

STUDY

Requested by the REGI committee



# EU lagging regions: state of play and future challenges

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**Regional Development**



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RESEARCH FOR REGI COMMITTEE

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# EU lagging regions: state of play and future challenges

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## **Abstract**

This study analyses the EU's lagging regions and proposes a revised typology to identify those that are most vulnerable, with an eye to the challenges emerging from the ongoing economic transitions. It also explores the engagement of lagging regions in EU policies, including cohesion policy, and puts forward some recommendations to improve their future support at EU level.

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## LIST OF ABBREVIATIONS

<b>CEF</b>	Connecting Europe Facility
<b>DG REFORM</b>	Directorate-General for Structural Reform Support
<b>DG REGIO</b>	Directorate-General for Regional and Urban Policy
<b>EDIH</b>	European Digital Innovation Hub
<b>EPC</b>	European Policy Centre
<b>EPSR</b>	European Pillar of Social Rights
<b>EQI</b>	European Quality of Government Index
<b>ERDF</b>	European Regional Development Fund
<b>ESF</b>	European Social Fund
<b>ESIF</b>	European Structural and Investment Funds
<b>EU</b>	European Union
<b>EU-SPI</b>	EU Regional Social Progress Index
<b>FDI</b>	Foreign Direct Investment
<b>GDP</b>	Gross Domestic Product
<b>HEI</b>	Higher Education Institution
<b>Interreg</b>	European Territorial Cooperation
<b>I3</b>	Interregional Innovation Investment
<b>JRC</b>	Joint Research Centre
<b>JTF</b>	Just Transition Fund
<b>JTP</b>	Just Transition Platform
<b>MFF</b>	Multiannual Financial Framework
<b>NEET</b>	Not in Education, Employment or Training

<b>NUTS2</b>	Nomenclature of Territorial Units for Statistics; basic regions for the application of regional policies
<b>NUTS3</b>	Nomenclature of Territorial Units for Statistics; small regions for specific diagnoses
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PCI</b>	Podkarpackie Centre for Innovation
<b>PPS</b>	Purchasing Power Standard
<b>REACT-EU</b>	Recovery Assistance for Cohesion and the Territories of Europe
<b>RHOMOLO</b>	Dynamic Spatial General Equilibrium Model for EU Regions and Sectors
<b>RIS3</b>	Research and Innovation Strategies for Smart Specialisation
<b>RRF</b>	Recovery and Resilience Facility
<b>R&amp;D</b>	Research and Development
<b>R&amp;I</b>	Research and Innovation
<b>SDG</b>	Sustainable Development Goal
<b>S3</b>	Smart Specialisation Strategy
<b>TEN-T</b>	Trans-European Transport Network
<b>TFBI</b>	Task Force on Better Implementation
<b>TSSP</b>	Thematic Smart Specialisation Platform
<b>YEI</b>	Youth Employment Initiative
<b>7CR</b>	Seventh Report on Economic, Social and Territorial Cohesion



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## EXECUTIVE SUMMARY

The EU's lagging regions face significant challenges to transform their economic underperformance. Current ongoing transitions, such as digitalisation and towards a sustainable society, and the COVID-19 pandemic are accentuating these challenges. This is both creating new and exacerbating existing internal divergence within the EU.

### Objectives of the study

The main objectives of this study are to (i) analyse the challenges faced by the EU's lagging regions; (ii) assess how lagging regions are identified; (iii) provide a revised categorisation of EU lagging regions; (iv) analyse and assess EU initiatives directly targeting lagging regions; (v) assess how lagging regions are engaged in EU policies; and (vi) provide concrete recommendations on how to improve support for EU lagging regions.

### Identifying and analysing lagging regions

Current approaches to identifying *lagging* regions are flawed, which means that some are not identified as such, while *catching-up* regions are inaccurately grouped under the same category. Both the method of identifying lagging regions and the frequency of monitoring this phenomenon across the EU must be improved.

This study proposes a new typology for lagging regions:

- *internally lagging* regions converge to the EU GDP per head average but diverge from their respective national average;
- *divergent* regions are relatively poorer regions that do not converge towards the EU average; and
- *extremely low-growth* regions have growth since 2000 that has been less than half of the EU average growth since 2000.

The *low-income* group of regions – which has been growing more than the EU average and is thus catching up – is removed from this categorisation since they are *converging* regions (unless they are lagging internally).

The adoption of this new typology will generate a wide range of benefits and added value if it is accompanied by the regular reviewing, monitoring and communication of results; and alignment with and influence over future EU policymaking. One of the many benefits includes a new contribution to the EU evidence base concerning how to address divergence and disparities, based on the analysis of the evolution of the EU's lagging regions. Second, a stronger and sustained commitment from member states to address the challenges of their regions most in need. Third, a more honest and realistic narrative concerning how regions with the greatest distance to cover should address the transition agenda, thereby helping ensure that lagging regions are not subject to a permanent growth problem.

The proposed, revised typology also highlights the diversity of EU regions when it comes to growth performance. It demands targeted policy attention, which has hitherto been largely under the radar of mainstream EU policymaking. This must be addressed urgently in the context of a radical increase in EU investment to support the COVID-19 recovery and post-2020 Multiannual Financial Framework. Many lagging regions should be considered as priorities for future targeted investment and support,

especially since many are among the most vulnerable to the negative impacts of the COVID-19 crisis. Given the current rapidity of the decision-making process on how support will be allocated, implemented and managed, this new evidence could strongly feature in the current EU debate.

### The Lagging Regions Initiative

The Lagging Regions Initiative (or Catching-up Regions Initiative) was introduced in 2015 to identify and support the EU's lagging regions. Despite creating an opportunity to make this challenge (more) visible, it was characterised by a level of confusion surrounding the terminology used to identify the most vulnerable regions. It also did not differentiate well between targeted actions and support for the different types of regions it identified (i.e. 'low-growth' and 'low-income'). In general, minimal support was directed towards low-growth regions, despite the evidence that this group is at the core of the lagging region challenge. The Initiative focuses exclusively on selected catching-up regions in Central and Eastern Europe.

While the Initiative is connected extensively to the World Bank and European Parliament, the findings and impacts from these actions are difficult to track due to the absence of a central repository of information. This makes these relationships and their evolution difficult to follow, thereby contributing to the relatively low visibility of the Initiative.

### Lagging regions and EU policies

The EU's Smart Specialisation Strategy (S3) agenda has been very widely applied to the Initiative and produced important, related findings. However, while S3 can provide a more 'horizontal' policy support function to lagging regions, it should not be understood as the only and/or main tool for delivering that effort. Indeed, the complexity and persistence of the challenges lagging regions face should not be underestimated. Low-growth regions have not made significant progress in improving their performance. They require comprehensive and long-term support that is linked to, for example, labour market reforms, skills needs and gaps in digitalisation.

This study found that the term *lagging regions* is often used as a catch-all in EU documentation as well as academic literature, thereby contributing to a level of ambiguity concerning the regions that are targeted and the challenges they face. Related to this, the Lagging Regions Initiative has lacked clear visibility – and has had a relatively limited influence – across EU policy developments. Correspondingly, this context has generated a level of inertia and inaction concerning the extent and nature of this EU-wide regional challenge, leading to a vacuum in specific and targeted EU policy responses.

There remains a strong top-down approach to EU policymaking, including in how support and investment are targeted and delivered. The challenges and needs of specific EU territories, especially those experiencing greater difficulties – the EU's lagging regions – risk being overlooked. Stronger 'space sensitivity', including in the EU's structural reforms agenda, has the potential of improving the targeting and delivery of EU support to the regions most in need.

The EU's transition agenda (i.e. energy, digital and industrial) creates specific challenges for lagging regions since successful transitions imply that certain capacities, such as skills and know-how, investment and governance, are in place. In regions where these are absent or in short supply – as is the general case for lagging regions –, successful transitions are unlikely to materialise. This further threatens the vulnerability and stability of these regions. Furthermore, the COVID-19 crisis is exacerbating this instability.

While EU measures and mechanisms are gearing up to support transitions, none have – as of yet – explicit elements that support the multifaceted needs of lagging regions. How they evolve over time should be carefully monitored to ensure that the specific needs of lagging regions are not overlooked.

### Conclusions and recommendations

This study identifies several key recommendations:

- Apply a new typology of lagging regions that is supported by a rationale of better identifying and supporting regions that are falling behind.
- Launch a new initiative that targets low-growth regions which correspond to the (revised) definition of lagging the most, and which currently are not specifically targeted by an EU support programme.
- Improve the availability of and access to data at the regional level, to improve insights into the development needs and bottlenecks of lagging regions.
- Create a central repository of information for the Lagging Regions Initiative, linking together past and current activities as well as achievements.
- Carry out a comprehensive evaluation of the Lagging Regions Initiative to improve its visibility and future policy development.
- Place a stronger focus on quality of governance in the Cohesion Policy and European Semester to improve the targeting of support, especially to lagging regions.
- Ensure that structural reforms entail an improved place-based sensitivity by building on the recent inclusion of Annex D in the European Semester's Country Reports, thereby strengthening the European Semester's sensitivity to territorial challenges.
- Direct comprehensive and targeted support to lagging regions that experience multiple and complex challenges throughout their energy, digital and industrial transitions.
- Ensure that COVID-19 recovery measures target the EU's most vulnerable regions, to overcome the former's bias towards national-level data and focus, which, in turn, increases the risk of overlooking support for the EU's most vulnerable regions.



## 1. INTRODUCTION

Regions in the EU have consistently shown differences in their economic structure and level of socioeconomic development. For decades, one of the EU's goals has been to reduce these disparities. The Single European Act stated, "In order to promote its overall harmonious development, the Community shall develop and pursue its actions leading to the strengthening of its economic and social cohesion." (1986, Article 130a). Today, the Treaty on the Functioning of the European Union recognises the "strengthening of its economic, social and territorial cohesion" as one of the underpinning goals of the EU. It also notes "reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions." (2009, Article 174)

In general, regional levels of GDP per capita have been converging in the past decades, meaning that regional disparities are diminishing overall. This was especially the case until 2009: GDP convergence has been stagnating since the global economic crisis in 2008. Looking beyond headline values, it appears that rapid growth in Central and Eastern Europe is the main reason behind the convergence, while disparities have been increasing in the rest of Europe (Monfort 2020). Some regions have been underperforming and risk not being able to keep up with the rest of the EU, with potential negative consequences on regional income, well-being and political stability. In recent years, large variations in regional performance have shown that some regions have struggled significantly to improve their development trajectories. These lagging regions have special development needs and could be better supported by targeted interventions and investments.

The Catching-up Regions Initiative, formerly known as the Lagging Regions Initiative, was the first step in this direction. It was launched by the European Commission in 2015 to identify and assist EU regions "whose level of development was significantly lower than the EU average." (*European Commission a*). Despite its new title, we primarily refer to its original project name throughout this study, as our focus is on the initial intention of the action – the issue of lagging regions.

Ongoing economic developments – driven by trends including globalisation, technological change and climate change, as well as the long-term impact of the COVID-19 pandemic – will continue to demand massive transformative efforts. These developments have the potential of creating particular challenges for lagging regions, which may already lack the capacity and endowments to benefit from changing economic opportunities. A forward-looking approach should identify and anticipate the policy areas that offer crucial support for keeping up with ongoing transitions. The COVID-19-related crisis adds complexity and uncertainty to these developments.

This study takes the categorisation of EU regions from the Lagging Regions Initiative as the starting point for identifying and analysing the EU's most vulnerable regions. It also reviews the role of EU policies and how they engage with lagging regions. It is structured as follows. Chapter 2 explores the *lagging* concept, highlighting how it has been used in the academic and policy environments, as well as emerging inconsistencies. Chapter 3 critically assesses the existing categorisation of lagging regions and proposes a revised typology which continues to use GDP as the main indicator. Chapter 4 presents the main development constraints faced by lagging regions, as identified by literature and with a view to the future economic transition. Chapter 5 assesses the EU initiatives targeting lagging regions directly: the Lagging Regions Initiative, and the Research and Innovation Strategies for Smart Specialisation (RIS3) for lagging regions. Chapter 6 takes a broader view of EU policies, assessing how they engage and target lagging regions. In addition to the Cohesion Policy and European Semester, this chapter explores which and how EU policies support lagging regions in the green, digital and industrial transitions. Some preliminary considerations on the impact of the COVID-19-related crisis

and EU policy responses are also provided in this chapter. Lastly, Chapter 7 puts forward recommendations on how to support EU lagging regions better.

## 1.1. Aims and objectives

This study aims to analyse the main issues and challenges confronting EU lagging regions and suggest how EU policies' support could be improved.

This study has multiple objectives. First, to analyse the challenges faced by the EU's lagging regions. Second, to assess how lagging regions are identified. Third, to provide a revised categorisation of EU lagging regions. Fourth, to analyse and assess EU initiatives that directly target lagging regions. Fifth, to assess how lagging regions are engaged in EU policies. Lastly, to provide concrete recommendations on how to improve support for the EU's lagging regions.

## 1.2. Methodology

The analysis from this study is based on academic literature review, documentary research, data analysis and a European Policy Centre (EPC) expert workshop. Extensive desk review involved delving into EU policy documents, including expert reports, impact assessments, legislation and other EU documents. Direct data analysis focuses on GDP levels and growth patterns of EU regions at the NUTS2 level (i.e. basic regions for the application of regional policies), allowing for comparative analysis. Our GDP analysis uses data from *Eurostat* (a). The unit is purchasing power standard (PPS, EU28) per inhabitant. The growth rates are calculated between 2000 and 2018, which is the latest available year. The data was extracted on 15 June 2020. France and Poland are excluded from our analysis because data from the year 2000 is unavailable. The UK is not subject to the analysis. To assess the 'transition readiness' of EU regions, the analysis has relied on existing reports and other already-published sources of information.

By using EU-level sources, we have adopted a top-down research approach. An opposite bottom-up approach would have entailed researching sources of information at the regional level (e.g. regional development strategies, operational programmes). This was not feasible within the confines of the study timescale and resources. However, it remains an interesting area of study for the future, using more granular data and insights and providing more intensive coverage.

To gain additional information from Cohesion Policy researchers and practitioners, an EPC workshop, "New EU lagging regions and policy challenges", was organised on 30 June 2020. It convened experts from academia as well as international organisations (i.e. European Commission, World Bank, European Committee of the Regions, Organisation for Economic Co-operation and Development). The workshop provided useful insights for this study. The analysis and recommendations do not necessarily reflect the views of all participants (see Annex 2).

The main challenges encountered throughout this study include the following. First, there is a limited amount of information on the EU's lagging regions which, in turn, is presented in a very scattered manner across EU policies and actors, documents and other sources. This is also the case for the Lagging Regions Initiative itself, which lacks a central, web-based repository of information. A more comprehensive review of the inclusion of lagging regions in all EU policies and initiatives would require a significant increase in resources. Information on specific initiatives in certain regions is also scarce, thus limiting the capacity to explore how the Initiative was, in practice, carried out from a regional perspective, including set-up implementation and the status of results.

Second, data availability was a constraint. More recent indicators related to the current EU priorities (e.g. climate, environment, Sustainable Development Goals) are not always available at the regional



level. Others, such as the EU Regional Social Progress Index (EU-SPI), have only been introduced recently, making a time analysis impossible. Additionally, the statistical definitions of Polish and French NUTS2 regions have changed in recent years, rendering comparisons with the years before the change unfeasible and resulting in the exclusion of these countries from the analysis.

Lastly, the timing of this study means that we cannot assess nor make conclusions concerning how lagging regions have fared during the current programming period (i.e. 2014-20), because the final results of EU initiatives and funding are not yet ready for assessment. It is also too early to properly account for the consequences of the COVID-19-related economic crisis (which we nevertheless discuss in Chapter 6).

However, the methodology includes an intensive review of literature – where available – which involves and/or which is of relevance for lagging regions. This includes the emerging policy environment linked to the COVID-19 crisis and the draft post-2020 proposals for the EU's Multiannual Financial Framework (MFF), especially in the context of the Cohesion Policy.



## 2. THE LAGGING CONCEPT

### KEY FINDINGS

- The categorisation used in the Lagging Regions Initiative can be confusing, as the labels *lagging* and *catching-up* are used interchangeably. However, their meanings are essentially opposing. Lagging and catching-up regions experience opposite development trajectories.
- *Lagging* entails an evolution over time and should thus be defined by a dynamic indicator. We define *lagging regions* as those with performances consistently below the EU average.
- The 'lagging regions' narrative often includes other similar terms that do not necessarily refer to a group of homogeneous regions (i.e. *left-behind* regions, *less favourable* regions). This creates confusion and ambiguity around identifying regional groups and the challenges they face.
- These inconsistencies and the negative connotation of the term *lagging* provide some reasons as to why this terminology has suffered from low visibility and is not better understood or mainstreamed outside of the Lagging Regions Initiative context. This has a particular impact on low-growth regions, which have featured much less in the Initiative's efforts and findings.

The verb *to lag* means "to move or make progress so slowly that you are behind other people or things" (*Cambridge Dictionary* a). Conversely, *to catch up* is "to reach someone or something by moving faster than the other person or thing" (b). The two concepts are thus conflicting, implying that the interchangeable use of the two is inaccurate.

Two aspects are intrinsic to the *lagging* concept: change (i.e. development over time) and relativity (i.e. concerning others). When applied to EU regions, the following can be said:

- A *lagging region* is one whose progress (e.g. in GDP growth) is significantly slower than others. In other words, it is a region that has below-average performance over time, compared to a predefined group.
- A *catching-up region* is one whose progress is faster than others.

This section explores how the lagging concept is used in the policy and academic environments and draws conclusions on its proper use.

### 2.1. The EU's lagging regions in the Lagging Regions Initiative

The Lagging Regions Initiative was launched by the European Commission in 2015, as part of former Commissioner for Regional Policy Corina Crețu's broader actions to help member states and regions improve how they invest and manage Cohesion Policy funds. Today, its name has evolved to the Catching-up Regions Initiative.

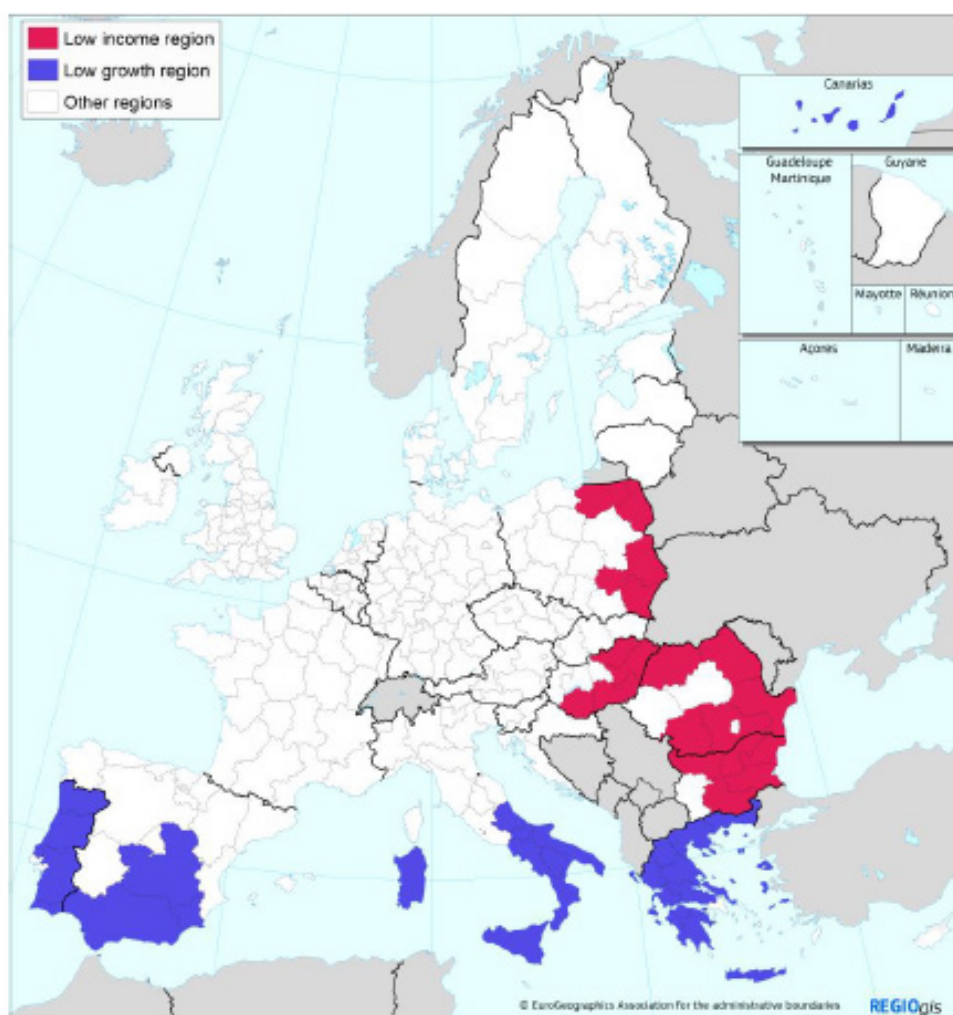
The Initiative, which defined catching-up regions in the terms described below, was considered "a pilot initiative to examine the factors that hold back growth and investment in catching up regions and to provide recommendations and assistance on how to unlock their growth potential." (*European Commission* a) The Initiative was piloted in four regions of Romania and Poland with the support of World Bank experts. The aim was to then transfer the model to other EU regions that face similar challenges. A report studying all 47 lagging regions, the Lagging Regions Report (*European Commission* 2017a), was published in 2017 (see section 6.1. for the history of the Initiative).

The Initiative defines two types of catching-up (or lagging) regions:

- Low-income regions are all regions whose GDP per head in PPS was below 50% of the EU average in 2013.
- Low-growth regions are less developed or transition regions (i.e. regions with a GDP per head in PPS below 90% of the EU average in 2013). Secondly, their GDP per head did not converge with the EU average between 2000 and 2013. Thirdly, they were in member states with a GDP per head in PPS below the EU average in 2013.

According to these criteria, 47 EU regions fall into these two lagging groups. Low-growth regions are in Portugal, Spain, Italy and Greece, while low-income regions are in Poland, Hungary, Romania and Bulgaria (see Figure 1). European Commission officials confirmed that an update of this classification is not planned, as part of a written and oral exchange during the consultation period of the study.

**Figure 1. The EU’s lagging regions, as per the Lagging Regions Initiative**



Source: European Commission (2017a:1)

From a conceptual point of view, this categorisation is somewhat confusing. The Initiative explicitly uses the terms *catching-up* and *lagging* interchangeably, implying that they are synonymous. This is not, however, the case. Rather, the two concepts are conflicting. A second conceptual issue is that the existing categorisation covers two different groups of regions – low-growth and low-income – under the umbrella term ‘lagging and/or catching up’, despite these groups sharing little in common when it comes to their development path. Third, while both terms have a dynamic component (i.e. they

entail an evolution over time), low-income regions are defined by a non-dynamic indicator (i.e. according to their relative GDP level at a given point in time) without accounting for its evolution.

Furthermore, it should be noted that while *catching up* is used frequently on the Initiative's website (European Commission a), the Lagging Regions Report (European Commission 2017a) solely uses the term *lagging*. The 'theoretical strand' of the Initiative initially used the term *lagging*, while the subsequent 'practical strand' focused on catching-up regions and consequently used the latter term. Overall, this has served to underplay the needs of low-growth and lagging regions (see section 5.1. for the structure and evolution of the Initiative).

Lastly, a comparison to the Cohesion Policy categorisation of EU regions highlights the added value of the *lagging* label. The lagging/catching-up typology uses the same indicator as the Cohesion Policy – GDP per capita – but takes a different approach. The 2014-20 Cohesion Policy categories of regions are as follows:

- less developed regions (GDP per head lower than 75% of EU27 average);
- transition regions (GDP per head between 75% and 90% of EU27 average); and
- more developed regions (GDP per head higher than 90% EU27 average).

Among lagging regions, low-income regions are thus less developed regions with a very low level of GDP per head (less than 50% of the EU average). Low-growth regions are less developed or transition regions that are defined significantly differently, since an additional dynamic indicator is used (i.e. GDP per capita growth). The identification of low-growth regions brings the added value of assessing relative performance over time.

## 2.2. The EU's lagging regions in academic and policy literature

From a general perspective, EU policy documents use *lagging* as a catch-all when referring to the Lagging Regions Initiative. The documents' definition of the term, as well as the EU regions identified accordingly, are the same as the Initiative's. This is the case in, for example, studies conducted by the European Parliament and others, as commissioned by the European Commission (see European Parliament 2018; Iammarino, Rodríguez-Pose and Storper 2017; Brown *et al.* 2017). The World Bank's work on the EU's lagging regions is linked to the Commission's Initiative and also uses the same categorisation (see Farole, Goga and Ionescu-Heroiu 2018). However, the specific typology of low-growth and low-income regions is not often well described in EU literature, thereby promoting further the use of the (inaccurate) catch-all term of *lagging regions* for both types of regions.

Interestingly, the Seventh Cohesion Report (7CR; European Commission 2017b), which was published two years after the launch of the Initiative and following the Lagging Regions Report (2017a), does not use the 'low-growth/low-income' typologies. Instead, it categorises EU regions into four new, different categories: very high income, high income, medium income and low income. Additionally, lagging regions are given truly little visibility or importance in the 7CR. They are referred to as part of the wider group of EU low-income regions, consequently losing the added value provided by economic growth analysis.

Academic literature focusing on the EU's less developed regions often refers to them as *lagging regions*, resulting in the interchangeable use of the terms. For example, Rodríguez-Pose and Wilkie (2018) define lagging regions as those with a GDP per head lower than 90% of the EU average. During the EPC workshop organised in the context of this study, this issue was discussed by the participants (see Annex 2). Some noted the difficulty in differentiating between regional groups and the challenges they face, respectively. Other labels such as *less favoured*, *backward* and *left behind* are also

present in the 'lagging regions' narrative. This creates further scope for confusion since these terms do not necessarily refer to a group of homogeneous regions.

Additionally, many of the workshop participants pointed to the negative connotations associated with this kind of labelling, which could impact the motivation of regions to 'self-identify' as lagging. This further perpetuates the challenge of generating targeted and place-based responses to address the challenges that different regions face.

### **2.3. Conclusions**

It appears that there is some conceptual confusion around the term *lagging*. Its interchangeable use with the *catching-up* concept by the Lagging Regions Initiative is fundamentally inaccurate. This contributes to a lack of clarity in identifying lagging regions and recognising the challenges they face. Additionally, this interchangeable use conflates the reality with the objective: while catching up may well be the goal, the *reality* for many of these regions is that they are lagging.

This study has found that lagging regions have been identified inconsistently in different policy and academic environments. This inconsistency and the negative connotation of the term *lagging* are most likely linked to the relatively low visibility of the lagging regions group. This has contributed to the lack of impetus, in recent years, to establish an ongoing commitment to address the needs of these regions and better understand the interventions they require. This indicates a rather limited policy impact from the overall Initiative as of yet.

The definition of *lagging regions* should entail a dynamic evolution over time that is relative to another factor. Importantly, determining this relative factor is of crucial importance, as that could change whether a region is deemed to be lagging or not (see Chapter 3). In this study, we adopt the following definition: A *lagging region* is a region with significantly below-average performance over time. Lagging and catching-up regions show opposite development patterns and should not be considered part of a homogeneous group.

### 3. REVIEW OF THE TYPOLOGY: A BETTER IDENTIFICATION OF EU LAGGING REGIONS BASED ON GDP

#### KEY FINDINGS

- The existing categorisation of lagging regions does not fully capture all of the EU's most vulnerable regions. Firstly, low-income regions are defined as lagging without considering performance over time. Secondly, low-growth regions located in rich countries are excluded from the classification. Thirdly, regions with abysmal growth performance, regardless of their level of income, are not identified.
- Our proposed revised typology identifies three groups of lagging regions. First, *internally lagging* regions converge to the EU GDP per head average but diverge from their national average. Second, *divergent regions* are relatively poorer regions that do not converge towards the EU average. Third, *extremely low-growth regions* have growth that, since 2000, is less than half of the EU average growth.
- Low-income regions in Romania, Hungary and Bulgaria are strongly converging to the average EU income and should therefore not be considered as lagging. However, some regions in these countries are lagging internally.
- While divergent regions are sporadic in rich countries, many, if not almost all, regions in Italy, Greece, Portugal and Spain are diverging. Extremely low growth is a pervasive issue in Greece and Italy, where most regions have grown significantly less than the EU average in the past two decades.

The Commission's categorisation of lagging regions, divided further between the low-income and low-growth subgroups, does not fully grasp the characteristics of most vulnerable EU regions. Chapter 2 discussed the conceptual limitations of this typology, which confuses lagging and catching-up trajectories.

In this section, we highlight the practical limitations of the categorisation and subsequently propose a revised typology. Here, the focus indicator remains GDP per capita and its development over time. GDP per head is kept as the main indicator because of its reliability and easy comparability. We recommend retaining this indicator, to avoid a radical shift in the EU's definition of lagging regions when continuing to review the general performance of all regions through this GDP 'lens'. We therefore also recommend refraining from conducting different analyses on the regions, which would only hinder their overall comparability.

Nevertheless, we advocate for a change in approach, as outlined above, to derive significant added value for the ongoing monitoring of lagging regions and support the further development of targeted interventions to improve their future trajectories.

Importantly, 2018 data is used to update the existing categorisation, which in turn is based on 2013 figures.<sup>1</sup> Growth rates are calculated using 2000 as the first year, as the existing categorisation does. Growth rates of GDP per capita (in PPS) between 2000 and 2018 are thus calculated. Due to data unavailability, France and Poland are excluded from our analysis.

<sup>1</sup> N.B. the data for the categorisation is updated to 2018. The impact and dynamic effect of the COVID-19 crisis is therefore not considered.

### 3.1. The limitations of the existing categorisation of lagging regions

This study's definition of *lagging* implies a below-average performance over time (see Chapter 2). An analysis of GDP growth over time is thus necessary, as a static indicator is not suited to assess relative regional performance. The Commission's categorisation does undertake such an analysis when it comes to low-growth regions.

Low-income regions, however, are identified by a non-dynamic indicator (i.e. GDP per head that is below 50% of the EU average in any given year). This is a suboptimal identification of lagging regions, as the change over time is not grasped. Thus, the first limitation of the existing categorisation is that it does not account for low-income regions' performance over time. This is incompatible with the *lagging* concept, which requires dynamic monitoring over time.

The definition of the low-growth category is more relevant as it accounts for relative growth developments. However, low-growth regions are only identified if they are in a member state whose GDP per head is below the EU average. The categorisation does not account for low-growth regions located in relatively richer countries. This exclusion is problematic, as there may be regions in these countries which show challenging growth dynamics that may, in turn, require special policy attention. Thus, the second limitation of the existing categorisation is that it ignores some low-growth regions located in well-performing member states.

Lastly, poor growth performance is problematic for different regions at different levels. Economic growth theory entails that relatively richer regions grow at a slower pace than relatively poorer ones, resulting in overall convergence towards the same levels of income (see Solow 1956). Below a certain threshold, however, relatively low growth might become problematic and result in stagnation – although the definition of this cut-off point remains arbitrary. From a policy perspective, more priority should be placed on identifying regions that have extremely poor growth performance, regardless of their level of income.

