

REGIONAL POLICY

Theory and Practice

Ugo Fratesi



Regional Policy

Regional policy is an essential in any government's toolkit for promoting socioeconomic prosperity. It comes in many forms and can be used to target the development of weak and stronger regions. This textbook provides comprehensive and systematic coverage of regional policy, dealing with core theories and looking at contemporary challenges in practice, addressing regional policy across the world.

Structured in four parts, the book opens with an exploration of regional policy's characterisation, aims and rationale. The second part is devoted to issues of implementation and the instruments available to policymakers for intervention. The third part addresses regional policy evaluation, as well as statistics and modelling in policymaking. Finally, the book discusses how regional policy is applied in different contexts. Each chapter contains real-life examples of a regional policy topic in action and highlights supplementary topics for advanced readers.

With its broad coverage of the subject, *Regional Policy: Theory and Practice* will prove a valuable resource for advanced students, researchers and practitioners in regional policy, regional economics, economic geography, planning and public policy.

Ugo Fratesi is Professor of Regional Economics and Policy at Politecnico di Milano, Italy. He is the Editor-in-Chief of *Spatial Economic Analysis*.

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Dedication

To Elisa, Matteo, Giovanni, Marco and Luca

Abbreviated table of contents

[*List of boxes*](#)

[*List of tables*](#)

[*List of figures*](#)

[*List of equations*](#)

[*Acronyms and abbreviations*](#)

[*Acknowledgments*](#)

[*About the author*](#)

[Introduction to the book](#)

[PART A: DEFINITIONS, JUSTIFICATIONS AND AIMS OF REGIONAL POLICY](#)

[1 Definition and overview of regional policy](#)

[2 The rationale for regional policy](#)

[3 The objectives of regional policy](#)

[PART B: THE IMPLEMENTATION OF REGIONAL POLICY](#)

[4 The regional policy process and its governance](#)

[5 The instruments of regional policy](#)

[6 Innovation and regional policy](#)

[PART C: THE ASSESSMENT OF REGIONAL POLICY](#)

[7 The evaluation of regional policy](#)

[PART D: REGIONAL POLICY UNDER DIFFERENT CIRCUMSTANCES](#)

[8 Regional policy in specific contexts](#)

[9 Conclusions: established trends in regional policy](#)

[*Index*](#)

Detailed table of contents

[List of boxes](#)

[List of tables](#)

[List of figures](#)

[List of equations](#)

[Acronyms and abbreviations](#)

[Acknowledgments](#)

[About the author](#)

Introduction to the book

[0.1 The pervasiveness of regional policy](#)

[0.2 Regional policy as the art of medicine](#)

[0.3 The aims of this book and its expected readers](#)

[0.4 Outline of the book](#)

[0.5 How to read this book](#)

[References](#)

PART A: DEFINITIONS, JUSTIFICATIONS AND AIMS OF REGIONAL POLICY

1 Definition and overview of regional policy

[1.1 Introduction](#)

[1.2 Defining regions](#)

[1.3 Definition of regional policy](#)

[1.3.1 Past definitions of regional policy](#)

[1.3.2 The definition of regional policy](#)

[1.3.3 Regional policy within a classification of policies](#)

[1.4 Different characteristics and typologies of regional policy](#)

[1.5 The relationship between regional policy and other policies](#)

[1.6 The trade-offs of regional policy](#)

[1.7 The basics of contemporary regional policy](#)

[1.7.1 Place-based vs space-blind policies](#)

[1.7.2 Old vs new approaches to regional policy](#)

[1.7.3 The role of the policy advisor](#)

[References](#)

[2 The rationale for regional policy](#)

[2.1 Introduction](#)

[2.2 Market failures](#)

[2.2.1 Local public goods and collective resources](#)

[2.2.2 Externalities \(gaps between private and social returns\)](#)

[2.2.3 Coordination and collective action failures](#)

[2.3 Agglomeration economies](#)

[2.4 Congestion diseconomies](#)

[2.5 Cumulative development](#)

[2.6 Integration, globalisation and their centripetal effects on regions](#)

[2.7 National adjustment mechanisms don't work for regions](#)

[2.8 Inadequacy of macroeconomic policies](#)

[2.9 Efficiency reasons](#)

[2.10 Keeping inflation low](#)

[2.11 Beyond market failures: tapping untapped opportunities](#)

[2.12 Environmental justifications for regional policy](#)

[2.13 Sociopolitical justifications for regional policies](#)

[2.14 Regional policy justifications in recession](#)

[2.15 The costs of non-intervention](#)

[References](#)

[3 The objectives of regional policy](#)

[3.1 Introduction](#)

[3.2 Spatial equity and reducing disparities](#)

[3.2.1 Regional disparities](#)

[3.2.2 Territorial cohesion and identity](#)

3.3 Efficiency, economic growth and competitiveness

3.4 The trade-off between efficiency and equity

3.5 Environment protection and sustainability

3.6 Improving quality of life

3.7 Functional objectives

3.7.1 Regional attractiveness

3.7.2 Regional resilience

3.7.3 Structural adjustment

3.7.4 Enhancing territorial capital

3.7.5 Increasing human capital and skills

3.7.6 Avoiding decline, desertification and middle-income traps

3.7.7 Limiting congestion diseconomies

3.7.8 Addressing social and demographic imbalances

3.7.9 Growth, degrowth and decoupling

References

PART B: THE IMPLEMENTATION OF REGIONAL POLICY

4 The regional policy process and its governance

4.1 Introduction

4.2 The policy cycle

4.3 The actors

4.4 Behavioural aspects in regional policy

4.4.1 Imperfect information and bounded rationality

4.4.2 Asymmetric information

4.4.3 Leadership

4.5 Government and governance

4.5.1 Definitions and governance models

4.5.2 The role of different actors in multilevel governance

[4.5.3 Involving civil society](#)

[4.6 The importance of administrative capacity and good institutions](#)

[4.6.1 Defining and measuring administrative capacity](#)

[4.6.2 Administrative capacity, regional policy and local development](#)

[4.6.3 Improving administrative capacity](#)

[4.6.4 Policy transfer and policy learning](#)

[4.7 Issues in strategy-building and policy implementation](#)

[References](#)

[5 The instruments of regional policy](#)

[5.1 Introduction](#)

[5.2 Redistributive policies](#)

[5.3 Firm support and incentives](#)

[5.4 Growth poles](#)

[5.5 Attraction of FDI and multinationals](#)

[5.6 Special economic zones \(SEZs\) and low tax areas](#)

[5.7 Enhancing entrepreneurship](#)

[5.8 Cluster policies](#)

[5.9 Investments, capital and finance](#)

[5.10 Infrastructure investment](#)

[5.10.1 Transport infrastructure](#)

[5.10.2 ICT infrastructure](#)

[5.10.3 Other types of infrastructure](#)

[5.11 Human capital](#)

[5.11.1 Introduction](#)

[5.11.2 Universities and higher education](#)

[5.11.3 Education and skills](#)

[5.11.4 Labour market matching policies](#)

[5.11.5 Education and brain drain](#)

[5.11.6 Culture and creativity](#)

[5.12 Enhancing tourism attractiveness](#)

[5.13 Valorising regional specificities and natural assets](#)

[5.13.1 Natural resources](#)

[5.13.2 Climate, culture and the residential economy](#)

[5.13.3 Place branding](#)

[References](#)

[6 Innovation and regional policy](#)

[6.1 Introduction](#)

[6.2 Innovation and growth](#)

[6.3 Evolutionary theories](#)

[6.4 Why innovation policy is needed at regional level](#)

[6.5 The classification of innovation policy instruments](#)

[6.6 Innovation policy instruments](#)

[6.6.1 Subsidies and incentives](#)

[6.6.2 Government research agencies](#)

[6.6.3 Property rights](#)

[6.6.4 Collaborative instruments](#)

[6.6.5 Support for university research](#)

[6.6.6 Technopoles and science parks](#)

[6.6.7 Demand-side innovation policy instruments](#)

[6.7 Smart specialisation strategies \(S3\)](#)

[6.7.1 What is smart specialisation?](#)

[6.7.2 Criticisms, limits and risks](#)

[6.7.3 Implementation in practice](#)

[References](#)

[PART C: THE ASSESSMENT OF REGIONAL POLICY](#)

[7 The evaluation of regional policy](#)

[7.1 Introduction](#)

[7.2 The purpose of evaluation \(Why evaluate?\)](#)

7.3 The objects of evaluation (What to evaluate?)

7.4 Good practice in evaluation (How to evaluate?)

7.5 Ex ante policy assessment

7.5.1 Introduction

7.5.2 Input-output analysis (I-O)

7.5.3 Cost-benefit analysis (CBA)

7.5.4 Territorial impact assessment and multi-criteria

7.5.5 Multi-equation models

7.6 Assessing the contribution of regional policy programmes

7.6.1 Theory-based evaluation

7.6.2 Main qualitative techniques

7.7 Assessing ex post policy impacts

7.7.1 Introduction

7.7.2 Regressions

7.7.3 Counterfactual methods

7.8 Why assessing regional policy impacts and contributions is not an easy task

7.8.1 Conceptual and empirical difficulties in measuring the impact of policies

7.8.2 The modifiable areal unit problem

7.8.3 The timing and dynamics of policies

7.9 Considering the context to make policymaking more effective

7.9.1 What use are quantitative evaluations?

7.9.2 Some conditioning factors of policy effectiveness

References

PART D: REGIONAL POLICY UNDER DIFFERENT CIRCUMSTANCES

8 Regional policy in specific contexts

8.1 Introduction

8.2 The urban dimension of regional policy

8.2.1 The relationship between cities and regional success

8.2.2 Urban policies as instruments of regional policy

8.2.3 Coordinating urban and regional policy interventions

8.2.4 Regions without urban areas

8.3 Regional policy for peripheral regions

8.3.1 The issues associated with peripherality

8.3.2 Regions with mountains

8.3.3 Remote and sparsely populated regions

8.3.4 Rural areas and regions

8.4 Regional policy for border regions and interregional cooperation

8.5 Regional policy for different levels of economic development

References

9 Conclusions: established trends in regional policy

Index

List of boxes

- [1.1 International definitions of statistical regions](#)
- [1.2 Classifying regional policy based on level of assistance and impact](#)
- [1.3 Cohesion Policy: the regional policy of the European Union](#)
- [1.4 The experience of the Tennessee Valley Authority](#)
- [1.5 The role of the policy advisor analytically](#)
- [2.1 How production factor reallocation increases efficiency](#)
- [3.1 Some common indicators of disparities](#)
- [3.2 The persistence of disparities between regions and countries](#)
- [3.3 Analysing regional growth patterns](#)
- [3.4 Specialisation or diversification?](#)
- [4.1 Behavioural issues in regional policy practice](#)
- [4.2 The process of definition of cohesion policies in Europe](#)
- [4.3 The SWOT analysis](#)
- [5.1 How large do incentives need to be?](#)
- [6.1 The relationship between innovation and employment growth](#)
- [6.2 The Espoo innovation ecosystem](#)
- [6.3 Further criticisms of S3 and responses](#)
- [6.4 An example of S3: the region of Catalonia's strategy](#)
- [7.1 Good evaluation standards](#)
- [8.1 Gravitational models to estimate interregional trade](#)

List of tables

- [0.1 Proportion of EU budget allocated to Cohesion Policy](#)
- [1.1 Regional policy typologies within a classification of policies](#)
- [1.2 A classification of regional policies](#)
- [1.3 New and traditional approaches to regional policy](#)
- [1.4 Evolution of EU Cohesion Policy objectives](#)
- [2.1 Typology of goods](#)
- [3.1 The most common regional policy objectives](#)
- [3.2 Effects of regional policy in the trade-offs between equity and efficiency](#)
- [3.3 The UN Sustainable Development Goals](#)
- [3.4 Advantages and disadvantages of specialisation and diversification](#)
- [4.1 Advantages and disadvantages of top-down and bottom-up approaches](#)
- [4.2 SWOT analysis in a matrix](#)
- [5.1 Expected vs actual effects of a stylised planned growth pole](#)
- [6.1 Hassink and Gong's criticisms of S3 and Foray's responses](#)
- [7.1 Employment and GDP in the Ile de France Département \(2013\)](#)
- [8.1 Advantages of face to face in its various functions](#)

List of figures

- [0.1 Publications with "regional policy" or "regional policies" within their topic, by year](#)
- [0.2 Most frequent words in regional policy-related papers in academic journals](#)
- [1.1 Achieving the policy objective at the minimum cost](#)
- [1.2 Achieving the maximum policy objective for a given level of resources](#)
- [1.3 Decisions between different objectives, facing a trade-off](#)
- [2.1 Economies of scale](#)
- [2.2 Specialised suppliers and localisation economies](#)
- [2.3 Representation of the three types of agglomeration economies](#)
- [2.4 Two virtuous circles at the base of regional competitiveness](#)
- [2.5 Addressing unemployment with national or regional policy](#)
- [2.6 Increment of production with a more balanced allocation of production factors](#)
- [2.7 Ratio of median house price to median gross annual residence-based earnings in London, England and Wales](#)
- [3.1 The impact of disparities](#)
- [3.2 Regional divergence inside country and convergence between countries](#)
- [3.3 Club convergence in a context of stable total disparities](#)
- [3.4 Map of regional disparities in Europe 22 years apart](#)
- [3.5 The three dimensions of territorial cohesion as defined by Camagni](#)
- [3.6 Graphical representation of growth patterns](#)
- [3.7 Relationship between regional competitiveness and well-being](#)
- [3.8 Equity and efficiency in the simplest graphical representation](#)
- [3.9 Generative vs competitive growth](#)
- [3.10 Territorial capital classification](#)
- [3.11 The effects of territorial capital](#)
- [3.12 Structural upgrading: a scheme](#)
- [3.13 Congestion diseconomies and regional policy](#)
- [4.1 The policy cycle](#)
- [4.2 The beneficiaries of a policy intervention](#)
- [4.3 Three types of coordination within multilevel governance](#)
- [4.4 Who pays for regional policy? Public funds for the cohesion objective inside seven European countries.](#)
- [4.5 The quality of government of European regions](#)
- [4.6 Relationship between administrative capacity, regional policy and local development](#)
- [5.1 Fiscal residuals and regional policy: alternative theoretical situations](#)

[5.2 Fiscal revenues and expenditure per capita in Italian regions](#)
[5.3 Required size of incentives in different situations](#)
[5.4 Issues with transport infrastructure](#)
[5.5 Total yearly traffic over the Oresund bridge](#)
[5.6 Overall NGA broadband coverage in Europe, 2020. NUTS3 level](#)
[5.7 Cultural heritage and regional economic development](#)
[6.1 Concentration of patents and GDP within EU regions](#)
[6.2 The 2021 Regional Innovation Scoreboard](#)
[6.3 Complexity and relatedness in the search for new domains of smart specialisation](#)
[7.1 The policy process and its evaluation](#)
[7.2 A schematic representation of an input-output table](#)
[7.3 The generalised theory of change for individual R&D projects financed with ERDF in 2007-2013.](#)
[7.4 The dif-in-dif methodology](#)
[7.5 An example of regression discontinuity design](#)
[7.6 Examples of problems which can take place with MAUP](#)
[7.7 Specimens of possible policy effects](#)
[7.8 Policy effectiveness under different conditions](#)
[8.1 Employment growth in European regions by urban settlement 2000—2019](#)
[8.2 EU Cohesion Policy focus by level of development 2007—2013](#)

List of equations

[Equation 1.1](#)

[Equation 2.1](#)

[Equation 3.1](#)

[Equation 3.2](#)

[Equation 3.3](#)

[Equation 3.4](#)

[Equation 3.5](#)

[Equation 3.6](#)

[Equation 3.7](#)

[Equation 3.8](#)

[Equation 6.1](#)

[Equation 6.2](#)

[Equation 6.3](#)

[Equation 7.1](#)

[Equation 7.2](#)

[Equation 7.3](#)

[Equation 7.4](#)

[Equation 7.5](#)

[Equation 8.1](#)

Acronyms and abbreviations

ADB: Asian Development Bank
CBA: Cost-Benefit Analysis
CF: Cohesion Fund
COR: Committee of Regions
EDP: Entrepreneurial Discovery Process
EIA: Environmental Impact Assessments
ERDF: European Regional Development Fund
ESDP: European Spatial Development Perspective
ESF: European Social Fund
ESIFs: European Structural Investment Funds
ESPON: European Spatial Observatory Network
ETS: Emissions Trading System
EU: European Union
FDI: Foreign Direct Investments
GDP: Gross Domestic Product
GNI: Gross National Income
GPT: General Purpose Technology
GVC: Global Value Chain
IADB: Inter-American Development Bank
ICTs: Information and Telecommunication Technologies
I-O: Input-Output
IPA: Investment Promotion Agencies
JRC: Joint Research Centre
JTF: Just Transition Fund
MAUP: Modifiable Areal Unit Problem
MLG: Multilevel Governance
NACE: Statistical Classification of Economic Activities in the European Community, from the French “Nomenclature Statistique des Activités Economiques dans la Communauté Européenne”
NGO: Non-governmental Organisation
NIMBY: Not In My Back Yard
NUTS: Nomenclature of Territorial Units for Statistics
OECD: Organisation for Economic Co-operation and Development
PPP: Purchasing Power Parity
PSM: Propensity Score Matching
R&D: Research and Development
RDD: Regression Discontinuity Design
S3: Smart Specialisation Strategies
SDGs: Sustainable Development Goals
SEZ: Special Economic Zones
SMEs: Small and Medium Enterprises
STP: Science and Technology Parks

SWOT: Strengths, Weaknesses, Opportunities and Threats

TFP: Total Factor Productivity

TIA: Territorial Impact Assessment

TO: Thematic Objective

UN: United Nations

UNCTAD: United Nations Conference on Trade and Development

US: United States of America

VC: Venture Capital

WB: World Bank

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to fruitful discussions which helped me build and refine my ideas. I owe a similar intellectual debt to the partners in the large number of projects I had the opportunity to participate in, whose thoughts and ideas contributed to my understanding of the topic and helped me refine many of the ideas which I included in the book.

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Only a disclaimer is missing: no artificial intelligence has been used in this book. If there is any merit, this is, like all mistakes, human.

About the author

Ugo Fratesi is Professor of Regional Economics and Policy at Politecnico di Milano, Italy. In June 2023, he was appointed Editor-in-Chief of *Spatial Economic Analysis*. Previously, for eight years until 2021, he was Editor of main section papers and Book Review Editor of *Regional Studies* and, for five years until 2012, of the *Italian Journal of Regional Science*.

Ugo Fratesi has been involved with various roles in a large number of research projects, especially at European level, financed by the ESPON, FP5, FP7, Horizon and PRIN programmes, or the European Commission directly.

He is author of academic books and articles published in refereed journals in the field of regional economics and policy, primarily on the themes of regional growth and development, policy assessment, cohesion policy, territorial capital, the models for forecasting regional growth, the theory and measurement of regional disparities, the territorial aspects of human capital and innovation.

Finally, he has a lengthy experience of university teaching at the undergraduate, masters and PhD levels, as well as in training policymakers and civil servants, e.g. within the Italian National School of Administration (SNA).

Introduction to the book

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0.1 THE PERVASIVENESS OF REGIONAL POLICY

Regional policies are a widespread phenomenon, implemented in most parts of the world by different bodies at regional, national and supra-national levels to target the economic development of specific territories. Regional policies have a wide range of aims, from supporting the weakest areas of a country, to the development of the regions implementing the policy, to the efficiency of a national system. As such, many different types of actors of different natures are involved at different scales.

In this book, a new and precise definition of regional policy is given as “any development policy that is intentionally spatially selective, or intended to have differential spatial impacts” (section 1.3.2). This accounts for development policies of single regions, national policies which specifically target some regions or national policies which, despite not being spatially selective, intend to have spatially differentiated effects.

The importance of regional policy partly stems from the fact that disparities between regions are persistent. The economies of different places, even inside the same country, are characterised by different levels of GDP per capita, employment rates and personal wealth. These disparities threaten social cohesion and are normally considered unacceptable in political terms.

However, economic disparities are not the only issue at stake and no longer the most important one. Research in recent decades in many different fields such as economic geography, economics, business, planning, sociology, has shown that nation states are often too large as a unit of analysis, since most phenomena take place at smaller scales and are localised. For instance, business studies now commonly accept the idea that the competitiveness of individual firms also stems from their location because it is where they look for the qualified labour, capital, technology and most of the external assets which they need for their activities, including knowledge, institutions, infrastructure and a system of supporting firms.

At the same time, innovation studies have shown that innovation itself is heavily localised. Innovation, in fact, does not take place in isolation but requires systemic interactions between firms, universities, research institutions and government agencies. These interactions in most cases take place at a scale smaller than the nation, as shown by the persistent concentration of innovation in a few regions so that the most innovative

regions tend to remain the same. Economic geography has also disentangled many aspects that drive agglomeration forces,¹ which allow certain places to hold disproportionate shares of activities while others are almost empty.

Beyond the economy, the importance of regional policy is also supported by the fact that, despite globalisation and increased mobility, most people spend most of their lives in one region. Therefore, the region where they live heavily influences their chances of finding a job, enjoying good services, staying healthy, socialising and, overall, having a good life. Environmental challenges, which have been receiving increased public and policy attention, in most cases stem from local situations despite their global relevance. As such, they require solutions which take regional aspects into consideration. Moreover, global environmental issues have different impacts on different regions, which may also be more or less well equipped to confront them.

All these regional factors mean that policymakers are increasingly aware of the importance of spatially aware policies, even when pursuing national or international objectives. For example, industrial and innovation policies normally take into consideration the existence of clusters; employment policies consider the existence of unemployment pockets in certain areas; and social policies consider the fact that people living in different places have different opportunities to start with.

Regional policy is therefore receiving ample attention from researchers and policymakers alike. In research terms, this is demonstrated by the Web-of-Science database, one of the most authoritative bibliographic academic databases. As [Figure 0.1](#) shows, there has been a rapidly increasing number of indexed publications with “regional policy” or “regional policies” as their “topic”.² These come from about 100 different disciplines including, in order of appearance, economics, geography, environmental studies, regional and urban planning, urban studies, political science, management, environmental sciences, area studies, business, public administration and international relations.

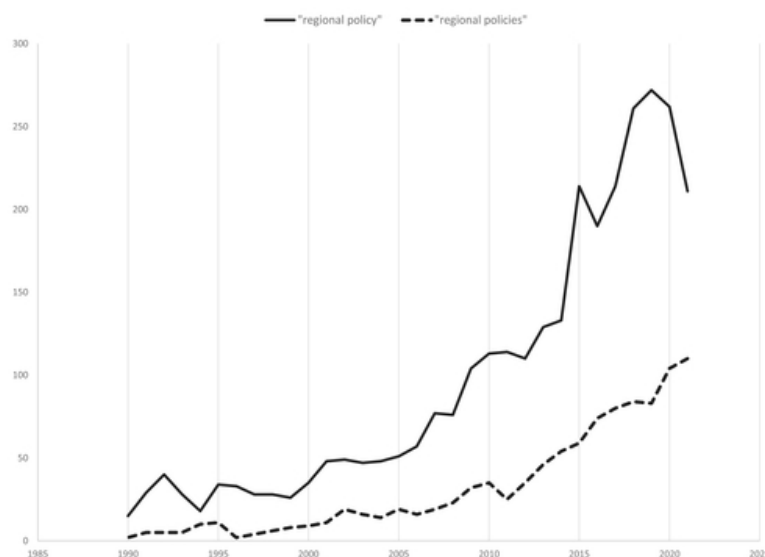


TABLE 0.1 Proportion of EU budget allocated to Cohesion Policy

	1988- 1992 (prices of 1988)	1993- 1999 (prices of 1992)	2000- 2006 (prices of 1999)	2007- 2013 (prices of 2004)	2014- 2020 (prices of 2011)	2021-2027 (prices of 2018)* _
Cohesion commitments (ECU/€ mn)	53,140	176,398	213,010	308,041	325,149	330,642
Total commitments (ECU/€ mn)	244,578	529,885	646,190	864,316	959,988	1,134,583
Total commitments as % of GNI/GNP ¹	1.20	1.28	1.08	1.05	1.00	1.11
Share of cohesion on commitments	0.22	0.33	0.33	0.36	0.34	0.29
Cohesion as % on GNI/GNP	0.26	0.43	0.36	0.37	0.34	0.32

Source: Elaborated based on data from [Benedetto \(2019\)](#)

* Data for 2021 -2027 are based on proposals in discussion at the time of the above-mentioned publication.

¹ GNI (Gross National Income) or GIMP (Gross national Product) depending on programming period. GNP until 2006,, GNI from 2007.

to different extents, their own regional policy interventions. Moreover, development policies are implemented by many single regional administrations when there is a degree of autonomy.

The EU is not the exception as regional policies are widespread across the world. While it is not possible to estimate the sizeable regional policy resources of China, in Brazil it is estimated at 0.5% of GDP, not including federal fiscal decontribution and expenditure by the individual states ([Ismeri Europa et al., 2017](#)). In the US, “place-based jobs policies” (see [Box 1.4](#)) are estimated to be at 60 billion yearly ([Bartik, 2020](#)), which corresponds to roughly 0.3% of GDP.

0.2 REGIONAL POLICY AS THE ART OF MEDICINE

Although the approach of this book is based on the best available and most up-to-date academic evidence, the field of regional policy is not comparable to the hard sciences, where there are explicit laws formulated in mathematical terms and relating one variable to the other. In fact, there are so many variables and aspects involved in regional policy that it is not possible to fully master the relationships, not least because of the presence of a huge number of confounding factors.

Policy decisions are often taken with the help of models, which provide simplified representations of the reality of the regional social economic situation and its determinants to estimate the possible impacts of a given policy. These models are helpful as a guide but reality is always much more complex, especially when the behaviour of many different groups and their interactions in space add further to complexity, as is the case in regional policy settings.

So, while models and laws exist and are helpful in regional economics and policy, they are not as deterministic as they may be in the hard sciences. The author of this book has been working on different types of regional models for more than 15 years, so this is by no means intended to negate the value of modelling, but rather to acknowledge that models always work based on assumptions and confidence intervals. They therefore produce results which are only as good as their assumptions and which are valid with a certain level of confidence. Models remain helpful insofar that they provide predictions which are better informed than those made without their support, as is evident in this book.

Due to this complexity and uncertainty, however, the practice of regional policy resembles more “the art” of medicine ([Francis, 2020](#)) than the hard sciences, since it relies on a wide corpus of accumulated knowledge about how things work and which fixes worked in the past.

Like medicine, regional policy is usually expected to intervene when something requires fixing, because it is not working as it should. In a way, regional policy interventions are like the pills a doctor gives to patients to help them heal, feel better or improve their physical wellness.

The similarities with medicine, however, do not stop here. Before prescribing a cure, a good doctor produces a diagnosis based on instrumental exams, physical examination and the anamnesis, i.e. the gathering of useful information on the patients’ history and symptoms through speaking with the patients or a close person in case it is not possible to speak to them directly. In regional policy, models and statistics are very helpful as are instrumental

exams, but also need to be complemented with qualitative information on what is felt as an issue or should be improved in the situation of a region.

There is then the fact that not all patients react in the same way to the same pills. The same regional policy interventions may work differently in different regions, so a good policymaker should have an understanding of whether an intervention which worked elsewhere will also work in the target region. The reaction of a patient to a cure will also depend on the condition of the patient and on external conditions. In regional policy, this means that a policy intervention will be more or less effective depending on the regional situation and also on the external context, including for instance the place in which the region is and the national and international conjuncture. A cure can in fact also have side effects, and so can regional policy, where trade-offs need to be known and considered.

The existence of clear conditioning effects does not mean that no knowledge is available on the effects of the pills. Similar to medicine, in which we know that a medication reduces an illness in X% of cases, in regional policy there is a wide corpus of theoretical and empirical analysis which shows what works and, increasingly, what works under different conditions.

Just as a cure usually necessitates more than one kind of treatment, regional policy interventions should never rely on just one instrument. Regional systems are made of many interrelated components, similar to a body which is made of many organs, so regional policy interventions targeting just one aspect are unlikely to be effective. It is hence crucial to identify the right policy mix.

When a doctor prescribes a cure to a patient, they also normally prescribe the order and timing at which medicines should be taken. Likewise in regional policy, timing is an essential part of a successful strategy because some interventions need to be preceded by others to be effective. Other interventions will only be effective if implemented at the right time, when certain conditions arise.

A good doctor also continues to monitor the patient to be sure that their reaction to the treatment is as expected. If this is not the case, the treatment is modified. Regional policy interventions will often provide unanticipated results and therefore require continued monitoring, with the option to adapt the strategy when evidence shows that it is not performing as expected. This flexibility of strategies is important but is not to be confused with a flexibility of objectives. Changing the target and objectives of regional policy is likely to lead to failure since most policies require a sustained effort lasting some years, just as an antibiotic cure which needs to be taken for a certain number of days before being discontinued otherwise the bacteria start replicating again.

In conclusion, like medicine, regional policy requires experts who bring enough experience on previous events, and who will be able to provide

educated guesses about the right interventions for a certain region and what these interventions will be able to achieve and, finally, be able to monitor the process until full healing.

0.3 THE AIMS OF THIS BOOK AND ITS EXPECTED READERS

Despite the pervasiveness of regional policy, there are few books bringing together the general knowledge needed to operate in the field. There are many interesting books on the regional policy of specific countries and regions, on its evaluation and techniques, on best practices and on policy design. However, none currently systematically introduces and explains the rationale, implementation, instruments and assessment of regional policy.³

One possible reason for this void is that regional policy evolves rapidly compared to other fields, and hence a book of this type is a big undertaking, which needs to be updated more often than a theoretical book or a standard textbook. To reduce the risk of aging, this book focuses on the concepts and the rationales, which are lasting in time, complemented with examples to illustrate them. Due to the larger availability of internationally comparable regional data and reports comparing experiences, many of these examples come from the European Union. However, this is not a book on regional policy in certain places, since all the examples are always provided with the purpose of supporting the concepts, which are worthwhile everywhere.

The objective of this book is hence to provide systematic knowledge for students, policymakers and academics. First, the book could be used by students of economics, geography, planning and political science attending courses on regional policy in the last year of their undergraduate degrees or in the first years of their graduate studies. Students of the various master's degrees in economic geography, regional science, planning, development and public policy will certainly benefit from learning the bases of regional policy. Doctoral students whose theses are related to regional policy will certainly already know large chunks of what is written in this book but will also benefit from the systemic coverage of topics and wide reference to the various issues at stake.

Second, the book may also be helpful for policymakers. Many functionaries end up working in regional policy without previous knowledge of the topic. This book allows such readers to grasp the conceptual frame over which they will build their experience in the field. Its systematic approach makes this a helpful handbook for those who start working in regional policy without specific university training. More senior policymakers will certainly know more than is written in this book from experience in their own field. However, they may benefit from the coverage

of other related fields in which they do not operate directly as well as updated coverage of the conceptual topics.

Finally, this book may also be a helpful reference book for academics, as a systematic treatment of an important and amply studied topic. In terms of teaching, academics will find the book useful not only for regional policy courses but also as a complementary book for courses on regional economics, economic geography, planning, public policy, etc. Instructors may in turn complement the book with additional examples from their own experience and other supplementary materials. The idea is to provide here a full understanding of regional policy while being aware that, for some advanced degrees, specific courses may be developed on the topics of single chapters alone.

The book is intended to address regional policy specifically and as such does not aim to provide a full account of regional economics, local development and growth, for which good textbooks already exist.⁴ Such books on regional economics and economic geography are complementary to the present volume, since they provide positive knowledge while this book adds normative knowledge. The book is also intended to include a discussion of how regional policy is implemented in different contexts and in different places, allowing readers to grasp the nuances of the interaction between regional policy effects and contexts through practical cases and real-world situations.

The book also does not intend to be a textbook on evaluation. Books on evaluation mostly cover how evaluation is performed and its techniques, whereas this book aims to provide a broad knowledge of regional policy for policymakers. As such, it will therefore only provide the basic knowledge needed to understand and use the evaluations produced by evaluators, rather than to directly produce them.

Finally, this is not a book on urban economics and policy. The urban and regional fields are closely related, as will be evidenced in [chapters 3](#) and [8](#), but the instruments and approaches used to address urban issues are specific. They require another book and good textbooks on urban economics and urban policy are already available.

The book, with its conceptual and systematic approach and international focus, will be of interest in all those places where regional policies are a significant part of public policy. As such, it is certainly relevant to those studying or operating in Europe, where every country and almost every region has departments in charge of implementing regional policy. The same applies in Asia (for example in Japan, Korea and China) and in South America, where the problems of spatial differences and of regional development are considered important and often addressed. The book will also be of interest in North America, where regional policy is not implemented as systematically as in Europe, but where certain typologies of intervention are widespread, also due to the federal system, and where there

are many researchers in regional science and spatial economics is based.

0.4 OUTLINE OF THE BOOK

Unlike other books which address specific aspects of regional policy or address more general issues through specific cases, this book concentrates on the concepts and problematics which are relevant to policymakers involved in the field. As such, the book does not follow one specific case but identifies general principles in the belief that these principles are of general relevance and remain valid over time. These principles are illustrated with real-world examples to show their relevance as well as the challenges of applying theories in practice. The book therefore brings together theory and practice.

Presenting principles, however, does not imply that the book will provide universal solutions valid in all cases. The approach of the book is a critical one, showing the advantages and disadvantages of different approaches and different available choices. Indeed, the main idea behind the book is that informed choices are essential to successful regional policy, since in almost all cases some valid principles and objectives have to be tempered with other equally valid principles and objectives. There is almost always the need to take political choices, and to be transparent about the political values which drive them.

The only real stance of the book, therefore, is that trade-offs exist and should not be neglected, instead navigating inside them with the objective of finding the equilibrium between different and conflicting objectives which is most appropriate to a certain region.

The book is an advanced textbook, covering the various topics systematically. It is written so that it can also be used as the main reference for any course on regional policy taught in English. Although reading the book will probably be easier for students with some background in economic geography and/or regional economics, the book is written in a non-technical way to make it accessible to those without such a background. For instance, notes and boxes explain concepts which may not be clear in advance but are necessary to understand the main text. Figures and maps are included to allow easier understanding of what happens and why. Most of these originate from versions developed and used in various courses taught by the author, as well as from updated policy reports by international institutions. The use of equations and formulas is limited as much as possible so there are only 19 of them in the whole book.

The chapters also include boxes with examples of the actual implementation of the topics in real-world regional policies. These examples are not comprehensive but present situations which, for different reasons, are

important because of their influence on regional policymaking or because they demonstrate important aspects of the topics discussed in the chapters.

Finally, a number of conceptual issues, which are normally faced by regional policymakers, are also presented in boxes throughout the book with the purpose of providing a guide to identify the best possible alternative in the region in which policymakers are operating.

The book opens with three definitory chapters which explain what regional policy is, why it is necessary and what its objectives are. The order of the book then follows the cycle of regional policies, illustrated in detail in [chapter 4](#). The cycle begins with the identification of existing societal challenges, leads to issue identification, then to policy formulation, policy adoption, policy implementation, policy assessment and, finally, to the adaptation, succession or termination of the policy.⁵

[Chapter 1](#) begins the book with definitions of the region and regional policy, as well as some important classifications and an outline of the most important conceptual ideas currently driving regional policy, such as the place-based approach.

[Chapter 2](#) presents the theoretical justifications behind the need for regional policies. These justifications can be economic, stemming from agglomeration, cumulative processes and market failures, but can also stem from social, environmental and political issues.

[Chapter 3](#) analyses the objectives which are usually pursued by regional policies, highlighting four high-level objectives, namely growth/competitiveness, spatial equity/cohesion, environmental protection and quality of life. It also presents the many additional objectives which are often considered, although these can usually be seen as instrumental to achieving one or more of the first four high-level objectives.

[Chapter 4](#) illustrates the regional policy process and its governance. Starting from the policy cycle, the actors are presented with their related behaviours, and governance types are introduced. The chapter also clarifies the process of strategy building, by presenting concrete problematics which regional policymakers must confront in their work.

Regional policy instruments are presented in [chapters 5](#) and [6](#), including soft and hard instruments. [Chapter 5](#) covers both traditional and more recent instruments, such as infrastructure, special economic zones, growth poles, tourism, human capital, active labour market policies, etc.

[Chapter 6](#) concentrates instead on the relationship between innovation and regional growth. This because many regional policy interventions focus on the various forms of innovation which are usually considered the basis of growth. The chapter also presents the instruments devoted to further innovation, which include traditional and more recent developments such as smart specialisation strategies and demand side instruments.

[Chapter 7](#) presents the evaluation of regional policy, explaining what evaluation is and why it is needed. It also presents some of the most widely

used techniques in a non-technical manner so that readers will be able to understand and interpret the results of qualitative and quantitative evaluations, including those performed with models.

The policy cycle ends with evaluation, but the book also includes [chapter 8](#) which shows the importance of the characteristics of the territory in regional policy. It first illustrates how important cities are for regional development and how important it is to consider them within regional policy interventions. However, the chapter also shows the challenges and the opportunities available for rural and peripheral territories, which cannot rely on cities and hence need to implement different development strategies, as well as the specific interventions required for border regions.

[Chapter 9](#) concludes the book with a synthetic account of the established trends in regional policy.

0.5 HOW TO READ THIS BOOK

The book is written according to a linear logic, so that the arguments in the following chapters refer to those topics and concepts developed before. Moreover, the aim in writing the book was to make it as comprehensive as possible, even if a whole book could be written on each chapter alone, so that all major themes are covered. This does not mean that different readers might be more interested in certain parts with respect to others.

For a full-year university course of regional policy the whole book might be the suggested textbook, to be integrated with updated examples by the lecturer. Similarly, PhD students, although probably familiar with a number of topics, could benefit from covering the full book to check whether they have gaps in their knowledge of the subject.

In a half-year university course, time will allow for only some of the topics to be covered and choices will have to be made by the instructor depending on the practical or conceptual target. For example, if the course has to be more theoretical and conceptual, the chapters of [part A](#) (1, 2, 3 and 4) will be included (perhaps with the exception of 4.7), with the addition of the first part of [chapter 6](#) (6.1 to 6.5) and, possibly, [chapter 8](#).

Policymakers new to the regional policy field, having to get an idea of what interventions are applied on the ground will certainly need to rapidly grasp the instruments used, with their pros and cons, i.e. the second parts of [chapters 5](#) (from 5.3), [6](#) (from 6.6) and [8](#) (from 8.2.2) and get a crash course on evaluation by reading [chapter 7](#). Moreover, this reader will significantly benefit from knowing the problematics of policy implementation on the ground (section 4.7).

Policymakers with long experience in the field will probably know most of the suggested readings for new policymakers (but might read it anyways

to compare their experience), and could hence especially take advantage to further think about the concepts behind the interventions they already implement, by reading the conceptual chapters of [part A](#) plus [chapter 8](#).

NOTES

1. [Readers](#) unfamiliar with this concept can refer to chapter 2.
2. [Data](#) are up to date as of December 2022. Each publication only has one publication year, while they may belong to different disciplines at the same time.
3. [Nor](#) did such a book exist in the past, as the ones which most closely approached this approach (in particular, ([Armstrong & Taylor, 2000](#); [Vanhove, 1999](#)), did not cover all the aspects, but provided a coverage of theoretical regional growth models, with a high focus on regional disparities and the empirics of Europe and the UK.
4. [The](#) following are just some examples: [Beer & Clower \(2020\)](#), [McCann \(2013\)](#), [Capello \(2015\)](#), [Brakman et al. \(2019\)](#), [Pike et al. \(2017\)](#).
5. [A](#) figure is presented in section 4.2.

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PART A

DEFINITIONS, JUSTIFICATIONS AND AIMS OF REGIONAL POLICY

CHAPTER 1

Definition and overview of regional policy

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1.1 INTRODUCTION

This chapter presents the definition of regional policy and an overview of some fundamental concepts which are needed to understand it.

The starting point is to understand what a region is. Regions can be defined on various dimensions, and are characterised by various levels of openness, limited sovereignty and homogeneity.

Then, in the absence of a previous definition based on its essence, a new definition of regional policy is presented and discussed. This definition is able to encompass different types of regional policy which are then compared with other types of policies with spatial effects.

The main characteristics of regional policy are then presented, followed by an analysis of the relations between regional policy and other types of public policies, which is helpful to better understand what regional policy is and the context in which it is applied.

Trade-offs are fundamental in regional policy and are hence concisely presented, most of them being addressed in detail in the rest of the book.

The last part of the chapter is devoted to illustrating the basics of contemporary regional policy, compared with the old ways of doing it, also providing an account of the crucial conceptual and practical debate between place-based and space-blind approaches.

The chapter concludes by illustrating the role of the policy advisor, to show how experts can improve decisions while still leaving choices to those who are appointed to take them.

1.2 DEFINING REGIONS

It is important to start a book on regional policy with a common understanding of what a “region” is in this context. The Oxford Dictionary of English describes a “region” as “an area, especially part of a country of the world, having definable characteristics but not always fixed boundaries”.

This definition, however, hides at least two meanings which co-exist in situations related to economics and development. The first meaning is of a region as a group of countries of the world belonging to the same macro-area. This definition of a region is common in international organisations

and businesses, especially multinationals, which may appoint directors for the Pacific Countries, South-East Asia and the EMEA (Europe, Middle East and Africa). The second meaning is of a region as a sub-national portion of territory, defined in various terms, including cross-border territories, which involve only pieces of the respective countries.

This book is only concerned with the second definition: it is interested in regions as spatial units for sub-national development policies. It will, therefore, neither address international phenomena or organisations, such as the World Bank (WB), Asian Development Bank (ADB), Inter-American Development Bank (IADB), etc., nor international business operations apart from where they have repercussions for specific regions inside countries.

A region has some specificities compared to a nation, which makes policies for regions essentially different from those for nations. The main difference, identified a long time ago by [Ohlin \(1933\)](#), is the degree of **openness**. Regions, by definition, do not have steep borders, nor do they have the same level of obstacles that run across borders, including frontier controls, institutional differences, linguistic differences, trade controls, etc.

Globalisation and increased integration at a global scale make it difficult to maintain that countries are closed entities, since they are no longer fully autonomous in political terms, and even less in economic ones. Yet, regions are normally significantly more open than countries. This larger degree of openness involves two main aspects of the economy.

First, production factors, because capital and labour can easily move from one region to another. There are no restrictions to the circulation of capital from one region to the other, and, in free countries, there are no restrictions on the movement of citizens from one region to another in the same country. On the other hand, while policies have been implemented to make international capital flows and people relocation easier, for example by the creation of the single market inside the EU, there still are various informal barriers linked to different cultures and economic systems, even when there are no formal ones.

Second, products, which includes goods and services, both final and intermediate,¹ also circulate better between regions. There are no restrictions on the ways in which goods produced in one region of a country can be sold in another. This means that, for producers inside a region, the market is normally assumed in models to be fully external (or, in some cases, even exogenous) since the share of demand which comes from inside the region is normally much smaller than that coming from outside. This is different from many traditional closed-economy models, in which demand is assumed to be internal and coincide with the nation.

This consideration, however, is not the same for all goods and services since for many of them local demand from inside a region may have an important role (e.g. for perishable goods, or services consumed in situ); while there are other goods and services which, although only produced in

one region, are largely exported worldwide.

Beyond openness, there is another characteristic normally associated with regions, which is even less clearcut. This is the fact that, while countries are normally sovereign in the sense that they have “absolute” power inside their borders, regions are normally **not sovereign**. Instead, they are part of a state, and their autonomy is limited to the powers devolved to them by the central states.

This characteristic, however, is not clear-cut for two reasons. On the one hand, states are much less sovereign now than they used to be in the past. They belong to international organisations and to many different types of agreements, of a military, political, economic, commercial or cultural nature, which constrain their autonomy in many aspects. Moreover, globalisation makes it impossible for countries to determine their future without being limited by the consequences of their own actions in an international context. For instance, they are subject to market forces which limit the possibility to borrow when trying to increase their public debt, or to import commodities, or to export their goods. On the other hand, there are federal states, in which regions have their own powers not devolved by the state. In these cases, the parts of a federation retain sovereignty in many aspects of their governance.

A third difference between regions and countries concerns the **homogeneity** of regions. Regions are by definition smaller than countries and are normally delimited in a way that makes them relatively internally homogeneous. In this view, a country would be partitioned using the homogeneity as a criterion, and would be composed by many regions which are different from each other but which are quite homogeneous inside. This difference between regions and countries, however, may not be that important because the level of homogeneity inside regions depends on the way in which they are defined. Moreover, it has long been understood that different types of regions exist. There are homogeneous regions but also nodal or polarised regions, and, finally, planning or programming regions, which are defined by political or administrative control ([Boudeville, 1968](#); [Richardson, 1978](#); [Richardson, 1973](#); [Vanhove, 1999](#)).

These differences between regions and countries also bring implications for development policies. On the one hand, many important instruments available to national policymakers, such as trade or monetary policies, are not available to regional ones (see also section 2.7). However, regional policymakers may benefit from the advantage of belonging to a larger entity, because regions can benefit from external interventions, most notably those which are financed, planned or supported by the state.

Practically delineating a region is therefore not an easy task. The fact that this is often taken for granted probably stems from its complexity, and from the fact that many different – but often related ways – exist to do so. Traditionally, there are at least five types of criteria to define regions: a purely **geographical** one, based on natural boundaries such as mountains,

seas and rivers; an **historical** one, through which regions are defined by the fact that pieces of territory followed similar trajectories in the many political transformations that succeeded one another, and which also normally translates into a common identity; an **administrative** one, in which regions are defined by criteria dependent on how the administrative structure of a state is organised;² a **statistical** one, by which regions are defined in terms of the spatial units about which statistical data are collected; and an **economic** one, in which regions are defined by the economic processes that take place in space, a criterion which ensures that the delineated regions have a certain degree of economic interrelation and homogeneity.

Regional policies are normally based on one of these criteria, except for the historical one, or on a mix of criteria. In many cases, regional policies follow administrative boundaries because in this way the unit of intervention coincides with the administrative powers on the ground. Policies can also be defined in geographical terms, for instance when they are concerned with something deriving from specific geographical features, such the basin of a river, which may cross many different administrative units. Policies may also be defined in terms of statistical units, for instance when there is the need to delimit the interventions based on some specific local characteristics, and the data on this are only available for given statistical units. Finally, the best way to set regional development policies would be according to an economic definition of regions because regional policy interventions act on the economy of places, and work better if their area of application coincides with that in which the economic processes take place. However, most regional policies still use administrative or statistical units because these are normally readily available partitions of space, whereas identifying economic regions is costly and not clear-cut because the criteria may differ.

Regions defined in economic terms are often understood as “functional” regions because they are delimited by the economic functions performed in a given territory. Functional regions are often practically defined in terms of commuting flows, for example those between different small cities or those between a large central city and its surroundings (e.g. [Coombes et al., 1986](#)). Alternatively, they can be defined based on other indicators, such as interactions between firms in a given territory, or in terms of input-output relations, which are much more intense in some areas than in others.

The aim is to define functional regions so that there are strong interactions inside and few connections outside ([Kropp & Schwengler, 2016](#)). However, the delimitation of functional regions is difficult since economic regions are open and the processes are not self-contained. Moreover, there are difficulties arising when an area belongs to more than one functional region, for example a small town whose residents commute to two different large cities. Finally, when functional regions are defined in terms of commuting flows they have – by definition – some degree of internal heterogeneity

because they link places with many jobs and those with fewer jobs ([Cörvers et al., 2009](#); [Wicht et al., 2020](#)).

A reader unfamiliar with regional analysis may also ask how large a region is. There is no precise measure of a region in terms of population or area; on the contrary, there is a huge range in both terms depending on the country, context and, especially, dimensions analysed (including the policies which need to be implemented). In administrative terms, each country tends to set regions of very different size, which are however usually endowed with the same administrative powers.

When delimiting a region for policy purposes, two criteria may be relevant. On the one hand, the region should be small enough to be fairly homogeneous, so that it does not obscure differences in terms of response to a given policy; on the other hand, it should be large enough to contain the largest possible portion of the economic processes relevant to the policy.

Another relevant and difficult definitional difference is that between a region and a city or urban area. Large urban areas are in many cases considered as regions themselves, since they contain most of the relevant economic processes and act as nodes for international flows of people, production factors, goods and services. However, a city that is narrowly defined, and which does not include all its commuting area, is certainly not a region by itself. It is also important to note that multipolar regions are by definition composed of different cities, although homogeneous regions may only include one city and its hinterland.

A possible additional distinction concerns the type of powers given to regions and cities. Levels of decentralisation vary in different countries. In most countries, cities are usually in charge of physical planning, including the management of land and urban infrastructure, while regions are normally concerned with wider-scale development policies. Increasingly, the most important cities are also taking charge of their own economic development policies, as demonstrated by the EU Urban Agenda.

In the literature there is a wide discussion about different forms of regionalism.³ As shown by [Paasi et al. \(2018\)](#), there are a myriad of ways in which regions may be described. For instance, they identify dozens of new regional forms and names given to new types of regions (e.g. city regions, cross-border metropolitan regions, microregions, mega regions, metro regions, polycentric urban regions, etc.; and cosmopolitan regions, creative regions, fringe regions, learning regions, legal regions, smart regions, etc.).

BOX 1.1 INTERNATIONAL DEFINITIONS OF STATISTICAL REGIONS

The most well-known international definition of statistical regions is the Nomenclature of Territorial Units for Statistics (NUTS). This is

used to represent the statistical regions of Europe.

These are defined by Eurostat, the statistical office of the European Union, to allow the collection and comparison of statistics at the regional level across all EU member countries and the other countries for which the institution collects data (e.g. those of the European Statistical System). They were given legal status by a specific European Commission regulation of 2003 (Commission Regulation (EC) No 1059/2003). The NUTS classification has been periodically revised with new regulations since then, and will be in the future. From 1 January 2021, the regulation in force is the Commission Delegated Regulation 2019/1755, which entered into force on 8 August 2019. Each regulation brings minor or more significant changes to boundaries, reflecting new needs and administrative changes inside the various countries.

The NUTS classification is based on the following basic principles ([Eurostat, 2018](#)):

- a. Three hierarchical levels, which actually become five when including additional, lower-scale levels. There is a NUTS0 level which represents the countries, and then there are the actual NUTS regions, whose correspondence with the actual statistical and administrative levels inside the various countries differs. NUTS1 are the largest regions, NUTS2 the intermediate ones and NUTS3 the smaller ones. Not all three levels exist in all countries, for example some small countries do not have the NUTS1 or even the NUTS2 levels.
- b. Favouring existing administrative units in the Member States to make this classification as similar as possible to what is already in use inside the various countries; although the administrative systems are different, the definitions of NUTS regions should be similar. As examples, the German Länder are large regions and are classified as NUTS1; the Spanish Comunidades Autonomas are smaller and are classified as NUTS2; and the French Départements are even smaller and classified as NUTS3.
- c. Minimum and maximum thresholds for the population size of regions at each level of the classification. However, there are important ranges inside the same levels. For example, the average NUTS2 region is around 16,000 square kilometres, but the range goes from 14 to 227,151 square kilometres, and the same NUTS2 level ranges from 29,000 to 12,194,000 inhabitants.
- d. Complementation at the lower level by local administrative units (LAU): LAU1 in only some countries, LAU2 in all

countries. These two levels reflect the fact that below the regional levels there are smaller units for which it is useful to collect statistics, and which correspond in most countries to the levels of municipalities, wards and similar.

The NUTS classification has three main purposes. The first is the collection, development and harmonisation of the European Union's regional statistics, because otherwise each country would have had its own system and no comparison would be possible. The second is to facilitate socioeconomic analyses of the European regions, which are made much easier by the existence of this wide availability of free and comparable regional statistical data, although data coverage is not always perfect.

The third purpose is the most relevant for this book because the NUTS classification is also used for the framing of EU regional policies. Most notably, the classification of European regions in their objectives in terms of GDP per capita is only possible because of the existence of homogeneous statistics at NUTS2 level in all EU countries, which allows these regions to be compared and assigned to a group.

To facilitate the comparison of regional statistics for a wide set of international countries, the OECD also provides its own regional statistical classification, which it calls the Territorial Grid. There are two levels to this data: large regions (Territorial Level 2, TL2) and small regions (Territorial Level 3, TL3) ([OECD, 2020](#)). The large regions mostly correspond to European NUTS2 regions, and the small ones to NUTS3 regions, but are also available for countries outside the Eurostat remit.

Both Eurostat and the OECD also provide data at the level of Functional Urban Areas (FUAs). Statistical data collected at this scale have the advantage of corresponding to actual economic regions, because functional urban areas are defined by economic processes and commuting flows. However, these statistics have two limitations. First is that, by definition, those areas which do not belong to a FUA, such as remote or rural areas, do not appear in these statistics, so significant portions of countries are not covered. The second limitation is that many data collected at the level of FUA are not fully systematic, insofar as they sometimes rely on surveys or on the voluntary participation of cities, so there are often urban areas for which data are not fully available.

1.3 DEFINITION OF REGIONAL POLICY

1.3.1 Past definitions of regional policy

As noted in the introductory chapter, the term regional policy is widely used by academics and policymakers alike. There are many interventions which fall under this label that are very different from each other, but we will show still share some common ground. Academically, the literature on regional policy is enormous and includes contributions from scholars from various backgrounds: economists, administrative scientists, political scientists, jurists, etc. Many papers are published every month with ideas on how to implement regional policy, how to make it more effective, the impact of certain policy interventions and what type of regional policy is best suited to different situations. These academic contributions investigate different aspects of the essence, application and effects of regional policy.

Yet, the concept of regional policy is highly articulated, and comprehends different policies which have their own characteristics. The distinction between these policies is rarely made explicit in the academic literature, where the term “regional policy” is used regardless of the analysis. The fact is that both scholars and policymakers seem to have a sufficiently clear idea of what regional policy is and to take it for granted because few academic articles spend time defining how they use the term and, on the contrary, most immediately begin to address its specific points.

One might expect books to be more likely to provide definitions because their larger size may offer greater scope for them. Even books, however, seldom provide definitions but generally prefer to concentrate on what regional policy *is for*, instead of what regional policy *is*. This might be because of an assumption that a final definition has been provided in the past, so there is no need to provide one now. However, this is not the case as looking to classic textbooks on the topic shows. For example, [McCrone \(1969\)](#) provides an extensive investigation of the “regional problem”, but no definition of regional policy even though the author spends significant time presenting the case for intervention, including going beyond economic motivations.

Further, [Stilwell \(1972\)](#) does not provide an actual definition but provides a nice way to think of regional policy as the “establishment of the spatial framework for national development” (p.9), which means establishing controls, incentives, etc., to “ensure that the spatial distribution of economic growth develops in accordance with specific objectives of equity and efficiency” (p.9).

More recently [Vanhove \(1999\)](#) provided a valuable definition of regional economic policy or regional planning, without distinguishing them, as including “all forms of public intervention intended to ameliorate the geographical distribution of economic activities” (p.57). Notice here the use

of the word ameliorate, which assumes a wide meaning because its meaning depends on the values under which a judgement is expressed. In practice, according to Vanhove, the two objectives for regional policy, both stemming from the need to correct spatial consequences of the market economy, are “economic growth” and “improved social cohesion” (p.57). Again, the focus seems to be more on the objective than the essence.

Continuing that trend, [Armstrong and Taylor \(2000\)](#) do not provide an explicit definition of regional policy in their book but they refer to it as stemming from the presence of disparities between regions – although they also make the case that not all disparities are undesirable. According to them, regional policies, however, can help achieve national policy objectives, such as a certain growth rate or providing job opportunities to every citizen.

There is, therefore, a need for a definition of regional policy, which goes beyond its objectives. There may be objectives that are consistent with regional policy, but which are addressed by other policies. For example, social cohesion can be addressed by policies supporting disadvantaged persons, which are more or less effective depending on whether social distress depends on spatial aspects or is only the outcome of interpersonal and societal outcomes. There may be objectives that do not appear to be regional, such as increasing innovation at a national level, which however are better addressed by regional policies when certain places have better opportunities in the knowledge economy.

1.3.2 The definition of regional policy

The definition used in this book is a new one, simple and encompassing at the same time. It concentrates on what it is and does not concern the final objectives of the policy but, rather, the fact that it is spatially deployed. Regional policy, can be defined as:

***any development policy that is intentionally spatially selective,
or intended to have differential spatial impacts.***

This definition describes regional policy as a development policy and not simply an economic one. The concept of development is in fact broader than pure economic growth because it also concerns the ways in which systems and societies operate and how the costs and benefits they generate are distributed among people. In development economics, for instance, one famous definition of development is “a multidimensional process involving the reorganization and reorientation of entire economic and social systems” towards situations or conditions which are regarded as “better” ([Todaro, 1989](#); p.62 & 88).

Moreover, while economic well-being and growth are certainly included and are the target of many regional policy interventions, development also concerns social and environmental aspects which are fundamental in regional policy, as it will be evident in the next chapters, starting from those on the rationale and objectives ([chapters 2](#) and [3](#)).

Spatial is in this definition intended to mean at a level which is sub-national, especially regional, as described in section 1.2. The main difference of this definition compared to past definitions is the focus on the *intentionality* of spatiality, because those policies that are unintentionally unevenly deployed in space, or which have involuntary spatially differentiated effects, are not deliberately regional policies. The rest of this chapter demonstrates that there are many policies of both types. Finally, it should be noted that regional policies can be both those deployed differentially in space and those deployed uniformly but which are intended to have differential impacts.

This definition, in practice, combines two very different types of policies that are often termed regional policies:

1. When the nation, or some entity above the nation (e.g. the EU), intervenes with policies which are either deployed only in some areas of the country or are intended to have different impacts in different areas of the country. For example, the European cohesion policies, the German Joint Federal/Länder Task for the Improvement of Regional Economic Structures (GRW), the Polish National Strategy of Regional Development (NSRD), the Swiss New Regional Policy, the Brazilian Fundos Constitucionais de Financiamento, etc.
2. When areas smaller than countries, endowed with different levels of political or administrative power, act to improve their own levels of development. For example, the Lombardy regional government set up its own recovery plan, using its own resources, in 2020.

Notice that this distinction does not coincide with that between top-down and bottom-up policies, since the latter is concerned with the way the policy is implemented and not the fact that the policy is applied by one single region or by some higher-level entity who wants to affect the spatial distribution of economic activities. There are, in fact, many cases of national regional policies which are essentially bottom-up because they are implemented through procedures which start from the inputs of local communities and economic agents.

At the same time this distinction does not coincide with that between place-based and space-blind policies, although the latter are normally not regional policies. Place-based policies are those implemented by taking into consideration the local specificities of places. This means there may be

regional policies implemented by the state which are eminently place-based because they consider the characteristics of different regions of the country, even when they have the same level of GDP per capita and regional policies implemented by the state that are not place-based because they do not account for their specificities.⁴

Different types of regional policies are also differently diffused globally. For instance, [Cox \(2020\)](#) shows that Europe and the United States have two policy models which are profoundly different. In Europe, regional policy is related to the welfare state, which provides regional policy in the same way as it does for labour market policies or health. In the US, regional policy mostly depends on local authorities that, through the federal system, have a large amount of power and use it to establish their own development policies.

1.3.3 Regional policy within a classification of policies

To further clarify the definition of regional policy it is helpful to show which policies are classed as such within a wider classification of development policies. This classification is demonstrated in [Table 1.1](#), which has seven columns, the first being the policy type. The next column represents the main implementing body, which may be a region or the state (or some supra-national entity). The next column denotes the presence of a spatial requirement to be eligible (spatial selectivity), since it may be explicitly targeting some places instead of others, while the fourth column represents the existence of differential spatial effects (uniform over a country or differential across regions). The fifth column lists how intentional these spatial effects are. The sixth represents whether a type of policy qualifies as regional policy and, finally, the last column provides simple examples. The table shows that the main discriminants to regional policy are those expressed in the definition provided a few lines above the spatiality and the intentionality of the effects.

TABLE 1.1 Regional policy typologies within a classification of policies

Policy type	Main implementing body	Spatial selectivity (formal)	Different spatial effects	Intentional spatial effects	Qualifies as regional policy	Examples
1 By a single region ¹	Single region	Yes (by definition)	Yes	By definition	Yes	Own regional development strategy of a region
2 By the state,	State (or supranational	Yes	Yes	Intentional	Yes	Policy for lagging regions

Policy type	Main implementing body	Spatial selectivity (formal)	Different spatial effects	Intentional spatial effects	Qualifies as regional policy	Examples
intentionally applied differently in different regions	body)					of a certain country Policy for reinforcing the urban areas of a certain country Policy for reducing the concentration of economic activities within a country
3 By the state, applied with no formal spatial requirement but with intentional differential effects in space	State (or supranational body)	No	Yes	Intentional	Yes	Policy of a country for certain sectors, knowing that they are located in some specific places (e.g. helping shipbuilding in order to help the places in which it is located)
4 By the state, with no formal spatial requirement but with unintentional differential effects in space	State (or supranational body)	No	Yes	Unintentional	No	Most macroeconomic policies are expected to fall here Reduction of personal income tax rates (if the various regions have different levels of wealth)
5 By the	State (or	No	No	Not relevant	No	Reduction of

Policy type	Main implementing body	Spatial selectivity (formal)	Different spatial effects	Intentional spatial effects	Qualifies as regional policy	Examples
state, with no formal spatial requirement and no differential effects in space	supranational body)			since spatial effects are not present		personal income tax rates (if the various regions have the same levels of wealth)

Source: Created by the author for this book

¹ By definition these policies only target that region.

Based on these elements, it is possible to describe five different types of policies, three of which are classified as regional policies and two are not. The first type of policy is the one of a single region which targets its own economic development. In this case, the main implementing body is some formal administration existing at the regional level. The spatial requirement is present by definition, because policies implemented by a specific region only target that region and have no power to be implemented in other regions. Also the spatial effects are present by definition, since only the implementing region is the target of the policy, which is expected to have its effects on that region and, while there may be positive or negative induced effects and spillovers towards other regions, especially neighbouring ones, the main affected region normally remains the one which implements the policy. This first case therefore easily and obviously qualifies as regional policy. Many examples of this case exist in the real world in all cases in which there exist sub-national bodies with some degree of autonomy and their own budget, and can hence implement their own development policies.

