Support for people in need – accommodation of homeless people in hotels (which were closed) etc.
- Providing hotel accommodation for people in quarantine

7.1.7 Measures and development in Vorarlberg

Trying to cushion adverse economic and social effects, the Austrian government introduced various measures. The 'Corona Kurzarbeit' (Corona Short-Term Work) scheme started on 15 March 2020 and has been revised many times since then. For temporary, non-seasonal economic difficulties due to the pandemic, working hours for company employees may be reduced to between 10% and 90% of the original working time. Short-term compensation varies between 80% and 90% of the previous net salary, with the highest replacement where the gross salary did not exceed EUR 1,700 per month. Employers receive a refund of close to 100% of the costs associated with hours not worked. Social insurance and Christmas and holiday pay are also covered.[64]

Additional financial transfers have also been available for families with children. The 'Corona Familienhärtefonds' (Corona family hardship fund) was introduced in April 2020, with a budget of EUR 60 million. Families with children are eligible for up to EUR 1,200 per month, depending on the household composition, where at least one parent became unemployed, is on 'Corona Kurzarbeit' or is self-employed and has financial difficulties because of the pandemic. Other major measures include public credit guarantees for companies, deferred tax and social insurance payments, a 'Fixkostenzuschuss' (fixed costs subsidy), partly covering costs for companies, depending on losses in turnover, and a so-called 'Härtefallfonds' (hardship fund), partially compensating losses of personal income for self-employed persons.[65]

Since tourism is one of the most important economic sectors in Vorarlberg the government introduced the 'Winterkodex Vorarlberg. Sicher ein guter Winter' (Wintercode Vorarlberg: Surely/Safely a good winter) on 21 October 2020. The goal was to foster trust through security.

With a bundle of coordinated measures, Vorarlberg Tourism was actively responding to the particularly challenging situation. According to the federal rules, Vorarlberg was the first region to present a comprehensive strategy for winter tourism. The code consisted of legally binding measures, voluntary

[64] Source: https://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=9791&tableName=news&moreDocuments=yes.

[65] Source: https://www.bma.gv.at/en/Services/News/Coronavirus.html.

commitments by industry as well as projects and measures, such as the region's cancellation insurance or digital contact tracing, which is free of charge.

A COVID-19 officer as well as a hygiene and prevention concept and employee training were mandatory for every tourism business. To protect against infection, the obligation to cover mouth and nose remained in place for both guests and employees even if the government relaxed the rule. In addition, Vorarlberg further expanded the federal government's free screening program for catering, accommodation, camping and youth hostel employees, ski instructors and mountain guides[66].

The course of the pandemic was different in Vorarlberg than in the rest of Austria. On 3 October 2020 new daily infections surpassed 1,000 for the first time in Austria and on 17 November 2020 a second lockdown went into effect until 6 December 2020. A third lockdown, starting on 26 December 2020, was originally planned to last until 24 January, but was extended to 7 February 2021. Retail shops, schools, service providers, museums, parks, zoos, etc. were allowed to open again.

Because of low rates of COVID infections Vorarlberg began to serve as a 'model federal state' for reopening the gastronomic sector, which started on 15 March 2021. Other states followed with Vienna being the last on 19 May 2021.

Table 7.6 Overview of implemented measures

Measure	Implemented	Region, city or central government measures?	Duration
Workplace closure	Yes	Central government with regional adjustments	1st wave: March 2020 – May 2020 2nd wave: November 2020 – December 2020, December 2020 – February 2021
Home office (voluntary)	Yes	Central government with regional adjustments	Since March 2020
School closure	Yes	Central government with regional adjustments	1st wave: March 2020 – May 2020 2nd wave: November 2020 – December 2020, December 2020 – February 2021
Cancellation of public events	Yes	Central government with regional adjustments	1st wave: March 2020 – May 2020 2nd wave: November 2020 – May 2021

[66] Source: https://presse.vorarlberg.at/land/dist/vlk-62584.html.

Restriction of size of gathering	Yes	Central government with regional adjustments	Since March 2020
Restrictions in movements	Yes	Central government with regional adjustments	1st wave: March 2020 - April 2020 2nd wave: November 2020 – December 2020, December 2020 – February 2021
Short time work	Yes	Central government	Since March 16th 2020
Support to business (e.g. for tourism, microcredits for companies)	Yes	Regional	Short-term (2-3 months)

Source: https://viecer.univie.ac.at/corona-blog/corona-blog-beitraege/blog51/

7.1.8 Measures and development in Paris

National level:
Containment measures in France are coordinated centrally and were organised as follows:

Workplace closure: During the lockdowns, all establishments welcoming the public non-essential to the state's life were closed. Particularly touched by those measures were the sectors of restauration, tourism, culture and non-essential retail shops. The actual de-confinement measures strongly depend from the classification of the establishment.