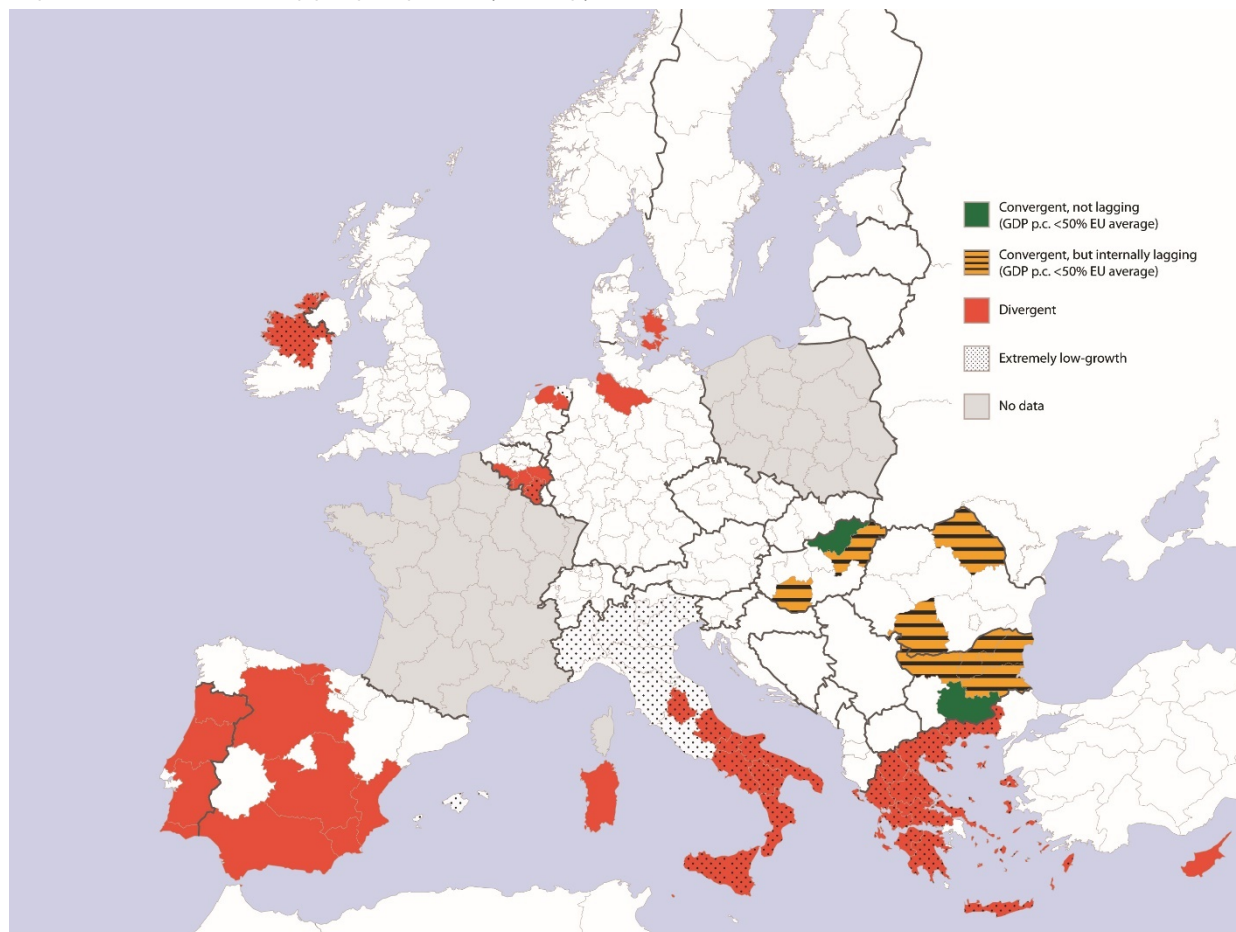
Addressing these three limitations of the existing categorisation implies both a more sophisticated approach to measuring and monitoring the performance of all regions, with the aim of better identifying regions – some currently 'under the radar' – for targeted support.

### 3.2. A revised typology based on GDP (*Eurostat a*)

By addressing the three shortcomings outlined above, a different categorisation of lagging regions emerges (see Figure 2, Table 1).



**Figure 2. Revised lagging regions typology based on GDP (2018)<sup>2</sup>**



Source: Authors' calculations based on Eurostat (a)

**Table 1. The EU's lagging regions in the revised typology based on GDP (2018)<sup>3</sup>**

	<b>EU regions</b>
Convergent, not lagging	Bulgaria: BG42 Yuzhen Tsentralen Hungary: HU31 Northern Hungary
Convergent but internally lagging	Bulgaria: BG31 Severozapaden, BG32 Severen Tsentralen, BG33 Severoiztochen, BG34 Yugoiztochen Hungary: HU23 Southern Transdanubia, HU32 Northern Great Plain Romania: RO21 Nord-Est, RO41 Sud-Vest Oltenia
Divergent	Belgium: BE32 Hainaut, BE33 Liège, BE34 Luxembourg, BE35 Namur Cyprus: CY00 Kypros Denmark: DK02 Region Zealand

<sup>2</sup> In this study, our GDP analysis uses data from Eurostat (a). The unit is purchasing power standard (EU28) per inhabitant. The growth rates are calculated between 2000 and 2018, the latest available year. The data was extracted on 15 June 2020. France and Poland are excluded from our study because of data unavailability. The UK is not subject to our analysis.

<sup>3</sup> *Ibid.*

	<p>Germany: DE93 Lüneburg</p> <p>Greece: EL41 North Aegean, EL42 Southern Aegean, EL43 Crete, EL51 Eastern Macedonia and Thrace, EL52 Central Macedonia, EL53 Western Macedonia, EL54 Epirus, EL61 Thessaly, EL62 Ionian Islands Region, EL63 Western Greece, EL64 Central Greece, EL65 Peloponnese</p> <p>Ireland: IE04 Northern and Western</p> <p>Italy: ITF1 Abruzzo, ITF2 Molise, ITF3 Campania, ITF4 Apulia, ITF5 Basilicata, ITF6 Calabria, ITG1 Sicily, ITG2 Sardinia, ITI2 Umbria</p> <p>The Netherlands: NL12 Friesland, NL13 Drenthe</p> <p>Portugal: PT11 Norte Region, PT15 Algarve, PT16 Centro Region, PT18 Alentejo, PT30 Autonomous Region of Madeira</p> <p>Spain: ES13 Cantabria, ES41 Castile and León, ES42 Castilla-La Mancha, ES52 Valencia, ES61 Andalusia, ES62 Region of Murcia, ES63 Autonomous City of Ceuta, ES64 Autonomous City of Melilla, ES70 Canary Islands</p>
Extremely low growth	<p>Belgium: BE10 Brussels-Capital Region, BE34 Luxembourg</p> <p>Greece: EL41 North Aegean, EL42 Southern Aegean, EL43 Crete, EL51 Eastern Macedonia and Thrace, EL52 Central Macedonia, EL53 Western Macedonia, EL54 Epirus, EL61 Thessaly, EL62 Ionian Islands Region, EL63 Western Greece, EL64 Central Greece, EL65 Peloponnese</p> <p>Ireland: IE04 Northern and Western</p> <p>Italy: ITC1 Piedmont, ITC2 Aosta Valley, ITC4 Lombardy, ITF1 Abruzzo, ITF2 Molise, ITF3 Campania, ITF4 Apulia, ITF5 Basilicata, ITF6 Calabria, ITG1 Sicily, ITH2 Autonomous Province of Trento, ITH3 Veneto, ITH4 Friuli Venezia Giulia, ITH5 Emilia-Romagna, ITI1 Tuscany, ITI2 Umbria, ITI3 Marche, ITI4 Lazio</p> <p>The Netherlands: NL11 Groningen</p> <p>Spain: ES53 Balearic Islands, ES64 Autonomous City of Melilla, ES70 Canary Islands</p>

Source: Authors' calculations based on Eurostat (a)

Considering GDP growth dynamic of low-income regions between 2000 and 2018, it becomes clear that they do not fit the *lagging* label. In fact, these regions are not lagging, because their GDP growth is higher than the EU average over the same period. These regions should be called 'convergent' instead since they are catching up and closing the gap with the EU average GDP per capita.

Importantly, however, only comparing performance to the EU average can hide different dynamics within the country. An analysis of GDP growth relative to the national average between 2000 and 2018 shows that there are impoverished regions that grow less than the more affluent areas in the same country. The continued top-down nature of measuring EU performance has contributed to this situation by keeping these regions under the radar of EU support. This pattern of internal divergence is present despite convergence to the EU average. Regions fitting this description are identified as *internally divergent* or *internally lagging* in this paper.

*Divergent* regions are those that match the existing categorisation's criteria of low growth: a GDP per head below 90% of the EU average, and growth lower than the EU average. Crucially, all regions that fit these criteria are identified as divergent, regardless of their respective member state.

*Extremely low-growth* regions are those whose GDP per capita growth has been less than half of the EU average growth since 2000. This threshold allows for the identification of regions with abysmal growth performance, regardless of their level of income; some divergent and richer regions have had extremely low growth. These developments have been masked, in some cases, by a relatively improved performance at the member state level.

We thus recommend revising the typologies of regions considered lagging, to obtain a slightly different group which better identifies the 'lagging' challenge across the whole of the EU, including in regions where it has gone unchecked. Lagging regions include impoverished regions that are converging to the EU average but lagging with respect to their national average. Secondly, regions that are poorer than the EU average and remain lagging (i.e. diverging). Thirdly, richer regions that have an extremely low growth performance and thus are lagging with respect to the EU average.

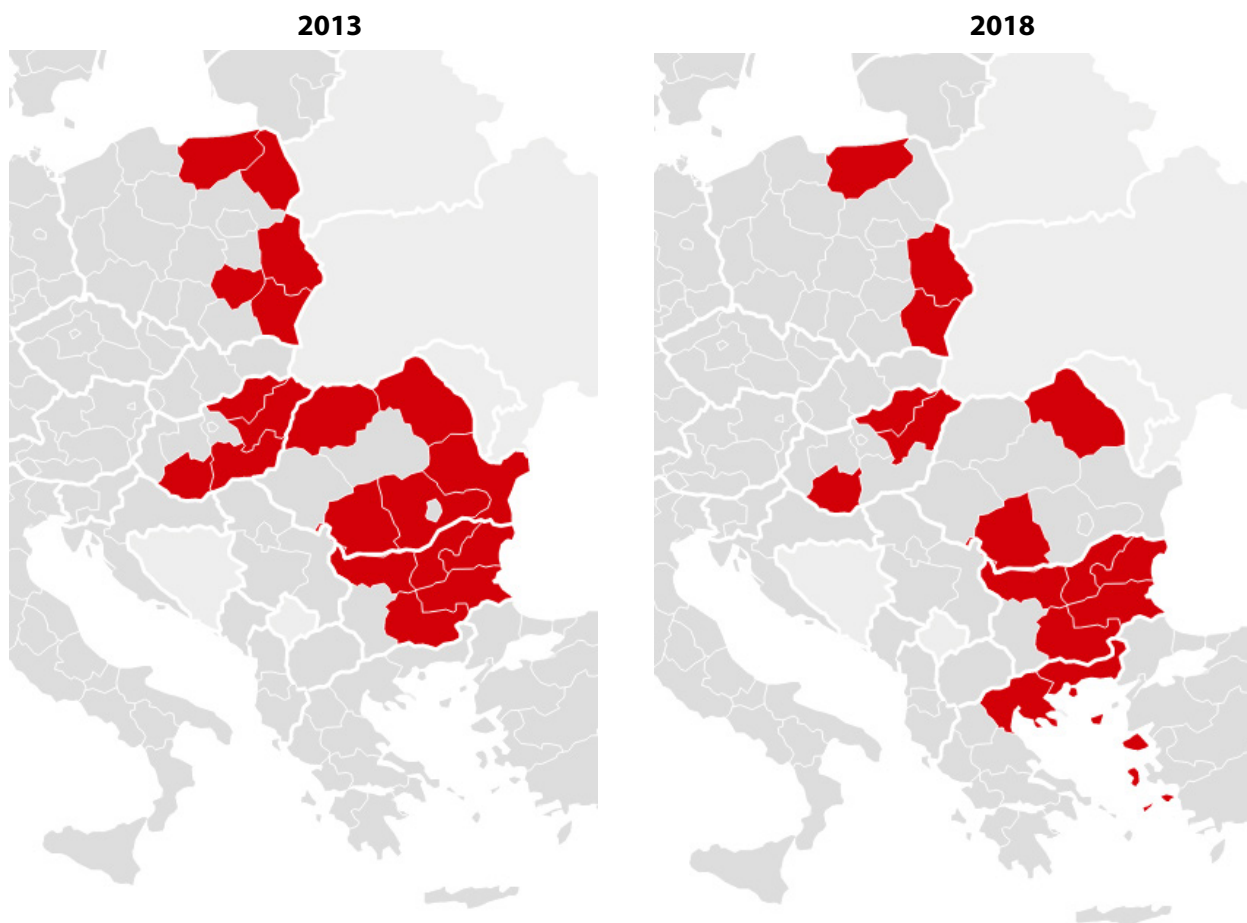
For the sake of a comprehensive analysis that is comparable to the existing categorisation, regions that are not lagging relative to the EU average but have a GDP per head that is still below 50% of the EU average will be considered in this section. They are considered low-income in the existing typology and are either convergent or internally lagging in our revised categorisation. The remainder of this chapter describes and analyses these categories.

### 3.2.1. Convergent and internally lagging regions

The existing categorisation identifies low-income regions: an extremely low level of GDP per head relative to the EU average. While the need to identify these regions may be recognised, regional development over time is ignored. This section explores the growth performance of regions identified as low-income; where their GDP per capita in PPS is lower than 50% of the EU average.

First, it is worth highlighting how low-income regions have developed since 2013. The original categorisation uses 2013 data, which can now be updated using the latest 2018 figures.

Figure 3 illustrates interesting developments over a brief five-year period. On the one hand, some regions' GDP have grown above 50% of the EU average threshold and thus no longer fall into the low-income category. These are the Southern Great Plain in Hungary; Świętokrzyskie and Podlaskie in Poland; and Nord-Vest, Sud-Est and Sud-Muntenia in Romania. On the other hand, three Greek regions (see section 3.2.2.) have been performing so poorly relative to the EU average that they have passed below the threshold and can be identified as low-income as of 2018. These are Eastern Macedonia and Thrace, Epirus, and North Aegean.

**Figure 3. Regions with GDP per capita in PPS below 50% of the EU average**

Source: European Commission (2017a)

(a)

Source: Authors' own calculations based on Eurostat

All regions that had a GDP per capita below 50% of the EU average in 2018 have grown faster than the EU average since 2000. They are thus all converging to the EU average. The regions in question are located in Bulgaria, Hungary and Romania.<sup>4</sup> In order to understand intranational patterns, growth performance relative to the national average is assessed to identify regions that may be converging to the EU average, but lag with respect to their national performance.

Only one of the six Bulgarian NUTS2 regions is *not* a low-income region: Yugozapaden, hosting the country's capital Sofia. In 2018, its GDP per capita was at 82% of the EU average, and it was approximately twice as wealthy as the other Bulgarian regions. The latter are still among the poorest EU regions, with a GDP per head between 33% and 41% of the EU average in 2018. Although the levels of income in all Bulgarian regions in are still relatively low, they are more than double their 2000 levels, implying growth that is twice as fast the EU average.

While all Bulgarian regions are clearly catching up to the EU average, the country's internal divergence trajectory is worth highlighting. Regional GDP per capita quadrupled between 2000 and 2018 in Yugozapaden, while it doubled in the other regions. Being the wealthiest Bulgarian region by far

<sup>4</sup> N.B. Poland is excluded from our growth analysis due to a lack of data.

already in 2000, the much faster growth of Yugozapaden suggests a more complex picture of convergence within the country and widening differences. Only one of the Bulgarian poorest regions, Yuzhen Tsentralen, is converging to the national average. As indicated earlier, these patterns are partly hidden by an approach which measures growth relative to the EU average.

Hungarian regions have had a largely homogeneous growth performance. The GDP per capita of all the regions have increased by 87% to 129% since 2000. This is approximately twice as much as the EU average. A pattern of internal divergence is visible because Budapest, the country's richest region, has grown faster than the national average (119% versus 106%). However, the growth performance of Budapest is not as stark when compared to the whole country, and other regions have grown more than the national average. This highlights the need for tailored analyses. For example, Northern Hungary was the poorest region in 2000 but experienced the highest growth in the country since. While it was still the poorest in 2013, with a GDP per capita at 41% of the EU average, it overtook two other Hungarian regions and stood at 49% of the EU average by 2018. The Southern Great Plain, which was a low-income region in 2013, has also grown faster than the national average and passed the 50% threshold in 2018. It is thus no longer considered a low-income region.

Of the three low-income regions in Hungary in 2018, Northern Hungary is also converging to the national average, while Southern Transdanubia and the Northern Great Plain are converging to the EU average but not the national average. It is important to account for growth compared to the national average, as this can impact citizens' perceptions of disparities. Additionally, it can help overcome a 'space-blind' approach to policymaking, especially in countries and regions with less sophisticated approaches to diversifying policy responses.

Romanian regions have had a remarkable growth performance, with GDP per capita in 2018 four times higher than in 2000. Regional growth since 2000 is between 262% and 314%, with the highest level registered in the region of Bucharest. The catch-up of Romanian regions has been exceptionally fast. Except for the capital region, all the other regions' levels of income were between 18% and 27% of the EU average in 2000. In 2018, only two regions are still below the 50% threshold – Nord-Est (41%) and Sud-Vest Oltenia (49%). While these two regions are converging to the EU average, they have been growing less than the national average growth, suggesting an internal dynamic of divergence. The region of Bucharest has been growing slightly above the national average. It has a GDP per head approximately three times higher than the other regions, and much higher than the EU average (151% in 2018). This suggests a large concentration of production and wealth in the capital region, which is exacerbated by a more spatially-blind approach to regional support and development.

### 3.2.2. Divergent regions

Contrary to what economic growth theory would predict, there are EU regions that are both poorer and grow less than the average. Although they should converge to higher levels of income, they diverge instead, resulting in wider disparities. The existing categorisation correctly identifies divergent regions as low-growth, lagging regions. Nonetheless, to identify all the divergent regions in the EU correctly, all countries should be considered. When the existing low-growth categorisation is expanded to also account for regions in countries richer than the EU average, the number of diverging, low-growth regions increases. In addition to regions in Southern Europe (i.e. Greece, Italy, Portugal, Spain), a few regions in Belgium, Denmark, the Netherlands, Germany and Ireland show divergence.

The main difference between the poorer and richer countries is that the former have a relatively large number of divergent regions – all but one in the case of Greece. By contrast, the latter only have one or a couple. Some divergent regions are also categorised as extremely low-growth (see section 3.2.3.). Importantly, all low-growth regions identified in 2013 still belong to the category in 2018, showing



that no significant progress has been made. This was not well captured in the Lagging Regions Report, despite it being a significant issue that requires targeted support.

In Greece, sluggish growth is more of a widespread issue nationally than a characteristic of a few regions. All its regions have consistently been growing slower than the EU average. The Attica region, hosting the capital Athens, is the only region not categorised as divergent. Its GDP per head is still above 90% of the EU average (92% in 2018), although it has been on a relatively declining path (109% in 2000; 98% in 2013), nonetheless showing a divergent trajectory. While all Greek regions are performing worse than the EU average, the richest region of Attica is experiencing the largest GDP growth in the country since 2000, albeit still below the EU average. This suggests a trend of internal divergence, as well as compared to the rest of the EU. Three regions are declining from an already relatively low level of income, passing below 50% of the EU average in 2018. The GDP per head of Eastern Macedonia and Thrace, Epirus and North Aegean were between 63% and 66% of the EU average in 2000, but fell to between 46% and 48% in 2018.

In Italy, divergence is evident in the southern part of the country, where eight regions with GDP per head below 90% of the EU average in 2018 have also grown less than average since 2000. Barring Sardinia, all divergent regions have grown less than half of the EU average growth since 2000. Divergent regions are at different levels of income, ranging from 56% of the EU average in Calabria to 85% in Abruzzo. Most regions were already poorer than the EU average in 2000, and their relative position has continued to deteriorate since. This exemplifies their failure to catch up to higher levels of income.

In Portugal, only two regions are not divergent: the regions of Lisbon and Madeira. Importantly, however, the former, which is the richest in the country, has been growing less than the other regions, suggesting a trend of internal convergence. Indeed, all divergent regions have grown at a rate similar to the EU average since 2000, although slightly below. A positive outlook is profiled for Portugal, as growth between 2013 and 2018 in all divergent regions have been stronger than the EU average.

Spain's divergent regions experience similar dynamics to Portuguese ones: while growth since 2000 is lower than the EU average, it picked up between 2013 and 2018 (except for the small territories of Ceuta, Melilla and Canary Islands). Extremadura, the poorest region in mainland Spain, experienced the most growth, with 2018 GDP per head 71% higher than the 2000 level.

Directing attention away from Southern Europe, Belgium counts four diverging regions, all located in the southern Wallonia. While Belgium's average GDP per head was 117% of the EU average in 2018, the level in the four diverging regions is between 72% and 83% of the EU average. Their position relative to the EU average has been deteriorating over time rather than converging. The most negative performance is in the Province of Luxembourg, which is the poorest region of the country with the least growth. Its GDP per capita in 2018 was only 27% higher than the 2000 level, which is less than half of the EU average growth.

In Denmark, Zealand is the only divergent region. Its level of GDP per capita has remained between 86% and 90% of the EU average since 2000, which is well below the national level of 130%. Its overall growth is slightly below the EU average: 53% since 2000, while the EU average is 57%. Importantly, the region has been growing faster than the EU average between 2013 and 2018. This suggests a catch-up in development performance, resulting in a small amelioration of its position relative to the EU average.

In Germany, only the region of Lüneburg is diverging. It has a GDP per capita of around 85% to 87% of the EU average since 2000, and has been growing slightly less than the EU average (53% since 2000). Contrary to the preceding Region Zealand, Lüneburg's growth between 2000 and 2013 was the same

as the EU average, while its growth since 2013 has been less than average. Two other German regions – Mecklenburg-Vorpommern and Saxony-Anhalt – are worth flagging because they show a declining outlook. They are poorer than the EU average, but their growth since 2000 has been higher than the average; they show signs of convergence. However, their growth performance has been abysmal since 2013.

In Ireland, the Northern and Western region has been diverging. With a GDP per capita at 71% of the EU average in 2018, it has been growing consistently slower than the rest of the EU. This was especially the case between 2013 and 2018, when the GDP per head only grew by 1%.

Lastly, two Dutch regions located in the northern part of the country, Friesland and Drenthe, are diverging. Their GDP per capita was 88% of the EU average in 2018; they have diminished relatively significantly since 2013, when the level was 96% and 98% of the EU average. Indeed, between 2013 and 2018, their GDP per capita cumulative growth was only between 4% and 6%.

### 3.2.3. Extremely low-growth regions

Extremely low-growth regions are identified as those whose GDP per capita growth between 2000 and 2018 was less than half of the EU average growth. This category identifies the regions that have a problematic growth performance, regardless of their level of income. Two types of extremely low-growth regions emerge, which are both lagging: divergent and richer regions.

First, there are some regions with an already relatively low GDP per head which experience very low growth. This is a widespread issue in Greece and Italy, where all divergent regions (barring Sardinia) have grown less than half of the EU average growth. Most Greek regions have grown below 30% of the EU average growth, while the level for diverging Italian regions is slightly higher. In Spain, territories outside of the mainland (i.e. Canary Islands, Melilla) experienced extremely low growth. The Province of Luxembourg in Belgium and the Northern and Western region in Ireland are also divergent regions with very poor growth performance.

Second, some regions are richer than the EU average but have also experienced very low growth. While less-than-average growth is expected from richer regions, extremely poor performance merits policy attention, especially since these regions are all considered as *more developed* in the Cohesion Policy categorisation. Areas matching this typology are the Brussels-Capital Region in Belgium and Groningen in the Netherlands. While growth since 2000 has been around 47% and 48% of the EU average growth in both cases, they have experienced different developments. Groningen has suffered from a sharp contraction in recent years, with 2018 GDP 14% lower than the 2013 level. It had, however, grown more than the EU average between 2000 and 2013, and its GDP per head level remains at 123% of the EU average. Meanwhile, the region of Brussels is twice as rich as the EU average but has consistently grown less than the EU average since 2000.

Furthermore, most northern and central Italian regions fit this category. They are almost all richer than the EU average, with GDP per head above 120% in some cases. Besides Liguria and South Tyrol, these regions have grown less than half of the EU average growth. The cumulative GDP growth of Lazio, the capital region, is only 28% of the EU average growth, with 2018 GDP only 16% higher than the 2000 level.

The Italian case stands out from the rest of the EU, as extremely low growth appears to be a characteristic of almost all regions rather than an exception. Importantly, low growth is an issue in both relatively poorer and relatively richer regions, suggesting that the country is falling behind the EU average entirely. The same is visible in Greece, where all regions are diverging at a fast pace.

The above findings offer new and updated insights into the performance of EU regions. They do not appear to have featured strongly in recent or current EU discussions concerning how to target its support to regions that are most in need. A summary of the insights is the following:

- Low-income regions in Romania, Hungary and Bulgaria are strongly converging to the EU average income and should not be considered as lagging. Their level of development is catching up, and they are already strongly targeted by the Cohesion Policy. It appears, however, that some of the poorest regions in these three member states are not growing as quickly as the rest, which results in wider differences within the national territory. In these cases, spatially targeted policy attention should be directed to ensuring that the richer, more dynamic regions in less developed countries do not diverge investment and growth opportunities away from the poorest regions most in need.
- There is a fundamental difference between convergent and divergent regions. While both have a relatively low level of income, the former are catching up while the latter are falling behind. Both groups currently belong to the less developed and transitional categories of Cohesion Policy, but their outlook is completely different. Divergent regions suffer from a dual problem – low income and low growth – and deserve targeted policy attention. Importantly, there are even divergent regions in relatively richer countries that should also be considered part of the group. What emerges from our analysis is that in richer countries, divergence is a sporadic issue of one or a few regions.

This should not, however, undermine the importance of addressing their challenges. In Greece, Italy, Spain and Portugal, many regions – and sometimes almost all – are experiencing divergence. The optimal unit of intervention, including EU action, requires further analysis. In other words, regional or national targeting or reforms might be required, depending on the scale of the challenge at hand.

- Extremely low growth is a fundamental and structural issue in Italy and Greece. Almost all of Italy has been growing significantly less than the EU average in the past two decades. The richer north is falling behind quickly and, in the absence of a change of trajectory, more regions will likely experience divergence in the future. The southern regions are significantly failing to catch up. Similarly, the whole of Greece is rapidly diverging from the EU average. These developments lead to questions around the effectiveness of EU and national development policy in these areas. For example, the Cohesion Policy's strong targeting of less developed regions has not prevented the low growth trajectory of many such regions.

#### 3.2.4. Policy implications

The revised categorisation highlights the diversity of EU regions when it comes to growth performance, and demands targeted policy attention which has hitherto been largely under the radar of mainstream EU policymaking. This must be addressed urgently, not least in the context of a planned, radical increase of EU investment, as based on the recent European Council agreement on 21 July 2020 concerning funding for the COVID-19 recovery and post-2020 MFF (European Council 2020). Many of the regions identified above and their specific growth challenges should be considered as key priorities for future, targeted investment and support. Additionally, many of these regions are likely to be negatively affected by the COVID-19-related crisis and be less able to engage with the industrial transition (see section 6.4). Given the current rapidity of the decision-making process



concerning how support will be allocated, implemented and managed, this new evidence should be positioned strongly within the current EU debate.

### 3.3. Alternatives to GDP as an indicator

A *lagging region* has a below-average performance over time. The previous section analysed GDP growth performance to identify lagging regions. Although GDP is the most used indicator because of its simplicity and easily computable objective data, regions can also be found lagging with respect to other indicators. Unfortunately, the comprehensive analysis of the wide variety of alternatives is beyond the scope of this study. However, this section does flag two options: economic activity rates and the EU-SPI.

#### 3.3.1. Economic activity (*Eurostat b*)

The inactive population is composed of those that are neither employed nor unemployed; those not working nor looking for work. The economic inactivity rate is the proportion of inactive people in the total population of an age group. In this section, our analysis uses the activity rate of 15- to 64-year-olds. The higher the activity rate, the lower the inactivity rate and vice versa.

Inactivity can be a useful indicator of lagging performance because it suggests the untapped potential of labour supply, which could offset ageing populations and skill shortages. If large parts of the population are not included in the labour force despite being of working age, the growth potential is reduced. Additionally, a high inactivity rate can be a consequence of social issues, including low female participation in the labour market, low numbers of migrants integrated into the workforce, or an uneducated and/or unskilled population. People may also stop looking for a job because of a poorly performing labour market, or the low quality of jobs offered (Barr, Magrini and Meghnagi 2019). Furthermore, economic inactivity captures some rates of unemployment that would otherwise not be recognised as such administratively. For example, it includes unemployed people who want to work and are ineligible for unemployment benefits.

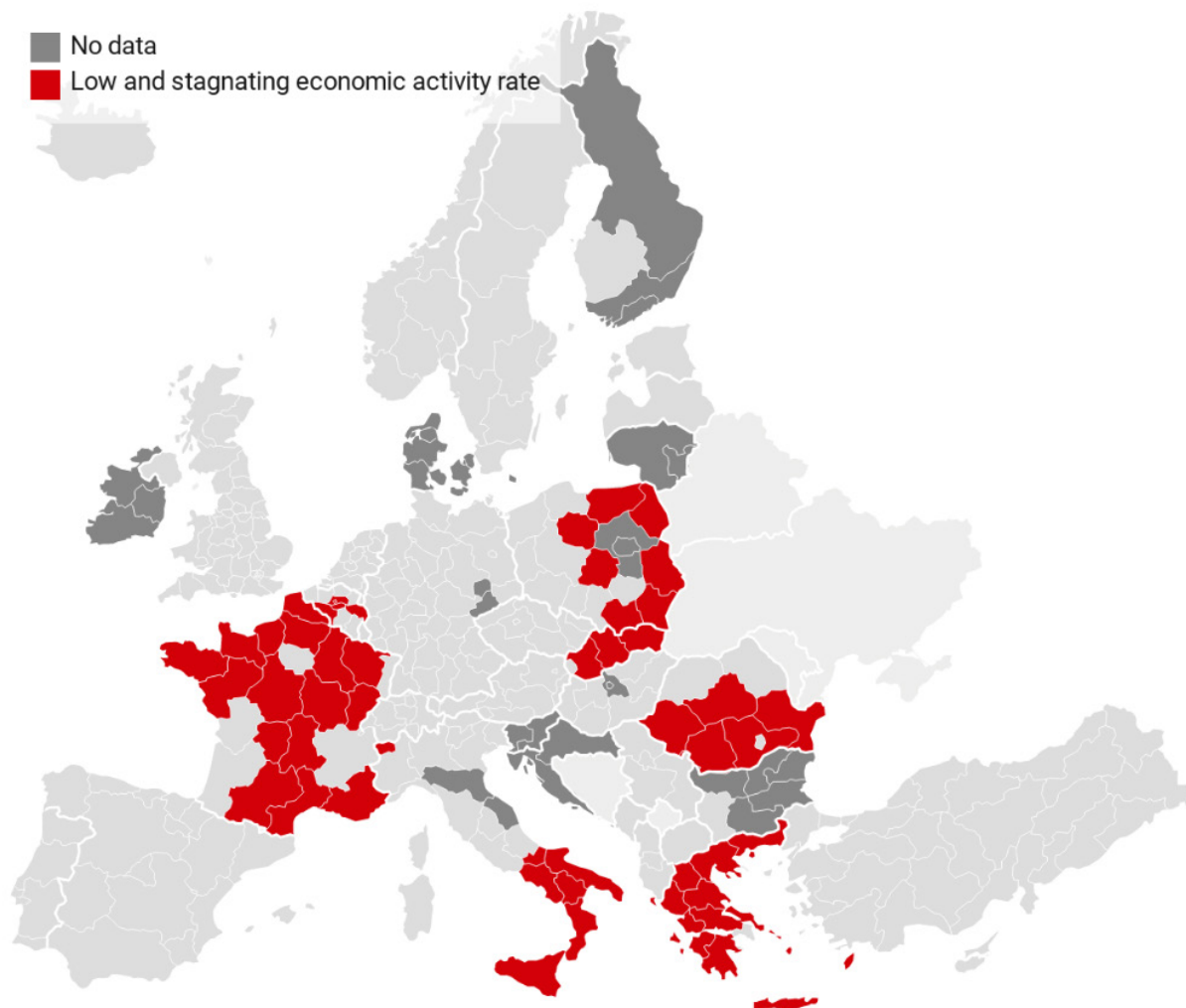
In order to identify the regions that lag with respect to the economic activity rate, this analysis has isolated those with an activity rate below the EU average of 74% in 2019 and that grew less than the EU average growth between 2002 and 2019 (7.9%). These regions have relatively low and stagnating economically active populations. Importantly, there are many regions whose activity rate growth have been below the EU average growth, yet are considered less problematic because their initial level is higher than the average. The focus is on those that are diverging instead of catching up. A low economic activity rate is problematic because it implies that large parts of the population are not in the labour force despite being of working age, thus reducing the growth potential.