The second type of policy is the one which is mainly implemented by the state or a supranational body and which has some specific spatial requirements. In this case, the policy only targets some regions or some economic agents, depending on their regional location (for example firms in lagging regions). Also, in this case there are spatial effects, which are differential and intentional because these policies target specific regions and as such are expected to have their main impact there, although also in this case spillovers may exist. These policies obviously qualify as regional policies although they tend to be quite different with respect to the first type. Examples of this policy typology are all those policies for lagging regions of specific countries or of the EU. These policies, however, do not necessarily

target weak regions, because for example policies to reinforce the urban system of a certain country also qualify as regional policies under this type, and policies for reducing the concentration of economic activities within a country also have all the requisites to be regional policies of this type.

The third type of policy is similar to the second one because it is also mainly implemented by the state or a supra-national body; the difference with respect to the previous case, however, is that there is no formal spatial requirement. However, even if there is no formal spatial requirement, there are differential spatial effects and these spatial effects are intentional, since this policy is applied by the state in order to achieve differential effects among its regions. For this reason, this type of policy qualifies as regional policy as well, although of a different type. It may seem harder to think about policies of this type but, in reality, they are also quite diffused because when policies target one specific industry sector in order to help the region/s in which these sectors are located, this is a regional policy even without a formal spatial requirement, think about policies for sectors such as steel or ship-building.

To provide some additional examples, we refer to [Austin et al. \(2018\)](#) who present a long list of policies which they define as “implicitly spatial”, i.e. which have a differential impact on some places while normally not having specific spatial eligibility requirements. Among them are some types of direct public investments, such as the US Federal Highway System or the relocation of public offices; tax benefits and grants for business or individuals, such as agricultural subsidies, the Oil Depletion Allowance, Flood Insurance, nominal tax credits, state/local tax deductibility; regulatory relief, such as heterogeneous environmental regulations. When these spatial effects are intentional we can consider the policy as regional policy, otherwise it falls under the next category.

The fourth type of policy is the one which is mostly implemented by the state or some other supra-national body, which doesn't have any spatial requirement, and which has differential spatial effects, which are however unintentional (in contrast to the previous case). This type of policy does not qualify as a regional policy, even if it has differential spatial effects, because it is not intended to have them, and these differential effects only happen because the different territories react differently to the same policy.⁵ There is a huge number of examples of policies of this type because most macroeconomic policies, most industrial policies and most social policies fall into this group. For example, if we look at fiscal policies, such as a reduction of the personal income tax rates, this policy will not have the same effect on all regions because normally the various regions have different levels of wealth, although this regional differentiation is only an unintended effect. National social policies also usually have spatially differentiated effects, for example, imagine that a country implements normative changes in the legal age for pensioning, this change will impact the individuals,

depending on their age, but will also impact differently the various regions of the country, depending on their demographic structure.

Most industrial policies also fall within this fourth type, because whenever the policy targets some specific industries or value chains, these are not evenly spread across the country and therefore the impact will be spatially differentiated. Infrastructural policies devoted to increasing national competitiveness also fall within this group, because even when not an instrument of regional development, infrastructure still have a specific location and therefore, whenever new infrastructure is built, there are places which benefit more than others from these new assets. Finally, even monetary policies such as those for the exchange rate and interest rates will have differential effects. For instance, a devaluation of the exchange rate will tend to increase exports, but mostly by those regions with an export-oriented economic structure. An increase of interest rates will be more detrimental for places where firms have higher liabilities. Policies of this fourth group, despite the fact that they have differential spatial effects, do not however classify as regional policies, because these spatial effects are unintentional, i.e. not contemplated within the reasons why the policy has been designed.

The last type of policy is the residual category and, by definition, does not belong to regional policies, because it includes those policies which are implemented by the state or another supra-national body without any spatial formal requirements and without any differential spatial effects. Indeed, although this case could at first sight to be widely diffused, it has to be actually considered as rarer than the previous one, because most policies have differential effects in space. An example of this last case is the one in which there is a reduction of personal income tax rates to stimulate consumers' demand, in case all regions have the same levels of wealth (which is rarely the case in the real world).

To conclude this section, a caveat is necessary, because the classification above includes the body in charge of the policy. However, as will become clear in the next sections of this chapter and in [chapter 4](#), most modern regional policy interventions are implemented through multilevel governance schemes. Indeed, the adoption of specific governance models is not a factor which distinguishes regional policy from other policies. Complex governance schemes are increasingly adopted in other fields, as demonstrated by the complex coordination of macroeconomic policies taking place between different EU countries with the involvement of the European Commission. Further, regional policies can be implemented by different bodies but can be considered regional because they have intentional spatial effects. The simplification in terms of the main implementing body is therefore useful for conceptualisation, although in practice many possible nuances exist.

1.4 DIFFERENT CHARACTERISTICS AND TYPOLOGIES OF REGIONAL POLICY

Even within macro-typologies such as the ones presented above, regional policies are characterised by many specificities. There are, therefore, many possible dimensions through which regional policy can be differentiated. Some of these may be binary or categorical, which means that they could provide room for further classifying the policies. However, the purpose of this section is not to produce an overly fine classification but to portray some aspects which will be further explained in the next chapters.

Spatial scale

Some regional policies are applied at the level of administrative units, which can in turn be at different scales because most countries have various administrative layers. Other policies are applied at the level of statistical units, for example the lagging regions identified by the EU at NUTS2 level although this statistical level only coincides with the main administrative partitioning in some countries. It is also possible to have policies defined based on historic or geographical regions, such as those for river basins. Finally, there are policies for urban areas, cities and municipalities in cases where it is hard to deny that they are regional policies in addition to urban ones.

Objectives

Regional policy can have a huge number of objectives, although traditionally there are four key umbrella objectives:

1. Spatial equity and reducing disparities,
2. Efficiency, economic growth and competitiveness,
3. Environment protection and sustainability,
4. Quality of life.

[Chapter 3](#) of this book is devoted to these ones and to the other objectives, which can be considered intermediate ones.

Beneficiaries

Intended beneficiaries include private citizens, firms or institutions. Sometimes there may be a mix of different beneficiaries identified according to specific criteria, such as when the target is youth entrepreneurship. On the issue of beneficiaries, the reader is invited to refer to [chapter 4](#).

Governance

There are at least three main governance types (see [chapter 4](#) for more detail):

1. Top-down, in which central agencies intervene in the regions;
2. Bottom-up, in which agents in the territory oversee their own policies and when needed stimulate the interventions of the central entities; and
3. Multilevel governance schemes in which different levels interact in complex schemes.

The type of policy implemented also depends on the institutional framework of countries. According to [Balchin et al. \(1999\)](#) there are at least five types of countries, starting from the most centralised:

- Classic unitary states,
- Unitary states devolving power to local authorities,
- Unitary states devolving power to the regions,
- Regionalised unitary states and,
- Fully federal states.

Regional policy will be different in different types of countries. For instance, it will tend to be more top-down in centralised states, where powers and capabilities are centralised, and more bottom-up in federal states.

Financing

The objectives, measures and incentives driving regional policies will be affected by the source of financing. For instance, regional policy can be financed by regional governments' own resources from local taxation, or by regions with national resources, or by the state directly, or by a supranational entity such as the EU, or even by different countries (e.g. local development programmes in Poland financed by the Swiss government (REF)). It is obvious that the incentives and the consequent behaviours of the actors will be different depending on the source of financing.

Timespan

The timespan of implementation and of the intended outcomes can differentiate regional policy interventions. Some policies will be devoted to providing immediate relief to problem regions, or to specific urgent situations such as economic crises, natural disasters or sanitary crises. Other interventions will be devoted to providing longlasting and sustainable structural improvements to regions; these interventions will normally provide an impact only in the long run but, hopefully, an enduring one. These different time horizons will be reflected in all aspects of the policy, from the design to the financing, to the implementation and the evaluation. On this aspect see also section 7.8.3.

Nature

Some regional policy interventions are mostly acting on the demand side, while others on the supply side. For instance, public expenditure has demand-side effects which, through Keynesian multiplying effects, rapidly impacts the economy in terms of income and spending. The same for incentives to firm to hire unemployed persons which don't target long-run competitiveness. Also, some innovation policies are demand-side, i.e. they steer innovation by public procurement, regulation or the introduction of standards (section 6.6.7). Most interventions discussed in this book, such as human capital, are however supply-side and aimed at improving the structure of regions in the long run but necessitate time before exercising their effects. Finally, other interventions have both effects, for example infrastructure has a demand-side effect in the period in which it is built and then a supply-side one after it is completed.⁶

Local context

The local context affects the very essence of regional policy because different institutions may manage the same interventions in different ways, either for administrative or political reasons. The context also affects the impact of the policy because similar policy interventions will provide different results depending on the local conditions in terms of settlement structure, industrial structure human capital, territorial capital, formal institutions, administrative capacity, economic openness, etc.⁷ These issues will be further discussed in section 7.9.2.

Conceptual framework

Finally, the conceptual framework behind policy interventions differentiates regional policy because depending on which one is assumed by those in charge of the decisions, different actions will be put in place, with different expectations about their results. If the conceptual framework is one spatial equilibrium, regional policies will be devoted to easing up the movement of people, production factors and goods, and to provide a minimum level of basic services everywhere. If, on the contrary, the conceptual framework is one in which market forces do not spontaneously tend to the equilibrium but reinforce agglomeration and disparities in an inefficient way, then the policy actions will be devoted to countering these market forces. If the conceptual framework sees regional problems as stemming from the inability of regions to make the most out of their opportunities and assets, regional policies will mostly be devoted to stimulating untapped potentials, as in the place-based approach which will be described later in this chapter.

BOX 1.2 CLASSIFYING REGIONAL POLICY BASED ON LEVEL OF ASSISTANCE AND IMPACT

Can regional policy really trigger self-sustained patterns? This mostly depends on whether it is able to activate additional cumulative mechanisms. If that happens, then the policy achieves a lot with little expenditure and there is also usually no real trade-off. But this is only one of the possible situations which can arise.

Following [Di Caro and Fratesi \(2022\)](#) it is possible to classify regional policies according to their level of effort and their results. The most obvious case, since results are expected where effort is put, is that in which there is a high level of policy effort and funds devoted to the region, and this translates into significant policy impacts (Case 1 in [Table 1.2](#)). The opposite case is that in which there are no significant policy impacts but also the effort is very limited. This mostly happens in some rich regions where regional policy is not applied or applied only marginally and is hence little relevant (Case 4 in [Table 1.2](#)).

However, three other cases also exist. One is a very good case in which the policy works as a trigger unleashing endogenous forces, which makes it very effective despite having a low budget (Case 2 in [Table 1.2](#)). This might be the case for policies which act as facilitators, unleashing the potential of local firms through providing instruments of collaboration or, alternatively, by changing the regulations into some

which are more adequate to the business of the firms. This is the most favourable situation, in which the policy is win-win since it does not need to levy many resources from other sectors of the economy but still triggers growth.

TABLE 1.2 A classification of regional policies

Impact	Level of policy assistance	
	High	Low
Positive	Case 1 Effective policy	Case 2 Trigger policy
Negligible	Case 3 Ineffective policy	Case 4 Marginal policy
Negative	Case 5 Displacement policy	

Source: [Di Caro & Fratesi \(2022\)](#)

An opposite case, however, is also possible and is the one in which, despite high levels of assistance, the policy does not produce effects. This case of ineffective policy can happen if either the policy is irrelevant or if there are displacement /backwash effects. Economists provide many cases for backwash effects to take place, for example when public investments crowd out private ones by producing a tight market for money in which interest rates increase and so private investors decrease their investment rates due to the higher cost of borrowing. if this is the case, spending public money for the development of weak regions is a waste of resources.

Finally, the worst situation is also theoretically possible, although probably not common in practice,⁸ where the impact of the policy is even negative, which can take place with very high displacement effects, as well as detrimental interventions due to a serious lack of administrative capacity.

1.5 THE RELATIONSHIP BETWEEN REGIONAL POLICY AND OTHER

POLICIES

First, it is important to understand that regional policy and macroeconomic policy are not separate domains. In fact, there are many cases in which regional policy can also have macroeconomic effects on the country and many cases in which national economic policies have differential effects on the regions which compose it.

National effects of regional policies

Let's start from the national effects of regional policies. All regional policies which are implemented by a country to improve efficiency, for example to get a more efficient distribution of economic activity inside the country, are by definition programmed to improve the total production of the country. It is clear not only that they are expected to have a market economic effect, but they are deliberately designed to do so.

When regional policies, on the other hand, target a single region, systemic effects are not necessarily present. Indeed, if a policy targets one region and the increase of income in this region takes place at the detriment of another region in a model of distributive growth, then there is no macroeconomic aggregate impact. There is also however a second case, in which a policy targeting one region is effective in that region and has no impact elsewhere. In this case, there is still a macroeconomic effect because the aggregate production of the country increases. The national effect is even larger in a third case, in which a regional policy has a macroeconomic effect because, in most cases, a regional policy not only stimulates growth in the target region but also in other regions. Many policies activate growth spillovers towards other regions and therefore have a positive impact there too.

The relationship between macroeconomic and regional policies is twofold and also macroeconomic policies will have spatially differentiated effects. Some national policies are impossible to apply evenly across the country. For example, if a country wants to decrease an infrastructural deficit it has with respect to other countries, it can start an infrastructure plan, but this plan will have to be deployed in space and it will be impossible to provide all regions with the same level and type of infrastructure.

There also are other policies whose targets are less material, and which could in theory be deployed more uniformly across the country. Their effects, however, will be in most cases different across regions. In fact, when a policy is applied horizontally, that is, with no difference between the regions (something which we could call space-blind), there is no guarantee that the impact will be homogeneous across the country, instead, their regional impacts are normally different (see [D'Costa et al., 2019](#)). This can be demonstrated with a number of examples, starting with industrial policy.

National industrial policies

Industrial policy is an old phenomenon, whose origins can be traced to medieval Europe, Italian city-states and late medieval England ([Oqubay et al., 2020](#)). It certainly already existed in the 19th century when the countries tried to foster their own national economic development, especially industrial development with state interventions aimed at providing better locational conditions for manufacturing, or at stimulating the birth of industries in their territory. Today, the main targets of industrial policy are not regions, or places in a wider sense, but the functioning of the aggregate economy of a country or some specific industries.

Yet, industries are never evenly spread across regions, which means that any industrial policy intervention will benefit some places more than the others. Even policies which are conceived as totally neglecting space, such as competition policies, will advantage some firms against others and hence benefit some regions at the detriment of others.

If a country pursues a policy that targets specific industries considered to be crucial to national development, these industries will locate themselves in some places, which will then be favoured over others. Moreover, these industries will need suppliers, and these suppliers will not be uniformly distributed across space, with the consequence that those regions with more intense input-output relations with the supported industry will get an advantage.⁹

The relationship between space and industrial policy, however, also takes place in the opposite direction. The importance of the production systems in which a firm operates is such that most industrial policies take locational aspects into account to be effective.

National labour market policies

Other policies at the national level could, for example, target the labour market. Regional labour markets tend to vary in terms of labour demand because different regions will have different firms and in terms of labour supply because workers will live in different regions (leading in turn to a different supply of skills both in terms of quantity and specific competence). Any national labour market policy will hence have differential effects because, although the policy treatment is the same, the receiving regions are different. This is true even of the most homogeneous policies, such as a decrease in the taxes on labour.

National innovation policies

National innovation policies will also normally have different effects on regions because they often involve the subsidisation of innovation expenditure. The capabilities to innovate vary across regions and therefore some regions will receive more subsidies than the others. This is especially true when the subsidies to innovation are given through competitive procedures to finance the best possible users. One example of this is the European Framework programme Horizon 2020. Any firm and university across Europe could apply for these funds but evidence shows some countries were able to get quotas larger than their size. This is even more evident at regional level since there are some regions which received disproportionate amounts of these funds because they had the most dynamic innovation systems. The success rate of Horizon 2020 proposals, for example, ranges from 18% in Belgium to 9% in Bulgaria ([European Commission, 2018](#)).

Monetary policies

Even monetary policies can have differential effects on regions. For example, the central bank can decrease the discount rate in order to decrease interest rates and as such make money cheaper for the banking system. This is also expected to have an impact on the final users of money (firms or individuals) who should be able to borrow at lower interest rates. However, the banking system is unevenly spread across space so there are places in which it is easier to find a bank to apply for credit. Even more significant is that banks will not lend money to every firm in the same way and in some places may require larger guarantees. It is hence likely that a decrease in interest rates will improve lending opportunities in all places but not in the same way.

National regulatory policies

National regulatory policies can also have different impacts in different regions. For example, if a new national regulation imposes a limit to the construction of new houses, based for example on the number of residents or land availability, these new constraints will normally be binding only for some regions and hence have an impact only there. The same applies to environmental regulations. If regulations are put in place to cut on emissions, these will be more difficult to comply with for regions which

have industries consuming a lot of energy or underdeveloped public transport systems.

Spatial planning

There is a clear relationship also between regional policy and planning. Similar to regional policy, defining urban and regional planning is not an easy task. [Hall and Tewdr-Jones \(2011\)](#) spend a whole introductory chapter showing the different nuances which characterise the terms planning and, more specifically, spatial planning or urban and regional planning. [Cullingworth et al. \(2015\)](#) see planning as a concept which has evolved from something related to physical design, land-use control and state intervention, to something more centred on governance, so that urban planning can be viewed as:

a self-conscious collective (societal) effort to imagine or reimagine a town, city, urban region or wider territory and to translate the result into priorities for area investment, conservation measures, new and upgraded areas of settlement, strategic infrastructure investments and principles of land use regulation.

(p.5)

According to [Vanhove \(1999\)](#) planning is different from the simple introduction of spatial elements into economic policy. Planning, in fact, can be an instrument of regional policy and, at the same time, be impacted by regional policy itself. The implementation of regional policy will certainly impact on the issues which need to be addressed by planning, and planning interventions will have an impact on regions and hence reduce (or sometimes increase) the need for regional policy.

There is not a clear demarcation line between the two disciplines, whose overlaps are also apparent in the contents of the books that seek to illustrate one or the other. Indeed, there are both similarities and differences between the two. The first similarity is that both disciplines are concerned with spatial aspects of society, not only of the economy. Moreover, following the most recent developments, in both planning and regional policy there is a broad interest in the actions of local agents, on the one hand because they seek to address local problems and on the other hand because their involvement is essential to find good solutions to the problems.

There are however some differences between the two fields. Planning, for instance, is more concerned with regulations, while regional policy interventions seldom include them. Planning initiatives, moreover, have a larger role for concrete interventions, while regional policy initiatives often

involve immaterial “soft” aspects. Regional policy initiatives, although they can have different purposes, as it will become clear in [chapter 3](#), still have a larger interest in economic growth as one of the main outcome variables.

Finally, there is a difference of scale. Planning interventions are in many cases “urban planning”, while the scale of regional policy interventions is usually larger than one city and comprehends at least a functional urban area. This is not to deny that large-scale planning interventions exist, although they are usually more concerned with physical aspects than regional policy ones.

Just to provide a few examples, a policy which determines the physical use of some specific portions of land within an urban area is certainly a planning policy, although it may be part of a larger regional development strategy. A policy which tries to enhance the entrepreneurial levels of a given region through the support of collaborative research projects between firms is certainly a regional policy, although it may be complemented with the provision of physical spaces for the location of these new activities. A policy which tries to enhance the quality of life of the citizens of a region through the improvement of the public transport network is probably relevant in terms of planning and regional policy. [Chapter 8](#) of this book returns to the relationship between urban development and regional policy.

Policies deployed at regional level for administrative reasons

There are a very large number of policies which are deployed at regional, local and urban levels for administrative reasons, and which must not be confused with regional policy. This happens when the provision of public services is delegated by the central state to lower administrative levels to better serve the citizens’ needs, with the idea to provide them in the most effective ways for everyone, irrespectively of where they live. For example, the schooling system is in most countries dependent on local authorities, which are in charge of providing education to local students. When the purpose of educational services is just to provide good education to citizens, it is not relevant for this book whether such provision comes directly from the central government or is delegated to local authorities. Education can indeed be one aspect in which regional policy intervenes, but this happens when it is deemed to increase the development of specific areas and, in particular, those which are lagging behind in this important aspect (see [chapters 5](#) and [6](#)). The key again is the intentionality of spatial effects, so when there is not the intention to target or favour specific areas, policies deployed at regional or local level are not to be confused with regional policy.

Many more examples exist of this type of policy: health provision is local in many countries; local roads are usually built and maintained by local

authorities; public offices usually have a capillarity so that citizens can refer to the office in their area instead of referring to the national one but, again, all offices are supposed to provide the same types of services.

1.6 THE TRADE-OFFS OF REGIONAL POLICY

Regional policy is characterised by many trade-offs. A trade-off is a situation arising when two alternatives, which are both desirable, are impossible to achieve at the same time. This means choosing the right balance between them. Trade-offs are common in economics, which is usually concerned with choices under constraints. A simple example is the constraint of the available money in your pocket, which may require you to buy less of one thing if you want to buy more of another.

In regional policy there are many situations in which trade-offs may arise and most of these situations are described in detail later in the various chapters of this book. However, it is helpful to provide here a first account of the different choices because it is important for policymakers to take policy decisions aware that it is not possible to get everything at the same time.

Equity vs efficiency

The most famous trade-off in regional policy is the one between equity and efficiency or, as they are now more commonly termed, between competitiveness and cohesion. [Chapter 3](#) demonstrates that efficiency and equity are both desirable objectives and regional policy can help achieve both. Efficiency refers to the fact that, with regional policy, it is possible to increase the growth rate or the amount of production thanks to a better distribution of production across places. Equity refers to a situation in which places have similar levels of wealth and, as such, there are few disparities between them. The trade-off is normally assumed to arise because balancing the spatial economy often means hindering market forces which, through agglomeration economies, favour some regions over others, while at the same time providing a higher growth rate.

It is clear that if a policymaker wants to balance the economy of different regions in the presence of agglomeration economies, they are normally distorting the markets and as such introducing some inefficiencies. For this reason, if the trade-off exists, then a policymaker who is really interested in the reduction of disparities has to pay in terms of reduced total economic activity.

A burgeoning literature, especially in the 2010s, supported the possibility of escaping this trade-off by designing and implementing place-based policies, which stimulate the untapped opportunities of all regions, including lagging regions that have so far been unable to develop to their potential ([Barca, 2009](#); [Barca et al., 2012](#); [Camagni & Capello, 2015](#); [Farole et al., 2011](#); [Iammarino et al., 2019](#); [Ridao-Cano & Bodewig, 2018](#)).

Despite support for place-based policies in regional science, the dispute with space-blind policies is still ongoing and the outcome depends on the theoretical and conceptual assumptions used in the reasoning, places and situations analysed. This debate will be considered in the next section (1.7.1), while an extended discussion on the trade-off between equity and efficiency will be presented in [chapter 3](#).

Short vs long run

Another trade-off which the policymaker needs to be aware of is the one between short and long run. It is impossible to get everything and to get it soon. In many cases, the policymaker has to face the choice between getting some results in the short run and getting greater results in the long run. Another related situation is that in which it is possible to get immediate but short-lived results, or to get results which require more time but will then last for longer, so again there is the need to choose.

For instance, policies which involve assistance as an instrument to provide wealth to citizens of disadvantaged regions, are usually policies whose effects tend to be very rapid because money is directly put in the local economy, including firms and people. However, these interventions normally do not bring economic development in the long run, and their impact fades out as soon as the intervention ends. Structural interventions, on the other hand, are designed to affect the structure of the regional economy and, as such, require time to be effective. When structural transformation has been achieved, however, these transformations may provide an increased level of wealth or an increased level of growth which lasts.

A politician seeking re-election may be biased towards having immediate results because of the time frame in which decisions must be taken and results assessed. If there are elections relatively soon, then policymakers can be pushed by the politicians to try interventions which give immediate results that will be noticed by voters. Of course, this way of proceeding may be detrimental to long-run growth and development for a region.

Involvement vs accountability /control

The next trade-off is the one between involvement and accountability/control ([chapter 4](#)). When implementing a regional policy, two aspects are essential to achieve good results. The first is the involvement of local people, firms and stakeholders in the projects, because these economic agents possess a lot of information about the place where they live and operate, and also because they may be key actors in delivering the desired objectives. Normally, the involvement of agents is much easier when it happens spontaneously, i.e. when the participation of the local community comes from the fact that it shares the objectives which have been agreed together.

However, another aspect which is important in the implementation of policies is the one of accountability and control, because without accountability it is impossible to verify if those involved in a project are really doing what is expected of them and to keep them liable. One way to achieve accountability is through various mechanisms of control in which what happens is monitored, including the actions of the various actors.

The trade-off between these two desirable ways of proceeding arises because when there is more control, people are normally less keen on being involved and putting in additional effort. However, it would be too risky to only rely on people's involvement without any form of control because commitment can be short-lived, or because people could decide to act as free riders¹⁰, once they see they can benefit from the policy without putting in their own effort.

Flexibility vs structural interventions

A trade-off also arises between flexibility and structural interventions, the latter of which require, as shown above, long-run strategies. Flexibility is important for effective regional policies because the policy context may change rapidly due to external conditions, for example new trade policies by other countries, a new pathbreaking technology in the region's sector of specialisation, the arrival of a recession, or even the arrival of a huge, unexpected event such as the Covid crisis in 2020. In all these situations, it is important to have a high level of flexibility so the policy can be adapted to the changing environment and react to new challenges by changing the instruments or even the final objectives of the policy.

However, flexibility can come at the detriment of structural interventions which require many years of effort. It is easy to rely on flexibility and forget long-run objectives, such that the policy focus shifts towards those which can be achieved more rapidly – even if they are less important or effective in the long-run. Flexibility is also in contrast with accountability, because such mechanisms, which want to guarantee that agents are kept accountable of

their actions, also introduce rigidities that limit the possibility of changing policies when new situations arise.

Quantitative vs qualitative growth

In terms of objectives, there is also a possible trade-off between quantitative and qualitative growth. Growth can take place in different ways, some more quantitative and others more qualitative. Quantitative growth can be measured using indicators such as GDP or employment and, as such, these indicators may neglect the quality of the growth, which cannot be measured in this way.

Qualitative growth may depend on the fact that not only are jobs created but that the jobs created are of good quality and guarantee good working conditions. An increase in GDP can be achieved in a way which only focuses on the increase in its value or in a way that is better for people and the environment, by creating activities which do not harm the quality of life of local communities nor the global future of Earth.

Unfortunately, there are many situations in which the increase of quantitative indicators is lower when a given policy also tries to consider qualitative impacts. Poorer communities may normally be keener on considering quantitative indicators because they still need to create wealth and jobs while richer communities often give less importance to the quantity of growth in favour of the way growth is achieved.¹¹ Recent policies try to overcome these trade-offs by finding policies which provide quantitative growth of a good quality, but it is still difficult to really achieve both at the same time.

Innovation vs knowledge diffusion

There is another trade-off which especially concerns regional policies based on innovation, namely that between innovation vs knowledge diffusion. As shown in [chapter 5](#), innovation requires a good level of appropriability¹² to provide the incentive for economic agents to innovate. However, the more appropriability there is, the more difficult it is for other agents to learn from the innovator. To say it differently, appropriability may increase the internal innovation rate but, at the same time, it will lower the rate of knowledge diffusion.

The rate of internal innovation is important because regions need innovative firms, but the rate of knowledge diffusion is also important because it is through knowledge diffusion that different firms can learn from each other and create an atmosphere favourable to further innovation. Consequently, it is important to find the right balance between these two

objectives in policies which seek to maximise the regional innovation potential.

Another example related to this issue is firm location. Firms, in fact, may be willing to locate in a place in which they can benefit from the spillovers of the innovative activities of other firms, but at the same time may prefer to locate in places where it is difficult for other firms to copy their own innovative advancements. Places with too much knowledge diffusion can be repulsive to strong innovators; at the same time, places where spillovers are low and little knowledge diffusion takes place cannot benefit from the presence of innovative firms because the advantages of these innovations remain inside the firm and do not spread to the regional system.

Policy efficiency vs policy effectiveness

Efficiency also has another meaning in regional policy: it concerns the efficiency of the policy itself in achieving its objectives with the lowest possible use of resources, which means that either the policy achieves its objectives at the minimum cost or that, given the resources devoted to the policy, the results are maximised. Efficiency may in some cases compete with effectiveness, which is the ability of a policy to achieve its objectives, giving rise to a trade-off between policy efficiency and policy effectiveness.

In fact, there are cases in which the pursuit of efficient policies risks undermining the achievement of the policy objective, and as such it would be better to increase the resources committed to the policy, especially when the objective is a binary one, i.e. one which is necessary to provide fully otherwise it is useless. Trying to keep costs low, in fact, can backfire, especially when there are thresholds in policy effects, by which the latter become available only after a minimum effort or participation is achieved. Since calculating the effects *ex ante* is always difficult, a stingy policy risks missing the threshold and fully wasting the expenditure, while some level of redundancy could be helpful in avoiding this risk.¹³

In other cases, when it is difficult to target the beneficiaries, being too strict in terms of policy efficiency risks leaving out some beneficiaries in need, while financing all those in need may require the risk of also financing some whom should not be targeted.

Openness vs embeddedness/local cohesion

Two other characteristics are both positive for a local economy. One is being open to external threats and stimuli, because through external connections it is possible for the local productive system to receive knowledge, market information and growth opportunities. The second is the embeddedness of

firms within the local productive system, because in this way if the firm is able to grow it will choose to stay within the system and will provide growth opportunities to suppliers located in the same area.

There is therefore also a trade-off between openness and embeddedness (or local cohesion). Regional policy may in fact try to foster both things, i.e. the involvement of local firms in global networks, on the one hand, and the embeddedness of firms within the local productive system on the other hand. However, a trade-off may arise because firms which are highly involved in external networks may become more footloose and hence seek the best opportunities on a global scale. Firms which are, on the contrary, highly embedded in the local productive system, may also be less interested in participating in global networks and, because of that, risk being less competitive because their knowledge horizon may be too narrow.¹⁴

The solution is to implement policies to achieve the right balance of internal and external connections, which applies to many possible situations ([Senn & Fratesi, 2009](#)): for example, helping the internationalisation of local firms is a good idea but runs the risk of their relocation unless, at the same time, the local services and production fabric are reinforced to increase embeddedness. An empirical demonstration of a similar idea is provided by [Callois \(2018\)](#) who measures the relationship between “openness” in terms of export orientation and “cohesion”, or economic interdependence, in terms of regional multipliers and support. He suggests that when openness is lacking it should be fostered with policies which look for new export markets and encourage businesses in new sectors, while in places where embeddedness is lacking, such as many rural areas, policies should target the fostering of economic diversity, raising of social contacts or the improvement of social trust.

A similar trade-off takes place in the case of local communities. It has been demonstrated that when local communities are more open to external links, including external people and migrants, they tend to be more innovative because they can benefit from these relations to enlarge their knowledge. However, it has also been demonstrated that when a community is more cohesive it brings a better situation for economic activities, because there are lower risks of free-riding and footloose behaviours. The fact is that local communities can and should be open and cohesive at the same time, which is a difficult balance to strike.

1.7 THE BASICS OF CONTEMPORARY REGIONAL POLICY

1.7.1 Place-based vs space-blind policies

Perhaps the most important debate needed to understand the field of regional policy is the one between the supporters of space-blind and place-based policies. This follows the increasing attention given to social issues (leading to the creation of robust welfare states) and to disparities, which developed in the decades after the Second World War. Consequently, regional policy became diffused in many countries, especially those with advanced economies, which had higher political sensitivity to the issue of spatial imbalances and more opportunities to finance interventions aimed at curbing them. For most of the 20th century, regional policy was mostly top-down and dirigiste, with central government providing resources to less developed regions, in the form of investments or assistance.

This way of doing regional policy has been challenged by empirical and theoretical arguments. In terms of empirical evidence, many notable research papers have argued that regional policies were unable to achieve their target of disparity reduction and that, instead, countries experiencing higher mobility between regions were also experiencing lower disparities (see for example [Bähr, 2008](#)). For example, the argument was illustrated by [Puga \(2002\)](#) through a comparison between the US and the European Union. The US being comparable to the EU in terms of population and GDP but with a higher concentration of economic activities.¹⁵ According to some scholars, this is because the integration between the US states is much stronger than between European countries and regions, which have various barriers that cannot be easily addressed (e.g. culture, language). Another notable feature is that the mobility of people inside the US is much greater than inside Europe for cultural and economic reasons, despite the creation of the single market in Europe which allows citizens to live and work in a different EU country ([Dorn & Zweimüller, 2021](#)).

The theoretical arguments have stemmed from two perspectives which affirm that the situation of the spatial economy tends to an efficient equilibrium. The idea is that market forces spontaneously equalise the situation in different regions and, if there are disparities, they are due to rigidities which prevent spontaneous forces from reaching positive outcomes. Other models posit that, even in cases of regional differentials and agglomeration, such as in most models of new economic geography, these situations are efficient equilibria. This means that policy interventions devoted to counterbalance market forces will be both ineffective – because they are fighting stable, self-reinforcing equilibria – and inefficient – because they are fighting the spontaneous results of market forces.

If this is the case, then, traditional regional policies that target lagging regions are highly inefficient from an economic point of view, and unable to really achieve the same level of income for all citizens. Conversely, policies that enhanced the spatial mobility of people would increase efficiency and reduce disparities of income between citizens living in different places, since

migration flows would take place until the same wages were achieved in all places. These considerations were the basis of an influential report published by the [World Bank in 2009](#) ([World Bank, 2009](#)). This report explicitly argued that regional policies should stop targeting specific places, with a few exceptions such as deprived boroughs inside cities, and be replaced by space-blind policies based on three factors: density, distance and division. The success of places, in fact, stems from increased density, such as in large cities; reduced distances, because workers and firms migrate closer to density; and reduced division, because the integration of world markets provides opportunities in terms of specialisation and economies of scale.

The idea behind the World Bank policy proposal was that density brings economic efficiency and therefore wealth to citizens. As a result, it is negative to try to oppose agglomeration, which should instead be encouraged. At the same time, making it easier for people to migrate towards agglomerated areas is a people-based policy, which allows the maximisation of individuals and aggregate efficiency at the same time. While forcedly spreading economic activity is seen as decreasing growth, integration is seen as capable of both increasing growth and making its benefits available to everybody. Policy interventions, however, are differentiated depending on the density of lagging areas and the agglomeration and integration already achieved in the country. This means that the main proposed policy instruments are different mixes of infrastructure, institutional improvements, provision of basic services and enhancement of people's mobility.

Against these arguments, scholars of less neoclassical approaches have proposed a new approach to regional policy which is known as place-based policy. The place-based argument starts from two main ideas ([McCann, 2015](#)):

1. Recognition that development patterns are not the same for all regions, as each region has its own specificities in terms of assets, society, local institutions and interactions between different typologies of actors. This means that implementing the same policies in all places is ineffective.
2. Local knowledge is better than that of external policymakers. Therefore, top-down approaches would fail because policymakers lack relevant information about local specificities and the involvement of local actors is necessary for the success of any development policy. This does not mean that local actors, including lower government bodies, will be effective if left alone in charge of the development policies of their region. In fact, local actors' knowledge possessed about the economic conjuncture, international situation and global opportunities is normally lower than others operating at a higher spatial level. For this reason, place-based policies are normally implemented through multilevel

governance schemes, as shown in [chapter 4](#).

The most important contribution to put the place-based approach at the centre of the regional agenda was the seminal report by [Barca \(2009\)](#), which advocated for place-based policies to underpin the regional policy of the European Union. In particular, it stated that adopting a place-based approach would achieve economic and social objectives at the same time, so regional policy would no longer be working against the efficiency of the economic system. This would happen because lagging and peripheral regions would still have development potential and the fact that they are poorer is not the result of a lack of potential but of the local inability to exploit it. For instance, as [Barca \(2009\)](#) noted, there are places in which local elites do not want to establish true development policies or would not be able to implement them. On the one hand, it is possible that local elites intentionally fail to choose the appropriate economic institutions for development due to self-interest or, on the other hand, that there is path-dependency¹⁶ so that those places which have a lower institutional quality will be unable to develop them in the future. Therefore, policy interventions will need to provide “integrated bundles of public goods and services aimed at triggering institutional change, improving the well-being of people and the productivity of businesses and promoting innovation” (p.xi).

Another aspect directly concerns agglomeration,¹⁷ which is still considered a driving force of development but less straightforwardly with respect to space-blind theories. In place-based theories, agglomeration is usually the result of public and private decisions taken with a degree of uncertainty, and so it is possible that the development of additional or alternative agglomerations, which spread economic activities, is also good in efficiency terms. The next chapter will present some of the reasons for the existence of agglomerations.

In a place-based approach there is no longer the tension between the centre and the periphery and so between centralisation and decentralisation in the implementation of policies. This is because the centre helps set some of the priorities and provides resources and general knowledge, while the periphery provides local knowledge which helps implement policies as appropriate to the local context. There is the acknowledgement that place-based policies are complex and risky because it is relatively easy to allocate resources incorrectly. However, such risks exist for space-blind policies too, which also interfere with the market and often have unintended spatial consequences that are difficult to assess.

The approach of place-based policies has been supported by many important contributions in regional science (e.g. [Barca et al., 2012](#); [Camagni & Capello, 2015](#); [Farole et al., 2011, 2018](#); [Iammarino et al., 2019](#); [Ridao-Cano & Bodewig, 2018](#)). They have also been widely implemented, in particular by the European Union in its 2014–2020 programming period,

which also saw the implementation of Smart Specialisation Strategies¹⁸ at the core of innovation and competitiveness objectives. As evident in [chapter 6](#), Smart Specialisation Strategies are eminently place-based, insofar as they look for new opportunities through entrepreneurial discovery, which leads to the development of new specialisations and market niches for each place ([Foray, 2015](#); [Foray et al., 2009](#)).

Because of their ability to let all places exploit their assets and opportunities, place-based approaches are also useful to avoid the trade-off between equity and efficiency, which will be discussed more in [chapter 3](#). [Barca et al. \(2012\)](#), for instance, support the idea of abandoning convergence as the main indicator and objective of regional policy and instead focusing on policies for lagging regions based on efficiency.¹⁹ This approach requires providing different bundles of public goods to each region and would eventually provide an enhancement of growth at the national level.

[Partridge et al. \(2015\)](#) provide a useful list of things that characterise successful place-based policies. The starting point needs to be the evidence that spontaneous spatial equilibrium forces are not necessarily working, for example because there are low levels of institutions in some places, so that any intervention risks being undermined by the local inability to implement it, and therefore providing funds will not be an effective development strategy. The second aspect concerns the spatial delimitation of the interventions, which will work if consistent with a functional idea of the region (i.e. as where economic processes take place). Successful place-based interventions will normally require the inclusion of many jurisdictions to cover the real economic area. They also argue that the intervention would be more effective if broad-based, meaning that it should not target a specific industry. This may seem at odds with the idea of concentrating resources through smart specialisation but is fully consistent with the idea that development has to have many elements ([Pike et al., 2007](#)). They in fact also note that investment in human capital is key to retaining and attracting qualified people, in addition to interventions in local institutions, good governance and high-quality public services. Finally, as for all place-based interventions, these characteristics will depend on local information, preferences and networks.

1.7.2 Old vs new approaches to regional policy

Concluding this introductory chapter, it may be helpful to anticipate some of the themes which will be further developed in the book and show the evolution of regional policy in recent decades. It is possible to distinguish between an old paradigm of regional policy and a new one. They differ in terms of regional growth conception, objectives, unit of intervention, strategies, tools and actors ([OECD, 2009](#); [Table 1.3](#)).

There is not a precise and sudden moment in time in which this transition took place. It happened gradually, supported by academic research in various fields and observations about the failure of the old paradigm in many cases (though not all). The new paradigm has been dominant since 2000 but some of its elements were present before. At the same time, many aspects of the old paradigm still exist. They survive not just because of the general inertia which affects all human behaviours, including policy choices, but because there are situations in which the old way of doing things may be suitable.

TABLE 1.3 New and traditional approaches to regional policy

	Old paradigm	New paradigm
Regional growth conception	Mostly distributive	Mostly generative
Objectives	Compensating temporarily for the location disadvantages of lagging regions	Tapping underutilised potential in all regions to enhance regional competitiveness
Unit of intervention	Administrative units	Functional economic areas
Strategies	Sectoral approach	Integrated development projects
Tools	Subsidies and state aids	Mix of soft and hard capital (capital stock, labour market, business environment, social capital and networks)
Actors	Central government	Different levels of government, private actors and civil society

Source: Adapted and expanded from [OECD \(2009, p.51\)](#)

The first aspect in which the two paradigms differ is the regional growth conception which was mostly distributive and is now mostly generative. The former sees that total growth as set and to be distributed among regions, the latter sees total growth as the sum of that of the individual regions (see section 3.4).

The second aspect is the objective of regional policy. In the old paradigm, the main objective was to compensate lagging regions for their locational disadvantages, and hence to provide them with some relief. The new paradigm has a more optimistic view, which sees an underutilised potential in all regions that can be exploited to enhance regional competitiveness both in advanced and in lagging regions. [Chapter 3](#) discusses the many different objectives that can be pursued with regional policy.

The third aspect in which the two paradigms differ is the unit of intervention. The old paradigm was reliant on administrative units, which are the easiest and more immediate scale for policy interventions. However, as we saw in section 1.2, economic mechanisms often take place at different spatial scales which may not coincide with administrative units. Intervening at the scale of economic processes may bring better policy outcomes.

The fourth difference is in terms of strategies. The old paradigm predominantly used a sectoral approach in which specific economic sectors or specific aspects were targeted. The new paradigm, on the other hand, comes from the acknowledgment that regional economic development is a systemic process, in which the various aspects must be combined to produce the desired outcomes. For this reason, integrated development projects are usually adopted and the different instruments have to be integrated ([chapter 5](#)).

The fifth relevant difference concerns the tools used in the interventions. In the old paradigm, the most common tools were subsidies and state aids, i.e. direct interventions in the decisions of firms through policies that affected their costs and locational behaviours. The new paradigm tends to favour more structural and systemic interventions, which include soft and hard local capital, through measures on the firm capital stock, local labour markets, business environment, social capital, networks and so on. The tools of the old paradigm are still commonly used and often included within the policy mix implemented by most regions. These tools are discussed further in [chapters 5](#) and [6](#).

The final main difference between the old and the new paradigms is the actors which implement regional policy. In the old paradigm, the most important actor was the central government, which implemented regional policy with a top-down approach, mostly to reduce disparities. However, this centralised approach has been shown to have many limits. Therefore, in the new paradigm the central government operates alongside different levels of government and with civil society actors. On the governance of the interventions please refer to [chapter 4](#).

BOX 1.3 COHESION POLICY: THE REGIONAL POLICY OF THE EUROPEAN UNION

Perhaps the most studied and well-known example of regional policy is the regional policy of the European Union, also known as “EU Cohesion Policy”. Its wide recognition comes from its size and relevance, since it concerns all the regions of a union of 27 countries, and a budget of more than EUR 50 billion annually on average. Moreover, this is probably the most closely scrutinised regional policy in the world. This is certainly due to its international relevance, but

also the relatively easy availability of data (which are mostly public, when they exist) which makes it easier for researchers to study its deployment and effects ([Fratesi, 2016](#)). Moreover, EU Cohesion Policy usually comes with important requirements in terms of evaluation and assessment, which are less diffused and transparent elsewhere, which creates a full and longstanding system of appraisal, monitoring and evaluation covering its interventions ([Bachtler & Wren, 2006](#)).

The need to address regional issues was already mentioned in the Treaty of Rome, signed in 1957 and establishing the European Economic Community. The treaty mentioned the aim of “reducing the differences existing between the various regions and the backwardness of the less favoured regions” and promoting “harmonious development of economic activities” and “a continuous and balanced expansion”. However, the importance of investments in regional policy remained relatively small as a percentage of the total budget, until the large reform which started Cohesion Policy as we know it in 1989.

The Single European Act (SEA), signed in 1986 and coming into effect in 1987, in fact, created the European Union from the European Community, provided the bases for the Single Market (1992) and the legal basis for a large increase in the relevance of regional policy within EU policies. This was also due to concerns for the spatially concentric effects of market integration (see [chapter 2](#)). The SEA includes a title V on economic and social cohesion, stating that “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. In particular the Community shall aim at reducing disparities between the various regions and the backwardness of the least-favoured regions” (article 130A). With the SEA, the structural funds were regulated to finance regional policy, and the share on EU budget started rapidly increasing to about 1/3 of the total.

The Maastricht Treaty (1992), which put the legal bases for the European Monetary Union and the introduction of the Euro, also introduced the Cohesion Fund (active from 1994), to counterbalance disparities at the national level and destined to the less developed countries of the European Union. The most recent treaty was signed in Lisbon in 2007 and also includes the goal of “greater social, economic and territorial cohesion” (EU Treaty, article number 3, [European Union, 2010](#)).

The EU Cohesion Policy is financed through the Structural and Investment Funds which are composed of, for the programming period 2021–2027²⁰:

- The European Regional Development Fund (ERDF), which is traditionally the instrument to finance social and economic development EU regions and cities.
- The Cohesion Fund (CF), which invests in environment and transport in the poorer EU countries, i.e. those whose GDI per inhabitant is less than 90% of the average.
- The European Social Fund Plus (ESF +), heir to the European Social Fund (ESF), which finances initiatives for jobs and workers' requalification, as well as aiming to create a "fair and socially inclusive society in EU countries".
- The Just Transition Fund (JTF) which was recently established to support those regions most affected by the transition to a climate neutral economy.²¹

Cohesion Policy is organised in programming periods lasting seven years,²² each of them with its specificities, although mostly with evolution from the previous one. In each of them, regions at NUTS2 level (or sub-regional areas) have been classified into objectives, with different objectives receiving different types of interventions and different levels of funding. The less developed regions, in particular, have always been identified as those with GDP per capita in purchasing power parity (PPP) below 75% of the average and are those receiving more funds. For the other objectives, on the other hand, a streamlining took place, until the recent stability (see [Table 1.4](#) on the evolution of Cohesion Policy objectives). Cohesion Policy is not only deployed at regional level, but some of its programmes address specific needs of border regions and cross-border cooperation, urban areas, remote regions, islands, mountainous or sparsely populated areas, outermost regions.²³

Thematic objectives, or priorities, also exist, there were 11 of them in programming period 2014–2020, streamlined to 5 for 2021–2027, namely:

TABLE 1.4 Evolution of EU Cohesion Policy objectives

Objective	1989-1993	1994-1999	2000-2006	2007-2013	2014-2020	2021-2027
1	Development and structural adjustment of regions where development is lagging behind (GDP per capita > 75% of EU average)			Convergence (GDP per capita > 75% of EU average)	Less developed (GDP per capita > 75% of EU average)	Less developed (GDP per capita > 75% of EU average)

Objective	1989-1993	1994-1999	2000-2006	2007-2013	2014-2020	2021-2027
					Transition (GDP per capita between 75% and 90% of EU average)	Transition (GDP per capita between 75% and 100% of EU average)
Ex 1		1994-1996 Abruzzo	Phasing-out Objective 1	Phasing-out and phasing-in		
5b	Promotion of rural development	Development and structural adjustment of rural areas ¹ Objective 2: supporting				
2	Converting the regions, frontier regions or parts of regions seriously affected by industrial decline	Converting the regions or parts of regions seriously affected by industrial decline	the economic and social conversion of areas facing structural difficulties			
3	Combating long-term unemployment	Combating long-term unemployment and facilitating occupational integration	Objective 3: Training systems and	Regional competitiveness and employment	More developed (GDP per capita > 90% of EU average)	More developed (GDP per capita > 100% of EU average)
4	Occupational integration of young people	Adapting the workforce to industrial changes	employment policies			
6		Development and structural adjustment of regions with an extremely low population density	Part of Objective 1			

Objective	1989-1993	1994-1999	2000-2006	2007-2013	2014-2020	2021-2027
Number of categories²	5	7	4	3	3	3

¹ From 2000 onwards, part of the support for rural development was financed by the second pillar of the Common Agricultural Policy outside Cohesion Policy programmes

² Not including Community Initiatives or the Territorial Cooperation Objective.

Source: 6th cohesion report 2014, extended to most recent programming period by the author of this book

1. A more competitive and smarter Europe.
2. A greener, low-carbon transitioning towards a net zero carbon economy.
3. A more connected Europe by enhancing mobility.
4. A more social and inclusive Europe.
5. A Europe closer to citizens by fostering the sustainable and integrated development of all types of territories.

Beyond purely territorial cohesion objectives, Cohesion Policy is called to contribute to the achievement of general EU Commission priorities, currently (2022), “A European Green Deal” “A Europe fit for the digital age”, “An economy that works for the people”. This sometimes introduces some trade-offs, as some of the least developed regions are also the least equipped for these transitions.²⁴

Within the wide umbrella of Cohesion Policy, a plethora of regional policy interventions take place, addressing a very large number of priorities all over the EU. The way in which these interventions are set and decided is described in [Box 4.2](#) in [chapter 4](#).

Many examples in this book come from EU Cohesion Policy, not just for its relevance and the fact that it is well known, but because it is the case for which most information exists. For this reason, Cohesion Policy is the ideal candidate to illustrate universal conceptual issues, for which data are not available elsewhere.

BOX 1.4 THE EXPERIENCE OF THE TENNESSEE VALLEY AUTHORITY

The United States of America is often considered to be less concerned with regional development with respect to most European, Asian and Latin American countries. This is partly because of the federal structure of the country, in which each state has absolute powers on several aspects, and partly due to the traditionally leaner presence of the government. However, initiatives by the federal government and by the states for disadvantaged areas are widespread, estimated at USD 95 billion yearly by [Kline and Moretti \(2014\)](#). More recently, [Bartik \(2020\)](#) estimated the expenditure on “place-based jobs policies” (including “business tax incentives, cash grants to business, and special public services to business such as customized job training, manufacturing extension services, small business development centers, business incubators, business parks, and access roads” (p.99))²⁵ at USD 60.7 billion annually, of which USD 10.1 billion comes from the federal budget. Most of these interventions take therefore the form of direct incentives to firm location, and other indirect interventions to facilitate firm location in the desired place, even if the extent of incentives does not seem to be strictly related to job scarcity in the state ([Bartik, 2020](#)).

Other policies in the US have important spatial aspects, such as those which concern federal research and the military innovation and production, which however do not normally have regional development purposes (i.e. they are policies of Type 4).

Coming to explicit regional development (policies of Type 2), the most interesting case, which has been extensively studied because of its size and the length of the intervention, is that of the Tennessee Valley Authority.²⁶ The area covered by TVA extends in fact over seven states and [Kline and Moretti \(2014\)](#) estimate that its annual level of federal resources was above USD 1.5 billion (2000 prices) in the years of peak spending (the period 1950–1955), a time in which this was comparable to 10% of local household income.

The Tennessee Valley Authority was created in 1933 as part of the New Deal²⁷ and was deemed to modernise and revitalise the economy of the area through large public investments in infrastructure, the navigability of the Tennessee River, electricity facilities (especially dams), roads, canals and flood control.²⁸ The TVA employed thousands of people directly, and also increased the attractiveness of firms in the area as well as intervened in agriculture to teach farmers techniques to increase productivity and reduce soil erosion and provided electricity which was intended to attract manufacturing (starting with textile mills in the first years) in what was at the time a mostly agricultural area. Moreover, TVA interventions appear to have privileged weaker counties ([Kline & Moretti, 2014](#)).

The large scale of the TVA intervention was related to the idea that threshold effects exist, and hence only large investments could overcome these thresholds and achieve the desired results in terms of production and wealth. These large interventions also had negative impacts on some local communities which were displaced by TVA projects.

Federal support of the TVA de facto ceased after 1959, when the agency was made to become self-financing, but the company remained active and energy prices in the area remained lower than elsewhere. The TVA has continued to operate as a publicly owned energy and utility company and still exists today, with operating revenues above USD 10 billion in 2021 and a company commitment to energy, environment and economic development.

The impact of TVA on regional development has been measured by [Kline and Moretti \(2014\)](#) who estimated its long-run social and economic costs and benefits controlling with other areas for which similar authorities were proposed but never approved. The most interesting result of this analysis is that in the manufacturing sector the intervention seems to have induced agglomeration economies, since the positive impacts on jobs lasted well beyond the end of subsidies in 1959. In agriculture, where these agglomeration economies are less relevant, the effect mostly ended with the end of the subsidies. Moreover, it seems that the total benefits outweigh the costs of the federal investments.

While the results by [Kline and Moretti \(2014\)](#) are debated ([Kitchens, 2014](#)) and the case of TVA is unique in its kind (it concerns a specific historical period, with very large federal resources and in a context missing manufacturing but with potential), this example shows that regional policy can be effective when it addresses local deficits and provides location factors. Moreover, it also shows that self-sustained growth patterns can be generated, although they are not guaranteed to exist for any policy intervention. Finally, it shows that self-sustained growth requires overcoming thresholds, which are different depending on the context and may be very high.

1.7.3 The role of the policy advisor

This book is about policy and not about politics. Its objective is not to tell the reader what to do, but to present a full set of instruments which are needed to operate in the wide and continuously evolving field of regional policy. As will be evident in many chapters of the book, there are “wrong” policies, which are ineffective or detrimental, but there is not a unique

“right” policy, because there are always many different ways to improve the situation of places, depending also on the ranking of multiple objectives.

It is hence important to distinguish the role of policymakers from that of politicians and policy advisors. The policymaker, normally a functionary of a public administration at some level, is normally the person (or body) in charge of the design and the implementation of policies. However, the policymaker should not be left alone in charge of high-level policy decisions, which have a strong political meaning. In fact, in well-functioning democratic systems the highest-level policy decisions should be taken by people’s representatives, i.e. elected politicians, because these will be able to convey the demands coming from the citizens. It is in fact wrong to present as technical and objective many decisions which are instead political in that they have advantages and disadvantages.²⁹

Policymakers are therefore normally functionaries who need to follow the political agenda set by elected bodies, even if with normally a wide autonomy in terms of how to follow that agenda, because of their better knowledge about the working of the system. This knowledge also means that policymakers can be, and often act as, policy advisors to politicians.

The policy advisor, being a policymaker, a consultant or an academic, will also have an important role in policy design: that of presenting the alternatives, and in an understandable way, paying special attention to their consequences, including those which are not immediately visible or only visible to the informed professional. Some alternatives will be superior on every single indicator to others, which will hence need to be discarded. However, this is rarely the case, and most alternatives will not be comparable with the criterion by Pareto³⁰ because many possible situations can arise. For example, one policy is better now and the other will be better in the future, or one policy is better for some people and the other for others. In these cases, it is necessary to consider to what extent different interests can be weighed one against the other, taking into account the trade-offs in an explicit way (section 1.5). The final decision stands hence with the politician, who is bound to represent the will of the citizens.

Experts and advisors, even with their expertise, cannot in fact avoid the presence of tradeoffs but they can help politicians and the community navigate through them. It will therefore be a matter of explicitly presenting the trade-offs between alternatives, allowing for informed choices. In this way, they can also help emerging those social preferences that would otherwise remain implicit, improving the decision-making process, since different goals and value systems cannot be effectively composed without knowing the various stakes.

And, at the same time, by presenting the alternatives, the expert would contribute to the definition of the policy objectives ([chapter 4](#)). For example, by how much could the depopulation of peripheral areas be reduced by allocating EUR 1 billion to these interventions? And how much by doubling

that figure? Faced with alternatives, the politicians would need to take the political choices for which they are elected, and the public could also become aware of the complexity of the choices, and of the values on which they are based.

Secondly, an expert advisor will have the fundamental task of avoiding internal solutions (those that do not exploit the full potential of the resources employed) in order to arrive at efficient policies in which it is not possible to reach a higher level in an objective without having to reduce the level of another. It is therefore a question of identifying and communicating possible Pareto improvements, i.e. situations that are better from at least one point of view and not worse from any other point of view.

Again, an advisor can be used to find the best (or least expensive) combination of tools to achieve the desired level of the policy objective, while minimising the cost of the policies. For example, if the goal was to reduce the per capita GDP gap of a lagging region compared to the rest of its country, what interventions could achieve this result with the minimum use of public resources?

Similarly, the expert advisor could illustrate how to reach the maximum level of a certain objective given the amount of available resources. Supposing that the government decides to assign a certain budget to territorial cohesion (see [chapter 3](#)) and that this objective is intended to reduce regional disparities within the country, which interventions would maximise the result? The expert would therefore help identify the best combination of the various possible interventions (e.g. on human capital, infrastructure, governance, fiscal incentives, etc., see [chapters 5](#) and [6](#)) to achieve the policy objectives.

It is clear that, in order to carry out these roles, experts need the time and resources to study the problems and provide well-founded answers, perhaps using models and econometric analyses (see [chapter 7](#)), which can be difficult to match with the short timespans of public debate and fast-changing political agendas. Furthermore, even the knowledge of the best experts is imperfect. As shown in [Box 1.5](#), the implementation of a policy can be described as a function of many inputs into many outputs, whose knowledge is always imperfect. The experts will have to transmit their best technical knowledge and the decision, at that point, will be in the hands of politicians, who represent the citizens and, possibly, will pay the consequences in electoral terms of their choices.

With these objectives, this book will not tell its readers what to do, but will provide the elements to understand what they will be able to do, knowing the various issues which are involved in the regional policy process. As such, it will be of interest for persons who have or will have in the future, the role of policy makers, policy advisors and even politicians, because it will allow them to take better and more informed choices.

BOX 1.5 THE ROLE OF THE POLICY ADVISOR ANALYTICALLY

Mathematically, the implementation of a policy can be described as a function of many inputs into many outputs. The inputs will be the various instruments (see [chapter 5](#) and [6](#)) which are applied in the policy strategy (see [chapter 4](#)); the outputs will be the results which are achieved in the various policy objectives (see [chapter 7](#)). This can be written as a function in which the values achieved on n objectives depend on the levels of the k instruments which can be used.

$$\begin{matrix} (Obj_1, Obj_2, \dots, Obj_n) \\ Inst_1, \dots, Inst_k \end{matrix} = f(Inst_1, \dots, Inst_k)$$

Equation 1.1

Knowing this function provides all the necessary information for the actual implementation of policy decisions, since the only missing piece is the political preferences of the constituency which is in charge of deciding the policy. The latter are represented by the politicians, whose election should guarantee that they are representative of the preferences of their constituency.³¹

Unfortunately, in the real world, nobody possesses perfect knowledge about this function, because it is overly complex and also because its shape is normally different in different places and under different circumstances as will be shown in section 7.9. However, there are good reasons to think that an expert policymaker or policy advisor possesses valuable information on the relevant pieces/traits of the relationships behind the implemented instruments and the results on the policy objectives, either through past experience or through adequate research.

There are many situations which can arise from this approach, but three simplifications of the framework will be able to provide the reader with a representation of some of the possible demands which the policy expert should be able to reply.

The first case is the one in which the policy expert can work alongside the politician in order to find the best combination of instruments to achieve a desired level of the policy objective. Showing it in the simple case in which there are two instruments and one objective, as represented in [Figure 1.1](#), the policy advisor will be able to provide the solution to this problem which represented by the combination of instruments 1 and 2 which achieves the objective at a minimum cost.³² Each segment in the figure represents a combination of instruments whose cost is the same. Segments on the right have

higher costs than those to the left. Due to some degree of complementarity existing between the two instruments, which makes it impossible to achieve the objective without a combination of the instruments, the desired level of objective can be achieved in any point in the shaded area of the diagram. The solution to the policy problem will be the combination of instruments represented with the star: any other combination on the segment AB will cost the same but won't achieve the objective; any combination to the left of AB will cost less but will not achieve the objective; any combination to the right of AB will cost more and, among these combinations which cost more, only those in the grey area will be able to achieve a level of objective higher or equal to the desired one.

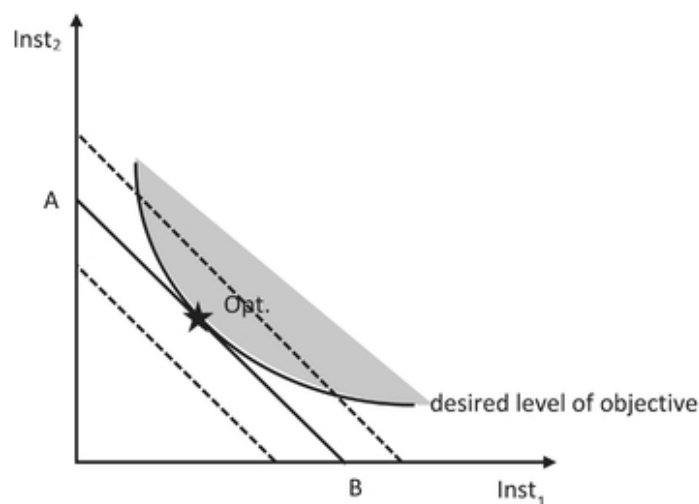


FIGURE 1.1 Achieving the policy objective at the minimum cost
Source: Author

The scheme of [Figure 1.2](#), which is graphically similar to the previous one, can be used to analyse the case in which the policy advisor is asked to achieve the maximum objective given the amount of available resources. Each level of objective can be achieved through different combinations of the two instruments and due to the complementarities between the various instruments, these combinations will have the shape of the shaded curves. Curves to the right will provide higher levels of objective with respect to those to the left. The segment AB represents the budget constraint, i.e. the maximum amount of resources which the policymaker has available to implement the policy. The purpose of the policymaker will be to get to the curve (each representing the level of objective achieved) which is as much as possible to the right and, henceforth, the best solution is when there is a tangency with the segment AB and level 1 of the objective is achieved. Any point to the left of the segment AB is in fact

not providing the maximum possible level of objective, while any point to the right is not feasible due to the limited resources available for the policy.