Mandatory Home Office: This measure was implemented continuously since the first lockdown for all adaptable jobs. Concerning the jobs not adaptable to home office, employees were allowed to go to their workplace and the employer have to assure the application of the nationally defined protocol.

School closure: schools were fully closed during the first lockdown (16/03/21 to 22/06/21) but this measure was not repeated during the second lockdown. Schools stay open with different measures according to the level of schooling (primary, secondary tertiary).

Cancellation of public events: public events and gatherings were also cancelled, notably the second round of municipal elections during the 1st lockdown. The actual de-confinement measures strongly depend from the classification of the establishment.

Restrictions in movement: curfews, ban of gatherings, implementation of perimeter and time limits combined with the need for a justification during lockdowns.

Overall, the measures applied were defined at national level, one measure was taken by the Parisian municipality with the Ile-de France prefect and concerned the interdiction to do sports outside between 10:00 am and 7:00 pm. Otherwise even the decision to prolong or reinforce measures in some departments and regions was taken at national level.

City level:
Several initiatives were implemented by the City of Paris to compensate the impacts of the COVID-19 containment measures. These compensating measures target three groups: enterprises and especially SMEs and tourism businesses, Parisian inhabitants with lower income (targeted through their use of Parisian social housing representing approximately 20% of the Parisian population), and students. The different measures implemented to reach out to these groups are the following[67]:

Economic measures:

- Creation of a land bank for temporary buyback/redemption of stores and independent hotels
- EUR 70 million for tourism SMEs
- Accompanying enterprise recovery (counselling, psychological, digitalisation and ecological transitioning support)
- Creation of an observatory of the Parisian economy
- EUR 1.4 billion investment programme for sustainable transformation of the city prioritising SMEs and the social economy in public procurement

Measures for people living in social housing representing 20% of the Parisian population:

- Strengthening an association organising affordable nutrition
- Increase in the solidarity Fund budget for young persons and low-income families.
- Internet for EUR 2 per month

[67] Based on Paris.fr (2021). Paris s'engage pour la relance de l'activité économique. Retrieved from: https://www.paris.fr/pages/paris-s-engage-pour-la-relance-de-l-activite-economique-16661

- “Panier des essentielles”: the city of Paris sold healthy food baskets at cost price
- Particular efforts were made to allow a reopening of social services and food distributions
- Creation of an Observatory of the social impact of the crisis

For students[68]:

- Psychological support (specialised legal advice, free counselling, a centre for mental health and prevention)
- Financial support for people living in Paris for at least one month.
- Support for students with scholarships moving in Paris, installations costs reinforced and adapted

Concerning the management of the crisis itself, the following measures were activated and/or accelerated:

- Support from the Parisian citizens through the programmes “Volunteers of Paris”[69], “La Fabrique de la Solidarité”[70] … to help organise the mobilisation,
- Reallocation of the city’s human resources to accompany the crisis management measures
- Mutualisation of the use of the city’s equipment and resources (e.g. mobilisation of sport centres to vaccinate…).

Citizens were also further involved through the consultative committee on the COVID-19 and further actions of participative democracy.

7.1.9 Measures and development in the Azores

Table 7.7 Overview of implemented measures

Measure	Implemented	Region, city or central government measures?	Implementation
Workplace closure	*Yes*	Region	First wave

[68] Based on Paris.fr (2021). COVID-19 : les dispositifs pour soutenir les étudiants. Retrieved from: https://www.paris.fr/pages/confinement-les-dispositifs-pour-les-etudiants-15717

[69] Based on Paris.fr (2021). Devenez Volontaire de Paris. Retrieved from: https://www.paris.fr/pages/volontaires-de-paris-engagez-vous-6922.

[70] Based on Paris.fr (2021). La Fabrique de la solidarité : agir avec les acteurs de la solidarité. Retrieved from: https://www.paris.fr/pages/la-fabrique-de-la-solidarite-6389.

Home office (mandatory/voluntary)	*Yes*	Region	First wave
School closure	*Yes*	Region	First wave
Cancellation of public events	*Yes*	Region	First wave
Restriction of size of gathering	*Yes*	Region	First wave
Restrictions in movements	*Yes*	Region	First wave
Tourism vouchers to Azoreans	*Yes*	Region	First wave
Business support	*Yes*	Region (refined/adapted measures from central government)	First wave
Income support	*Yes*	Region (refined/adapted measures from central government)	First wave
Digitalisation (schools)	*Yes*	Region	First wave

Source: Interviews

Workplace closures and homeoffice were mandated for many economic activities. The public sector and the education sector were placed under teleworking and non-essential businesses were closed. Events (such as cultural events) and gatherings were cancelled.