As Figure 4 shows, there is some overlap between regions with low and stagnating economic activity rate and the lagging regions discussed in the previous section. The former can be found in Belgium, Greece, France, Italy, Poland, Romania and Slovakia. In Belgium, Greece and Italy, they are usually also identified as divergent and/or extremely low-growth. This suggests a possible correlation between low activity rates and low GDP growth in these countries. Unfortunately, missing GDP data from France does not allow us to compare its regions' activity rate performance against economic growth. In Italy, almost all its regions had economic activity rates below the EU average in 2019. However, while the rate in most northern regions has been catching up, the south has failed to match. In some cases, the rate in 2019 was even lower than in 2002. Southern Italian regions are among the worst performers in the EU when it comes to activity rates. In many regions, more than 40% of the working-age population is not working nor looking for work. In Greece, the situation is less extreme but still

worrying. Besides two exceptions, all Greek regions have low and stagnating economic activity rates, although at higher levels than Italy (the activity rate is above 65% in all regions).

Importantly, not all divergent regions necessarily have poor economic activity. In most Spanish regions, the economic activity rate is still slightly below the EU average but is also improving significantly faster. In Portugal, the rate in most regions is higher than the EU average, even if growth has been lower. In contrast, in the Central and Eastern European countries, low and sluggish activity rates do not impede economic growth.

**Figure 4. Regions with low and stagnating economic activity rates<sup>5</sup>**



Source: Authors' calculations based on Eurostat (b)

### 3.3.2. Social progress

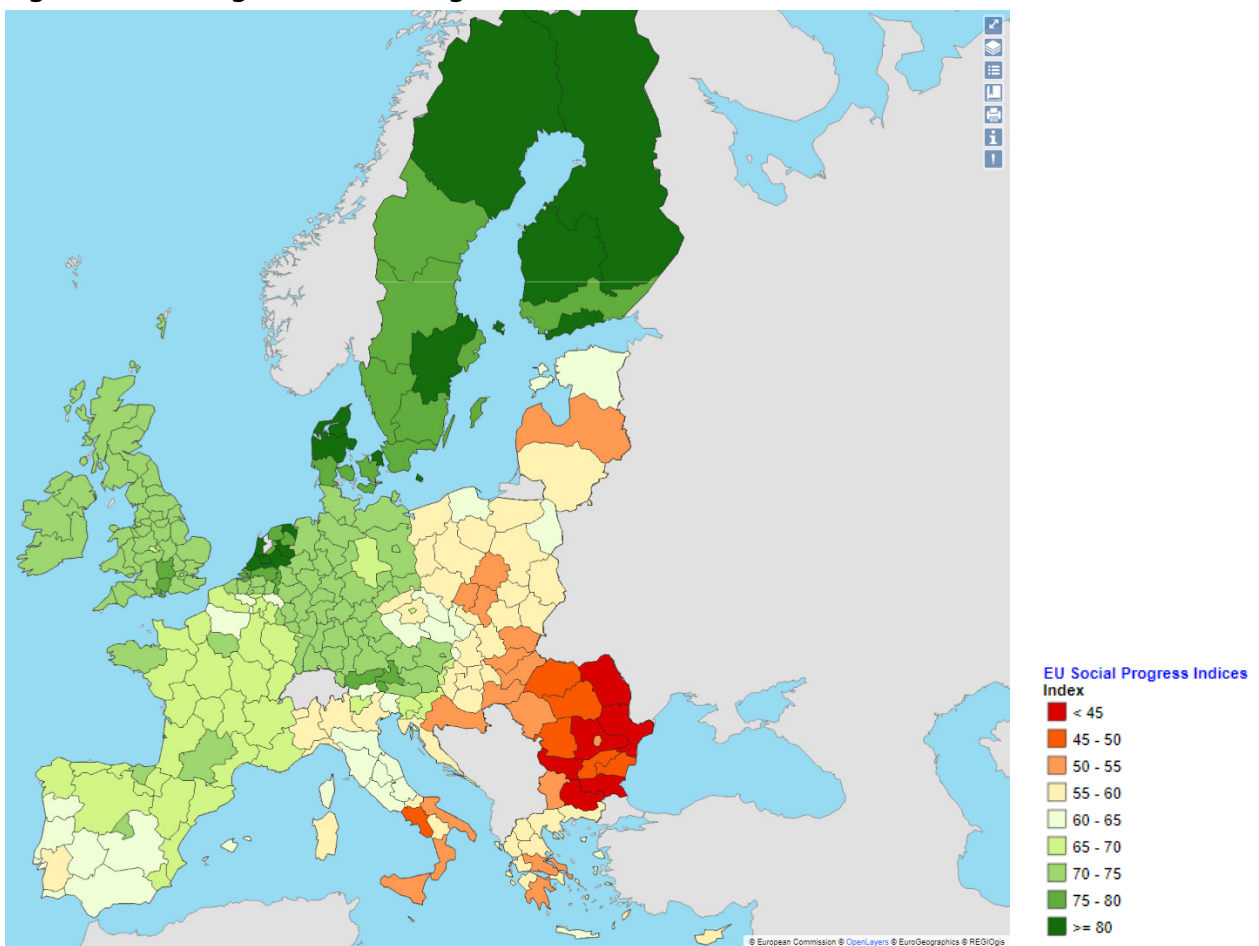
There have been attempts to measure the quality of life and the level of development of EU regions with indicators alternative to the more traditional economic ones, such as GDP, income and

<sup>5</sup> The UK is not subject to our analysis.

employment. An example is the Social Progress Index, which brings together 51 social and environmental indicators. These cover basic human needs (shelter, water and sanitation; personal safety; nutrition and basic medical care), well-being (access to basic knowledge, and information and communications; health and wellness; environmental quality) and opportunity (tolerance and inclusion; access to advanced education; personal rights, personal freedom and choice).

The European Commission developed EU-SPI, a Social Progress Index for EU regions (see Figure 5; Annoni, Dijkstra and Hellman 2016). For each of the dimensions mentioned above, every EU region is assessed according to several indicators. Each region is then assigned a score out of 100 for each dimension, and overall. The Index score renders EU regions' social progress to be comparable. The lower the score, the lower the level of social progress. Unfortunately, as time-relative data is not available, the concept of 'lagging' cannot yet be examined by this Index. According to Commission officials, the release of an updated Index is foreseen in 2020.

**Figure 5. EU Regional Social Progress Index (2016)**



Source: Annoni, Dijkstra and Hellman (2016: 4)

There is a large variety of performance among EU regions, with some areas in Northern Europe scoring twice as much as regions in Bulgaria and Romania. While a clear correlation is not present, it appears that some of the divergent, extremely low-growth regions identified in section 3.1 also score poorly on social progress. This is especially the case for the Peloponnese and Central Greece in Greece; and Campania, Calabria, Apulia and Sicily in Italy. They all have worse social progress levels than one would expect based on their relative level of income, suggesting that there is scope for improvement.<sup>6</sup>

<sup>6</sup> N.B. the level of GDP is based on 2011 data, so this serves as an indication only.

Meanwhile, Romania and Bulgaria's worst-performing regions have a social progress level that is approximately aligned with their income levels (which is also among the lowest in the EU).

According to Annoni, Dijkstra and Hellman (2016), the relationship between GDP and social progress is more apparent when GDP levels are low, and improvements match increases in social progress. However, for higher levels of GDP, the results are more mixed. Interestingly, capital and metropolitan regions often experience a very high level of GDP per capita but relatively poor social outcomes, raising questions of inequalities within the city. Simply put, "you can be a rich region and still not have great social outcomes, but you cannot be a poor region and have good social outcomes." (Farole, Goga and Ionescu-Heroiu 2018: 54).

Importantly, as only one version of the EU-SPI exists, an appropriate analysis of developments over time is impeded. Once an update is published, an interesting area of research will be to explore the change in score, to identify the regions which are improving (i.e. converging) and lagging. Performance over time is fundamental for a dynamic indicator like 'lagging', thus there is a need to improve data collection.

Examples of economic activity rates and social progress highlight that lagging regions can be identified according to a variety of indicators. GDP remains a valuable source of information, being reliable, stable and often well correlated with other indicators. However, while GDP is a good broad proxy, using different and/or additional indicators can provide deeper insight into specific challenges. The choice of indicators depends on the purpose of identifying a specific group of regions. Lags can take place in different forms and be targeted differently by varying policies.

## 4. THE MAIN DEVELOPMENT BOTTLENECKS IN LAGGING REGIONS

### KEY FINDINGS

- Lagging regions face specific development challenges, including relatively lower productivity and educational attainment, a weaker skills base and business environments, and suboptimal innovation performance.
- Quality of governance is considered one of the main enablers of regional development. Equally, an absence of this is held to prevent lagging regions from either successfully embarking on or implementing policy measures to address the challenges they face. There is scope for lagging regions to spur economic growth through improvements in institutional capacity and efficiency, which are also crucial for a successful engagement with a wider transition agenda.
- Improved and more targeted positioning of quality of governance challenges in the Cohesion Policy and European Semester have the potential to improve regional capacity and performance, by generating and implementing better support measures.
- Lagging regions could benefit from specific advice and support (e.g. implementing e-government initiatives) with a robust link to quality of governance. There is clear scope to generate and disseminate a stronger evidence base of practices and results in this area, especially with lagging regions.

Drawing from the analysis presented so far and relying on existing literature, this chapter discusses the main development challenges the EU's lagging regions face. While some literature refers to lagging regions according to the two subgroups defined in the original categorisation (i.e. low-growth and low-income), a more accurate assessment of development bottlenecks would require focusing on all the regions identified in Chapter 3. Nonetheless, there is an overlap of the regions under consideration overall; the low-growth group with the divergent group and the low-income with the internally lagging group. Consequently, we consider that the findings of literature are still relevant up to a point, while also strongly recommending upgrading approaches for identifying lagging regions and investing in policy responses which are tailored to their needs.

The following points highlight (non-exhaustively) some key broad characteristics which affect the performance of lagging regions, as presented in the Lagging Regions Report (European Commission 2017a) and complemented by other relevant sources:

- Macroeconomic conditions affect the economic growth of EU regions, with different impacts in low-growth and low-income regions. The former are characterised by modest productivity and relatively high labour costs which, combined with a drop in investment due to the 2008 economic and financial crisis, hampered growth and exports. Conversely, the latter experience productivity growth, relatively lower labour costs and increasing export shares.
- Relative to other regions in the same country, lagging regions tend to have lower educational attainment, skills bases and employment. Additionally, as discussed in section 3.3.1, many lagging regions experience extremely low economic activity rates. As noted by Brown *et al.* (2017), relatively low skills and education levels hamper productivity levels and competitiveness vis-à-vis other markets further, thus reinforcing the negative effect on exports. This is particularly the case for low-growth regions, which tend to engage less in international and national value chains than other regions (section 6.3).

- Lagging regions fare relatively worse in institutional quality (e.g. efficiency and accountability of civil services, regulatory burden, modernisation of public procurement, corruption and transparency) and innovation performance. Overall, both low-income and low-growth regions failed to successfully transition from agriculture- or heavily industry-based economies to high-skill, innovative and knowledge-based economies (2017).
- Lagging regions tend to have lower levels of private and public investment, with the latter experiencing a significant reduction in the years after the financial and sovereign debt crisis. Additionally, many regions tend to suffer from negative demographic trends: the emigration of skilled youth is a particular problem in low-income, convergent regions, while low fertility rates are prevalent in low-growth regions (Farole, Goga and Ionescu-Heroiu 2018).

The business environment also plays a role. Low productivity can also result from a high number of small and micro-enterprises in lagging regions, which are often family-owned and not export-oriented. This business population is often related to limited wage growth and employment creation, which can, in turn, lead to the emigration of skilled workers (2018).

Overall, lagging regions tend to score worse than non-lagging regions in the 'ease of doing business index'. This is especially the case for Spanish and Italian regions. In Italy, the difference in regional scores for registering a business, obtaining a construction permit, and enforcing a contract is among the largest. Box 1 presents the case of the Italian region of Abruzzo.

Quality of governance is often disproportionately cited as a horizontal aspect that has important effects on development performance. The World Bank considers weak governance and institutional capacity as "one of the defining features of lagging regions" (Farole, Goga and Ionescu-Heroiu 2018: 25). The Lagging Regions Report also recognised the overarching importance of institutional capacity and quality of governance in supporting regional performance. In particular, it identified inefficient public administration and justice systems and a relatively high level of corruption as specific challenges of lagging regions.

Regions which have managed to reduce corruption levels and progress their government effectiveness, transparency and accountability have also tended to perform better in terms of economic growth than regions which have not addressed these challenges. For low-growth regions especially, bad administration and weak institutions have hampered the benefits of Cohesion Policy funds, aggravating their long-lasting, stagnating performance (Rodríguez-Pose and Ketterer 2019). Additionally, efficient institutions are recognised as one of the enablers of a successful transition to a less traditional economic structure based on knowledge, innovation and human capital (Farole, Goga and Ionescu-Heroiu 2018).

The EU regions' performance in quality of governance was assessed by the European Quality of Government Index (EQI) in 2010, 2013 and 2017. The development of the EQI over time seems to resemble the trajectories identified for the divergent and convergent regions. Central and Eastern European regions have been raising their Index scores over the years from very low levels, thereby reducing the overall level of disparity in the EU. Lagging regions in Romania and Bulgaria are still among the worst performers. Conversely, worsening performance can be noted in some lagging regions of Spain, Italy and Greece (Charron and Lapuente 2018; see Figure 24 in Annex 1). Interestingly, Yuzhen Tsentralen in Bulgaria and Sud-Muntania in Romania have dramatically increased their quality of governance since 2013 (Charron, Lapuente and Rothstein 2019). The former is not considered lagging in our proposed categorisation in Chapter 3, while the latter has passed the 'low-income'



threshold in recent years. This suggests a possible correlation between overall economic development and the performance and quality of government.

A key objective of Cohesion Policy funding is to support institutional capacity and strengthen the efficiency of public administrations. However, both the time lag issue and lack of ongoing monitoring of the Lagging Regions Initiative mean that it is not clear if or how this support for quality of governance has made a difference to lagging regions, especially in low-growth ones. Given the pervasive influence of quality of governance on overall regional performance, a clearer alignment with Cohesion Policy programming and the European Semester would ensure that support measures clearly account for a region's capacity to address both the challenges it faces and the wider EU structural reform agenda. Box 2 presents an example of improved quality of governance.

### **Box 1. Abruzzo, Italy: Reviewing the region's economic trajectory**

Abruzzo's strong economic performance from the 1960s – fuelled by foreign direct investment (FDI), transport links and radical economic structural reform – dipped after 1997 when higher levels of public funding were withdrawn. This exposed a lack of entrepreneurialism across the region. There followed a period of slowdown in productivity, employment and GDP per capita. Despite this, the region showed resilience following the 2009 L'Aquila earthquake, only to fall back following the sovereign debt crisis of 2012. Comparing the GDP per capita performances of 1992 and 2017, the region experienced a sharp decline from 111% to 77% of the average EU GDP. This partly explains why it was targeted as a lagging region by the Lagging Regions Initiative in 2015.

Abruzzo's multifaceted challenges include the following key factors:

- Despite a relatively strong performance in secondary and higher education, the regional demand for high-level skills remained low, leading to a brain drain.
- The region continued to experience lower-than-EU-average levels of gross domestic expenditure on research and development and business enterprise expenditure on research and development, thus limiting the overall investment in innovation.
- Benefits from FDI were not optimised since related research and development (R&D) expenditure took place outside of the region.
- The region was characterised by low levels of research and innovation (R&I) networks, thus limiting its ability to benefit from innovation learning, upscaled efforts and connections to international opportunities. This was perpetuated by inadequate transport linkages, increasing rates of depopulation and challenges connected to market size.
- The region continued to suffer from rather weak, multilevel governance and institutional quality.

The region started to lag in the late 1990s in terms of capita income and productivity growth, compared to the rest of Italy and even the EU more generally. Importantly, the underlying challenges of the region were rapidly exposed when the region no longer qualified for the European Structural and Investment Funds' (ESIF) Objective 1 programme. More recently improved performance has gone hand-in-hand with income growth (i.e. based on productivity and employment to population ratio).

Source: *Iammarino et al. (2020)*

**Box 2. A pathfinding role for e-government**

There appears to be an effective ‘pathfinding’ role for e-government initiatives to support an acceleration of efforts towards improved governance, which could be especially relevant for regions facing multiple governance challenges. Portugal’s positive experience with e-procurement has been shown to bring many benefits (e.g. transparency, coordinating and streamlining services) and could serve as an example for others to consider (Rosa 2012). The EU’s post-2020 agenda, which places strong importance on the value of e-government, could be further boosted by an improved evidence base concerning how e-governance can play a multidimensional role in improving the overall quality and direction of regional governance, particularly in places which need it the most.

The post-2020 agenda – underpinned by Europe’s green and digital recovery – could emphasise how a shift to e-government can boost the quality and effectiveness of governing lagging regions. It is also strongly linked to wider EU digital objectives, such as the set-up of European Digital Innovation Hubs (EDIHs) and regional open data portals. Furthermore, e-governance also promotes the engagement of ‘harder to reach’ groups. This has strong links to the European Code of Conduct on the Partnership Principle and could help lagging regions improve their transparency by better engaging domestic stakeholders from, for example, the social sector.



## 5. EU INITIATIVES SPECIFICALLY TARGETING LAGGING REGIONS

### KEY FINDINGS

- The Lagging Regions Initiative is now known as the Catching-up Regions Initiative, having largely abandoned the *lagging* terminology. This shift has been accompanied by a new set of regions targeted, focusing on Central and Eastern Europe. Low-growth regions – which, according to our analysis, correspond to the *lagging* label better – appear to be completely excluded from its work and have not been supported by any other action. The rationale for this targeting is unclear.
- The Lagging Regions Initiative lacks a central, web-based repository of information. Consequently, it is difficult to track, capture and assess the evolution and actions related to the Initiative. This confused landscape not only runs the risk of duplicating efforts (and resources) but also impacts the visibility and influence of the Initiative in championing further policy support for lagging regions negatively.
- The Lagging Regions Initiative's focus on the EU's S3 agenda has provided important insights into the wider development needs of lagging regions, despite the focus of this effort being directed to low-income regions. Again, this study identifies these regions as converging and not lagging.
- S3 can play an essential role in providing a more 'horizontal' policy support function to lagging regions (e.g. addressing wider governance challenges as opposed to only innovation performance). However, S3 cannot offer a comprehensive policy response to addressing these needs by itself. Comprehensive and long-term support that is linked to, for example, labour market reforms, skills needs and gaps in digitalisation is required.

### 5.1. The Lagging Regions Initiative

#### 5.1.1. The evolution of the Initiative, from lagging regions to catching-up regions

The Lagging Regions Initiative, launched in 2015 and targeting both low-growth and low-income regions (see Chapter 2), is divided into two strands. The first, 'theoretical' strand aims to understand the needs of lagging regions and produced the Lagging Regions Report (European Commission 2017a). The second, 'practical' strand worked primarily with the four pilot regions of Świętokrzyskie and Podkarpackie in Poland and Nord-Est and Sud-Est in Romania, all classed as low-income. It appears that the theoretical strand ended with the publication of the Report. Conversely, the practical strand has evolved to what is today called the Catching-up Regions Initiative, which effectively dropped the *lagging* terminology and concerns only some regions in Central and Eastern Europe (not limited to those initially targeted in 2015). Following the pilot work, the Initiative carried out technical assistance activities in other regions of Poland and Romania, as well as Croatia and Slovakia. The implementation of these significantly involved the World Bank, a central actor in the Initiative's work which provides practical assistance and operational management and is responsible for reporting these actions.

The lessons of the 2016 pilots were rolled out across Poland in the following years. Activities included an assessment of development needs (i.e. lack of innovation, poor business environment, poor bridging between education institutions and the private sector), spatial planning, innovation and

entrepreneurship promotion, and energy efficiency improvement. Most of these activities have ended since.

In Romania, the focus has been on researching urban areas and territorial cooperation, as well as a stocktaking exercise on S3s. Overall, it appears that the Lagging Regions Initiative acted as an umbrella – a framework for the World Bank work in some regions –, going beyond the Initiative itself.

It is important to notice that Croatian and Slovakian regions were *not* defined as lagging in the Lagging Regions Report. Also, low-growth regions, which, according to our analysis, are those that best fit the *lagging* description (see Chapter 3), have not been targeted by any pilot or practical action under the Initiative. A recent article on the Initiative – one of the few explicit sources of information on the matter – does not mention low-growth regions at all, and rather describes the action as a technical assistance programme in “selected low-income regions across the EU.” (European Commission 2020a: 22). This suggests that the Initiative has evolved into an action that is not constrained to the official definition of lagging regions, but rather focuses on some discretionarily chosen, less developed regions in Central and Eastern Europe. The rationale for this evolution, especially for side-lining low-growth regions, has not been spelt out.

There is a rather limited evidence base concerning the Initiative and how, if at all, this effort has sought to influence wider policies at the EU, national and regional levels to support lagging regions and/or places most in need in the future. The reports published in the context of the Initiative are exclusively World Bank accounts of its research and activities in the regions of Poland, Slovakia and Romania. This was not the case for Croatia, for which information is very scarce (Kriss *et al.* 2019a, 2019b; World Bank 2019). The Initiative as a whole has not yet been evaluated, and there do not appear to be any plans to undertake this. This has led to several gaps in the evidence base and a lack of detail on the logic behind the link between the various associated initiatives and evidence.

As noted earlier in this paper, there is no clear evidence that the EU’s 7CR (European Commission 2017b) drew on evidence from the Lagging Regions Initiative. Nor is there a clear connection made between the draft 2021-27 MFF proposals (in the Cohesion Policy or any other EU policy field) and learning from the Initiative. It might well be the case that post-2020 programming for the associated member states and regions involved in the Initiative already incorporates or will incorporate related learning. However, this information is not yet in the public domain, so it is not possible to review or conduct any analysis of this.

It is also not possible to assess the results of the Lagging Regions Initiative’s actions clearly. As mentioned, the Initiative operated in four countries, two of which do not have low-income regions (i.e. Slovakia, Croatia). The Initiative undertook significant work in Poland, but a lack of current data limits our analysis of growth patterns in Polish regions. In Romania, it appears that the focus was on research work only, and Bulgaria has not been targeted so far. Additionally, as mentioned, the Initiative did not conduct any activity in low-growth regions. Nonetheless, Box 3 provides an example of

activities in Podkarpackie, Poland, whose GDP per capita in 2018 was 49.7% of the EU average and thus just below the 50% threshold for low-income regions.

### **Box 3. Podkarpackie Centre for Innovation, Poland**

Projects under the Lagging Regions Initiative, which took place between 2016 and 2018, led to the establishment of the Podkarpackie Centre for Innovation (PCI), a public agency that supports innovation and entrepreneurship in the region and is funded by the Cohesion Policy. The main aim of the PCI is to help transfer knowledge and new technologies from regional universities to the private sector. It raises awareness and provides insight on how universities can support regional development through technology transfer and innovation.

Deemed a success, the PCI model has been rolled out to three additional Polish regions: Łódzkie, Podlaskie and Dolnośląskie. Of these, only Podlaskie matched the low-income categorisation in 2013 and passed above the threshold in 2018. This further demonstrates that the Lagging Regions Initiative has evolved in a way which seems somewhat removed from a true 'lagging region' focus.

Sources: Aridi *et al.* (2018); Kriss *et al.* (2019).

### **5.1.2. A broad critique of the value of the Lagging Regions Initiative**

While this study is not an evaluation exercise, several areas, which merit consideration, emerged when assessing the related literature base and discussions held in the EPC workshop. These issues point to shortcomings in how the Lagging Regions Initiative was set up and defined, implemented, monitored and reported. These gaps are important as they appear to have relatively lowered the Initiative's influence in supporting the design and development of the post-2020 EU policy architecture for regions most in need, including the proposals for the Cohesion Policy and the next MFF as a whole. The key areas with said gaps are detailed below.

#### **Unit of analysis and labelling**

Accessing data at the NUTS2 level remains challenging, thus preventing the granularity of data analysis required for researching EU regions. In turn, this often leads to a default position where analysis is reported at the country level. The Lagging Regions Report, which acted as the final report of the 'theoretical' strand of the Initiative, frequently referred to data and findings at the country level. It arguably fell afoul of the very criticism they note – that a lack of targeted analysis often leads to a spatially-blind or one-size-fits-all response.

The EU's post-2020 framework should, as a matter of priority, adopt a stronger place-based focus which requires a much stronger level of data granularity (at local levels). This implies investigating the lack of targeted information and data and ensuring that ongoing monitoring and evaluation efforts better reflect the ground-level reality of regions subjected to multifaceted challenges. This could be better communicated and acted upon through the Cohesion Policy (i.e. the main EU policy instrument supporting EU convergence), the European Semester and the Commission's Directorate-General for Structural Reform Support (DG REFORM).

Additionally, as discussed in Chapter 2, the Lagging Regions Initiative entailed confusion about the terminology to use and, consequently, the groups of regions identified. Its shift of focus from low-growth (i.e. lagging) regions to low-income (i.e. catching-up) regions has not been explained.

#### **Policy coordination, coherence and communication**

Across the Initiative, and connected to the labelling problem noted above, it is difficult to track and capture the evolution of the overall effort behind it. There are many disparate actions and activities

which cannot be easily located through a central, web-based reference page. For example, the Initiative's website appears outdated and does not make any reference to its past and ongoing activities, nor World Bank research and reports. Despite helpful follow-up with the relevant European Commission officials, it has proven to be extremely challenging to gain a full picture of the Initiative and its activities. It is not even clear if all 47 regions the Initiative targeted were aware of this and/or engaged in its associated actions.

The Commission's webpage does not refer to the actions supporting S3 in lagging regions either, even though they have provided useful policy insights (see section 5.1.3.). These communication gaps make it difficult to ascertain to what extent learning and policy responses are relevant to all, some or individual lagging regions. Overall, the Initiative lacks a clear narrative. An updated, comprehensive webpage would be an ideal start.

In turn, this might help explain why the EU's post-2020 policy framework does not obviously refer to the lessons (and associated responses) of the Lagging Regions Initiative. The fact that the Initiative has evolved to focus only on some less developed regions at the expense of low-growth ones suggests a shift in policy emphasis, which was not detailed in the building blocks of the EU's post-2020 programming period. Furthermore, some new and ongoing initiatives and reports continue to refer to 'lagging regions' when, in fact, there is no real evidence that their focus relates to the Lagging Regions Initiative.

A very recent example of this is a newly announced pilot action under the EU's Territorial Agenda. As one of six actions, a new initiative entitled 'A future for lagging regions' will focus on "sparsely populated areas with limited access to public services, economic and social opportunities" and draw out the "added value of spatial strategies in shaping future perspectives for lagging regions" (Lüer 2020). It is not at all clear if this new action is connected to or has drawn inspiration from the Lagging Regions Initiative. This cluttered landscape not only runs the risk of duplicating efforts but also serves to dilute the overall effort in improving and coordinating efforts for targeted support to EU regions most in need.

### **Limited connectivity between the Initiative and the EU's structural reform agenda**

There appears to have been a missed opportunity to link the EU's pervasive structural reform agenda for lagging regions to the European Semester. The EU requires a stronger and more compelling narrative to better connect the European Semester to a positive structural reform agenda (Huguenot-Noël *et al.* 2018; Huguenot-Noël, Zuleeg and Hunter 2018). The Lagging Regions Initiative could have played a much stronger role in supporting this evidence base and clarifying the place-based importance of structural reforms to improve regional performance. The EU's structural reform architecture remains heavily geared to the member state level. For example, of the many actions supported by the Structural Reform Support Service, only a few are targeted at any level other than the member state.

The above points serve to highlight several significant gaps in the policy framework supporting the Lagging Regions Initiative. This has prevented the Initiative and its findings from playing a more visible and influential role in outlining the broad direction of the EU's post-2020 policy architecture, where specific support to regions most in need is not a strong feature.

#### **5.1.3. EU initiatives inspired by the Lagging Regions Initiative: Improving institutional capacity**

The European Commission's website page on "Catching up regions" refers to the shared objectives of supporting lagging regions through the Lagging Regions Initiative and the Task Force on Better

Implementation (TFBI; which focuses on improved ESIF management and investment in selected member states) (*European Commission a*). However, despite an overlap of four countries in both initiatives (i.e. Bulgaria, Italy, Hungary, Romania), the Lagging Regions Report did not draw any correlation between their respective findings.

The TFBI also established the TAIEX-REGIO PEER 2 PEER exchange system to promote bilateral exchanges between member states. This initiative's related database of actions does not readily identify any specific targeting of lagging regions, which makes it difficult to ascertain how much the initiative engaged with lagging regions. However, a partnership between Romania's Nord-Est region and North Holland was generated as a direct consequence of this initiative (see Box 5 in section 5.2.1).

Overall, clear evidence of EU initiatives which were set up or developed to address the aims or findings from the Lagging Regions Initiative is rather limited. This reinforces the argument that the Initiative did not appear to exert much influence on the scope or direction of other relevant EU initiatives, which were set up to address or explore challenges which lagging regions also face, not least in the important area of improving institutional capacity. It is not possible to report whether these efforts have improved the institutional capacity of lagging regions since longer-term monitoring of the efforts and outcomes of the TFBI is not in place.

## **5.2. Research and Innovation Strategies for Smart Specialisation support for lagging regions**

From the outset, the Lagging Regions Initiative placed substantial importance on the EU's S3 agenda as a key mechanism supporting lagging regions. The S3 has a place-based emphasis and aims to review and upgrade domestic R&I endowments as a means of accelerating future innovation and economic growth performance. This logic offers a compelling rationale for why the S3 is a potentially useful policy tool for supporting lagging regions. The Lagging Regions Report pointed to several major challenges for lagging regions in addressing weak R&I performance (see also Chapter 6).

First, lagging regions tend to have relatively low innovation performance. While some regions managed improvements (e.g. Norte and Centro regions of Portugal, and Crete in Greece reached the 'strong' innovator category), many others can clearly do better. Second, poor R&D expenditure was noted in all lagging regions. This can be mainly explained by public investment: most lagging regions only spend between 0.5% to 1% of GDP on R&D. Lastly, there is a general mismatch between education and skills performance and the needs of the regional economy. While Lubelskie, Poland was a low-income region targeted by the Lagging Regions Initiative, the higher education action referred to in Box 4 was not connected to the Initiative. Case study results resonated beyond the region and revealed two possible reasons (and challenges) for this mismatch. First, higher education institutions (HEIs) are not well connected with regional labour market needs. Second, the labour market cannot absorb skilled workers with a university education.

Given the extent of the challenges outlined above, which plague many lagging regions, it is highly questionable whether the EU's S3 agenda could provide a comprehensive policy response that can address these issues by itself. The S3's overall value to lagging regions should, therefore, be viewed within a broader context of structural reform.

### 5.2.1. Smart Specialisation Strategies in lagging regions

Under the Lagging Regions Initiative, the European Parliament set up an S3 action in lagging regions. Several European Parliament Preparatory Actions were supported by the Directorate-General for Regional and Urban Policy (DG REGIO) and delivered by the EU's Joint Research Centre (JRC). 9 of the 47 lagging regions identified by the Initiative were initially targeted for support.<sup>7</sup> Later, a wider group of less developed regions was also engaged.