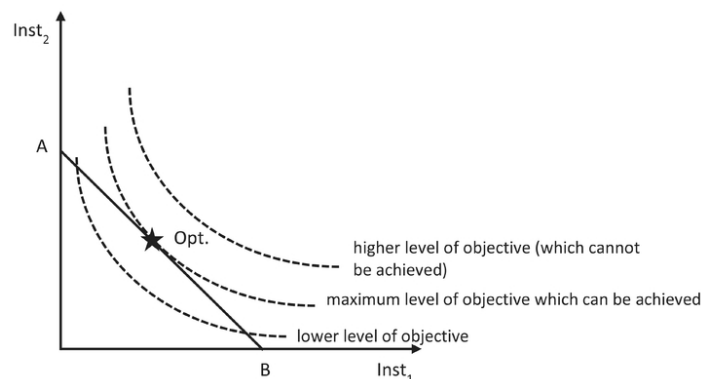


FIGURE 1.2 Achieving the maximum policy objective for a given level of resources

The third case, evidenced in [Figure 1.3](#), is even more interesting, and concerns the situation in which two objectives are desirable and decisions have to be taken while there is a trade-off between the two. Assuming the politician (and hence the collectivity) is interested in having a balanced level of the two objectives, the public preferences will be represented by the shaded curves, with each curve representing a combination of the objectives which provides the same welfare to society, and with curves on the right providing higher welfare than those on the left.

For a given level of available policy resources, the policy advisor should first be able to know the shape of the grey area, which represents all possible combinations of objectives which can be achieved by the policy under the resource constraint. This area can be a triangle but also convex or concave, depending on how strong the trade-off between the two objectives is.³³ Secondly, the policy advisor should be able to indicate if the current (or expected) policy situation is an internal one, such as in point C of the figure. In this kind of point, there is a waste of public resources, as more of each objective could be achieved. Any solution, therefore, should be a point in the curve AB, which is the one in which the policy is efficient, because no improvement in one objective can be achieved without losses in the other. Yet, among the points in this efficiency curve, only one is optimal, namely the one represented with the star. In this optimal situation, the social welfare is the maximum achievable and the policy is efficient because it is not possible to achieve more of an objective without renouncing to some of the other.

These schemes are theoretical and, as such, are provided here as a guideline for what the aims of policy should be. In fact, perfect

knowledge on the

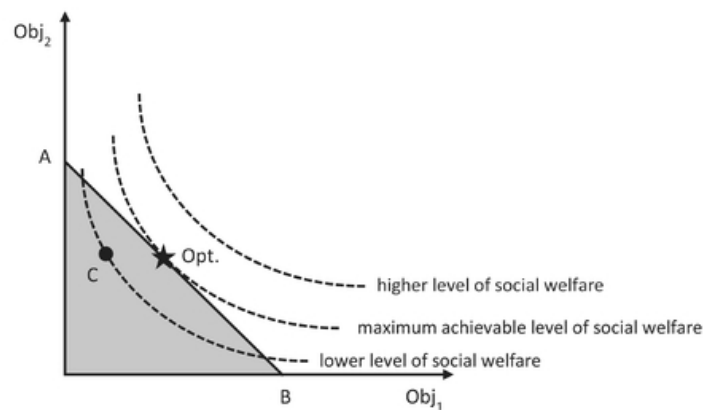


FIGURE 1.3 Decisions between different objectives, facing a trade-off Source: Author

function represented in equation 1.1 is not possible and it is also impossible to design perfect interventions, because of lack of knowledge and also because of various political mechanisms which can affect the policy process and lead to suboptimal situations. Most of these mechanisms will be presented in [chapter 4](#).

Another limit of this representation is the fact that it is essentially static, representing the policy choices as taken only once, with the objective achieved fully at a given single point in time. However, as will be evident in section 7.8.3, the dynamics of regional policy are crucial and can provide different results, for instance in terms of the ordering of policies. This further complicates the analysis but doesn't change its main objectives.

NOTES

1. [Final](#) goods are those consumed by the buyer, while intermediate goods are those which are used by other firms in the production process. The same good, however, can be a final or an intermediate good depending on whether it is bought and used by a consumer or a firm (e.g. a computer which can be used for home entertainment or to manage spreadsheets in the offices of a company).
2. [And](#) this also depends on the organization of the state, see section 1.3.
3. [A](#) reader specifically interested in this topic can read the special issue in number 1–2013 of Regional Studies ([Jones & Paasi](#),

[2013](#)).

4. [See](#) section 1.7.1.
5. [In](#) particular, an analysis on the regions of OECD countries shows that different national policies have differentiated impacts on regional productivity depending on their distance from the national productivity frontier, some of them with a stronger effect in the most productive regions and others in the least productive ([D'Costa et al., 2019](#)).
6. [See Gorzelak \(2017\)](#) for an example of demand-side and supply-side effects policies.
7. [For](#) reviews of these issues see [Fratesi \(2016, 2020\)](#), [Fratesi & Wishlade \(2017\)](#).
8. [Di Caro & Fratesi \(2022\)](#) only find one such case among EU NUTS2 regions over the long run, in a region characterised by a peculiar situation.
9. [Input-output](#) relations are described in chapter 7.
10. [A](#) free rider is a person who takes advantage of something without paying the fee, which is paid by someone else (e.g. people who benefit from public services without paying their share of taxes).
11. [This](#) is also acknowledged officially at an international level since the global targets for emission reductions were normally differentiated by the development level of countries, acknowledging that some still needed to grow.
12. [See](#) chapter 6.
13. [This](#) is common, for example, in engineering where structures are always built with the capability to sustain larger weights than those expected.
14. [For](#) example, [Kitsos et al. \(2019\)](#) demonstrate that there is an inverted u-shaped relationship between firm embeddedness and resilience.
15. [Recent](#) evidence questions this aspect since disparities have been on the rise also inside the US ([Feldman et al., 2021](#)).
16. [A](#) situation in which the events depend on previous events and situation. See also chapter 5, as this is very common with technology and innovation.
17. [On](#) agglomeration see chapter 2.
18. [These](#) are regional policy strategies based on finding innovation opportunities and niches to regions which will be presented in chapter 6.
19. [Efficiency](#), and the other possible objectives of regional policy, will be extensively discussed in chapter 3.
20. [The](#) European Agricultural Fund for Rural Development (EAFRD) and the European Maritime, Fisheries and Aquaculture Fund (EMFAF) also exist which, although usually considered part of

ESIFs, are usually not considered part of Cohesion Policy. See https://ec.europa.eu/regional_policy/en/policy/what/investment-policy/

21. [Chapter](#) 3 will show why some regions are more affected by climate change, and by the policies to achieve a climate neutral economy.
22. [At](#) least from 2000 onwards.
23. [See](#) chapter 8 on why these types of areas are relevant to regional policy.
24. [See](#) chapter 3 on trade-offs.
25. [All](#) these are to be considered policy instruments and will be discussed in chapters 5 and 6.
26. [It](#) has been studied by scholars of different disciplines with different points of view, see among others [Kitchens \(2014\)](#), [Kline & Moretti \(2014\)](#), [Lackey et al. \(2002\)](#), [Straffin & Heaney \(1981\)](#), [Boyce \(2004\)](#), [Schaffer \(1986\)](#).
27. [Other](#) authorities were later proposed but were never approved.
28. [The](#) Tennessee Valley Authority Act of May 1933 was set “to improve the navigability and to provide for the flood control of the Tennessee River; to provide for reforestation and the proper use of marginal lands in the Tennessee Valley; to provide for the agricultural and industrial development of said valley; to provide for the national defense by the creation of a corporation for the operation of Government properties at and near Muscle Shoals in the State of Alabama, and for other purposes”.
29. [It](#) is here useful to point out that even science is not neutral, as studies on the mutual influence of science, society and politics show ([Habermas, 1973](#); [Latour, 1999](#); [Nowotny, 2003](#); [Oreskes, 2019](#); [Chesta, 2020](#)).
30. [A](#) Pareto improvement is one which improves someone’s situation without worsening that of anybody else.
31. [This](#) assumes that preferences exist and that they behave well (in terms of their completeness, comparability and transitivity) which is rarely the case in the real world but can be accepted as first approximation.
32. [Assuming](#) some complementarity between the two instruments.
33. [We](#) will come back to the trade-offs between equity and efficiency in chapter 3.

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CHAPTER 2

The rationale for regional policy

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2.1 INTRODUCTION

Regional policy is necessary in many circumstances and this chapter will discuss the theoretical motivations for its implementation. The aim is to focus on why and when, according to the literature and real-world examples, regional policy may be required. The approach here is hence normative, and complementary to the positive approach of regional economics and economic geography books.

First of all, the conceptual justifications for the presence of a regional policy need to assume that policy is needed in general terms. In fact, if the market is already achieving the best possible situation, then no policy is needed and, further, any policy intervention risks bringing to a less favourable condition. The need for regional policy intervention, therefore, stems from the “inadequacy of free-market forces” ([Stilwell, 1972](#), p.15) since market outcomes may be inefficient or favour some places at the detriment of others, so that market results are socially dissatisfying in their spatial impact.

Even so, in economics there is a longstanding debate between those who favour pervasive interventions by the state, and those who think this will worsen the existing situation. Proponents of intervention think policy interventions are needed to curb cycles, increase growth, cull the creation of specific industries, protect specific categories of workers and so on. Others think that the market would be able to reach an optimal result if it was left to act, according to the neoclassical assumptions of free markets in perfect information. For this latter group, when the spontaneous result of market forces is dissatisfying, this might be corrected by making the market *less* rigid, rather than by intervening with *more* regulations.

For example, when unemployment is too high, the first type of economists would advocate for intervention either to support firms who hire additional workers, or to support workers directly. The second type would want to make the labour market more flexible so that it could achieve an equilibrium in which all workers find a job.

As this chapter shows, however, there are many aspects linked to space that harm the functioning of a market. Coming back to unemployment, for example, there may be unemployed people with specific skills in one place and firms looking for this kind of worker in another place. They cannot match up because the distance separating the two markets is making the

aggregate labour market rigid.

There are therefore many cases in which the need for public intervention stems from purely spatial aspects – and these are the scenarios in which regional policy is needed because macroeconomic policies are ineffective. Returning to the example above, making the labour market more flexible will not solve this spatial mismatch between labour demand and labour supply, nor will providing incentives to firms that hire workers because there is no one to hire in their location.

Yet, the implementation of regional policy should only be considered if the context satisfies three conditions at the same time:

1. The spontaneous outcomes of the market are dissatisfying on at least one aspect;
2. Standard macroeconomic policies are inadequate to address the spatial issues created by the market; and
3. Regional policies exist that may be able to improve the situation.

The rest of the chapter will present in detail the conceptual and empirical arguments which are put forward as motivations for the existence of regional policy. Market failures, i.e. situations in which the spontaneous outcomes of market forces are not leading to efficient outcomes,¹ are the first one and stem principally from externalities, gaps between private and social returns, and coordination and collective action failures. Then agglomeration economies and their opposite, congestion diseconomies, are presented, as both may induce situations which require regional policy. The role of cumulative development and the centripetal effects of integration and globalisation are also an important justification for regional policy as they cannot be corrected with macroeconomic policies. Why the latter cannot effectively intervene is shown, both in terms of comparative advantage and the inadequacy of a macro approach. There are then reasons linked to the efficiency and the reduction of inflation. The next part of the chapter goes into more recent and less economic arguments, so that beyond market failure, the motivations can depend on tapping untapped potentials, on protecting the environment, on social and political issues. The chapter concludes by showing that regional policy is also helpful in recession and that there are costs of non-intervention.

2.2 MARKET FAILURES

2.2.1 Local public goods and collective resources

As mentioned, the first important argument for the implementation of regional policies stems from the fact that markets do not necessarily work efficiently, especially when some of the standard assumptions of the basic microeconomic models are not confirmed. For example, market results are usually inefficient when economic agents lack accurate information to assess the value of what they are buying or selling, when they are not “rational” and when there are transaction costs. Moreover, private markets work well in the allocation of **private goods**, producing the efficient quantity and allocating them to those who gain the highest benefit from their consumption. Private goods are those which are at the same time rival (the consumption by someone prevents the consumption by someone else) and excludable (it is possible to exclude someone from consumption, e.g. those who don't pay the price).

However, many goods have different natures because they are either non-rival or non-excludable or both, and this applies to many goods which are spatialised. Four situations are hence possible ([Table 2.1](#)).

Non-rival or non-excludable goods are known as **public goods**. These goods can be used by everybody, without the possibility of excluding others from consumption, and the use by these persons does not prevent the use by others. Think about a lighthouse: every ship which passes by can see it for free but there is no harm to other ships. Think about a road which, until it gets congested, can be used by every car without causing problems to the others. The issue with public goods is that since it is not possible (technically possible, convenient or opportune) to make users pay, then there is the need for state intervention because otherwise nobody would produce these goods. The state needs hence to intervene, either directly, by using the tax revenues to pay for the public good, or indirectly, by paying a private (usually a firm) to provide it on its behalf. The remaining risk is that, since nobody can be excluded from using the public good, people would behave as free riders, i.e. in this case use them without paying their share of taxes. Many public goods are localised, not just lighthouses and roads, but also hospitals (which in most countries are bound to assist people for free in emergencies), waste collection facilities, urban amenities, schools, parks, public security, etc. That's why regional policy is intrinsically connected with the provision of local public goods.

The third type of goods is rival but also non-excludable and takes the name of **collective resources**. In this case, the use by somebody reduces the benefits of the use by somebody else but, as in the previous case, it is not possible to exclude anybody from the use. In this case, the collectivity tends to overconsume, since the private optimal level of consumption is higher than the socially optimal one. The best-known case of this is the so-called “tragedy of commons” ([Hardin, 1968](#)). Commons were parcels of land where everybody could graze animals, but there were too many of these

since the addition of one animal was beneficial to the proprietor but negatively affected the grass for the animals of the others. Intervention is also needed in this case. One possibility is through the privatisation of the good, i.e. dividing it into pieces to assign to different users. This leads to an efficient use (because benefits and costs now belong to the same agent) but in some cases cannot be societally acceptable. Alternatively, regulations can be introduced so that it becomes possible to impose limits on private use. Finally, forms of cooperation between private actors can be beneficial since these can spontaneously agree to use the resource at its efficiency level and do that on a voluntary basis ([Ostrom, 1990](#)). Cooperation, however, also requires trust and information, as it will become clear in section 2.2.3.

Many of these collective resources are localised, because using distant ones, although allowed by the law, is not convenient due to transport costs. In particular, examples of collective resources exist in environmental aspects. The use of the environment is often free for all, but this also produces overuse, since the negative externalities of individual actions are not considered by private actors (see next section 2.2.2). Many environmental aspects are intrinsically localised, e.g. pollution, natural landscape, soils, river basins, woodlands, meadows, etc., and so involve solutions which are localised as well.

One relevant example of collective resources is fishing. If it is open to everyone, too many ships fish in the same parcel of sea, so that sea resources are depleted. If regulations are wisely introduced which limit fishing, for example in terms of quantity or period of the year, they can be beneficial for all. If private actors could coordinate among themselves without an explicit public intervention, for example by creating a consortium, this could also work. This case is also interesting because local and global aspects interact, since different seas can be in different situations and, while the access to a certain sea is easier for those living on its coasts, long-distance access is also possible so that local resources can be exploited by fishing vessels based further away.

Finally, there is the case opposite to the previous one, that of **natural monopolies**, where a good has no rivalry but is excludable. Think about the signal of a pay TV, which is encrypted (and hence excludable) but has almost negligible costs of provision, while it has massive fixed costs of producing the programmes. This case normally leads to monopoly situations because with this structure of costs, the larger the firm the more efficient it is, thanks to economies of scale (section 2.3). So, large firms have an advantage and will take away market shares from the smaller ones. Other examples of situations which are natural monopolies are social media platforms, where the attractiveness of a platform heavily depends on the number of existing users. Most relevant to regional policy is the case of utilities. The provision of water, electricity, rail connections, telephone and internet landlines etc. are all localised activities whose set-up costs are huge.

It would hence be highly inefficient to have a duplication of their infrastructure, and the single owner would have a monopoly power. Also, for this reason, many utilities see the involvement of the public sector, through regulation or through direct ownership and management.

In many cases, the ownership and management of the (unique) network is separated from the one of (multiple) service providers. The high costs to set up of these utilities are another aspect which requires public intervention, since they can be too costly and hence need to be subsidised or publicly provided in certain situations, especially in weak, peripheral and less dense regions. A good management of public utilities and services can therefore be a key to regional development and policy (see [Box 1.4](#) and section 5.10)

TABLE 2.1 Typology of goods

Rival goods			
		Yes	No
Excludable goods	Yes	Private goods	Natural monopolies
	No	Common resources	Public goods

2.2.2 Externalities (gaps between private and social returns)

Market efficiency can only be reached if the choices of one economic agent do not negatively or positively impact those of others, so that the individual returns of a choice are similar to the social ones. However, there are many situations in which one person's choices bring unintended consequences to others. This is the case for externalities, which are especially common in the spatial economy. Most externalities, in fact, take place at a spatial level and tend to be localised.

Externalities, defined as the effects of the actions of an agent on other agents who are not directly involved in the action, can be either positive or negative. They are positive when the action of the agent taking the action is positively affecting somebody else, they are negative when the opposite take place i.e. when the action brings negative external effects.

Negative externalities are probably better known by ordinary people who, without knowing the term, are usually aware of the possible negative impacts of the economic actions of people and firms. A first and easy example concerns pollution: when a person drives a car, this person does it in order to get somewhere and this action only has individual motivations; however, when somebody drives a car, they also produce emissions (including when driving electric cars, if the electricity is produced at traditional power plants). These emissions are negative for the environment and many of them tend to stay concentrated in those places which are closer

to the journey. Without a public intervention, people would use their cars only considering their own personal benefit in moving and their own costs (for instance in terms of time, fuel and car maintenance). They will therefore use cars too much because they do not consider the negative effects of their action on others. The direct effect of the taxation of fuel is to make driving more expensive. If taxes are therefore introduced with the purpose of internalising the externality, i.e. by making the driver pay to compensate for their damage to the environment, then the use of cars will reduce. Another example of negative externalities is the production of noise. In most cases when people or firms produce noise, they do not do it to harm others but because they like to listen to high-volume music or, in the case of firms, as a by-product of the machines involved in the production process. Without regulation, too much noise would be made, compared to what is socially desirable. Again, the effect tends to be highly localised and impact those in proximity to the source of the externality.

Positive externalities also exist and are important. For example, vaccines protect the person who is vaccinated but also protect the rest of the community from being infected by this person. In the case of positive externalities, individual choices tend to produce too little of goods or to take too few positive behaviours regarding what is socially desirable, because people are unable to take into consideration the positive effects they may have on others. In many cases, positive externalities are also highly localised. For example, if a landowner improves their property, they get a better property but this also has a positive impact on the neighbourhood so the value of other properties and estates nearby increases.

When markets fail and where there are spatially localised externalities, regional policy interventions may be a good way to address their presence. Normally there are three ways to intervene when there are externalities.

1. Regulation so that economic agents have to do something or are denied the right to do something else.
2. Corrections inside markets, through taxation in case of negative externalities or through subsidies when positive externalities exist. For example, if a person is not able to reap all the benefits of their good behaviour, they might be incentivised by policies that offer some additional individual return.
3. The creation of a market for external effects, so that the creators of externalities reap the benefits or damages of their actions.² While this is difficult to implement for small actions or at a local scale, it has been implemented at wider scales such as the market for emission permits.

Since externalities tend to be highly localised, their management usually requires policies that are deployed differentially across space, as is evident throughout this book.

2.2.3 Coordination and collective action failures

There are other situations in which markets do not produce the best possible outcomes as a result of the behaviour of people and the ways in which information flows.

Economic agents may get better results when they coordinate their actions with those of others. However, coordinating is always costly and often difficult due to a lack of knowledge and/or trust. It is not always possible to know the characteristics of potential partners, and there may be problems of trust if one partner is unsure that the other will not cheat them. As a consequence, people and firms often cooperate less than would be socially desirable and also less than would be desirable for their own benefit.

For example, firms will often require complementary capabilities to their own, which may be present in other firms or in other agents of the economic system such as universities, but it will be difficult to coordinate with those who possess these capabilities, because of limited knowledge of each other, of the costs of interaction and, also, because it will be difficult to agree how to share the benefits of these interactions.

There are also cases in which collective action may be fruitful because all the economic agents would fully benefit from the provision of a specific service. However, it may be difficult to monitor who puts effort in to providing these specific services, and who does not. For example, firms might benefit from forming a consortium to introduce a trademark, which would help them to be identified in international markets. However, establishing these kinds of trademarks and marketing them may be difficult and costly, and many firms may feel that their own specificity is lost inside the general framework. If the benefit is the same for all, there is an incentive for firms to wait until others take action instead, allowing inactive firms to be free riders (agents who reap the benefit without paying the price). However, free-riding behaviours, or even just the fear of them, may stop other firms from putting their effort in to collective action, preventing all firms from achieving desirable common objectives.

According to [Foray \(2018\)](#) coordination and directionality failures³ are sector-or technology-specific. However, it has to be added here that they are also place-specific because coordination is first of all needed at a local level – where different agents and activities can meet and cooperate – while it is in most cases impossible to effectively cooperate with agents located far away due to the costs involved. Notice that impossible in this case does not mean unfeasible but means feasible only with costs which are so high that they exceed their possible benefits.

In this case, public intervention may be needed to support the establishment of trust because firms may be more willing to cooperate with

other firms if there is a government authority involved to guarantee the good behaviour of those participating. A large space will be devoted in [chapter 4](#) to behavioural aspects, since they mostly concern the actors of regional policy and their interactions.

2.3 AGGLOMERATION ECONOMIES

Agglomeration economies are those stemming from a concentrated location of economic activities, close to the location of other economic activities. Since [Hoover \(1937, 1948\)](#), agglomeration economies have been classified into three different types, depending on whether they are internal to the firm, external to the firm but internal to the industry, or totally external. These are known as economies of scale, localisation economies and urbanisation economies and are presented in this order below. They will also be compared and then the case of agglomeration without agglomeration economies will be shown.⁴

Economies of scale

These are internal to the firm and lead the firm to operate in only a few locations, rather than being dispersed over space. Economies of scale take place when the total average long-run production costs decrease with the scale of production and, hence, it is more efficient for a firm to concentrate its production. Economies of scale, therefore, stem from technological reasons which for example make it less costly to assemble cars in large manufacturing plants rather than in small ones, as shown in [Figure 2.1](#). Normally, economies of scale are not unbounded, and there is an optimal scale after which average costs start increasing, which gives rise to so-called diseconomies of scale. The size of this scale is industry- and technology-specific, which means that it can be very different (small or large) depending on the industrial sector, and can change when innovation makes available technology change. Economies of scale also drive many mergers and acquisitions operations, in which a firm buys another one or two firms merge because, in this way, they can be more efficient (e.g. they can share parts of the production process and reduce their costs).

Scale economies have important spatial repercussions. For example, if car manufacturing becomes highly concentrated, some places and regions will host large plants and hence have a large number of jobs, while other places and regions will not have any economic activity from this industry.

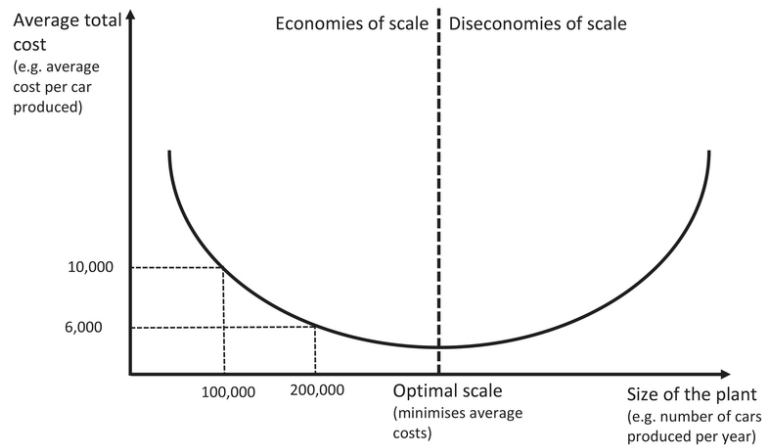


FIGURE 2.1 Economies of scale

Localisation economies

These are internal to the industry (i.e. the economic sector) but external to the firm. When there are localisation economies, firms of the same industry have an advantage if they are located in the same area as other firms of the same industry.

This type of agglomeration economies may have three different sources:

1. The presence in the area of a network of specialised suppliers. Firms in fact normally need specific supplies for their production and they have an advantage if these suppliers are located nearby because of reduced transport costs, easier collaboration, smoother flows of information, etc. However, a supplier is also a firm and it is not able to sustain its economic activity without a minimum number of customers. As a consequence, specialised suppliers will only be present where there are many possible customers and, therefore, only in places where there are many buying firms (Figure 2.2). The result of this is that a firm (F_i) located in the same place as many other firms of the same industry can benefit from specialised suppliers (S_i), as shown in the upper part of the figure. Conversely, a firm on its own (F) will have to rely on suppliers located elsewhere since its suppliers (S_i) will either close or flee, as shown in the lower part of the figure. This is interesting because, even though the firms (F_i) are competitors and there is no direct link between them, it is better to stay where the competitors are than to locate in a place where there is no other firm.

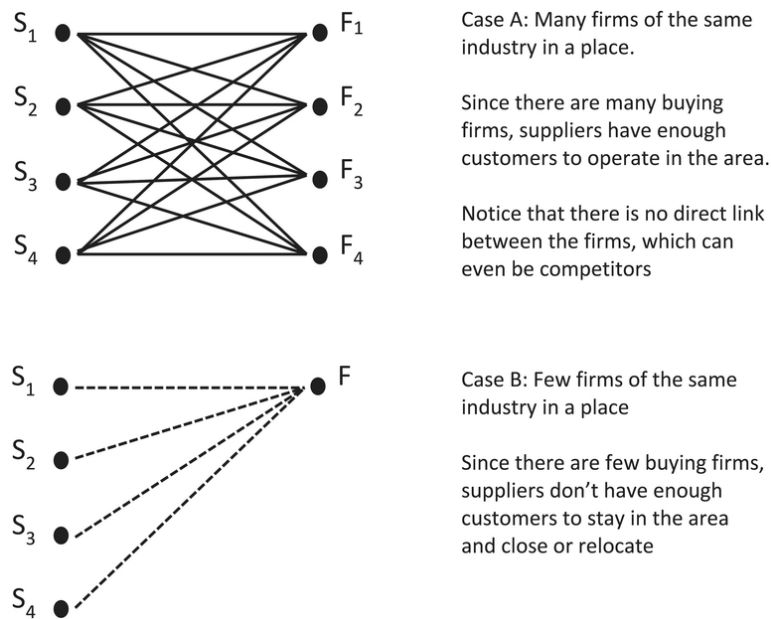


FIGURE2.2 Specialised suppliers and localisation economies

2. The presence of a specialised labour force, because firms need specific skills and experience, and it is much easier to hire qualified employees if they are located in the same place as other firms in the same industry. In this way, they can poach employees from other firms, or hire people who are looking for a job who have previous experience in the industry. This phenomenon is known as labour market pooling.
3. The presence of knowledge spillovers,⁵ which are the mechanisms by which knowledge flows from one economic agent to another, in many cases located in the same place or nearby. When there are many firms of the same industry located in the same place, knowledge circulates between firms. These flows of knowledge can take place through various mechanisms, for example through the mobility of workers or through imitation of the good practices of neighbouring firms. The latter can take place via direct collaborations or informal exchanges of knowledge between people who work for different firms but see each other at events or even outside of working hours. A firm, individually, has an advantage when it keeps its knowledge to itself because this ensures that it retains any advantage stemming from that knowledge. Despite that, the involuntary sharing of knowledge among different firms in the same area brings benefits to this system of firms. Each firm benefits from the knowledge creation of the others and hence becomes more efficient than firms which can only rely on themselves. Knowledge spillovers are stronger when the firms operate in the same industry, since they have and need similar expertise to one another. However,

there is also a case for related variety, by which industries can take advantage of the presence of firms in different industries but which complement their own. This is important for smart specialisation strategies, which will be discussed in [chapter 5](#).

Urbanization economies

This type of agglomeration economy is normally present in cities and tends to increase with city size. Urbanisation economies are totally external, because they arise from dense and various productive activities and are not limited to single firms or specific productive sectors. Urbanisation economies are hence not specific and they benefit firms in large urban areas irrespective of their economic activity.

The sources of urbanisation economies are many. First of all, the presence of public capital – most notably infrastructure. In fact, the provision of infrastructure is costly and normally subject to indivisibilities.⁶ For example, it is not possible to build and use just half a runway of an airport and, therefore, airport infrastructure is normally present only in places where there are a lot of people to use it. An aeroplane will normally carry a lot of people travelling towards the same destination but with no other links to one another, as they will be working for different firms or travelling for leisure. There is a negative direct impact of the presence of other people in the same plane in terms of travel comfort, but if there are not enough other passengers on the same plane, airlines would not operate that link and so people would not be able to travel. Consequently, firms which operate closer to a large airport may benefit from the presence of direct connections to many places, which means that they can send employees on business trips at a lower cost in terms of time, compared to firms close only to small airports, whose employees will have to travel through indirect connections and hubs, making their business trips much longer and costly. The same type of reasoning takes place for telecommunications because laying down cables is costly and, normally, telecommunications firms are keener to do it in places where they can serve a lot more customers rather than deploying long cables to serve just a few customers.

Another source of urbanisation economies is the market for intermediate goods, services and production factors, which is often large and diversified in urban areas. This means that firms can, for example, buy advanced services, which are not specific to an industry but which can be useful to many and otherwise costly to produce. Think about some types of legal advice, which require specific skills and cannot be provided by standard lawyers and, as such, are only provided where there are a lot of customers, including from firms in different industries.

Urban areas can also bring an advantage in terms of the market for final goods, which is also large and potentially more diversified, allowing for the provision of goods that fill more specific niches.

Finally, people benefit from agglomeration in terms of entertainment and quality of life and public services. Also these industries need large enough markets to be viable and, consequently, it is much easier to get to theatres and cinemas in places where there are a lot of people, because there the provision of cultural events will be wider and more continuous. At the same time, the presence of many people allows the provision of better and more specialised hospitals.

Agglomeration economies stemming from productive relations between firms are normally called Marshallian economies because Marshall first studied inter-firm linkages within British industrial districts in the 19th century ([Marshall, 1890](#)). These economies are hence linked to the advantages of specialisation (see [Box 3.4](#)). Other types of agglomeration economies stem from what are called Jacobian economies. In this case it was the work of [Jacobs \(1969\)](#) that drew widespread attention to the links between firms which come from technological externalities and flows of knowledge between different people and firms. Jacobian externalities are linked to the advantages of diversification (see [Box 3.4](#), see also [chapter 8](#)).⁷

Both types of agglomeration economies are important, but their relative importance is still debated academically. It seems that they are present to varying extents in different places and at different spatial scales.⁸

Comparing agglomeration economies

The three types of agglomeration economies introduced above bring different consequences for the spatial landscape. In [Figure 2.3](#) firms in different industries are represented by different symbols, scaled according to the firm's size. There are three cases and all show the same level of total agglomeration between the four regions of which the country is composed. However, the same level of agglomeration stems from the presence of different types of agglomeration economies as can be observed by a finer analysis of the sectors and firm size.

Case A represents scale economies in which the detected agglomeration is due to the presence of a large plant in one specific industry (1, represented with squares). Case B is the one in which agglomeration within a region is due to localisation economies, since many firms of the same industry (2, represented with circles) cluster together. Case C is the one of urbanisation economies, in which there is agglomeration of many different firms of different industries in the same place. Mixed situations are also common.

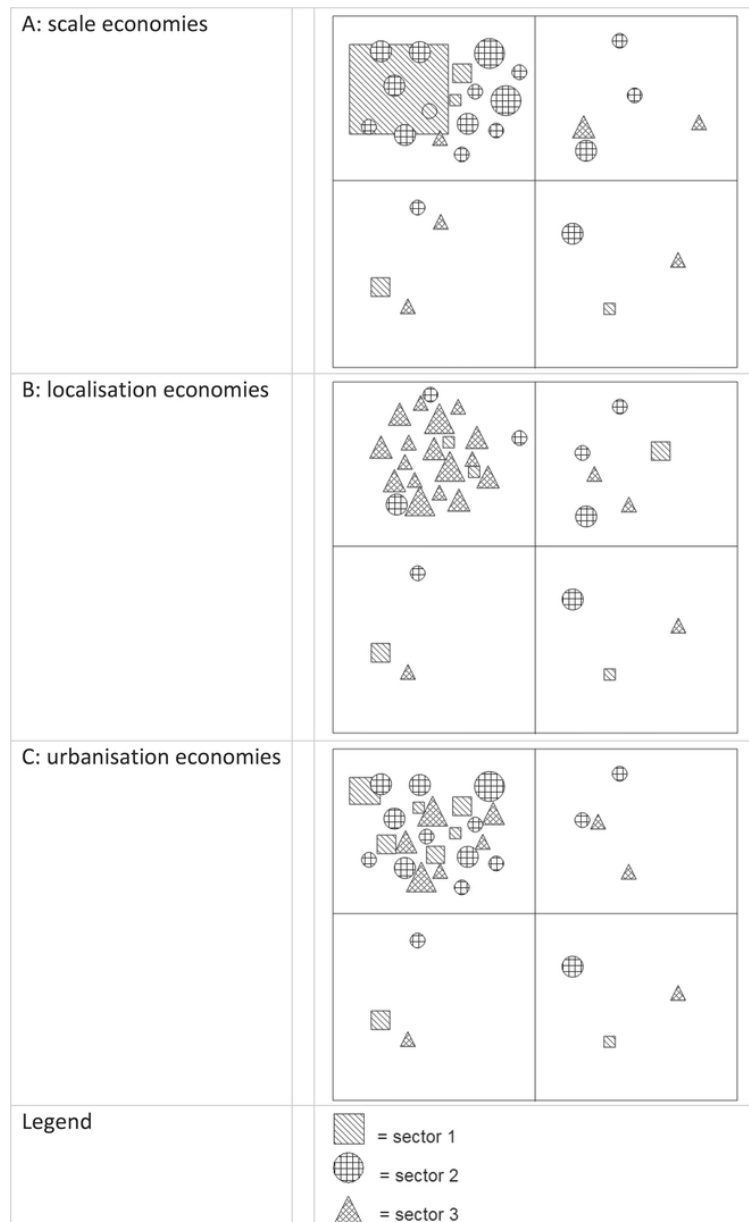


FIGURE 2.3 Representation of the three types of agglomeration economies Source: Based on the scheme by [Fratesi \(2008\)](#)

Agglomeration without agglomeration economies

The spatial patterns of agglomeration and industry concentration will not always stem from the presence of agglomeration economies. There can be at least two additional important reasons for the existence of agglomeration in the first place:

1. The presence of specific production factors or commodities in specific places. For example, if an industry depends on

commodities such as mining, it is obvious that it will be located where these commodities can be found. Other industries need specific production factors, such as energy or water, and will locate respectively in places with abundant energy supply or close to rivers. Also, service activities such as tourism might be dependent on a specific geographical feature, and therefore concentrate around it (e.g. beaches or mountains).

2. The presence of laws and regulations which impose the location of specific industries in fixed places. This is common in countries where the role of government is pervasive, including but not limited to countries with dictatorial regimes. In more liberal states, it is also common for governments to push through different incentives that affect the location of specific industries in certain places. This may even be a form of regional policy when the purpose is the development of lagging regions, as discussed in [chapter 6](#).

Agglomeration economies as a motivation for regional policy

Regional policies are justifiable for the presence of agglomeration economies, which by their nature benefit certain regions over others. This has a direct impact on individual regions, usually making them richer, but also has a wider impact because there will be disparities between rich and poor regions, including inside the same country.

The reduction of disparities, as will be clearer in the next chapter, is historically an important objective of regional policy due to the impact it has on the life of citizens and on the internal cohesion of countries. It is therefore possible and helpful to carry out policy interventions to stimulate one or more of the three types of agglomeration economies in a given region. Many regional policy instruments are deemed to stimulate agglomeration economies (see [chapter 5](#)). These interventions are necessary in weak regions but may also be useful in strong ones since agglomeration economies provide an advantage to regions that benefit from them and in many cases also the wider nation.

The need for regional policy to manage agglomeration economies can come in two different and opposite forms. First of all, regional policy can be needed to reinforce agglomeration economies when they are not present or when they are weak. Regional policy may be able to help places achieve a higher level of external economies and as such become better off in economic terms. For example, there are many different regional policy interventions which aim to establish large firms inside a weak region to exploit the external agglomeration economies which may stem from it, think about the interventions based on growth poles, which will be detailed in

[chapter 5](#). Similarly, the establishment of special economic zones (also extensively discussed in [chapter 5](#)) is normally intended to achieve sufficiently large agglomeration economies that the economy of the place concerned becomes self-sustaining.

However regional policy can also be needed for the opposite reason, because the presence of agglomeration economies tends to favour those places which are denser and more agglomerated for spontaneous economic mechanisms, which means that other places which lack agglomeration economies are weaker may be left behind because they are not able to keep pace. Many national plans for the reduction of regional disparities fall under this category because they stem from the fact that the equilibrium with agglomeration economies is an unbalanced one and without an intervention the weak regions will not be able to catch up with the richest ones. These plans have had different names in different places and through time. For example, the French “Amenagement du Territoire”, the Italian “Cassa per il Mezzogiorno”, the UK’s regional policy for “Assisted Development Areas”, the European Cohesion Policy, etc.

2.4 CONGESTION DISECONOMIES

Agglomeration economies are not unlimited. Their effects tend to vanish after a certain threshold is reached and give rise to what are known as congestion diseconomies, in which there is a disadvantage from spatial concentration.

For example, economies of scale are never unlimited. When the production surpasses a certain threshold, the productive processes become so complex that managing it becomes costly, especially in terms of coordination and of process organisation inside the plant. At that point, total average costs start increasing with size and, as a consequence, economies of scale are replaced by diseconomies of scale. This reasoning also provides the basis for identifying an optimal plant size, i.e. an optimal scale, which is the one at which the average cost is minimum ([Figure 2.1](#)).

In theory, firms should spontaneously stop increasing plant size and concentration once the optimal size is reached. Things get more complex, though, when the two other types of agglomeration economies, economies of localisation and of urbanisation, are concerned. In fact, these economies stem from outside the firm and in the latter case also outside the industry.

External agglomeration economies may also vanish after a certain threshold. For instance, after a certain size is achieved, the concentration of many firms and economic agents in the same place makes some costs rise. When concentration becomes extreme, in fact, two phenomena occur.

The first is that congestion takes place. Travelling by car inside a large city can be a demanding experience, due to the fact that many other cars are also travelling at the same time, which reduces the travelling speed and increases the stopping and starting. Too much traffic is also associated with noise, which can significantly hamper the quality of life of those living in cities. Moreover, congestion is also associated with environmental deterioration. In fact, cars travelling in traffic produce much more pollution with respect to those travelling straight and at constant speed. For this reason, with the intent of reducing congestion, major cities around the world, such as London, have been introducing congestion charges, which charge a fee to those driving a private car in the centre of the city in peak hours.

The costs of congestion are also present when people use public assets instead of private ones. Public offices, which take advantage of some economies of scale, may however be less efficient if they have to serve too many citizens at the same time. Public transport can get congested too, as suburban trains get delayed, passengers may find it difficult to get into the first underground train and/or may need to travel in uncomfortable situations, for example without their own seat, standing inside a crowd.

The second effect is one of increasing prices of production factors. When there are many economic activities concentrated in the same place, they normally require the same production factors and this increases their price, therefore increasing the production costs of goods and services. As urban economics shows, land in particular is one production factor whose supply is limited and which may become very expensive. Although land may still be relatively abundant worldwide, it is especially scarce in the core areas of large cities.

Many economic activities would benefit from locating in these core areas because they may be more productive there or have a larger market. However, when more activities want to locate in a place than can be accommodated by the available land, market mechanisms take place which allocate that land to the highest bidder, i.e. to those who are able to pay the highest rent. As a consequence, some activities will still locate in the core areas of large cities (activities such as finance, or the residences of affluent people) while paying high rents. Other activities will have to renounce a central location and settle in more peripheral locations, where rents are lower and more affordable.

The cost of land per square metre in the centres of the most important cities in the world – the so-called global cities – may be many times that in smaller cities. This pushes developers to exploit the space as much as possible by building vertically, with skyscrapers and high-rise buildings. However, this is not sufficient to make the rents small and, in addition, brings higher costs of construction since high-rise buildings require different structures which are more costly to build.

Land is not the only production factor which becomes more costly. The same effect takes place for labour, since when there are many firms located in the same place they will have to rely on the same pool of workers and consequently salaries will increase due to firms poaching workers from each other. While high salaries may be beneficial from the individual point of view, higher than average salaries are not good for firms, which will face higher production costs compared to competitors located in areas where the workforce is cheaper. Moreover, higher salaries for workers in agglomerated places may only be nominal, since these workers will have a higher cost of living, for example in terms of rent to pay and time spent commuting, which may not be compensated by higher monetary salaries.

Some successful cities, such as San Francisco, have experienced problems in finding workers to fill standard service jobs, especially public ones such as teachers, whose salaries are quite homogeneous across space ([The Council of Community Housing Organizations, 2019](#); [The Economist, 2000](#)). This is because these people will not find it convenient to be employed inside the city, since their real salary, accounting for the higher cost of living, will be lower than in peripheral locations. This is compared to some high-level managerial occupations, which can instead be offered much higher nominal wages to compensate for the additional living costs.

Part of the solution to congestion is based on new technologies and urban policies, which help improve life in cities. These include building new underground lines, improving employment opportunities across cities and providing services in close proximity to residential neighbourhoods. Other solutions, however, are part of regional policies devoted to spreading economic activities across the country. There are in fact cases in which the market solution leads to too much agglomeration with the presence of strong congestion diseconomies. Individually, in fact, when people agglomerate, they do it because they find it convenient, but this agglomeration also brings negative externalities in terms of congestion diseconomies to other people, so that socially the level of agglomeration stemming from the free-market outcome may be excessive due to negative externalities. These negative externalities, in fact, are not considered by individuals.

In these cases, regional policy interventions are useful for alleviating congestion in denser regions, by spreading economic activities. There are many examples of policies intermediate between regional and urban which have been established to reduce the congestion of the largest cities. These policies are often related to physical planning, for example they establish new cities and centres of provision of services further from the city core, but may also involve more traditional regional policy instruments, for example trying to grow production or innovation poles in non-core localities.

For example, in France, nine Villes Nouvelles (i.e. new towns) were created at the end of the 1960s, five in the areas around Paris (Evry, Cergy-Pontoise, Saint-Quentin-en-Yvelines, Marne-la-Vallée et Melun-Sénart) and

four in other French provinces (Villeneuve-d'Ascq in Hauts-de-France, l'Isle-d'Abeau in Auvergne-Rhône-Alpes, l'Etang de Berre in Région Sud ex. Paca et Val-de-Reuil in Normandie). The purpose of these was to plan a more balanced urban and demographic development which would stop the existing cities, Paris in particular, growing too much and becoming congested. The experiment was a partial success, since these cities now host many economic activities with their respective jobs. However, they did not reach their expected size and it took many years for these cities to gain inhabitants, as well as significant public resources, which are probably no longer available for planning initiatives at such a large scale. Moreover, there is a question about the extent to which these cities are autonomous from the core city to which they are connected.

2.5 CUMULATIVE DEVELOPMENT

Another reason for the need for a regional policy comes from the fact that economic development is generally cumulative. Theory has shown that circles of cumulative development take place in which the factors of development reinforce each other.⁹

First ([Figure 2.4](#), left), there is a more traditional circle of cumulative causation which stems from the accumulation of local resources (private capital, public capital, etc.); these have positive effects on the competitiveness of firms and, in this way, a larger output can be produced in regions. Part of this output is normally reinvested inside the region, both with private investments and, through local taxation, with public investments. This helps the accumulation of local resources which can in turn make local firms more competitive. This first circle could exhaust itself if only private capital is accumulated because of decreasing returns to capital¹⁰ which makes further investments less effective.¹¹ However, it has been demonstrated that it is possible to come out of decreasing returns and achieve constant returns by also considering the accumulation of public capital ([Barro, 1990](#)) (see section 6.2).

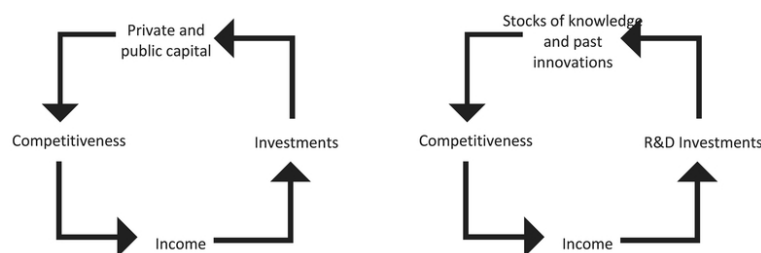


FIGURE 2.4 Two virtuous circles at the base of regional competitiveness Source: Adapted from [Fratesi \(2010\)](#)

The second circle ([Figure 2.4](#), right) is less traditional and concerns knowledge and innovation: by innovating, the system is able to continuously generate technology and, in this way, it remains competitive in the markets. Competitiveness generates value added which can be reinvested in further learning and R&D, allowing the innovation process to continue. Since there are no decreasing returns to technological accumulation since technology can have many different (and sometimes unforeseen) uses at the same time, this mechanism is very important and effective.

If income inequality is persisting or increasing, it is because of constant or increasing returns in at least one of the two circles, or in the joint working of the two. If increasing returns are present in the first circle, we deal with traditional increasing returns to scale which, however, are usually bounded. When increasing returns are present in the second circle, this mechanism represents the increasing returns on technological progress ([Arthur, 1994](#)), i.e. related to the use of qualified inputs such as R&D, skilled human capital, technology, etc. Among the two circles, it is the second that is most commonly understood as characterised by increasing returns to scale and hence behind long-run development of advanced regions. A full chapter ([chapter 6](#)) is devoted to innovation and its role in regional policy.

When development is cumulative, in the absence of regional policy, disparities would increase because there is no way for regions which are poorly endowed with local resources to accumulate enough to compete with those that have plenty. Similarly, there would be no way for regions without a previously accumulated stock of knowledge and innovations to compete in innovation with the most advanced regions. If a country wants to avoid disparities growing to levels which are unjust or which risk undermining social and territorial cohesion, it will need to act to avoid having some regions benefit from these cumulative circles while others are excluded from them. This may be difficult since cumulative self-reinforcing mechanisms are persistent and cannot be curbed with simple interventions.

2.6 INTEGRATION, GLOBALISATION AND THEIR CENTRIPETAL EFFECTS ON REGIONS

The need for regional policy can also stem from the effects of integration. Integration at the global level has been proceeding in different waves. Some periods of rapid integration have been followed by others of slowing integration or even disintegration. For example, there was a fast period of globalisation before the First World War which came to an end with the war itself.

Recent decades, in particular before the start of the 2007–2008 global financial crisis, have been characterised by a fast globalisation which saw a number of processes taking place at the same time ([Capello et al., 2011](#)):

- An increase in foreign direct investments due to the integration of capital markets.
- An increase in trade which grew much faster than GDP.
- A radical change in the way goods are produced and traded. Previously, goods were produced in a place and traded afterwards. However, the last wave of integration brought a shift from trading goods to trading tasks. This means that, instead of completely producing a good in one place and trading it afterwards, different phases of the production process were performed in different places, with a significantly larger integration of production processes.¹²
- The possibility of trading things which were not traded before. For instance, trade in services increased much faster than trade in goods due to new technologies that allowed many services to be provided at distance.
- Faster movements of people between one place thanks to flight connections.
- Larger international migrations.
- Rapid circulation of ideas and knowledge thanks to new media and, especially, the widespread diffusion of internet connections.

Again, globalisation proceeds in waves and the 2007–2008 global financial crisis slowed down the globalisation process for a while, and the same took place for the Covid crisis.

Economic research shows that integration brings important consequences, including increased efficiency, which translates into higher aggregated GDP and higher growth rates, and a larger concentration of economic activities in space.

These consequences are relevant to regional policy because, if economic activities concentrate in space, globalisation may become a game in which there is an overall gain, but this gain is not spread evenly. Some places gain more than others and there may even be places which lose. Indeed, many new economic geography models demonstrate that, with an increase in integration, a stable uneven distribution of economic activities appears. When integration reaches very high levels, however, models suggest that disparities decrease because this situation approximates a situation in which transport costs are nil and so location is irrelevant.

Many studies have also shown that disparity is linked to integration. For instance, a comprehensive study by [Ezcurra and Rodríguez-Pose \(2013\)](#) shows that disparity is larger in more globalised countries, taking other factors into consideration. This has important consequences for regional

policy which may be called to address disparities that grow with integration. For example, the European Union's steps towards integration have been accompanied by regional policy reforms because it was clear that integration would benefit the EU as a whole but not necessarily equally ([Camagni, 1992](#)).

First, the establishment of the Single Market was preceded by the 1989 regional policy reform. The reform implied not just the co-ordination of the then three Structural Funds and a comprehensive restructuring of their principles, but also the increase of the budget share earmarked to regional development, from 15.1% in 1988 to 30.2% in 1992.¹³ Second, the Maastricht reform to create the Single European Currency was accompanied by the establishment of the Cohesion Fund. This was intended to alleviate the burden that transition to the European Monetary Union (EMU) would impose on the less developed Member States (at that time, Greece, Ireland, Portugal and Spain). Third, the eastward enlargement of the European Union in the 2000s was accompanied by a shift in the regional policy budget towards newer Member States, and especially their weaker regions which still appear to have gained much less from integration.

The centripetal effects of integration are also relevant to the role of infrastructure in regional development. Policy strategies often aim to provide weak regions with better infrastructure and to integrate them in markets through better connections. However, the results of these efforts have often been disappointing because integration makes it easier for firms in stronger agglomerated areas to sell their goods to weaker areas, while firms in weaker areas are normally not strong enough to export to strong regions. We will come back to this when discussing infrastructure as an instrument of development (section 5.10).

2.7 NATIONAL ADJUSTMENT MECHANISMS DON'T WORK FOR REGIONS

Another conceptual justification for the introduction and implementation of regional policies stems from the fact that adjustment mechanisms which take place at national level rarely work at the regional level. An important example of this is the concept of comparative advantage, which was developed in international trade models, starting with work by [Ricardo \(1817\)](#). This principle is important because it brings a possibly surprising result, i.e. the fact that nations do not compete in terms of absolute advantage but in terms of comparative one. This means that even if a country is less efficient in the production of all traded goods, it can still have

a role in international trade because it can specialise in those productions in which it has a so-called comparative advantage, i.e. in which it is relatively less inefficient.

However, it was demonstrated that the assumptions of this model are rather strict and do not apply well at a regional level ([Camagni, 2002](#)). For example, this model assumes that it is possible to trade goods but there is no mobility of production factors. Additionally, adjustment mechanisms apply if a country is more competitive than another, and as such is able to export more, resulting in a trade surplus. The same mechanisms don't occur for regions.

At national level, in cases where there are different currencies, the currency of the country with a trade surplus is more in demand and tends to appreciate because there are flows of money towards this country. Moreover, prices in the exporting country will increase due to larger demand. These effects all increase the prices of the goods produced in the exporting country, making them less competitive. Since salaries are linked to productivity and competitiveness, and workers are in higher demand in exporting countries, the salaries in these countries rise and this will, again, make the products of the exporting country more expensive. These effects tend to balance the trade flows. When currencies are different, but exchange rates are fixed, a positive trade balance of the most competitive country increases the quantity of money inside the exporting country, bringing inflation and competitiveness loss.

Even when countries renounce their own currencies, national adjustments can take place through different salaries. This is what happened with the introduction of the Euro (the European Monetary Union, EMU), when many countries adopted a single currency. Countries which were more competitive (and tended to have lower inflation before the single currency) increased their real salaries more than those countries which were less competitive (or used to have higher inflation before EMU). The result is that differences in productivity between nations have increased disparity in salaries.

All the above-mentioned mechanisms do not work well at a regional level. First, the currency is the same, so it is not possible to have different exchange rates. It is also impossible to have significantly different inflation rates because people would be able to buy goods from other regions if the price increased too much in a region: the market within a country is integrated and prices for goods cannot therefore be significantly different.¹⁴

Salaries may be different between different regions but only to a certain extent. Many salaries are fixed at a national level, for example those of civil servants (apart from some allowances for some specific places such as London) and also in the private sector, where trade unions may negotiate homogeneous salaries at a national level.

In the end, the only adjustment mechanism remaining at a regional level is migration because people may migrate towards those places which are more

productive and hence provide better job opportunities and higher salaries. This migration will reduce the number of people living in weaker regions and increase that in the richest ones, so that salaries will tend to decrease in the latter because of a higher labour supply.

In general, however, the impact at a regional level is that more productive regions will have an abundance of jobs because firms will prefer to locate there, where they can enjoy external agglomeration economies. In poorer regions, where there is lower productivity, there will also be fewer, mostly public, jobs, which are relatively well paid because they are paid a similar salary to equivalent roles in highly productive regions.

As a consequence, some people will migrate from poorer to richer regions, while others will prefer to stay put, waiting for a (possibly public) job, with consequent unemployment rate disparities. [Boeri et al. \(2020\)](#) state that this is the case in Italy, where wage bargaining is mostly national, while the situation is different in Germany where, despite Eastern Lander having lower productivity, wage bargaining is local.

2.8 INADEQUACY OF MACROECONOMIC POLICIES

A clear justification for the implementation of policies at regional level stems from the fact that macroeconomic policies do not work when the issues they need to address are unevenly distributed across the regions of a country. If a policy is in fact having uniform effects across all regions of a country, it will not be able to compensate regional disequilibria.

This is easily shown with an example. Imagine there is a country with high unemployment rates and that the unemployment rate is similar across the two regions which compose the country. This is illustrated in case 1 in [Figure 2.5](#). Macroeconomic textbooks support the fact that there is a trade-off in the short run between inflation and unemployment along what is called the Phillips curve. This means that, with an expansion of the quantity of money available in the country, it is possible to temporarily decrease the unemployment rates at the cost of generating some inflation in the medium or long run. As with all trade-offs, there are situations (for example after a demand crisis) in which a government may accept higher inflation to decrease unemployment.

We have to remember that, in macroeconomics, the unemployment rate can never fall to zero, because there is a so-called “frictional” unemployment. Friction in the labour market is caused for example by people who need time to pass from one job to another. Other more complex reasons exist, such as efficiency salaries, when some firms prefer to slightly overpay their personnel to increase their commitment and reduce turnover.

In case 1 of [Figure 2.5](#), a macroeconomic policy based on monetary expansion (i.e. an increase of the quantity of money made available by the central bank in the economy) should decrease national unemployment even if at the cost of increasing inflation.

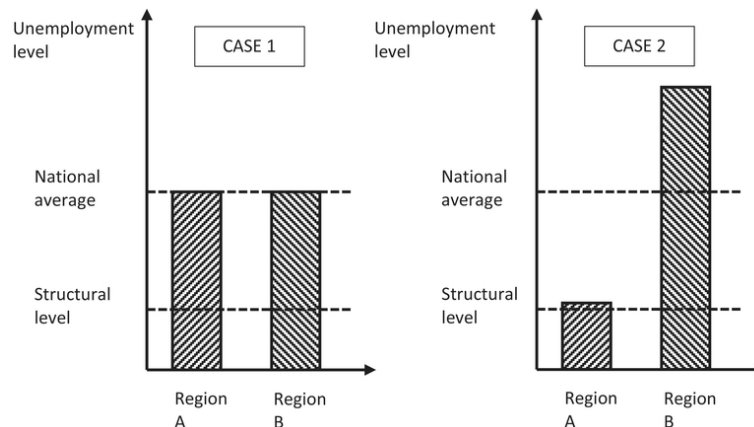


FIGURE 2.5 Addressing unemployment with national or regional policy

The same policy does not work as effectively in case 2 of [Figure 2.5](#). In case 2, the national unemployment rate is the same as in case 1 but unemployment is unevenly distributed between the regions. In region (A) the unemployment rate is at the frictional level (very low) and in region (B) unemployment is very high. A monetary expansion policy implemented at country level will reduce unemployment in region B but cannot reduce unemployment in region A below the frictional level. This means that at least a part of the macroeconomic effort is wasted, so a substantial monetary policy would be needed to reduce the unemployment of region B, resulting in very high inflation for the whole country. This is not an efficient way to achieve the desired policy result. A situation such as the one of case 2 can hence be better addressed with policies targeting just the region where the issue is present, rather than giving the same pill to every part of the country including the healthy ones.

2.9 EFFICIENCY REASONS

Regional policies can also be justified on the basis of achieving “efficiency”, a higher national GDP or a higher national GDP growth rate.¹⁵ This argument is a traditional one that had a lot of traction in the past, while nowadays it is usually presented within more complex schemes.

First, production uses different combinations of factors, which are normally unevenly distributed across space. There are cases in which production factors are not fully used because production requires a

combination of them and one is abundant in one region and the other in another region. This is inefficient, since it represents a waste of resources. If regional policy is able to move production factors from one region to another to combine them and avoid having pockets of unused production factors, this increases the total production of the country and hence its GDP.

A simple example is where there is unemployment in the lagging regions of a country. Seen through the lenses of macro economics, this is not only a societal issue but a waste of a production factor (labour), because there are people who are able and willing to work but who are unable to find a job. If regional policy is able to transfer some capital towards the lagging region, then it may be able to exploit the unused labour force and also increase the total production of the country. A similar result may also be obtained the other way round, with a transfer of labour from the place where it is unused to another with opportunities due to the abundance of capital. This may occur through internal migration from lagging to richer regions. People's mobility, in this case, is therefore as favourable to efficiency as capital mobility because it avoids having unused labour in some places.

However, labour mobility may also have drawbacks. These include negative consequences at an individual level, because many people do not migrate willingly, and also at an aggregate level, because migratory communities leave behind unused houses, infrastructure and public services – and require new houses, infrastructure and service provision in their new location.

Even when production factors are fully used, it may be possible to increase the total production of a country by better allocating production factors between regions. Not all combinations of production factors are equally productive because there is normally a balance which depends on the shape of the production function and how complementary the various factors are among themselves. Therefore, balancing the production factors available in different regions usually increases total production. For instance, if within a country there is a lagging region which has abundance of labour and a rich region which has an abundance of capital, even without unused factors (so without unemployment), a redistribution of labour and capital in order to attain a more balanced situation may help achieving a higher total production (see [Box 2.1](#)).

In most neoclassical economic models, when a production factor is less abundant it normally has a higher remuneration (in terms of wages for labour, rents for land, profits for capital). At this point, the market should tend towards the efficient equilibrium autonomously, because when a factor is less abundant in one region it has a higher price and so it is attracted from the other region. If this happens, regional policies may not be needed because the forces of the

BOX 2.1 HOW PRODUCTION FACTOR REALLOCATION INCREASES EFFICIENCY

how interregional factor reallocation can increase national efficiency can be easily seen by looking at a standard production function, in which production takes place as a combination of two production factors. an example of this is the production function represented in [equation 2.1](#):

$$\Psi = A\Phi_1^\alpha\Phi_2^{1-\alpha} \quad \text{Equation 2.1}$$

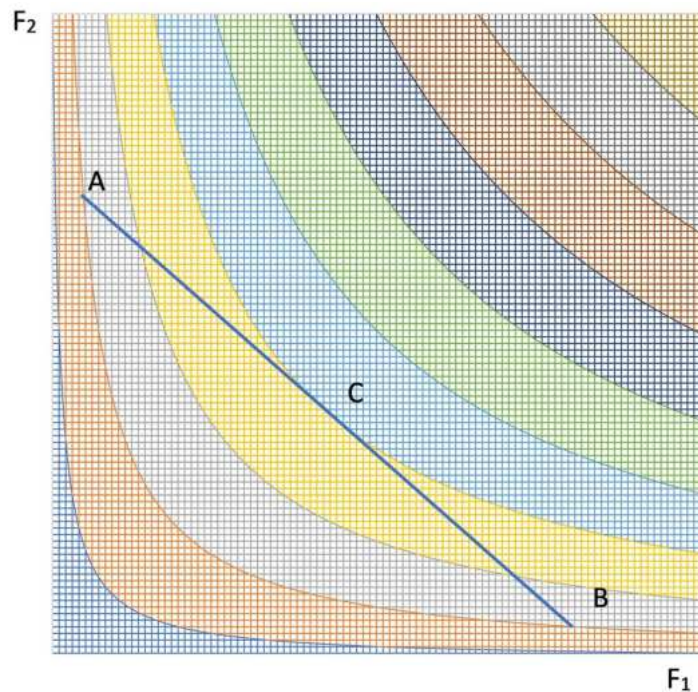


FIGURE 2.6 Increment of production with a more balanced allocation of production factors

In this equation, y represents the product, F_1 and F_2 the production factors, and α is a coefficient ranging between 0 and 1 and A is a constant considering other aspects, especially technology (see [chapter 6](#)). This production function is known as a Cobb-Douglas production function, with constant returns to scale since when doubling at the same time the amounts of both production factors, the output also doubles. This production function is hence a function of two inputs (the two factors) into one output, whose production takes place by using both factors at the same time.

If the two factors are unevenly distributed in space, so that one region has more of one and the other region has more of the other,

because of the complementarity between the two factors, implicit in the function, the level of production in both regions will be rather low (points A and B in [Figure 2.6](#)). However, if a more balanced situation is achieved (maintaining the same total level of production factors) then the production becomes the one of point C for both regions, which is for both regions higher than in the original (unbalanced) situation.

free market should lead the economy towards spatial equilibrium. However, disparities often continue to exist because markets are rigid and there is too little mobility between regions. Moreover, there are many aspects of the spatial economy which do not comply with this simple framework, as shown by the new economic geography which is also mainstream economics but allows for the presence of increasing returns.