Restrictions were also placed on movement. International movement into the Azores was halted, with the regional airline grounded. Travel between the islands was also stopped, bar essential (i.e. emergency) or authorised reasons and transport. Local restrictions in personal travel were also introduced, as several municipalities were placed under quarantine.

Flight connections from mainland Portugal were also stopped by the regional government. The central government also claimed competences over travel and re-introduced flights via two carriers (TAP and Ryan Air) between Portugal and the Azores. As a first measure of demanding a 14 -day quarantine for incoming visitors was considered unconstitutional by a court, the regional government established an alternative of making mandatory testing, including three tests (before travel, after the sixth day and the twelfth day of arrival). The testing requirement was paired with a voucher system: incoming travellers can test before entering the Azores (instead of in the Azores at arrival) and would get a voucher

of EUR 40 in return. This voucher can be spent in local restaurants and others tourism related activities.

Testing proved difficult in the Azores, initially, as materials were scarce, limiting overall testing capacity. Initially there were two accredited laboratories in the Azores. However, the regional government formed partnership networks with laboratories in mainland Portugal, enabling incoming passengers to test for free, with testing costs carried by the regional government. At the same time, other laboratories in the Azores were updated to fulfil the requirements of COVID-19 tests. A partnership was established with the University of the Azores so the laboratories could perform COVID-19 tests.

The regional government not only created its own support measures but also complemented the economic support package from the central government. The main purpose of the support was income and employment stabilisation. Direct payments to workers (short-work) and the suspension of fees, taxes and tariffs were key instruments to minimise social and economic impacts. Fees were waived (such as processing fees for people engaged in the fishery sector). The support provided by the regional government was linked to maintaining employment in the supported enterprises. Enterprises reducing jobs would not be eligible for funding. The linking of enterprise support with job maintenance proved highly effective as the Azores has the lowest unemployment rate in Portugal.

Another support measure was targeted at stimulating intra-Azores tourism via a voucher system. Azoreans were incentivised to visit the smaller islands (in terms of number of inhabitants) and support local businesses on these islands with their spending.

According to the interviewee, the most effective measures and related learnings were:

- Economic: Support to workers‘ incomes and MSMEs made a difference in reducing the economic impacts on the Azores.
- Social: the coupling of aid to enterprises with the requirement to maintain jobs stabilised unemployment
- Education: support to teachers was decisive in implementing distance learning
- Containment measures: hard/drastic containment measures proved important in mitigating the spread of COVID-19.

7.2 Interviewee

Table 7.8 Case study interviewees

Region	Interviewee name	Organisation	Interview date
Bavaria	Dr. Franz Rieger MdL	MP State Parliament Bavaria	02/06/21
Gothenburg	Andreas Lökholm, Head of Labour Market and Adult Education	City of Gothenburg, Labour Market and Adult Education	08/06/21
Gothenburg	Anna Ledin, director Environmental administration in the City of Gothenburg	Environmental administration in the City of Gothenburg	03/06/21
Bratislava	Veronika Štefániková	City of Bratislava, International Relations and Protocol Dept.	21/06/21
Bratislava	Aneta Rothová	Healthcare analyst at Regional Policy Institute of the Bratislava region & member of Health department of Bratislava Region	24/06/21
Andalusia	Catalina de Miguel Garcia and various representatives	Different regional ministries	02/06/21
Andalusia	Mr Manuel Alejandro Cardenete	Vicepresidence-Regional Ministry of Tourism, Regeneration, Justice and Local Administration at Regional Government of Junta de Andalucia	05/06/21
East Flanders	Christophe Leune	Head of Department ISPPW/ Environmental Prevention Advisor at Province of East Flanders	21/05/21
East Flanders	Bram de Winne	Deputy Director for Economy, Agriculture and Rural Affairs, European and International Cooperation at Province of East Flanders	21/05/21
Prague	Michal Geisler	Advisor to the mayor of Prague	16/06/21
Paris	Isabelle Médou-Marère	Director of the Federation of the actors	18/06/21

Region	Interviewee name	Organisation	Interview date
		of solidarity in Ile-de-France	
Paris	Noémie Fompeyrine	Chief Resilience Officer at the City of Paris	23/06/21
Paris	Chloé Trividic	Executive director of the deputy for solidarity, the fight against inequalities and against exclusion at the City of Paris	24/06/21
Paris	Romain Derache	Executive director of the deputy in charge of enterprises, employment and economic development at the City of Paris	24/06/21
Paris	Emilie Moreau	Director of study at the Paris Urban Agency (APUR)	25/06/21
Azores	Vasco Alves Cordeiro	First Vice President of the Committee of Regions	21/06/21

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