#### **Box 4. Lubelskie, Poland: The Higher Education for Smart Specialisation initiative**

While not part of the Lagging Regions Initiative, the Higher Education for Smart Specialisation action (involving 10 EU regions) was set up to understand better how HEIs can work with the S3 to improve both regional innovation connectivity and the use of relevant EU funds. The action found a very low incidence of implementation of HEI-related R&I projects between 2007 and 2013, stating that “the role of HEIs in implementing S3 is hampered by a lack of targeted instruments in the EU co-financed regional operational programme.” (2020: 3)

The region's 2014 RIS3 placed significant focus on knowledge sharing, absorption and uptake across the triple helix partners (i.e. public sector, business, research and academic communities), identifying the relatively weak performance of the innovation ecosystem model in place.

Importantly, the deep-rooted nature of the region's wider R&I challenges (e.g. the economic structure, lack of attractiveness for industry investment, continued reliance on relatively low-level technologies) is noticeable. These were held to perpetuate Lubelskie's lack of resilience and capacity for regeneration. Importantly, this poses challenges for the region to upgrade and reform its R&I system.

Source: Kardas, Mieszkowski and Edwards (2020)

Overall, this S3 action appears to be well regarded and boasts some transferable learning. Demand from those involved (i.e. not *all* lagging regions) remains high, and the effort continues. Targeted support was focused on Eastern Macedonia and Thrace in Greece, and an implementation strand was taken forward in the Nord-Est and Nord-Vest regions of Romania. Preparatory Actions are time-limited, and there are no plans to continue these after 2020.

Key actions and results from the Parliament's S3 initiative in lagging regions included an improved understanding of, capacity for and uptake of the entrepreneurial discovery process and quadruple helix engagement. The latter requires regions to adopt an inclusive approach to regional innovation and economic development policy decision-making, by engaging regional actors across the four key areas of public policy, academic research, industry and civil society. The initiative's focus saw an improvement in how regions bring together different innovation actors within their territories to generate a collaborative and consensual bottom-up approach for identifying key, market-led innovation priorities. The action was also noted as having promoted more systematic cooperation between major national, regional and local partners and facilitated innovation dialogue between firms, researchers and civil society. Furthermore, the action saw enhanced links between research and innovation at regional, national and international levels.

<sup>7</sup> Severen Tsentralen in Bulgaria; Warmia-Masuria in Poland; the City of Debrecen, Hajdú-Bihar County and the Northern Great Plain in Hungary; Eastern Macedonia and Thrace in Greece; Apulia in Italy; Centro in Portugal; and Extremadura in Spain.



Boxes 5 and 6 provide insights into how S3 principles offer lagging regions a valuable support framework for upgrading their R&I governance, processes and performance.

#### **Box 5. Smart Specialisation Strategies in Nord-Est and Nord-Vest, Romania**

In Nord-Est, several concrete projects emerged from S3 projects, with universities placing increased emphasis on entrepreneurship and technological transfer. A new interdisciplinary master's degree in change management and entrepreneurship was also created.

Since 2015, the Romanian Nord-Est region and North Holland have set up a joint programme for regional development based on their respective S3s. The European Commission's TAIEX-REGIO PEER 2 PEER programme supported the preparatory exchanges to achieve this development. The cooperation covers agro-food, waste management, water, new materials, sustainable energy and healthy living and skills development through closer cooperation between educational institutions.

Source: European Commission (2017a).

#### **Box 6. Implementing Research and Innovation Strategies for Smart Specialisation in Eastern Macedonia and Thrace, Greece**

The effort to implement RIS3 in Eastern Macedonia and Thrace generated significant activity through workshops, trust-building exercises and mutual learning. Overall, the governance dimension of the S3 was strongly identified as both a key enabler of and significant challenge for how lagging regions address their S3 priorities: "challenges of aligning the concept of RIS3, the actual dynamics of stakeholder engagement and the administrative context". (2016: 5)

The larger effort that lagging regions are required to undertake when generating collaboration dynamics, networks and internationalisation was also a key finding. These are essential 'conditions' for regions to benefit from working with S3 principles: "stakeholders in the research and business sectors of the region were largely unused to collaboration. They did not, in general, explore international business opportunities or opportunities offered by international networks." (2016: 9) This context was compounded by the fact that Greece was still experiencing significant challenges from the 2008 economic and financial crisis. The initiative also uncovered significant space to establish a strong key enabling technology framework and effective digital agenda.

Source: Boden *et al.* (2016).

As noted previously, the European Parliament's S3 action has proven to be both popular and valuable in the regions involved. It has revealed the ongoing challenges lagging regions face in relation to governance, industrial transition and international collaboration. Importantly, these key themes are set to dominate the post-2020 S3 agenda for all regions, with a proposed upgrading of new 'enabling conditions' (i.e. conditionalities) for S3. This was discussed at a January 2020 seminar held in Zagreb for the Lagging Regions and S3 initiatives.

In addition, the results of a separate DG REGIO S3 pilot action, Regions in Industrial Transition, were also reviewed at the seminar, in terms of its relevance to the ongoing efforts of lagging regions. This



pilot action was targeted at middle-income regions.<sup>8</sup> Therefore, the automatic transfer of learning and/or practice cannot be assumed for lagging regions. This is an important point to consider since the European Commission is currently organising a continuation of S3 support for lagging regions, which will include industrial transition reviews of three lagging territories. This continuation must be underpinned by a tailored analysis of needs and targeted action to support these regions in their industrial transitions.

To date, S3 action in lagging regions has revealed several important general findings regarding the challenges and bottlenecks which the latter face when adopting S3 principles and seeking to improve their R&I performance. These align with the development constraints highlighted in Chapter 4 and include:

- the prevalence of industrial decline and mass emigration (including brain drain) in lagging regions;
- the challenge in embracing structural change, especially in sectors which dominate the economic performance of some regions but are characterised by low productivity (e.g. agriculture, tourism);
- relatively weak conditions for business innovation, including barriers to investment and a lack of infrastructure to support large-scale production; and
- general challenges in capacity and quality of governance, which limit lagging regions' ability to upgrade their R&I systems.

Overall, the diffusion of lessons from this action to other regions (e.g. in the same member state) was noted, as were making links to successful Horizon 2020 projects. These are positive results that are not clearly communicated on the Lagging Regions Initiative webpage. As mentioned in the previous section, this poor communication risks keeping good practices and related evidence under the EU's policy radar. Nor is there wider evidence of this effort being communicated or transferred to a larger group of lagging or less developed regions.

Without longer-term follow-up efforts, it will be difficult to ascertain how these developments evolve. This confirms the consequences of not having in place a more comprehensive and longer-term policy framework that monitors the impacts of the Lagging Regions Initiative.

### 5.2.2. Smart Specialisation Strategies and lagging regions: The relevance and limitations for the post-2020 period

As illustrated above, the challenges many lagging regions (both low-growth and low-income) experienced are generally well understood in an S3 context and pervade beyond each lagging region's 'core' innovation ecosystem. These include the need to accelerate knowledge transfer routes and mechanisms, improve the investment-friendliness of regions (e.g. by cutting red tape and business bureaucracy), and encourage a stronger focus on improving the 'balance' between skills supply and demand of priority industry sectors and/or domains at the local level. However, the embeddedness of the challenges that lagging regions face implies that while a tailored S3 framework can provide key foundational support to boost the innovation performance of lagging regions, it cannot act as a panacea in turning around these regions' fortunes.

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<sup>8</sup> Interestingly, while this did not include any lagging regions from the Initiative, it did introduce two regions based on the new proposed typology of lagging regions: Piedmont, Italy (extremely low-growth) and Cantabria, Spain (divergent).

Positively, the proposed post-2020 S3 agenda could be poised to target some of the wider challenges lagging regions experience (e.g. governance, industrial transition). Most recently, a new European Commission report has highlighted the need for a better differentiated S3 support framework, to support the needs and trajectories of different EU regions (see Pellegrin and Catalano 2019).

The proposed 2021-27 S3 agenda also points to a stronger direction for interregional collaboration, accelerated and scaled-up innovation investment, and a well-functioning regional innovation ecosystem. Successfully working towards these aims and actions is highly dependent on the regional context (i.e. its economic structure and ability to build a strong innovation ecosystem model) but, is attractive (and effective) to both 'internal' innovation actors and external partners. There is a strong link between this and a region's international trading performance, including its presence in global value chain activities. This reinforces the importance of a place-sensitive approach to S3 policy development, recognising the (sometimes very significant) obstacles lagging regions face when working with this agenda to improve innovation performance.

Furthermore, the post-2020 S3 proposals seek to build a new innovation investment mechanism. To date, the focus of this proposed instrument has been to leverage business investment within an interregional setting. This proposed mechanism must place more attention on specific support to incentivise stronger R&I collaboration between more and less developed regions, where the latter requires significant innovation support. For the former, there is a need to counter the strong, potential opportunity cost in investing in innovation efforts to collaborate with EU territories that have less innovation capacity. Financial incentives via this new instrument could support this while simultaneously accelerating the innovation capacity of less developed regions and generating new, innovation value overall. Lagging regions most likely have the most to gain from this cooperation. However, with a careful 'matching' process, there could also be benefits for the EU's most innovative regions. A case in point is the ongoing S3 collaboration between Nord-Est in Romania and North Holland (see Box 5 in section 5.2.1.).

Despite these positive developments, the EU's overall R&I trajectory – which is characterised by a more space-blind approach to R&I excellence – is not set to change in the EU's post-2020 proposals. A recent European Commission report (2020b: 700) noted the following: "Low levels of investment but, above all, structural bottlenecks – including deficits in human capital endowments, brain drain, weak economic fabrics, and inadequate institutional ecosystems – have resulted in a low capacity in the EU's less-developed regions to produce new knowledge." It also stated that the EU's principal focus on R&D has created a strong innovation divide between frontier and laggard firms. While avoiding a geographical focus in describing this innovation divide, it is fair to assume that laggard firms feature strongly in lagging regions. Therefore, the EU's systemic and place-blind approach to R&D risks exacerbating existing inequalities in GDP, employment and productivity. This compounds to a broader trend of some EU policies to overlook regional disparities, the most recent example being the New Industrial Strategy published by the Commission in early 2020 (see Bjerkem and Pilati 2020).

From an R&I perspective, there is also a need to acknowledge that a minimal evidence base concerning how S3 promotes positive spillovers from cities and agglomerated places exists (Huguenot-Noël *et al.* 2018). The EU's prevailing 'trickle-down' logic that underpins its drive for improved economic growth is not wholly compatible with the reality that lagging regions face limited innovation governance and capacity and low R&I investment. In turn, this affects their ability to derive long-term benefits from S3 investments. Therefore, in the absence of a more holistic policy support package to address structural reforms, the overall capacity of the EU's S3 agenda to converge lagging regions remains questionable.



## 6. THE ENGAGEMENT OF LAGGING REGIONS IN OTHER EU POLICIES

### KEY FINDINGS

- The specific challenges and needs of the most vulnerable EU regions risk being overlooked when top-down approaches dominate the complex processes of resource allocation. This includes the overall operation of the European Semester and Cohesion Policy programming, as well as other policies intended to support the transition to a sustainable, interconnected and innovative economy.
- The EU's lagging regions lack both the capacity and incentives to embrace a comprehensive reform agenda. A framework for a reform agenda in lagging regions that is supported by clear, place-based impact analyses should be developed, to allow for the planning of targeted support when implementing reforms.
- Successful transitions for lagging regions require that certain capacities are in place, such as skills and know-how, investment, infrastructure and governance. The absence or short supply of these elements increases the vulnerability and threatens the stability of these regions. Measures to support successful transitions do not (as of yet) contain explicit elements that support the multifaceted needs of lagging regions. This raises questions about the capacity of lagging regions to manage the digital and green transformations successfully.
- The new COVID-19 recovery instruments envisaged under Next Generation EU do not consider the regional dimension when assessing recovery needs and allocating resources. While national governments are expected to target the most vulnerable areas, this cannot be assumed to happen automatically or deliberately if a strong EU monitoring and incentives framework is absent.

While some EU actions and activities have explicitly targeted lagging regions (see Chapter 5), the latter are also involved in other EU policies that are not directly aimed at them. In this chapter, we provide an overview of several EU policies, assessing if and how they engage with lagging regions. Our analysis does not provide exhaustive coverage of all EU policies, given our study focus and practical resource limitations.

Firstly, we focus on the Cohesion Policy and the European Semester. Secondly, we analyse additional EU policies that are relevant for supporting the transition to a sustainable, connected, digital and innovative economy after providing a snapshot of regional challenges in these domains. Lastly, we briefly review preliminary analyses on the regional impacts of the COVID-19 crisis and assess aspects of Next Generation EU that could be pertinent for lagging regions.

### 6.1. The Cohesion Policy

A key, underpinning goal for the EU is to strengthen “its economic, social and territorial cohesion” and reduce “disparities between the levels of development of the various regions and the backwardness of the least favoured regions.” (Treaty on the Functioning of the EU, 2009, Article 174) As enshrined in this article, the Cohesion Policy supports the development of all EU regions but focuses especially on the less developed ones. The Cohesion Policy is implemented through three funds: the European Regional Development Fund (ERDF), the Cohesion Fund and the European Social Fund (ESF). These three are also part of the ESIF. In the 2014-20 period, the budget for the Cohesion Policy is €355 billion,

which is approximately a third of the whole EU budget. The ERDF has a budget of €199 billion, while the Cohesion Fund amounts to €62 billion and the ESF €84 billion. Importantly, while lagging regions are found among all Cohesion categories (i.e. less developed, transition, more developed), the majority fall into the less developed group.

There is not yet a clear evidence base on how effectively the application of Cohesion Policy funds in the current programming period has been. It is, therefore, necessary to reflect on the high-level findings of existing documents concerning how lagging regions were engaged in and targeted by these funds between 2007 and 2013. With member states and the European Commission drawing up National Strategic Reference Frameworks, and some member states with lagging regions adopting country-wide operational programmes, data regarding how lagging regions have been engaged in and targeted by Cohesion Policy funds is not obvious nor clear. This makes it difficult to ascertain how lagging regions have been engaged in the programming process for Cohesion Policy funding.

The current programming period (i.e. 2014-20) has been characterised by a Partnership Agreement process which – while dominated by member state and European Commission discussions – must consider the views and needs of key partners within member states. The European Code of Conduct is a legally binding regulation that was adopted to support this process. However, there is no readily available evidence base to analyse whether this process did indeed specifically account for EU regions. Therefore, it is difficult to ascertain how engaged lagging regions have been in this process.

Box 7 illustrates that a wider and more comprehensive structural reform programme – in this case, relating to the Greek labour market – must be addressed if specific actions and/or initiatives are to be successful. This echoes the Polish example noted earlier in the report, whereby an initiative to improve higher-level skills in the region was not successful due to the lack of demand from the local industry (see Box 4 in section 5.2.).

Furthermore, Box 7 illustrates that although lagging regions will often require holistic responses to address their complex challenges, their ability to do so is constrained by limitations in the quality and capacity of governance. Structural reforms in lagging regions require long-term, targeted and place-based investment, which can be challenging to obtain without wider support. Here, the new Commission service through DG REFORM could play a role that brings added value.

**Box 7. The Youth Employment Initiative: The Greek example**

The Youth Employment Initiative (YEI) targets EU regions with a youth unemployment rate above 25%, which, as mentioned earlier, is a characteristic of many lagging regions. All regions (including non-lagging) of Spain, Portugal and Greece are eligible for the YEI, as are a significant number of Italian, Bulgarian, Romanian and Hungarian lagging regions. The YEI was launched in 2013 and provides funding together with the ESF for national youth guarantee programmes. These programmes provide support to young people after completing their education and/or once unemployed.

The Greek youth guarantee scheme has excellent coverage of young people not in education, employment or training (NEETs). More than 60% of Greek NEETs were registered in the scheme in 2018, while the EU average was 40%. Additionally, of those who completed the programmes in 2018, at least half were in a positive situation after six months and ranking just slightly below the EU average.

However, the Greek guarantee scheme seems less able to provide a sufficient number of offers to its participants, with only about 30% taking an offer within the four-month target. The fact that 60% of those registered had to wait four months for an offer highlights the significantly challenging environment of the Greek job market to create new positions or reach out to jobseekers.

Source: European Commission (2016, 2020c).

The timing of this study implies that an assessment of Cohesion Policy outcomes and impacts in the current period is not yet possible. Although the end of the programming period is approaching, “it is still too early to evaluate the results and impacts of the programmes” (European Commission 2019a:13). This means that it is not yet possible to assess and report on the results of Cohesion Policy projects in lagging regions. In December 2019, the European Commission published country factsheets on the status of implementation of the ESIF (*European Commission c*). However, these two-page factsheets only report broad results only at the national level. Additionally, lagging regions are only analysed as a distinct group in a couple of reports directly related to the Initiative, whose analysis is reported below. This limits the capacity to conclude the effectiveness of the Cohesion Policy in lagging regions. Lastly, the mid-term evaluation of the 2014-20 Cohesion Policy presents only very high-level, general analyses that are not relevant for this study. How Cohesion Policy funds have been targeted to support the needs of lagging regions should be reviewed. While this is not possible in this study due to a lack of evidence of outcomes and impacts, the following stylised facts provide some insights into funding trends and/or developments.

The intensity of Cohesion Policy funding (i.e. euros per person per year) has been consistently higher in lagging (i.e. divergent) regions than other regions in the same country. This is not surprising, since lagging regions tend to have a lower level of GDP per head than the rest of their country and thus are targeted more strongly by the Cohesion Policy.

This difference is less stark in Bulgaria and Romania, where non-lagging regions also have relatively low levels of GDP per head and thus benefit more from Cohesion Policy funding. However, while aid intensity in many low-income countries remains slightly higher in lagging regions, the proportion of spending has been concentrated in the capital regions (except for Romania). For example, the region of Warsaw received 16% of the total allocation of aid for Poland (European Commission 2017a).

Due to recent EU enlargement, the aid intensity in lagging regions in Southern Europe has been lower in the 2007-13 and 2014-20 periods than in the 2000-06 one. The effect is significantly more prominent in Greece and Spain than Portugal and Italy. For example, the aid intensity in Greek lagging regions fell from more than €400 per person per year in 2000-06 to less than €250 in 2014-20 (2017a).

In the 2007-13 Cohesion Policy, lagging regions in Italy, Greece and Spain tended to invest more in infrastructure than the non-lagging regions. Portugal had the opposite experience, with infrastructure investment more prevalent in non-lagging areas, probably to reinforce the transport network around the capital city. Low-income countries tended to have a much higher proportion of Cohesion Policy funding spent on infrastructure, regardless of the type of region. Romania, Bulgaria and Hungary spent a larger proportion of the funding in non-lagging regions on infrastructure (Brown *et al.* 2017). Overall, the trend in low-growth regions since 2000 has been to reduce the share of investment related to infrastructure and increase investment in human capital (through the ESF). Investment in human capital was around 20% of total Cohesion Policy spending in most low-growth regions in 2000-2006 and increased to approximately more than 30% in 2014-20 (European Commission 2017a). Box 8 shows an example of the impact of Cohesion Policy investment on employment in Valencia, Spain.

### **Box 8. The Cohesion Policy in Valencia, Spain**

Valencia is a region that experienced below-average GDP per capita growth between 2000 and 2018, and whose GDP per head level is approximately 80% of the EU average. It is thus classified as lagging and divergent. Its performance and relative position are improving, while its growth since 2013 has been above the EU average. It is not possible to assess how the Cohesion Policy has impacted these developments. However, this short case study presents findings from the 2000-13 Cohesion Policy evaluation.

The main Cohesion Policy projects of the 2007-13 period aimed to foster employment and ensure that major firms of the region did not relocate elsewhere. The evaluation found that the ERDF directly supported the creation of 6,000 jobs, which in turn resulted in a higher demand for skilled workers. Additionally, a large-scale project conducted by a multinational company in the automotive sector attracted other companies to the area and indirectly led to increased internationalisation of its supply chain.

Source: Applica, ISMERI Europa and Cambridge Economic Associates (2016)

The absorption rate of the Cohesion Policy (i.e. the percentage of funds paid by the Commission out of the total available budget) only shows aggregations by country. As of 2016, 11 member states had absorbed 100% of the funds from the 2007-13 Cohesion Policy, while only three had an absorption rate lower than 95%: Italy, 94.5%; Romania, 90.5%; and Croatia 84.2% (European Commission b).

Overall, it is difficult to ascertain how successfully lagging regions were targeted for Cohesion Policy funding and what impact this has had. For example, the Country Reports of the 2007-13 Cohesion Policy Evaluation only discuss results at the national aggregate level. The facts stylised above do, however, indicate that lagging regions<sup>9</sup> were a key feature in the decision-making process of fund allocation of most member states. The effectiveness of spending (and absorption rates) cannot be readily analysed owing to a lack of evidence at the EU level.

The 7CR (European Commission 2017b) detailed the expected impact of 2014-20 Cohesion Policy programmes on member states' GDP in 2023. For low-growth regions, GDP increase was predicted to be between 0.4% and 1.6%, while for low-income regions this was between 2.5% and 4%. Clearly, the COVID-19 impact has rendered these predictions void, but they do still provide interesting insights into the (then) anticipated economic value of Cohesion Policy funds on lagging regions.

<sup>9</sup> N.B. according to the group identified by the Lagging Regions Initiative.



However, funding alone cannot turn around the fortunes of lagging regions. Given that most lagging regions are challenged by issues of quality of governance and institutional capacity, as well as the multifaceted nature of their structural reform needs, very sophisticated programmes of support are required. The case study of Abruzzo (see Box 2 in Chapter 4) provides clear insights into the complex relationship between EU funding and the convergence objective, illustrating how EU funds can ‘prop up’ struggling economies. In turn, these economies can then become exposed to wider challenges if said funding is reduced or withdrawn. This clearly demonstrates that EU funding can be invested more effectively if it is accompanied by a long-term and highly targeted intervention programme of structural reforms.

### 6.1.1. Assessing the proposed Cohesion Policy approach to lagging regions in 2021-27

With negotiations regarding the overall shape and direction of the post-2020 Cohesion Policy still ongoing, it is not yet clear how exactly it will play out. As it stands, the proposed budget for the Cohesion Policy is still intended to focus investments on less developed regions. The proposed Common Provisions Regulation envisages a Cohesion Policy budget of €330.6 billion over the 2021-27 period, of which €198.6 billion is earmarked for less developed regions (European Commission 2018a). The three categories of regions (i.e. less developed, transition, more developed) seem set to be retained – although transition regions are likely to be defined as those with a GDP per capita between 75% and 100% of the EU average, and not between 75% and 90%. The post-2020 Cohesion Policy proposals also acknowledge that some regions are still lagging in growth or income: “the future Cohesion Policy targets resources to regions that need to catch up with the rest of the EU the most, to ensure convergence and a fair treatment for all. The new allocation method for the funds is still largely based on GDP per capita.” (2018b: 1)

However, the 2018 European Commission proposal for Cohesion Policy (Common Provisions Regulation) envisaged some additions to regional allocations of funding based on disproportionately high (youth) unemployment, low education rates, excessive carbon dioxide emissions and high net migration from outside the EU (2018c). Some of these indicators can provide additional funding to lagging regions, which tend to have higher unemployment and lower educational attainment.

Nevertheless, a link to past GDP growth developments (e.g. divergence) is not present. The European Council (2020) at the July Summit has not introduced any change to the proposals. Therefore, the extent to which policy lessons regarding the needs of lagging regions has influenced the underpinning architecture of the proposed post-2020 EU policy framework, including the overall shape and direction of the future Cohesion Policy, is not clear.

While not singling out lagging regions for specific support, the 7CR (European Commission 2017b) signalled that the post-2020 Cohesion Policy should continue to reduce regional disparities, stimulate investment in EU priorities, address new challenges and improve institutions. However, as noted previously, an explicit link to the Lagging regions Initiative was not made in the 7CR.

European Commission officials informed us of their intention to maintain the Lagging Regions Initiative under the Cohesion Policy in the next programming period, and slowly phase towards technical assistance implemented through the operational programmes. The likely focus of the post-2020 Cohesion Policy is heavily influenced by the COVID-19 crisis and the need to address the crisis response, repair and recovery (Berkowitz 2020). As such, a renewed emphasis has been placed on addressing societal challenges. This will be especially important for the EU’s most vulnerable regions, some of which are lagging regions.

The May 2020 Cohesion Policy proposals also contain several emphases which are likely to be very relevant for the EU's lagging regions:

- the strong promotion of the European Pillar of Social Rights (EPSR);
- increased flexibility of the transfer of resources across EU funds;
- the Cohesion Policy's ability to cope with future crises strengthened;
- specific attention to EU health systems and the future of cultural and tourism industries; and
- reinforced support to workers, youth employment and child poverty.

For the EU's most vulnerable regions, these emphases appear to be strongly directed to their needs. However, the decision-making process concerning how funds are to be allocated remains firmly tied to the member states. Experience has shown that the specific challenges and needs of the most vulnerable EU regions risk being overlooked when top-down approaches dominate the complex processes of resource allocation.

A significant level of upheaval has followed the COVID-19 crisis, making it difficult for all actors to respond to the immediate priority challenges rapidly. In this context, there is a strong chance that the particular needs of the EU regions most at risk will be overlooked when key Cohesion Policy funding decisions are being made. Furthermore, the need to accompany investment with a tailored structural reform programme could be tough to manage, given the need for urgent action and the limited timeframe to undertake in-depth analyses of the regions' problems. This is further exacerbated by the limitations linked to the gaps and challenges in governance (i.e. quality, capacity constraints). While this reflects the current reality, there is also a need to ensure that careful monitoring will be implemented, to maximise the effectiveness of spending.

This study also emphasises that lagging regions face multiple challenges which affect their social, territorial and economic performances. As such, these challenges cannot be readily addressed by a narrow approach to policy intervention. For example, support for a region's improved supply of high-level skills should be married with a reality check on labour market demand. Equally, the introduction of new technologies will not necessarily result in their widespread uptake if an effective innovation ecosystem (including the relevant skills and investment) is not in place.

Supporting regions that struggle to change their longer-term (and often path-dependent) development trajectories requires intensive, sophisticated and long-term support measures. While the Cohesion Policy offers a significant support mechanism to underpin this effort, it alone cannot transform the fortunes of places with embedded challenges.

## **6.2. The European Semester**

The Lagging Regions Report (European Commission 2017a) points to the need for a very tailored and targeted approach of support for each lagging region. The Report also points to the lack of structural reforms in lagging regions. Despite the very evident need for reforms in these regions and the extent and complexity of the challenges they face, it appears that lagging regions lack both the capacity and incentives to embrace a comprehensive reform agenda.

While the Report noted the need to strengthen the link between the European Semester and Cohesion Policy, it did not make the explicit connection between the former's role in addressing reforms and

the need for targeted support to address a wide range of reforms in lagging regions. The EU's reform agenda remains challenging to address. The costs and benefits of reforms vary across and within the EU27. The Report identifies the need for place-based support to address the specific challenges of different geographies and notes that some nationwide policies will have more positive impacts on some places than others. The benefits of the reforms do not always 'flow' to the places most in need.

Structural reforms usually involve complex changes processes, with benefits only emerging after a significant time lag (e.g. results of labour market reforms can take a decade to show). The Lagging Regions Report points helpfully to specific examples of education, skills and labour market reforms which have been implemented in some lagging regions and are discussed in this study. However, no recommendation was made to ensure that the reform results were monitored and linked to the European Semester. This was a missed opportunity to track the progress, capture findings and report them at the EU level.

To ensure that the regions most in need (including lagging) benefit from the reforms over the longer term, a strongly targeted and tailored approach is needed. For example, a member state adopting reforms to improve trade openness is likely to experience uneven regional impacts which depend on different levels of technological maturity and the connectedness of industry actors to international value chains. This place-based sensitivity is not very well aligned with the EU's rather top-down approach to structural reforms. It must be reviewed if lagging regions are to be better supported and incentivised to embrace this agenda of reform.

In addition, labour market reforms – generally implemented at the national level – can have particularly negative impacts in places with 'thin' labour markets, fewer skilled workers and less resilient economic structures overall. For this reason, structural reforms should be supported by clear place-based impact analyses to allow for the planning of targeted support when implementing reforms. Such a framework would better support a reform agenda for lagging regions.

Additionally, the EPSR, which lists 20 principles related to the achievements of social rights, is also monitored under the European Semester. Member states' performances in delivering social rights relative to the EU average is assessed and scored. Even though the ESF is the main operational instrument implementing the EPSR, it is not accompanied by an EU-level regional policy framework that monitors the implementation of the EPSR. Such a framework would be of significant value to lagging regions.

The recent European Semester innovation of an Annex D section in its Country Reports provides a new opportunity to collect and review much more detailed data and evidence concerning performances at the subnational level. It improves the analysis of specific, place-based challenges within member states. This relatively new initiative implemented in 2019 was adapted in 2020, introducing details of energy transition needs across member states. Therefore, the scope for the European Semester to highlight the need for a broader analysis of regional performance – especially in places with multiple challenges – is currently very limited. Consequently, the opportunity to link the Annex D with the reform needs of lagging regions was generally not seized. With the COVID-19 health crisis, it is not yet clear how Annex D will function in the future. The European Semester should return to address the regional disparities agenda, supported by a stronger championing role of DG REFORM. This could encourage a much stronger focus and better-coordinated effort in targeting reforms (and the associated support and investment to address these) for the regions facing the most acute challenges in the Union.

### 6.3. How do EU ‘transition’ policies support the lagging regions?

The undergoing industrial transformation is structural. Megatrends like globalisation and technological change, dynamics of automation, digitalisation, innovation, international value chains and servicification (i.e. increasing importance of services across economic sectors, including manufacturing) are changing the EU’s economy fundamentally. In addition, the commitment to achieving climate neutrality and transitioning to a sustainable economy compound these changes. These developments affect all EU regions, as well as have the potential to exacerbate existing inequalities in some regions. For one, some regions can engage with the transformation more than others (Pilati 2019). For another, agglomeration dynamics lead to a concentration of innovation, knowledge and growth in already advanced and dynamic areas, particularly urban (Farole, Rodríguez-Pose and Storper 2011).

It is thus worth exploring how EU regions fare in the areas generally deemed necessary for a successful transition to a sustainable economy. Some regions still have a long way to go before they can implement change successfully and thus may require more targeted support.

Our study includes a forward-looking perspective to better understand this wider ‘transition’ agenda for lagging regions. We review several topics and policies (both existing and pending) which are both directly and indirectly linked to this wider transition agenda to support our analysis. We aim to understand better how lagging regions are faring to address these complex transitions and identify the types of support they would need for a smooth transition.

The following sections of this chapter review how the undergoing transition affects EU regions, and how EU policies supporting the transformation engage with lagging regions. The results are indicative only, as a comprehensive assessment of ‘transition readiness’ would require more research. The transition and its related policies can be framed into three simple themes:

- the transition to a ‘green’, sustainable economy;
- the transition to a more connected, digital economy; and
- the transition to a more innovative, technological economy.

Importantly, the impact of the COVID-19 crisis will entail a transition to a ‘new normal’ that is characterised by a high degree of uncertainty. In turn, this complicates the analysis of existing data. Section 6.4 will briefly discuss the potential effects of the COVID-19 crisis on regional economies, and the main instruments under consideration in the Next Generation EU package.

Overall, the EU’s lagging regions tend to be less endowed with the characteristics that support a successful transformation and limit the associated negative effects. Consequently, they will be less likely to manage these transitions successfully compared to the rest of the EU. GDP performance, when analysed as proposed in Chapter 3, captures future potential challenges relatively well. At the same time, however, an accurate analysis of regional specificities is needed to ensure that support is targeted to the areas with the most complex needs, thereby creating positive options for the future. While GDP can help identify lagging regions, it does not expose their underlying issues.

Establishing a causal relationship is of particular importance and can go one of two ways. Lagging regions are either less ready to embrace transition because they are relatively poorer and their economies perform less well than others, or they are lagging because they are less successful in the ongoing transition process. Understanding this link – which can vary among regions – has implications for policy choices.