Another factor in efficiency is correcting the market when it produces congestion diseconomies. As seen in the previous sections, it is possible for agglomeration to become too high and, as such, implementing policies to reduce it will be beneficial for the economic system.

A final aspect linked to efficiency is so-called dynamic efficiency, which is related to the ability of a country to grow more economically. As is evident in the chapter on regional innovation policies ([chapter 6](#)), specific interventions unevenly spread across territory can increase the growth rate of regions and the countries to which they belong. There are many ways to do this which may include incentivising regional innovation, providing better opportunities or increasing the rate of knowledge spillovers from one region to the other.

In this sense, policies which aim to increase the growth rate of a single region may be beneficial for the total growth rate of a country when growth is generative and not competitive, i.e. when the growth rate of a region does not take place at the detriment of the one of other regions. This is even more true when there are positive growth spillovers from one region to others, so that any policy benefiting one region has an aggregate effect on GDP growth which is larger than the direct effect coming from inside the region. These effects of generative growth and will be explained in [chapter 3](#).

2.10 KEEPING INFLATION LOW

An important justification for regional policies is to contain inflation. For several years inflation was macroeconomically under control in most advanced countries, with inflation rates close to those needed to have a normal adjustment of the relative price of goods and services, and in some cases, even below what is desirable. For this reason, although a traditional one, inflation containment was not considered among the main ones. Yet, the

theoretical justification for regional policy on the basis of containing inflation has always been valid conceptually and, under certain circumstances, empirically. Moreover, recent developments taking place at macroeconomic level signal that the issue of inflation can be kept at bay for long periods but cannot be considered to be resolved, that is why the conceptual arguments need to be understood and managed.

The theoretical argument comes from the fact that prices tend to rise faster in growing and congested areas. This because demand for goods and productive factors is larger, increasing prices due to the relative scarcity (or limitedness) of supply. Interregional linkages mean the increase in prices spreads spatially to the other regions of the country. This mechanism is not too different from the one by which inflation can rise in certain industries or for some specific goods and then spread to other industries and goods with a self-reinforcing spiral, think about the increases in the price of energy which translate into higher transport costs, which are then incorporated into many goods, pushing the prices of other goods to also adjust upwards. Agglomeration, therefore, can lead to increased inflation rates but with a more even spatial distribution of economic activities and, in turn, of economic growth, it is possible to moderate inflation.

The argument of price containment at spatial level has particular empirical significance in the case of prices of production factors and, in particular, of urban land. Real estate economics, in fact, shows that the supply of land and housing in cities is quite rigid (i.e. almost invariant, irrespective of prices) especially in the short run. An increase in demand for land, therefore, leads to an increase in real estate values and prices. These increased prices can then make it more expensive to live and produce in the city, which implies that other prices will also tend to increase.

Additionally, there is the problem that some cities, especially large and dynamic ones, might be caught in real estate bubbles. A bubble forms when the price of something increases more than its real value because it is bought by investors/speculators with the expectation that the price will continue to increase and they will be able to generate capital gains. This is a self-fulfilling prophecy which works for some time until, sooner or later, it comes to an end when the investors realise that the difference between the price and the actual underlying value has become excessive. At that point, the bubble bursts and with it the investments and the savings of many vanish.

The burst of a bubble may have effects beyond the bubble itself. This is shown by the global financial crisis, which began in 2007 as a crisis of sub-prime mortgages in the US and spread rapidly from the banking system of a (large) country to the real economy of most of the world. High real estate prices in a city, however, are not necessarily a signal of the existence of a bubble when the prices are related to the fact that these locations are especially valuable for living and for producing.

Overly high land prices in a city, especially when due to the speculative investment of international actors, may be detrimental to its long-run development in two ways:

1. They will drive away more viable economic activities in favour of real estate speculation, which can even leave estates empty because profit is made from capital gains and not from rents.
2. Citizens are forced to move out of city centres to far away suburbs as a result of high rents. This has a negative impact on people's quality of life and can also have a negative impact on firms, which may find it difficult to find workers with the right competences at the normal salaries.

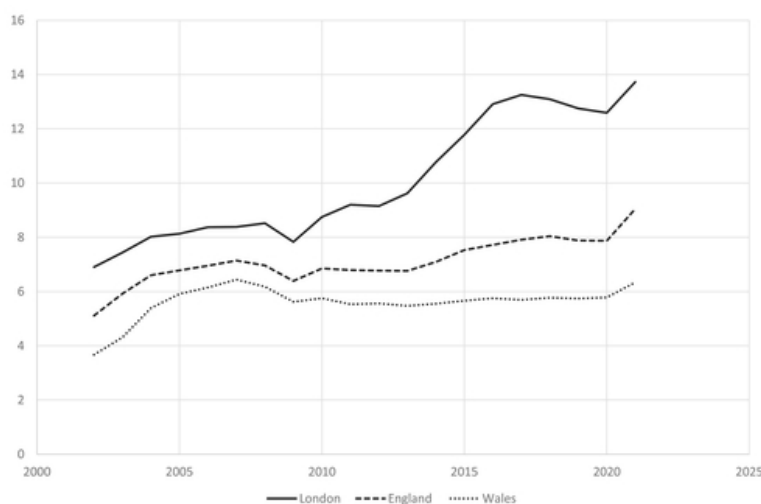


FIGURE 2.7 Ratio of median house price to median gross annual residence-based earnings in London, England and Wales Source: Created by author with data from Office for National Statistics

In London, a city which has been booming economically, [Marsden \(2015\)](#) estimated that the ratio between the median house price and the median earnings has grown from about 6 to about 16 between 1998 and 2014, which leads to problems for the middle and lower classes. More recent data ([Figure 2.7](#)) show that the pattern is continuing. Apart from during economic crises, where house prices appear to have been more sensible in London, the growth is continuous and much faster than elsewhere in England and Wales.

2.11 BEYOND MARKET FAILURES: TAPPING UNTAPPED OPPORTUNITIES

As mentioned in the introduction of this chapter, many authors are arguing that policies are no longer just to address market failures but also to exploit existing opportunities in the economy and to steer the whole society ([Mazzucato, 2013](#); [Mazzucato & Ryan-Collins, 2022](#); [Rodrik, 2007](#)).

If the theories of spatial equilibrium are correct, in fact, the differences between regions would tend to spontaneously decrease with spontaneous processes, and the existence of differentials depends on existing rigidities. This would imply that policies to decrease disparities should mostly remove the various material and immaterial obstacles to mobility, because with enhanced mobility there will no longer be spatial differences.

However, there are places whose low development levels have been very persistent, and this seems to imply that there are aspects which are not possible to correct by allowing market forces to work. There are, in fact, many situations in which regional potentials are present but there are some circumstances which prevent them from being tapped. Poor regions, therefore, are mostly as such because they lack the ability to exploit their potentials, instead of because they lack these potentials.

This is the basis of the stream of arguing for place-based policies which assume that the best way to enhance regional and national development together is to work on the different strengths present in the various regions. As seen in [chapter 1](#), there is a wide literature arguing that policies for lagging regions are efficient because they allow tapping untapped opportunities that arise there.

One main argument for that is that, if a country would try to grow just based on its agglomerations, it will have to rely on a small part of its territory, economy and population, so the opportunity to grow will be lower because the assets present outside the major agglomerations will be wasted. Therefore, one important justification for the existence of regional policies, and in particular of place-based ones, is the fact that it can trigger aggregate growth by removing those obstacles, generally of social institutional nature, which prevent poorer regions from using their potentials. These obstacles cannot in fact be removed by national or space-blind policies, but will require territorial interventions which act on the specific obstacles present in each place.

2.12 ENVIRONMENTAL JUSTIFICATIONS FOR REGIONAL POLICY

Keeping constant the societal organisation and for a given level of technology, the level of economic activity is associated with environmental deterioration. Especially, this happens when activities create congestion

(described in section 2.4). Large cities in advanced countries (and even more notably in developing ones) are associated with the highest levels of congestion and air pollution.¹⁶ In particular, these problems are stronger in the presence of fragmentation and sprawl (i.e. very low densities in cities) which are associated with higher costs in terms of traffic, commuting times, land consumption, greenhouse gas emissions, air pollution, and loss of open space and environmental amenities, which are lower when the city is more compact ([Camagni et al., 2010](#); [Cárdenas Rodríguez et al., 2016](#); [McCarty & Kaza, 2015](#); [OECD, 2018](#)).

Urbanised areas can also experience much warmer temperatures because of the “heat island” effect and because artificial soils are less able to absorb water. In general, the increase of artificial soils throughout the world has a global negative effect as it increases global warming and also possible negative local effects, such as increased risks of flooding.

Agglomeration, therefore, usually brings a toll to the environment and too much agglomeration may outweigh the economic and social benefits of agglomeration. Negative environmental externalities, in fact, are largely a localised phenomenon. Limiting agglomeration, therefore, can be justifiable on the grounds of environmental protection because rural communities may be more sustainable than urban ones (see [chapter 8](#)). At the same time, policies for mitigation and adaptation might be more effective in urban areas.

There are therefore many different reasons why regions and cities are relevant to the issue of sustainability and climate change, which can be grouped into four main aspects ([OECD, 2019](#)):

1. The concentration of population and economic activities in space contributes to environmental problems. This stems from the traditional arguments of congestion and externalities and is exemplified by the fact that, worldwide, urban agglomerations are responsible for a share of emissions which is larger than their share of population.
2. The impact of climate change is not homogeneous. There are countries and regions whose vulnerability is higher, but whose readiness is lower, than others.¹⁷ Moreover, most of the world’s population is concentrated in cities and, disproportionately, along coastal areas, making it more at risk should sea levels rise.
3. Urban and regional authorities are key actors in environmental protection since their share of public expenditure on sustainability issues is larger than their share of overall public spending, as shown by the data ([OECD, 2019](#)). This is also because many policies which have environmental consequences fall under the responsibility of regional and local authorities, for example policies on housing water provision, land use, transport planning

and so on.

4. Infrastructure investment, including the ways to implement them, will play an important part in future global sustainability trends.

Many actions to protect the environment are therefore place-specific. For instance, cutting CO₂ emissions involves, at a macro scale, a transition from producing energy using fossil sources to new ways of producing energy from renewable ones, and newer and more efficient ways to use it.

At the micro scale, however, the reduction of energy consumption passes through actions which are normally implemented at a local scale, think about energy-efficient buildings. In many cases, the right scale for addressing pollution is the urban one, where most pollution is generated. Local actors are therefore those who should be able to implement the right policies more effectively. For instance, policies to reduce the congestion of roads can be effective to reduce the use of fuel in cars. These may take many different forms, for example the creation of toll areas in the centre of cities, disincentivising the use of cars for personal mobility; or policies which increase the time span of the mobility of workers and clerks, avoiding a peak hour in which everybody has to move to get to the office, may be a cheap but effective way to reduce congestion. Policies in favour of car-sharing or private ecological mobility such as bikes and scooters may also be another way, although these require the right infrastructure such as bicycle paths and exchange stations.

The relationship between regional environmental policy and planning is therefore extremely important because the way in which a city is planned has a huge influence on how much energy it consumes and how much it pollutes the environment. Recent experiments include the development of multicentric cities in which citizens can find jobs and service provision within a short distance of where they live, which significantly reduces the need to travel back and forth to the central business district. One way in which this has been labelled is “15-minute cities”, currently being experimented in many places, starting with Paris where the concept was first supported, and the metropolises of the “C40 Cities Climate Leadership Group”. This idea has also been criticised, mainly because it can have as an unintended effect the increase of segregation with people living inside their neighbourhoods with very different quality of life in each of them and some neighbourhoods increasingly unaffordable.

There is also a relationship between the environment, architecture and its regulation because buildings represent a large part of energy consumption and emissions, and there are building techniques which could significantly reduce both. Regulations in favour of new energy-efficient buildings or the upgrading of old buildings can be an effective way to address environmental issues through local policies.

Finally, the relevance of place-specific policies for environmental protection does not just depend on the fact that the implementation of policies needs to be spatially varied, but also on the need for different actions in different places because their economic, social, climatic, geographic conditions require different implementations. For instance, the adaptation to climate change needs to consider the specificity of places, particularly the specific climate risks that cities face in different geographical areas. As an example, because of this, adapting to climate change in one city may require being prepared for heavier rain while in another it could mean being able to face extreme heatwaves in summer.

To sum up, adaptation to environmental issues is a mostly local issue, while mitigation, which is often considered to be global (and it is, since it depends on political agreements and technology advancements), is in many cases local in its implementation.

2.13 SOCIOPOLITICAL JUSTIFICATIONS FOR REGIONAL POLICIES

Social issues are often highly localised and as such require actions which are different in different regions (see also section 3.7.8). One example is the existence of unemployment pockets in some regions, which are an important social problem that cannot be addressed with uniform policies at a national level. Those places where jobs are scarce and people have to rely on social assistance or the informal economy for their living are places at high risk of social unrest. Income differentials can in themselves be a driver of social problems which require regionally differentiated replies.

Providing assistance to weaker regions may also be a good way to address issues related to the provision of welfare and services. If, in fact, there are significant levels of migration from poor to rich regions – where people have more opportunities to find jobs – these migration flows are not neutral. Those who leave are normally those of working age while those who stay behind are often older people or those with less opportunity to be active in the labour market. For this reason, the communities which are left will normally have difficulties in maintaining their social infrastructure. The place where the new migrants arrive, on the contrary, will need to expand their social infrastructure capabilities because they will have a larger number of citizens requiring schooling hospitals and so on.

Another important objective for social cohesion is the reduction of interpersonal inequalities.¹⁸ These interpersonal inequalities can be separated along two dimensions:

- Vertical inequalities between people with different positions and jobs, irrespective of where they live. Vertical inequalities may, for example, depend on the distribution of income between work and capital ([Piketty, 2015](#)).
- Horizontal inequalities between people who may have a similar level of qualification but live in different places.

Taken together, these differences add up to the total level of interpersonal inequalities ([Rivlin et al., 2019](#)). The reduction of interpersonal inequality is often addressed through policies targeting both sources. The vertical dimension can be addressed through policies which target people and workers, such as a progressive tax system, support for those who are less well off, rules which drive more equal distribution of income, and the protection of vulnerable workers and citizens in general. Horizontal dimensions of interpersonal inequalities are better addressed through regional policy which tackles this dimension directly and also reduces the total level of interpersonal inequality in the society indirectly. Regional policy, in fact, by providing economic opportunities also to those born or living in the periphery, will provide them with outcomes adequate to their effort and capabilities.

Differentials in wealth between different places are also normally considered unjust in political terms, and one objective of regional policy is spatial justice (discussed more in [chapter 3](#)). The focus on spatial justice stems, on the one hand, from the fact that it is normally considered politically unjust to leave citizens to live with different levels of income, and, on the other hand, from the fact that a spatially differentiated economy provides different opportunities to similar citizens, depending on the place where they are born.

In fact, citizens who are born in weaker areas often find worse schools, worse universities and therefore risk being behind in their creation of human capital. Even if they somehow manage to achieve the same level of human capital, opportunities to find a satisfactory job are also lower compared to those with the same skills and formal qualification living in stronger areas. Liberal democracies, on the contrary, are supposed to provide the same opportunities to all their citizens, so that any different outcome is only a result of individual action rather than social opportunity.

In purely political terms, moreover, the presence of income differentials may lead to tensions within the national community. Places which find themselves in at a disadvantage or face the threat of it worsening are also those places whose citizens do not feel their interests are represented by the state and provide fertile ground for political protest. One important recent case is Brexit, the process started by the referendum by which British citizens chose to leave the EU after more than 40 years of membership. Analysis has demonstrated the importance of the spatial dimension, with

“leave” votes concentrated in rural or economically depressed areas and “remain” votes concentrated in London. This has led to the famous claim that this vote, as well as others, was a revenge of “places that don’t matter” ([Rodríguez-Pose, 2018](#)), being more related to a general disenfranchisement of certain areas whose economies were left behind than a specific protest against the European Union and its policies ([Willett et al., 2019](#)).¹⁹ It is no coincidence that the European Union implements its regional policies under the wide umbrella name of cohesion policies, because they are expected to further the cohesion of the different areas of the union by not abandoning the lagging ones.²⁰

2.14 REGIONAL POLICY JUSTIFICATIONS IN RECESSION

Many of the arguments used to support the necessity of regional policy are less effective in periods of recession, i.e. in periods in which the national and global economy are struggling and are growing much less than usual or even shrinking.

In these situations, the unemployment rate is normally higher than the minimum frictional level in all regions of a country. Even if some regions have a higher unemployment rate compared to others (usually those who had a higher unemployment before the start of the recession), all regions face the issue of unemployment and therefore there is no point in reallocating resources from one place to another for efficiency reasons, since there are unused productive factors everywhere.

Moreover, in a period of recession, economic activities are at a lower level than usual which means that the level of congestion is also lower and the reduction of congestion becomes less urgent. Environmental reasons too have less urgency because, as shown during the pandemic in 2020 and 2021, reduced economic activity and mobility bring a reduction in polluting emissions. The problem of inflation is normally also very low because in periods of recession prices tend to struggle and there is often a downward pressure on them because producers and sellers find it harder to secure customers for their products.

Efficiency, political and environmental arguments, therefore, have a lower importance in recession but there are at least three arguments which make it important to maintain, reinforce and reorient regional policy at these times:

1. A **structural argument**: most regional policies entail structural adjustment and structural change takes many years, usually longer than any macroeconomic crisis. It is therefore inappropriate to interrupt efforts to bring structural change to regions during a

recession because this change will be needed again once the crisis ends and will probably be even more necessary. Moreover, other interventions, for example those based on infrastructure or human capital, require many years before achieving their results, so interrupting them risks not only losing the final benefits but also wasting the resources invested so far. A rational analysis of policy choices shows that in the decision to continue or discontinue an intervention, the benefits should not be compared with its total cost, but with the residual costs not yet spent because the part which has already been spent cannot be retrieved. This makes it irrational to interrupt many policy interventions when a significant part of the intervention has already been implemented.

2. A **generative argument**: it has been shown that regional policy has also the capability to act as a trigger for national growth when it unleashes the growth potential of places. If this is the case, regional policy not only benefits individual regions but the whole country because it is able to mobilise the best resources available in different regions. In this way, the regions can begin a new virtuous growth path and, through spillovers, benefit each other and the whole country.
3. A **political argument**: during an economic recession, especially if the crisis is deep and long, social and political issues acquire greater importance. Places are struggling with increasing unemployment and life is harder for people who have become unemployed, but also for those who face the risk of unemployment or risks to their own businesses. Regional policy in this context may become one valve to reduce social unrest and possibly also political turmoil because it can focus on the exigencies of those places where the crisis hit harder.

2.15 THE COSTS OF NON-INTERVENTION

There is a final argument to consider when advocating for the necessity of regional policy. This stems from the fact that the spatial economy is not fixed but dynamic, and it continuously evolves, although normally slowly. In most cases, due to cumulative mechanisms, the problems and mechanisms which are behind what was previously discussed in the chapter risk being aggravated if left unaddressed.

Having a certain level of spatial inequality is something which may resolve itself spontaneously thanks to market forces. However, this is rarely the case in practice and, in many cases, the situation may worsen. For instance, if there are weak regions which are losers in the global economy,

they normally continue to drop in the rankings and their differentials with the front runners increase. If this is the situation, a policy of non-intervention does not leave things as they are, but allows the situation to worsen. For lagging regions, this means further falling behind, and losing an increased part of their private economic activities.

As a consequence of this loss of private activities, there will be the need of further support for citizens who don't find jobs in the local labour markets and therefore the savings in terms of regional policy will likely be offset by the additional costs of supporting people. If citizens on the contrary are pushed to migrate, desertification will get even worse, with losses of accumulated capital (in buildings, for example) but also of local cultures, ways of life, etc.

When, on the contrary, there are regions which are important attractors of people and economic activities, even with an excess of agglomeration beyond what is socially optimal, which continue to attract, like a black hole, then again regional policy will be needed in order to stop these patterns before they go too far and lead to environmental and social degradation, which is what has been experienced especially in the peripheries of the megalopolis of the developing world.

NOTES

1. [In](#) this context, the traditional economic idea of market failures as leading to inefficient situations could be enlarged to other cases where the markets lead to outcomes which are not socially desirable.
2. [This](#) idea has been demonstrated by the famous [Coase \(1960\)](#) theorem. See [Medema \(2020\)](#) for a recent discussion on the topic.
3. ["Directionality failure"](#) means that innovation does not necessarily happen where it is socially desirable.
4. [The](#) study of agglomeration and agglomeration economies had a strong resurgence in the last decades, following its introduction in economic models, with the creation of a field which is known as New Economic Geography ([Fujita et al., 1999](#); [Krugman, 1991](#))
5. [For](#) reviews of the mechanisms behind knowledge spillovers, the reader can refer to [Audretsch & Feldman \(2004\)](#); [Braunerhjelm et al. \(2010\)](#); [Breschi & Lissoni \(2001, 2009\)](#); [Capello & Faggian \(2005\)](#).
6. [Indivisibility](#) is meant to be a situation in which something cannot be produced or used in parts but only in full.
7. [More](#) recently, the importance of contacts in large cities has been made explicit by the study of the involuntary and unplanned

- relations between people made possible by density (chapter 8)
8. [See](#) for example [Beaudry & Schiffauerova \(2009\)](#).
 9. [The](#) scholars who first studied and introduced cumulative mechanisms in the theory were [Kaldor \(1970, 1972\)](#) and [Myrdal \(1957\)](#).
 10. [Technically](#), a situation of decreasing returns means that by increasing the production inputs, the outputs increase but less than proportionally, e.g. inputs double and output only increases by 1.5. Increasing returns means that the output increases more than proportionally, constant returns means that output increases in the same proportion.
 11. [This](#) concept was already present in the model by [Solow \(1956\)](#).
 12. [See](#) [Gereffi \(2018\)](#); [Gereffi & Lee \(2012\)](#); [Grossman & Rossihansberg \(2008\)](#).
 13. [See](#) [Rodríguez-Pose & Fratesi \(2004\)](#) and [Benedetto \(2019\)](#).
 14. [The](#) price which can most be different between regions is the one of land (i.e. the rent) because land is not mobile, so house prices in rich regions can be manifold those in poor ones.
 15. [There](#) is an improvement of efficiency when the output increases for a given level of effort or, vice versa, when the same output is achieved with a lower level of effort.
 16. [Although](#) traffic is only one source of air pollution.
 17. [See](#) for example the results obtained through the ND-GAIN index ([Chen et al., 2015](#)), available at: <https://gain.nd.edu/our-work/country-index/>
 18. [It](#) has to be signalled that the term “inequality” is used in two different ways, to indicate interpersonal inequalities by those studying public economics and sociology, and regional or spatial inequalities by those studying regional economics and geography.
 19. [There](#) is an important difference between less developed regions and others which had a good relative position and are declining. Refer to section 3.7.6.
 20. [The](#) efficacy of these policies in achieving actual political support for the EU has been questioned, as some pieces of research find a limited impact while others find a more substantial one ([Aiello et al., 2019](#); [López-Bazo, 2021](#); [Rodríguez-Pose & Dijkstra, 2020](#)).

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CHAPTER 3

The objectives of regional policy

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3.1 INTRODUCTION

The discussion about the need for regional policy goes back a few decades, when scholars began to investigate the conditions under which policy intervention is required at the regional level. Most of the issues belonging to this discussion have been presented in the previous chapter. This chapter concentrates on the objectives commonly pursued by regional policy, i.e. the issues regional policies normally seek to address.

Most of the past literature on this topic has concentrated on redressing regional disparities as the main target of regional policy.¹ However, regional disparities have always been accompanied by at least one other objective: an efficient economic system. For example, [Stilwell \(1972\)](#) proposed the following six objectives of regional policy implementation. Of these, we can link the first five to efficiency and the sixth to equity:

1. Prevention of resource underutilisation.
2. Securing optimal allocation of resources between sectors.
3. Achieving a satisfactorily rate of resource growth.
4. Prevention of excessive inflation.
5. Avoidance of persistent balance of payment disequilibria.
6. Establishment of reasonable equity in the distribution of income.

A dual focus on equity and efficiency was important in the 1970s, as evidenced in the work of [Friedmann and Alonso \(1975\)](#), which also emphasised the addition of quality of life and environmental protection objectives, especially in advanced economies. This shows that quality of life and environmental sustainability are not new ideas but have been pursued for decades, although in a different manner.

Another common target is equal opportunities for people living in different places, which implies that regional policy interventions are not only needed for economic reasons but also for social and political ones. For example, [Balchin \(1990\)](#) proposes that in the 1930s the British government started to act to reduce interregional imbalances in employment opportunities and growth because of economic efficiency, equity and also “political expedience” (p.vii).

Current objectives behind the implementation of regional policy are not very different to these early intentions. The [OECD \(2016\)](#) provides a survey

of those objectives rated as high priority by different countries, from which it is evident that these objectives can still be classified under four main groupings:

1. Spatial equity and reducing disparities,
2. Efficiency, economic growth and competitiveness,
3. Environment protection and sustainability,
4. Quality of life.

This is shown in [Table 3.1](#) – the most common regional policy objectives – which illustrates the correspondence between the objectives identified in OECD countries and the four main objectives which still characterise regional policy nowadays.

While these three groups of objectives have remained the same for 50 years, their relative importance, the way they are defined and how they are pursued are significantly different from earlier approaches. Additionally, the objective of building capacity for local and regional government appears to be instrumental to the achievement of all four objectives, as it is linked to the ability to implement good policies. Therefore, the issue of administrative capacity is the focus of [chapter 4](#).

TABLE 3.1 The most common regional policy objectives

OECD countries ¹ policy objectives	Final objectives				Number of countries rating objectives as high priority in OECD study
	1. Spatial equity, reduction of disparities	2. Efficiency, economic growth and competitiveness	3. Environment protection and sustainability	4. Quality of life	
Increase competitiveness of all regions (i.e. global scale)		X			28
Increase competitiveness of lagging regions	X	X			26
Achieve balanced	X	X			24

Final objectives					
OECD countries ¹ policy objectives	1. Spatial equity, reduction of disparities	2. Efficiency, economic growth and competitiveness	3. Environment protection and sustainability	4. Quality of life	Number of countries rating objectives as high priority in OECD study
growth					
Provide reasonable access to public services				X	21
Reduce interregional disparities	X				20
Revive distressed areas (industrial shocks)	X				19
Foster rural-urban linkages	X			X	18
Build capacity for local/regional governments	X	X	X	X	17
Address environment and climate change issues			X		16
Increase accessibility of peripheral areas	X	X		X	16
Reduce intraregional disparities	X				15
Revive distressed areas (population	X			X	15

Final objectives				
OECD countries ¹ policy objectives	1. Spatial equity, reduction of disparities	2. Efficiency, economic growth and competitiveness	3. Environment protection and sustainability	Number of countries rating objectives as high priority in OECD study
shocks)				

Source: Author's re-elaboration using data published in [OECD \(2016\)](#)

This chapter presents the objectives (goals and targets) pursued by the different types of regional policy, as well as their justifications and trade-offs. There are many different types of regional policy with highly differentiated objectives, and these can be conflicting or overlapping. This chapter also considers those objectives that are better understood as intermediate objectives, since they are instrumental to the achievement of one or more final objectives, rather than ends in themselves. These different objectives require different instruments, and a detailed discussion about the instruments used to achieve regional politics is presented separately, in [chapters 5](#) and [6](#).

3.2 SPATIAL EQUITY AND REDUCING DISPARITIES

3.2.1 Regional disparities

The reduction of disparities between regions is the most traditional objective of regional policy and, in its various definitions, is still the best known and most common one. After some years in which disparities became less important in political discourse, they are back at the core of regional policy justifications ([Rosés & Wolf, 2019](#); [Rodríguez-Pose & Wilkie, 2019](#); [Camagni et al., 2020](#)), not least because they can lead to social and political discontent ([McCann, 2020](#)).

Disparities at regional level can be social, economic, structural and environmental. However, the main target of regional policy remains economic disparities between different places because these disparities

affect many different aspects relevant to a policymaker ([Figure 3.1](#)).²

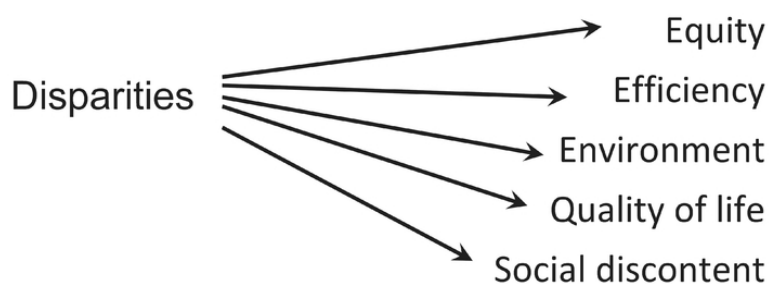
First, disparities directly affect the equity between different places and hence between the people who were born or live in them, who have different opportunities depending on their location. Moreover, disparities can affect the efficiency of the economic system because differences between places are often an indicator of the unfair and inefficient location of productive factors, as shown in the previous chapter.

Regional disparities can also have a negative impact on quality of life because they can lead to low levels of economic well-being for lagging regions and to negative situations for the most productive regions, such as congestion. Regional disparities may also bring negative consequences for the environment, as densely populated places are more polluted and left-behind regions may have insufficient resources to take care of their own environment (for example, levels of waste recycling are usually higher in richer regions).

Finally, regional disparities can lead to social discontent because the communities of lagging behind places may feel abandoned by the state in favour of other communities, which in turn has negative consequences for the cohesion between places.

Although disparities may exist in many different dimensions of society, policy documents generally do not specify which they are referring to – and in most cases disparities are shorthand for economic disparities. Economic disparities are in fact normally associated with other types of disparities, of a social or territorial nature. On the one hand, economic disparities between regions might imply the existence of other types of disparities, for example because lower economic levels reduce the possibility for regions to afford services or assets. On the other hand, disparities in regional assets and services reduce the viability of business activities, resulting in a lower level of GDP per capita.

Even economic disparities, however, are not easily defined and there is no perfect measure for them (see [Box 3.1](#) for a summary). Normally, disparities are measured in terms of GDP per capita, which is an indicator of total production and therefore unable to account for how this economic wealth is distributed. The advantage of using GDP per capita, however, is the fact that GDP statistics are common and normally reliable.³



[Figure 3.1](#) The impact of disparities

One standard correction which is made in the measurement of disparities in terms of GDP per capita is the use of purchasing power parities (PPPs), which are meant to avoid the problem that prices are different in different places. Using PPPs makes it possible to compare the value of production in different places based on how many goods and services it is possible to buy in these places. Unfortunately, PPP coefficients are often only available at national level, which makes data on PPP-corrected disparities imperfect.⁴

Empirically, there are two preliminary issues to solve to understand whether disparities are decreasing or not. The first is the choice of the indicator, because different indicators provide different results. The second is the choice of spatial scale at which disparities are measured.⁵

There are many indicators available, often providing a single measure of disparities. These are helpful but may provide different pictures especially when comparing unweighted indicators with indicators weighted for regional size.⁶ Disparities are also better represented by data on the statistical distribution of levels of GDP per capita instead of a single value, which is a way to keep more information although this way of representing them is more difficult to read.

The reduction of disparities normally comes from a process of convergence by which either the regions with lower levels of GDP per capita are growing more than others (the so-called beta convergence) or an indicator of total disparities is decreasing in time (the so-called sigma convergence, which looks at the reduction in the dispersion of regional values). Statistical convergence is just one way the issue of spatial equity can be defined – and the most traditional – while other more encompassing ways of conceiving it will be presented in the next sections.

In both cases, the choice of spatial scale at which disparities are measured is a difficult one and may create misleading results because processes of convergence and divergence may take place at the same time at different scales. For example, it is possible (and indeed quite common for the reasons shown in [chapter 2](#)) to have convergence at the national scale, when lagging countries are outperforming richer ones, and, at the same time, divergence at the regional scale, when regions in a better situation within countries are outperforming other regions (P. [Martin, 1999](#)). These patterns can change over time, with periods of intra-country or inter-country convergence or divergence depending on exogenous aspects as well as institutional changes ([Camagni et al., 2020](#)).⁷

The situation in which countries are converging but regions inside countries are diverging is represented in [Figure 3.2](#), where each point represents the situation of a region in terms of initial GDP per capita and GDP growth, with different shapes indicating regions belonging to different countries. This is a situation opposite to the one of “club-convergence”, in which each regional group is converging to its group value, so that

disparities are decreasing within each group but may be increasing overall (Figure 3.3).

The reduction of disparities is an important target for regional policies at the national level in almost all countries, through policies of types 2 and 3 (refer to Table 1.1). However, single regions are not interested in convergence because they normally only target their own economic well-being. Therefore, the reduction of disparities is normally not a target of regional policies of type 1. The governments of lagging regions, however, often look at convergence, since this is a way to see how their region is doing compared to rich others and to put forward the case for additional resources to be devoted to policies of development in their own region.

The reduction of disparities as an objective of regional policy is commonly associated with ideas of spatial justice. There are many ways of approaching this depending on the conceptual, political and ideological framework of the scholars, politicians and policymakers involved.⁸ In all cases, however, it is underpinned by an understanding that a situation in which different regions (or, more generally, different places) have different levels of development is intrinsically

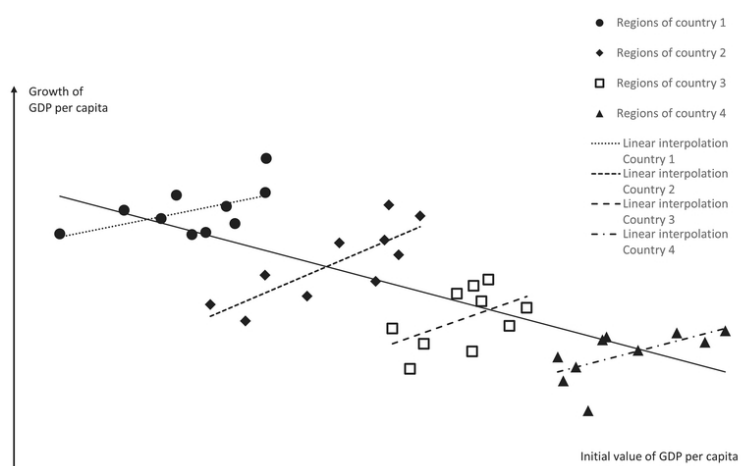


FIGURE 3.2 Regional divergence inside country and convergence between countries

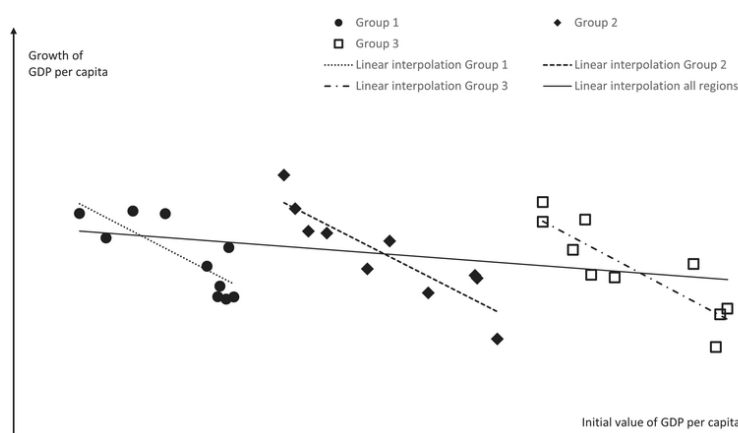


FIGURE 3.3 Club convergence in a context of stable total disparities

BOX 3.1 Some common indicators of disparities

although the concept of disparities is widely diffused, its actual translation into measurement is complex. first there is the conceptual issue on which type of disparities are most relevant and – even if just limiting to the economic ones (those for which most statistical data exist) – there is a difficult choice to be made on which indicator is best suited to represent them. for instance, it is possible to use indicators of employment, of income, of gross value added, etc. moreover, monetary variables can be expressed at market prices (real ones are preferred to nominal ones) but also in terms of purchasing power parities.

even after the choice of the indicator to measure disparities is taken (say GDP per capita in PPP), and the spatial scale at which disparities have to be measured is also chosen (being aware of the modifiable areal unit problem, described in [chapter 7](#)), the measure which is adopted to quantify disparities is able to influence the results (see [Ezcurra & Rodríguez-Pose, 2009](#), for an extensive treatment of the issue).

When disparities have to be synthesised into one single value, indicators of dispersion are used and, among these, the two most commonly seen in policy reports and academic papers to measure the disparities in terms of regional GDP per capita are the coefficient of variation and the Theil index. Both can in fact be calculated in a relatively easy way starting with official statistical data.

The unweighted coefficient of variation gives all regions the same weight and is calculated as (where Y is GDP, P is population, μ is the mean, r represents the region and T the total):

$$\chi = \frac{\sum_r [\Pi_r \Psi_r - \mu]^2}{\mu} \quad \text{Equation 3.1}$$

A weighted version also exists which weights the regions for their size in terms of population, so that the equation is modified as follows (with μ being the weighted mean):

$$\chi = \frac{\sum_r \Pi_r \Pi_T [\Pi_r \Psi_r - \mu]^2}{\mu} \quad \text{Equation 3.2}$$

The Theil index is a measure of entropy which has the advantage of being weighted and decomposable. This means that, in addition to giving larger weight to larger regions, it can measure the level of total regional disparities as well as the share of this total which depends on which regions belong to which group. In particular, it is used to

measure the share of total regional disparities which depends on disparities between countries and the share which depends on regional disparities inside the countries.

The calculation of the Theil index of regional disparities and its subcomponents, can be made according to the following formula (where Y is GDP, P is the population and r, G and T represent the regions, the groups and the total respectively):

$$T = \sum_p \Psi_p \Psi_T \left[\frac{Y_p}{Y_T} \frac{P_T}{P_p} \right] \lambda \left[\frac{Y_p}{Y_T} \frac{P_T}{P_p} \right] \Psi_p / \Pi_p \Psi_T / \Pi_T = \sum_r \Psi_r \Psi_T \left[\frac{Y_r}{Y_T} \frac{P_T}{P_r} \right] \lambda \left[\frac{Y_r}{Y_T} \frac{P_T}{P_r} \right] \Psi_r / \Pi_r \Psi_T / \Pi_T + \sum_r \Psi_r \Psi_T \sum_{p \in r} \Psi_p \Psi_r \left[\frac{Y_p}{Y_r} \frac{P_r}{P_p} \right] \lambda \left[\frac{Y_p}{Y_r} \frac{P_r}{P_p} \right] \Psi_p / \Pi_p \Psi_r / \Pi_r \quad \text{Equation 3.3}$$

A problem with indexes of disparities is that they can hide movements inside the distribution, for example they can report the same value hiding some club-convergence or club-divergence phenomena. Another problem results from the fact that they consider each region irrespective of its location, and are hence unable to detect spatial processes, and so the extent to which phenomena depend on regional location ([Magrini, 2004](#)).

No indicator is hence the perfect indicator for measuring disparities, but each of them has its advantages and disadvantages and is best suitable to a given situation. In some cases, the use of more than one indicator, and graphical representations such as the scatterplots of [Figure 3.2](#) and [Figure 3.3](#), all in a complementary way may be helpful.

unjust. This is because, in the early years of life, people living in different places will have different opportunities to build their human and social capital. This in turn means that the prospects available to them across their lifespan will be radically different ([Israel & Frenkel, 2017](#)). As a consequence, it is common to call for the reduction of disparities through mechanisms of solidarity between places, which should act in a similar way to solidarity between people ([Block & DuPuis, 2001](#); [Hadjimichalis, 2011](#)).

One main reason for targeting disparities with regional policy is hence providing the same opportunities to people irrespective of where they are born. As shown in section 5.11, there are pros and cons to people's mobility because requiring people to move from one place to another to grasp life opportunities may involve significant personal and social costs. Further, moving at a later stage of life, even at a young age, is not normally enough to access the same opportunities to those born and raised in favourable places.

Targeting weak regions is therefore useful not just for reasons linked to places but because regional policy is a means to target people, since people-based policies may not be the most effective when issues are localised. Sometimes policy objectives which are set at the level of individuals can hence better be achieved at a regional level. For example, providing the

same job opportunities to all the citizens of a country can be more easily achieved by increasing the level of economic activity in specific regions, when the levels of unemployment are different in different areas of the country.

BOX 3.2 The persistence of disparities between regions and countries

This box shows how persistent regional disparities are over time, to make the reader aware of the long time spans required for regional policy to achieve statistically evident results. spatial processes are in fact cumulative and cannot be reverted fast or easily. On the other hand, policy interventions can help relieve some of the most excruciating aspects of spatial disparities which, without policy interventions, risk being exacerbated.

Instead of presenting an aggregate indicator of disparities, which has the limit of being unable to show which regions are above or below the mean, and could be stable even with a shuffling of regional rankings, shown here are two similar maps for two different years ([Figure 3.4](#)). The maps also allow some of the most notable features of the spatial economy to be viewed.

The map on the left reports GDP per capita in purchasing power parity of the regions of the European Union at NUTS2 level in 1996, the first year for which this datum is available in comparable way.² These data are normalised to the EU average, so that values below 100 indicate regions poorer than the average and values above 100 regions above average, irrespectively of the growth which could have taken place, since the one of disparities is a relative concept. Some very clear trends are present, the most

- Being these data are for 1996, i.e. seven years after the fall of the Berlin Wall, one can still very clearly see the gap between Eastern and Western countries as well as the boundaries of Eastern Germany, the former DDR.
- In general, the economic wealth of different countries is different, but disparities inside countries are even more notable. Most countries see a clear dualism between areas of the country, for example: in France between Paris and the rest, in Italy between north and south, in Germany between west and east, in Greece between Athens and surrounding areas and the rest, in Portugal between Lisbon and the rest, in Spain between north plus Madrid and south, etc.

- In most cases, the most developed areas of the countries are those with large urban areas and especially those with capital cities (see [chapter 8](#)). This pattern is common to almost all countries.
- Even if Eastern countries are on average poorer than their Western counterparts, some areas inside them have already started growing and benefited from a take-off. In all countries, these are the regions where the capital is located, which seems to confirm theories such as that of Williamson by which development at least initially is concentric.

The second map represents exactly the same variable, GDP per capita in purchasing power parity as a percentage of the EU average, but this time 22 years later, in 2018, before the start of the Covid crisis. The comparison between the

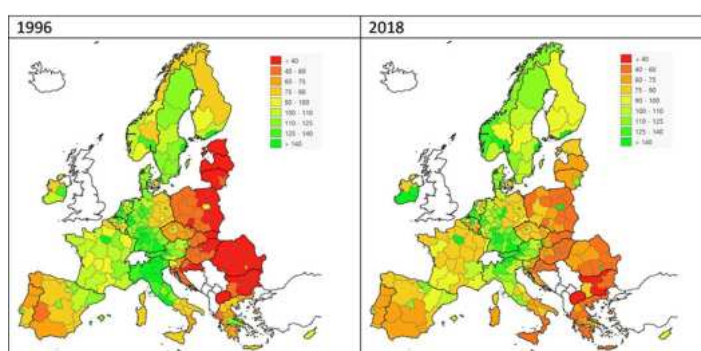


FIGURE 3.4 Map of regional disparities in Europe 22 years apart

Source: Author's elaboration on data from ARDECO database

Administrative boundaries: © EuroGaugraphies, © TurkStat.

Source: European Commission - Eurostat/GISCO

two maps, which have the same scale, shows some differences but also some striking similarities:

- Despite the fall of the Berlin Wall being this time almost 30 years before, it is still possible to clearly distinguish Eastern and Western countries as well as eastern and western Germany.
- Clearly, an incomplete and slow process of convergence at national level between eastern and Western countries has been taking place so that these differences are less marked than in the other map.
- Despite country convergence, the concentric pattern of GDP in the Eastern members of the EU is confirmed and reinforced, since all the regions with the capital are now significantly above the EU mean.

- The differences inside the various countries are remarkably stable: those regions which were richer areas in 1996 are still the most developed in 2018. In some cases, the divide seems to have even increased, such as in France and Spain.
- The most notable differences between the two maps are not at a regional level but at the national one, since some countries had issues more than others following the global financial crisis of 2007–2008¹⁰ and hence lost ground with respect to the others, as can be seen in the cases of Greece and Italy whose internal patterns are, however, almost unaffected.

3.2.2 Territorial cohesion and identity

The traditional issue of disparities has been extended to other more complex conceptualisations of differentials between places. This includes “territorial cohesion”, which enlarges the issue to a wider understanding of societal well-being and development compared to a focus simply on regional production ([Weckroth & Moisiso, 2020](#)). Many ways of defining and measuring territorial cohesion have been presented and, while the approach and concept are still debated, this has not prevented its operationalisation – especially within the framework of EU Cohesion Policy ([Abrahams, 2014](#); [Faludi, 2005](#)).

The need to pursue territorial cohesion arose in the European Single Procurement Document (ESPD) ([Committee on Spatial Development, 1999](#)) and was clearly stated in the third cohesion report ([European Commission, 2004](#)), as well as included in the EU treaty approved in 2007, which states that the EU “shall promote economic, social and territorial cohesion, and solidarity among Member States” ([European Union, 2007](#), art.2). The Sixth Progress Cohesion Report reports the goal of territorial cohesion is “to encourage the harmonious and sustainable development of all territories by building on their characteristics and resources” ([European Commission, 2009](#); p.11).

Many definitions have hence been provided but perhaps the most influential is by [Camagni \(2006b\)](#), who sees territorial cohesion as the “territorial dimension of sustainability”, making it both a positive and a normative concept. In this conceptualisation, territorial cohesion includes three components which are also objectives in themselves:

- Territorial efficiency: resource efficiency with respect to energy, land and natural resources; competitiveness of the economic system and attractiveness of the local territory; internal and external accessibility;

- Territorial quality: the quality of the living and working environment; comparable living standards across territories; similar access to services of general interest and to knowledge;
- Territorial identity: presence of “social capital”; ability to develop shared visions of the future; local know-how and specificities, productive “vocations” and competitive advantage of each territory” ([Camagni, 2006b](#); p.139).

These three objectives are at the intersection of three systems: the economic, sociocultural and physical (natural and built) environment.

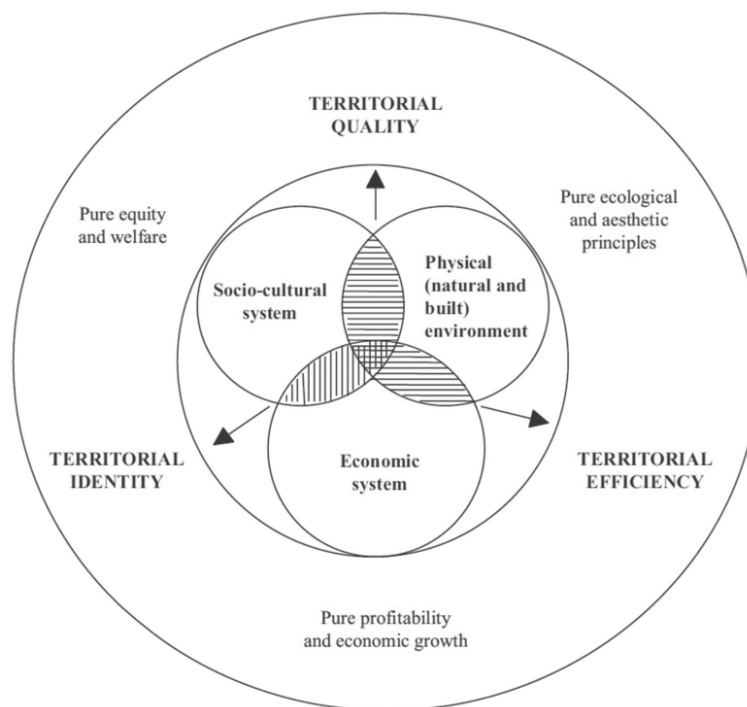


FIGURE 3.5 The three dimensions of territorial cohesion as defined by Camagni Source: [Camagni \(2006b\)](#)

In practice, in European policy discourse territorial cohesion was mostly defined in terms of production (and hence in terms of GDP disparities) in the programming periods 2000–2006 and 2007–2013 and was hence criticised for adopting an equalising approach, simply aiming at convergence, instead of a functional one in which cohesion is more intended to be “harmony and collaboration” ([Bachtler & Gorzelak, 2007](#), p.321). Only more recently, from the programming period 2014–2020, has the discourse shifted towards access to services of general interest and even to the distribution of opportunities, as well as to the tapping of potential, such that EU Cohesion Policy can be seen as focused on investment rather than redistribution ([Weckroth & Moisisio, 2020](#)). The use of territorial cohesion as a concept for development is also giving rise to assessments based on multiple indicators, and in particular to the use of territorial impact assessments ([Camagni,](#)

[2006a](#); [Medeiros, 2015, 2017](#); [Rauhut et al., 2021](#); see also [chapter 7](#)).

The role of identity in the discourse on regional policy has been gaining ground, especially in the EU where Cohesion Policy has increasingly been seen as a means to increase citizens' identification with the EU as a relatively new, supra-national body less rooted in the history of places. Evidence suggests that investment in other policy aspects, such as structural funds for socioeconomic development, improve the image of the EU, although it is less well received in cases of economic decline ([Dąbrowski et al., 2019](#)).

It hence appears that effective regional policies can contribute to citizens' identification with their country/supra-national body. However, the role of communication, which has often been overlooked in the past, must be considered as part of the strategy from the beginning to maximise the impact of development policies on identity ([Perceive, 2019](#)).

Moreover, as shown by [Braun \(2018\)](#), European identity can be developed not just by regional policies that explicitly target it, but also indirectly by other policies that engage different agents in regional policies. One surprising aspect to be considered is that regional policies which target needs identified by citizens themselves are more likely to build identity compared to those which target, perhaps more objectively, needs defined on the basis of structural indicators ([Capello & Perucca, 2019](#)).

3.3 EFFICIENCY, ECONOMIC GROWTH AND COMPETITIVENESS

The previous chapter demonstrated that regional policy can increase the efficiency of an economic system by increasing the aggregate national income or growth, i.e. the level of economic efficiency of the whole system. This has been one of its traditional objectives. For instance, attempts to de-concentrate economic activities and move activities out of the most congested places have always been justified by the objective of having a more efficient national economic system, through a better spatial allocation of production factors and economic activities.

National growth can also be pursued with spatially differentiated policies which instead focus on the concentration, rather than the de-concentration, of economic activities. In particular, many countries have implemented policies in favour of their capital cities and their national champions to increase the competitiveness and growth rate of the whole country, even to the detriment of their lagging regions ([Crouch & Le Galès, 2012](#)). When this is the case, the objective of growth and efficiency is in tension with the objective of equity and disparity reduction.

Aggregate growth can be obtained in different ways: changes in industry composition, increases in employment and increases in productivity within sectors. These three aspects are not conceptually independent, since more employment is normally created in sectors which are more productive, and the sectoral composition of regions tends to shift towards the most productive sectors. For a wider description of how these three variables interact, refer to [Box 3.3](#).

BOX 3.3 Analysing regional growth patterns

Regional growth from employment and productivity can be analysed by adopting a simple scheme first developed by [Camagni \(1991\)](#) and then extended out of the manufacturing field by [Affuso et al. \(2011\)](#).

This scheme adopts the gross value added (GVA) per employee as a simple (though imperfect) measure of productivity from which it is possible to get a disaggregated picture of the patterns of GVA, employment and productivity in regions with respect to a reference, for example for the regions of a country with respect to the country, or the regions of Europe with respect to the EU.

Two indicators are present in the two axes, calculated relative to the average. The relative growth of employment of each region r , over n years, is on the horizontal axis, calculated as:

$$\text{Πελατισε:} \left[\begin{matrix} \times \\ \times \end{matrix} \right] \text{Εμπλοψμεντ} \left[\begin{matrix} \times \\ \times \end{matrix} \right] \text{Γροωτηρ} = [\text{Εμπ}_{\rho\tau+v} \text{Εμπ}_{\rho\tau}]^{1/v} - [\text{Εμπ}_{N\tau+v} \text{Εμπ}_{N\tau}]^{1/v} \quad \text{Equation 3.4}$$

where Emp is total employment, r is the subscript for the regional value and C is the subscript for the country value.

The relative growth of productivity (GVA/emp) is on the vertical axis, calculated as:

$$\text{Πελατισε:} \left[\begin{matrix} \times \\ \times \end{matrix} \right] \text{Προδυχτιπιτψ} \left[\begin{matrix} \times \\ \times \end{matrix} \right] \text{Γροωτηρ} = [\text{Προδ}_{\rho\tau+v} \text{Προδ}_{\rho\tau}]^{1/v} - [\text{Προδ}_{N\tau+v} \text{Προδ}_{N\tau}]^{1/v} \quad \text{Equation 3.5}$$

where Prod is productivity calculated as GVA per employee and r is again the subscript for the regional value.

Putting these two indicators in the same graph generates a 135°, negatively sloped, line passing through the origin, which evidences a condition of regional GVA growth equal to the average. A region may develop at the same rate as the average either if both productivity and employment grow at the same rate as the average or if productivity increases less but employment increases more, or vice versa. If a region is above this line, it increases its total GVA more than the average; if it is below it, the GVA growth rate is below average.

For this reason, the graph can be divided in six sectors rather than the usual four quadrants, each representing a possible pattern of regional economic development. Following [Affuso et al. \(2011\)](#) these patterns can be defined as follows ([Figure 3.6](#)):

1. Virtuous cycle, when the regional economy is able to growth more than the average in terms of output thanks to higher-than-average productivity and employment growth;
2. Restructuring, when higher-than-average productivity growth is achieved through employment cuts, leading nevertheless to good GVA performance due to increased productivity;
3. Dropping out, when productivity growth is achieved by dropping inefficient production units, generating not only lower-than-average employment growth, but also lower-than-average GVA growth;
4. Relative decline, defined as a vicious cycle in which employment cuts are unable to restore competitiveness, a condition in which there is therefore low employment and output growth;
5. Industrial conservatism, when poor productivity growth is accompanied (and sometimes explained) by better-than-average employment growth; this pattern is more likely to take place in the presence of public assistance for uncompetitive firms;
6. Economic take-off, when lower-than-average productivity performance occurs together with good employment performance, so that the effect on total value added is positive.

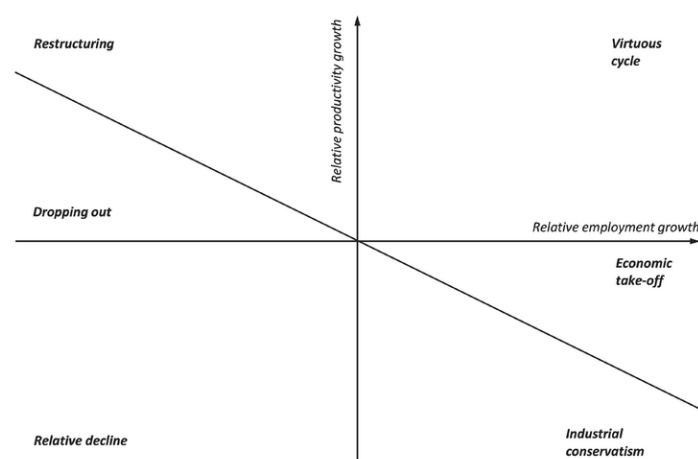


FIGURE 3.6 Graphical representation of growth patterns Source: Created by author, based on [Camagni \(1991\)](#)

Other information can be added to this broad picture using different symbols. For example, if regions change their specialisation, which is added through the use of a simple sectoral reconversion Lawrence index, calculated as follows:

$$\Sigma P_{\rho} = 12 \Sigma_{\phi} | [\Gamma_{\zeta} A_{\rho\tau+v} \boxed{\times} \phi \Gamma_{\zeta} A_{\rho\tau+v} \boxed{\times} \phi] - [\Gamma_{\zeta} A_{\rho\phi\tau} \Gamma_{\zeta} A_{\rho\phi\tau}] | \quad \text{Equation 3.6}$$

where j represents the industries and the other notations are the same.

This structural reconversion indicator is helpful to show if the regional specialisation changed significantly over time or not, although it is of course highly sensitive to the industry disaggregation used (see [Box 3.4](#) on specialisation).

Since the 2000s, the growth objective of regional policy has often been identified with the quest for regional competitiveness. In the words of [Huggins and Thompson \(2017, p.2\)](#) the competitiveness of regions normally “refer[s] to the presence of conditions that both enable firms to compete in their chosen markets and enable the value these firms generate to be captured within a particular region”.

The concept of competitiveness first arose at the enterprise level, primarily with the works of [Porter \(1985\)](#), but was quickly extended to the national level ([Porter, 1990](#)), highlighting the fact that nations compete with one another to acquire economic spaces and markets, and to attract companies and skilled workers.

Subsequently, the concept of competitiveness was also extensively applied at smaller scales, such as regional or urban ([Huggins & Thompson, 2017](#)). This occurs for two reasons: the first is that regions or large urban areas are also part of national and international competition mechanisms, in which their services and products compete with those of other regions, countries and continents and in which they compete in attracting economic activities.

The second is that the companies competing in the globalised economy are not nomads but are well-rooted in the places in which they operate, so that the competitiveness of companies is significantly influenced, if not determined, by their territorial context. [Krugman's \(1996\)](#) criticism that the concept of competitiveness could not be transferred to a spatial level was effectively refuted by [Camagni \(2002\)](#) because the lack of territorial adjustment mechanisms present at an international level entails the risk of desertification for those regions that fail to generate sufficient external economies to the advantage of the competitiveness of their businesses (see section 2.7).

A whole series of important elements for the competitiveness of companies are in fact highly uneven in terms of space and highly territorialised. As an example, it is possible to refer to the traditional elements of infrastructural equipment or the presence of human capital and skilled workers, as well as the presence of well-functioning institutions. The presence of other companies in a territory is also extremely important for the competitiveness of the companies themselves. This was first demonstrated by traditional studies which highlighted the role of localisation and urbanisation economies, based on phenomena such as labour market pooling, sharing of specialised suppliers and technological externalities as well as sharing advanced infrastructures or shared services (see section 2.3).

In more recent times, the theories that apply the concept of related variety show that, in order to be dynamic and innovative, companies benefit from the presence on site of complementary knowledge to that which they possess internally ([Boschma & Iammarino, 2009](#)). This reinforces the idea that the firm is no longer a unit of analysis on its own, but it is the business system that is more or less effective as a whole, something that had already been highlighted in the theories of innovation systems and then in the evolutionary ones ([Boschma, 2004](#); [De Noronha & Vaz, 2020](#)). Therefore, analyses are being carried out in the most recent literature to integrate the two strands of economic geography and strategic management ([Knight et al., 2020](#)).

The main element of competitiveness in all the best-known theories and in economic policy studies appears to be the innovative capacity of companies, territories and nations. In the last decades, innovative capacity has replaced the accumulation of production factors as the main element of growth in economic models (see [chapter 6](#)). Also, at company level, innovation – product, process or organizational – turns out to be the factor that allows the creation of new market spaces for companies and their strengthening of existing markets.

In turn, innovative processes are not linear. On the one hand, in fact, new knowledge can only be built up on the basis of pre-existing knowledge within the company or in other economic agents with which one comes into contact, but, on the other hand, the innovative process is subject to a high degree of uncertainty whose outcome is therefore not totally determined by the effort being made. Furthermore, a whole series of evolutionary phenomena influences the way in which innovative business or territorial dynamics develop (see [chapter 6](#)).

In relatively recent times, starting with the studies of [Florida \(2002\)](#), it has been highlighted that the innovation-growth link cannot be separated from the creativity of individuals because even if innovation has systemic characteristics ([Antonelli, 2009](#)), a high degree of individual and collective creativity is required in order to introduce new products and ideas. The result is therefore that those regions where the levels of creativity are higher, and

the skills and experiences of skilled workers are more differentiated, have an advantage in economic terms and therefore also of competitiveness compared to regions in which the interactions between people with different characteristics are fewer (see section 5.11).

Linked to this is therefore the theme of urban competitiveness which depends on various territorial assets but also on intrinsic characteristics of cities such as their real estate qualities, which can constitute important assets in attracting companies that need particularly skilled workers, who are more sensitive than others to urban cultural specificities ([Kresl & Ietri, 2017](#); [Kresl & Singh, 2012](#)).

Having ascertained that the phenomenon of competitiveness is one that concerns companies but is also intrinsically linked to the territory to which they belong, it becomes clearer why this phenomenon deserves to be analysed at a regional level and why it is worthwhile intervening when the engine of dynamic competitiveness of a region shows that it is not operating at full capacity or when there are opportunities to increase its strength. Moreover, it has to be remarked that local competitiveness is in favour of efficiency and not against equity. For instance, evidence shows that where firms are more competitive, the local economy in general generates more jobs ([Fantechi & Fratesi, forthcoming](#)).

It is possible to draw a basic conceptual scheme such as the one presented in [Figure 3.7](#), which illustrates in a simplified way the relationship between the competitive structure of a region and the well-being and quality of life that it is able to provide to its citizens. At the base there is the structure of the region which, if favourable, represents the factor allowing regional companies to compete from an advantageous situation compared to competing companies elsewhere.

The competitive performance of the region depends therefore on what its companies are capable of and how and if they can successfully compare themselves with their competitors in international markets. Hence, the business system is again at the basis of competitiveness, and depends on the competitive structure of the region.

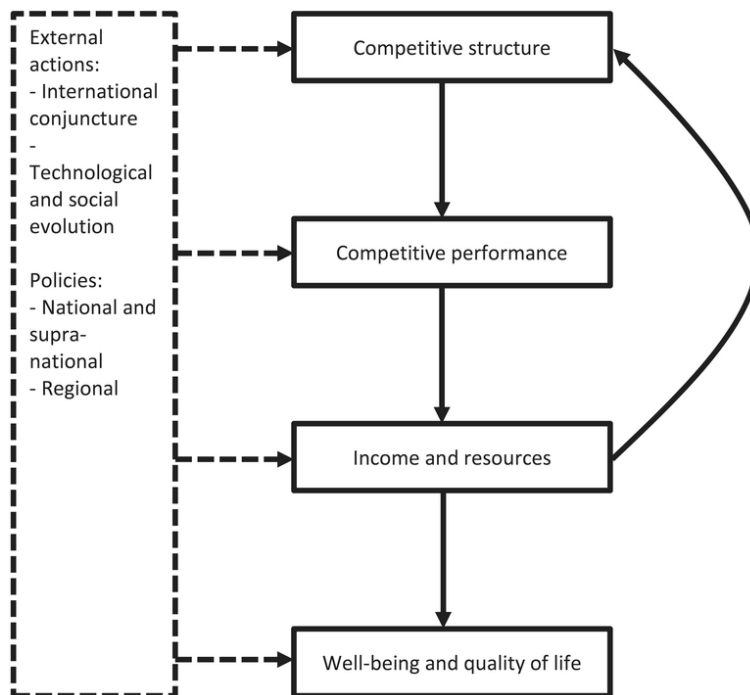


FIGURE 3.7 Relationship between regional competitiveness and well-being

The competitive performance of the companies is the basis of the production of resources which, in large part, end up remaining in the territory as they manifest themselves in the form of wages paid to workers, profits for entrepreneurs and land rents. All these elements are taxed and part of the taxation usually remains in the territory (a larger share in federal states, a smaller one in centralised ones). A large part of wage, profit and rent income also ends up being spent on the territory and therefore constitutes resources for the region and its citizens.

Regional and national growth, therefore, are intertwined with the competitiveness of the firms present in the territory and it should be noted that local competitiveness is in favour of efficiency and not against equity. As mentioned above, in fact, where firms are more competitive, the local economy in general generates more jobs. In turn, this competitiveness is not only due to internal factors but to their interaction with the local and national production systems and with the socioeconomic, territorial and institutional systems of the region.

The resources generated in a territory thanks to the competitive performance of companies allow, on the one hand, citizens of the region to experience higher well-being resulting from greater individual wealth and improved local institutions and services. On the other hand, they allow private and public investments which further improve the competitive structure, laying the foundation for a virtuous circle.

The regional system, however, is neither closed nor completely self-determined. First, there are external elements linked to the international situation in which companies are competing. For example, the context in which companies moved after the 2007–2008 global financial crisis was much more complicated due to shrinking markets. Unfortunately, such a situation is likely in the coming years following the crisis triggered by Covid-19.

Second, the innovative capacity of companies and territories is not sufficient to determine the evolution of their competitiveness when innovations are introduced at the international level, upsetting the technological paradigm in which companies operate, or when there are radical changes in the behaviour of consumers. For example, the push (deriving above all from environmental reasons but facilitated by technological evolution) towards the transition to electric mobility requires different technologies from those of traditional engines, which can cause troubles for technological and market leaders of the previous technology.

Third, economic policies implemented at national or supra-national level can also have a significant impact on companies in the region, which therefore find themselves acting in a more or less favourable context compared to that of their competitors depending on their national context. All national and supra-national (e.g. EU) economic policies and regulations have an impact on the competition, and normally this impact will be different depending on the structure and specialisation of regions.

Finally, in a system where regions have some degree of autonomy and some exclusive or shared competences, regions also have the opportunity to intervene in the various stages of the process with their own policies (regional policies of type 1, see [chapter 1](#)). These policies may act at various levels, with the potential to strengthen the competitive structure, or directly influence the competitive performance of companies obtaining aid or, further downstream, generate well-being and quality of life for citizens, in some cases even with the same competitive resources produced by the business system.

Referring to [Figure 3.7](#), therefore, development policies can affect the competitiveness of local firms in two ways: directly, through measures that enable them to compete better with their international competitors; and indirectly, through measures that can improve what is increasingly defined as territorial capital, including all those territorial assets of an economic, cultural, social and environmental nature that contribute to long-term growth.

3.4 THE TRADE-OFF BETWEEN EFFICIENCY AND EQUITY

Efficiency and equity are two concepts whose use is widespread in the regional policy literature. They refer to the ability of economies to produce resources and to distribute them in any way which is satisfactory. Efficiency has a clear meaning in economics as it concerns how much it is possible to produce with a given quantity of inputs. The situation is efficient when it is not possible to produce more output from the inputs. Analogously, a situation is efficient when it is not possible to produce the same output using fewer resources. There is also a more specific definition of efficiency, stemming from the work of [Pareto \(1896\)](#), which states that an allocation is efficient when it is not possible to improve the situation of one party without worsening that of another. The definition of efficiency is not concerned with how outputs are distributed but only with producing as much as possible within the constraints of the economy.

The idea of equity concerns instead the way in which economies and societies distribute outputs to their members. There is not a single definition of equity because the equitable distribution of wealth depends on many political and social aspects. For instance, in welfare economics there are many different social welfare functions which measure how wealth is produced and distributed.¹¹

Equity and efficiency can be understood by thinking about their assessment of a cake ([Figure 3.8](#)). Efficiency is concerned with the size of the cake – the larger the cake, the more efficient the situation. Equity is concerned with the way the cake is divided – when the slices are similar in size, there is equity; if someone is getting larger slices than others, the situation is not equitable.

Equity and efficiency are both desirable objectives. The first because it provides similar opportunities to citizens; the second because it provides more resources to be divided among citizens. Neoliberalists tend to think that a focus on efficiency and unleashing the growth potential of the economy will in turn increase the slice of the cake distributed to less well-off people/regions. They assume that this increase is larger than the one which can be achieved through redistribution, which is detrimental to growth because it disincentivises private efforts to create wealth. On the contrary, radical thinkers argue that focusing on growth and efficiency entails a disruptive concentration of opportunities in the hands of a few people/regions, so that intervention is needed to correct it.

At spatial level, efficiency involves getting the highest possible aggregate level of GDP or the maximum growth rate, irrespective of where economic activities are located. Equity involves having a low level of regional disparities so that the difference between rich and poor regions is low. Regional policy can have both equity and efficiency as objectives. The problem is that in many cases it is not possible to pursue the two objectives at the same time.¹²

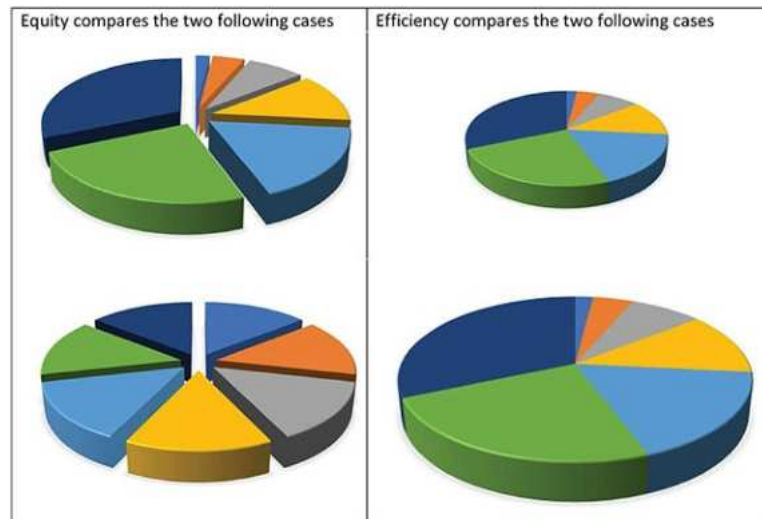


FIGURE 3.8 Equity and efficiency in the simplest graphical representation

The trade-off between equity and efficiency depends on the conception of regional growth and on whether it is competitive (i.e. distributive) or generative. There are two ways of illustrating this, as identified by [Richardson \(1973\)](#). The first is a model of generative growth, in which the growth of a country is the sum of the growth of its regions; in this case, if a region grows, the country grows, and other regions are not affected. There may even be positive spillovers so that the growth of a region not only increases the growth of the country but also increases the growth of other regions ([Figure 3.9](#), top).

The second is a model of competitive/distributive growth in which the growth of the country is fixed and regions compete to get the largest possible share of this growth. In this case, if a region wants to grow, it has to do so to the detriment of other regions – for example, if different regions are competing to attract a fixed stock of economic activities or the national headquarters of a multinational company ([Figure 3.9](#), bottom).

When growth is generative, there is no trade-off between equity and efficiency; when growth is competitive/distributive the trade-off is high. Let us consider the national impact of regional policies of type 1, those defined in [chapter 1](#) as implemented at the sub-national level with sub-national units as their agent and target. This really depends on whether the growth model is competitive or generative. Indeed, if there is no spillover or externality from the policy implemented in one region towards another region, effective policies deployed at regional level can increase the aggregate national growth rate. Such examples are limited, since spillovers and externalities (positive or negative) are normally present.

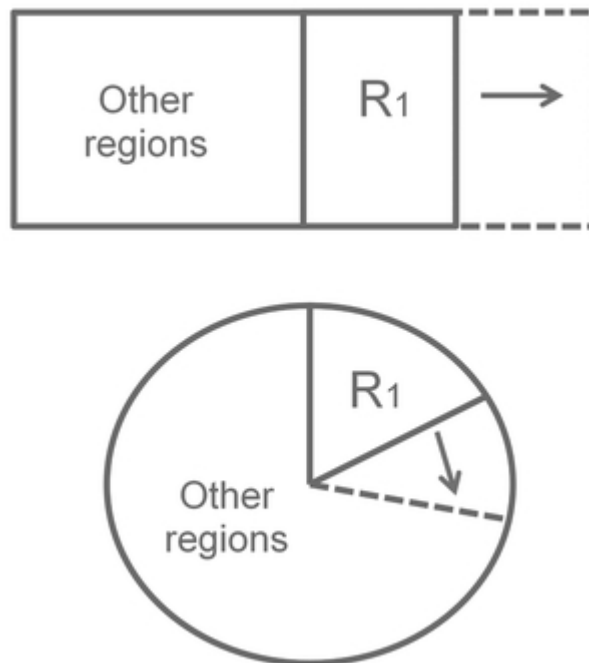


FIGURE 3.9 Generative vs competitive growth

If positive spillovers or externalities are present, the implementation of regional policies can be particularly beneficial because they increase the levels of income in the country. For example, if policies induce the creation of new firms in new sectors, which do not compete with existing firms elsewhere and bring positive externalities through input-output¹³ or demand multiplier effects, some of these effects normally spill outside the target region.

If negative spillovers or externalities are present, then the benefit to national income is less than the increase seen in the target region, since a policy for a given region will increase growth there but reduce it elsewhere.

Policies, however, also have costs whose impact should be considered. Even when regional policy increases the growth rate of the country (i.e. when there is no trade-off between equity and efficiency), the resources underpinning the policy normally come from other activities, whether public or personal. Therefore, a real assessment of regional policy should consider alternative uses of these resources, including, for example, leaving these resources in taxpayers' pockets.

Now imagine a region implements a policy to increase its tourism attractiveness, and that this policy is effective in increasing the number of nights tourists spend in the region. Its systemic/national effect depends on the externalities which this policy induces in other regions. Some of the new tourists will probably be potential tourists of other regions of the country, so the policy decreases the number of tourists elsewhere. Other tourists, however, might come from abroad because the new policy attracts them to the region and they might also spend additional nights in other regions

nearby. For example, if these tourists come to visit an art city and spend some time in the mountains nearby, or if tourists are attracted by the beaches and resorts on the coast and then also visit archaeological sites in the hinterland. There may also be spillover effects on supply chains because it is necessary to buy goods and services to supply the larger tourist industry. Some of these products will come from the region itself and others from different regions. Depending on which effects prevail, this policy of touristic attraction can have systemic effects which are higher or lower than the direct effects in the region.

Most Western regional policies in the decades immediately after the Second World War, a period of fast growth in most countries, focused on equity and regional disparities. When resource constraints are not binding and states have plenty of resources, it is relatively straightforward to adopt regional policies based on equity. When state resources are limited, as in periods of slow growth or crisis, it becomes more difficult to justify regional policies based only on equity and more important to also achieve efficiency. For example, European cohesion policies were originally created to reduce differences in the development of regions but more recently they have been increasingly called on to improve the competitiveness of the whole European Union to justify their role.¹⁴

As seen in [chapter 1](#), new place-based theories have been developed to show how it is possible to overcome the trade-off between equity and efficiency.

[Table 3.2](#) shows the possible solutions to the trade-off between efficiency and equity, and demonstrates which policies are economically or politically feasible ([Fratesi, 2008](#)). Although nine situations are theoretically possible, only five are logical choices for policymakers. Policies which have no effect are not worthwhile, especially if costly, and only a malevolent planner would choose to apply policies where the effects are negative on one or both indicators (quadrants IV, V and VI). Unfortunately, it is possible that, once implemented, some policies

TABLE 3.2 Effects of regional policy in the trade-offs between equity and efficiency

	Regional disparities		
	Increase	No effect	Decrease
Increase	III (policies targeting efficiency at detriment of equity)	II (policies targeting efficiency)	I (policies targeting both equity and efficiency)

		Regional disparities		
Growth/Income	No effect	Increase	No effect	Decrease
		IV (damaging policies)	Ineffective policies	VII (policies targeting equity)
	Decrease	V (damaging policies)	VI (damaging policies)	VII (policies targeting equity at detriment of efficiency)

Source: [Fratesi \(2008\)](#)

will have unforeseen detrimental effects but these are unintentional and therefore outside of the current discussion.

The regional policies which can be reasonably implemented by a benevolent planner are those of quadrants I, II, III, VII and VIII. There may also be policies targeting the efficiency of the aggregate system, for example when congestion diseconomies are present; and policies targeting spatial equity, either to reduce differences in income or to foster cohesion within a state or supra-national body like the EU.

The two objectives of equity and efficiency may be pursued separately (policies belonging to quadrants II and VIII) or can be targeted simultaneously by just one policy (quadrant I). The latter is the case for the EU Cohesion Policy, which tries to increase the cohesion of the Union by reducing regional disparities and allowing more balanced, higher growth. For example, as was explicitly stated in the 3rd Cohesion Report:

Strengthening regional competitiveness through well-targeted investment throughout the Union and providing economic opportunities which help people fulfil their capabilities will thus underpin the growth potential of the EU economy as a whole to the common benefit of all. By securing a more balanced spread of economic activity across the Union, regional policy helps to reduce the pressures of over-concentration, congestion and bottlenecks.

([European Commission, 2004](#), p.xxvi-xxvii)¹⁵

Also, at the national level, the two objectives are often presented together,¹⁶ but may turn out to be in conflict.

The policies of quadrant I are those favoured by politicians who do not like to present choices between conflicting objectives to their electorate. Politicians may also find it politically convenient to market policies belonging to quadrants II, III, VII and VIII as belonging to quadrant I to

avoid confronting resistance from part of their constituencies.

The presence of strong positive externalities is commonly considered to result in a tradeoff between growth and spatial dispersion, which would mean that regional policies fall into quadrants III and VII. Policies of types III and VII, despite the fact that they are not comparable using the criterion established by [Pareto \(1896\)](#), can be implemented by a benevolent policymaker but necessitate a political decision on which objective is more important and, consequently, a stronger political consensus.

If a policy targets the improvement of efficiency through innovation, as is currently often the case, there is larger scope for incompatible objectives, due to the fact that these activities spontaneously tend to concentrate in the most advanced regions where external economies are higher (see [chapter 5](#)). On the contrary, if congestion diseconomies are present, decreasing spatial concentration and increasing national efficiency can come together. The inflationary consequences of agglomeration are often cited as an argument in favour of compatibility between equity and efficiency, because countries with a lower concentration of economic activities will tend to have a lower inflationary pressure.¹⁷

Growth and reduced disparities can be conflicting objectives since, as first shown by [Williamson \(1965\)](#), regional disparities tend to increase in the earlier stages of development. This is because national GDP per capita increases in turn generate cumulative processes favouring the richest regions, such as through labour migration, capital migration and public investment concentration, which are not counterbalanced by limited spread effects. The expectation was that this pattern would reverse after a certain level of development had been achieved with opposite mechanisms taking place, but this may not necessarily be the case. Instead, disparities may become persisting or have two-peaked shapes ([Camagni et al., 2020](#); [Ezcurra & Pascual, 2007](#)).

Unfortunately, political decision-makers are not always – and often cannot be – aware of the possible drawbacks of the policies they implement. This is exacerbated by the fact that the same policy can have different results when applied to different contexts, and often the theory on which these policies rest is simplified too much to distinguish these different contexts.

There are two important determinants which are helpful in explaining in which cases there is a trade-off between equity and efficiency, and in which cases there is not ([Fratesi, 2008](#)). The first is the **differences between the regions**. If regions are different in terms of structural features, and hence of firm productivity, it is likely that a trade-off arises when a policymaker tries to reduce disparities because the effects of higher productivity in the strong regions are lost. In fact, if firms spontaneously choose to stay in a location where their productivity is higher and are incentivised to move to places where their productivity is lower due to structural weaknesses, they will become less productive and will need to compensate for this lower

productivity with the use of public money. On the contrary, if structurally the places are similar then it is possible to achieve more equity without decreasing the efficiency of the system.

The second determinant is the **strength of agglomeration economies**. The stronger the agglomeration economies, the more efficient a system in which firms agglomerate in a few places rather than disperse over different regions. If localised external economies are strong, a system in which firms concentrate would be able to achieve much higher productivity levels. We know that, until a level of congestion is achieved, agglomeration economies are strong. Moreover, technological advancements tend to increase the point at which congestion diseconomies start to produce negative effects. It is therefore possible for large cities, agglomerated areas and advanced regions to continue to benefit from the concentration of economic activities so that, for instance, the activities of the digital economy produced a further spatial concentration of wealth. When it comes to structural disparities, however, it is also possible to strengthen the structure of weaker regions so firms will find them more appealing.

3.5 ENVIRONMENT PROTECTION AND SUSTAINABILITY

The protection of the environment is a traditional objective of regional policy but one whose importance has grown in recent decades. Since the end of the 1960s, there has been a clear understanding that many phenomena which affect the environment are intrinsically localised and therefore require solutions implemented at urban or regional levels.

The clearest and most immediate reason for this is the observation that congestion is normally associated with environmental deterioration, as mentioned in section 2.12. Environmental deterioration normally takes place due to negative externalities, whose extent is often localised. As a result, intervention in the levels of agglomeration in the economy is also justified by the need to intervene in these externalities. Even for global externalities such as global warming and climate change, related problems such as PMI concentration, overcrowding and long commuting times are created or aggravated by the concentration of activities in the same place. Reducing congestion and agglomeration has therefore often been recognised as an important means to achieve lower pollution and better quality of life ([Vanhove, 1999](#)).

Sustainability has also been on the agenda of the United Nations for a long time. The most influential definition is still the one which the [World Commission on Environment and Development \(1987\)](#) provided in the famous Brundtland Report, named for its chairman. The commission was

asked to formulate a “global agenda for change” (p.ix) and defined sustainable development as, “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (p.43). This definition considers that there may be social, technological and environmental limitations to the ability to fulfil current and future needs. Limitations are not set forever, as innovations can raise them, but the growth in the use of Earth’s assets should not overtake the increase in resources allowed by technological improvements.

It is interesting to observe that sustainability has always been an encompassing definition, not limited to the environment but expanded to economic and social spheres, although the environment has always been at its core. The discourse on sustainable development, however, is far from straightforward, as many alternative definitions and criticisms have been advanced, so that “sustainable development is a contested concept, constructed, even appropriated, to meet a diversity of agendas” ([Springett & Redclift, 2015](#), p. 23).

The focus on environment and sustainability accelerated following the publication of reports on climate change (e.g. those of the Intergovernmental Panel on Climate Change, IPCC) and agreements reached at the international level to curb global warming. The United Nations’ Sustainable Development Goals were an important step as many countries use these as the reference framework for policies directed towards sustainability. The 2030 Agenda for Sustainable Development ([United Nations, 2015](#)) included 17 different but interconnected goals, which take account of a wide definition of sustainability since they include economic and social goals alongside the purely environmental ones (see [Table 3.3](#)).

The key point here, as observed in section 2.12, is that it is insufficient to state that regional policy should be concerned with environmental issues (for instance, many regions have set climate targets in their policy goals and budget priorities, according to the [OECD, 2019](#)) and possibly be useful in achieving sustainability goals. Instead, some of these sustainability goals require spatially differentiated, local solutions which are deeply rooted in regional policy.

The objective of environmental protection is often a trade-off with other regional policy objectives, just like the trade-off in equity and efficiency presented earlier. In fact, climate change may disproportionately affect the poorest people and places while, at the same time, the policies put in place to countervail them will also be more problematic for the same groups.

TABLE 3.3 The UN Sustainable Development Goals

1. End poverty in all its forms everywhere.
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
3. Ensure healthy lives and promote well-being for all at all ages.
4. Ensure inclusive and equitable quality education and promote lifelong

learning opportunities for all.

5. Achieve gender equality and empower all women and girls.

6. Ensure availability and sustainable management of water and sanitation for all.

7. Ensure access to affordable, reliable, sustainable and modern energy for all.

8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

10. Reduce inequality within and among countries.

11. Make cities and human settlements inclusive, safe, resilient and sustainable.

12. Ensure sustainable consumption and production patterns.

13. Take urgent action to combat climate change and its impacts.

14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

Source: United Nations

The least well-off regions normally have a larger share of economic activities which depend on energy-intensive production, while better off regions tend to be more specialised in high-level service activities whose carbon footprint is limited.

Similarly, policies increasing the costs of energy or travelling may be more easily afforded by people and communities whose spending capacity is larger and who often live in denser areas where distances are smaller. At the same time, activities with lower value added may find it hard to pay these additional fees¹⁸ and peripheral regions at a distance from core areas will pay more. Providing these regions with sustainable means of transport (e.g. high-speed trains) may also be infeasible for efficiency reasons (low demand in the presence of indivisibilities). Sometimes, this is acknowledged, for example in the European Union the Just Transition Fund (JTF) was created with the intent of supporting those communities more heavily harmed by the

transition towards climate-neutrality, such as places with oil refineries or pollutant-heavy manufacturing activities.

It is therefore not surprising that political support for environmental protection varies across regions, and it has been demonstrated that environmental quality is more likely to be prioritised when income is higher. However, this rarely translates into actual lower emissions by better resourced people and households. In theory, there is an Environmental Kuznets Curve which links income per capita with the quantity of pollutants, which should increase with income up to a certain point but decrease afterwards.¹⁹ The empirical validity of this hypothesis, however, is debated and seems to depend on the type of pollutant.²⁰

Policy interventions for environmental sustainability can be classified in two broad categories:

1. Interventions to mitigate/fight environmental issues, such as those which aim to reduce emissions and carbon use. This includes, on the one hand, technological support interventions aimed at finding innovative solutions to environmental issues, which also are more effective if deployed differently in space, since some places have better knowledge to build upon, a more innovation-prone socioeconomic system and local conditions more adapt to experimenting. On the other hand, this includes the intervention to mitigate environmental issues for the same technological level, including those aimed at changing the modalities of life, transport, building, etc. towards more sustainable ways. These interventions mostly use regulations or incentives.
2. Interventions to mitigate the negative impacts of climate change at the global and national scale or in specific communities, for example, infrastructural investments to protect low-lying areas from flooding. Among these measures, usually of adaptation, there has been a call to enlarge the role of Nature-Based Solutions (NBS) alongside or to replace more traditional ones. Implementing prevention measures may be more cost-effective than repairing damage after disruptive events occur.

The most traditional type of intervention is fiscal, for instance taxes on the most polluting or carbon-intensive activities (e.g. carbon taxes), incentives and subsidies for green activities or the reconversion of traditional energy-intensive activities. Policies have also been specifically put in place to help small and medium enterprises in the transition to a greener economy, to which they are often less equipped. Fiscal measures directly affect the behaviour of local economic agents but it is also usual to intervene with structural interventions, including infrastructure.

Another, additional, way to tackle the environmental issues is to adopt the Do No Significant Harm (DNSH) principle. This entails introducing policies

and interventions, in any field, which prove that they are not harming the environment. This might be a prerequisite for financing in many different funding schemes and is hence also a possible constraint to regional policies, which need to shoulder the trade-off between environmental protection and other objectives.

Many interventions to combat climate change are deployed at the urban level, including urban planning policies to combat urban heat islands, reduce pollution, promote sustainable mobility and carbon-neutral transportation such as electric transport, reform health care service provision and implement smart city technologies.²¹ If large cities are more exposed to the physical risks of climate change and contribute most to the problem of heating through emissions (in absolute terms, while per capita the opposite might be true), they also are the places where the adoption of technological and social innovations is faster thanks to greater awareness and social feedback.

Other interventions are applied at a larger scale or to non-urban areas, such as: carbon capture, managing carbon emissions by companies, smart agriculture, sustainable production and consumption, smart water networks, water testing and desalination, effective water consumption, etc. All policies regarding the reuse and recycling of resources are better implemented with a clear awareness of the place in which these processes are going to take place so spatial differentiation is important.

In practice, some of these interventions are more common than others. Comprehensive data are not easily available but there is an account for EU Cohesion Policy interventions for climate action in the programming period 2014–2020 ([Ciffolilli et al., 2021](#)). This publication reports the largest share going to transport interventions (27% of the total) and energy-efficient infrastructure (24.7%), while significant also are interventions in environmental and natural resource management (10.4%), renewable energy (8.9%), business support related to climate change (7.4%) and energy systems (4.4%) (p.34). These data are illustrative as there is no guarantee that these shares are the same in different contexts, nor that they will remain the same after the adoption of the EU Green Deal ([European Commission, 2019](#)), which put sustainability at the core of EU policy objectives (not only nor primarily at the regional level).

3.6 IMPROVING QUALITY OF LIFE

The fourth and final objective of regional policy is improving people's quality of life. Although this is not a new objective ([Friedmann & Alonso, 1975](#)), it has received increased attention recently because new measurements and theories emphasise the fact that high levels of economic

activity do not necessarily correspond to high quality of life. This is demonstrated by the example of two people who earn the same wage, one by working fewer hours in a good and safe situation, the other by working more hours in an unhealthy environment. Recognition that economic production is not the only determinant of subjective well-being is also not new, since [Easterlin \(1973\)](#) made clear that objective economic wealth does not necessarily coincide with subjective well-being, a theme more recently taken up by [Stiglitz et al. \(2009\)](#).

This raises the question of whether regional policy should aim to provide higher income and economic wealth for citizens, on the assumption that this would in turn increase their quality of life, or should directly target quality of life, even at the expense of wealth. One major problem lies in the fact that well-being is subjective and therefore, by definition, difficult to assess, meaning that it is also hard to measure the impact of policies. The provision of good environments, however, is not necessarily in contrast to economic production, as the latter can provide the resources to pay for better public services and, at the same time, good public services support viable economic systems.

Quality of life is a spatial phenomenon and intrinsically linked to what happens in places. This particularly relates to the provision of public services, which can make life easier when they work well, and harder when they are missing or unreliable. Despite this, rural places, which are normally less endowed with economic wealth and services than urban areas, tend to provide better quality of life for their citizens ([Graham, 2009](#); [Sørensen, 2014](#)) – although this link is questioned by recent evidence of a differentiated and non-linear relationship between urbanisation and life satisfaction ([Le Roy & Ottaviani, 2022](#); [Lenzi & Perucca, 2018](#)).

A good quality of life also depends on the existence of positive externalities, for example the presence of other people who are also interested in cultural events, providing enough attendance for these events to take place. Negative externalities may also be relevant, since congestion and overcrowding can lead to a polluted environment and long hours spent in traffic or on delayed public transport services. The link between quality of life and sustainability is clear and is evident also from the former's close relationship with the Sustainable Development goals (SDGs).

Compared to economic disparities, which can be relatively easily measured through economic statistics, the measurement of quality of life is more difficult and often involves surveys on perceived quality of life. For example, the European Union produces a periodic report on the quality of life in a large sample of cities, which investigates: general satisfaction with living in the city; safety, trust, low crime and inclusiveness; ease of getting a job, finding a house and earning a living; ease of moving around, especially via public transport and cycling; presence of cultural amenities, parks and health care facilities; presence of an healthy and clean environment; and

quality of the local public administration ([European Commission, 2020](#)).

It is also possible to measure quality of life indirectly by looking at its impact on house prices and rents, or on the propensity for people to migrate ([Colombo et al., 2014](#); [Wardenburg & Brenner, 2020](#)). If quality of life in a place is higher, residents will generally be willing to pay higher rents to live there, and are more likely to stay instead of moving to other places where their wages would be higher.

Quality of life is definitely an aspect in which regional policy has direct powers of intervention: the quality of public services can directly be impacted by policy choices but also the other aspects of well-being can be regional policy targets, with regional resources or national ones.

3.7 FUNCTIONAL OBJECTIVES

Functional objectives are generally presented as objectives in themselves but are additionally – and sometimes mostly – important because they create the bases for achieving the four key objectives outlined above. For instance, regional policies may target the attraction of firms and investments, but the final objective is the generation of economic wealth and, possibly, the well-being deriving from it. Similarly, regional economic resilience may be targeted to get a structure better able to resist economic crises, but its final objective is not structure per se but, on the one hand, to avoid wasting economic wealth, and, on the other hand, to avoid social issues – for instance, the high unemployment generated by a crisis of systemic origin.

3.7.1 Regional attractiveness

In a world which is increasingly globalised, characterised by the mobility of capital, labour, people, goods and services, attractiveness is an important functional objective for regional policy. Attracting activities and production factors from elsewhere allows regions to enhance their own growth patterns, bringing in resources generated in other places but which are available at a global scale and mobile enough to move out of the place of origin towards different destinations. Attractiveness is not only relevant to the most advanced regions and global hubs competing for the headquarters of multinational corporations – rural and mountain regions can also benefit from it ([Musolino & Silvetti, 2020](#)).

Even when regions already possess good local resources, attracting others from elsewhere allows them to reach much higher levels. For example, attracting investors from other regions and countries can significantly increase the investment rate in a region compared to internal savings and

capital. Considering firms, large firms and especially multinational ones take location decisions based on the best opportunities to grow and nurture their businesses. Since these firms are footloose, enhancing regional attractiveness may offer a quick boost to regional growth. Attractiveness is also important for retaining local firms because operating in an attractive environment means they will be less prone to relocate to other places should opportunities arise elsewhere.

The same processes apply to people, especially highly qualified workers or entrepreneurs. Creating these skills locally can take decades, so attracting these people from elsewhere is often considered an effective – and faster – strategy to lead to local economic development. Notice that people (and firms) can also be pushed out of a certain region by wrong policies, when these make the local situation worse than that present elsewhere, so that people “vote with their feet” and leave.

An equilibrium between endogenous and exogenous forces is needed. On the one hand, if a region only relies on its own endogenous forces, its growth path can be too slow; on the other hand, if the development strategy relies too much on exogenous factors and investments, the local economy is exposed to the risk of sudden downturns when external investors leave in favour of other places. It is therefore important to maintain a good equilibrium between internal and external resources ([Fratesi & Senn, 2009](#)).

The term attractiveness has been linked to many assets and policies for each of these are explored in [chapters 5](#) and [6](#), which are devoted to the instruments of regional policy. These assets include entrepreneurship, FDI and investments, education and human capital, creative people, tourists and residents who live on pension or on revenues generated elsewhere.

3.7.2 Regional resilience

Regional resilience is a functional objective of regional policy whose importance as a policy target has increased following two recent, systemic crises: 1) the large global economic crisis was triggered by the sub-prime financial crisis of 2007–2008, which affected regions inside the same countries differently depending on their levels of resilience;^{[22](#)} and 2) the Covid-19 pandemic, the full impacts of which are still unknown at the time of writing, although they will clearly be global in reach but differentiated in spatial intensity.^{[23](#)}

Resilience can be defined as the ability of a system to deal with an external shock, by resisting or adapting to it, so that it can recover its previous status without permanent losses. This term has long been used in engineering and ecology but from the 2010s has been common in regional economics and, consequently, in regional policy. Three types of resilience have been identified and are normally considered in regional analysis

([Martin, 2012](#)):

1. **Engineering resilience** is the ability of a system to recover to the same equilibrium after being affected by a shock. This type of resilience implicitly assumes the existence of an equilibrium growth path which the regional economy should follow in the long run. A resilient regional economy should be able to recover and get back to the previous path after being hit by a shock, such as a crisis with exogenous origin.
2. **Ecological resilience** is the ability of a system to absorb shocks of a certain size before being permanently disrupted and moved to a different situation. This focuses on the fact that smaller external shocks will affect the economy only temporarily but can affect it permanently if they are large enough. For example, a temporary negative demand shock for the products of a given region can be absorbed by the local economy if it is not too large, since firms can use their reserves. However, if the shock is large and longlasting, many of these firms will fail so the regional economy will no longer be able to count on the same firm fabric after the shock ends. The notion of equilibrium is less important in this definition.
3. **Adaptive resilience** is the ability of a system to put in place anticipatory or reactionary changes which allow it to deal with the new challenges. For a regional economy, this means having a system able to adapt to new challenges coming from the global economy. Changes can also take place in ways which are proactive, triggering positive processes of creative destruction and transformation to make the regional economy stronger and secure a larger market share. This means that after the crisis the resilient region will be in a better situation than it was before.

Regional policy for resilience can therefore target not only resistance to negative external shocks but also the economy's recovery after these shocks have hit and its adjustment to new forms more suitable to the after-crisis situation.

Regional policy can therefore intervene at two different phases: first, before the crisis, to prepare regions for dealing with possible exogenous shocks; and second, when the crisis hits the economy, to limit damage to the regional structure and the difficulties faced by firms and workers. These interventions should provide support to the most affected activities but also manage the risk to existing activities, which have the potential to be viable again after the crisis.

Regional policy for resilience should also have an objective which is proactive instead of reactive, and therefore has the to intervene in ordinary times, before the crises, with the purpose to prepare regions for dealing with

possible exogenous shocks.

There are many ways in which a regional economy can be made more resilient, which are normally to be used in combination with each other. Such as, making the regional economy:

- Less dependent on exports, so local outcomes are not wholly determined by what happens elsewhere.
- Less dependent on a single activity, so the whole system is not negatively affected by reduced demand or increased competition for these activities.
- Less dependent on a single firm, so the failure of one organisation cannot bring down the whole economy. Note that firms may get into crisis for reasons unrelated to its competitiveness, e.g. the transition from one owner to another.
- Less dependent on the external supply of technology, so it is not dependent on the decisions of others and cannot find new products or niches if it loses its customers.
- More able to adapt and react to change, since flexible structures can respond to shocks by finding new organisational modalities which deal with the new challenges.
- Structurally stronger. For example, regional economies with higher levels of human capital are normally more resilient and adaptable.
- More focused on the long run, since a focus on short-run returns means that many economic activities can disappear in a period of low demand.
- Specialised in high-level activities and functions, which are normally less affected by crisis and which tend to lead recovery after crisis. Conversely, low-level activities are more easily destroyed and unable to resume.

3.7.3 Structural adjustment

Structural adjustment comprises many functional objectives with the purpose of improving the economic strength of a region and hence the well-being of its citizens. There are different ways in which structural adjustment can take place. It can happen through:

- The shift from industries with lower value added per employee towards industries with higher value added per employee. However, there is disagreement on the empirical relevance of this aspect²⁴ and the relative importance of intra-sectoral and inter-sectoral structural change is still a matter of debate and investigation ([O'Leary & Webber, 2015](#)).

- Innovation, which does not require a change in industry composition but the improved performance of the same industries – perhaps by making the same things in a more efficient way or by shifting towards higher value added phases of production or by making products with higher technological content that have higher revenues in the markets.
- Different ways of interacting between industries and between manufacturing and other activities ([Saviotti et al., 2020](#)). This is especially relevant in what has been labelled the fourth industrial revolution, based on new mixes and re-combinations of services and manufacturing activities.

[Neffke et al. \(2018\)](#) also distinguish between industrial change (“regional diversification which changes the local industry composition”, p.27) and structural change (“the unrelated regional diversification that requires a transformation of the local capability base”, p.27). They show that different economic agents have a different propensity to change, with incumbents reinforcing the current focus so most change is instead induced by the establishment of firms and entrepreneurs from outside the region.

Structural adjustment is commonly associated with productivity.²⁵ As [chapter 6](#) shows, long-run growth is intrinsically linked with productivity increases and these are mostly due to the introduction of innovations. However, productivity increases can also be obtained through structural adjustments, either within the same industry or by changing industries.

Productivity increases are important because they may allow a combination of the following:

- Reduced output costs and, in this way, more aggressive action in the markets, selling for lower prices and increasing the market share of regional firms, enlarging regional GDP.
- Making workers more productive and, therefore, inducing firms to pay higher salaries. Salaries are expected to increase with productivity since it becomes convenient for firms to hire workers, even at a higher salary. This is even without the assumption, made by standard neoclassical models, that the remuneration of production factors is equal to their marginal productivity.
- Increased profits, because capital is also more productive. The difference between revenue and cost increases with productivity and at least part of this difference goes to those owners of the firms who reside in the region.

BOX 3.4 Specialisation or diversification?

One of the most important dilemmas that a policymaker needs to address when designing a regional policy strategy is whether to encourage specialisation or diversification.

The term specialisation normally refers to a region having a higher-than-average share of value added or employment in certain industries and, consequently, a lower share in others, so that there is sectoral concentration. Diversification is the opposite, and its limit case of full diversification is the one in which the region has exactly the same distribution of industries as the aggregate economy²⁶. Indeed, a certain degree of specialisation exists in all regions, otherwise they would all be equal, which is not possible in the real world.

It is possible to measure specialisation at the level of the single industry or at the level of region. at the level of the single industry the most used measure is the location quotient of sector i in region r , which is calculated according to the following formula.

$$LQ_{ir} = E_{ir} / E_r E_{iN} / E_N \quad \text{Equation 3.7}$$

In the equation above, e stands for employment, i for the industry, r for the region and N for the country of reference (or another higher-level geographical unit such as a group of countries, a continent or the world). The same formula can be used with other indicators such as the value added instead of employment, and since GVA per employee varies according to the industries and their productivity, the location quotient will have a different value.

When a location quotient is above 1, this detects the fact that the region is specialised in that industry, when it is lower than 1, then the region is despecialised.

There are also indicators which measure the total specialisation of the regions, for example the Hirschmann-Herfindahl index, which considers the regional shares in each industry according to the following formula:

$$HH_r = \sum_{i=1}^J [E_{ir} / E_r]^2 \quad \text{Equation 3.8}$$

In the formula above, E stands again for employment and i is one of the J industries in which the economy is classified. With an indicator built in this way, the more concentrated the regional economy is in certain industries the higher the Hirschmann-Herfindahl indicator.

Both the location quotients and the Hirschmann-Herfindahl are sensible to the disaggregation of industries (e.g. the NACE level) and to the spatial scale to which they are measured so that it is important to interpret these numbers rather than considering them acritically.

To understand whether a policymaker should encourage specialisation or, on the contrary, try and pursue diversification, it is important to understand what advantages and disadvantages they bring to the regional economy. This is synthetically presented in [Table 3.4](#). One clear advantage of specialisation is the possibility to achieve economies of agglomeration in the industries of specialisation. Economies of scale can make these industries more productive and competitive at an international level but localisation economies are also more often present in areas characterised by specialisation, such as districts and clusters. In dynamic terms from the presence of specialisation comes the possibility to start or reinforce innovative paths through the accumulation of industry-specific knowledge because also these processes require a minimum scale to work. The fact that a region is specialised in certain industries also provides the basis for an external visibility of the place, so that it is easier for firms of the industries of specialisation to enter global networks, having the label of belonging to that region.

The main risk with specialisation comes from the fact that specialised regions are more vulnerable to idiosyncratic shocks, i.e. shocks which affect some industries and not others. For example, when an industry has a crisis at international level because a change of technological paradigm, this makes its products obsolete, and the economies of regions specialised in this industry suffer. These kinds of patterns affected, for example, regions specialised in the textile sector in Western countries when the opening of global markets made them compete with locations with significantly lower production costs. Another example, this time technological, is the negative shock obtained by regions specialised in traditional musical instruments with the take-off of electronic and digital music. Or, more recently, the problems of regions specialised in internal combustion engine components facing the rise of electric cars.

The advantages and disadvantages of diversification are specular to the previous ones. first of all, if an economy is more diversified it is more resistant to idiosyncratic shocks because only a small part of its economy will be tied to a specific sector. In terms of agglomeration economies diversified regions are normally unable to achieve economies of scale because no industry is large enough, but they may be able to achieve urbanisation economies which stem from the interaction of many industries. Dynamically, the innovative advantage of diversified places lies in the possibility of starting and sustaining innovative paths through the interaction of different knowledge bases.

TABLE 3.4 Advantages and disadvantages of specialisation and diversification

Advantages	Disadvantages

	Advantages	Disadvantages
Specialisation	Possibility to achieve economies of scale in an industry	Risks of strong recession when the industries of specialisation go into crisis
Localisation economies		
	Possibility to have innovative paths through the accumulation of specific knowledge Image/visibility	
Diversification	More resistance to idiosyncratic shocks	No economies of scale
Urbanisation economies		
	Possibility to have innovative paths through the interaction of different knowledge bases	

There is debate in the literature on whether specialisation or diversification is better for regions and cities. The economies stemming from specialisation are often called Marshallian economies because it was Marshall the economist who with his study on English districts made evident the advantages of productive specialisation ([Marshall, 1890](#)). The economies stemming from diversification are often called Jacobian, from the work of Jacobs who studied the importance of diversification for the growth of large cities ([Jacobs, 1969](#)). Providing a unique and final reply to this debate may be difficult and also depends on the spatial and sectoral scale to which measurements are done ([Beaudry & Schiffauerova, 2009](#)).

Note that in many policy documents, especially of emerging countries and of weak regions, diversifying the economy is stated as an objective. In this case, this usually does not directly refer to having a more balanced structure, but to enlarging the production base adding other sectors and industries which were not previously present. This with the aims of making the local economy more resistant to shocks and, especially, less reliant on external suppliers.

A new concept which is between specialisation and diversification is the one of related variety²⁷. In this case what is relevant, especially at technological level, is not a concentration of economic activities in a specific sector nor full diversification. What allows regions to be more innovative is the fact that they are diversified in industries which are technologically related to those of relevance. In this way, in fact, an industry can be innovative by taking advantage of the integration of

matching technologies present in related sectors.

It is hence impossible to provide a simple indication to the regional policymaker in terms of whether specialisation or diversification is better. The best thing would be to be able to specialise in the right industries, those where there are better market and technological opportunities, i.e. those where demand is expected to grow fast at a global scale and where innovation is fast and may lead to the creation of new markets for firms. This is very demanding because the policymaker would need to have better information than the regional firms. However, attempts have recently been made to create tools for policies which help to pick up the right sectors and opportunities such as the smart specialisation strategies which will be described in [chapter 6](#).

3.7.4 Enhancing territorial capital

There is a different and more comprehensive way of considering regional structure which includes looking at the various assets that the region possesses, and which can enhance its productivity in the short term, and its development in the long term, as well as making it more able to absorb and react to external shocks. This is the theory of territorial capital, which can also be a policy objective in itself.

The notion of territorial capital was introduced by the [OECD \(2001\)](#) and defined as “the stock of assets which form the basis for endogenous development in each city and region, as well as to the institutions, modes of decision-making and professional skills to make best use of those assets” (p.3).

The idea was soon adopted by the European Commission which made use of the concept in preparing the first Territorial Agenda. For instance, it noted that territorial capital is not the same in all places, not only in quantitative terms but also in qualitative ones, since “each region has a specific territorial capital that is distinct from that of other areas and generates a higher return for certain kinds of investments than for others, since these are better suited to the area and use its assets and potential more effectively” ([European Commission, 2006](#), p.3).

The various components of territorial capital, and especially their combination, can lead to productivity gains and generate growth in the long run. Public policies could therefore target territorial capital to improve the competitiveness of places and enhance their long-run growth perspectives.

The concept of territorial capital was later systematised by [Camagni \(2008\)](#) who built a classification of all territorial capital assets based on two dimensions: rivalry²⁸ and materiality²⁹ ([Figure 3.10](#)). In this way, all assets

can be classified and it is easier to disentangle the typologies of territorial capital possessed by regions and to study how they relate to the performance of the regional economy.³⁰ These classifications include traditional growth assets, in the corners, as well as more recently identified assets, which constitute the most interesting part of the table and the most challenging strands of contemporary regional research, i.e. the cross in the middle where assets have mixed levels of rivalry and materiality.

Rivalry	High rivalry	Private fixed capital stock	Relational private services operating on: – external linkages for firms – transfer of R&D results University spin-offs	Human capital: – entrepreneurship – creativity – private know-how Pecuniary externalities (soft)
		Pecuniary externalities (hard)		
		Toll goods (excludab.)		
	(private goods)	3	9	6
	(club goods)	Proprietary networks	Cooperation networks: – strategic alliances in R&D and knowledge – p/p partnerships in services and schemes Governance on land and cultural resources	Relational capital: – cooperation capability – collective action capability – collective competencies
	(impure public goods)	Collective goods: – landscape – cultural heritage (private “ensembles”)		
	(public goods)	Resources: – natural – cultural (punctual) Social overhead capital: – infrastructure		
	Low rivalry	1	7	4
		Tangible goods (hard)	Mixed goods (hard + soft)	Intangible goods (soft)
		Materiality		

FIGURE 3.10 Territorial capital classification Source: [Camagni \(2008\)](#)

Assets relevant to territorial capital are mostly those whose accumulation and depletion are slow and therefore can really be understood as capital assets ([Fratesi & Perucca, 2017](#)). For example, building infrastructure and accumulating human and social capital takes a long time and produces positive effects on the regional economy in the long run, without being depleted by their use. Even private capital, which is recognised as the most mobile of assets, is in practice

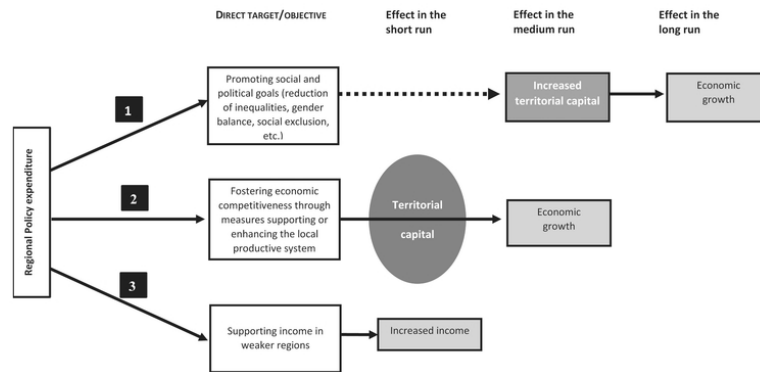


FIGURE 3.11 The effects of territorial capital Source: [Fratesi & Perucca \(2019\)](#)

much less mobile than expected since it often takes the form of physical investments in places; and even financial capital can be difficult for weaker places to attract.

There are two ways in which territorial capital can be relevant to regional policy ([Fratesi & Perucca, 2019](#)). The first (and most obvious) is that increasing the territorial capital of regions can enhance the long-run growth of territories. The second is that territorial capital acts as a catalyst for policies with medium- and short-run goals and which, for example, support the firms of a given region. In this latter case, regional policies supporting firms will be more effective when implemented in places with the right combination of territorial capital assets ([Figure 3.11](#)).

Two things need to be remembered when considering territorial capital as an objective of regional policy. The first is that territorial capital assets are in a complementary relationship with each other. This means that territorial capital configurations with a good balance between different assets are more favourable to growth compared to configurations in which there is strength in some assets but weakness in others. For example, it is good to have human capital but this is much less effective without enough private capital for firms to hire qualified workers. For this reason, when trying to reinforce the territorial capital of regions it can be worthwhile to first look at weak assets to see if they can be targeted with appropriate policies so that a balanced configuration is achieved.

The second thing to be considered is that the type of territorial capital is as important as its quantity. For each regional policy intervention there will be some territorial capital assets better able to enhance its positive effects. This is because interventions in specific policy areas will be more or less effective depending on the presence of complementary territorial capital assets.

3.7.5 Increasing human capital and skills

The presence of a high level of human capital is well understood to play a part in the long-run prosperity of regions.³¹ Human capital endowment, in fact, is central to almost all theories of regional development, as well as national development where it is important in determining endogenous growth. However, it is the regional, rather than national, level of skills that is the most relevant to firms' activities because this is the labour market on which firms rely to hire qualified workers. Consequently, increasing human capital is a fundamental intermediate policy target for regional policies.

The most traditional intervention is to increase the human capital level of a region's current workers, through education and lifelong learning. There are, however, two other strategies: on the demand side, attracting firms – especially innovative and multinational ones – to a specific region may also attract qualified people from other regions; and on the supply side, attracting skilled workers from other regions to in turn attract economic activities, especially innovative and multinational firms (see [Moretti, 2012](#); [Sevinc et al., 2020](#)).

In addition to increasing regional growth and competitiveness, increasing human capital and skills is also relevant to enhancing quality of life. People with higher levels of education and skills normally hold jobs which provide higher levels of satisfaction, in safer environments and with more stability. Those with higher levels of education may also be more aware of the mechanisms within their region such that they demand more from local government, which may provide a

push to improve the provision of public services. The instruments of policies aiming to increase human capital in regions will be extensively discussed in section 5.11 and its subsections.

3.7.6 Avoiding decline, desertification and middle-income traps

Most regional economic policy objectives are set in terms of their targets: lagging regions, if the objective is to reduce disparities; or advanced regions, if the objective is to achieve higher national competitiveness. However, it is also important to set policy objectives considering the economic dynamics of regions. If the dynamic of a region is poor and, in particular, if the growth rate remains below average for long periods of time, this may have negative impacts on the regional economy and society that deserve intervention ([Iammarino et al., 2019, 2020](#)).

Advanced regions without sufficient GDP growth rates can become **declining** regions. These are not poor in absolute terms but they experience increasing unemployment and decreasing wealth, which may translate to

reduced levels of public services. Intermediate regions which do not grow enough may fall into the **middle-income trap**. They are not yet poor but are squeezed between rich, innovative regions, which they will not be able to catch up to; and less wealthy regions that are still attractive to firms due to lower wages, which are increasingly competing for their activities.

For example, there are many regions in the periphery of advanced countries which used to thrive when they had lower wages compared to frontrunner regions because they were attractive to firms that would delocalise activities to them. These intermediate regions, however, have found themselves without the ability to create their own endogenous growth patterns, nor the ability to compete with low production costs in emerging countries.

Poor regions without positive GDP growth dynamics are unable to attract economic activities despite their low salaries and hence increasingly experience the out-migration of citizens, especially younger qualified workers, and economic activities, which relocate to places with better opportunities. These regions are therefore at risk of **desertification**. Desertification is negative because of its significant social and economic impact on those who are left behind, including the elderly or young people who do not want, or are unable, to move. It is also negative from an aggregate perspective since it means past investment in infrastructure, public buildings, infrastructure, etc. is wasted. Intangible territorial capital assets are also wasted, including localised externalities and localised structures and systems of interaction between people, including their culture, language, sense of belonging, etc.

One policy objective instrumental to the ability of regions to maintain their status in the economy, or for poor regions to improve their situation, is structural upgrading ([Fonseca & Fratesi, 2017](#)). This objective is intrinsically linked to globalisation and is fundamental for middle-and high-income regions and countries to thrive in the global economy. Globalisation has occurred quickly, significantly affecting the regions of advanced countries and providing them with significant challenges³² ([Capello et al., 2011](#)). Areas which were once successful in closed national economies have been unable to compete as producers and attractors of investments in a more competitive global economy.

Regions inserted in global networks can play different roles: they can be frontrunners, specialised in high-level phases requiring innovation and managerial capabilities, or they can be specialised in production phases, for which they need low production costs with adequate quality levels. In this context, intermediate regions in the peripheries of developed countries can be squeezed in the middle, as many multinationals relocate to emerging countries where greenfield investments are easier on a larger scale ([Fratesi, 2017](#); [Fonseca & Fratesi, 2017](#)). For the peripheral regions of advanced countries, therefore, upgrading towards higher level phases of production is

no longer necessary to converge towards the richest regions, which may be out of reach, but rather to avoid relative decline.

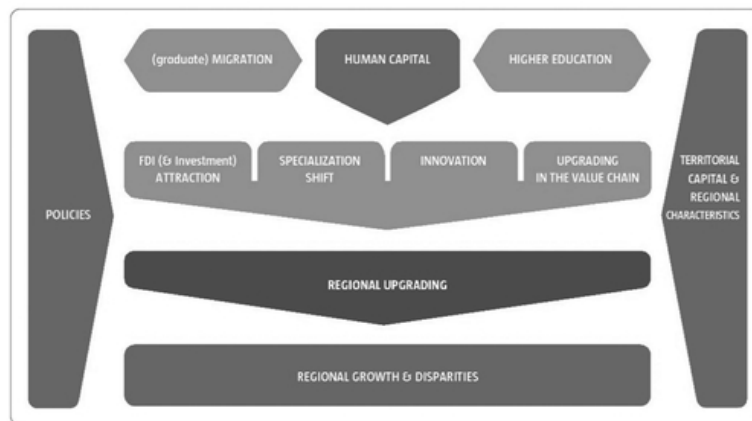


FIGURE 3.12 Structural upgrading: a scheme Source: [Fonseca & Fratesi \(2017\)](#)

In the conceptualisation of [Fonseca and Fratesi \(2017\)](#), regional upgrading is mostly facilitated by regional human capital and can be achieved in four complementary ways ([Figure 3.12](#)):

1. The attraction of investments from elsewhere, either FDI or national investments from other regions, which can stimulate production and productivity in regions without sufficient endogenous sources of capital. In this case, human capital is a complementary factor as financial and physical capital is more productive when human capital is also present and therefore regional attractiveness is enhanced by regional human capital.
2. The shift of specialisation from industries with low value added to industries with higher value added, as discussed in previous sections. In this case, the presence of human capital is essential because these new activities will require higher, different skills that most workers will need to learn.
3. Innovations of product and process which allow firms to become more productive and competitive in the markets, increasing production and employment. This also demands human capital because innovation requires skills to be produced and implemented.
4. Upgrading the value chain, which means shifting from phases of lower value added towards phases of higher value added, within the production of the same goods and services. This normally requires new investment or innovation, or the ability to implement new managerial skills.

As shown in [chapter 5](#), human capital creation, improvement and accumulation is hence a crucial process. Education mechanisms are essential and not limited to higher education and universities, as are the processes by which human capital is renewed through the attraction of skilled workers or depleted by out-migration and brain drain.

The processes which lead to regional upgrading are highly complex and involve a wide network of interdependent actors, which obtain the desired result only if the policy measures are working both synergically and interdependently. The possibility for these complex processes to be successful depends on the presence of positive regional characteristics, including social and territorial capital, and is facilitated by adequate policies accompanying the processes at regional and multi-regional levels.

3.7.7 Limiting congestion diseconomies

Congestion diseconomies normally arise with agglomeration and grow when agglomeration increases, alongside the positive impact of agglomeration in terms of increasing economic growth.

A policy intervention may therefore be justified to decrease congestion diseconomies because, if it is possible to reduce them by maintaining the same level of agglomeration (and hence the same level of agglomeration economies), total welfare increases.

This type of policy is represented in [Figure 3.13a](#), where welfare comes from the difference between the two curves of the marginal costs and marginal benefits of agglomeration, both depending on the levels of agglomeration.³³ In the figure, the optimal level of agglomeration is reached when the marginal benefit equals the marginal costs, while to the left of this point it is still possible to increase total welfare by increasing total agglomeration. When the costs of congestion decrease, there is an increase in welfare and in the optimal level of agglomeration. The increase in welfare comes from the fact that congestion costs are lower for any level of agglomeration and that there is additional possible agglomeration.

Normally, decreases in the costs of congestion for given levels of agglomeration are due to technological advancements, which for instance make it easier, cleaner and less costly to move people around, or make it less necessary for people to commute at the same time. Other technological advancements (e.g. electric cars or district heating) result in less pollution in cities. Finally, new technologies can make economic activities more efficient in the use of land, so that the same levels of production can be achieved with less use of physical space. Policies can help implement new mobility techniques, building technologies and ways of organising people and firms which produce fewer congestion diseconomies without decreasing the benefits of agglomeration.

A second type of policy intervention linked to congestion diseconomies is one that tries to correct the market in cases where it produces more agglomeration than is socially optimal. This may happen when those taking advantage of agglomeration economies are not the same as those who suffer from congestion diseconomies. This is a case of positive and negative externalities taking place at the same time but affecting different agents, so that agglomeration increases to levels which are socially undesirable.

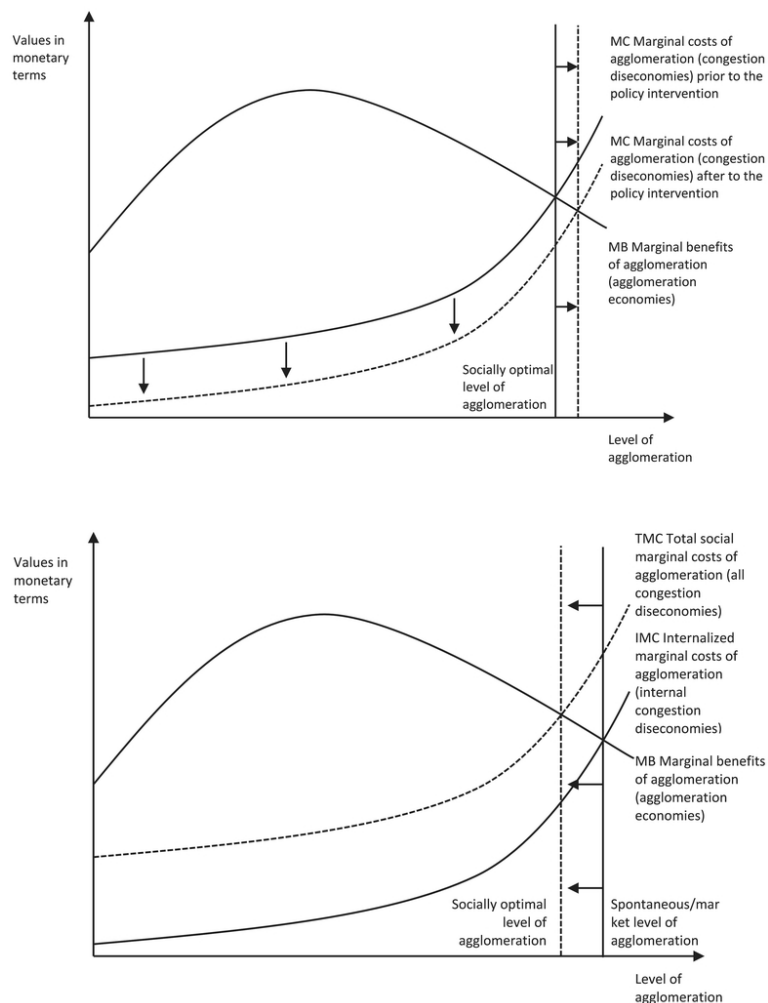


FIGURE 3.13 Congestion diseconomies and regional policy Top: First type of policy: direct reduction of congestion diseconomies; Bottom: Second type of policy: reduction of congestion by reducing agglomeration to its optimal level Source: Inspired by [Richardson \(1978\)](#) and [Camagni \(1998\)](#)

For example, if the market equilibrium leads to a city size that maximises the total welfare of the city itself but produces negative externalities on other places in the region, through pollution or negative spillovers. Another scenario is when some agents in a region or city make choices which maximise their benefits from agglomeration but bring negative externalities for the other agents in the same place. For example, when people migrate to

an urban area to access better opportunities but the arrival of so many additional residents decreases the quality of life of those who were already there.

In these cases, even if it is not possible to decrease the curve of congestion costs, it is still possible to improve the social situation by decreasing the levels of agglomeration through appropriate policy instruments which encourage the location of people and economic activities in other places. As seen in [Figure 3.13b](#), this should lead agglomeration to decrease from the private optimum, a level at which the marginal private cost equals the marginal benefit but there are additional neglected social costs, to a social optimum, a level of agglomeration at which the total social marginal cost of agglomeration equals the social marginal benefit.

Conceptually, the opposite can also be true, the case in which there is too little agglomeration. When positive externalities are present, for example in terms of growth spillovers, the agents which take their agglomeration choices suffer from the diseconomies due to the congestion they produce but agglomeration would also benefit other agents, so more agglomeration would be better socially.

Also, in this case a policy intervention could be needed, to increase agglomeration. This intervention, however, is not really concerned with congestion costs, but with the benefits of agglomeration. Many policies try to stimulate good agglomeration, for example by attracting firms to special economic zones (see section 5.6).

3.7.8 Addressing social and demographic imbalances

As seen in section 1.4, there are many policies which are implemented at regional level but are not actual regional policies, because they are implemented at that level for merely administrative reasons, without any intent of spatial differentiation. These policies mostly involve providing services to all citizens, or targeting the difficulties of some specific citizens or social classes. These policies are hence for people and not for places.

However, people live in places and some places have a concentration of social issues. This spatial concentration of social issues can make them more difficult to address, think about segregation in urban areas, which might lead some children to grow up in distressed neighbourhoods and hence have a lower-level education and worse opportunities as adults. When social issues are therefore not only due to people but also to places (and the negative externalities which are generated locally) then regional policy is needed to address them.

Moreover, it has to be noted that sociodemographic imbalances are strictly intertwined to the regional economies and are usually more diffused in lagging regions. This is because, on the one hand, having these imbalances

at the societal level is negative for the regional economy on different aspects which will be presented below and, on the other hand, less developed regions have also a concentration of these problems.

One example is between social and economic and is the case of poverty. This involves citizens who have difficulties in getting to the minimum essential levels of wealth and services and cannot afford, for example, proper housing, sufficient heating, healthy food, etc. Poverty is never spread evenly inside countries, but concentrates in specific regions, usually those with higher levels of unemployment, and specific parts of cities. The problem with poverty is that it cannot be simply addressed with policies for regional economic development, since poor people are also usually at risk of social exclusion and it is usually not sufficient to provide jobs to an area because really poor people are less equipped to take them.