Annex 1 gathers the visual representations of other indicators of regional performance. They can help make sense of the extent of the challenge that is realising a transition agenda successfully. Analytical evidence is limited by the relative scarcity of data at the regional level, especially on environment-, energy- and climate-related topics. Additionally, dynamic data is especially poor, making it difficult to analyse lagging regions across all the policy dimensions.

Capacity and performance are interlinked in all three transitions. Furthermore, successful transitions require the ability of regions to diversify from one status to another (e.g. green transition for coal regions, technological transition for places with patchy digital networks and connectivity). Mobilising efforts for any of the transitions implies that certain capacities, like skills and know-how, investment and governance, are in place. If these are absent or in short supply, successful transitions are unlikely to materialise, thus threatening the vulnerability and stability of those places further.

### 6.3.1. A 'green', sustainable economy: The Green Deal and the Just Transition Mechanism

Transitioning to a sustainable economy entails structural, far-reaching changes to our economic activities and lifestyle. The energy sector is particularly important for the transition because of the need to shift from fossil fuel-generated energy to renewables and the growing importance of energy efficiency. However, many (if not all) economic sectors will be affected as they strive towards more efficient resource use, waste reduction and recycling, and reduced carbon footprints.

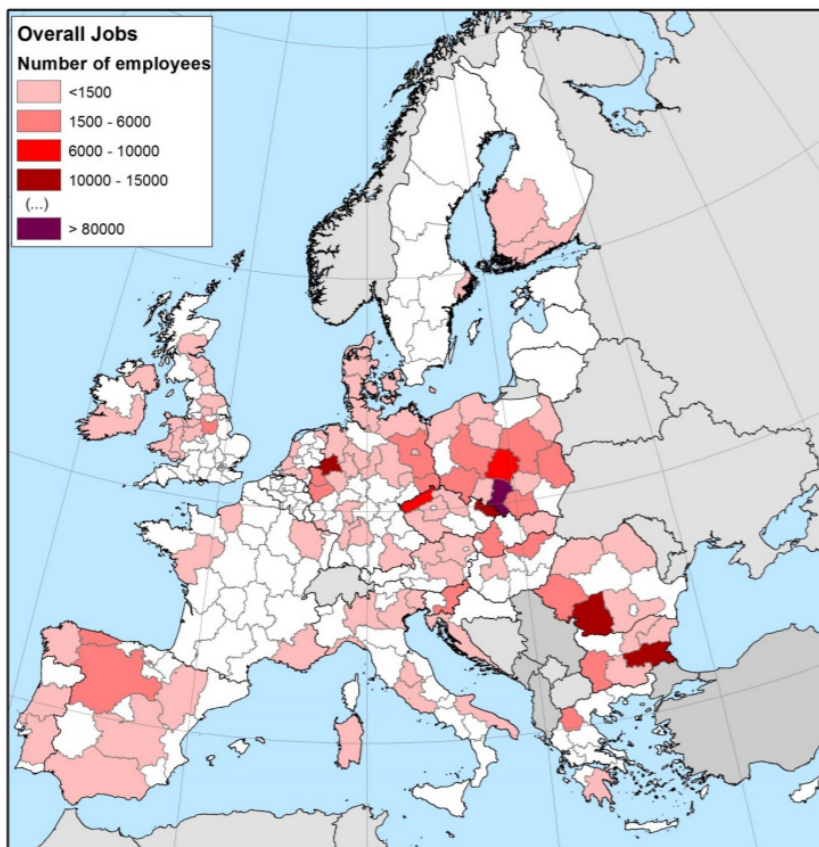
This transition's effect on employment is worthy of our attention. Locational challenges might emerge if jobs disappear from one location, and new jobs are created in another. A region's (significant) reliance on specific sectors may thus become problematic in terms of employment trajectories and economic stability. For example, coal-related activities are expected to diminish over time as countries progressively phase out the use of coal in energy production (see Box 9).

#### **Box 9. Transforming the coal sector**

Figure 6 shows the number of jobs in European coal power plants and coal mines. The number is expected to decrease dramatically in the next decade. It appears that in some regions, the coal sector is more important than in others, and thus demand a stronger transformation. Importantly, this will also take place in some lagging regions, which will thus suffer from a negative shock that may undermine their precarious circumstances further.

Alves Dias *et al.* (2018) estimate the number of job losses related to coal power plant decommissioning and the related effects on coal mining for the next decade (see Figure 14 in Annex 1). Between 2020 and 2030, most job losses will be located in a few regions in Poland, Germany, the Czech Republic, Romania and Bulgaria. In the latter two countries, the most impacted regions are expected to be Sud-Vest Oltenia and Yugoiztochen, respectively. Both regions are already undergoing an internally divergent trajectory, which might be exacerbated by the shock in the coal sector.



**Figure 6. Number of jobs in coal power plants and coal mines (2015)**

Source: Alves Dias *et al.* (2018: 22).

While many economic activities may not disappear entirely, the transition will force significant transformation, with potential consequences on overall employment, (new) job profiles and skills required. The manufacturing of chemicals, minerals, metals and automobiles are among the sectors that are expected to transform deeply as the economy becomes more sustainable. A significant share of the labour force in 28 EU regions are employed in these sectors (more than 1%), with a higher concentration in regions with lower GDP per capita, including in Romania, Hungary and the Czech Republic (see Figure 13 in Annex 1). These areas may encounter more challenges in absorbing the shock and engaging with the transition if they lack the adequate skill base, technology and investment volume (European Commission 2018d).

It is important to note that the EU is monitoring national progress towards achieving the Sustainable Development Goals (SDGs). Every year, Eurostat publishes a monitoring report and presents statistics on SDG indicators. However, the geographical coverage of these indicators is limited to the member state level. A disaggregation at the regional level is, therefore, not available (Eurostat 2020). Consequently, research on the EU's progress towards a more sustainable economy – which can be assessed through several SDG indicators – fails to explore the regional dimension (Sustainable Development Solutions Network and Institute for European Environmental Policy 2019; Eurostat 2019a).

The Just Transition Mechanism (and its associated Fund) was established to mitigate the effects of uneven impacts of the energy transition (e.g. regions ending coal use). Support has been targeted at the NUTS3 (i.e. small regions for specific diagnoses) level. These regions are expected to prepare for

the transition to a sustainable economy with the aid of an upgraded S3, which sets out related investments and targets actions to industry sectors and technologies.

Building on the set-up and success of the Coal Regions in Transition initiative, a new Just Transition Platform (JTP) based on a 'one-stop-shop' model has been established to provide comprehensive support and access to learning and/or materials for all EU regions, focusing on the social, economic and environmental impacts of the energy transition. Technical advice and support are linked to the approval of member state-led applications under so-called Just Transition Plans. So far, 18 such plans have been approved by the European Commission, while the overall approval of the Just Transition Mechanism is subject to an agreement being reached on the post-2020 MFF.

Support and investment under the Just Transition Fund (JTF) are yet to be fully defined, but is generally expected to include:

- the deployment of technology and infrastructures for affordable clean energy, to reduce greenhouse gas emissions and improve energy efficiency and renewable energy;
- support for small and medium-sized enterprises and economic diversification, as well as reconversion;
- support for digitalisation;
- the upskilling and reskilling of workers; and
- job-search assistance for jobseekers.

The JTF has targeted some territories in all EU countries provisionally. Of the regions identified as lagging in Chapter 3, 14 are also targeted for JTF-tailored support.<sup>10</sup> 'Mono-industrial' regions that are transitioning from a long-term, path-dependent trajectory exist within this mix. Their current energy infrastructures remain a key source of their economic performance. The radical shift away from the status quo implies a significant and multidimensional change programme that is linked to culture, employment, infrastructure, skills and expertise.

Ensuring sustained political commitment to deliver the required change is also a significant challenge. At least two member states linked to the EU's lagging regions have clearly expressed concerns about phasing out of coal consumption completely (Cameron *et al.* 2020). This could make it difficult for targeted financing to make the intended impact on the energy transition of certain regions.

Energy transition planning and actions imply a radical break from not only the existing energy sources but also the wider social and economic contexts. Successful transition initiatives should be driven from the local level, included in longer-term development strategies and assessed regularly, and consider welfare and labour policies (2020).

Lagging regions are known to have governance and capacity constraints which could affect how they adopt the principles outlined above. This, in turn, could have an impact on their ability to make a full and successful energy transition. The (currently) broad areas of support proposed for targeted 'just

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<sup>10</sup> The Just Transition Fund targets the following NUTS3 regions that are located in 14 NUTS2 regions identified as lagging in Chapter 3 (European Commission 2020d): Tournai, Mons and Charleroi (Hainaut, Belgium); Maritsa (Yuzhen Tsentralen, Bulgaria); Vassilikos and Dhekelia (Cyprus); Heves (Northern Hungary, Hungary); Taranto (Apulia) and Sulcis-Iglesiente (Sardinia, Italy); Kozani, Kastoria and Florina (Western Macedonia), Megalopolis, Heraklion, Lasithi, Rethimno and Chania (Crete), Lesvos, Samos, Chios, Rhodes and Mykonos (North Aegean, Greece); Alentejo Litoral (Alentejo), MédioTejo (Centro, Portugal); Cádiz, Córdoba and Almería (Andalusia, Spain); Gorj and Dolj (Sud-Vest Oltenia, Romania); East Groningen, Delfzijl, surroundings and rest of Groningen (Groningen, the Netherlands).



transition' regions do not appear to include more 'horizontal' support measures like supporting capacity and governance (European Commission 2020d). However, at the recent launch of the JTP, it was noted that a strong 'horizontal' approach to supporting just transition regions was already being developed. This is positive news, as an (essential) multilevel governance approach could prove to be challenging for some lagging regions when they manage and coordinate their efforts towards energy transition planning and implementation.

A strongly coordinated effort will also be needed to support policy and fund synergies and/or alignment. While it was always anticipated that the JTF would work in tandem with Cohesion Policy support, the EU landscape has recently become more complex with the announcement of additional (and significant) post-COVID-19 recovery packages (see section 6.4). The capacity of lagging regions to 'navigate' this very new landscape will be significantly tested in the coming months and even years.

An ambition to incentivise private sector investment also underpins the JTF, thus leveraging the overall funding effort in each of the targeted areas. For lagging regions, this could prove to be a challenge given that these regions experience significant investment capacity gaps, including their (in)experience in working with complex financial instruments. The drive to generate private investment for the energy transition, as well as the factors which promote and/or impede private sector investment (including the general 'health' of the regional investment environment and its performance related to bureaucracy and transparency), must be understood through this regional lens.

Overall, the European Commission must play a strong facilitation role when focusing on a space-sensitive and bottom-up approach to the energy transition process. This is important to challenge and counterbalance member states that might be more inclined to take a less targeted approach to their use of investments in the JTF.

At this early stage, the EU's Just Transition 'package' for all regions will clearly require further refining to ensure they – especially the lagging ones – receive highly tailored and targeted support. Given the complex challenges concerning quality of governance and institutional capacity which lagging regions face, there will be a strong need to ensure that Just Transition support includes both technical and horizontal measures to guide the long-term pathway towards energy transition. Furthermore, such support will require strong coherence and coordination, addressing several key areas such as multilevel governance, the alignment of energy investment sources, and highly sophisticated approaches to delivering spatially-targeted advice and guidance.

### 6.3.2. A more connected, digital economy: Lagging regions in EU networks

Geographic, digital, communicative and economic interlinkages grow in importance as the economy becomes more connected, to support regional prosperity. However, actors excluded from these increasingly interlinked networks can also lose out on the benefits, as regions with greater access to markets and economic partners tend to have better economic performance (Burlacu *et al.* 2020). As mentioned, this causal relationship requires further analysis: Does less connectivity lead to low economic performance, or are those with low economic performance less able to connect?

Geographic accessibility is crucial for connecting markets with consumers across the EU. The European geographic core – which tends to exclude lagging regions – remains the most easily accessible area. Although investment in infrastructure has been made, including at the EU level, EU regions greatly differ when it comes to accessibility.

Figure 7 exemplifies these disparities by showcasing rail accessibility potential in 2030. While the northernmost regions are sparsely populated, the poor accessibility of areas in Southern and

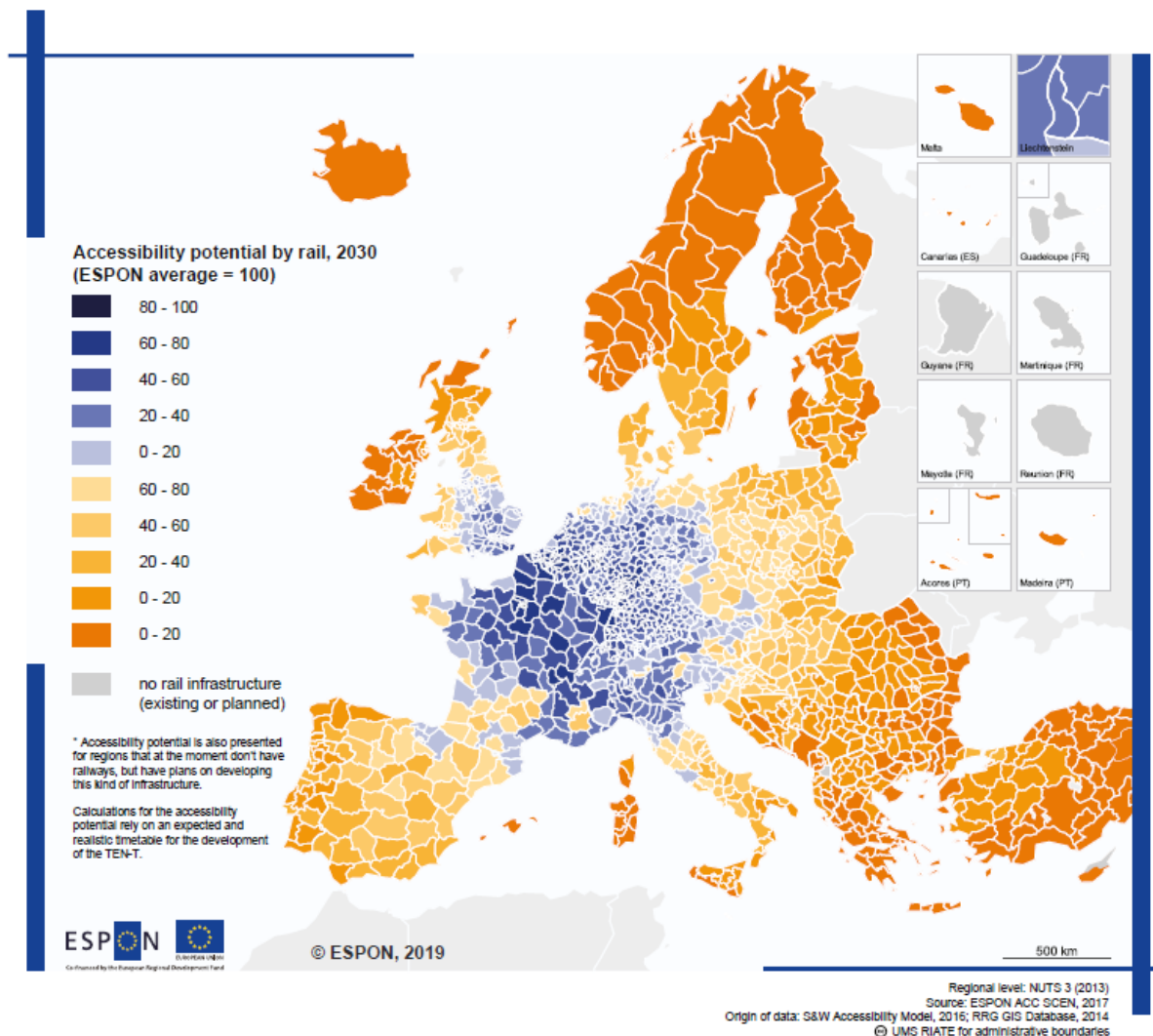
Southeast Europe is likely to impact a larger amount of people. This is particularly worrying for extremely low-growth regions in Italy and Greece, which cannot rely on improved network connections to spur economic development. Additionally, Figure 15 in Annex 1 shows that cities in some regions are less accessible than elsewhere. Regions in Spain, Italy (especially southern) and Romania tend to have cities with a small commuting zone, suggesting that the most dynamic areas in these regions (i.e. cities) are scarcely accessible.

Secondly, digitalisation plays a crucial role in improving connectivity, which relies on data flows, communication and the exchange of information. As economic activities become increasingly less material, digital infrastructure and skills become more crucial. This has the potential to enhance the connectivity of areas that are geographically less connected.

However, regional disparities in digital infrastructure remain and reinforce existing patterns. Peripheral regions also have lower broadband access than the core. Regions in Portugal, southern Italy, Belgium, Greece, Romania and Bulgaria are among those with a fewer number of households with broadband access (Eurostat 2019b; see Figure 16 in Annex 1). This is particularly problematic for lagging regions because the lack of tools crucial for economic activity – which is expected to gain importance in the future – can further hamper the regions' economic development. The 'digital divide' can reinforce existing disparities, since regions that are already diverging and lack the necessary digital infrastructure will continue to struggle to retain and attract economic activity.

Lastly, an analysis of interregional trade (whether domestic or international) can approximate how EU regions are economically connected to others and their engagement in value chains. Panels A and B of Figure 8 suggest that some regions are much more involved in international trade than others. In addition to the UK and some areas in the Nordic countries, Greek and southern Italian regions are among those which engage less in international trade, thereby highlighting their exclusion from value chains. Meanwhile, lagging regions in Portugal and Spain appear more engaged. Notably, the Northern and Western region of Ireland, identified as divergent, is much less integrated into international trade than the rest of the country. Conversely, areas in Central and Eastern Europe are among the most integrated regions in the EU market, including internally divergent areas of Hungary, Romania and Bulgaria. This suggests the relevance of international trade to economic growth. Trade with other regions in the same country reaffirms some of these patterns (panels C and D). Southern Italy and North West Ireland are highly dependent on imports and export very little, highlighting intra-national disparities.

**Figure 7. Potential accessibility by rail (2030)**



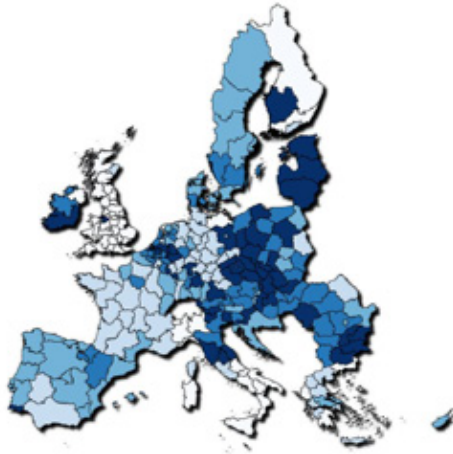
Source: ESPON 2018i

Source: Burlacu *et al.* (2020: 62)

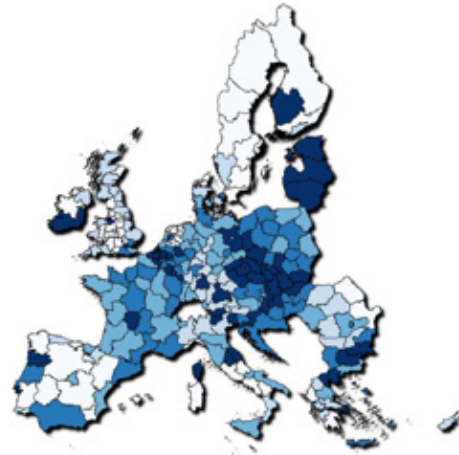
Lastly, an analysis of interregional trade (whether domestic or international) can approximate how EU regions are economically connected to others and their engagement in value chains. Panels A and B of Figure 8 suggest that some regions are much more involved in international trade than others. In addition to the UK and some areas in the Nordic countries, Greek and southern Italian regions are among those which engage less in international trade, thereby highlighting their exclusion from value chains. Meanwhile, lagging regions in Portugal and Spain appear more engaged. Notably, the Northern and Western region of Ireland, identified as divergent, is much less integrated into international trade than the rest of the country. Conversely, areas in Central and Eastern Europe are among the most integrated regions in the EU market, including internally divergent areas of Hungary, Romania and Bulgaria. This suggests the relevance of international trade to economic growth. Trade with other regions in the same country reaffirms some of these patterns (panels C and D). Southern Italy and North West Ireland are highly dependent on imports and export very little, highlighting intra-national disparities.

**Figure 8. Regional trade as a share of GDP (%)**

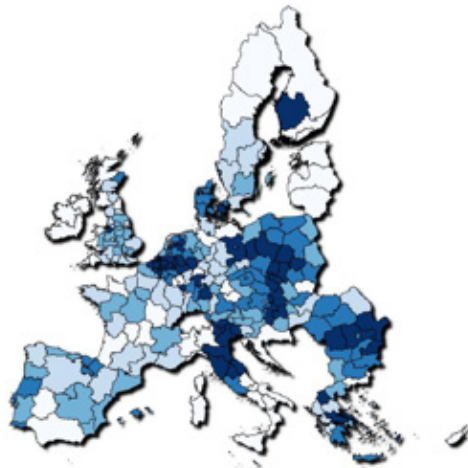
a) Exports to other countries



b) Imports from other countries



c) Exports within the country



d) Imports within the country

Source: Thissen *et al.* (2019: 33-35)

Lagging regions seem destined to face stronger challenges in their effort to improve connectivity, as they are found to start from a relatively lower point. The economic development issues of regions that have poor growth performance and are falling behind are likely to be exacerbated in the future, as they are in a more difficult position to successfully engage with the transition to a more connected economy and society. In the following, we explore major EU policies aimed at improving connectivity and how they engage with lagging regions.

### The digital transition

The COVID-19 crisis has highlighted that some places and people have been ‘cushioned’ from the worst effects of the pandemic thanks to digitalised working. However, the pandemic has also reinforced significant vulnerabilities wherever this digital cushioning is less apparent. There is a significant overlap between EU places that are suffering from the crisis the most, weak digital resilience and lagging regions. This has reinforced the importance of executing an EU-wide ‘digital recovery’, as many places face a bigger challenge in addressing this than others. This challenge transcends several key areas linked to the EU’s digital divide, ranging from digital skills, access to e-

government services, the extent and quality of broadband coverage (especially in rural areas) and the application of digital technologies by industry.

There is a correlation between lagging regions and the digital divide, with the worst digital performers tending to cluster around the lagging regions. For this to be addressed, EU policies and investments must adopt a stronger place-based sensitivity when prioritising and targeting support for a successful digital transition that is based on the greatest needs.

By way of example, a recent EU consultation of EDIHs noted the need to avoid their uneven and unequal rollout, to address the risk that more advanced regions could rapidly outpace less dynamic places in terms of the quality and extent of digital innovation support they provide. With each EU region set to benefit from the introduction and/or further development of an EDIH in the post-2020 programming period, there is a strong need to prioritise and target specific support to the regions furthest behind in reaching this goal. As discussed, there are already significant disparities across EU regions regarding the quality of their digital infrastructures and prevalence of digital skills. This challenge will not be addressed through EU funding alone. A successful digital transition must be accompanied by wider structural reforms in R&I ecosystems, skills and labour market actions, and improvement of institutional capacity. Portugal's good practice of investing in e-government (and e-procurement) proves that this can generate a wider range of benefits in the quality of governance (see section 4.1). Therefore, there is a need to consider holistic programmes of support for lagging regions in how they plan for and invest in their digital transitions.

Another relevant EU policy for digital connectivity is the Telecom strand of the Connecting Europe Facility (CEF), which invests in broadband and Wi-Fi coverage, and digital service infrastructure. CEF Telecom investment is not tailored to regions but rather addresses the national level. The two countries receiving the largest share of funding are Spain and Italy (both around €30 million), followed by Germany, the Netherlands and France.

The example of WiFi4EU vouchers, which provide funding to municipalities that are willing to set up Wi-Fi hotspots in public spaces, shows that lagging regions are considerably engaged. While there is a high concentration of voucher requests in Belgium and Germany, Italian, Portuguese, Romanian and Bulgarian regions have also been significantly involved. In addition, Spain and Greece are also involved, although with less intensity and more focus around more developed areas such as Catalonia, Madrid and Athens (European Commission 2019b).

### **European Territorial Cooperation**

The Cohesion Policy's European Territorial Cooperation, also known as Interreg, is an important instrument that supports cross-border, transnational and interregional cooperation across the EU's regions. Several programmes – both geographical and across the EU – exist to encourage regions to deliver joint partnership projects, with the aim of learning, exchanging and improving existing practices and policies. The programmes cover an extensive range of themes, including energy transition, innovation and sustainability.

A general review of lagging regions' engagement with these programmes reveals that they are active. Some Interreg programmes include lagging regions but are not targeted explicitly. For example, most lagging regions in Southern Europe are involved in programmes that focus on cooperation among Mediterranean countries, even outside of the EU.<sup>11</sup> These cooperation-enhancing projects have the potential to increase the network of otherwise poorly connected lagging regions. This study does not

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<sup>11</sup> E.g. Interreg ADRION, Interreg MED and the ENI CBC Mediterranean Sea Basin programmes.



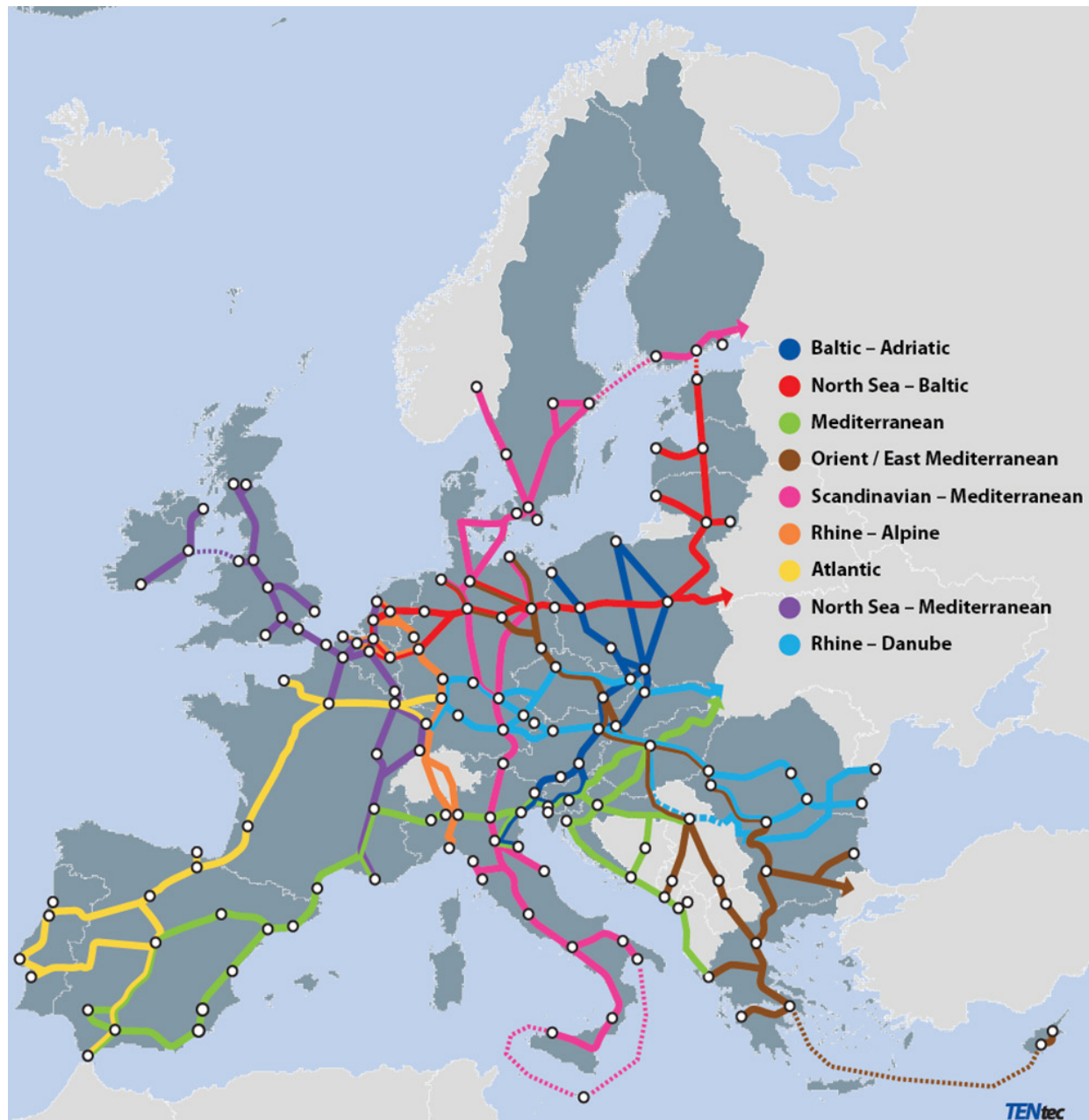
allow for a more intensive review of the types of collaboration taking place or of the overall value of these cooperation actions, but this would be an interesting area for future exploration. It would clarify if and how lagging regions are better able to address their wider challenges (e.g. institutional capacity, quality of governance) as a consequence of this type of peer learning and exchange.

In May 2018, the European Commission proposal for the post-2020 Interreg included adding two cooperation components to the existing architecture: one specifically focusing on the outermost regions, and the other on 'interregional innovation investments' (i.e. the I3 initiative). They would support innovation investment collaboration across EU regions involved in related S3 priorities. The latter could bring potentially interesting opportunities to lagging regions, where its industrial actors tend to be less connected and experience worse innovation performance. However, lagging regions often experience several challenges which can prevent effective S3-focused, interregional collaboration (see section 6.3.3.). The proposed second strand of the I3 instrument is intended to improve engagement between lagging and less developed regions, and more innovation-driven regions. This strand could prove to be highly valuable for lagging regions by building knowledge, capacity and technology-driven expertise for improving innovation performance.

### **Transport networks**

Lagging regions tend to be in the geographic periphery of the EU. Thus, transport connections are more complicated and take more time. The Trans-European Transport Network (TEN-T) aims to create and strengthen infrastructure networks within the EU (see Figure 9). Its Core Network is composed of nine corridors. While the corridors intend to reach most lagging regions in peripheral areas (i.e. Southern and Southeast Europe), countries located in the geographic centre of the EU are clearly much more connected than the others.

**Figure 9. The Trans-European Transport Network's Core Network Corridors**



Note: the nine TEN-T core network corridors are based on the CEF and TEN-T Regulations (1316/2013 & 1315/2013); they have been created as a coordination instrument to facilitate the completion of major parts of the core network of strategic importance.  
 Source: European Commission, Directorate-General for Mobility and Transport, TENtec Information System

Source: Eurostat (c)

The CEF transport window funds projects that support the completion of the TEN-T network. A preliminary analysis of CEF transport projects reveals that lagging regions participate heterogeneously. Portuguese and Spanish lagging regions appear well involved in several actions in the Atlantic and Mediterranean corridors. Conversely, regions in southern Italy are less engaged overall and only participate in a few projects in the Scandinavian-Mediterranean corridor. These are mostly aimed at the decarbonisation of road transport by deploying alternative fuels and strengthening of the port of Palermo, Sicily.

TEN-T is currently undergoing a revision and evaluation to determine new priorities (e.g. alternatives to fuel infrastructure) and reflect on the progress to reach the 2030 completion target of the Core



Network, which might be missed. The evaluation is expected for the end of 2020, while a proposal of a revised TEN-T regulation is planned for 2021 under the Green Deal (Vălean 2020).