More generally, the issue of interpersonal inequalities is gaining importance as an objective to be pursued at regional and urban level because, on the one hand, most statistics show that interpersonal inequalities have grown in the past decades ([Alvaredo et al., 2018](#); [Piketty, 2015](#)) and, on the other hand, the level of inequalities in regions is differentiated and tends to be stronger in urban areas which are the engines of growth and at the same time the most inequal places ([Lee, 2019](#)).³⁴ The term “inclusive growth” is widely adopted to signal making sure targeted growth is also concerned with the distribution of its benefits, especially in terms of income.

However, the two issues of interpersonal and spatial inequalities should not be kept separate, since by intervening on regions it can be possible to reduce the levels of interpersonal inequalities at the national level. At the same time, spatial inequalities also depend on national conditions and mechanisms, including the presence of monopolies, so that investments in lagging regions may also need national interventions ([Feldman et al., 2021](#)).

Demographic challenges

Everybody is ageing, but when ageing concerns societies it constitutes a problem.

Starting with the field of production, it is possible to work only up to a certain age and the ability to fill up certain jobs decreases with age. This concerns manual jobs but, more importantly, also creative works where the ability of producing something new generally declines with aging; this usually makes aging societies less innovative. Moreover, ageing people are normally more risk-averse and less keen on investing in activities which provide higher returns but later on, for this reason entrepreneurship will be lower and new business ventures will be lacking.

There is another aspect to be considered which concerns the provision of public services. If a region is in demographic balance (the population is

stable and the number of people in the different age classes is stable), then no change to the structure of service provision is needed. However, if a society is ageing, this means that the number of young people is shrinking and the proportion of elderly is increasing. For this reason, there will be a shift in public service needs and demands from schooling and education to health, people care and elderly assistance. This requires additional investments in the new structures and the dismissal of redundant existing ones.

There is also a problem in terms of public finances since elderly people usually no longer work and live on pensions and past savings. For this reason, in societies where fewer people work and more people depend on pensions, public finances may be at risk. It is true that pensions are not financed at regional level, but there are local and regional taxes on income which are levied on the local tax base. On the other hand, there may be opportunities for some regions and countries to attract retirees from elsewhere to live and spend locally (see [chapter 8](#)).

The problem of aging is not just a matter of aging of residents, but of out-migration, since this predominantly concerns young people who don't find enough opportunities and, when they leave, those leaving are usually the most skilled one, so the issue equates to brain drain (see [chapter 5](#)).

The reduction of regional depopulation has been a regional policy objective (see for example the Italian Inner Areas Strategy, in [chapter 8](#)) but others support that the objective should just be the quality of life of those remaining, although it is more difficult to provide it for the reasons outlined before.

Immigration can represent only a partial solution to the problems of ageing, since immigrants are usually younger than those already present, but migration flows also tend to be biased in many ways: towards certain age cohorts, towards a gender, and towards some specific skill levels so that usually advanced regions are able to attract qualified persons, while lagging regions receive migrants with lower human capital. In places where immigration is massive there may also be issues with integration which require specific interventions to prevent the creation of segregated societies and ghettos.

Gender imbalances

Gender imbalances are an issue for societies in general which has, however, a strong spatial characterisation. The disadvantage experienced by women is different in different countries and also differentiated inside them, between the different regions. A recent comprehensive measurement based on composite indicators shows that, in Europe, there are significant differences for women living in different regions on two aspects: achievement and

disadvantage ([Norlén et al., 2019, 2021](#)). Both are built on the same seven dimensions (work and money; knowledge; power; health; safety; security and trust; quality of life) but are computed differently because the achievement benchmarks regions in terms of how females are performing, while the disadvantage benchmarks regions in terms of how women are doing with respect to men. The two aspects are in fact correlated (and so are the indices) but show a different nuance since women might have bad opportunities in a region which also provides bad opportunities to man or in one which, on the contrary, provides the latter with good opportunities.

Apart from the national differentiations (northern European countries usually have less imbalances) regional differentiations also exist and, in general, lagging regions have higher imbalances so that women are less likely to work, have less free time and are disadvantaged in terms of education and training. However, the geography is more complex since, for example, capital areas might provide opportunities but also are felt to be less safe.

Looking specifically at the gender pay gap (i.e. the differences of earnings), it seems that the determinants at national level, including differences in human capital, experience, occupational choice, roles, noncognitive skills, sorting into firms, have different explanatory power at regional level, and that the differences heavily depend on the wages of men ([Fuchs et al., 2021](#)).

Gender imbalances are an issue for lagging regions also in economic terms. Reducing them, in fact, is not just a matter of inclusiveness, life satisfaction and human development but also a waste of human capital and possible workers, since those women who are kept out of the labour market, or given lower opportunities to express themselves, could have been viable, innovative and creative workers who contribute to the regional economy. Lagging regions are those more in need of such workers but also those where women find more obstacles.

Most obstacles to women's achievement, however, are usually not targeted with regional policy but, rather, with interventions at the national level where levers for people-based policies and policies to change culture and the organisation of lifestyles and families are usually implemented. Given the differentiation in regional gender inequality, however, national policies targeting gender gaps could be targeted to regions more in need, and local policies could be tailored to the weaknesses of each region ([Di Bella et al., 2021](#)).

3.7.9 Growth, degrowth and decoupling

While most of this book, as it is about regional policy, is concerned with development and growth, this paradigm has been questioned, especially

recently and especially in some Western countries.

In particular, degrowth has been proposed as an alternative paradigm.³⁵ The argument starts from considering the traditional pro-growth orientation of economics as too demanding in terms of consumption of environmental resources, so other ways to expand the well-being of people have to be found, beyond consuming increasing amounts of goods and services. There is evidence, in fact, supporting that growth is having a negative impact on the environment at two levels, one being climate change and the other being the reduction of biodiversity.

While energy intensity has been improving in many countries, meaning that they are reducing the energy required to produce one unit of GDP,³⁶ increases in production are still related to an increase of energy consumption, although now with a lower increase. The lower increase of resources comes from efficiency increases and so called “decoupling”, which means that growth does not have to be tied a larger use of resources. Two conceptions of decoupling exist, an absolute one and a relative one. The absolute one assumes that growth could take place without any additional use of resources, while the relative one assumes that the need for resources grows less than GDP does. Although there is large agreement and evidence on the practical possibility of relative decoupling, the possibility for absolute decoupling is debated and relies heavily on the introduction of innovations which are yet not available.

At regional level, growth can take place without additional use of resources not only through the introduction of new technologies, but also through structural adjustment and sectoral change, in particular by shifting from manufacturing industries (especially energy-intensive ones) to service activities (especially advanced ones).

Even according to most of its proponents, degrowth is an instrumental objective, since it has no value per se but is presented as a way to pursue the two objectives of environment protection (section 3.5) and quality of life (section 3.6). While the link with environment should already be clear, it is worth spending a few words about quality of life. Technologies enhancing labour productivity could translate, at a societal level, into larger wages or into lower working hours, or a mix of the two.³⁷ Reducing consumption, therefore, might allow workers to spend fewer hours on the job and increase their leisure time. The theories of degrowth, therefore, also often refer to the works of those who propose to replace GDP with other indicators including a larger definition of well-being (in the wave of [Stiglitz et al., 2009](#)).

The proponents of degrowth are usually also proposing it as a way to save future generations, in particular with the idea that there are given limits to growth and the use of the planet, and that we are already beyond them. In many cases, there is also a complementary political position towards interpersonal and international equity, as well as against capitalism, which are beyond the scope of this book.

Interventions to have viable degrowth could take place at the individual and the societal level. At the individual level with working fewer hours, repairing items, expanding home provisioning, etc. At a wider scale, by increasing local production, sharing, diffusing a culture by which there is satisfaction and self-limitation. This touches the idea of commons (see [chapter 2](#)) which are inefficient from a standard economic point of view but could be managed by communities that share the same values. Policies might be needed for these changes to take place, because, for example, working time management and relations might need public interventions and support would be needed for some weaker people.

There still are, however, clear advantages to growth, as it produces economic resources which can be used for people and societies (see section 3.3). For this reason, there is a large focus on how to achieve growth without incurring the limits and the crises which are foreseen by degrowth theories. Other ways are proposed to save the environment and improve quality of life which do not need to abandon growth altogether.³⁸ All these interventions should be considered as complementary and include changes in individual behaviour, such as favouring green consumption, adopting an environment-friendly lifestyle, etc., as well as larger-scale policy interventions such as the creation of carbon markets (e.g. the EU ETS). Innovation is considered by many as able to introduce new technologies which can increase both energy and carbon efficiencies. Related to this, there are the advancements in renewable energy sources and, still embryonic, techniques of geoengineering which should allow, for example, large-scale carbon sequestration. Successful green innovation, therefore, could be an alternative to degrowth to pursue the same objective of avoiding environmental crises (see [chapter 6](#) on the general characteristics of innovation and how to enhance it).

Degrowth, therefore, is still more a political than a policy objective, or, in the words of [Latouche \(2010, p.519\)](#) “a political slogan with theoretical implications”. In fact, the examples in which pilot policies of degrowth have actually been applied are not widely diffused and usually small scale due to experimentations in specific territories, although many related forms do exist, such as steady-state economies, slow cities, transition towns, etc.; in some cases, policies of adaptation to degrowth have also been put in place to cope with the effects of crises, but it is possible that these places might change focus should new growth opportunities arise ([Gibbs & O'Neill, 2017](#)). The other paradigm, that of decoupling, which does involve a much less radical transformation and looks at green growth to continue to grow but without consuming the environment (or even building on once-wasted resources), has instead entered the mainstream of national and regional policies and is now widely applied worldwide, in an effort to preserve the environment without renouncing the benefits of growth.

NOTES

1. [See](#) among others [Myrdal \(1957\)](#), [Norman \(1979\)](#), [Kaldor \(1970\)](#), [Hirschman \(1957\)](#).
2. [One](#) may also argue that economic disparities are those that are easier to measure and, therefore, easier to set policy objectives for but this is not completely true (see Box 3.1).
3. [Regional](#) GDP per capita also has two advantages over an alternative economic measure, the regional disposable income (RDI): it includes aspects which RDI ignores, such as investments and profits, and is not that dependent on government choices and priorities, since a redistributive tax system can narrow the disparities in RDI for the same level of economic activity ([McCann, 2020](#)).
4. [Many](#) studies point out different prices and inflation rates between regions, e.g. [Fielding & Shields \(2003\)](#), [Gluschenko \(2001\)](#), [Hearne \(2021\)](#), [Manzoli & Mocetti \(2019\)](#), [Fiaschi et al. \(2017\)](#).
5. [See](#) the definition of NUTS in Box 1.1 and the modifiable areal unit in section 7.8.2.
6. [A](#) good survey of the indicators of regional disparities is provided by [Ezcurra & Rodríguez-Pose \(2009\)](#).
7. [For](#) example, [Monfort \(2020\)](#) noted that convergence within the EU stopped with the global financial crisis of 2008 and did not resume in the pre-Covid years even if recovery was taking place.
8. [For](#) analyses and definitions of justice and spatial justice, and different conceptualisations thereof, see [Sen \(2009\)](#), [Storper \(2011\)](#), [Soja \(2010\)](#).
9. [These](#) indicators are also used to allocate EU regions to cohesion policy objectives (see Box 1.3).
10. [In](#) the years after the global financial crisis, some countries had a sovereign debt crisis, which prevented them from recovering, which also had consequences at regional level ([Di Caro & Fratesi, 2023](#); [Moro & Beker, 2016](#)).
11. [For](#) example, the social welfare function can reflect an utilitarian philosophy, which maximises the total social utility, or a Rawlsian philosophy, which only takes care of the worst-off members of society ([Hindriks & Myles, 2006](#)).
12. [This](#) is a traditional issue in regional science. A reader more interested in modelling will find it useful to read [Alexiadis \(2017\)](#), while one more interested in policies might be interested in [Camagni & Capello \(2015\)](#), [Mancha-Navarro & Garrido-Yserte](#)

[\(2008\)](#).

13. [See](#) chapter 7.
14. [Even](#) more recently, they are also increasingly used as a means to counteract crises and natural disasters.
15. [Being](#) a chapter on objectives, it is not relevant to discuss here the extent to which this ambitious double objective has been achieved in practice.
16. [See](#), for example, in the case of Sweden, [Andersson \(2005\)](#).
17. [See](#) chapter 2, [Higgins \(1988\)](#) and [Taylor and Wren \(1997\)](#).
18. [On](#) the trade-offs between sustainability and other policy objectives see [McCann & Soete \(2020\)](#).
19. [There](#) is also an Environmental Engel Curve, which relates household income to emissions, which should also have an inverted U-shape because richer households receive a larger utility from environmental quality. In many cases it appears instead that these curves are upward sloped, although with elasticity less than 1 and shifting downwards in time, which equals to lower pollutants for a given income ([Baudino, 2020](#); [Levinson & O'Brien, 2019](#))
20. [See](#) for example [Dinda \(2004\)](#), [Sarkodie & Strezov \(2019\)](#).
21. [For](#) a wide and practical analysis of sustainable urban development strategies, please refer to [Fioretti et al. \(2020\)](#).
22. [See](#) for example [Giannakis & Bruggeman \(2020\)](#), [Groot et al. \(2011\)](#), [Caro \(2014\)](#), [Cellini & Torrì \(2014\)](#), [Di Caro & Fratesi \(2023\)](#), [Fratesi & Perucca \(2018\)](#), R. [Martin & Sunley \(2013, 2015\)](#).
23. [See](#) for instance [Ascani et al. \(2021\)](#), [Bourdin et al. \(2021\)](#), [Paez et al. \(2020\)](#).
24. [The](#) empirical relevance of sectoral shift is debated since, according to [Ezcurra et al. \(2007\)](#), the industry mix contributed only in minor part to the dispersion of productivity among European regions in 1977–1999, while national and spatial, region-specific effects were more relevant.
25. [See](#) also the regional growth patterns in Box 3.3.
26. [In](#) fact, some sectors are larger than others in the world and in the countries.
27. [After](#) some seminal papers ([Frenken et al., 2007](#)), the concept of related variety has been at the core of a burgeoning literature in the past 15 years. See [Boschma \(2017\)](#) for a review and a research agenda.
28. [In](#) economics a good is rival when its consumption by someone is detrimental to the consumption of the same good by somebody else; therefore in this dimension [Camagni \(2009\)](#) put private assets on one side and public assets on the other.

29. Materiality is understood on a continuum which goes from tangible to intangible assets.
30. See among others [Morretta et al. \(2020\)](#), [Perucca \(2014\)](#), [Tóth \(2014\)](#), [Fratesi & Perucca \(2014, 2018\)](#).
31. See for example [Glaeser et al. \(2014\)](#), [Rodríguez-Pose & Fratesi \(2004\)](#), [Rodríguez-Pose & Vilalta-Bufi \(2005\)](#), [de la Fuente \(2003\)](#), etc.
32. See also chapter 2 on the effects of integration.
33. When an analysis of this type is performed at an urban level, the level of agglomeration normally coincides with the city size ([Richardson, 1978](#); [Camagni, 1998](#)). At regional level things are more complex, since measuring the level of agglomeration in a region is more complex and the total population of the region, total GDP, total employment or population density are all unsatisfactory proxies, while of course the level of agglomeration depends on them.
34. In this respect, there is a debate on the extent by which zoning in cities is negatively affecting the inequality issue or not ([Rodríguez-Pose & Storper, 2020](#)).
35. On degrowth, the reader can refer to [Latouche \(2010, 2020\)](#), [Kallis et al. \(2012\)](#), [Kallis \(2018\)](#), [Panzer-Krause, 2019](#), [Stuart et al. \(2021\)](#).
36. See <https://ourworldindata.org/grapher/energy-intensity?tab=table>, last accessed 01/2023.
37. This could also simply translate into higher rents and/or higher profits, in a society which detaches labour productivity from labour remuneration.
38. Although they are considered as risky and insufficient by degrowth proponents, see e.g. [Stuart et al. \(2021\)](#).

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PART B
THE IMPLEMENTATION OF REGIONAL POLICY

CHAPTER 4

The regional policy process and its governance

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4.1 INTRODUCTION

This chapter illustrates how regional policy is implemented, the actors involved, the governance models available and how to adopt a viable administrative process. It is organised as follows: first the policy cycle is introduced, since policies are defined and implemented in five different phases, each with its specific function. Then, since policies are designed and implemented by different actors, and their effects are on other actors, actors are presented with their different roles. Regional policies involve a number of aspects in which the behaviour of actors does not stem from perfect information and perfectly rational choices, so those behavioural aspects need to be understood, including imperfect information, asymmetric information and the need of leadership for good policy outcomes.

Regional policies can be implemented with different governance schemes, which are illustrated with the role of the different actors in them, especially in multilevel governance. Particularly important is what is known as administrative capacity. Its definition, role in regional development and ways to improve it are hence presented. The chapter concludes with a description of many possible challenges and trade-offs which the policymaker has to practically confront when building and implementing regional policy programmes.

4.2 THE POLICY CYCLE

In order to understand how regional policy works in practice, it is necessary to know what the policy cycle is. The policy cycle is relevant not only for regional policy but exists for public policies in general. The basic idea is that there is a cycle through which policies are first conceived, then developed and implemented, and, after the assessment of the results, further policies may be implemented, starting the cycle again.

There are various formulations of the policy cycle, which change slightly in terms of how the different phases are defined and how many stages are adopted.¹ However, most divide the policy cycle into five phases and that is the version used in this book.

Notice that the policy cycle is an archetype, helpful to understand reality but, at the same time, it does not perfectly fit with the actual reality of all policy situations. Some phases can be skipped, others grouped together, and the cycle interrupted before its completion. Finally, the loop can be reset at different stages.

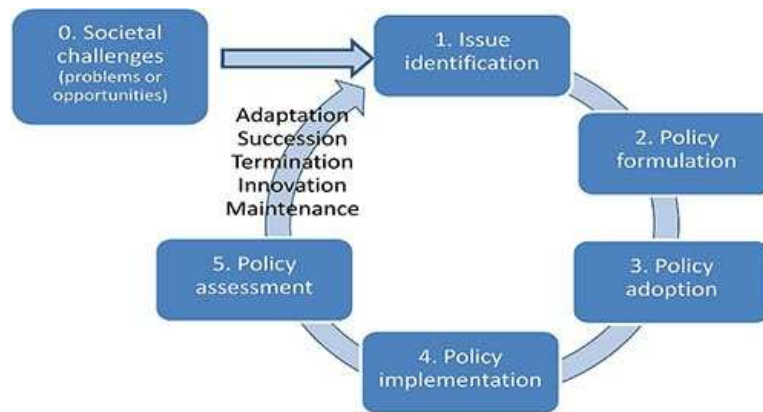


FIGURE 4.1 The policy cycle

Societal challenges, the general situation in which the policy will operate, form the basis of policy interventions. In most cases, the context in which a policy will be implemented is one in which there are problems that need to be addressed with policies. However, the existence of problems in itself is not enough to start the policy cycle. This requires recognition of these problems and that policies need to be implemented to tackle them.

Although most policies start from problems and challenges, policies can also be implemented to exploit opportunities. For example, local administrations may seek to implement policies to exploit funds which the state makes available for urban renovation, so that even if this was not considered to be a problem, it takes action to exploit the opportunity to improve the liveability of the city.

The policy cycle therefore starts with problems, challenges and opportunities and follows five phases ([Figure 4.1](#)):

1. **Issue identification.** The phase of issue identification is the one in which the challenges or opportunities are recognised by stakeholders and policymakers, leading to the decision that they are important and need to be addressed by policymaking. This phase includes the setting of the policy agenda, by which the political agenda is identified and decided. Sometimes this phase is called “problem definition” because the policy in most cases tackles societal problems, but it is preferable to talk about issues because policies are not only suitable to solve problems but to improve a situation when there is the opportunity to do so. In this phase, the intervention of experts and policymakers should not be

concerned with telling societies and the politicians who represent them what issues are most relevant (as this entails a political judgement of values) but to help a consistent set of values about issues emerge, which is not trivial (see also section 1.6.3).

2. **Policy formulation.** The second phase involves defining the policy and deciding how to implement it. This phase of policy formulation includes the definition of objectives but also the design of different policy alternatives which could be adopted to achieve these objectives. Sometimes, there is also room for policy testing, which means that the policy is applied at a small scale to test its effects before being implemented at the full scale. In this phase, there is also a discussion about which instruments and tools are most adequate and effective for achieving the policy objectives. Alternative strategies are formulated, which paves the way for the third phase. In this phase, the role of policymakers and advisors becomes more effective, since they normally have the technical knowledge required to understand whether certain politically desirable objectives are achievable or not.
3. **Policy adoption.** The third phase can also be called policy decision-making. In this phase, using the information from the policy formulation phase, those who are in charge of policy decisions take the decision to implement the policy, which is afterwards published in official documents. In democratic systems, the adoption comes from the electoral corpus either through a direct decision of elected representatives or indirectly by decisions taken by officers who respond to those elected representatives. The adoption, however, is also a very technical phase which can heavily influence the outcomes of the policy. Setting up “good” regulations, which are straightforward to understand, flexible enough to leave room for improvements in the process and rigid enough to prevent from fund diversion, is necessary to ensure the success of policies.
4. **Policy implementation.** All the previous phases are preliminary with respect to the actual implementation phase, which is the one in which the policy is really applied. In this phase, the policy instruments, which were considered in the formulation phase (phase 2) and decided in the adoption phase (phase 3), are finally put in practice. This means beginning infrastructural construction, calls for firms’ innovation support, providing training to unemployed persons, and so on, depending on the policy. The implementation phase can be long or short depending on the type of policy, but normally there is a deadline for any policy intervention. During this phase, persons with technical expertise are more important than those with political power, since the ways

in which the various measures are implemented benefits from specific expertise and may be messed up by politicians seeking to please their constituencies.

5. **Policy assessment.** The last phase of the policy cycle is the monitoring and evaluation of the policy, mostly in terms of results, so that it is possible to understand if the policy has achieved its objectives and whether the instruments implemented were fit for purpose. This way of defining policy assessment as something happening *ex post*, however, is rather simplistic as will become clear in [chapter 7](#) about evaluation. In fact, normally, evaluation should be undertaken at all phases of the policy cycle. In the most straightforward formulation of the policy cycle, however, this phase of assessment comes at the end to understand whether the policy achieved its objectives and, therefore, paves the way for the cycle to be restarted. In evaluation, the role of politicians should be nil, as good evaluation is fully impartial. Policies should therefore be assessed by competent and independent experts.

After the assessment phase there is room for new issue identification, which will be different from the previous round because the issues should hopefully be different after the implementation of the policy. In more detail, after the implementation and the assessment of the policy, there may be different options ([Dunn, 2018](#); [Hogwood & Peters, 1982](#)):

- **Termination.** The policy is terminated if it has been successful, since those issues which were originally identified and acknowledged as politically relevant are no longer present. The policy can also be terminated because it failed to achieve its objectives.
- **Adaptation.** If a policy has been partially successful or if the context in which the policy was implemented has changed, the policy may be adapted by continuing it in a different way, so that there is continuity, although in a different form.
- **Succession.** If a policy has not achieved its results, or the context has changed, there is the possibility of policy succession. This means that the original policy is replaced by another that targets the same objectives but takes a radically different approach. Policy succession usually requires new laws or new regulations to be decided. The cases of adaptation and succession are situations in which there is policy change, which means that new ways of policymaking replace those previously applied. If policy change is rather limited, we can consider it as an adjustment of the policy, whereas if the change is more radical, even if some elements of continuity are always present, we can consider it as a real succession.

- **Innovation.** When completely new policies are implemented, it is possible to talk about policy innovation, with the difference between policy innovation and policy succession being the fact that policy innovation starts from scratch, as opposed to policy succession, which includes the legacy of the previous policy at all stages of the policy process.
- **Maintenance.** This is the situation in which a policy is maintained with the same task definition. Policy maintenance can result from four different situations.
 - Inertia, when the policy is not assessed and challenged. This is not an explicit and conscious choice but rather the effect of a lack of action and consideration.
 - An explicit decision, because the policy is considered positively by those in charge of the decision or when there is no better alternative.
 - Failed policy termination, in which the policy results are poor but political mechanisms or interests prevent the policy from being terminated.
 - Failed policy succession, in which attempts to innovate and replace the policy fail due to political or practical problems.

4.3 THE ACTORS

The policy process in its various phases involves many actors that have different interests and goals, and are endowed with different resources. The actors that participate in the policy process are not easily defined and identifiable because there are many cases in which actors intervene although they are not actually entitled to do so. These include actors who intervene illegally in the process, for example those who corrupt public officials, as well as actors who legally intervene in the process but who were not originally expected to do so, such as citizen committees that rally against certain infrastructure projects.

There are also actors which are expected or even supposed to intervene according to norms and regulations, but that actually do not. For example, bureaucratic bodies and institutions which should act to protect certain interests but do not due to laziness, lack of resources or the influence of other, and sometimes vested, interests. There is then a potentially wide gap between what is stated in law and what is applied on the ground. The rules are the first step, but their implementation can take different directions based on what the various actors do successively. This may be a matter of government capacity (which will be analysed in section 4.6) but also a

matter of the behaviour of individual actors following their own interest or limits.

According to [Dente \(2014\)](#), those who decide not to intervene in the policy process even when they are entitled to do so are also actors, and, similarly, being a stakeholder is not a sufficient condition to also be an actor, because having an interest in an issue does not imply participation in the process. The situation is even more complex when considering collective actors because of the many cases in which those representing collective subjects take decisions which are not really representative of the collective they are assumed to represent. There are also many different cases in which the same individual has more than one identity or role, such as a minister who is also leader of a party or an elected representative of a certain constituency, or an elected representative who has at the same time a role within a certain business organisation or lobby.

The actors in the policy process are endowed with different types of resources. They have political resources, the amount of consensus they can gather for a certain policy; economic resources, the wealth they can use to influence the behaviour of other actors; legal resources, the advantages or disadvantages attributed to them by laws and regulations; finally, cognitive resources, the amount of information processed and the capability to elaborate them ([Dente, 2014](#)).

There may therefore be five different categories of actors within the policy process in general and the regional policy one as well ([Dente, 2014](#)):

- **Political actors** are those who intervene in the process based on a mandate – or claim – to represent citizens. Political actors therefore are those who should be able to gather consensus from voters and represent them in the process which leads to policy decisions. There are many different typologies of political actors involved in the regional policy processes, especially when it comes to different levels of decision-making, such as within multilevel governance (see section 4.5.2).
- **Bureaucratic actors** are those who intervene in the policy process based on the fact that the law or some regulation makes them responsible for certain phases of the policy process. Officers of a regional body may be in charge of certain facets of the implementation, but they may also be involved in the previous phases of policy design and identification of needs. Also in this case, these actors exist at different levels so there may be regional officers, national ones and also supra-national ones, such as those from the European Union or other supra-national bodies and organisations.
- There are then actors who represent **special interests**. These actors want to be involved in the policy process due to the fact that they

directly bear the costs or get the benefits of a specific policy. These can be, for example, the firms of a certain industry, or the citizens of a specific locality, or those living in close proximity to a planned infrastructural investment, etc. Normally, this kind of actor will pursue a maximisation of their own benefits and/or the minimisation of their own costs.

- There are also actors representing **general interests**, who claim to represent stakeholders that do not have the possibility to make their own voices heard. For example, actors who represent the defence of the environment, or who represent people who lack the resources to protect themselves.
- Finally, there are **experts**, who take their legitimacy from the fact that they possess knowledge about the issues to be addressed by the policy, and about how to best address these issues. One problem with expert actors is that they are sometimes in disagreement with one another because scientific knowledge is never complete, and different theories compete against one another. This may lead to conflict, which is different from that normally arising between actors representing different stakes. Expert actors are those whose role is presented in section 1.7.3 on the role of the policy advisor.

Most regional policy interventions are applied involving actors at different spatial scales, including the municipality, region, nation and, sometimes, international bodies. For this reason, there may be actors at different scales belonging to the same typology. For example, political actors could include a city mayor, regional representatives, a minister or national representative, and supra-national actors (such as European parliament members). The same holds true for the other categories of actors.

Within regional policy in particular, there are specific types of actors involved, which are helpful to outline here using the shared definitions published in the EVALSED sourcebook ([European Commission, 2013](#)).²

Beneficiaries are

a person or organisation directly affected by the intervention whether intended or unintended. Some people may be beneficiaries without necessarily belonging to the group targeted by the intervention. Similarly, the entire eligible group does not necessarily consist of beneficiaries.

([European Commission, 2013](#), p.94)

Indirect beneficiaries are related to the previous and are

a person, group of persons or organisation which has no direct contact with an intervention, but which is affected by it via direct beneficiaries (e.g. firms which have used technology

transfer networks set up by a public intervention to innovate).

([European Commission, 2013](#), p.104)

Target groups are

the intended beneficiaries (individuals, households, groups, firms) of an intervention. An intervention may have more than one target group. This term should be distinguished from 'population' in the statistical sense.

([European Commission, 2013](#), p.114)

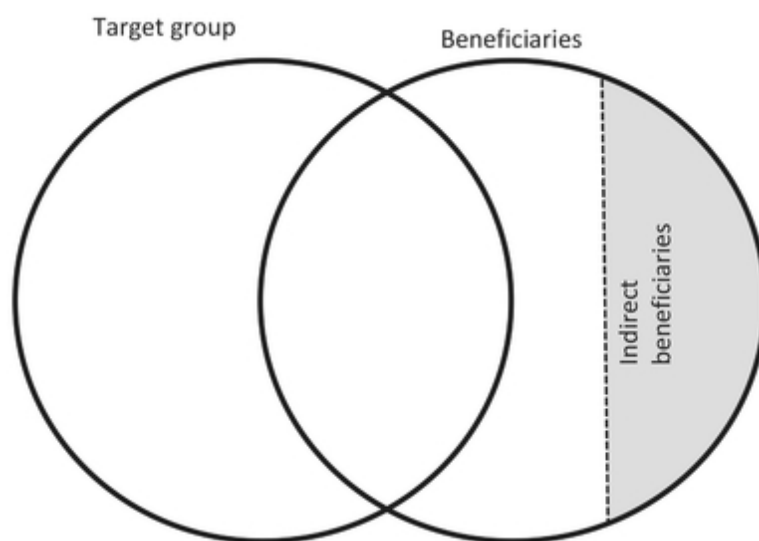


FIGURE 4.2 The beneficiaries of a policy intervention

The three definitions demonstrate that any regional policy intervention is only partially able to target its intended beneficiaries. It normally also ends up benefiting others, while in many cases not all the targeted beneficiaries are successfully reached (see [Figure 4.2](#)).

To make things more complex, in the jargon of EU regional policy projects, the **beneficiary of a project** is not the entity which is finally affected by the intervention, but:

a public or private body and, for the purposes of the EAFRD Regulation and of the EMFF Regulation only, a natural person, responsible for initiating or both initiating and implementing operations; in the context of State aid schemes, it is the body which receives the aid; and in the context of financial instruments, it means the body that implements the financial instrument or the fund of funds as appropriate.

(REGULATION (EU) No 1303/2013, Article 2, sub 10)

It is therefore important to bear in mind this distinction, between the *beneficiary of a project*, which is the entity receiving the funds and implementing operations in the project, and the *final beneficiary of the policy*, which is the entity which is actually affected by the intervention. They may coincide when the project is one which has as a target group physical persons, for example a project for the training of unemployed persons, or when the beneficiary is a firm, for example a project for the technological upgrade of small and medium enterprises, while they will not coincide in other cases, such as in the case of public works or the provision of public services.

The **funding authority** is the

public institution which helps to finance an intervention. By extension, the term funding authority is also used for people who intervene on behalf of these institutions in the evaluation process: European Commission desk officers, officials from a national ministry; elected representatives from a regional or local authority.

([European Commission, 2013](#), p.102)

Stakeholders are

individuals, groups or organisations with an interest in the evaluated intervention or in the evaluation itself, particularly: authorities who decided on and financed the intervention, managers, operators, and spokespersons of the publics concerned. [. . .] The notion of stakeholders can be extended much more widely. For example, in the case of an intervention which subsidises the creation of new hotels, the stakeholders can include the funding authorities/managers, the new hoteliers (direct beneficiaries), other professionals in tourism, former hoteliers facing competition from the assisted hotels, tourists, nature conservation associations and building contractors.

([European Commission, 2013](#), p.112)

As already mentioned, most regional policy initiatives take the form of projects, which involve various types of entities and subjects, of public, private and mixed nature, such as government bodies, firms, individuals, nonprofit institutions, associations, consortia, etc. When the financing takes place through a project, it is also helpful to distinguish between the following subjects.³

The **planning authority** is

the entity responsible for the decision to finance the project. It is generally a central or regional government body.

([European Commission, 2013](#), p.112)

The planning authority sometimes but not necessarily coincides with the funding authority, since for instance there are projects financed with national sources or the EU Cohesion Policy which are planned and managed by regional agencies.

The **implementing authority** is

the entity responsible for implementing the project.

([European Commission, 2013](#), p.112)

As an example, in the case of the Structural Funds 2007–2013, it corresponded to the “beneficiary” (Art. 2 of Regulation (EC) no. 1083/2006), namely the entity receiving the funding.⁴ For projects involving an actual beneficiary such as a physical person or a firm, this coincidence between beneficiary and implementing authority works quite well, even if there are indirect beneficiaries, as seen above. For other large-scale initiatives, such as infrastructural projects, it is more difficult to assume that the implementing authority, which may be a public institution in charge of managing the infrastructure, is actually the final beneficiary of the project, which instead is represented by the citizens using it.

The **executor**, is

the party that actually executes the project; in the case of public works, it is the entity awarded the contract and that actually executes the works; in the same way, for a project to purchase goods or services, the executor is the entity awarded the contract to provide the goods or service.

([European Commission, 2013](#), p.112)

Since regional policies are normally subject to evaluation, which is usually performed by independent bodies, the following two actors are also relevant (the role and mechanisms of evaluation will be presented in [chapter 7](#)).

The **commissioner** is the

person or organisation which decides to launch an evaluation. Commissioners have the advantage of making their priorities explicit by establishing a mandate. A commissioner will steer the work of an evaluation team either directly or through a multi-stakeholder steering group or other evaluation authority

set up for this purpose.

([European Commission, 2013](#), p.95)

Finally, **Evaluators** include the

people who perform the evaluation, usually in a team in complex programmes that require a mix of skills and competencies. Evaluators gather and interpret secondary data, collect primary data, carry out analyses and produces the evaluation report. They may be internal or external – vis-à-vis the commissioning body or programme managers. Evaluation teams may bring together a group of evaluators drawn from a single or several organisations (consortium).

([European Commission, 2013](#), p.100)

4.4 BEHAVIOURAL ASPECTS IN REGIONAL POLICY

In the policy process there are many possible issues arising from the fact that the actual behaviour of the agents involved in the process is significantly different from the theoretical, standardised and rational behaviour which is assumed in most traditional economic models. This difference stems from the fact that people do not always behave rationally, or in other cases do not have enough information or capacity to deal with the complexity of the world in which they are living.⁵ This leads to many situations which need to be considered by the policymakers if they want to fulfil the objectives of their policies. While it is obvious that the policy action is significantly harmed when the policymaker is following vested interests, this section is involved with behavioural issues affecting the behaviour and results of policymaking in cases where policymakers are benevolent. This means that, even without negligence or bad intentions, there is the possibility of government failures.

4.4.1 Imperfect information and bounded rationality

Agents in the policy process normally have limited information about the actual situation about which they have to make choices. Policymakers' knowledge of the region in which they operate may be substantial but will always be imperfect, being based on statistical data they were able to collect or read in a report and, to a large extent, on their experience in the field

based on known policy interventions, visits to firms and actors, and personal acquaintances.

Yet, all these sources of information are a simplification of reality because no policymaker will ever be able to know personally, for example, the situation of all firms of a given territory, even a small one. Moreover, this knowledge may be biased, because the sample parts of the region which are understood by the policymaker may not be really representative of the actual situation, for example because the policymaker is more easily in contact with firms that are more willing to participate in fact-finding projects, or with firms whose problematic situation requires public intervention.

In terms of stakeholders and citizen preferences, the knowledge possessed by a policymaker can only be limited and may be biased in favour of those citizens who are organised in vocal associations, compared to other citizens who are not organised and whose voices are more difficult to hear.

From a theoretical point of view, any policy decision is also based on models. In some cases, these models take the form of actual analytical models (see [chapter 7](#)), in many other cases, these models are more conceptual, based on the relationship between actions and results, i.e. they take the form of “mental models” which reside in the (informed) mind of the policymaker. Even in those cases in which analytical models are available, the results simulated in the model are generated under a certain number of assumptions and within a given interval of confidence (see [chapter 7](#)). It is therefore clear that any policymaker, when taking decisions about which interventions to implement, will operate following their best possible guess and will never be sure of the actual acceptance and results of the policy.

Beyond the issue of the lack of perfect information is the potentially limited capacity to process the available information. This is commonly defined as bounded rationality. Even when a person has abundant and unbiased information, it is not normally possible to process it all. This may be due to the limits of the human brain to retain a lot of information at the same time, and process it. However, this may also be due to limits in the amount of time available in which to take decisions.

Gathering information, in fact, may be a costly activity and this is true for individuals and policymakers alike. Individuals, for example, do not find it convenient to explore three supermarkets before deciding in which it is cheaper to buy a certain type of food. Policymakers may need to expend significant resources to investigate the actual situation of the region and the possible results of their policy interventions, which they do not normally have the time to do perfectly. These explorations may also be costly in terms of time because investigating the possible outcomes of a policy before its actual implementation, through research projects, may require months or even years. Implementing pilot policies may be helpful but normally entails the delay of the actual policy deployment.

As in many other cases in this book, we are confronted with a trade-off. On the one hand, a policymaker may want to implement the best possible policy decisions but, on the other hand, has to make choices quickly and without incurring high costs. Administrative teams are also limited in terms of staff so if more time and resources are spent analysing some parts of the policy strategy, less time and resources are left for other aspects.

The literature points out that many decisions are taken based on routines, where people react almost mechanically, without processing all the information available to them. Taking choices based on routines is not irrational, because in most cases they lead to satisfactory situations and significantly reduce the time and costs of decisions (see also [chapter 6](#)). Routines may however also be biased, and such bias may not be visible from inside. If biased, routines systemically lead to poor decisions. For example, a routine may give more weight to some pieces of information over others. People are in fact normally more influenced by aspects which they know better or by other aspects which are already well recognised.

As will also be seen in the chapter on innovation ([chapter 6](#)), most agents do not adopt a behaviour which is intended to bring the optimum result but aim at surpassing a certain threshold of satisfaction. This implies that a policymaker will almost never aim to implement the perfect policy but will be satisfied with implementing one that is effective and cost-efficient. For example, when a regional policy call is issued, the aim is officially to allocate all funds to the best possible beneficiaries, but it is normally considered a success when most of the funds are allocated and when most of the potential beneficiaries are reached.

4.4.2 Asymmetric information

A further impediment to regional policy implementation is the existence of asymmetric information between different agents involved in the policy process. Economists refer to this as a situation of principal agent, where the agent is the one who actually takes the action and the principal is the one for whom the action is taken. Normally, the agent knows much more about themselves and the action that they are taking than the principal.

In the case of regional policy, many actions pass through calls which involve private agents, such as firms. Think, for example, about a call which aims to increase the innovative efforts of local firms and hence finances the R&D investments of those firms able to successfully bid for funding. The public administration which issued the call is in this case the principal and the firms are the agents. Firms are more knowledgeable about their situation with respect to public administration, irrespective of how much information the call may require them to disclose about themselves. The public administration does not really know how viable the business of the firm is,

or if the firm is really seeking resources for additional growth or just because it needs money to remain operational. The policymaker also does not know if the investment to be made using public money is really an additional one, or if this investment would have been implemented anyway.⁶ In this case, the firm uses public funds to finance this research activity and diverts its own resources to other activities not covered by the call. Further, the actual potential returns of this innovation investment are difficult for the firm to forecast, let alone the public administration, which has even more limited information.

Asymmetric information also brings the risk of moral hazard, when an individual who is not monitored adopts dishonest behaviours or undesirable actions. For example, in the abovementioned example of firms bidding for research support, they may take the money to invest in innovation but then divert the same amount of money towards the distribution of dividends to shareholders, instead of actually increasing their investments. Moral hazard may also take place in administrations. For example, if a municipality knows that its debt will be supported by the national state, there is nothing to stop it spending more than its actual resources. This behaviour is not really different from the banks, which took a risky strategy before the 2007–2008 crisis because they considered themselves to be too big to fail and because the system could not afford to let them fail. Letting local administrations fail is, however, an existing practice, although it is more common in heavily decentralised, less interventionist countries, such as the US, while other countries, especially in Europe, tend to refinance their local bodies.

The case of principal agent also applies when there is a local body which operates with national resources. Local politicians in this case have little incentive to be efficient in the way they spend the money and may try to get as much as possible for their own constituencies and administrations, even if they could provide the same services by spending less.

The issue of asymmetric information also brings the problem of adverse selection, in which some agents refuse to participate in a certain transaction and those remaining are not the best ones. In regional policy this may lead, for example, to some firms to stay out of the actual calls and grants not because they would not be suitable, but because of the consequences of asymmetric information. This may even be worse in cases in which those remaining are not the ones which were the really targeted beneficiaries. Again, think about a call which is issued to provide money to firms in crisis for certain types of investments, which should lead to allowing them to relaunch. If this money was provided without the need to complete paperwork, all firms will apply and get funding, including those that do not need or deserve it. To solve this issue the administration may require a certain amount of paperwork to provide evidence of specific prerequisites. Producing this paperwork, however, is costly and many firms that need or deserve the policy relief may not apply because it becomes disadvantageous

to them after comparing the costs and the benefits. For example, cash-strapped firms might not be able to pay a consultancy to prepare their bid and hence would stay out of the call.

There are two ways to avoid situations of asymmetric information: signalling and screening. In the case of **signalling**, it is the agent who signals its good quality to the principal. In the case of **screening**, it is the principal who takes actions to monitor the quality of the agent. Most regional policies are enacted through bids and calls. Money is provided to firms which successfully bid to specific calls, or different types of public investment are compared and resources made available to localities presenting the best projects.

For calls which include firms, it is quite common to see that there are firms which were financed in previous rounds and which continue to successfully bid, because they have made the investment needed to do it successfully, which may include adding to their administrative structure some people really able to understand the calls, or to produce the actual documentation; when relevant certifications are required to respond to a call, these are normally also needed for other ones. It may therefore become difficult for firms which have not previously applied to enter the club of those participating in the policy-supported projects.

There is also asymmetric information between the electors (principal) and elected representatives (agents). This leads investments, following the push of politicians seeking re-election, tending to go with things which are highly visible, although not necessarily those that will be the most effective from an economic or social point of view. For example, there is often a bias towards infrastructural projects because they provide high and long-standing visibility, not limited to the inauguration on the opening day.

This can be pushed forward by “public choice” theories which study the choices of politicians and electors and in particular the former whose choices are unfortunately often not those communicated to the public but taken on the basis of self-interest instead of constituency benefits.

All this leads to government failures, which make policies ineffective or even detrimental. These negative actions of the government might be mitigated where there is a strong and attentive civil society, which helps provide better information to government and keeps representatives and policymakers accountable.

One important aspect to remember is that changing the behaviour of economic agents does not necessarily require large amounts of investment. Sometimes it is possible to just nudge² individuals or organisations to make them comply with the desirable behaviours (see also [Box 5.1](#) on the size of incentives). In some cases, it is also possible to nudge entire organisations by just nudging some specific key individuals inside them.

BOX 4.1 BEHAVIOURAL ISSUES IN REGIONAL POLICY PRACTICE

The behavioural aspects of governance have recently been studied in a number of different cases on regional policy but also other policies with results which are also relevant here. Based on a series of studies which focused on how to improve the implementation of policies using new findings including those coming from behavioural issues, a report from the [OECD \(2018\)](#) provides a number of significant lessons for policymaking.

First is that what works in one case may not work in another. For instance, the reactions of different individuals and organisations to the same stimuli are normally different, so there is the need for different types of interventions to achieve the same result under different conditions. It is very important to understand the causes of the observed problems, so that the intervention focuses on solving these ones instead of applying one-size-fits-all interventions. The latter, in fact, underestimate that there are many different regional characteristics, market conditions and institutional ones. It may therefore be helpful to have a greater flexibility in policy design and to explore the possibility of differentiated and asymmetric arrangements.

The second lesson concerns the paramount importance of capacity (which is discussed in section 4.6 of this chapter). Capacity includes skills and abilities, but can also include financial and institutional aspects, so there are cases in which there is poor performance due to capacity issues instead of lack of motivation. Capacity-building, however, is a difficult and slow process which takes time and repeated interactions because it is also a learning-by-doing process, which again cannot be the same for all types of regions.

The third lesson concerns the regulations, which may be too detailed (to reduce the risks of lack of trust), may use overly technical language or change too often. Of course, regulations are there to stimulate compliance but the costs which they involve may become excessive. Therefore, it is better not to rely exclusively on regulations but to make them as simple and stable as possible and try to strengthen dialogue and trust to align priorities.

The fourth lesson concerns the quality of relationships, a paramount determinant of policy success. There is the risk of underestimating the real effectiveness of building co-operation, relationships, dialogue and trust on policy outcomes. In this sense, it is helpful to engage stakeholders and avoid unilateral decisions. Moreover, the information feedbacks should be simple and transparent.

The fifth aspect is ownership. It has been demonstrated that when the local stakeholders feel they own the policy they are more involved, and the results are significantly better. Ownership is a process and as such it evolves over time and with repeated interactions. Moreover, it doesn't just concern the government, but the ownership of citizens is as important. To build ownership, it is possible to further it consistently by ensuring repeated interactions, mutual accountability, the alignment of incentives, instead of traditional controls so that, for example, the agreements on example conditions are built through bottom-up approaches. Furthermore, there is the need to gather the consensus of citizens and to do it by using soft interventions of persuasion and learning instead of hard rules.

The sixth aspect is clearly rooted in behavioural aspects and is the biases of people and organisations who often do not correctly estimate the actual incentives, nor efficiently use the available information. To reduce the effects of such biases, it is important to design mechanisms which take them into account and try to challenge communication problems, priority misalignments, etc. Again, a simplification of procedures and regulations is helpful as it represents a wise strategy of communicating and a good use of rewards and incentives.

Concerning the incentives, it is important to get them work in the right direction, for instance to avoid rewarding something if something else is expected, which is unfortunately not uncommon – for example when evaluations are too much procedural so that their incentives target the procedure instead of the actual results. In this sense, it is good to attach incentives to the policy outcomes (i.e. the general results in society) instead of just to the policy outputs (see [chapter 7](#)). The policymakers should therefore consider the incentives which are actually induced by their actions. Again, it may be helpful to encourage the ownership of incentives and develop these together with the bodies responsible for the implementation, so that there are partnerships and trust between the various stakeholders.

Regional policy should therefore begin with a clear idea of its desired outputs and outcomes, because in this way the policy goals may be built collectively including the various stakeholders, and a monitoring system can be developed which sets the right incentives in each step to achieve what is desirable. In this sense, it is helpful to be able to experiment with policies, with attempts of trials and testing which develop new knowledge and ensure that the implementation of pilot experiments allows for adjustments of existing policies through learning processes. However, this needs to be balanced with the continuity of norms, regulations and policies which brings some advantages itself, most notably, in behavioural terms, the reduced learning costs for the participants in the policy.

4.4.3 Leadership

Leadership is highly relevant for regional development and, consequently, for regional policy. There have been numerous academic and popular publications attempting to define or improve leadership. Put simply, leaders are those having the ability to guide others, who voluntarily follow them. A leader should not be confused with someone who holds power, since leadership stems from others' spontaneous recognition of the leader's capability to guide them to the best outcomes according to their shared objectives. People follow leaders because they trust and are motivated by them. There are many possible ways of explaining the relationship between leaders and their followers (e.g. innate characteristics, social mechanisms), which are beyond the scope of this book.

Any theory of leadership is intrinsically linked to processes of change, since it is especially in a changing and difficult environment that a leader is needed to provide guidance. A key context of change for this book is entrepreneurship which, as we will see in [chapters 5 and 6](#), requires characteristics that drive firms and economies to structural change and innovation, leading them out of an old way of doing things in order to grasp new and risky opportunities.

In traditional theories of leadership, a leader would always be at the helm but more recently it has been recognised that leadership is not just a characteristic of notable individuals (such as Mahatma Gandhi, Lech Wałęsa, Nelson Mandela and Steve Jobs) but something that can be pervasive inside organisations, since those at lower hierarchical levels can also induce positive change.

Leadership at the regional level is more of the second type, since:

leadership for regional economic development that is community-based and/or region-wide in its impact will not be based on traditional hierarchy relationships; rather it will be a collaborative relationship between local institutional actors – encompassing the public, private and community sectors – and it will be based on mutual trust and cooperation.

([Stimson et al., 2009](#), p.41)

There is not, in fact, a single person or even a single organisation able to lead a region and be followed by all its various people and actors. For this reason, regional leadership is mostly horizontal, stemming from the simultaneous presence of many individuals able to steer the economy and to create the conditions for collective action towards results which are beneficial for the community. The components or preconditions for effective

regional leadership can be found in the presence of:

1. Collaboration,
2. Trust, which facilitates collaboration,
3. Shared power,
4. Flexibility, which is necessary for innovation and change and,
5. Entrepreneurialism ([Stimson et al., 2009](#)).

Many successful regions are characterised by the presence of place leadership, which is the subject of a longstanding but currently burgeoning literature. This literature looks at the effects of leadership on urban and regional performance⁸ and through this it is evident that leadership brings positive consequences. This is especially the case when radical structural change is needed, such as during periods of economic crisis in which the alternatives are changing or failing. Place leadership is also concerned with finding visions of the future and developing the conditions through which these visions can be realised. It is therefore focused on achievements, with an evident long-term perspective in addition to being collaborative ([Beer & Clower, 2020](#)).

It is clear that place leadership, defined in this way, will not only impact regional economic performances but also increase the effectiveness of regional policies. Policies are usually concerned with structural change and the presence of leaders at various levels within public administration, firms, the rest of the economy and society will have a catalytic effect on the various steps of the policy process. For instance, multi-actor agency and interaction processes, especially the presence of leaders, influences the ability of smart specialisation strategies, which will be extensively presented in [chapter 6](#), to bring about the change intended ([Sotarauta, 2018](#)).

There is less evidence about how policies can stimulate leadership at regional and local levels but improving leadership could be worth pursuing to improve the development perspectives of regions. It seems that, instead of trying to improve the leadership capabilities of those who are already in the highest political or administrative positions, it may be more effective to provide the conditions by which local leadership can flourish, and new leaders may find their way towards positions of responsibility ([Beer & Clower, 2020](#)). The development of leadership is in fact a matter of resources as well as personal characteristics.

4.5 GOVERNMENT AND GOVERNANCE

4.5.1 Definitions and governance models

Government and governance are two different but related concepts essential to the mechanisms through which regional policies are implemented. In the most traditional setup, policies are implemented by a **government** which is in charge of policy decisions and implementation. The government would perform all the phases of the policy cycle, including understanding the issues which need to be tackled with policies.

There may be various types of government, and this can impact how regional policy is applied in different countries. [Balchin et al. \(1999\)](#) provide a classification of the ways in which different states address regional issues through different government and planning systems. At one extreme, there are classic unitary states, where decisions about regional policy are taken by central governments; at the opposite extreme, there are fully federal states, where the central power's legitimacy comes from the sovereign local bodies which compose the country. In the latter case the development policies of each state/region/canton are normally and obviously independent from the others. There are also three intermediate situations: unitary states devolving power to local authorities, unitary states devolving power to regions and regionalised unitary states.

The classification of different countries into these categories is not set forever, since institutional reforms are always happening, which may include the devolution of additional powers to regions and local authorities or, less often, a recentralisation of powers towards the central state.⁹ For example, the United Kingdom, which used to be a unitary state, changed its institutional setting after devolving a lot of power to Scotland after the referendum in 1997 and the following Scotland Act of 1998.¹⁰ A similar pattern towards decentralisation has been followed by Italy, which had regions already set in the post-World War II constitution (1948) but these entities were implemented and given power only in 1970, after the first election of regional governments. Later, the Italian state gave its regions exclusive power over a large number of issues via constitutional reform in 2001.

It is obvious that the way in which a national government is organised not only influences the way in which regional policy is implemented, but also the way in which it is conceived and designed. The fact is that government is not normally a single entity, but it is normally composed by a conglomerate of different actors. Also, inside the most centralised states, different ministries and bodies are in charge of different aspects which may affect or be affected by regional policies. Moreover, the government is certainly not the only actor which identifies challenges or opportunities and tries to influence the policies which tackle them. Any government intervention generates continuous interactions between many types of actors and stakeholders of a public, semi-public and private nature, at different levels. These actors generally have different abilities to mobilise and combine the

resources required to address societal challenges/opportunities, as seen in the previous sections.

For this reason, when speaking about regional policies, referring only to government is reductive and inadequate. Instead, it is necessary to speak about the **governance** of policies. In the context of territorial governance, the [OECD \(2001\)](#) defines governance as “the manner in which territories of a national state are administered and policies implemented, with particular reference to the distribution of roles and responsibilities among the different levels of government (supranational, national and sub-national) and the underlying processes of negotiation and consensus-building” (p.142).

Many other definitions of territorial governance exist, characterised by different extents of the following five characteristics, as taken from [Stead \(2013\)](#), p.145):

1. Vertical or horizontal coordination of policies and/or actors;
2. Participation and consensus-building among public and/or private actors;
3. Devolution of powers and/or resources to lower levels of decision-making;
4. Delivery of “territorial cohesion”;
5. Assessment of territorial impacts and development of territorial visions.

The difference between general governance and territorial governance is in some cases questionable, since any type of governance is concerned with a specific territory. However, characteristics 4 and 5 apply specifically to territorial governance, whereas the first three are common to governance in general ([Stead, 2013](#)).

There are two traditional governance situations which are useful to understand as archetypes, although they are currently rarely applied as such. These are the top-down and bottom-up governance models, which were mentioned in the first chapter. Top-down governance is when the authority of the central state is in charge of regional policy and hence the policies implemented in the different regions are not due to regional choices. A top-down governance model can be applied when the central state holds all the powers or when it assumes it has full information about what happens in the regions, or when the central government is the only one able to mobilise resources for regional development. There have been many cases of policies applied with a mostly top-down approach in the past, for example the Italian “Cassa per il Mezzogiorno” which was in charge of development policies for the lagging south of the country between 1950 and 1984. Many past interventions based on the top-down approach have been considered to have achieved suboptimal results, due to issues which will be clear later in this section.

On the opposite side, bottom-up governance is when agencies or bodies at the territorial level are in charge of regional development policies and act without the intervention of the central government (despite in some cases using national resources). This kind of governance is common in federal states where local authorities are fully in charge of their development policies and do not rely on the central government.

Top-down and bottom-up governance models, however, are both conceptually and, in most cases, practically limited as means to solve the problems of regions. Each of them has in fact advantages and disadvantages ([Table 4.1](#)).

Implementing regional policies following a top-down model has a number of advantages. The first of these is that the central government has normally more financial resources, especially with respect to lagging regions, which are normally poor and hence have limited resources of their own for development policies, whereas richer regions may levy taxes at a more significant level. Moreover, in many cases, the administrations of the central government have officials which are more competent technically, because they either have a higher level of instruction or more expertise, especially with respect to resource-stripped administrations of small or lagging regions. Being small, in this aspect, is a disadvantage because when the number of officials is lower the possibility for specialisation in specific technical aspects is lower. Finally, applying policies with a top-down approach has the advantage that, even when the policy is applied differentially in different places, it normally considers that interventions in one region can also have spillovers and effects in other places.

TABLE 4.1 advantages and disadvantages of top-down and bottom-up approaches

Model	Advantages	Disadvantages
Top-down governance model	Availability of more financial resources (especially for lagging regions).	Lack of specific knowledge of territories; difficult to implement customised policies.
	Central government officials often more specialised and competent technically.	Difficult to mobilise local resources.
	Lower problems of coordination between regions.	More difficult to get the backing of local populations.
Bottom-up governance model	Specific territorial knowledge.	Limited financial resources (especially in lagging regions).
	Mobilisation of local resources.	

Model	Advantages	Disadvantages
	Involvement of local civil society.	Local officials may be less specialised and technically competent.
	Embeddedness of policies.	No (or little) coordination between regions.

Top-down approaches also have a number of disadvantages. The first of these is that, from the centre, it is difficult to have a deep specific knowledge on the various territories, so it is difficult to apply real place-based policies which are able to exploit the local potential. Moreover, since top-down policies are normally set at the central government level, it is more difficult for them to mobilise local resources; on the one hand, there is less knowledge of which local resources are actually available, on the other hand, it is more difficult to get the backing of local populations and economic actors who will not feel empowered, and hence will normally not devote themselves to policies which they feel as coming from elsewhere.

The advantages and disadvantages of a bottom-up governance model are specular to those of the top-down model. A bottom-up governance policy model can get and use more specific territorial knowledge; additionally, it is able to mobilise local resources and involve the local civil society, which can make the difference between a successful and an unsuccessful strategy. The embeddedness of policies is, therefore, certainly much higher. On the other hand, however, a bottom-up governance may suffer from the fact that financial resources more rarely come from outside the region, because the central government could in theory provide resources for fully decentralised policies, but this is less likely. Bottom-up models may also suffer from the fact that the officials in local administrations can be less competent and specialised and, finally, will usually not include a coordination between the policy efforts of different regions, which may lead to forms of voluntary or involuntary competition.

Facing the advantages and disadvantages of each of these two models, most contemporary regional policies are applied with a third model which is called **multilevel governance** (MLG). There are many different types of multilevel governance schemes ([Cotella et al., 2021](#)), but they have in common the coordination between many different actors and stakeholders at different spatial and administrative levels, including actors from civil society and business.

The capacity for collaboration is key to the implementation of regional policy in general, and in multilevel governance schemes in particular. Coordination between government bodies can take place in two different ways ([Figure 4.3](#)):

- Vertical collaborations, by bodies at different spatial or administrative levels, e.g. region and municipality, or region and

state. This is helpful because each level has different knowledge and abilities and is responsible for different aspects of policy implementation. Vertical collaborations allow the systematic use of all the information available when making decisions.

- Horizontal collaborations, by bodies at the same spatial or administrative level, e.g. two or more regions or two or more municipalities. Horizontal collaboration is helpful for those policies whose effects are not delimited by the administrative boundary or for cases in which similar policies are to be applied in different but similar contexts, so that there is the possibility to learn from the experience of others.

Vertical and horizontal collaborations are not only needed between different government bodies but are also useful between other types of public and private stakeholders, including local committees, business agencies, labour unions, firms associations and also individual firms.

In most policy decisions, many different competences are needed in people with different backgrounds, so they require the creation of teams invested with all these competences. Teams also need to interact with other teams and with other experts – in some cases, those in different places can be the antenna on the ground, in the same way as sales managers can be helpful to orient the technicians involved in actual innovation within a firm. The role of different actors is fundamental and complex, and deserves to be considered in the next section.

4.5.2 The role of different actors in multilevel governance

Mult-level governance requires the cooperation and interaction of many types of actors. The [OECD \(2010\)](#) provided a systematic analysis of the regional development roles taken by the central governments of OECD countries. In particular, following the new framework (mentioned in section 1.7.2), the central government is less important than in the past in the delivering phase, while it remains important as a source of finance and coordination. The roles which are generally assumed by the central government are the following ([OECD, 2010](#); p.24):

- Facilitate consensus-building and coherence between regions and sectors including defining objectives, time frames and spatial horizons;
- Gather and analyse appropriate data and information and co-ordinate discussions and databases concerning needs and opportunities: facilitating dialogue among policy makers;
- Develop legal, fiscal and administrative frameworks: frameworks or “grand rules” which manage the complexity, plurality, and tangled

hierarchy characteristic of most modes of co-ordination;

- Serve as a “court of appeal” for disputes among sectors and regions: including taking political responsibility for the final decision, especially in the event of a governance failure;
- Seek to re-balance power differentials among sectors, regions, and levels of governments: for the proper functioning of the overall governance system, the national government can and should help weaker entities establish capacity building strategies (including training provided by the central government);
- Evaluate and monitor policy results: closing information gaps and improving the quality of decision making by actors at all levels of government.

There are three types of coordination which are relevant within a multilevel governance framework ([Figure 4.3](#)) and, among the roles for the central government, the ones related to coordination are especially relevant. Among the horizontal coordination at top level, the various [OECD \(2010\)](#) countries use for example the following mechanisms ([Figure 4.3A](#)):

- The creation of coordinating structures such as inter-ministerial committees and commissions.
- The establishment or restructuring of ministries and departments to create fully fledged ministries with broad responsibilities and powers that encompass traditionally separate sectors.
- Strategic planning and programming, including agreements, frameworks and instruments.
- The establishment of special units or agencies that provide planning and advisory support to help ensure policy coherence across sectors at the central level.

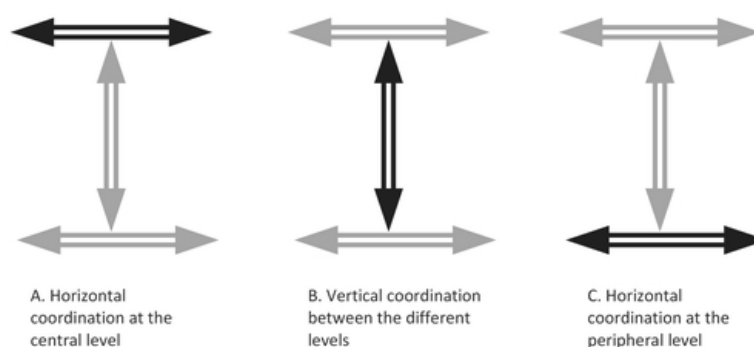


FIGURE 4.3 Three types of coordination within multilevel governance

- The establishment or presence of regional ministers, who are in charge of region-related issues.
- Territorial proofing mechanisms, i.e. mechanisms which monitor policies in order to prevent them from having negative impacts on

certain types of territories, which is more effective if done at an earlier stage of the policy deployment.