### 6.3.3. The industrial and technological transition: Enabling innovation through Smart Specialisation Strategies

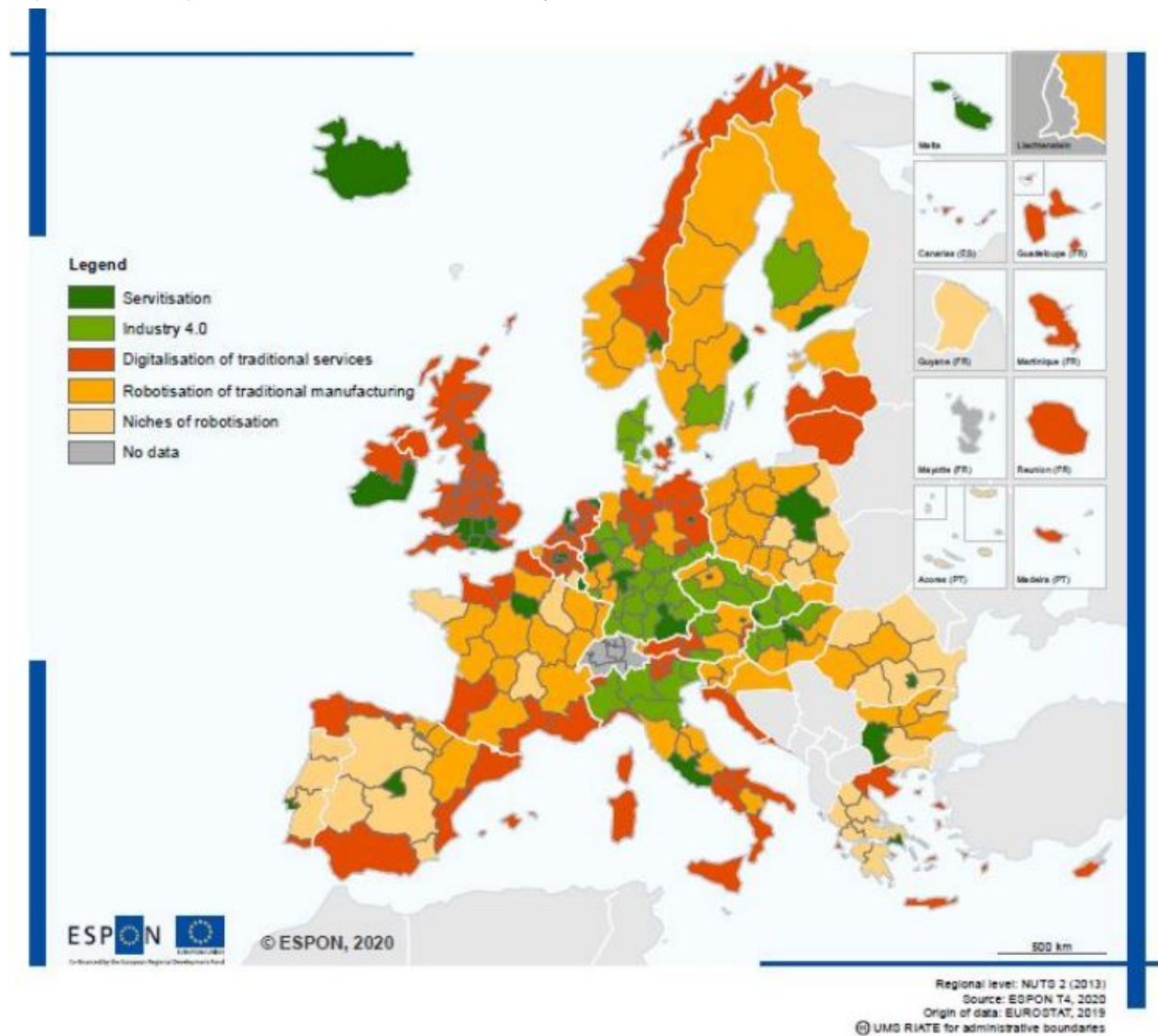
The capacity to innovate and adopt new technologies and an adequate skills base are crucial elements that significantly influence a region's ability to engage with the industrial transition successfully. However, large regional disparities exist, and some regions are better placed to reap the benefits than others.

EU regions differ greatly when it comes to innovation performance. According to the European Regional Innovation Scoreboard, the weakest regions are located in Romania and Bulgaria, where the pattern of internal divergence first identified with the GDP analysis re-emerges (Hollanders, Es-Sadki and Merkelbach 2019). Divergent regions in Southern Europe also tend to perform poorly on the Scoreboard, barring some regions in Portugal and Greece that are classified as strong performers (see Figure 17 in Annex 1). Nevertheless, many lagging regions have been improving their innovation performance since 2011 (see Figure 18 in Annex 1). This is especially the case for Italian, Greek and Portuguese regions. A more worrying development concerns some lagging regions of Spain, Romania and Bulgaria, where performance has been declining.

Innovation performance does not appear to correlate with Single Market integration. As discussed above, lagging regions in Central and Eastern European countries tend to have much stronger trade links with the rest of the Union than regions in Southern Europe. This also reinforces that, with lower levels of innovation performance, Central and Eastern European countries often have a lower technologically advanced positioning in EU value chains. Therefore, they benefit less from their value chain engagement than EU countries and/or regions with higher levels of underpinning technology, which in turn experience more concentrated added value from their value chain activities.

To achieve an innovative transformation, an adequate skills base and skilled labour force are crucial. Across a variety of indicators, geographic disparities emerge with the usual pattern: regions in Southern, Central and Eastern Europe are less equipped than others. Tertiary education attainment and adult participation in education and training remain lower in lagging regions than elsewhere (see Figures 19 and 20 in Annex 1). Similar disparities exist in the labour market. The percentage of the labour force employed in science and technology is lower in Romania, Bulgaria, Hungary, Italy and Greece (see Figure 21 in Annex 1). The employment rate of recent graduates is only around 30% in southern Italian regions and some Greek regions (see Figure 22 in Annex 1). These examples highlight that in some regions, the labour market is less ready than elsewhere to develop and absorb the new technologies and innovations that the industrial transformation will require.

Figure 10 shows the regional patterns of technological transformation. It is interesting to note that some regions specialising in Industry 4.0, including the introduction and use of industrial robots, are located in areas defined as extremely low-growth (i.e. northern Italy) and internally divergent (Hungary). While this creates opportunities for productivity and economic growth, it should be carefully implemented to offset negative effects on employment. Furthermore, other lagging regions are engaged in the robotisation and digitalisation of traditional sectors (i.e. in Italy, Spain, Greece). However, in many lagging regions, technological transformation concerns only a few niches and has not spread to the wider economy. This is the case for some divergent regions in Greece, Portugal, Spain, Belgium, Bulgaria and Romania.

**Figure 10. Regional patterns of the Industry 4.0 transition**

Source: Capello *et al.* (2020:15-16)

The employment effects mentioned in the context of the 'green' transition can also manifest due to technological change. Some regions have a higher share of jobs at risk of automation and are thus likely to suffer more from the negative impacts of the transformation. Firstly, workers who lose their jobs due to automation may not have the high-level skills required for the jobs created by automation. Secondly, the destruction and creation of jobs do not necessarily take place in the same area (Organisation for Economic Co-operation and Development 2018).

Some areas face a higher risk of labour market disruption due to automation: Slovakia, Slovenia, Greece and Spain are the Organisation for Economic Co-operation and Development (OECD) countries with the highest share of jobs at risk of automation (i.e. above 20%). A high degree of intranational disparities is also visible. In Spain, the share of jobs at risk is 12 percentage points higher in the worst-performing region than in the best (see Figure 23 in Annex 1).

A few factors explain the variation of jobs at risk of automation across regions. Regions with a higher share of jobs at risk tend to have lower productivity and educational attainment of the workforce and are often less urbanised (2018). Increasing productivity (while offsetting negative employment effects) and improving the skills base are thus crucial elements for reducing labour market exposure to

automation. This can create additional challenges for lagging regions, which, as mentioned above, tend to perform relatively worse on innovation, education and training.

### **Smart Specialisation Strategies**

As previously noted, the EU's proposed post-2020 Smart Specialisation policy agenda contains an 'enabling condition' related to industrial transition. This requires all EU regions and/or member states to evidence that their S3s are aligned to their wider industrial transition objectives. This requirement implies a significant 'leap' – especially for lagging regions – that should not be underestimated. Lagging regions are already known for relatively lower levels of industrial innovation and technology, with a wide range of barriers (including skills, knowledge, innovation networks and infrastructures) complicating the improvement of their technology and innovation performance. Lagging regions tend to have lower productivity, and less productive firms often face more challenges and higher costs of transitioning to the knowledge-based economy and adopting new technologies (European Commission 2020c).

As previously mentioned, the recent Pilot Action led by DG REGIO and supported by the OECD, Regions in Industrial Transition, provides clear insights into the types of challenges EU regions face. It also proposes tailored solutions to respond to these challenges and upgrade their industry sectors in line with Industry 4.0 goals. It is not clear how specific lessons from this Pilot can be tailored to lagging regions that are subject to a much wider set of challenges connected (but not limited) to core innovation and technology development themes. However, the scope for shared learning should not be underestimated, not least as an element focused on energy transition. This learning is clearly being aligned with the JTP set-up to allow for a wider diffusion of insights into 'what works'. Overall relevance to lagging regions will require careful management and support.

Following the recommendations of the Lagging Regions Report, there is a need to ensure that a highly tailored EU support function is in place to guide and advise lagging regions in their industrial transition journeys. To date, such a package of support does not exist, questioning whether there are any specific EU measures to support the industries of lagging regions in addressing these industrial transitions.

The S3 agenda is also playing a valuable role in the current programming period related to S3-focused interregional collaboration (which is set to continue in the post-2020 period). Here, the European Commission has set up a voluntary, collaborative innovation 'working space' for regions to join forces across related S3 priorities. These Thematic Smart Specialisation Platforms (TSSPs) have been championed by a bottom-up, place-based logic and have seen significant demand across EU regions to 'test out' opportunities for joint S3 working. The aim is to support the EU's value chain logic and create Interregional Innovation Investment (I3) linked to shared S3 priorities.

There is evidence that lagging regions are engaging with this new initiative – albeit most are from the 'more developed' category, with innovation systems and investments which are already rather sophisticated. While the EU seeks to increase efforts to counter the growing innovation divide, there is a need to ensure that lagging and less developed regions are not deterred and/or prevented from playing a fully active role in the TSSPs.

Reasons why lagging regions may not generate clear benefits from this type of collaboration are numerous and include the following. First, there is a mismatch between lagging and more developed regions. While 'best in class' innovation regions might be looking to work with like-minded partner regions, especially to upgrade their innovation and technology capacity, lagging regions are likely to have more modest ambitions for engagement (including improved learning and access to sector-specific innovation networks).

Second, lagging regions may find it difficult to join a TSSP. Regions require rather sophisticated governance structures to maximise their engagement from this (relatively new and complex) innovation collaboration. Many lagging regions lack the governance and institutional capacity to achieve this.

Third, there is a cost to participating in a TSSP. Engaging high-level regional innovation actors in a complex process of innovation collaboration takes time, expertise and investment. Lagging regions are often unable to commit the associated resources.

Going forward, engaging lagging regions in TSSPs requires careful monitoring. They risk being excluded, by default, with a strong potential that this then perpetuates the EU's innovation divide further.

Additionally, the Lagging Regions Initiative has expanded its S3 activities into the industrial transition agenda with the Working Group on Understanding and Managing Industrial Transition, which was launched by the JRC in 2019. Although it is still in early development, the scope of support and review expands into areas such as skills, education and training, innovation and sectoral development, and wider governance needs. However, the scope seems to be very industry-focused and not linked to a wider structural reform agenda for these regions.

The post-2020 S3 agenda features very strongly across the EU's 'transition' landscape. As well as being linked to industrial transition, it plays a key role in the EU's Just Transition agenda (which is connected to the Green Deal and energy transition, as outlined above). As a place-based policy tool, S3s are characterised by a set of core principles which incentivise regions to intensively analyse their innovation strengths and challenges, as well as the region's wider policy framework (including governance, investment, skills and innovation ecosystem support). A stronger narrative (and toolkit) which highlights the facilitation role S3s can play in supporting energy, digital and industrial transitions should be developed, by prioritising a place-based approach to transition. S3's transition logic makes it an ideal policy 'champion' that supports the EU's transition agenda. This could also generate a much-needed bottom-up focus on how the EU targets investment across this complex agenda, especially in the regions facing the most pressing transition challenges.

#### **6.4. A new transition? The impact of COVID-19 and Next Generation EU**

The global COVID-19 pandemic has imposed unprecedented restrictions on economic activity, as mobility was restricted in many countries. Both demand and supply contracted quickly and significantly, resulting in an unprecedented economic recession. The economic forecasts published by the European Commission in July 2020 expect the EU economy to contract by 8.7% in 2020, while the 'bounce-back' predicted for 2021 will not be sufficient to recover to early 2020 levels. The countries expected to experience the highest GDP contraction in 2020 are Italy (-11.2%), Spain (-10.9%), Croatia (-10.8%), France (-10.6%), Slovenia (-9.8%), Greece (-9%) and Slovakia (-9%) (European Commission 2020e).<sup>12</sup>

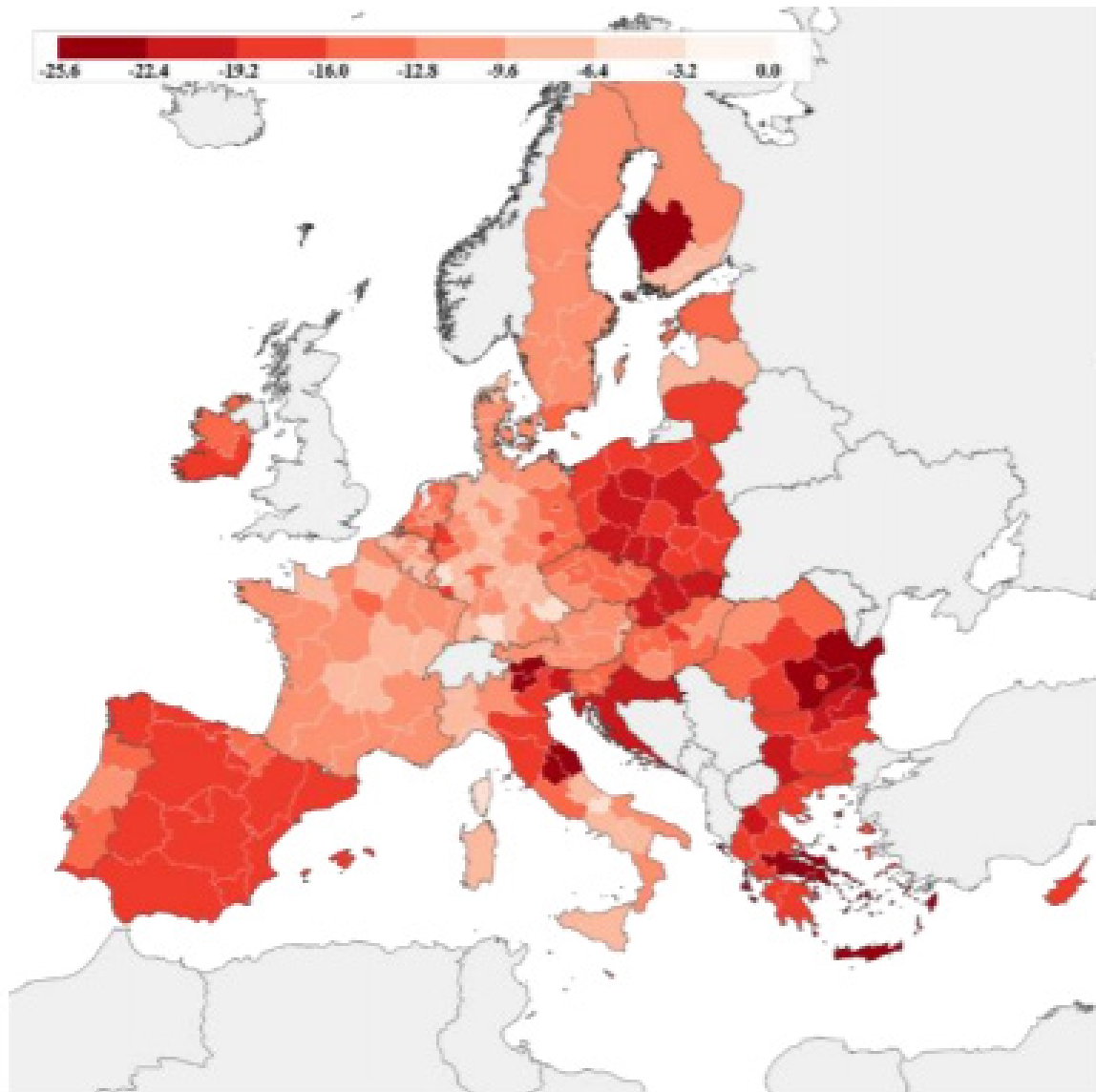
The impacts of this crisis are highly uncertain, especially in the long term (Zuleeg 2020). Liabilities and excess capacity have been accumulating and may become a long-term issue in sectors where demand might only readjust to pre-pandemic levels over a very long period. Should there be a second lockdown of economic activities, repercussions will be even deeper. In turn, this could be differentiated geographically, also due to governmental capacities to support the economy.

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<sup>12</sup> The countries expected to see the smallest contractions are Poland (-4.6%), Denmark (-5.2%) and Sweden (-5.3%). In the euro area, these are Malta (-6%), Luxembourg (-6.2%), Germany (-6.3%) and Finland (-6.3%).

The consequences for regional GDP are not yet clear, but a modelling exercise from the JRC can help illustrate the uneven effect of the crisis (Conte *et al.* 2020). Figure 11 presents the Dynamic Spatial General Equilibrium Model for EU Regions and Sectors' (RHOMOLO) prediction of GDP changes in 2020, based on standardised assumptions on the symmetric nature of the shock. This map was also part of the European Commissions' Staff Working Document, Identifying Europe's recovery needs, published as part of the Next Generation EU package (European Commission 2020f). While this model is by no means a forecast, it can illustrate the fact that some regions are likely to suffer a deeper GDP loss because of their economic structure, even if the shock is the same across all regions. Additionally, it may be that the shock evolves differently in different regions, for example, should there be a second wave of infections. Figure 11 highlights the different outcomes of EU regions' exposure to the same shock.

It is possible to indicate how the COVID-19-related economic crisis will impact regions. The variance of the impact on regional GDP and employment is dependent on the region's exposure to a variety of factors. This ranges from its reliance on global value chains and specialisation in specific sectors like tourism to larger shares of non-standard employment (Allain-Dupré *et al.* 2020). The OECD identifies the sectors which are more likely to suffer from reduced activity. These include travel, tourism, retail, hospitality and other activities involving direct contact between clients and providers and non-essential construction (Organisation for Economic Co-operation and Development 2020a).

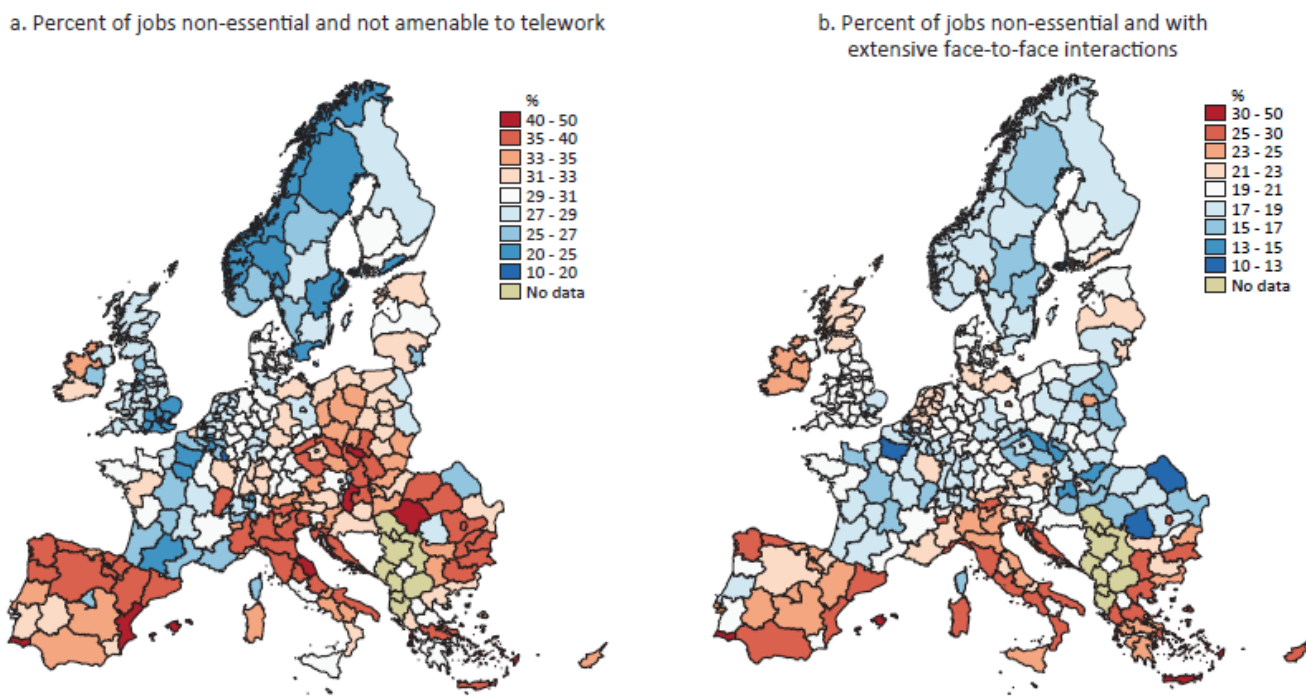
**Figure 11. RHOMOLO prediction of GDP impact to COVID-19 crisis at the NUTS2 level**

Source: Conte *et al.* (2020: 3)

An example of the substantial variation that exists among and within countries is employment in non-essential sectors. The impact of government-mandated restrictions on non-essential activities in non-essential sectors with high employment benefits can be expected to be larger. Additionally, the extent to which a job can be performed from home or does not require face-to-face interaction is also relevant when analysing potential employment effects.

Sanchez Garrote *et al.* (2020) explore the distribution of such jobs in EU regions; their results are shown in Figure 12. In both panels, the regional differences are evident, with Southern European regions (i.e. Italy, Spain, Greece, Bulgaria) having a larger share (between 30% and 50%) of non-essential jobs that require face-to-face interactions and are not amenable to telework. In contrast, Central and Eastern European regions have a smaller share of non-essential jobs requiring face-to-face interaction. This is probably linked to the stronger presence of employment in manufacturing, which requires physical presence but relatively little interaction. Compared to others, many of the lagging, divergent regions in Southern Europe and Bulgaria appear to have a larger employment share in sectors more likely to be affected by the lockdown and social distancing measures. The impact of COVID-19 could thus exacerbate territorial inequalities within the EU.



**Figure 12. Jobs most at risk due to the COVID-19 crisis at the NUTS2 level**

Source: Sanchez Garrote *et al.* (2020: 4)

In addition to direct employment effects caused by lockdowns and social distancing measures, indirect effects are also likely to manifest. For example, it is estimated that regions that rely more on global trade may face higher risks, either because they rely on global trade infrastructure (e.g. ports, airports) or due to the high employment share in tradeable sectors. Furthermore, temporary and non-standard jobs are more at-risk in the short term and more present in regions with a lower skill base and higher unemployment (Organisation for Economic Co-operation and Development 2020b). These are all characteristics of Southern European regions. This extraordinarily severe shock will fundamentally impact regional performance, both absolutely and relatively. Importantly, the regional capacity to bounce back and recover from the downturn quickly will determine whether some regions will lag further.

Additionally, the overall framework in which each region operates is important. For example, regarding the national government's capacity to stimulate the regional level and implement support measures effectively and efficiently. This points back to the importance of quality and capacity of regional governance – an issue which tends to dominate the challenges facing lagging regions. There is a likelihood of increasing disparities, as the current shock will hit some of the already diverging regions the hardest.

### Next Generation EU

During the COVID-19 crisis, it was decided that a common response at the EU level was needed. Among other instruments and special procedures, the recovery instrument Next Generation EU was proposed by the European Commission on 27 May 2020 (2020g). It was approved, with some changes, by the European Council at the July Summit (European Council 2020). It will have to be approved by the European Parliament as well and might still be subject to changes. Next Generation EU has the explicit goal of supporting the areas of the EU most hit by the crisis. As mentioned, that the impact of



the crisis can have a disproportionate effect in some areas, including as a consequence of the different fiscal capacities to stimulate the economy adequately, has been recognised.

The main instruments introduced by Next Generation EU are relevant for lagging regions: the Recovery and Resilience Facility (RRF) and the Recovery Assistance for Cohesion and the Territories of Europe (REACT-EU). The latter is essentially a 'top-up' of the Cohesion Policy for 2021 and 2022. The current Cohesion Policy was partly modified by the Coronavirus Response Investment Initiative, which has enabled a more flexible use of EU funding for COVID-19 response measures.

The RRF disburses funding through loans and grants to all member states, although with a stronger targeting to those most affected by the COVID-19-related crisis. At the July European Council, it was agreed that RRF funding would be allocated to member states according to the following criteria. For funds committed in 2021 and 2022 (i.e. 70% of the total), the allocation key includes reverse GDP per capita, population size and the average unemployment rate relative to the EU average between 2015 and 2019. For the remaining 30% committed in 2023, the allocation considers the GDP loss in 2020 and the cumulative GDP loss in 2020-21 instead of the unemployment criterium. Importantly, these keys are calculated with data at the national, not regional, level. Consequently, the aim of targeting the most vulnerable areas refers, in practice, to countries and not regions. Member states will have to devise national recovery and resilience plans outlining their investment and reform intentions using RRF funding.

The territorial dimension is not present, as an explicit commitment to target most vulnerable regions is missing. Rather, the decision on what and where to invest is left to the member states. Italy and Spain will be the two countries receiving the highest share of funding, while Greece is among those where the RRF funding is the highest relative to GDP. Even without explicit regional targeting, lagging regions in these countries are likely to reap some of the benefits of RRF funding, which will also increase the overall level of investment in these areas. This, however, cannot be confirmed before knowing the content of the national recovery and resilience plans, which are at the discretion of national governments.

REACT-EU will provide additional resources to member states through existing Cohesion Policy funds. The allocation would not be constrained by thematic objectives or types of regions, but rather be as flexible as possible. The additional funding would be allocated to member states, not regions, based on relative GDP loss in 2019 and unemployment indicators. EU financing at 100% (i.e. no co-financing) is envisaged, as well as the possibility to move amounts across regions and funds. The allocation key is once again calculated with national, not regional, data. As the purpose of this flexibility is to allow member states to decide whether or not to target funding to areas that need it the most, including potentially lagging regions, this cannot be guaranteed. (Brookes *et al.* 2020).

Overall, the Next Generation EU provides additional resources to member states directly without explicit guarantees of national efforts to target investment to those regions most in need. While this can benefit the speed of disbursement and simplicity deriving from higher flexibility, it also bears the risk that the most vulnerable regions receive less targeted support than they might need. Monitoring national-level spending is crucial to ensure that large portions of the additional funding are not channelled to regions with a higher capacity to make use of it in place of those most in need (i.e. with a weaker capacity to plan and spend the funds effectively, even though their needs might be strongest). While this could be seen as a more straightforward solution to increase absorption rates, a potential issue also highlighted by the European Court of Auditors (2020) in the context of REACT-EU is that it bears the risk of increasing disparities by failing to support the most vulnerable areas sufficiently.

## 7. CONCLUSIONS AND RECOMMENDATIONS

The objectives of this study are twofold. First, to analyse the existing categorisation of lagging regions to suggest a better typology for identifying the EU's most vulnerable regions. Second, to explore how EU policies target and engage lagging regions, both directly and indirectly. This final chapter highlights the main conclusions and puts forward 11 recommendations.

It should be noted that our recommendations are based on our proposed typology of lagging regions, as opposed to recommendations targeted at the group of regions the Lagging Regions Initiative defines as 'lagging'.

### 7.1. Identifying and assessing lagging regions

We have identified a degree of conceptual confusion around the labels *lagging* and *catching-up*, which have been used interchangeably despite their conflicting meanings. This confusion is also visible across EU policy documentation and academic literature, as the term *lagging region* is often used as a catch-all to refer to regions with either specific or general development challenges. This has perpetuated the challenge of both defining the problems faced by lagging regions and targeting actions to address them. It could be argued that this context has generated a level of inertia and inaction concerning the extent and nature of the challenge of lagging regions across the EU, leading to a vacuum in specific and targeted EU policy responses. A *lagging region* performs significantly below average over time. Starting from a relatively lower point, a *catching-up region* performs better than average and is thus converging. This difference matters for policy choices.

#### **Recommendation 1: Define lagging regions in coherence with the policy purpose.**

If the policy purpose is to support regions that are falling behind, or *lagging*, then they should be identified by evaluating their performance over time. Relativity matters, as performance relative to the EU average may give different results from the national average.

One typology should be used to identify a homogeneous group of regions. Grouping together regions with good performance (i.e. *catching-up*) and poor performance (i.e. *lagging*) is counterproductive and dilutes the policy effectiveness.

Based on these considerations, Chapter 3 presents a revised typology of lagging regions, based on their GDP per capita growth since 2000. It emerges that low-income regions in Central and Eastern Europe are not lagging but rather are catching up to the EU average level of income steadfastly. Importantly, some countries are experiencing internal divergence patterns, with poorer regions lagging with respect to the national average growth. If the policy interest is to identify regions with growth performance below the EU average, then low-income regions should *not* be included.

We find that there are two types of regions that have a concerning growth trajectory and thus should be considered as lagging. First, *divergent regions* are poorer than the EU average and grow less than the average and are thus failing to converge. Many of these regions are in Greece Portugal, Italy and Spain. However, there are also some in relatively richer countries, such as Belgium, the Netherlands, Ireland, Denmark and Germany. This latter group is somewhat overlooked due to both the outdated approach of measurement and a lack of updated monitoring. Second, we identify regions that have

extremely poor growth performance, regardless of their level of income. These are a country-wide issue in Italy and Greece, but also exist in Belgium, Ireland and the Netherlands.

Transitioning to a green, digital and innovative economy may present particular challenges for lagging regions. They tend to be less connected – geographically, digitally, economically – to the rest of the EU and to perform worse when it comes to innovation, educational attainment and workforce training. They also face a higher risk of employment disruption due to automation.

**Recommendation 2: Monitor and target attention to divergence through a revived support function for lagging regions.**

There are some poor regions in Europe whose relative situation is deteriorating. They should be identified accurately and subjected to continued monitoring via a revived lagging regions support function. This is currently not envisaged in any of the existing initiatives. The Lagging Regions Initiative has evolved to only focus on catching-up regions, while the Cohesion Policy does not account for growth developments. This signals a gap in EU policy support for lagging regions that must be addressed.

**Recommendation 3: Assess the optimal unit of intervention to target low growth.**

While in most countries, low growth is an issue in only some regions, this is a pervasive issue that characterises almost all regions in Italy and Greece. The optimal unit of intervention in these two countries should be assessed to identify whether the optimal response level lies at the national or regional level, or both.

**Recommendation 4: Increase data at the regional level to achieve a comprehensive analysis.**

GDP remains the most stable and reliable indicator at the regional level, leading to its pervasive use. While GDP provides a good proxy for identifying lagging regions, additional indicators should be used to provide new insights on the underlying issues experienced in said regions and point to policy interventions with the highest potential. Useful additional sources of data include the Social Progress Index and the monitoring of performance to achieve the Sustainable Development Goals. More data at the regional level would allow for more granular analysis of regional challenges. Additionally, more frequent data updates are crucial for assessing developments over time.

## 7.2. Supporting lagging regions through EU policies

Lagging regions face a wide range of development challenges, including relatively lower productivity and a weaker skills base, educational attainment, business environment and innovation performance. Institutional capacity plays an important (and pervasive) role and is considered one of the main enablers of economic development, including the efficiency and accountability of civil service and

justice systems, low regulatory burden and transparency. This has implications for the implementation of EU funding, which can be hampered by weak administrative capacity in lagging regions.

**Recommendation 5: Ensure that the Cohesion Policy and European Semester strengthen their consideration for quality of governance and institutions.**

Low quality of governance and institutional capacity make it difficult for lagging regions to improve their development trajectories. This constraint should be better understood and aligned with the support measures of the Cohesion Policy and European Semester, taking better account of the capacity and specific challenges of the EU's most vulnerable regions.

We explore the Lagging Regions Initiative (or Catching-up Regions Initiative), which was launched in 2015 to analyse and support EU regions with development constraints. We identify some limitations of the Initiative. First, it has recently abandoned the *lagging* terminology and disregarded low-growth regions and now focuses exclusively on some catching-up regions in Central and Eastern Europe. Second, the information concerning its activities is scattered, and its past and current actions difficult to track. Third, its relationship with the World Bank is not entirely clear. This cluttered landscape risks generating effort duplication as well as contributing to a lack of visibility of the Initiative's actions.

**Recommendation 6: Create a central repository of information for the Lagging Regions Initiative.**

The Initiative's webpage should be updated and strengthened to provide a comprehensive account of all (i.e. past and ongoing) activities. At present, the information is outdated and does not refer to all existing sources of information, including the extensive work carried out by the World Bank, as well as other policies related to the Initiative or relevant for lagging regions. More clarity about the Initiative's activities and results would increase its visibility and influence in sustaining momentum, and help lagging regions address their ongoing challenges.

The Initiative has successfully engaged with the EU's Smart Specialisation (S3) agenda. Preparatory actions requested by the European Parliament have provided important insights into the development needs of lagging regions. However, these actions are coming to an end, and how the S3 agenda is intended to support lagging regions in the post-2020 period is significantly ambiguous.

**Recommendation 7: Execute a comprehensive evaluation of the Lagging Regions Initiative.**

Five years after the launch of the Initiative, a comprehensive stocktaking and evaluating exercise would shed some clarity on the activities, results and evolution of the work carried out under the Initiative. The rationale behind its decision to *not* target low-growth regions should also be clarified. To boost its influence over policy, the comprehensive evaluation, which may require a significant amount of time, should be accompanied by a quick, initial assessment of it. The European Parliament's S3 actions for lagging regions should also be assessed and, if positive potential is found, their discontinuation reconsidered.

Our high-level analysis of EU policies highlights that EU support is not specifically targeted at lagging regions, as well as that a top-down policy design can overlook the diversity of needs across territories. Lagging regions often cannot engage with and successfully manage complex programmes and reform agendas. It also emerged that funding – or, at least, funding alone – cannot be considered the answer that will turn around the fortune of lagging regions, and that more comprehensive actions are needed instead.

**Recommendation 8: Launch a new initiative that targets low-growth regions.**

There are many EU regions, most of which are also relatively poor, whose growth performances have consistently been below average. These regions match the *lagging* definition but have not been targeted by the Lagging Regions Initiative. In the context of continued and increasing EU divergence, a new initiative should be launched to focus on lagging regions explicitly.

Firstly, a comprehensive analysis of relative performance over time should be carried out to identify the regions with the most complex and challenging developments correctly. Secondly, looking beyond GDP, the initiative should explore development constraints which may be different among regions, and where policy intervention can have the highest potential. Thirdly, the differential impact of the COVID-19 crisis on these regions should be analysed and monitored.

Lastly, the timing of this report means that the impact of the COVID-19 crisis and its associated EU policy responses cannot yet be fully analysed. However, preliminary analyses highlight risks of

**Recommendation 9: Mainstream attention to the needs of the most vulnerable regions across all EU policies.**

EU policies show a lack of sensitivity to the intensity of the specific challenges EU regions experience. Without careful consideration of their constraints, there is a risk that policies have a more limited (or even negligible) impact in the regions that need the most support. A stronger commitment to address these challenges could lead to better prioritisation and targeting of actions based on needs and potential. This also applies to policies intended to support the energy, digital and industrial transitions, which tend to adopt a top-down approach and are not well aligned with the needs of lagging regions.

increasing disparities within the EU due to the uneven spread of the pandemic and the different response capacities of member states and their regions. The required place-based response to the pandemic could be overlooked if the EU continues to adopt a strong, ‘top-down’ approach in its COVID-19 response. At the time of writing, the Next Generation EU is still in its inception phase; its design and the nature of the implementation phase are yet to be determined.

**Recommendation 10: Ensure that structural reforms entail a place-based sensitivity.**

Lagging regions often lack the capacity to engage with a complex reform agenda successfully. Structural reforms should be supported by clear, place-based impact analyses, to be able to plan targeted support when implementing reforms. The European Semester should strengthen the territorial dimension it recently introduced via Annexes D, which detail how to address territorial disparities. This could incentivise and support targeted reforms for EU regions that face the most acute challenges. The new DG REFORM should play an active role in this effort.

**Recommendation 11: Ensure that COVID-19 recovery measures target the most vulnerable regions.**

Some lagging regions rely on economic sectors which have been more negatively impacted by the COVID-19 crisis than others. While the newly approved package of recovery instruments (i.e. the Next Generation EU) has a strong focus on most affected areas, they are only targeted at the national level. Careful monitoring should be set up to ensure that national measures are not skewed towards regions with a higher capacity to 'take up' support and investment. The regions most in need of support are likely to require additional, 'horizontally-driven' support measures.

## REFERENCES

- Allain-Dupré, Dorothée; Isabelle Chatry, Varinia Michalun and Antti Moisio (2020), "[The territorial impact of COVID-19: Managing the crisis across levels of government](#)", Paris: Organisation for Economic Co-operation and Development.
- Alves Dias, Patricia; Konstantinos Kanellopoulos; Hrvoje Medarac; Zoi Kapetaki; Edesio Miranda Barbosa; Ruth Shortall; Veronika Czako; Thomas Telsnig; Cristina Vazquez Hernandez; Roberto Lacal Arantegui; Wouter Nijs; Iratxe Gonzalez Aparicio; Marco Trombetti; Giovanni Mandras; Efsthios Peteves and Evangelos Tzimas (2018), [EU coal regions: opportunities and challenges ahead](#), EUR 29292 E, Luxembourg: Joint Research Centre.
- Annoni, Paola; Lewis Dijkstra and Tamar Hellman (2016), [The EU regional SPI: A measure of social progress in the EU regions. Methodological paper](#), European Commission.
- Applica, ISMERI Europa and Cambridge Economic Associates (2016), [WP1: Synthesis report. Ex post evaluation of Cohesion Policy programmes 2007-2013, focusing on the European Regional Development Fund \(ERDF\) and the Cohesion Fund \(CF\)](#), Brussels: European Commission.
- Aridi, Anwar; Lisa Cowey; Dariusz Wiatr; Jerzy Toborowicz and Andrzej Kaznowski (2018), "[Poland catching up regions 2: Podkarpackie Center for Innovation](#)", Washington DC: World Bank.
- Barr, Jonathan; Elena Magrini and Michela Meghnagi (2019), "[Trends in economic inactivity across the OECD: The importance of the local dimension and a spotlight on the United Kingdom](#)", Paris: Organisation for Economic Co-operation and Development.
- Berkowitz, Peter (2020), [Next Generation EU – Cohesion policy and smart specialisation](#), European Commission.
- Bjerkem, Johan and Marta Pilati (2020), "[A renewed start for Europe? 4 takeaways from the EU's new industrial strategy](#)", Brussels: European Policy Centre.
- Boden, Mark; Patrice dos Santos; Karel Haegeman; Elisabetta Marinelli and Susana Valero (2016), [Implementing RIS3 in the Region of Eastern Macedonia and Thrace: Towards a RIS3 tool box](#), JRC S3 Policy Brief Series No. 20/2016, Luxembourg: Joint Research Centre.
- Brookes, Nicolas; Francesco Molica; Eugènia Lleal Fontàs and Guillaume Moreno (2020), "[The EU Recovery Plan: 'Next Generation EU' Recovery Instrument in a revamped MFF 2021-2027](#)", Conference of Peripheral Maritime Regions.
- Brown, Adam; Ruggero Fornoni; Ben Gardiner; Lydia Greunz; Stefan Jestl; Nirina Rabemiafara; Roman Römisch; Jonathan Stenning and Terry Ward (2017), [Economic Challenges of Lagging Regions: Final Report](#), Brussels: European Commission.



- Burlacu, Rodica; Daiana Ghintuială; Ioana Ivanov; Andreea Maier; Dragoș Pîslaru; Reinhold Stadler; Claudiu Forgaci; Dominic Stead; Sorin Pop; Alexandru Ghiță; Romina Matei and Călin Rus (2020), [State of the European Territory: Inception Report](#), Luxembourg: ESPON EGTC.
- *Cambridge Dictionary* b, "[catch up](#)" (accessed 06 August 2020).
- *Cambridge Dictionary* a, "[lag](#)" (accessed 06 August 2020).
- Cameron, Aliénor; Grégory Claeys; Catarina Midoes and Simone Tagliapietra (2020), [A Just Transition Fund – How the EU budget can best assist in the necessary transition from fossil fuels to sustainable energy](#), PE 651.444, Brussels: European Parliament.
- Capello, Roberta; Camilla Lenzi; Reda Nauseidaite; Olga Mikheeva; Karine Lanoix; Patrick Eparvier; Kincső Izsak; Slavo Radosevic; Laura Noguera; Oriol Biosca; Rafa Rodrigo; Andreu Ulieu; Agnieszka Olechnicka; Maciej Smętkowski; Miroslav Šipikal; Štefan Rehák and Martina Džubáková (2020), [T<sup>4</sup> – Territorial Trends in Technological Transformations. Draft Final Report](#), ESPON, Luxembourg.
- Charron, Nicholas and Victor Lapuente (2018), "[Quality of government in EU regions: Spatial and temporal patterns](#)", Gothenburg: University of Gothenburg.
- Charron Nicholas, Victor Lapuente and Bo Rothstein (2019), [Measuring the quality of Government at the subnational level and comparing results with previous studies](#), 2016.CE.16.BAT.066, Brussels: European Commission.
- Conte, Andrea; Patrizio Lecca; Stylianos Sakkas and Simone Salotti (2020), [The territorial economic impact of COVID-19 in the EU. A Rhomolo analysis](#), JRC121261, Seville: European Commission.
- European Commission (2016), [The EU Youth Employment Initiative: Investing in young people](#), Luxembourg.
- European Commission (2017a), [Competitiveness in low-income and low-growth regions: The lagging regions report](#), SWD (2017) 132 final, Brussels.
- European Commission (2017b), [My Region, My Europe, Our Future: The seventh report on economic, social and territorial cohesion](#), SWD(2017) 330 final, Brussels
- European Commission (2018a), [Proposal for a Regulation of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, and the European Maritime and Fisheries Fund and financial rules for those and for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument](#), COM(2018) 375 final, Strasbourg.
- European Commission (2018b), [EU Budget for the Future: Regional Development and Cohesion](#).
- European Commission (2018c), [Annexes to the Proposal for a Regulation of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, and the European Maritime and Fisheries Fund and financial rules for those and for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument](#), COM(2018) 375 final, Strasbourg.
- European Commission (2018d), [In-depth analysis in support of the Commission communication COM\(2018\) 773. A Clean Planet for all: A European long-term strategic vision for a prosperous, modern, competitive and climate neutral economy](#), Brussels.
- European Commission (2019a), [Report from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions: Strategic report 2019 on the implementation of the European Structural and Investment Funds](#), COM(2019) 627 final, Brussels.



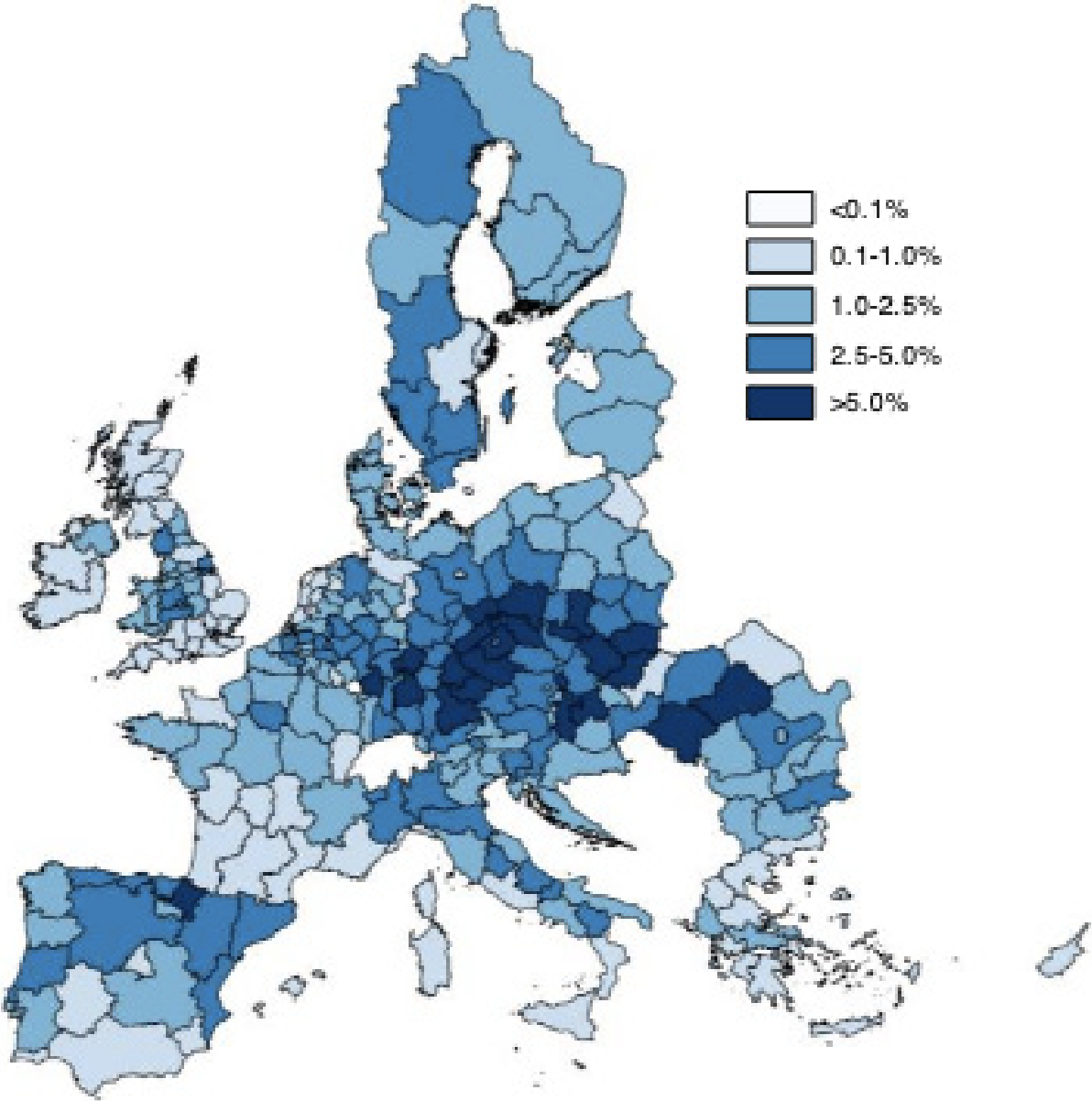
- European Commission (2019b), [Investing in European networks. The Connecting Europe Facility: Five years supporting European infrastructure](#), Brussels.
- European Commission (2020a), "Catching-up Regions Initiative takes a new approach to EU project implementation", *Panorama*, Number 72.
- European Commission (2020b), [Science, Research and Innovation Performance of the EU 2020: A fair, green and digital Europe](#), Brussels.
- European Commission (2020c), [Youth Guarantee country by country – Greece](#).
- European Commission (2020d), [European Semester 2020: Overview of Investment Guidance on the Just Transition Fund 2021-2027 per Member State \(Annex D\)](#).
- European Commission (2020e), [European Economic Forecast: Summer 2020](#), Institutional Paper 132.
- European Commission (2020f), [Identifying Europe's recovery needs. Accompanying the document Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. Europe's moment: Repair and Prepare for the Next Generation](#), SWD(2020) 98 final, Brussels.
- European Commission, [Europe's moment: Repair and prepare for the next generation](#), 27 May 2020g, Brussels.
- *European Commission a*, "[Catching up regions](#)" (accessed 06 August 2020).
- *European Commission b*, "[European Structural & Investment Funds > Data](#)"(accessed 23 July 2020).
- *European Commission c*, "[Strategic report 2019 on the implementation of the European Structural and Investment Funds: Annexes](#)" (accessed 11 September 2020).
- European Council (2020), [Special meeting of the European Council \(17, 18, 19, 20 and 21 July 2020\) – Conclusions](#), EUCO 10/20, Brussels.
- European Court of Auditors (2020), [Opinion No 04/2020\(pursuant to Articles 287\(4\) and 322\(1\)\(a\), TFEU\)concerning the proposal 2020/0101 \(COD\) for a Regulation of the European Parliament and of the Council amending Regulation \(EU\) No 1303/2013 as regards exceptional additional resources and implementing arrangements under the Investment for growth and jobs goal to provide assistance for fostering crisis repair in the context of the COVID-19 pandemic and preparing a green, digital and resilient recovery of the economy \(REACT-EU\); and on the amended proposal 2018/0196 \(COD\) for a Regulation of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime and Fisheries Fund and financial rules for those and for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument](#), Luxembourg.
- European Parliament (2018), [European Parliament resolution of 13 March 2018 on lagging regions in the EU](#), (2017/2208(INI)).
- European Union (1986), [Single European Act](#).
- European Union (2009), [Treaty on the Functioning of the European Union](#).
- Eurostat (2019a), [Sustainable development in the European Union: Monitoring report on progress towards the SDGs in an EU context. 2019 edition](#), Luxembourg.
- Eurostat (2019b), [Eurostat regional yearbook: 2019 edition](#), Luxembourg.
- Eurostat (2020), [EU SDG Indicator set 2020: Result of the review in preparation of the 2020 edition of the EU SDG monitoring report](#).

- Eurostat a, "[Gross domestic product \(GDP\) at current market prices by NUTS 2 regions](#)", nama\_10r\_2gdp (accessed 15 June 2020).
- Eurostat b, "[Economic activity rates by sex, age and NUTS 2 regions \(%\)](#)", lfst\_r\_lfp2actrt (accessed 02 July 2020).
- Eurostat c, "[File:TEN-T Core Network Corridors \(Freight and Passenger\) RYB17.png](#)" (accessed 15 June 2020).
- Eurostat d, "[Regions and Cities Illustrated \(RCI\)](#)" (accessed 06 August 2020).
- Farole, Thomas; Soraya Goga and Marcel Ionescu-Heroiu (2018), "[Rethinking Lagging Regions: Using Cohesion Policy to Deliver on the Potential of Europe's Regions](#)", Washington DC: The World Bank.
- Farole, Thomas; Andrés Rodríguez-Pose and Michael Storper (2011), "[Cohesion policy in the European Union: growth, geography, institutions](#)", *Journal of Common Market Studies*, Volume 49, Number 5, pp.1089-1111.
- Hollanders, Hugo; Nordine Es-Sadki and Iris Merkelbach (2019), [Regional Innovation Scoreboard 2019](#), European Commission.
- Huguenot-Noël, Robin; Fabian Zuleeg and Alison Hunter (2018), [Research for REGI Committee – Future links between structural reforms and EU cohesion policy](#), PE 617.481, Brussels: European Parliament.
- Huguenot-Noël, Robin; Fabian Zuleeg; Alison Hunter and Marta Pilati (2018), "[How do industrial transitions succeed? Transatlantic considerations on drivers for economic development](#)", Brussels: European Policy Centre.
- Iammarino, Simona; Andrés Rodríguez-Pose and Michael Storper (2017), [Why Regional Development matters for Europe's Economic Future](#), WP 07/2017, European Commission.
- Iammarino, Simona; Andrés Rodríguez-Pose; Michael Storper and Andreas Diemer (2020), [Falling into the Middle-Income Trap? A Study on the Risks for EU Regions to be Caught in a Middle-Income Trap. Final Report](#), Brussels: European Commission.
- Kardas, Marcin; Krzysztof Mieszkowski and John Huw Edwards (2020), [Higher Education for Smart Specialisation in Lubelskie, Poland](#), EUR 30177 EN, Seville: Joint Research Centre.
- Kriss, Paul; Marcel Ionescu-Heroiu; Grzegorz Wolszczak; Chyi-Yun Huang; Piotr Kamiński; Marcin Piernikowski; Ciprian Moldovan; Bogdan Eugen Dolean; Marcin Mazur; Agnieszka Boratyńska; Jan Szczucki; Maciej Gajewski; Dominic Patella; Michał Wolański; Magda Niewęgłowska; Mateusz Pieróg; Jamie Lee-Brown; Łukasz Marć; Wojciech Sacha; Bartłomiej Skowron; Alicja Szczepińska; Dorota Tekieli-Bisińska; Anna Tórz; Damian Iwanowski; Anwar Aridi; Lisa Cowey; Dariusz Wiatr; Jerzy Toborowicz; Wojtech Nosek; Janina Franco; Jas Singh; Anand Subbiah; Jonathan Karver; Małgorzata Kotańska; Michał Smoła; Jerzy Piszczek; Reena Badiani-Magnusson; Karolina Marta Goraus; Katarzyna Sałach; Anna Kozieł; Anna Król-Jankowska and Filip Kochan (2019a), "[Poland: Catching-up regions 3. Overview Report](#)", Washington DC: World Bank.
- Kriss, Paul; Adina Dorina Vintan; Oana Frant; Marius Cristeau; George Alexandru Moldoveanu; Carli Bunding-Venter; Yondela Tembakazi Silimela and Marcel Ionescu-Heroiu (2019b), "[Romania: Catching-Up Regions. Final Report](#)", Washington DC: World Bank.
- Lüer, Christian, "[Putting the Territorial Agenda into practice – six pilot actions on their way](#)", *Territorial Agenda*, 10 July 2020.
- Monfort, Phillippe (2020), [Convergence of EU regions redux: Recent trends in regional disparities](#), WP 02/2020, European Commission.

- Organisation for Economic Co-operation and Development (2018), "[Job creation and local economic development 2018: Preparing for the future of work](#)", Paris.
- Organisation for Economic Co-operation and Development (2020a), "[Evaluating the initial impact of COVID-19 containment measures on economic activity](#)", Paris.
- Organisation for Economic Co-operation and Development (2020b), "[Coronavirus \(COVID-19\). From pandemic to recovery: Local employment and economic development](#)", Paris.
- Pellegrin, Julie and Gelsomina Catalano (2019), [Assessment of support to the development and implementation of smart specialisation strategies provided by the European Commission from 2010 to 2017: Final report](#), Brussels: European Commission.
- Pilati, Marta (2019), "[A geographically fair EU industrial strategy](#)", Brussels: European Policy Centre.
- Rodríguez-Pose, Andrés and Tobias Ketterer, "[Institutional change and development in lagging regions in Europe](#)", *VoxEU*, 18 November 2018.
- Rodríguez-Pose, Andrés and Callum Wilkie (2018), "[Innovating in less developed regions of Europe and North America](#)", *Growth and Change*, Volume 50, Issue 1, pp.4-37.
- Rosa, Isabel, [The case of e-procurement in Portugal](#), European Economic and Social Committee, 13 September 2012.
- Sanchez Garrote, Daniel; Nicolas Gomez Parra; Caglar Ozden and Bob Rijkers (2020), "[Which Jobs Are Most Vulnerable to COVID-19? What an Analysis of the European Union Reveals](#)", Washington DC: World Bank.
- Solow, Robert Merton (1956), "[A Contribution to the Theory of Economic Growth](#)", *The Quarterly Journal of Economics*, Volume 70, Number 1, pp.65-94.
- Sustainable Development Solutions Network and Institute for European Environmental Policy (2019), "[The 2019 Europe Sustainable Development Report](#)", Paris/Brussels.
- Thissen, Mark; Olga Ivanova; Giovanni Mandras and Trond Husby (2019), [European NUTS 2 regions: construction of interregional trade-linked Supply and Use tables with consistent transport flow](#), JRC115439, Seville: Joint Research Centre.
- Vălean, Adina, [Speech by Commissioner Vălean on TEN-T revision: first results of the stakeholder consultation, at the European Parliament](#), European Parliament, 23 June 2020.
- World Bank (2019), "[Slovakia: Catching-up Regions Initiative. Overview Report](#)", Washington DC.
- Zuleeg, Fabian (2020), "[The economic impact of COVID-19 on the EU: From the frying pan into the fire](#)", Brussels: European Policy Centre.

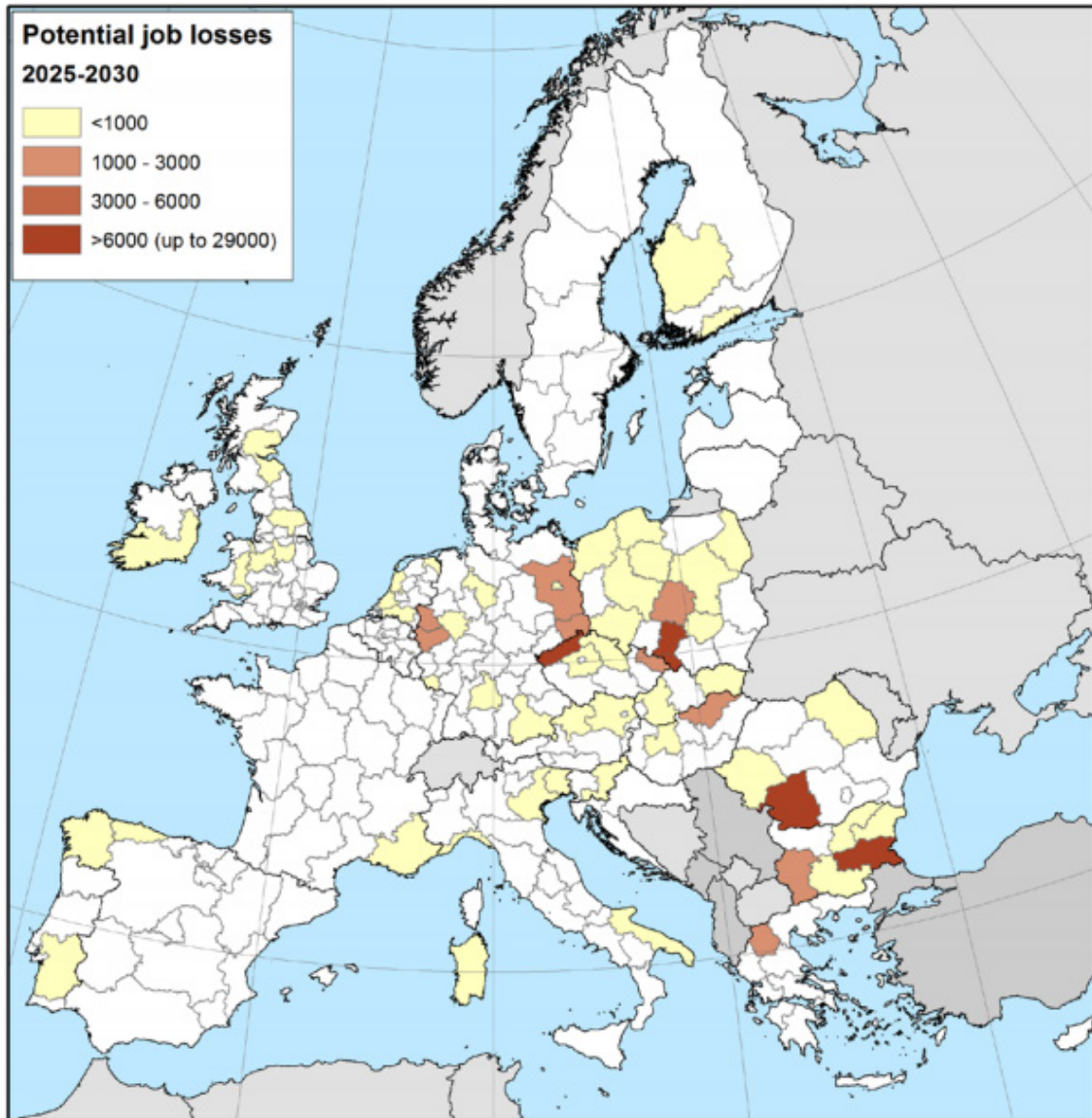
## ANNEX 1. ADDITIONAL FIGURES

Figure 13. Share of employment in energy-intensive industries and automotive manufacturing



Source: European Commission (2018d: 232)

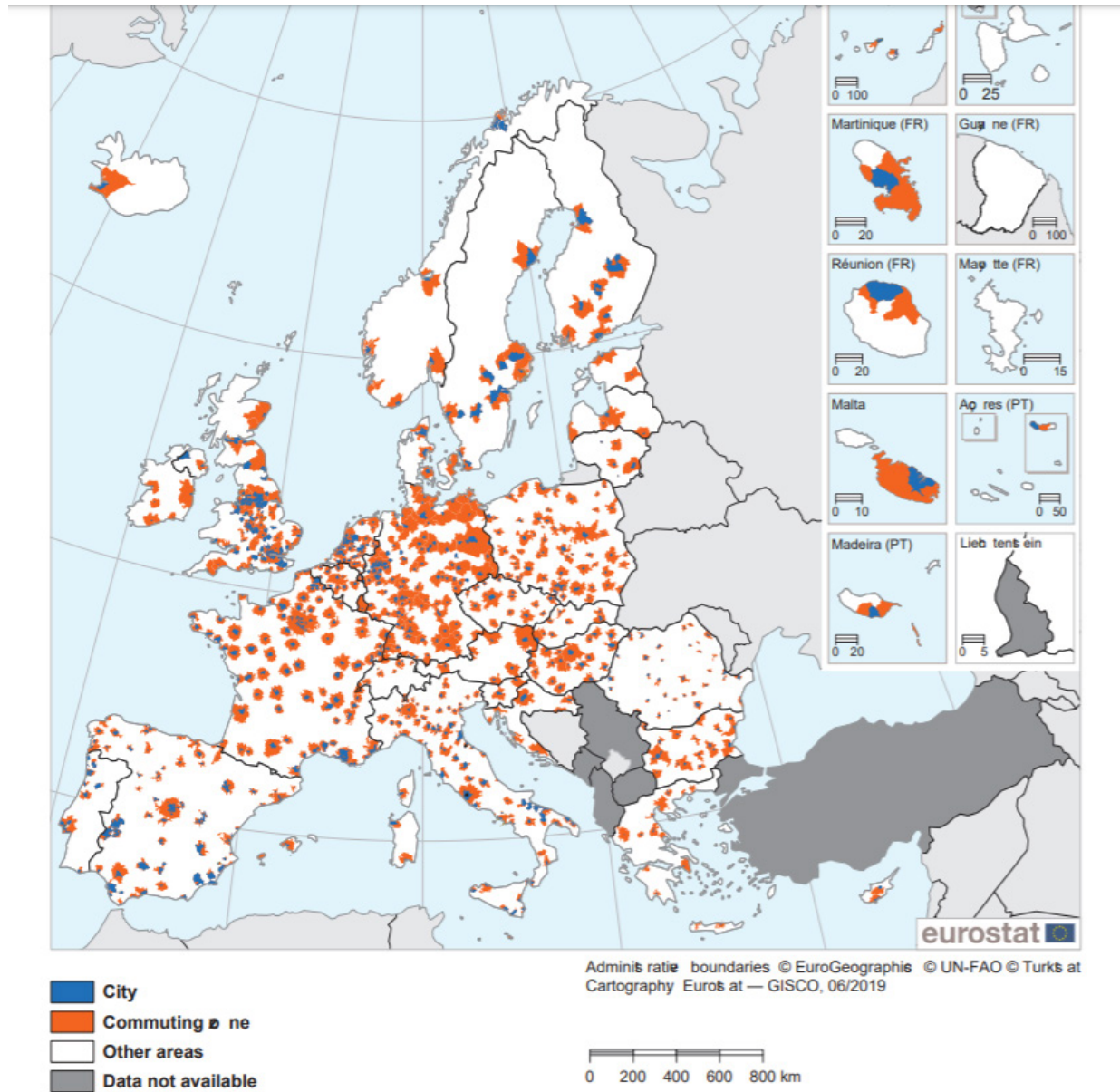
**Figure 14. Potential job losses, based on the decommissioning of power plants and direct spillover effects in coal mining (2025-2030)**