- Combining financing and/or creating a consistent and comprehensive budget, which includes the merging of the budgets of operations of many possible government branches of agencies which were previously in charge of related issues.

There are also mechanisms which can help the vertical collaboration between central and local governments ([Figure 4.3B](#)), by bridging some of the gaps which can characterise the interactions between the different actors of multilevel governance, in particular through the following initiatives ([OECD, 2010](#)):

- Negotiating contracts or agreements to commit delivery bodies to shared sets of targets.
- Delegating powers to sub-national levels within the context of national frameworks and planning systems.
- Deconcentrating national responsibilities to the sub-national level (often through the establishment of regional development agencies).¹¹
- Establishing joint participation in strategic coordinating committees and partnership groups.
- Taking advantage of the existence of a regional minister to coordinate activities.
- Setting targets, and establishing fiscal incentives, so that there is a reward for those local authorities which are able to attain the objectives set at the beginning of the policy process.
- Using the budgeting process to define development plans for different ministries whose actions can be relevant to regional policy.
- Establishing a central-regional programme team.

Finally, there are mechanisms for the coordination of actions by bodies and government agencies at the local level ([Figure 4.3C](#)), including at the municipal one ([OECD, 2010](#)):

- The establishment of regional/metropolitan governments, as a way to try and make the governance structure coincide with the economic ones (e.g. of functional urban areas).
- The amalgamation of municipalities, for example by merging municipalities, a practice common in many countries.
- The establishment of special district governments or inter-municipal joint authorities for specific or multiple purposes. Without actually merging municipalities, they can agree to coordinate on many themes and the provision of many different services, which can help achieving the required economies of scale.

- Platforms, associations or strategic planning partnerships, which are normally informal coordination bodies.
- Contracts of exchange of services (purely fiscal arrangements), whereby a local administration provides services to another, under a fee.

[Figure 4.4](#) presents an example on how different types of actors are usually involved through multilevel governance initiatives devoted to the same regional policy objectives, including co-financing the various initiatives.¹² This figure represents the sums in billion Euro which were

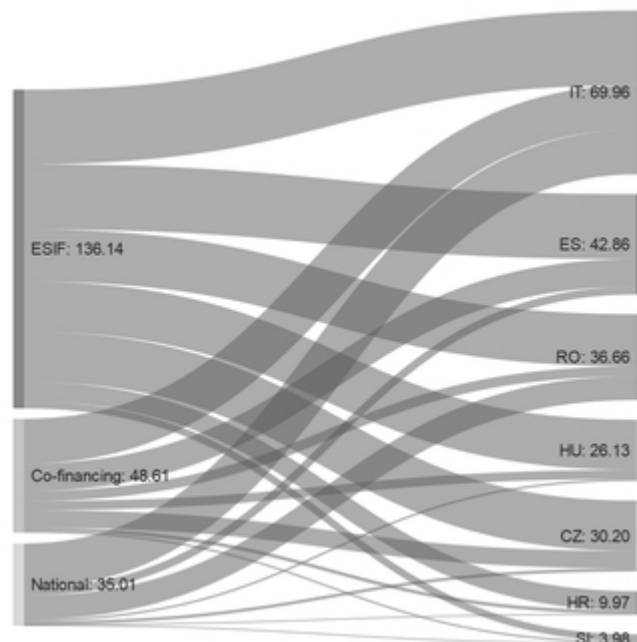


FIGURE 4.4 Who pays for regional policy? Public funds for the cohesion objective inside seven European countries Source: [Prognos & Technopolis \(2019\)](#); p.26) Note: Data in billion Euro.

made available inside seven EU countries for the reduction of regional disparities. As it can be seen from the figure, in all countries there were initiatives based on European resources (ESIFs), initiatives financed through national resources and initiatives co-financed by European and national sources. The proportion between these three is however different in the different countries so that, although the policy schemes available are similar, the actual use of one or the other is normally different in different places.

BOX 4.2 The process of definition of cohesion policies in Europe

EU cohesion policy (described in [Box 1.3](#)) has a complex and interesting scheme of multilevel governance which involves government at different layers. As for almost all EU policies, framework goals and measures are jointly set by EU institutions and Member States, then lower-level bodies are given autonomy to act but have to report and participate in reviews. ([Sabel & Zeitlin, 2008](#))

In particular, Cohesion Policy is defined every seven years through a long process, so that regulations usually come into effect only when the programming period has officially started. The initiative lies with the European Commission, but the draft provisions, before becoming effective, need to be approved by both the EU Parliament (elected by the citizens of the EU) and the EU Council (where the representatives of the country governments sit).

Cohesion Policy, in fact, comes within the Multi-Annual Financial Framework (MFF) which includes regulations on all other aspects, which implies that the discussion is quite complex and involves how large a budget the EU should have, what its priorities should be, how funds should be distributed among the different priorities (regional policy being only one of them) and, finally, how regional policy should be deployed. Moreover, different regional policy regulations induce different levels of funding in different countries and regions, so bargaining more or less informally considers these outcomes.

Once the rules are approved (the so-called Common Provisions Regulation (CPR), plus the regulations of the single funds), a document is produced for each country (called Partnership Agreement) detailing the strategy and objectives for the implementation of Cohesion Policy in that country in the programming period. Each partnership agreement has to be agreed between the respective national government and the EU Commission. After the Partnership Agreements have been approved, it is possible to proceed with the Operational Programmes, which are strategic documents detailing the strategy in specific countries, regions or aspects. These also need to be approved by the European Commission.

No Operational Programmes for programming period 2021–2027 were ready when this book chapter was finished (July 2022) but, to get an idea, for 2014–2020 there were dozens of them.¹³ In some countries they were by region (e.g. Belgium: OP Brussels Capital Region; OP Flanders; OP Wallonia), in other countries by theme (e.g. Romania: Competitiveness Operational Programme; Large Infrastructure Operational Programme; Operational Programme “SME initiative” Romania; Regional Operational Programme; Technical Assistance Operational Programme), in other countries with a mix of regional OPs and thematic national OPs (e.g. Italy: National Operational Programme

on Culture; National Operational Programme on Education; [. . .]; ROP Abruzzo ERDF; ROP Basilicata ERDF; [. . .]).

Within the framework of Operational Programmes, the actual policy measures can be undertaken, and projects can be financed. Due to this delay in the start of the actual policy implementation, allocated money can be spent after the official end of the programming period, for two or three additional years (n+2 or n+3 rules).

4.5.3 Involving civil society

In the last decades, with growing intensity, individual citizens and civil society organisations have been increasingly involved in regional policies, at different phases, from issue identification to policy formulation, policy adoption and policy implementation, while the involvement in policy assessment is lower, since citizens are often interviewed as policy beneficiaries but the knowledge coming from evaluation reports is rarely shared outside the insiders.

This leads to a participatory way of doing regional policies, where participation can have three different levels, from the most basic to the most advanced ([OECD 2017](#)):

- Information, the most basic, in which the relationship is one-way and the government disseminates information to the citizens. This can happen both on-demand, when citizens ask for that information, or in a more proactive way in which information is delivered by the government willing to disseminate it.
- Consultation, a more advanced way of allowing citizens to participate, since it is two-way. In this framework, there is the provision of information to citizens but also feedback on the outcomes of the processes. Citizens are therefore involved from the stage of issue identification, by being consulted, and then provide their view on the outcomes and achievements of the policy.
- Engagement, the most advanced participation mechanism, when opportunities are given to citizens and stakeholders to collaborate during all the phases of the policy cycle, and in the design and provision of public services. This is only possible when citizens and stakeholders are given the necessary resources, for example in terms of information, data and tools.

Involving the civil society has many different advantages, which can be grouped in two main groups ([OECD, 2016](#)): the first one is that of the “instrumental” benefits, i.e. those by which, with participation, policies can be more effective in delivering what is needed to citizens, because they are

better designed (thanks to more informed choices) and because they are better implemented thanks to the collaboration of citizens and civil society bodies. Consider also that citizens are often successfully involved in the co-production of public services ([Ostrom, 1996](#)). The instrumental benefits are related to the concept of ownership, since when stakeholders, beneficiaries and citizens in general feel they own the policies which are implemented in their region, they get involved, support the policy, nurture it, and the possibilities of success are significantly higher (see also [Box 4.1](#) and section 4.7).

The second type of advantage is that of “intrinsic” benefits, stemming from the fact that, through participation, the processes become more transparent, inclusive, legitimate and accountable. In this way democracy is strengthened, trust is enhanced and social cohesion is furthered. It has been shown that where the third sector is strong regional well-being is higher ([Terzo et al., 2023](#))

Involving the civil society is especially important in contexts where subsidiarity is valued. When subsidiarity is in place, in fact, this means that the citizens are left in charge of their affairs when they have enough resources to pursue them with success and, similarly, government levels closer to the citizens are chosen to address the issues which they are able to treat, while the government and upper government tiers’ roles are only to support the actions of citizens and lower-level bodies. In this way, in fact, people and local communities are involved in managing their own interests, with the underlying idea that they know what is good for them and that an external intervention is not the best way to achieve them. The principle of subsidiarity is therefore incompatible with a “paternalistic” view of government as a body who knows, better than the citizens themselves, what they need and deserve. Subsidiarity, however, does not mean *laissez-faire*, since the public sector, including upper government tiers, are not excluded from policymaking but actively intervene in all those cases in which the material and immaterial resources of people places and local governments are insufficient to achieve the personal and societal objectives.

An example of the principle of subsidiarity is that included in the treaties of the European Union, where it is stated that:

Under the principle of subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level.

(Article 5(3) of the Treaty of European Union)

In this context, the territorial level is increasingly recognised to be of paramount importance for the actual implementation of active subsidiarity ([Moodie et al., 2021](#)).

The involvement of the civil society is possible only if another principle is implemented, that of transparency (see [Addink, 2019](#)). This includes legal transparency (so that procedures, laws and decisions are known and clear), the predictability of decisions and the obligation to provide reasons for them; on the contrary, secrecy may lead to arbitrariness, inefficiency and corruption. Transparency helps build trust, consensus and accountability, although some are also evidencing that it can bring unintended effects such as the reduction of government effectiveness due to risk-adverse policy decision-makers. Transparency can come both from the government informing the citizens of what it's doing and from the possibility for citizens to request relevant information from the government. In this way, the bases are laid for accountability, which in regional policy can only come from good evaluation (see [chapter 7](#)).

4.6 THE IMPORTANCE OF ADMINISTRATIVE CAPACITY AND GOOD INSTITUTIONS

4.6.1 Defining and measuring administrative capacity

Administrative capacity is key to regional policy implementation in its various phases. The term capacity comes from the study of organisations and is generally referred to in the reports of international organisations as “the ability to perform functions, solve problems and set and achieve objectives” ([Fukuda-Parr et al., 2002](#); p.8).

In the context of organisational development, capacity includes many different aspects ([Kaplan, 2000](#)):

1. A conceptual framework, which is the basic prerequisite of everything since it represents the ability of the organisation to understand the world and its role within it. Even if neither the role nor the understanding are set in stone, it is impossible for an organisation to operate without these and an idea of which challenges it has to face.
2. The attitude of the organisation, which needs to exert control and believe in its capacity to affect the external situations.

3. Vision and strategy, which are those determining the direction and the “sense of purpose” (p.519)
4. The structure of the organisation, which only comes after all the above, because it assigns the roles, functions and processes inside the organisation. The structure should be devoted to the achievement of the vision and strategy.
5. Acquisition or improvement of the skills of the organisation, including those inside it. Without skills, nothing is possible because they are an integral part of the development of organisational attitude, vision and strategy.¹⁴
6. Finally comes the most tangible aspect of material resources, which may include any type of equipment, buildings, finances, etc.

Improving capacity hence includes many different aspects which have to be coordinated. Most are intangible, which is a radical paradigm shift from the earlier development policies of the 20th century which focused on providing material assistance to lagging regions.

Developing capacity is firstly an important objective at the national level. International organisations are assisting weak countries in developing their own capacity. The ways in which it is possible for an international body to help the development of capacity have been studied in many different situations and most notably by the Development Assistance Committee of the OECD. Section 4.6.3 presents ways to improve administrative capacity.

Conceptually, there was a gradual paradigm shift which led international organisations to move on from assistance to the development of capacity. Making specific reference to the United Nations Development Programme (UNDP), four phases followed each other chronologically ([Wignaraja, 2009](#); p.8):

1. “Development aid”, which stemmed from the assumption that developing countries (as they were then labelled) needed money and hence provided it in the form of grants. However, this approach brought problematic results because assisted countries found themselves dependent on foreign aid, indebted and with investments which focused on reporting more than results.
2. “Technical assistance”, based on the assumption that developing countries should model after developed ones, so foreign experts came in with the expertise to help this transition. This also had issues, especially because of the dependence on external expertise, which was not transferred to local people or institutions, and because this development modality was not really connected to the places in which it was intended to operate.
3. To solve these issues the next phase was the one of “technical cooperation”, in which developing countries were supposed to partner with developed ones with a greater emphasis on training

and knowledge transfer but this time based on beneficiary policy priorities. This approach improved local expertise but remained somehow dependent on external support.

4. The most recent phase is “capacity development”, in which developing countries should be in charge of their development process in all its phases, and own their policies, with a focus on empowerment and strengthening endogenous capacities. In this way, local development is embedded in local resources and addresses the most important issues with a transformative solution which should last in the long run.

This most recent conceptualisation of capacity is not only important within international development policies but also essential at regional level. It has been demonstrated that regional institutions have two key impacts:

1. The growth of regions because regions in which local institutions are stronger are better performing, on average.[15](#)
2. The impact of policies, because even policies which are financed by external bodies may have radically different results depending on the quality of regional institutions where they are implemented.[16](#)

The seventh cohesion report of the EU, for example, demonstrates that the way in which regulations are actually implemented is different and influences their effect on development; in this way, institutional capacity becomes an important determinant of the attainment of long-term policy objectives, including the implementation of structural reforms intended to boost growth and employment ([European Commission, 2017](#)).

Directly measuring government effectiveness is an impossible task but indicators have been developed to provide indirect measures based on government performance statistics and institutional perception of citizens. As in most regional development elements, both national and regional levels are relevant. The national one because many aspects related to government and institutions are homogeneous inside countries, starting from most laws and regulations. The regional one because it has been demonstrated that there are also sizeable regional variations in quality of government ([Charron et al., 2014](#)).

The most common measurement of institutional differences at national level is the World Bank’s World Governance Indicators (WGI). These indicators have been produced since 1996 and start from a wide definition of governance which refers to “the traditions and institutions by which authority in a country is exercised” and includes:

- (a) the process by which governments are selected, monitored and replaced;
- (b) the capacity of the government to effectively

formulate and implement sound policies; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them.

([Kaufmann et al., 2011](#); p.222)

As a consequence of this wide definition, these indicators cover the following six aspects of governance: voice and accountability; political stability and absence of violence; government effectiveness; regulatory quality; rule of law; control of corruption. These are currently available for over 200 countries.¹⁷

To extend and further enlarge this structure at the regional level, the Gothenburg Quality of Government Institute developed the European Quality of Government Index (EQI), which has so far been updated three times ([Charron et al., 2014](#), [2015](#), [2019](#)). The starting point is the use at the national level of four pillars of the WGI, i.e. control of corruption, government effectiveness, rule of law and voice and accountability. The index then uses survey data in European regions at NUTS2 level to present differences in the quality of institutions between regions inside the same countries. The EQI is hence built around three main pillars, namely quality, impartiality and corruption, with the latter including two separate sub-pillars of perception of corruption and experience of corruption.

With the use of this index, it is therefore possible to demonstrate regional difference within countries. The map of [Figure 4.5](#) represents the latest results of this type of analysis.¹⁸ It can be observed that there are important differences between European countries in terms of government quality, since it is clear that countries in northern Europe on average have higher levels (see for example Sweden, Finland, Denmark, but also Germany and the United Kingdom). Moreover, the quality of government is lower in countries which have experienced a relatively recent transition, as is evident in Bulgaria and Romania, and in Mediterranean countries. However, the map also shows that, inside the same country, there are important differences. These differences are, in many cases, in favour of metropolitan and richer regions but not always, and this is more evident for the capital regions (see for example the case of France).

Although these measures of administrative capacity are very diffused and commonly used in the analysis, it has to be remembered that they are proxies instead of perfect measures. In particular, they suffer from coming from surveys of citizen perceptions, which may lead to biases, in favour of those places where the situation is better in which the people are more positive also about their administrations, and against those places where the situation is worse and hence where even the best administrations face high obstacles to getting good results. This means that the EQI is a broad measure of government quality and does not capture administrative capacity specifically, as noted in [Polverari \(2020\)](#).

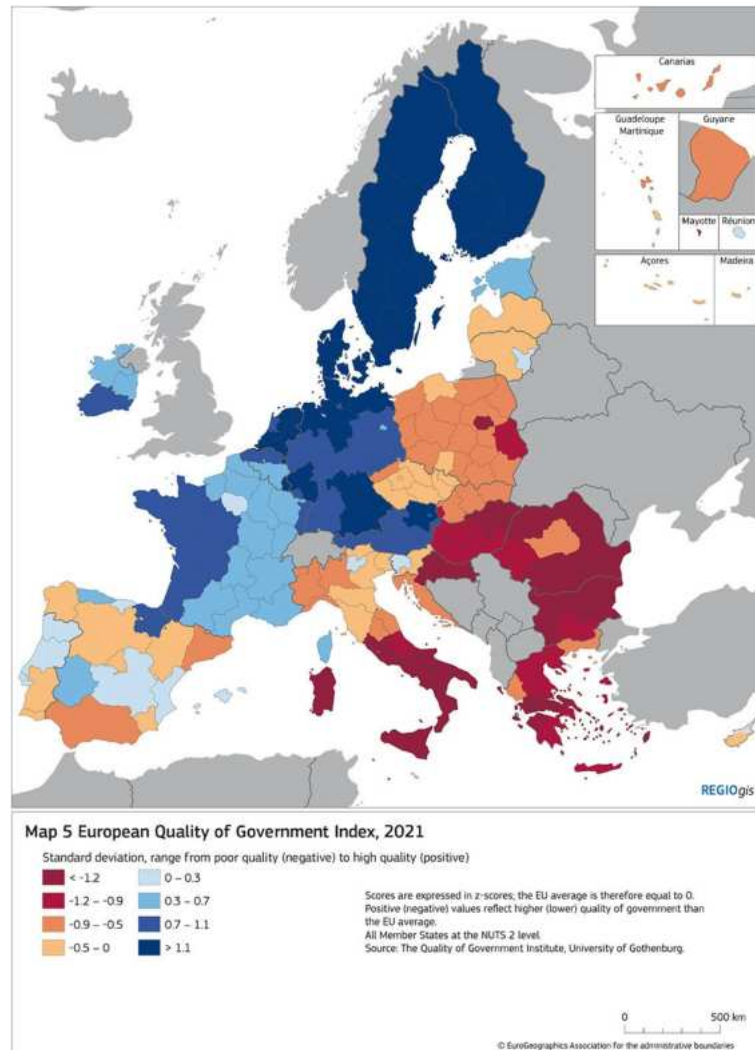


FIGURE 4.5 The quality of government of European regions Source: [European Commission \(2022, p.24\)](#)

4.6.2 Administrative capacity, regional policy and local development

There is a two-way relationship between administrative capacity and regional development (see [Figure 4.6](#)). This helps explain why those regions where administrative capacity is higher also usually have higher levels of economic development and vice versa.

The first link in this relationship, shown in the middle of [Figure 4.6](#), is the direct effect of administrative capacity on regional economic development. Economic wealth in a region is heavily dependent on the competitiveness of the firms which are located there, and on the attractiveness of firms from other places. Good administrative capacity allows firms to produce with lower costs, thanks to better public services and better administrative

procedures, which are growth enhancing. External and international firms also find it convenient to locate their investments in places where the administrative capacity is better because more efficient bureaucracy and lower levels of corruption mean less risky and more profitable investments.

There is a second link, by which local administrative capacity influences regional economic development and this link passes through regional policy (see the bottom of [Figure 4.6](#)). This link works through the following mechanisms:

- First, where administrative capacity is higher, local administrations are able to use all the funds available to them, whereas with lower levels of administrative capacity it is quite common for some external funding resources to remain unspent.
- Second, regions with good administrative capacity are able to produce better projects thanks to a more effective policy formulation phase; in this way, their strategies will include more impactful projects, and ones better targeted to the right beneficiaries, avoiding the scattergun approach which often characterises less effective administrations.
- Third, more effective regional government administrations will be able to better implement their projects, maximising their output.
- Finally, more effective regional governments will be more able to assess the impacts of their projects and hence to learn from them and improve the policies at the end of their cycle.

There is also a third link by which, in this case, economic development leads to a better quality of government (see the top of [Figure 4.6](#)). This link passes through two effects, one on the demand side and one on the supply side. The first is due to the fact that the actors in more developed areas normally expect and demand better and more sophisticated services from their public administrations. This pushes government bodies to improve the quality of their services and also puts political pressure on elected officials to deliver. The second effect is that, on the supply side, a local administration willing to provide public services in an economically advanced region can do it more effectively by exploiting synergies with more developed private services and with knowledge and competences already existing in the area.

4.6.3 Improving administrative capacity

It has been shown above that the quality of local government institutions varies between countries and between regions, and that this variation is relevant to development and to the effective implementation of policies. It is therefore unsurprising that many ways to assist and improve government capacity have been developed at international and interregional levels.

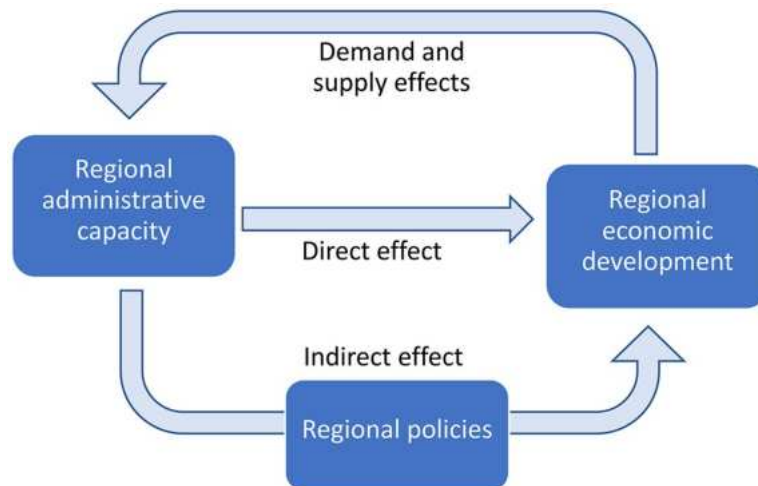


FIGURE 4.6 Relationship between administrative capacity, regional policy and local development

Some lessons from international relations are helpful in other contexts and are worth mentioning here because there are many key issues to consider when addressing capacity development ([DG NEAR, 2017](#)). First, capacity development is not only about individual organisational capabilities but is wider and includes the capacity of organisations to fulfil their mission, as well as the enabling environment ([Wignaraja, 2009](#)). Moreover, capacity is not to be confused with performance, because it involves the ability to mobilise resources, motivate, own policies and be accountable, which are much wider tasks with respect to performance under predefined deliverables. It is an endogenous and iterative process, in which organisations and people become better equipped to fulfil their mission, thanks to learning processes which require long-term iterative processes.

There are two forces which stimulate capacity-building, one pull factor coming from the context in which the institution is embedded, which includes the political, social and economic environment, and the stimuli coming from them. The push factor is on the contrary represented by externally supported interventions, whose quality can stimulate capacity development.

Two other aspects have to be considered. First, capacity development is not to be confused with training, although it includes it, because it also concerns the institutional setup and management which allows individuals to integrate new abilities, skills and knowledge. Second, it is important to appreciate that capacity development is typically nested in interventions, so that intervention stimulates capacity development and capacity development helps the intervention to be effective. The type of delegation, therefore, impacts policy, the effects of policies and also their capacity-building outcomes ([Polverari et al., 2022](#)).

There are also important lessons to be taken from attempts to improve the administrative capacity of regions. These usually involve upper bodies, that is the country to which the region belongs or, again, international entities such as the European Union. The latter operate in two main ways. The first is the provision of so-called “technical assistance”, by which bodies such as consultancy firms work alongside the local administration in the design, implementation and assessment of regional policies which involve EU funds. Technical assistance is also deemed to reduce the administrative burden for the beneficiary regions of ESIF funding. In this way, the processes are better managed because of the specific competence brought by the technical assistance, but at the same time the regions’ own administrative resources are still involved. Technical assistance, therefore, should not replace the regional administration because this, on the one hand, guarantees that policies are relevant to the actual place of implementation (because while the consultant has more technical knowledge, local agents have more contextualised knowledge) and, on the other hand, working alongside technical expertise improves the capacities of regional administrations.

In addition to technical assistance, the programming period 2014–2020 also introduced an 11th thematic objective which was called “Enhancing institutional capacity of public authorities and stakeholders and efficient public administration”. This objective was somehow transversal to the others, since an improvement of capacity is considered helpful to the achievement of all other policy objectives. In a sense this objective was also supposed to have a longer lasting effect, because if technical assistance was there to guarantee the best implementation of policies financed by ESIFs, the improvement of capacities under this thematic objective was supposed to provide a better government which would hence affect any policy, also those financed in other ways, and a long-lasting effect beyond the end of the programming period.

The 11th thematic objective is being discontinued in the programming period 2021–2027, but other mechanisms of support to administrative capacity will remain in place, transversal to the other objectives, including the technical assistance and the assistance initiatives by the single Member States ([The Committee of Regions, 2018](#)).

It needs to be remembered here that capacity building is a process characterised by learning-by-doing. Private actors improve their capacity by participating in calls and tenders and are normally better equipped for new calls if they participated in previous ones. The same is true for the capacity of local administrations, insofar as local stakeholders improve their capacity thanks to interactions with other levels of government, as the experience of the contracts between the state and the regions of France show ([OECD, 2018](#)).

4.6.4 Policy transfer and policy learning

Administrative capacity is not an intrinsic characteristic but one that evolves and improves over time. There are in fact learning processes by which even complex organisations such as regional administrations can improve their effectiveness. The policies mentioned in the previous section are concerned with the improvement of administrative capacity through technical assistance or devoted programmes, but administrative capacity can also improve with processes of learning. For example, learning can take place thanks to the interaction with better administrations at different spatial levels, such as when they are engaged in a multilevel governance scheme which, although devoted to a certain policy outcome, can also induce, as a positive by-product, the fact that the weaker administration is able to learn from the stronger one.

Learning mechanisms can also work across places at the same scale, and these processes may be spontaneous or driven by devoted policies. These policies, which are a common way of improving the design and effectiveness of regional policies and the capabilities of local policymakers, constitute what is normally called policy transfer. Policy learning mechanisms are usually localised because it is easier for policymakers to observe others in nearby jurisdictions and because it is easier for citizens to compare the provision of services in their region with the ones in neighbouring regions.

There are processes of “pure learning”, through which an administration copies good practices from other administrations in order to become more efficient, reduce the costs of provision of public services or provide better services; and there are processes of “competitive learning”, through which administrations compete with each other to attract mobile economic activities, such as firms, investments and taxpayers, by trying to provide better services than those in competing regions ([Ward & John, 2013](#)).

There are also processes of “yardstick competition” ([Shleifer, 1985](#); [Salmon, 2019](#)), by which the presence of efficient administrations nearby pushes up the level of local administrations due to a political effect. Local citizens, in fact, tend to assess the level of services provided in their own region or city with respect to the level provided in nearby jurisdictions (since they have less information about what happens further away). Politicians seeking re-election will therefore push local administrations to provide better services in order to avoid coming out as losers from these comparisons. As expected, all these effects tend to be mostly localised, as demonstrated in the empirical literature ([Ferraresi, 2019](#); [Santolini, 2020](#); [Ward & John, 2013](#))

Beyond learning and competition, there are two other mechanisms involved in policy transfer: mimicry and coercion ([Marsh & Sharman, 2009](#)). Mimicry depends on processes of emulation or socialisation, through which behaviours and models from other places or countries are imitated. Coercion is the mechanism by which politically strong states or institutions are able to determine or strongly influence the way in which policymaking is done in other places (e.g. international organisations such as the IMF or the World Bank; and the strong influence of the European Union on regional policies).

Coercion is not a single mechanism but a continuum of situations from the least to the most coercive. This scale starts from “lesson drawing” under conditions of perfect rationality, which is the least coercive situation. It moves to “lesson drawing” under bounded rationality; to “voluntary transfer”, which is determined by perceived necessity (e.g. a desire for external acceptance); to the setting of conditionalities, which are common, for example, in EU policymaking; and to a fully coercive transfer through direct imposition ([Dolowitz & Marsh, 2000](#)).

There are therefore many situations in which explicit policy transfer initiatives are implemented, more or less voluntarily, between regions of the same country, between regions belonging to the same supra-national entity (e.g. the EU), or between different countries.¹⁹

Looking at the success of these initiatives, there are many issues to be considered ([Dąbrowski et al., 2018b](#)):

- Institutions and administrative capacity, which are important determinants of the success of policy transfer initiatives. It is easier to transfer good practices to places where administrative capacity is already high than to force regions with weak administrative capacity to implement policies designed elsewhere.
- Problems in the transfer process, especially those related to information because there may be insufficient information on either side of the transfer, or insufficient information based on which practice is transferred.
- Unintended consequences of policy transfer initiatives, because even when they are effective in leading to policy change, they normally do it in a non-linear way, so that the result is different from the one expected (though not necessarily better or worse).
- Aspects and factors which affect the policy transfer, including the level of cultural affinity and the role of motivation, because there is more engagement when there is the perception of mutual gains between sender and recipient, and more embeddedness when the policy transfer initiatives are part of a wider strategic partnership.
- The importance of actual learning and adaptation to the context, because success of a policy transfer is not only in a perfect copy of

the original policy but in wider learning and capacity improvement.

These issues lead to a number of policy lessons ([Dąbrowski et al., 2018b](#)):

- The success of policy transfer initiatives depends on a large number of factors so it is helpful to include them in systemic policy transfer strategies, which incorporate a clear representation of the intended goals, the way of pursuing them, the actors involved at the different stages, the recipients and also the strategies for risk management.
- Learning is the main desirable outcome of policy transfer, even when there is not a concrete outcome in terms of transfer practices. For this reason, it is important to tailor the activities to the context and the needs of both sides of the process.
- The most important challenge lies in overcoming cultural differences. For this reason, it may be helpful to ensure the presence of transfer brokers, who may also be external to the administrations.
- The importance of political buy-in, because if there is not enough political support or if politicians do not really consider the policy transfer desirable, the odds of failure increase. It is therefore important to steer the initiative by making explicit its value to the actors and stakeholders.

In many cases policy learning is assumed to pass through the diffusion of so-called best practices, which are often presented as ways through which a different place can learn from the successes of another. However, as important as best practices can be, they need to be implemented carefully because they do not account for regional specificities and, in particular, the fact that there are different political and administrative cultures even inside relatively homogeneous places such as the European Union. Moreover, the willingness to produce best practices from all successful cases means there can be an overload of information for policy officials, reducing the actual practical impact ([Stead, 2012](#))

BOX 4.3 THE SWOT ANALYSIS

The SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis is a tool whose use is very common in regional policy strategy-building. Its origins are in the business sector and in studies in the 1960s and 1970s which identified two concurring aspects as important determinants of the success of a business strategy: one internal to the company, its strengths and weaknesses, for example in terms of competences and resources; and the other external to the company, in terms of opportunities and threats present in the markets, for example in terms of competitors, new markets, technologies, etc.²⁰

In regional policy, a SWOT analysis is in many cases included in strategic policy documents, to identify the strengths, weaknesses, opportunities and threats relevant to the region and to the strategy which is going to be pursued. In many cases, the SWOT analysis is used to see whether the objectives fit with the actual situation of the region, as well as to see how weaknesses and threats can be minimised by focusing on strengths and opportunities, therefore maximising the success likelihood of the strategy.

In other cases, however, the policy objectives themselves may come from the SWOT analysis, insofar as they concern maximising the opportunities available to the region and their strengths (see also section 4.7). The analysis, therefore, becomes a means to define policy strategies. The SWOT analysis can therefore refer to the specific strategy or to the regional economy altogether.

SWOT analysis is not an analytical tool per se (that is why, despite often being considered among the *ex ante* evaluation tools²¹ it is not presented in [chapter 7](#)) but usually consists of a list of the features falling under its four aspects. These features are developed on the basis of previous analysis.

A more advanced and common way of using SWOT analysis, instead of having four lists, is to have a two-by-two matrix in which the internal and the external aspects are jointly considered ([Table 4.2](#)). SWOT analysis can be used in this way in order to: (i) identify those elements that allow tapping into regional strengths to exploit external opportunities, for example the presence of existing green technological knowledge in a region which could allow the region to become a larger player when there is a global shift in this direction (see [chapters 3](#) and [6](#)); (ii) identify the ways in which regional strengths can be used to avoid or reduce the impact of external threats, for example the presence of a young and qualified workforce could be an asset that lessens the challenge arising from a fast technological evolution in those sectors where the region had a competitive advantage (see [chapters 5](#) and [6](#)); (iii) identify those regional weaknesses which

TABLE 4.2 SWOT analysis in a matrix

		External elements	
		Opportunities	Threats
Internal elements	Strengths	Elements that allow tapping into regional strengths to exploit opportunities	Elements on how regional strengths can be used to avoid or reduce the impact of
	Weaknesses		

External elements		
	Opportunities	Threats
		threats
Weaknesses	Elements on the weaknesses which could prevent the exploitation of opportunities	Elements on those regional weaknesses which make it more vulnerable to threats

could prevent the exploitation of opportunities, for example the lack of adequate broadband connectivity which could prevent a region from entering emerging markets for online services, despite having a qualified workforce (see [chapter 5](#)); (iv) identify those regional weaknesses which make it more vulnerable to threats, for example the lack of human capital and skills which can make it especially vulnerable to the appearance of new players on the global economic scene (see [chapter 5](#)).

Although the SWOT analysis is usually included in strategic policy documents, its relevance and impact on the actual success of the strategy may be different, depending on how it is implemented and how the whole strategy takes into consideration its results. Many issues can in fact hinder the usefulness of the SWOT analysis, for example ([European Commission, 2013](#); [Hill and Westbrook, 1997](#)): inserting overly long lists, without prioritisation; including ambiguous elements, which may be clear in the mind of those who did the SWOT analysis but can be read differently by the policymakers; including the same elements in different categories (because, for example, having a young workforce may both be a strength, due to higher flexibility, or a weakness, due to limited experience, and the prevailing effect depends on the context); listing items which are not supported by evidence or previous analysis, and are hence largely opinions; doing it without a clear mind about the strategy and its objectives, so that the SWOT analysis and the strategy remain unrelated.

4.7 ISSUES IN STRATEGY-BUILDING AND POLICY IMPLEMENTATION

In the policy adoption phase, strategic documents are usually produced which normally include the main objectives of the plan, those defined in the

policy formulation phase, the funding priorities, i.e. the priorities of the programme which are substantiated by committing funds to them and, finally, the expected impacts which the programme is designed to achieve, to allow for accountability and evaluation.

In practice, these strategic documents also include other aspects. Often, their first part includes an analysis, i.e. the identification of what the regional situation is and what may happen (which can be considered as the outcome of the issue identification phase of the policy cycle). There is also usually a part on the vision, which is what the strategy aims to pursue, i.e. what the policymakers and stakeholders want, and also the identification of the possible actions which can be implemented (this is mostly the outcome of the policy formulation phase). To complement and provide support to them, often a SWOT (Strengths Weaknesses Opportunities and Threats) analysis²² is included. In most cases, only after these aspects are considered, there is the actual strategy which is what the policymakers and stakeholders can and plan to do, i.e. the actual actions which will be implemented to pursue the stated objectives (i.e. the policy adoption itself).

Building a regional development strategy is not an easy task, nor it is a straightforward one, since there are a significant number of dilemmas to be solved ([Gorzalak, 2008](#); p.217–222).²³

Whose strategy is it?

This includes the owner of strategy (the actors with the privilege and responsibility for policy decisions) and those who will bear the consequences of the actions. A strategy can be owned by the authorities that implement it (normally the regional government) but in most cases it can also be owned by a larger number of stakeholders, including other public and private actors inside the regions. A larger ownership is preferable in terms of the empowerment of more endogenous forces, but is also “fuzzier”, because shared responsibility means there is no one party responsible for success or failure, which reduces commitment.

How broad is the strategy?

Regional development strategies may intersect the interests of many different actors and agents. Involving them in the strategies is beneficial (see above) but increases the risk of having different agendas with different purposes on the same table. Including additional objectives may be risky because the government authority in charge of the strategy implementation may find that there are insufficient resources to pursue these additional objectives. As in the previous point, therefore, there is a need to find a

balance.

Vision and SWOT analysis: which one should come first?

In many policy documents, the SWOT analysis is the beginning of the process to identify opportunities but it needs to be driven by a vision. If the vision comes after the SWOT analysis, the risk is that the vision will be conservative and incremental, because it only looks at the opportunities identified in the analysis and loses the imaginative aspect of a desirable future regional situation. The vision should not be unrealistic, but to really be a vision it should, at least conceptually, precede the analysis.

How many strategic goals?

It is normal and helpful if the strategy includes more than one goal, especially if it aims to start a systemic development process. However, there are risks associated with adding too many objectives. First, it is practically impossible to achieve too many objectives at the same time. This is because they risk being conflicting, and as a consequence, requiring trade-offs. Moreover, having too many objectives is also a risk from a cognitive and informational point of view, because too many objectives are difficult to retain in memory and to interpret. It is therefore best to limit the number of primary objectives and to make them bold, avoiding more routine aims which are present by definition in all regional strategies.

Social needs or growth?

There is a possible trade-off between equity and efficiency even in the regional development strategy of a single region. In fact, these strategies can explicitly pursue development or growth objectives, or they can focus more on social conditions and distribution. In lagging regions, it is difficult to focus on social objectives without first pursuing a sufficient level of economic development. The most important thing in this case is to consider any possible trade-offs and ensure these trade-offs are explicitly presented, so that the strategy includes both the gains and the costs which are necessary to get them. The regional situation in terms of social and economic conditions should guide policymakers in finding the best balance between different objectives.

Politicians and experts or broad and social participation?

Regional development strategies used to be developed by politicians and expert advisors, but now often involve much wider participation of the society, including residents, firms, representative bodies, associations, etc. There are pros and cons to each choice. The former has the limit of a weaker mobilising power, in that the strategy is less well supported by local agents who may perceive it as authoritarian. However, this centralised approach also brings two main advantages, one is that a strategy developed in this way achieves greater internal coherence and, second, may be more growth-oriented thanks to the contribution of experts and an objective view of the regional potentials. The participation approach, on the other hand, mobilises the resources of local civil society but risks a poor internal strategy coherence, because too many objectives are added and there may be (internal) conflicts. It is therefore important to find an equilibrium between trying to pursue as much as possible in line with the wishes of local stakeholders and the technical expertise about what is really achievable, and how it can be achieved.

In policy design, there are also additional lessons to be drawn from the experience of policymakers in charge of regional development strategies ([Fenu, 2021](#)).

One message concerns the advantages of integrating the different policies and looking for strategies instead of having many different policies with each one in charge of some specific aspect. For instance, the policies for research and innovation can benefit from integration with policies which target the labour market, for example research policies that would bring the incentive or obligation to hire new workers with specific qualifications. Integration may also be helpful to bring together the efforts of research centres and universities in stable but lean structures, sometimes labelled poles. Moreover, it is important to coordinate interventions decided by the state with those autonomously programmed by regions in order to exploit synergies. This also avoids overlaps and conflicting objectives. This is also helpful because region and state may be in charge of different policies which may help each other in fulfilling their objectives.

Developing policy programmes can also be difficult and time-consuming, especially for complex and large policy interventions. As a consequence, if a regional administration waits for the actual provision of funds to start programming, it may end up delaying its interventions considerably. It is therefore best practice to start programming interventions even before the actual policy agreements are set. This is common in European regions, that did not wait for the completion of the agreement for the 2021–2027 Cohesion Policy framework to start thinking and programming the interventions they were going to implement in that period.

Problems with timing are also present in cases in which multilevel governance includes many different actors, especially at different (local)

levels. This provides the opportunity to hear and qualify the actual territorial needs but at the same time normally expands the time needed for the policy decisions and implementation.

Within the strategies of intervention there are a number of choices which need to be taken, finding a good equilibrium between aspects which are all theoretically positive and need to be balanced.

The size of investments: large or small?

There are advantages and disadvantages to having large investments within the strategy or, on the contrary, to implementing smaller ones. For the same level of total funding, when a call funds large projects it involves, by definition, a smaller number of beneficiaries so that there are processes of specialisation in the managing of projects and, thanks to the larger size, there are pull effects. Moreover, larger projects are easier to communicate and make evident to citizens. Smaller projects, on the other hand, by definition guarantee a larger number of beneficiaries and hence also a larger territorial diffusion of interventions. Moreover, these normally have shorter completion times which makes it easier to reorient resources which have not been used. Large projects, in fact, require a long time to be implemented and may hence be incompatible with the timing of a programming. Small projects, finally, are more difficult and costly to monitor and may miss the concentration of resources required to overcome thresholds and achieve change.

Concentration or diffusion of measures?

Regional development strategies may involve measures which are particularly concentrated, especially at sectoral level, alongside measures which have a universal reach. These are (as will be seen in [chapters 5](#) and [6](#)) vertical versus horizontal measures. Both have pros and cons since vertical measures are normally able to achieve the necessary critical mass but may be ineffective without a strong background in which to operate which is guaranteed by horizontal measures. Moreover, vertical measures may be riskier with respect to conjunctural situations, as is also explained in [Box 3.4](#) when discussing specialisation and diversification.

Simplification of procedures or better control?

The process of selection of projects may be simplified or may be more complex in order to pick up the best projects and guarantee the quality of the

results. Both approaches have their advantages. If the procedure is simple the selection of projects is quicker and allows for the evolution of markets and societies, and their needs. On the other hand, complex procedures may be helpful because they should, in theory, be able to better select good projects. It is possible to improve the situation within this trade-off through improvements in administrative capacity, because a better administration can produce simpler procedures which still guarantee a good selection of projects. Conversely, an inefficient administration will produce cumbersome procedures without the guarantee of actually selecting good projects at the end.

Spending fast or well?

The managing authorities of regional development programmes are normally put under pressure to spend their resource allocation without delays. There are often mechanisms of decommitment for administrations which are not able to spend quickly enough and rewards for those who are effective in spending, for example in regulations including decommitment for the slow and premia for the fast. As a consequence of these mechanisms, fast spending is recommended because it allows regions to have more resources. Being able to spend fast is also sometimes used as a proxy for regional administrative capacity. However, the risk with this pressure is regions will be less rigorous in the selection of interventions and projects, so an equilibrium is needed. Spending quickly is normally negative in terms of quality of expenditure because the policymaker, facing the incentive to spend rapidly, cannot keep control of the quality of expenditure. Again, local administrative capacity is important in this case because more efficient administrations could spend faster on a given quality of projects or better for a given speed.

Continuity or discontinuity?

There are advantages and disadvantages in maintaining the same types of interventions over time. Continuity has the advantage of using well-established routines, which makes these interventions more effective. At the same time, however, continuity has two risks: the first is inherently linked to path dependency as it is difficult to abandon old ways of doing things even if these are no longer adequate. The second is the risk of saturation, because once a lot of resources have been spent on the same thing, the economy may not be able to absorb them and may see decreasing returns.

Many or few beneficiaries?

Normally, having a large number of beneficiaries is considered good for regional policies because they are supposed to help as many as possible. However, there are problems with the specific capacity of beneficiaries to really benefit. Most funding takes place through calls and, even when call procedures have been simplified, there are mechanisms that need to be learned and that require a minimum level of fixed costs for participation. These fixed costs are especially relevant for small enterprises, while they can be more easily managed by larger firms that participate in more projects. Firms that have already applied in the past may be better able to apply later thanks to their prior experience. This implies some inertia in beneficiaries which, on the one hand, is negative because it is a barrier between insiders and outsiders but, on the other hand, it also brings efficiency to the application process and the allocation of funds.

Territoriality vs administrative capacity?

Implementing projects at a small spatial scale, for example the municipality, makes it easier to target specific territories. However, small administrative units are often poorly endowed with administrative capacity, for instance because administrators have many functions and cannot be specialised in all of them. As a consequence, the central administration has more administrative capacity but less local knowledge. As seen earlier in the chapter, this trade-off can be limited in the following two ways: if the central administration invests in the administrative capacity of the local administration or with the joint managing of projects. This also brings difficulties with technical assistance, when implemented in weak, small administrations. In these cases, technical assistance risks replacing local policymakers, which jeopardises the territoriality of the policy because decisions end up being top-down.

NOTES

1. [The](#) reader can for example find good discussions of the policy cycle, with slightly different nuances but many similarities, in [Anderson \(2011\)](#), [Bekkers et al. \(2017\)](#), [Dunn \(2018\)](#), [Tsoukias et al. \(2013\)](#), [Knoepfel et al. \(2007\)](#).

2. [EVALSED](#) was a project by the European Commission to provide online resources providing guidance on the evaluation of socioeconomic development, formed by a guide and a sourcebook. See https://ec.europa.eu/regional_policy/en/information/publications/evaluations-guidance-documents/2013/evalsed-the-resource-for-the-evaluation-of-socio-economic-development-evaluation-guide
3. See <https://opencoesione.gov.it/en/faq/#!cosa-si-intende-soggetto-opencoesione>, website last consulted on 26 March 2021.
4. [As](#) stated by OpenCoesione, “the implementing authority may in turn use other entities in implementing the project, but under the rules of the 2007–2013 cycle, these are not necessarily tracked in the monitoring system”.
5. [These](#) issues are studied in the field of behavioural economics. See [Baddeley \(2017\)](#) for an extended introduction to most concepts.
6. [We](#) assume here that the public incentive is needed when the internal return is lower than the cost and the total societal return is higher than the cost, whereas when the internal return is higher than the total cost a firm would entail the investment in any case.
7. [The](#) use of this term in this meaning has been developed outside regional economics, studied and made famous especially by the work of Nobel Prize winner Richard Thaler (see for a non-technical account [Thaler & Sunstein, 2008](#)).
8. See among others [Beer et al. \(2019\)](#), [Judd & Parkinson \(1990\)](#), [Merkaj et al. \(2020\)](#), [Sotarauta \(2016\)](#), [Sotarauta et al. \(2017\)](#), [Sotarauta & Beer\(2017\)](#).
9. [A](#) report by the [OECD \(2019\)](#) shows that decentralisation has been diffused in the past 50 years, which can lead to efficiency and democratisation but also, in those cases in which decentralisation has been dysfunctional, to discontent and crisis.
10. [This](#) was further reinforced with the 2016 Scotland Act by which the UK government devolved additional powers to Scotland.
11. [On](#) regional development agencies there is an old but detailed account in [Halkier et al. \(1998\)](#)
12. [A](#) case of multilevel governance is the one of Italian inner areas ([Lucatelli, 2015](#)), described in chapter 8.
13. [All](#) available at https://ec.europa.eu/regional_policy/en/atlas/programmes in July 2022.
14. [Wu et al. \(2015\)](#) define policy capacity as the “competencies and capabilities important to policymaking”, and provide a classification of them.
15. [This](#) has been demonstrated, for example, by [Rodríguez-Pose & Ketterer \(2020\)](#).

16. This has been demonstrated, for example, by [Crescenzi et al. \(2016\)](#), [Rodríguez-Pose & Garcilazo \(2015\)](#), [Bianchini et al. \(2019\)](#), [Bachtroegler et al. \(2022\)](#).
17. Currently, the indicators and related documentation are freely available at <https://info.worldbank.org/governance/wgi/>
18. Currently, all the indicators and documentation are freely available at www.gu.se/en/quality-government/qog-data/data-downloads/european-quality-of-government-index
19. See for example [Dąbrowski et al. \(2018a\)](#) on the experiences between the EU and China and Brazil.
20. See for example [Andrews \(1971\)](#).
21. See, e.g. [European Commission \(2013\)](#) and [European Investment Bank \(2016\)](#).
22. The SWOT analysis is a traditional analysis instrument which is used in many different fields, including business analysis and regional policy (see Box 4.3).
23. While the presented trade-offs are those coming from [Gorzalak \(2008\)](#), the solution to these has been amended to reflect the opinions of the author of this book.

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CHAPTER 5

The instruments of regional policy

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5.1 INTRODUCTION

Regional policies require particular tools, or “instruments”, which can be used to pursue their objectives. Before illustrating the various instruments available, it is useful to remember some general rules which apply throughout.

First, there are various instruments, but they are not interchangeable because each is suited to specific situations and objectives. Even when the final objective is the same (e.g. to increase the employment rate of lagging regions) different instruments should be used depending on the causes of economic disadvantage and regional issues in general.

Second, the number of instruments required depends on the number of objectives. It is not normally possible to achieve different objectives with the same instrument. On the contrary, more than one policy instrument may be necessary to achieve a single objective. In fact, regional development usually involves the coordinated use of many instruments in an integrated, complementary framework.

In modern development theories no instrument is really effective by itself, unless it is designed to close a specific gap or bottleneck in one single aspect of the regional socioeconomic system, which is quite rare since regional issues are usually interconnected, and several weaknesses are present at the same time. This implies that regional development strategies are usually a wise mix of different instruments, i.e. policy bundles, used in an integrated framework where they complement each other in filling the gaps and in providing a good complementarity with regional strengths.

Third, the effectiveness of an instrument is not guaranteed but depends on many conditions: the way in which it is implemented (e.g. good administrative capacity normally implies more effective implementation), the context in which it is implemented (since the reaction of a regional economy to a certain instrument depends on the local situation and agents), the timing and timeliness (since the same instrument can bring better or worse results depending on whether it is applied at the right time).

The various instruments available to the policymakers fall into different categories. Some are essentially “soft” and target immaterial assets; others are “hard” and target material assets. Some have been in use for a long time; others are newer – indeed some of the more traditional instruments are now seldom used since they have recognised drawbacks.

This chapter first illustrates the simplest way to intervene in lagging regions – through redistributive policies which are the simplest and oldest way to support distressed communities although their actual role as development policies has been questioned ([Banaszewska, 2021](#); [Connolly et al., 2021](#); [Koetter & Wedow, 2013](#)). The various instruments are then presented in an order which follows, as far as possible, a logic going from the hard to the soft and from the old to the new approach to regional policy (see [chapter 1](#)). For each of these instruments the respective section starts with the factual aspects, including theories and evidence on its justification, followed by normative aspects and the actual ways in which it is implemented.

The instruments related to innovation, on the other hand, are nowadays specifically important in regional policy and are hence left for the next chapter where their rationale is first presented and then they are amply discussed.

5.2 REDISTRIBUTIVE POLICIES

The most direct way a government can affect the well-being of regions is through public expenditure and how this is distributed. This is not exactly a regional development instrument, since it does not provide sustainable growth, but is a widely diffused alternative (and in many cases a complement) to more complex, long-run and usually outcome-uncertain strategies.

[Figure 5.1](#) outlines different scenarios based on the level of fiscal revenue per capita in the regions which compose a country, on the horizontal axis, and the level of general government expenditure per capita in the same regions, on the vertical axis.

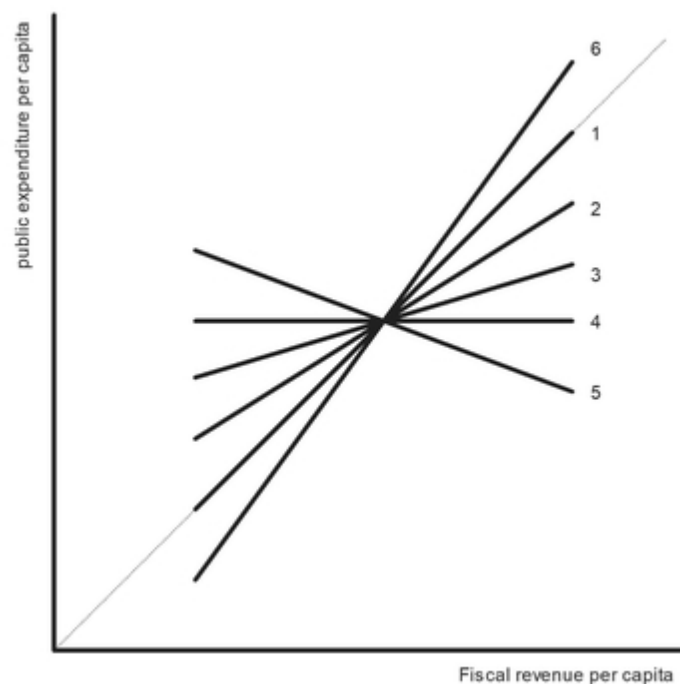


Figure 5.1 Fiscal residuals and regional policy: alternative theoretical situations

Case 1: When in all regions revenue and expenditure per capita are the same, the relationship lies on a 45° line. This is the limit case of a fully federal state with no redistribution whatsoever between regions.

Case 2: If the tax system is in fact to a certain extent progressive,¹ regions with higher levels of production will pay more tax because of the higher income of their citizens and firms. When some part of regional revenue goes to central government, which spends these resources in proportion to the population, this spontaneously gives rise to a wedge between revenue and expenditure, so that richer regions get less than they pay, and poorer regions get more.

The differences between how much regions levy in taxes and how much public expenditure is provided to them are known as “fiscal residuals”² and, in countries with balanced public accounts, are by definition positive for some regions and negative for others. Fiscal residuals, therefore, exist also in the absence of any specifically designed redistributive policy, just because of the progressivity of most tax systems and the existence of regional disparities.

Case 3: A central government can deliberately decide that poorer regions deserve fiscal transfers, to compensate for lower fiscal capacity. In this case, the relationship between revenue and government expenditure rotates clockwise.

Case 4: A similar result is achieved when the central government decides that all citizens deserve the same level of services, and therefore of public

expenditure. In this case the relationship becomes flat, and fiscal residuals exist because of this egalitarian choice of the central government. This assumes that the efficiency in providing public services is similar across the country, which is rarely the case in the real world, although it is much easier to monitor expenditure than results.

Case 5: A government may decide that the issue of lagging regions is important politically and therefore spend more in those regions than in the richest ones. In this case, the clockwise rotation of the curve continues up to the point at which it becomes negatively inclined. This case exists conceptually but, currently, is rare in practice.

Case 6: Conceptually, the opposite is also possible, because a country may decide to concentrate its expenditure in the most advanced regions for efficiency (see [chapter 3](#)) so the curve has an inclination above 45° . Although conceptually relevant, this case also does not seem to exist in practice, being a transfer from poor to rich.

In the real world, the curves represented in [Figure 5.1](#) are not perfectly linear and not even monotonic, since many regions deviate from the national rule, having more or less public expenditure with respect to what would be expected given the redistribution preferences of the state. Some of this deviation is for institutional reasons. For instance, regions with capital cities normally have more public expenditure than others, for a given level of tax revenue per capita, because they host many public structures not present elsewhere in the country.

In other countries, some regions are allowed special statutes, which allow them to be either overfinanced or to retain a larger share of their tax revenue. This is the case for the five Italian special statute regions, which are either bilingual or close to the border or islands.³ To illustrate this, [Figure 5.2](#) represents the official Italian data, illustrating a country with marked internal disparities where this issue has been politically relevant. The graph represents public revenues per capita and public expenditure per capita in each of the 21 administrative units, with the difference being the positive or negative residual. It is evident from the graph that richer regions have both larger revenues and larger expenditure, but also that expenditure is flatter. Finally, there are three regions in the right part of the graph where the negative fiscal residual is small, and these regions are two of those with special statutes (Valle D'Aosta and Trentino Alto Adige) and the region hosting the national capital (Lazio).

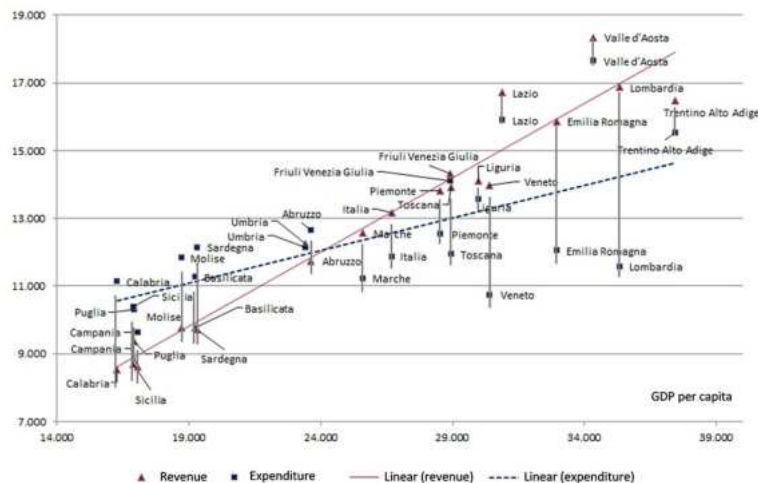


Figure 5.2 Fiscal revenues and expenditure per capita in Italian regions

Source: [Ufficio parlamentare di Bilancio \(2017\)](#)

Other deviations have political origins. Holding political power may allow regions to earmark shares of public expenditure larger than those expected based on their income per capita level. In federal states, where elected representatives often politically respond to their own constituencies rather than to the general national interest, these representatives have clear incentives to direct the largest possible amount of federal money towards their states. Constituencies with more influential politicians are therefore likely to have disproportionate public expenditure.

Autocratic states may also have deviations from the national rule, in this case linked to the preferences of the autocrat. For example, if a dictator comes from a specific region, tribe or ethnic group, it is common for them to favour it. Deviations are not always negative because there are also regions with specific challenges, such as natural catastrophes, remoteness or climate.

Inertia is also relevant and fiscal residuals tend to be stable over time because relocating public expenditure requires political will to overcome resistance from those regions whose public expenditure will decrease.

The consequences of fiscal transfers are important and bring many possible positive effects to receiving regions ([Di Caro & Fratesi, 2019](#)):

1. Greater disposable income compared to other regions, for a given level of economic development, This allows for more consumption and increases the well-being of citizens.
2. Increased disposable income and consumption also have indirect effects, in particular Keynesian multiplicative effects,⁴ because a (potentially significant) share of local income is spent on local products and services.
3. Better public services (health care, schools, cleaner roads, etc.) compared to what it could afford with local tax revenues,

improving citizens' well-being.

4. Increased attractiveness to businesses and workers due to improved services (infrastructure, education, etc.). For example, Wardenburg and [Brenner \(2020\)](#) recently provided evidence of the fact that German equalisation transfers had a positive impact on regional net migration.

Spillovers from public expenditure mean that the growth effect of positive fiscal residuals also spreads out to other regions. Keynesian spillovers are transmitted through standard economic channels, such as trade or input-output relations, and the provision of services can benefit other regions nearby because part of the expenditure increases demand for producers located elsewhere.

However, positive fiscal residuals are not an endogenous, sustainable development strategy because they involve dependency on the national state, which could change its policies with different political cycles. Regions with negative fiscal residuals might also seek more autonomy to reduce the funds which are transferred to the central government, or national politicians coming from different constituencies might change the status quo.

Interventions with fiscal residuals need to consider three efficiency-related issues. First, providing the same services in different places rarely has the same cost, because of the differences in the efficiency of the public administrations and because some externalities exist between some public services, other public services and the services provided by the private sector. This generally makes the provision of services more difficult and costly in lagging regions and in small regions, because of the lack of economies of scale (see [chapters 4](#) and [8](#)).

Second, fiscal residuals can impact the choices of local public administrations. From a political economy point of view, the public administrations of regions with positive fiscal residuals might have little incentive in becoming more efficient, because this would imply a push to reduce their residuals and, consequently, public resources and even public employment. Also, from a fiscal point of view, when an administration has some control of its tax revenue, it also has little incentive to enforce compliance when it knows that resources will come from the nation state independently of local tax levies.

Third, there is an impact on national efficiency. A policy using fiscal residuals in order to reduce spatial inequalities at country level, can have a positive or negative impact depending on two aspects ([Fratesi, 2008](#)): the level of economies of agglomeration and the structural differences between regions. As it was shown in [chapter 3](#), when agglomeration economies are strong, redistributing national expenditure is usually inefficient, which also happens when regions are structurally different.

Finally, the success of fiscal residuals, like other policies, depends on complementary assets being available in the target region ([Fratesi & Perucca, 2019](#)). In fact, places are not endowed evenly with regional assets, and these assets are complementary in determining the impact of policies, so that public investments are scarcely effective in the absence of complementarities.

5.3 FIRM SUPPORT AND INCENTIVES

Many different regional policy programmes include support to firms and business incentives. The simplest form of intervention is that of the state, whose role as an entrepreneur was widely applied as a development policy in the 1950s and 1960s. At that time, it was usual for governments to create public firms to establish or reinforce specific industries or places. This was often supported by the concept of growth poles, which was at the centre of regional policies at that time (see next section, 5.4).