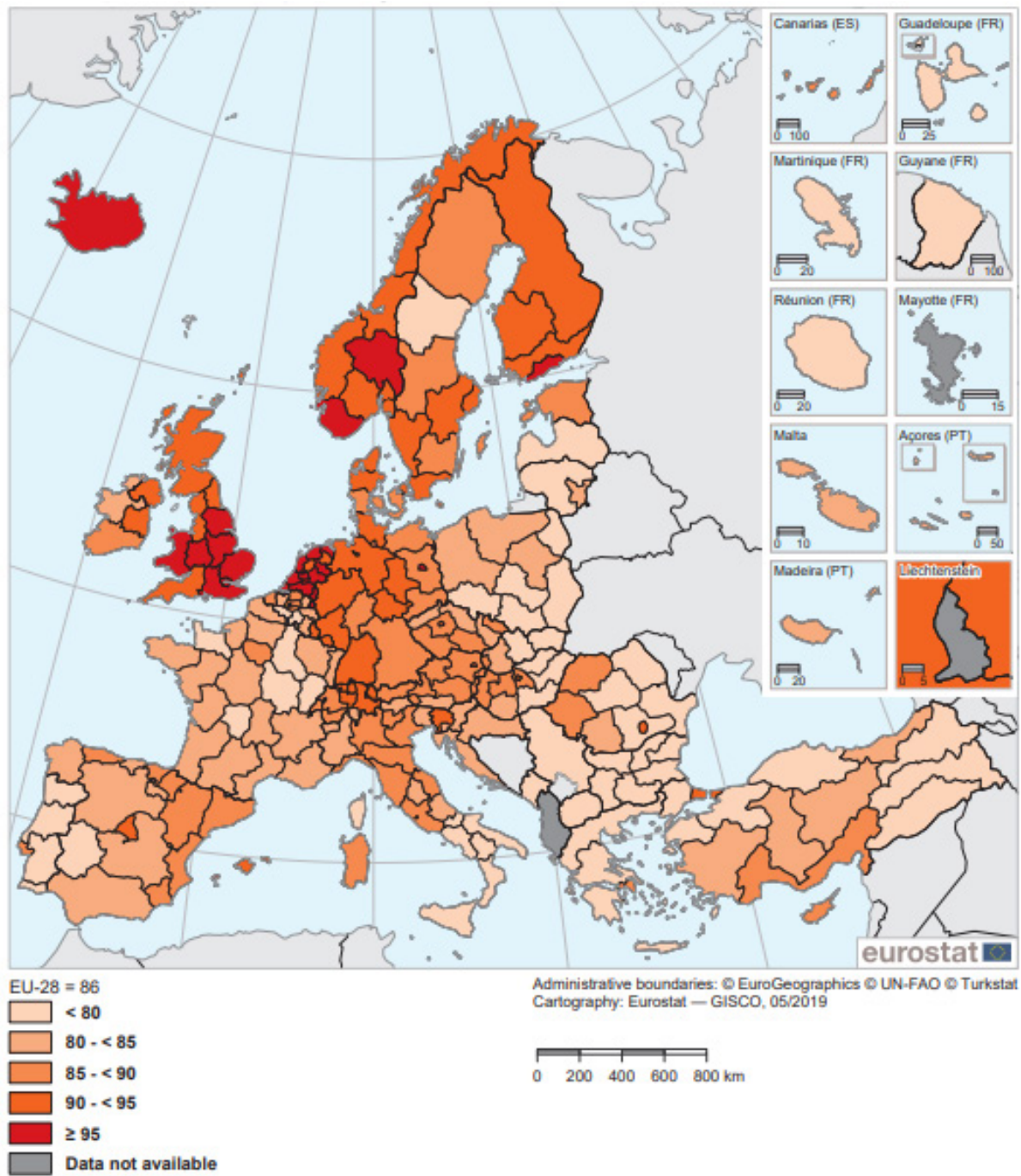
Source: Alves Dias *et al.* (2018: 54)



**Figure 15. Cities and commuting zones**



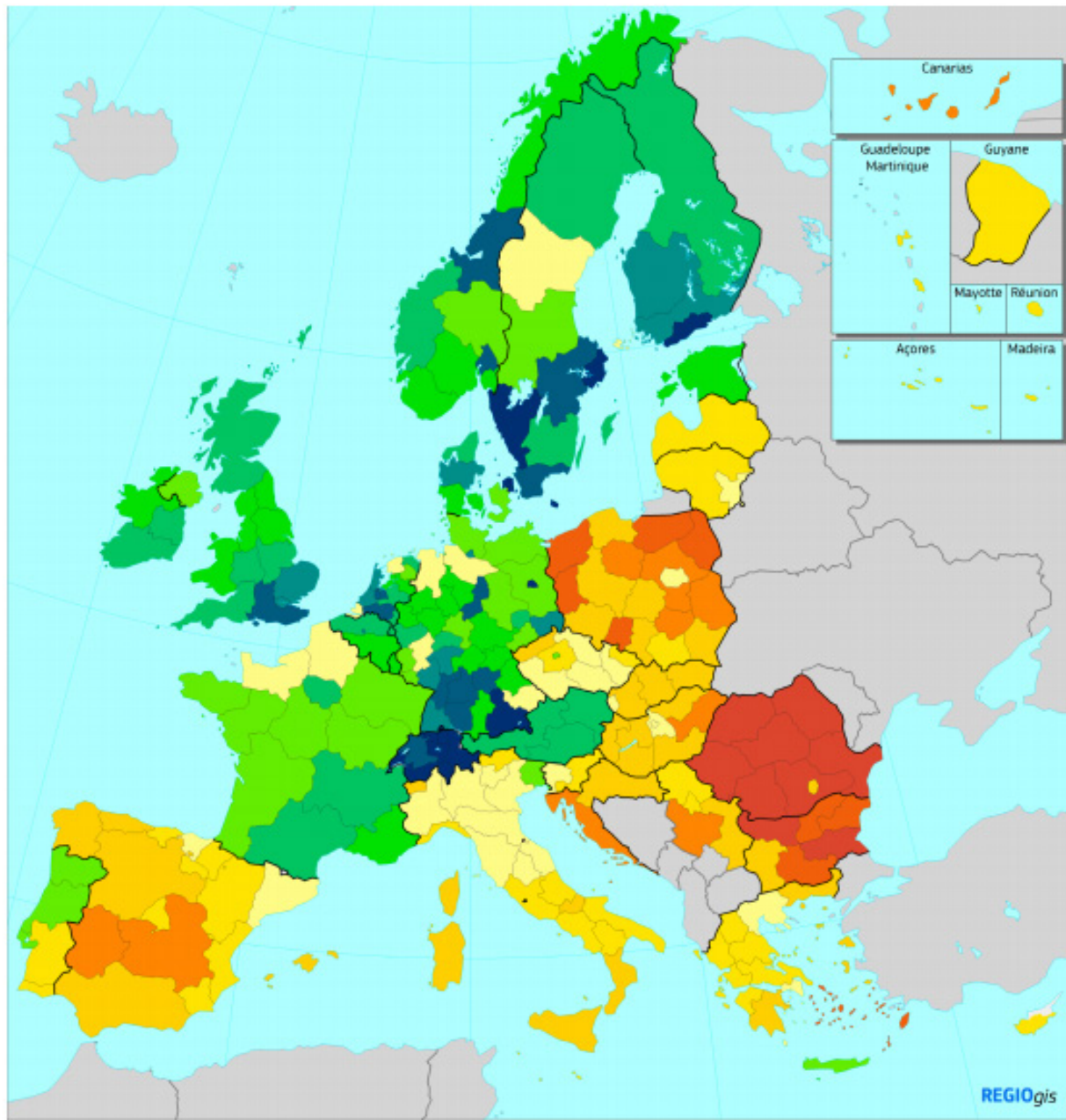
**Figure 16. Households with domestic broadband (2018)**



Source: Eurostat (2019b: 134)



**Figure 17. Regional Innovation Scoreboard performance groups**



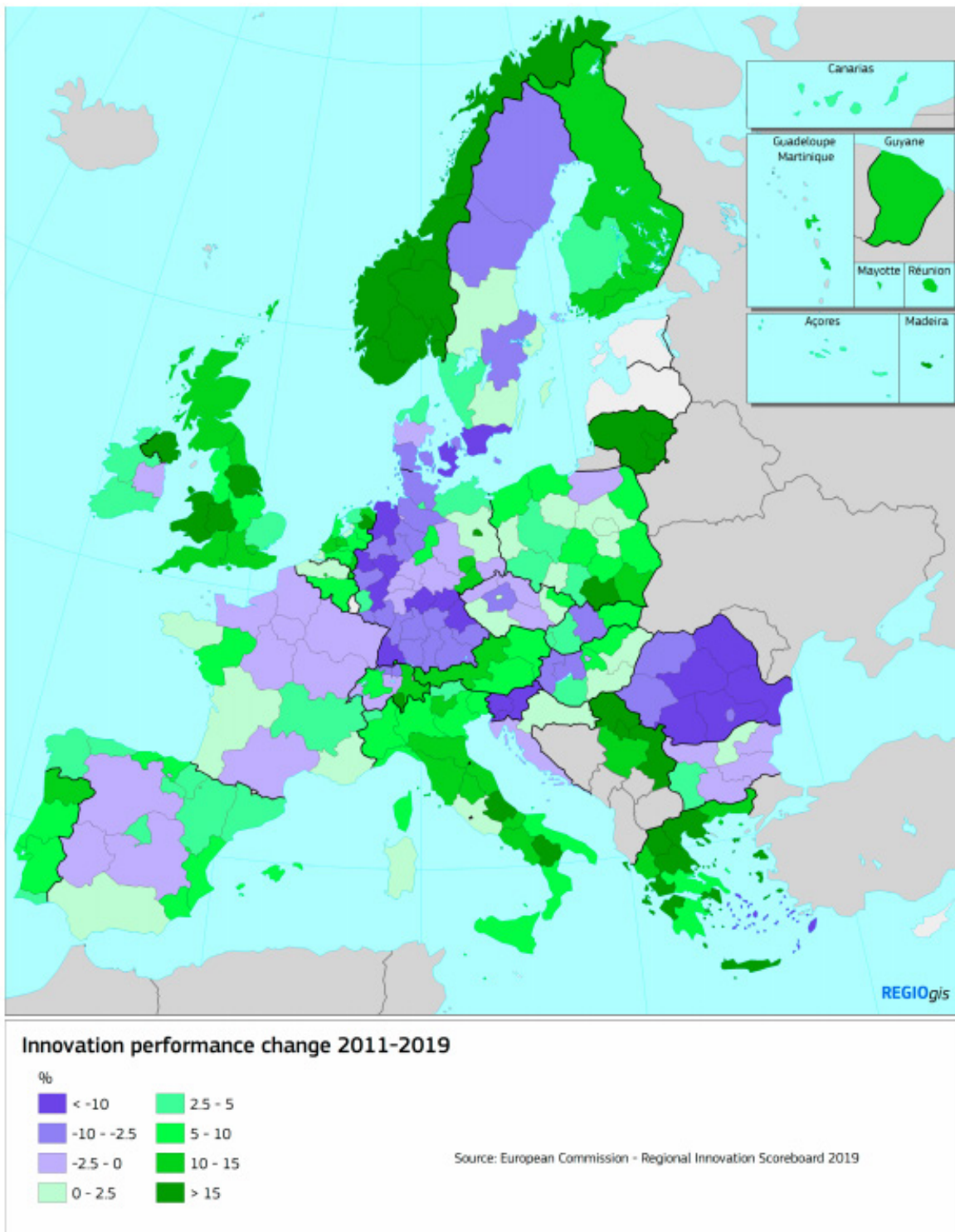
**Regional performance groups**

- |  |  |
|--|--|
| <span style="color: red;">■</span> Modest -          | <span style="color: green;">■</span> Strong -    |
| <span style="color: orange;">■</span> Modest         | <span style="color: lightgreen;">■</span> Strong |
| <span style="color: yelloworange;">■</span> Modest + | <span style="color: teal;">■</span> Strong +     |
| <span style="color: yellow;">■</span> Moderate -     | <span style="color: darkteal;">■</span> Leader - |
| <span style="color: lightyellow;">■</span> Moderate  | <span style="color: darkblue;">■</span> Leader   |
| <span style="color: paleyellow;">■</span> Moderate + | <span style="color: navyblue;">■</span> Leader + |

Source: European Commission - Regional Innovation Scoreboard 2019

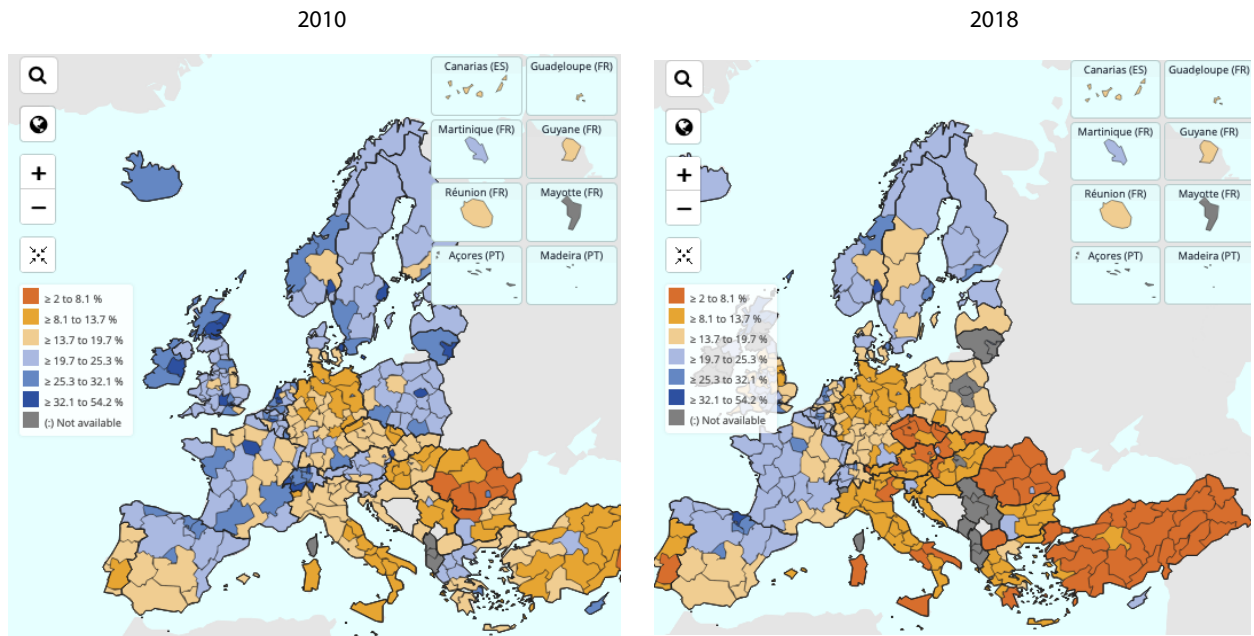
Source: Hollanders, Es-Sadki and Merkelbach (2019: 5)

**Figure 18. Innovation performance change (2011-2019)**



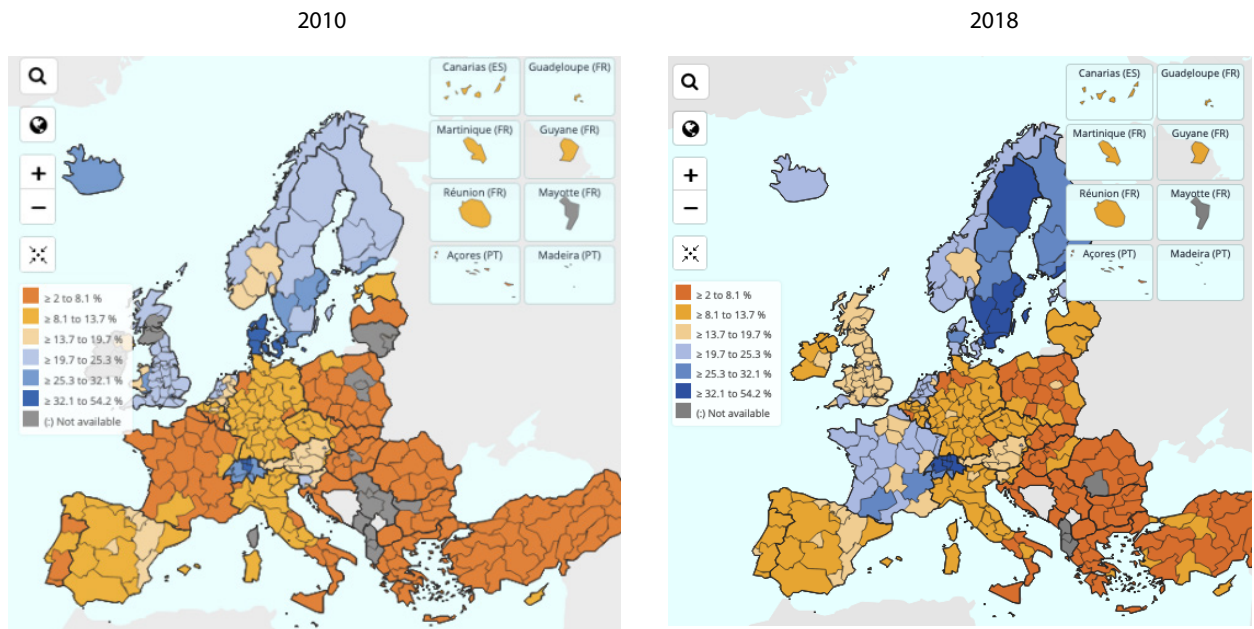
Source: Hollanders, Es-Sadki and Merkelbach (2019: 34).

**Figure 19. Tertiary educational attainment of 30- to 34-year-olds**



Source: Eurostat (d)

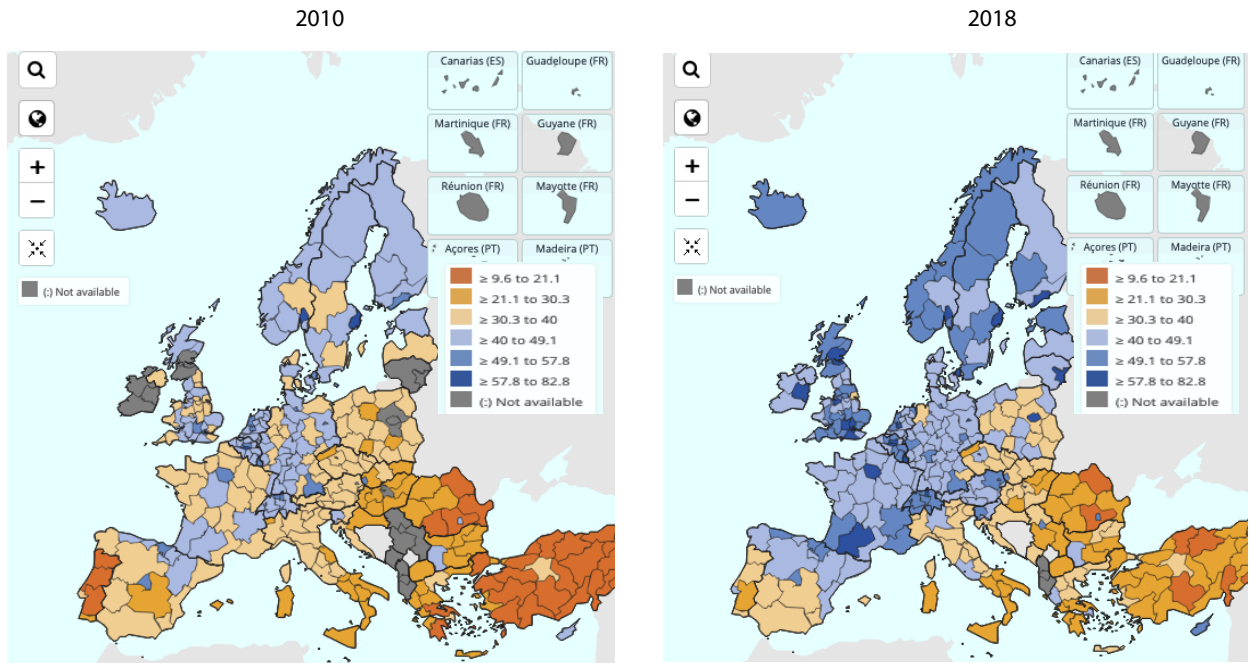
**Figure 20. Adult participation in education and training of 25- to 64-year-olds**



Source: Eurostat (d)

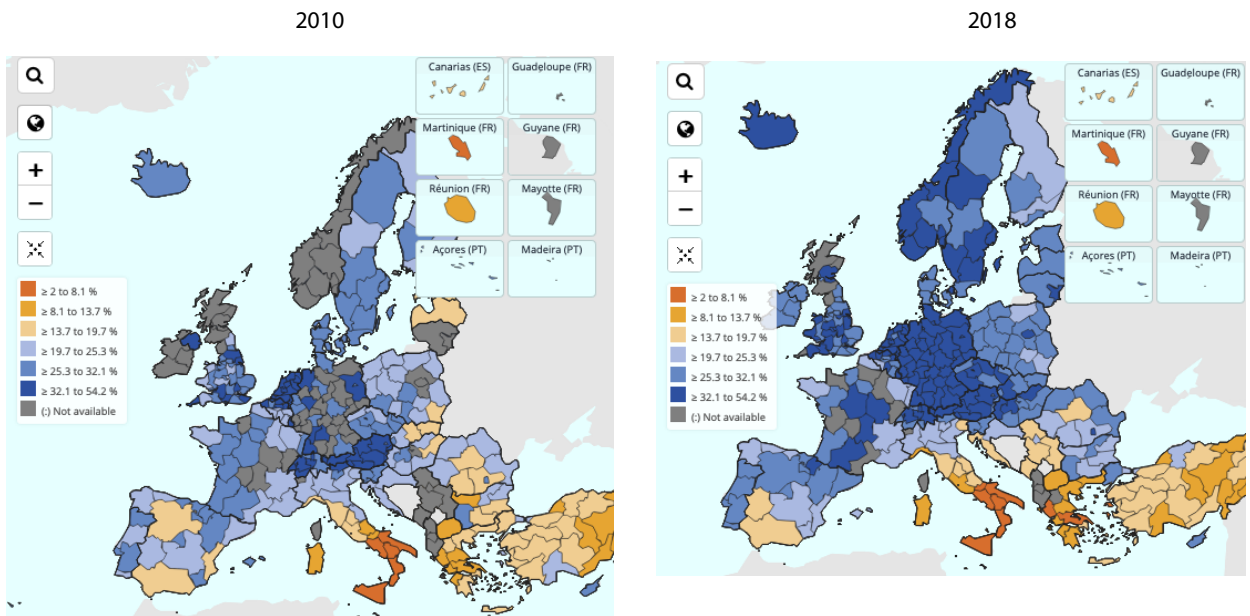


**Figure 21. Human resources in science and technology**



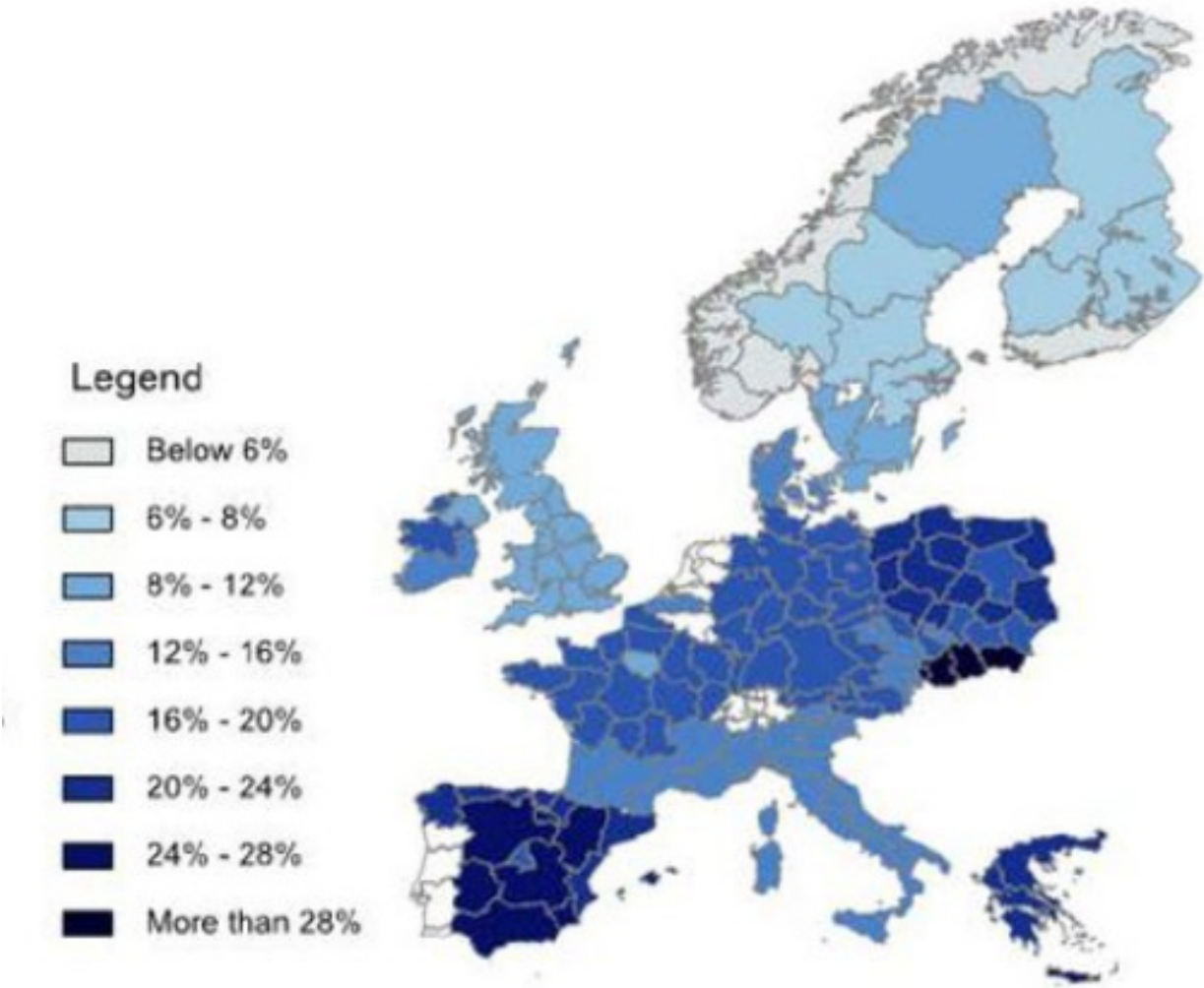
Source: Eurostat (d)

**Figure 22. Employment rate of recent graduates aged 20-34**



Source: Eurostat (d)

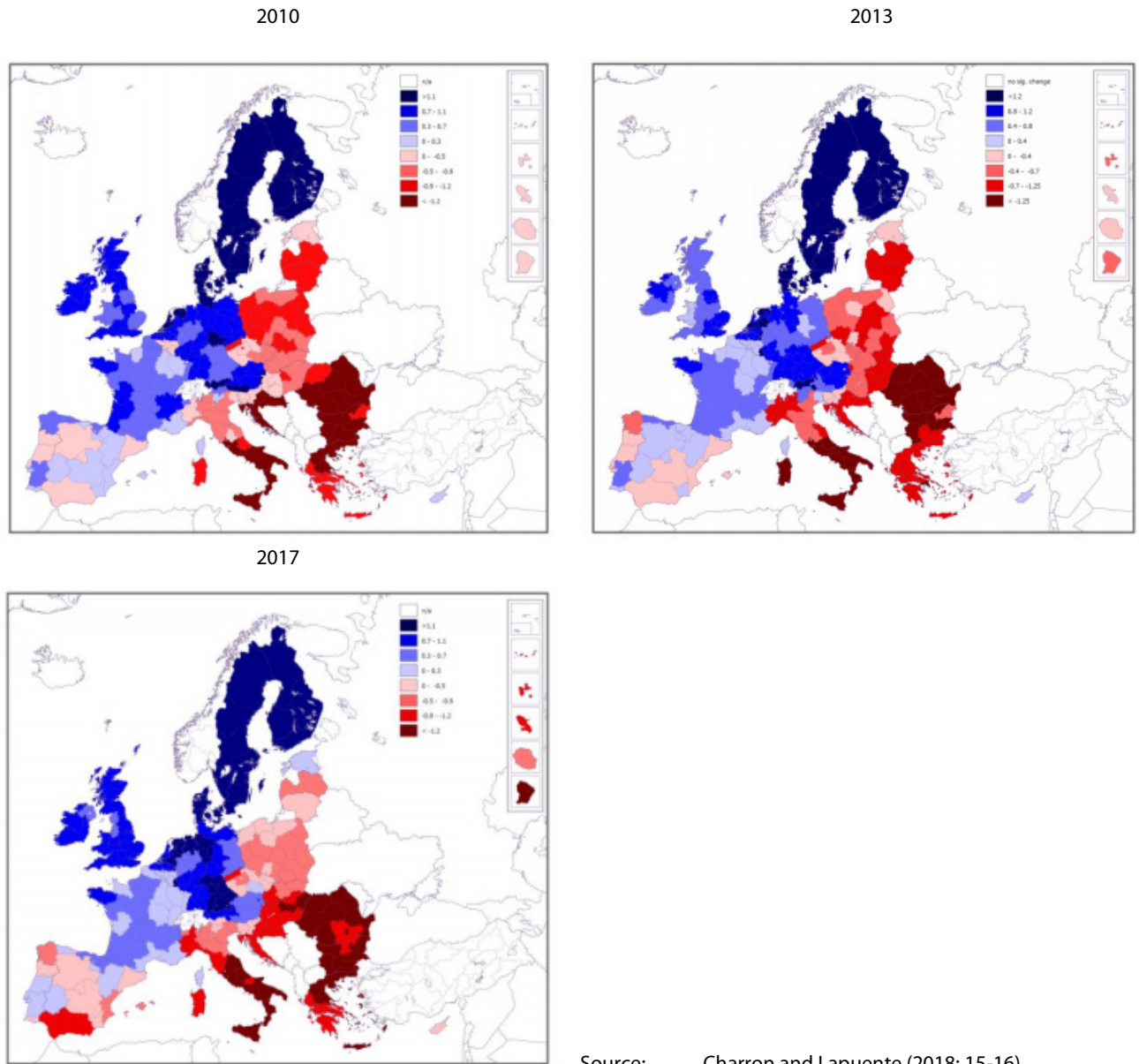
**Figure 23. Share of jobs at risk of automation, selected European regions (2016)<sup>13</sup>**



Source: Organisation for Economic Co-operation and Development (2018: 46)

<sup>13</sup> N.B. data for Germany corresponds to the year 2013, and not 2016.

**Figure 24. European Quality of Governance Index**



Source: Charron and Lapuente (2018: 15-16)

## **ANNEX 2. LIST OF WORKSHOP PARTICIPANTS**

The online European Policy Centre workshop, “New EU lagging regions and policy challenges”, took place on 30 June 2020. The following individuals participated:

- Rudiger Ahrend, Organisation for Economic Co-operation and Development
- Mark Boden, Joint Research Centre
- Gavin Daly, ESPON EGTC
- Michael Green, Social Progress Imperative
- Simona Iammarino, London School of Economics
- Marcel Ionescu-Heroiu, World Bank
- Gustavo López Cutillas, European Committee of the Regions
- Francesco Molica, Conference of Peripheral and Maritime Regions
- Laura Polverari, University of Padova
- Alison Hunter, European Policy Centre
- Marta Pilati, European Policy Centre
- Fabian Zuleeg, European Policy Centre
- Claire Dhéret, European Policy Centre
- Francesco de Angelis, European Policy Centre





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This study analyses the EU's lagging regions and proposes a revised typology to identify those that are most vulnerable, with an eye to the challenges emerging from the ongoing economic transitions. It also explores the engagement of lagging regions in EU policies, including cohesion policy, and puts forward some recommendations to improve their future support at EU level.

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