When the limits of direct intervention (imperfect information, inefficiency, pork-barrel politics, corruption, etc.) were better understood, regional policies started to pass through local firms, which are market-oriented and, at the same time, have better information about the local economy. Policy support to firms can have many different forms and targets. It can be:

- Firm-specific, which has spatial consequences because it provides better economic outcomes for the region where the firm is located, even to detriment of other regions. This kind of intervention is now often officially prohibited under competition regulation. Within the European Union it is defined as “state aid”, which is a distortion of the common market because it provides unfair advantages to specific firms in a specific country.⁵
- Sector-specific, when a target industry is identified. In this case, the spatial effects are indirect because industries are differently localised in space. There are also cases in which sector-specific support is introduced to benefit the location of these firms, as in the third type of policies of [chapter 1](#).
- Place-specific, which are – by definition – regional and belong to the second type of policies identified in [Table 1.1 \(chapter 1\)](#). For example, the state can provide incentives to firms in lagging regions to decrease their production costs and make them more competitive.
- Activity-specific, for example grants to pursue specific innovation projects. Firms may receive incentives to invest in equipment, hire new workers or hire workers with specific competences,

- Size-specific, usually small and/or medium enterprises, which are considered to be more vulnerable to economic shocks but also more able to increase local employment through growth.

In many cases, policies may bring together more than one of these categories, targeting firms based on their location, industry and size.

Firm support usually takes one of the following forms:

- **Grants:** money that does not have to be repaid. Grants allow firms to make investments which they would not otherwise undertake and may increase productivity, the introduction of innovations (products or processes) or structural transformations.
- **Loans:** money that needs to be repaid after a certain time. Normally, such loan conditions are more favourable than market rates – lower interest rates, for example. Loans may be especially useful to firms unable to raise their own capital, such as those without sufficient guarantees to provide to banks. The advantage of loans is that the same money can be used to finance different firms once it has been repaid.
- **Tax credits:** these can be generic, to attract firms to a certain region, or specific to certain activities (e.g. to decrease the cost of labour and provide incentives to hire or retain workers; or to encourage investment and R&D activities). Tax credits are common in many parts of the world. In the US, they are an important instrument of local development policy and, on average, amount to nearly 40% of corporate taxes, with heterogeneity across states and industries ([Slattery & Zidar, 2020](#)).

Many regional policy interventions use at least one form of firm incentive. Consequently, these cannot be seen as a stand-alone instrument, but as a part of a wider regional strategy because, in the absence of coordinated structural interventions, it is highly unlikely that a subsidised firm can start a cumulative and sustainable growth path just because it had some assistance in the beginning.

However, their impact on the wider economy can vary because the direct benefits are focussed on specific firms. Positive demand may spillover from the assisted firms to others but there may be competition effects as subsidised firms get a competitive boost to the detriment of other firms in the area. There may also be crowding out effects if subsidised firms increase their production and employment, increasing the price of capital, land and labour.

Providing assistance to firms has hence been criticised on the grounds that it would be better to provide the same support to all companies, for example by decreasing the tax rate, and let the market pick the winners rather than policymakers trying to anticipate this and select those firms which are able

to provide the most social benefits out of the assistance received, with the risk of important and inefficient distortions. Providing incentives to firms is politically sensitive and may be exploited by politicians to attract support rather than kickstart development. This also makes such policies open to corruption. Finally, incentives to attract new firms to a specific place can lead to a race to the bottom and the erosion of the tax base, with no benefit for the local communities competing against each other.

BOX 5.1 HOW LARGE DO INCENTIVES NEED TO BE?

It is not always necessary to set huge incentives to achieve the desired policy objectives. On the contrary, setting incentives is an art because, of course, they have to work in the right direction, but also because providing incentives which are larger than those needed to achieve the outcomes should be avoided, since providing incentives is costly.

In particular, an incentive is effective when it makes a socially desirable alternative preferable to another one which is worse socially but would be preferred by private actors without the incentive. This is possible when the incentive is larger than the difference between the internal benefits of the choice the private sector would take in the absence of the incentive and the choice which the policymaker wants to induce. Indeed, there is no need to make the incentive much larger than this difference, but even a tiny difference may be enough, as long as it is perceived and able to compensate for all shifting costs.

In some cases, this may require very small amounts of public money, when the two alternatives are very close in terms of internal benefit. In other cases, the required incentive may be very large because the two alternatives are very far from each other. In these latter cases, the policymaker should be especially attentive to whether the cost of providing the incentive is higher than the social benefit of the altered behaviour.

This can be described graphically as in [figure 5.3](#). The figure illustrates three cases in which behaviour a by the agent which takes choices has a greater internal benefit and is hence favoured in the absence of policy interventions. In all three cases, however, there is another behaviour (B) which is preferable from an external point of view. In the first two cases, the size of the external benefit makes the social benefit of behaviour B larger than that of behaviour a, so that the private solution is worse than the social optimum, and if the policymaker is able to induce behaviour B, this might be beneficial.

The size of the required incentive is different. In case 1, there is a small difference of internal benefit between behaviour a and behaviour

B. In this case, a small incentive may be enough to produce the socially desirable situation with a large social benefit. In case 2, the incentive required to change the behaviour of the economic agent is significantly larger, but still smaller than the external benefit created by behaviour B, and, therefore, providing the incentive may be a good thing even if this is a large one. finally, there is case 3 in which the difference in internal benefit between behaviour a and behaviour B is larger than the external benefit produced. In the latter case, it is not good from a social point of view to introduce an incentive and spend the resources required to induce the agent to choose behaviour B. In case 3, in fact, the total social benefit of behaviour B is lower than that of behaviour a, even though some of the benefit of behaviour B is collective, being external.

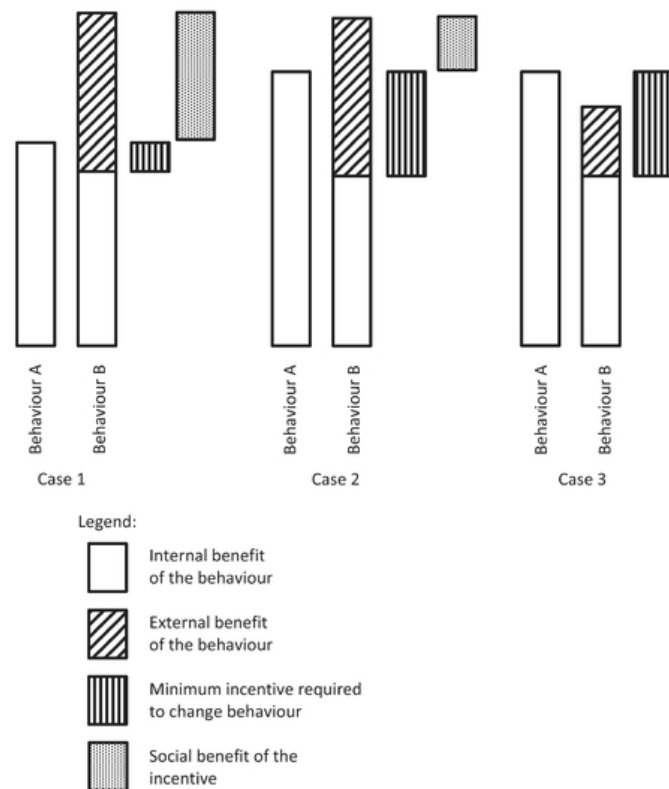


Figure 5.3 Required size of incentives in different situations

Source: created by the author for this book

5.4 GROWTH POLES

Planned growth poles were popular in the 1960s and 1970s and then slowly reduced their role, especially in advanced countries, but the echo of their rationale is still present in many policy programmes. The idea came from the theory of French economist François Perroux that concentration brings more economic development than dispersal. The theory originated from the effects a dynamic and competitive large industry, “*industrie motrice*”, characterised by innovation and productivity growth, could have on other industries, “*industries mues*”, which would be stimulated as well as dominated by it. These dominant industries could affect the national economy in a wider sense and within an “economic space”, not necessarily a geographical one (Perroux, 1950, 1955, 1963).

The notion of a growth pole was rapidly expanded to include spatial features because the concentration of economic activities around the *industrie motrice* meant a pole could prosper through Keynesian demand multipliers, accelerator effects on investments, demand for intermediate goods and pure agglomeration effects (e.g. on the labour market and provision of infrastructure). In many cases, the idea of a pole was meant to coincide with an urban type of localisation of the *industrie motrice* and its effects.⁶ The passage from economic to geographical space, however, was less straightforward than often assumed, as the pole can take many possible spatial configurations and should be considered an entity in its own right (Parr, 1999a).

Despite these conceptual issues, from the 1950s growth poles became normative in many locations around the world. The idea that the establishment of a productive and innovative large firm could lead to faster local economic growth through pole effects was too enticing to pass up. In fact, in the most stylised (and imprecise) characterisation of the theory, if a policymaker could establish a motor industry in a location, and encourage the concentration of economic activities around it, this would lead to the birth of a growth pole whose effect could then spread throughout the economy. The spatial concentration of economic activities was therefore considered a more efficient way of inducing growth compared to diffuse interventions.

Strategies based on growth poles normally involved the following characteristic features (Parr, 1999a):

- Encouraging the growth of employment and population in specific locations, representing the primary locus for private and public investment in the region, independent of the fact that these strategies were based on a key industry, industrial complex or other economic activity.
- Limiting the number of places designated as poles.
- Introducing spatial discrimination, providing privileges to places with locational advantages and the potential for sustainable long-

run growth.

- Modifying the spatial structure of employment and population within the region because it was assumed that the original spatial structure would be less efficient in leading to growth than the new one.
- Concentrating investments in infrastructure or financial assistance to create more externalities.

Planned poles were often established by large state-owned firms or private firms given incentives to locate there. The left-hand side of [Table 5.1](#) illustrates a scenario with the direct jobs this would be expected to create plus the so-called “spread effect”, bringing the total number to significantly more.

Unfortunately, in many cases reality looked more like the right-hand side of [Table 5.1](#). With the same number of direct jobs, the number of indirect jobs often fell short of expectations because the linkages (e.g. of the motor industry) were predominantly global instead of local. Moreover, displacement or “backwash effects” reduced jobs because competition from the large public or subsidised industry meant smaller and less productive local firms could not afford the higher salaries. In this scenario, the total effect could be smaller than planned and even smaller than the number of direct jobs.

In fact, many spread effects tend to be extra-regional, while most backwash ones are intraregional ([Parr, 1999b](#)). Therefore, the experience with growth poles was mostly considered a failure and increasingly abandoned from the 1970s. This failure, however, was not only due to the strategy itself. [Parr \(1999b\)](#) identified the following additional factors:

- The strategy being inappropriate, for example when large-scale industrialisation was pursued in regions with no previous activity in the sector.
- The strategy being infeasible, because enabling factors such as administrative capacity were missing.
- The strategy was unrealistic, when investments in infrastructure or in a public-owned industry were expected to create unrealistic attraction effects.
- The logic of the strategy was not pursued consistently or other conflicting objectives were added, for example a certain level of development outside of the pole.⁷

The negative effects on local entrepreneurship, which are part of the backwash effects, are another important determinant of the frequent failure of the strategy. As [Florio \(1996, p.288\)](#) writes, “the negative impact on the local system may derive from an excessive absorption of potential local entrepreneurial resources, which the large firm transforms into employees”,

because potential entrepreneurs may decide to pursue attractive careers within the large firms. For example, the presence of large firms did not create improved development patterns in Italy, where the pole strategy was widespread from the 1950s, and more positive impacts were present

Table 5.1 expected vs actual effects of a stylised planned growth pole

Expectations (ex ante)		Reality (ex post)	
Direct jobs	20,000	Direct jobs	20,000
Expected indirect additional jobs - "spread effects"	15,000	Actual indirect additional jobs - "spread effects"	5,000
Job destruction/displacement - "backwash effects"	-	Job destruction/displacement - "backwash effects"	10,000
Total expected additional jobs	35,000	Actual total additional jobs	15,000

in those places where the plants were managed locally and where manufacturing functions within the large firm were present alongside others, such as control, R&D and commercial, with the autonomy to pick up local suppliers. The type of activity and nature of the productive process was also more important than the sheer size of the plant because the local effects of some industries with limited input-output relationships, such as metallurgy, chemicals and petrochemicals, are particularly small.

The most important determinant of the success of a planned growth pole, however, is its capability to involve local people and activities to generate spread effects, which can then start sustainable and self-reinforcing growth patterns. These effects are more likely when the industry establishes connections with the local economic environment, and this is facilitated when the local productive fabric is responsive and has the right characteristics to integrate with the new plant.

Tighter public budgets and regulations in favour of competition mean that the growth pole strategy, especially with a public firm, is rarely applied in contemporary policy. Instead, trying to attract multinationals is much more common (see next section, 5.5).

5.5 ATTRACTION OF FDI AND MULTINATIONALS

Foreign Direct Investment s (FDIs) are those owned and managed by subjects of a different country and involving a long-term relationship. They constitute a major source of international capital flows and are an important feature of the international economic landscape. They are clearly linked to globalisation processes because they are often linked to the quest of large

firms to grow by becoming global in their operations and markets (see section 2.6).

Despite this international context, they are a major target of development policies, both at national and regional levels. In fact, the worldwide amount of FDI is so large that acquiring even a small amount of it can make a difference to the economy of a given region. The United Nations Conference on Trade and Development (UNCTAD) estimates that the amount of global FDI decreased, due to the Covid crisis, from USD 1.5 trillion in 2019 to USD 1 trillion in 2020 ([UNCTAD, 2021](#)), its lowest since 2007. Despite the decrease, this is still a remarkable sum. The geographic distribution of FDI varies over time and is footloose, since firms and investors may change which country they invest in if opportunities change.⁸

There are two key distinctions in FDI strategies: the first between the establishment of a new plant in the target country (known as greenfield) and the acquisition of plants or entire existing firms (or mergers with them), which is normally called brownfield or mergers and acquisition (M&A) depending on the case. The second is between inward and outward, the same country or region can be the inward destination of FDI from a different country and the source of outward FDI towards another country.

Outward FDI can be positive for the development regions of origin as it grants access to new (foreign) markets and knowledge they don't possess and is available elsewhere. As such, outward FDI is a way to increase their global connectivity and the role of regions in the global value chain and should not be neglected ([Crescenzi & Iammarino, 2017](#); [Iammarino, 2018](#)). For example, foreign subsidiaries can bring external knowledge and increase the income of qualified workers locally without affecting the less qualified, which increases income inequality in the region but without affecting the lowest wages ([Bathelt & Buchholz, 2019](#)).

However, development policies mostly focus on the attraction of inward FDI (the focus of this section) because:

- They are a source of capital for both wealthy regions and less wealthy ones, where internal resources are scarce, increasing production, labour productivity and income. Also, rich regions benefit from FDI insofar as it increases available capital, beyond what is allowed by internal savings.
- They increase the number of jobs. Displacement effects are present, since multinationals can take local resources and labour from local firms, but the net effect in terms of jobs is usually positive.
- They can improve managerial capabilities. Multinationals need to manage larger, branched businesses so they employ more managers with international experience. Local firms can copy multinationals by working with them or hiring workers who previously worked for them.

- They can improve technological capabilities through knowledge spillovers. Multinationals, in fact, are inserted into global knowledge flows which are normally not available to local firms. These spillovers can pass through imitation, collaboration or hiring workers with experience in multinationals.
- There can be local spin-offs from the multinational. Managers or innovators who worked for the multinational may set up their own companies supplying the multinational or wider markets.
- By attracting additional firms, they can establish the bases for the creation of agglomeration economies which can become self-sustained and bring long-run prosperity in the area.

The arrival of FDI or a multinational enterprise also entails disadvantages. The most important is the fact that capital remains owned and managed by actors external to the region and country. Being an exogenous development strategy, it can fail due to reasons beyond the control of local people, politicians and development agencies. For instance, multinationals may relocate when they find better opportunities elsewhere, even if nothing has changed in their previous location. There is also the risk of a race to the bottom to retain FDI since the local government may be pushed to provide increasing and excessive incentives.

Relatedly, decisions are often taken in multinationals' headquarters, which remain in the original location. There are also many situations in which FDI only brings relatively low-paid jobs because the design, control and even the highest levels of production remain in the countries of origin. Displacement effects are important too, even where labour is cheap and abundant, because multinationals still compete with local firms for the same resources, including labour, land, public services, etc. The arrival of a multinational can increase salaries, which is positive in general but problematic for low-value-added local firms, as well as the price of land and congestion diseconomies.

These tensions have led to two opposite policy approaches towards FDI: one which tries to liberalise and attract more FDI; and another which tries to introduce restrictions and regulations, to reduce the negative impacts of FDI ([UNCTAD, 2021](#)).

Policymakers seeking to attract FDI need to understand the conditions multinationals consider when choosing their locations, i.e. the attraction factors:^{9, 10}

- Low labour cost. Multinationals are attracted to places where labour is abundant and its cost is low, since they bring their own capital, complementary to it. Poor regions tend to have an advantage here but multinationals seeking the lowest possible labour costs may skip regions in advanced economies altogether in favour of emerging economies. Low labour costs may however be less important than skills (next factor).

- High skills and educated workforce, which are complementary to the capital investments in production and allow higher productivity, innovation and better management. Richer regions have an advantage here and, in fact, much FDI is concentrated in expensive metropolitan areas in wealthy countries.
- Market size, making large countries more attractive. But, also, regions integrated into large economic areas have the same appeal. The importance of this factor has decreased since many multinationals act in a global-value-chain framework in which markets are global and production is segmented into tasks done where it is more convenient.
- Accessibility, of supplies, distribution and knowledge. Accessibility facilitates, as well, the ability to monitor subsidiaries from abroad.
- Knowledge of the place. Again, this reduces investment risks and is another aspect which tends to favour the largest metropolitan areas of the world.
- Affinity. This includes a similar culture, language, historical connections, etc.
- Low production costs, starting with installation sites, energy, telecommunications, etc. The cost of housing may also be relevant. These aspects vary for different industries and investments.
- Presence of a favourable context, including of complementary economic activities. All firms get a competitive advantage from the co-location of customers and suppliers which improves relationships and lowers costs. Local suppliers are able to absorb the technology brought by the multinational in order to effectively collaborate.
- Knowledge spillovers. Multinationals may pick a location to seek and acquire new knowledge available locally, but at the same time also limit the spillovers from their activity to other firms. They may locate near other multinationals to balance this effect ([Mariotti et al., 2010](#)).
- Economies of agglomeration. Multinationals are sensible to the same location factors which make local firms more competitive (see [chapter 2](#)).
- Low corporate tax rates, to increase returns from investment. This variable may mostly be under the control of national governments, but regions can introduce measures to affect it.
- Effective local and national institutions. Favoured are locations in which the rule of law is commonly enforced, where laws and norms are stable, where the judiciary system is correct and fast in taking decisions, where the level of corruption is low, where the costs of bureaucracy are low and it is easy to do business. These minimise risk and improve business efficiency.¹¹

Intervention is possible on attraction factors, even if to varying extents. For instance, it is possible to reduce the costs of labour with fiscal interventions, provide cheap land for location, provide courses to local workers, support the birth of complementary firms, implement policies to make spillovers easier, intervene on infrastructure, decrease export duties, decrease corporate tax rates, improve local institutions, improve the knowledge of the place through place marketing, etc. Even if it is not directly possible to target the affinity of a multinational to a given place, strategies of place branding might enhance knowledge. Some of these are possible for local authorities, while others are only available to national bodies. One type of intervention, especially relevant to multinational attraction, is the establishment of special economic zones – since this entails a complex framework (and not only FDI), it is considered separately in the next section (5.6).

Another important role has been assumed by Investment Promotion Agencies (IPAs). These exist both at national and regional levels in many countries and regions. Their main role is to promote investment and to reduce information gaps. In this way, they reduce uncertainty for investors, lower perceived risks and increase their willingness to invest in a location. They also act as convenors, because they help potential investors to understand the way of operating in the region, addressing possible bottlenecks.

Regional investment agencies are different from national ones because they have smaller jurisdictions and, consequently, deeper local knowledge and ties. They can also be involved more deeply in investors' day-to-day activities. As such, regional promotion agencies, especially those in charge of specific industries, seem to be more effective in attracting FDI, especially in weak regions where they may compensate for poor institutions ([Crescenzi et al., 2021](#)).

Tax breaks are another main instrument to increase the attractiveness of a location, since they can shift the balance towards one region or another. Tax breaks alone, however, are not able to attract FDI since taxation is only one of the factors which multinationals consider in their location choices.

The success of regional policy development based on the attraction of FDI depends on various factors: the type of investment, the strategy of the multinational and its embeddedness in the local place, and the extent to which it can trigger local growth. For instance, policies that attract greenfield FDI are usually positive, since they bring something new. Investments in terms of M&A are more difficult to disentangle. A multinational which acquires a local firm may invest and enlarge its operations, making it more productive with advanced technology, managerial expertise and global connections. However, M&A can also mean increased efficiency through the reduction of jobs, which is positive only if a local firm otherwise risks failure. There are also cases of multinationals

which acquire local firms to obtain their brands but then drastically reduce or even close local operations to supply the products from elsewhere. These cases have led to protests against multinationals and FDI.

The importance of the local situation is also relevant because complementary factors allow investments to become more embedded and provide durable economic development. Two examples are helpful to illustrate this, both had aggressive attraction policies in terms of incentives and lowered taxes but they also had important context factors without which multinationals would not have invested.

Ireland. This is a relatively small country of the European Union, which used to be among the poorest, a beneficiary of significant structural funds and one of the four original beneficiaries of the Cohesion Fund. However, it had many FDI attraction factors: a relatively young and qualified English-speaking population, low tax rates, access to the European Union markets, strong institutions and close links with the UK, which might provide similar advantages but at much higher cost. As a consequence, Ireland became the base of European operations for many American multinationals, in traditional and innovative sectors, including Google, Apple, Microsoft. The arrival of external corporations was complemented by the rise of endogenous initiatives, such as the now large, low-cost airline Ryanair. As a result, Ireland is now among the richest EU countries.

Slovakia, particularly its capital Bratislava. With the fall of the Iron Curtain, and especially the accession of Slovakia to the European Union in 2004, this location became an accessible point in central Europe, close to countries such as Germany. Although language was not an advantage, Slovakia was characterised by a relatively young and well-educated population, and by a history of mechanical industries specialised in tanks. The country also had low, flat corporate and income tax rates with low labour costs and the government provided a large package of incentives and low taxes.¹² This made it a good location for large car manufacturers, particularly Volkswagen, PSA and Kia, which in turn provided locational advantages to others through spillovers, agglomeration economies and the start of local endogenous initiatives which have turned it into a cluster. The case of Korean Kia is especially interesting because it also shows the importance of affinity and good branding – senior Kia management was happy to invest in a country which included the name of the brand.¹³ This company needed to have a production plant within the European Union to decrease transport costs, better respond to European customers and avoid levies and duties and the manufacturing plant in Žilina, 200 kilometres northeast of Bratislava, was the first one in Europe, established in 2004. Although this development strategy has so far been a success, some doubt the long-term viability of such an exogenous and foreign dependent strategy ([Pavlínek, 2016](#)).

5.6 SPECIAL ECONOMIC ZONES (SEZS) AND LOW TAX AREAS

Characteristics, purpose and advantages of SEZs

The establishment of specific economic statutes for specific areas within a country is a traditional¹⁴ instrument for the achievement of national and regional development which is widely used in many different contexts and especially in emerging economies. They take various forms, even within the same country. For the sake of simplicity here they are all referred to as special economic zones (SEZs) but they may have names such as “entrepreneurship zones”, “opportunity zones”, “export processing zones”, “free zones”, etc. They all share the characteristics of being “demarcated geographic areas contained within a country’s national boundaries where the rules of business are different from those that prevail in the national territory” (Farole, 2011; p.23).

The most common purposes of SEZs are:

- Increasing economic growth.
- Reducing local unemployment.
- Increasing investment, especially by attracting FDI.
- Stimulating the accumulation of capital.
- Enhancing regional competitiveness.
- Stimulating regional development.
- Stimulating entrepreneurship.
- Attracting external knowledge.
- Developing clusters.
- Increasing exports.
- Experimenting with new ways of doing business and new policy approaches.¹⁵

In particular, SEZs are used in areas lacking capital to reduce the cost of investment and attract capital from elsewhere in the country and from abroad, especially FDI (see previous section). If the zone is successful, it fills the capital gap, which is beneficial even if no taxes are exerted on profits. As with other FDI attraction initiatives, SEZs can also be aimed at attracting foreign firms that bring new technologies to local systems in situations where local firms lack technology.

According to Friedrich and Nam (2018), SEZs are both direct and indirect policy measures: direct because they normally involve the establishment of

specific public bodies involved in direct public initiatives; indirect because they normally provide the conditions to create an advantageous environment for the location of private firms, which are those who provide the real economic spark.

SEZs may target specific areas within the weak regions of a country but, especially for emerging economies, they usually target areas in the capital or in other regions which already have a competitive advantage compared to the rest of the country. In other cases (e.g. Poland) they are scattered around the country.¹⁶ They have, therefore, spatial effects within countries although their objective is not necessarily the reduction of disparities but may often be to boost the growth rate of the whole country. As such, they are usually a top-down national initiative, although with important spatial and regional development consequences, present even when they are not targeted at lagging areas.

SEZs normally target specific industries because they need to achieve a sufficient size to bring scale and scope economies, which cannot be achieved in all industries at the same time. This is also why these zones are not extended to whole countries, along with the fact that SEZs are somewhat experimental (and there would be risks to changing entire national systems) and there may be resistance to extending them ([Moberg, 2015](#)).

SEZs are given some of the following advantages compared to the rest of the country, all aiming at attracting investors:

- A special fiscal regime, e.g. exemption from taxes on profits for a certain number of years, which increases the profitability of capital and its returns; exemption from export duties; lower taxes on labour since even if the direct target is labour, capital benefits indirectly because the returns to investments are higher when labour is cheaper.
- A special regulatory regime to make it easy for them to establish and operate (and especially trade); less regulation, e.g. exemptions in countries where foreigners cannot normally own land; less strict labour regulations. In some cases, separate laws and even judiciary systems, (e.g. in Dubai where the financial centre has British common law rather than Sharia law).
- Infrastructure and enhanced public services to boost connectivity and competitiveness, which may include facilities such as storage or transshipment.

A successful SEZ not only brings additional capital through investment but also increases agglomeration, fostering external economies through direct relationships between firms in the area and indirect ones through the sharing of suppliers or the provision of services. When SEZs target specific industries or production stages, they generally aim at creating (or reinforcing) a cluster. In particular, SEZs are successful when they create

sustainable development in the long run, i.e. when they are able to trigger growth processes which become self-sustaining and continue beyond the existence of the SEZ itself.

One of the objectives of SEZs is therefore the creation of agglomeration economies: pooled labour markets, forward and backward linkages, and knowledge spillovers ([World Bank, 2020](#)) (see [chapter 2](#) for the description of these mechanisms).

Success factors and unintended effects

Despite clear successes, there are no univocal assessments of the contribution of SEZs to regional economic growth in advanced countries, mostly because programme designs and operating contexts vary so much ([Chaudhary & Potter, 2019](#)). The contribution of SEZs to internal economic convergence is also doubtful.

There are many possible reasons for the failure or success of SEZs, including ([Farole & Akinci, 2011](#); [Moberg, 2015](#)):

- The quality of the site infrastructure, which is as important as lower taxes. SEZs in developing countries can suffer from poor roads or unreliable power supplies; while efficient ports are often an advantage.
- The integration of SEZ with other regional development policies, so that low taxes are not the only location factor.
- Their location, which influences their market access (especially to commercial outlets) but also determines its competitors.
- The size of the zone, which should be large enough for economies of scale but not too large to ensure sufficient concentration,
- The promotion of the zone.
- The level of bureaucracy and/or corruption, which may be harmful to business, and quality of the regulatory framework.
- The presence of sufficient labour, at the right price (in terms of salaries) and with the right qualifications.
- Links to the domestic markets, which allow producers in SEZs to buy supplies locally. The success of SEZs is often linked to that of host countries and to their alignment with national strategies,
- The relevance of the programme to the specific context, the quality of the policy design and the ability to implement and manage it successfully, with the ability to correct the direction based on new information and external stimuli.
- Targeting the “right” industry, one which is growing at the international level and complements the local economy. For instance, targeting high-tech industries for places with a limited starting technological level might lead to disappointing results.

- The involvement of the private sector, which may be more effective in implementing a SEZ and can be a valuable source of expertise,
- The ability to bring real structural change to the economy, within the SEZ and in the rest of the country, which is easier when there are lower political pressures to maintain the status quo.

In particular, empirical research shows the importance of good government planning of the incentive scheme and that SEZs produce better results when they are implemented within a strong economic system ([Arbolino et al., 2022](#)). SEZs hence should not be placed in areas without localised production advantages and they require additional regional (infrastructural) policies. New jobs need stable locational advantages so that they become rooted in the area rather than footloose. The reduction of costs for businesses due to tax exemption may not be sufficient to compensate for lower productivity due to external diseconomies, otherwise the effect could be zero in terms of reallocation. The general efficiency of SEZs must be studied as there are potential reallocation costs for the country. It is also important to understand to what extent a policy of this type, which reduces the cost of labour or capital, can alter the behaviour of firms with greater or lower intensities of labour and capital. The standard effect should be increased jobs because of an output/competitiveness effect but there is also a substitution effect through which cheaper capital may lead to more capital-intensive production functions and, therefore, to a lower use of labour.

In terms of results, four situations can occur, in order of effectiveness from worst to best ([Di Caro & Fratesi, 2020](#)):

- The new SEZ will have no significant economic effect. There are many cases in which the SEZ areas have remained substantially ineffective, mainly due to the inability to create adequate, even institutional, boundary conditions or to identify the right sectors of specialisation.
- The new SEZ will mainly attract economic activities that would otherwise settle in neighbouring areas. This is not uncommon if the long-distance attractiveness of a SEZ is limited. For example, the French urban free zones programme has had positive effects on new businesses and employment but significant negative spillover effects on surrounding areas ([Givord et al., 2013](#)).¹⁷
- The new SEZ will attract economic activities established in other regions of the country, especially from the richest regions. The internal reallocation of economic activities will decrease regional disparities, resulting in a cost in terms of reduction of the national tax base.
- The new SEZ will attract economic activities from abroad and/or generate new economic activities so the economy of the whole country will benefit. However, the benefits and costs of the policy

need to be compared to identify whether value is actually generated.

For advanced countries, the best results might come from using SEZs to reshore activities previously delocalised by domestic companies. Domestic companies, unlike foreign ones, will not have learning costs regarding the institutional setting in which they will operate ([Piatanesi & Arauzo-Carod, 2019](#)), they will be less distant from parent companies and they may be more interested in presenting their products as “made in . . .”.

At the international level, the most successful SEZs are those that have triggered cumulative processes so that clusters formed under the exogenous push of fiscal policies have become self-sustaining endogenously, as external and agglomeration effects have replaced tax relief as the main attraction.

A successful example is Shenzhen, China, where a SEZ was established to counterbalance Hong Kong in 1980. The city was small at that time but rapidly grew and now has several million jobs and inhabitants. Many of them, according to Chinese law, are temporary residents there in response to the large demand for labour.

When SEZs target lagging regions there are cases of success and cases of unsuccess. In particular, in the cases of Bangladesh, Thailand and Indonesia those SEZs not in core areas were unable to achieve their objectives, unlike those in core areas. In the cases of China, Poland and Turkey, on the contrary, several successful cases also emerged in lagging areas ([Farole & Sharp, 2017](#)).

The effects of SEZs are often different from those forecast, whether lower, higher or qualitatively different. For this reason, most successful cases have been characterised by successful mid-course corrections in response to emerging problems ([Friedrich & Nam, 2018](#)).

Political economy and management issues

Political economy issues are highly relevant for SEZs because of their characteristics. They are a long-run policy which takes several years before firms reach the desired magnitude of investments, and therefore also before unsuccessful cases become evident. The investments in SEZs are of a very large scale and hence finding a counterfactual to assess their impact is very hard (this is common to all large investments, see [chapter 7](#) on evaluation). Since there usually are significant fiscal and non-fiscal incentives, usually SEZs pick “winners”, i.e. certain agents which are favoured with respect to others, in terms of location sector, firm size, nationality of firms.

In particular, in terms of management, all SEZs are subject to two issues ([Moberg, 2015](#)):

1. The imperfect knowledge of the authorities responsible for managing them, who must decide what local infrastructures to build, which sectors to prioritise and where to establish the SEZ, without sufficient information about what is really needed, the potential market opportunities, the decision functions of potential incoming firms, etc.
2. The difficulty of designing the correct incentives, so that the objectives of those managing the SEZ coincide with those of the reference communities. Otherwise, the institutions managing the SEZ may be prone to rent-seeking behaviours.

Finally, when planning SEZs it is important that those in charge of the policy are aware of the purposes of the policy and the problems it wants to address. In fact, if the constraints which prevent an area from attracting investments lie in lack of land or infrastructure, simpler and less costly industrial parks might be an adequate instrument. If the problems lie in broader regulatory constraints which cannot be addressed at national level, then this is the case in which SEZs are most appropriate ([Farole & Sharp, 2017](#)).

5.7 ENHANCING ENTREPRENEURSHIP

Beyond supporting existing firms (section 6.3), establishing new firms (section 6.4) and attracting firms from elsewhere (sections 6.5 and 6.6), another way to stimulate firm growth locally is by enhancing the rate of firm growth. In an evolutionary perspective, in fact, the stock of local firms is not something given once and for all, but it comes from two continuous processes, one of firm closures, due to failure or relocation, and another coming from firm attraction and, especially, firm births.

The firm birth rate mostly depends on what is commonly called “entrepreneurship”. In particular, while an entrepreneur is a person, entrepreneurship is considered as capital which belongs to a certain place, similarly to other aspects of territorial capital such as human capital or infrastructure. In particular, “entrepreneurship capital reflects the capacity of a spatial unit of analysis, such as a community, city, region, state, or country, to generate entrepreneurial activity in the form of new-firm start-ups” ([Acs et al., 2009](#); p. 8). Entrepreneurship policy, at all levels, is increasingly concerned with space since different entrepreneurial mechanisms are present in different types of regions, which requires tailored interventions ([Ortega-Argilés, 2022](#)).

Entrepreneurship is also identified as one of the mechanisms by which knowledge spillovers take place, and in particular knowledge created at more basic level is used by those who actually employ it and commercialise

the products of ideas ([Acs et al., 2012](#)). Moreover, it seems that incumbent firms mostly tend to innovate and grow their activities along existing lines and the same industries, while when unrelated diversification towards new avenues, which is necessary for structural change, takes place, this usually involves an active role for new entrepreneurs, although these new activities have a higher failure rate ([Neffke et al., 2018](#)).

Two main types of policies are worth mentioning here, one linked with the enlargement of the number of firms and the creation of new firms; the other linked with the identification of opportunities for innovation and the enhancement of production and business in general. According to [Szerb et al. \(2019\)](#), the first can be defined as Kirznerian;¹⁸ the second as Schumpeterian, as defined in [chapter 6](#).

The pure creation of new ventures, especially small ones such as those of self-employed persons, is helpful but less able to produce positive impacts on territorial outcomes compared to entrepreneurial initiatives to exploit technological or market innovation opportunities ([Szerb et al., 2019](#)). In policy terms, regional entrepreneurship policy is therefore shifting from increasing the quantity of entrepreneurial initiatives to increasing their quality ([Stam, 2015](#)). The two sides of entrepreneurship policy, however, are connected. For example, an innovative start-up which aims at exploiting technological opportunities both enlarges the number of local firms and improves the technological level of the local productive system.

Schumpeterian entrepreneurship will be discussed in [chapter 6](#), so this section focuses on those measures aimed at creating new firms, although most of these also try to make them as innovative as possible and focus on firm creation in high-tech activities and industries. It is first important to consider that local conditions influence the ability of entrepreneurship to translate into regional growth. New entrepreneurial initiatives, especially high-tech ones, are much more effective if nurtured in what is defined as an “entrepreneurial ecosystem” able to support their development.

Academic research has widely investigated the concept and the practice of entrepreneurial ecosystems, although using a large number of definitions and it is a field which, conceptually, has shortcomings ([Alvedalen & Boschma, 2017](#)). Entrepreneurship is understood as requiring an ecosystem, as entrepreneurs do not act in a void but are facilitated by the presence of other agents and resources. Entrepreneurs often require interactions with mentors, researchers, public officers, their own employees, etc., as well as resources such as capital, human capital, infrastructure, networks, external knowledge, etc. (see also [Box 6.2](#)).

As [Spigel \(2020\)](#) points out, entrepreneurial ecosystems have a double role in supporting entrepreneurs: on the one hand, they provide resources; on the other hand, they make these resources available to entrepreneurs, which requires institutions and situations conducive to the circulation of knowledge, capital, workers, etc. Entrepreneurs are not just the users of

entrepreneurial ecosystems but relevant agents in creating them and making them healthy, so the presence of other complementary or competing entrepreneurs influences ecosystems' success. Ecosystems are hence the result of both frameworks, such as formal institutions, culture, physical infrastructure and demand conditions, and systemic conditions, such as networks, leadership, finance, talent, knowledge and support services. The output of these conditions is entrepreneurial activity which, in its turn, influences ecosystems' aggregate value creation ([Stam, 2015](#)).

Different measures of the presence of entrepreneurial ecosystem conditions in regions have been proposed. The REDI index (Regional Entrepreneurship and Development Index) was one of the first official attempts at comparing different regions in terms of entrepreneurship beyond standard development measures ([Szerb et al., 2013](#)). It builds upon the GEM (Global Entrepreneurship Monitor) Adult Population Survey dataset and is a multilevel index including sub-indicators, indicators, variables, pillars, sub-indices, and the REDI super-index. It often takes into consideration bottlenecks, i.e. the fact that it is not possible to overcome one weak indicator. The three sub-indices are measures of attitudes (opportunity perception, start-up skills, risk acceptance, networking, cultural support), abilities (opportunity start-up, technology adoption, human capital, competition), and aspiration (product innovation, process innovation, high growth, globalisation, financing), highlighting entrepreneurship as a wide and often immaterial concept ([Szerb et al., 2019](#)).

An entrepreneurial ecosystem index has also been built by Iacobucci and [Perugini \(2021\)](#), based on [Stam \(2015\)](#). Their index includes 14 conditions: five frameworks (corruption, rule of law, voice and accountability, entrepreneurship culture, physical infrastructure), six systemic conditions (finance, new knowledge, business services, firm survival) and three human conditions (migration flows, population structure, human capital).¹⁹ The latter accounts for the fact that entrepreneurship is not only a matter of external conditions but also of the personal conditions of potential entrepreneurs, as younger, qualified people and migrants can have a positive effect on new firm formation ([Mickiewicz et al., 2019](#)).

The concept of ecosystems makes it clear that entrepreneurship policies cannot stand alone but need to include aspects of a supportive and growth-conducive environment, such as human capital (section 5.11), research and universities (sections 6.6.5 and 5.11.1), innovation ([chapter 6](#)), infrastructure (section 5.10) and public administration/institutions ([chapter 4](#)). National policies are also relevant to regional entrepreneurship, such as those for litigation and regulation, including the protection of intellectual property.²⁰ National tax policies are also important, although regional governments and development agencies can lower taxes or provide other incentives, such as lowering the taxes on new firms for a certain period of time.

Entrepreneurship policies often focus on small and medium enterprises (SMEs) because it is rare that new firms are already large, due to the investment needed. SMEs are seen as ways to enhance regional innovation because they allow new ideas and innovation to be introduced to a local economy. However, once SMEs are created, they will need to grow for their systemic impacts on regional wealth to be maximised. For this reason, policies often focus on high-growth SMEs with the potential to become larger in a relatively short period of time by realising the potential of the ideas and innovations which led to their birth.

The availability of capital is an important aspect for new firm creation. Often, potential entrepreneurs have ideas but lack the financial capital to put them into practice. It is difficult for traditional banks to assess the growth potential of new ventures and banks might also require guarantees which potential entrepreneurs lack. Financing new firms brings high returns on average but also high risks, as many investments lose their capital while a few bring high returns. For this reason, entrepreneurs benefit from risk capital and regional policy often includes instruments to provide this where it is absent. Entrepreneurship policies also often provide firms with seed capital (see section 5.9), incubators or firm accelerators, all measures to facilitate the birth of spin-offs from firms or universities.

New ventures, however, may also lack managerial abilities, networking capital, as well as a place to stay and grow. Technopoles and science parks (discussed in section 6.6.6), are instruments through which new entrepreneurial initiatives, and especially high-tech ones, can be nurtured in a protected environment. Some instruments also act directly on potential entrepreneurs, nurturing them well before they start a firm. In Wales, a region which is not innovative or economically strong, the Alacrity Foundation's graduate entrepreneurship programme prepares graduates for entrepreneurship, providing mentorship from senior managers of diverse professional backgrounds, aligns candidates with opportunities, ensures funding support and allows student teams to generate firms, develop their business plans and secure orders. Especially relevant is the attempt to provide potential entrepreneurs with the capacity to participate in strategic networks in regions where innovation and entrepreneurial ecosystems are weak ([Huggins et al., 2018](#)).

5.8 CLUSTER POLICIES

Many different theories of clustering are born from the observation that the presence of spatially and sectorally concentrated economic activities often leads to higher levels of economic activity, in general, and firm productivity, in particular. Despite the global forces who led some to believe that the

world would become flatter due to globalisation and new technologies, in fact, the real world shows everywhere spontaneous concentrations of firms, with intense business links between them and sometimes cooperation.

The idea is not new, since it goes back to at least the studies of [Marshall \(1890\)](#) who analysed the advantages stemming from the concentration of specialised industries in particular localities, with special reference to the English districts. These advantages are mostly those of localization economies (see section 2.3). Many situations and concepts became well known in the last decades of the 20th century, for example the Italian districts, which came into prominence from the 1970s and 1980s, being characterised by a concentration of specialised SMEs, with strong vertical and horizontal linkages and, normally not present elsewhere, a common sociocultural background facilitating the local relationships (see [Becattini, 1990](#)). Similarly, the study of new industrial spaces showed the decline of Fordism and the rise of flexible production based on adaptable manufacturing structures, although the new paradigm did not replace the old one ([Scott, 1988](#)). Finally, one can mention the *innovative milieu* theories which, although the milieu is more an archetype than a place, showed that a concentration of SMEs with cognitive proximity could make them able to compete in an economy based on innovation ([Aydalot, 1986](#); [Camagni, 1991, 1995](#)).

The contribution which diffused the concept of cluster beyond the scholars of spatial and territorial aspects was, however, that of business economist [Porter \(1998\)](#), who brought to prominence a wide definition of clusters as geographic concentrations of interconnected companies and institutions in a particular field. The spatial scale in this case can range from that of a city to even neighbouring countries and relationships can be of various types, including cooperative. With such a large definition, examples can range from to the California wine cluster, to the Italian districts, to Hollywood, to high-tech concentrations such as the Silicon Valley. The main criticisms to this cluster formulation come from being mostly static and market driven ([Asheim et al., 2006](#)), while in practice clusters are slowly evolving, never fixed nor created from scratch, and often based on technologies and not just inter-firm relations. Other criticisms concern the fact that, with respect to other previous theories, the cognitive aspects are diluted in Porter's cluster theory (they are instead central in the milieu theory).

Finally, [Gordon and McCann \(2000\)](#) have noted that there are at least three different types of clusters: a model of pure agglomeration based on localisation economies; an industrial complex model, where the leading force is the stable productive relations between firms; a social network model where the leading clustering force is trust.

Other more detailed classifications have followed and the studies on the concepts have been flourishing for many years, but the interest in this book

stems from the influence they have had on policies and from the wide application of the cluster concept in policy interventions. The main difference of cluster-based policies with respect to other interventions (with whom they share many tools in practice) is the target, which is improving the competitiveness of a group of firms belonging to a cluster. The target is not therefore the individual firms, nor industrial sectors, nor even (at a higher level) the region, but those co-localised firms which are interconnected, or which could become so.

Often the target is an existing cluster, to improve its competitiveness by intervening on its mechanisms, for example by improving inter-firm relations, but in other cases emerging clusters are identified and supported in their development process. When emerging clusters are targeted, it is important to identify them based on local assets and opportunities and not by just global ones, since otherwise the initiatives will be unsuccessful. With established clusters too there is the need to grasp the right opportunities and avoid, for example, supporting declining industries. The key success factor, therefore, is the identification of opportunities, which is a similarity with smart specialisation strategies ([Hassink & Gong, 2019](#)) (also see [chapter 6](#)).

The actual policy tools are basically of three types ([Ketels et al., 2013](#)):

- The setup of supporting platforms or cluster initiative organisations.²¹ These bodies would intervene in facilitating the connections between the firms, providing information to participating firms, e.g. on market opportunities, and help provide external visibility and connections to the cluster. In this case the policy role is that of a catalyst.
- The support to collaborative actions. In this case there is a more direct and costly intervention by which the policy supports joint actions between the members of the clusters, including collaborations between the firms and between the firms and other institutions such as universities. These collaborations would be supported by public money but investment by the participating firms normally co-finance.
- The interventions to upgrade the business environment of the cluster. This may happen, for example, with interventions which set up or upgrade a research centre, which intervene on the skills of the local workers. These will normally be fully financed with public money and are tools existing elsewhere (see the rest of this and the following chapter) but are in this case targeting the competitiveness factors of that specific cluster.

While the economic advantages stemming from geographic concentration and in particular from the presence of spontaneous clusters are widely recognised, cluster policies have also been criticised on various grounds ([Duranton, 2011](#)): pushing the spatial and sectoral concentration too far

might make regions too dependent on some industries and hence more sensitive to shocks and technological changes. Existing clusters might be larger than optimal, instead of smaller. There are normally uncompensated externalities, as well as inefficiencies, resulting from firms taking decisions based on their own advantage, which might also lead to congestion. This also means that what is good for the cluster is not necessarily good for the rest of the regional economy. There is also the risk of poor institutions which can harm cluster policies as they can do for others. Policymakers could be unable to recognise and intervene on the actual inefficiencies, identify the right cluster size and the actual opportunities. For these reasons, the risk is of making unwise (and doomed to failure) attempts to build new clusters in fashionable industries in ill-equipped places.

5.9 INVESTMENTS, CAPITAL AND FINANCE

The level of private investments within a given region is an important determinant of regional growth since investments increase the capital stock of firms. This is complementary to labour, knowledge, human capital and all other territorial assets in determining the productivity and competitiveness levels of firms. Other sections of this chapter show how regional economic policy can attract private capital in addition to that locally available, for instance through the attraction of multinationals (section 5.5) or the establishment of SEZs (section 5.6).

When taxation on capital cannot be a policy target, decreasing other production costs can increase returns and make investment in the region more attractive. For example, decreasing labour costs in a lagging region by reducing taxes or welfare contributions. This strategy may be effective in the short run, with the advantage of being relatively easy to implement and a horizontal strategy, which applies equally to all enterprises, without the need of specific calls and which hence does not introduce distortions between those firms which are able to participate in competitive tenders and those which are not, nor does it require particular capability on the part of the public administration to select the best beneficiaries. The risk is that the effects last only until the measure is withdrawn, unless it attracts investments to trigger a certain level of external economies, which start a positive cumulative process beyond the direct effects of detaxation.

Investment requires a system of financial intermediaries.²² Their first and more traditional role is mobilising the local savings. It is rare for savers to directly lend money to potential investors so normally this process is mediated by intermediaries.²³ It is in effect much easier for people to put savings in a bank and then allow the bank to lend money to investors.

In the Schumpeterian approach, however, the role of financial intermediaries is significantly broader since they also channel money towards the most profitable (and hence growth-enhancing) activities. Financial intermediaries evaluate different projects to select the best, manage the risks embedded in these projects, monitor the managers that run investment projects as well as facilitate transactions ([Levine, 1997](#); [Schumpeter, 1934](#)).

Lagging regions can have low growth rates because they have low investments or because investments are unable to provide enough growth, for example because they are not invested efficiently. For example, little growth is expected from private investments in industries where the region has no real competitive advantage, in which the firms cannot take advantage of any external economy and territorial assets. Each scenario has different policy implications. When investments are low, policies can be developed to increase the investment rate (through detaxation, FDI attraction, provision of complementary assets, support to the banking system, provision of guarantees to borrowers for bank lending, etc.); when investments are high but ineffective, policies should concentrate on investment steering, providing guidance to investors in selecting the best investments and decreasing transaction costs, including those due to information asymmetries between lenders and borrowers.

However, there are questions about whether finance drives or follows development. On the one hand, finance drives development since the presence of good financial institutions allows capitalising investing firms, lower borrowing costs, the selection of the best investment projects and reduces uncertainty. On the other hand, the presence of firms and economic activities attracts financial institutions, which come to take advantage of the presence of investment demand. The two effects may be related and present at the same time, although their relative importance has been debated.²⁴ For regional development policies, however, finance as a driver of development is more relevant.

What is especially relevant for regional development policies is that financial intermediaries are not equally distributed in space, but there are places where their fabric is significantly thicker. Industries dependent on external finance grow more where there is a more developed financial system ([de Guevara & Maudos, 2009](#)). Big cities, in particular, have more access to finance, especially at lower levels of national development ([Lee & Luca, 2018](#)). Scarcity of finance constrains the growth of firms, especially SMEs and especially in less developed regions ([European Investment Bank, 2021](#)), so removing or reducing this constraint is an important policy objective. Moreover, the way in which firms are financed is not separate from the way in which they are managed as it affects firm governance and behaviour, and does not precede, nor is separate from, production ([Pollard, 2003](#)).

In principle, a firm operating in one place could borrow from a financial institution located elsewhere, since financial capital is mobile. However, this is more complex than borrowing from local institutions, since knowledge, confidence and monitoring are facilitated by proximity. As a result, marginal borrowers often rely on local banks ([Coccoresse & Ferri, 2020](#)) and are at risk of financial exclusion from the closure of peripheral branches of firms ([Martin-Oliver, 2018](#)). Innovative firms in peripheral regions are also more likely to have applications for finance rejected ([Lee & Brown, 2017](#)).

Since access to finance depends on location, firms, and SMEs in particular, have many different forms of financing, both equity and debt-based ([Ughetto et al., 2019](#)). Bank loans are just one possibility, and the most traditional, but are often inaccessible to finance high-risk, high-growth opportunities. Other forms of investment include venture capital (VC), private equity and, in recent years, crowdfunding.

VC is often considered the best instrument for financing innovative firms in high-tech sectors because its investors select the most promising companies, provide them with adequate capital and make them able to compete in the market. VC is also often seen as an important tool for boosting technological innovation, employment growth, export growth and regional development, VC investors contribute to the capital of firms and usually get out once the expected large growth has taken place, or when it becomes evident the investment has failed. Traditional bank loans, on the other hand, privilege low-risk investments, even if they are normally associated with lower returns.

The sources of VC, their activities and investments they favour vary by country and region. Market failures, especially due to information asymmetries, are especially relevant and can prevent firms with great potential from being financed.

The importance of VC investment is even more crucial for SMEs because information costs alone may preclude smaller firms with profitable projects from being able to secure external financing. Moreover, small firms face significant costs in seeking equity finance (hence their overwhelming reliance on bank debt), may have to signal their “good” status by pledging collateral and often personal properties, and can sometimes reduce their transaction costs by having personal relationships with bankers. VC avoids the need for collateral and usually focuses on good ideas and potential growth, rather than solidity and size. Venture capitalists tend to monitor their investments closely, often giving small firms additional management support.

Because financing can be hard for firms, regional policy towards firms has always introduced instruments to finance them, especially in some specific activities or phases, most notably innovation,

More recently, public policy instruments have been developed to provide capital to firms without necessitating non-repayable sums in the form of

grants. These can be direct, providing loans to firms (or incentivising the creation of financial institutions), or indirect, providing information or guaranteeing loans. To illustrate the rationale, imagine a firm's investment is viable and it is able to repay the sum invested with adequate returns, but the firm cannot implement it because it lacks the capital needed, nor it is able to get funding from a bank, because it is not able to provide collateral guarantees and there are information asymmetries so that the bank is not able to assess the actual returns and risks of the investment. In this case, the policymaker could traditionally intervene and provide non-repayable funding which will allow the firm to make the investment. However, this is not needed because the policymaker could just intervene in order to correct the market failure which prevents private lenders from lending their capital to the borrowers. If the policymaker reduces the wedge between the demand and supply of capital, it can unlock investment and also get public money back once the investment repays itself.

The possibility of using policy money several times makes these interventions appealing. The European Commission has promoted the use of financial instruments to reduce budgetary constraints, improve the sustainable and efficient use of public funds, and generate projects of better quality than grants alone, drawing on private sector investment principles ([Wishlade & Michie, 2016](#)).

In sum, several types of intervention are possible when the financial system is not able to finance all good projects. Regional authorities can:

- Provide loans to firms, acting de facto as a financial institution and replacing the banks which don't want to assume the risk or banks which are endowed with little money to lend.
- Reduce the interest rates paid by firms. This is especially important when the internal return rate of the investment, the one earned by the private bodies, is lower than the social one. In this case, reducing the interest rate can make profitable also for the private bodies an investment which would otherwise only be profitable for the society.
- Guarantee loans for SMEs and start-ups to reduce the risk to financial intermediaries without investing directly.
- Reduce the transaction costs. New firms and small ones, endowed with a good idea, may find it especially difficult to prepare a successful application for a loan. With consultancies and technical support to potential borrowers, public bodies can make the financial system work better.
- Create or reinforce VC institutions. When regional authorities create and finance VC funds, these are then normally managed similarly to private ones, since their managers can select the investments which they believe are more profitable, with the only

constraint that they need to restrict the financing to initiatives taking place inside the region.

5.10 INFRASTRUCTURE INVESTMENT

5.10.1 Transport infrastructure

Investment in transport infrastructure is one of the most traditional and common types of regional policy interventions. This is because of the range of economic effects that infrastructure can have, including:

- Reducing the production costs of firms to make them more competitive. Labour and capital are more productive when coupled with good infrastructure, for example because it is cheaper to move intermediate goods from one plant to another.
- Reducing transport costs to allow firms to sell at a lower total price. In fact, it doesn't really make a difference if the transport costs of a good is paid by the seller or by the buyer, because in both cases higher transport costs will imply a larger difference between the price paid by the customer and the revenues received by the firm.
- Opening up new markets, especially when goods are perishable or consumers expect fast delivery.
- Allowing firms to use production factors and intermediate goods from further away, facilitating more efficient production and lower production costs.
- Making communication easier to reduce the friction caused by distance.
- Creating jobs in the construction of infrastructure. This has no impact on long-run prosperity but, since construction costs are high and timescales are usually long, it can have a relevant impact on the regional economy.

Regional infrastructure may therefore act as a location factor so building infrastructure may increase the attractiveness of regions for firms looking for a place to establish their activities.

Even if transport costs are small, they are a variable on which firms can act through their location choices. Transport costs are relevant not only directly but through a series of additional costs firms can incur because of distance. Traditional transport cost are normally modelled proportional to the distance, based for example on the consumption of fuel, i.e. 200 kilometres uses double the fuel of 100 kilometres. However, there are also opportunity costs because travelling also takes time, which cannot be used for other

activities. For example, if a firm sends an engineer to a customer and the trip takes half a day, these are hours for which the worker is paid but cannot do anything useful for the firm. Distance also impacts the way production is organised, especially when production requires continuity, as in many manufacturing sectors, because it is costly to start it again. Consequently, firms need to build and maintain large warehouses to keep buffer stocks of inputs if supplies are irregular.

Other costs linked to distance relate to information. Buyers and sellers being unable to meet directly exposes the transaction to the risk of information loss. For example, a firm may order from a supplier and forget or ignore a specification, which seemed marginal but which is enough to make the supplies unusable. The result of this misinformation is the need to return the supplies and wait for new ones, an inconvenience which would have been avoided if the supplier could have shown the piece to the buyer. Another example is online shopping in which customers may not be able to evaluate efficiently all the characteristics of what they are buying. Sellers therefore normally allow customers the right to cancel an order and return goods; indeed this right is compulsory in many countries. Finally, there may be issues related to trust. Communication between people uses much non-verbal language and, despite the technological advancements and the diffusion of remote meetings after the pandemic, it is still easier to build trust between people who can meet in person rather than just online (see also section 8.2). Trust facilitates relationships and proximity increases the possibility of repeated interactions between the same people, decreasing the likelihood of non-cooperative behaviour.

The impact of infrastructure on regional growth and competitiveness has been studied in many ways: the relationship between infrastructure and regional GDP, the relationship between infrastructure and regional GDP growth, and the productivity of firms under different regional infrastructure conditions. The results, starting from the seminal contributions by [Aschauer \(1989\)](#) are generally positive but also either controversial ([Crescenzi & Rodríguez-Pose, 2012](#)) or unquestionably not uniform.²⁵ This is because of the many dimensions of infrastructure, especially transport infrastructure, which create several issues:²⁶

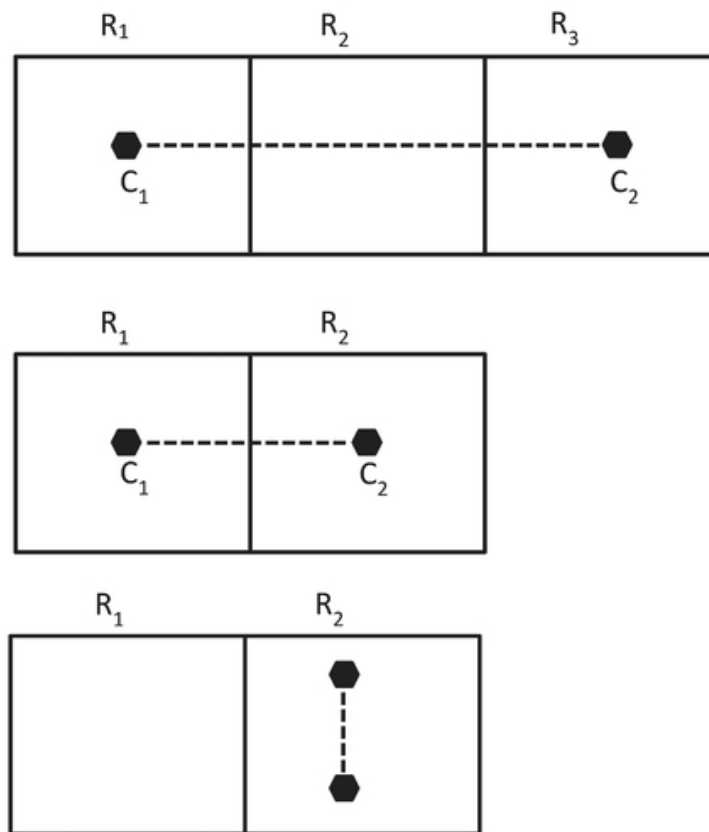


Figure 5.4 Issues with transport infrastructure Source: Created by the author for this book Top: Crossing infrastructure, Middle: Core-periphery link, Bottom: Internal infrastructure, R= region, C= city

1. It is difficult to measure the actual endowment of infrastructure, For example, the top of [Figure 5.4](#) shows a case in which there are three regions and an infrastructural link between the first and the third, such as a high-speed railway. This link may cross the second region, without stopping there. If infrastructure is measured in terms of kilometres, the most endowed region is Region 2 but, since there is no stop there, the positive impact is only available for Regions 1 and 3. The impact on Region 2 may even be negative because economic activities may relocate to the other two regions where the endowment of infrastructure is larger.
2. Building infrastructure increases regional integration, which normally increases efficiency because firms can exploit economies of scale and choose between more production factors to produce more efficiently (see [chapter 2](#)). However, integration may be detrimental in terms of disparities because of the potential for the agglomeration of economic activities in one place, something evidenced in so-called “core-periphery models”.²⁷ In the real world, roads go in both directions so linking a poor region with a

strong region means firms in the poor region will be able to sell their goods in the rich region but also that firms in the rich region will be able to sell goods in the poor one. Since the rich region is normally the one in which firms already exploit economies of agglomeration and have larger economies of scale (the so-called “home market effect”), it is more often the case that firms coming from the larger market have a competitive advantage. Building infrastructure which links poor regions with rich ones ([Figure 5.4 middle](#)) is therefore often ineffective as an instrument of regional development. A possible advancement to this is represented by a clear understanding of the difference between infrastructure which builds links between a region and the rest of the world and one which builds links internal to the region ([Figure 5.4 bottom](#)). Internal infrastructure does not increase integration but can reduce production costs inside the region. As such, it does not have the same contraindications of external infrastructure.²⁸

3. Infrastructure is characterised by indivisibilities. For example, it is not possible to only build part of an airport runway. The estimated costs for a third runway at Heathrow, Europe’s busiest airport, could be cut from 17 to 14 billion GBP by shortening it by 300 metres²⁹ but it is unlikely that such a project can be further scaled down without cancelling it altogether. Similarly, high-speed rail links are only effective when they are complete, otherwise fast trains have to spend part of their journey on often congested, traditional lanes. This is also the case for motorways. Infrastructure in general is characterised by high fixed costs which can be sustained only when spread across many users. Big infrastructure is therefore built in those places with higher populations and economic activities, such as the largest metropolises and the capital cities. Relatedly, infrastructure needs to be built where there are enough users for it. There are many cases of airports with few flights, roads with little traffic, railways with insufficient travellers to recover their costs and ports which operate at a fraction of their capacity.
4. Infrastructure is one of the most visible and longlasting products of regional policy intervention. For this reason, politicians covet the building of new roads, railways, bridges and airports. When local institutions are weak, the possibility of wasting public resources in visible but ineffective infrastructure investments is high – many examples are provided by [Rodríguez-Pose et al. \(2018\)](#). [Crescenzi et al. \(2016\)](#) also show that while infrastructure has a large amount of public support, the impact of public infrastructure investment on growth is mediated by good quality government and that lagging regions with better institutions tend

to invest more in local roads, which are more necessary, than in motorways, which enhance the flows between regions.

The main reason for the ineffectiveness of many investments in infrastructure is that infrastructure needs to respond to regional productive vocation. If infrastructure is complementary to the local productive system, it will be used by local firms and will enhance their competitiveness. When, on the contrary, there is no potential for its use in a place, the impact on regional growth is normally negligible. It does not attract activity to it because infrastructure is just one condition of growth alongside human capital, institutions, entrepreneurship, private investments, etc.

Infrastructure in fact may be a necessary condition for firms' competitiveness but are never a sufficient one, so even if regional policy builds infrastructure this doesn't guarantee that a growth pattern is established.³⁰ There are cases of ports that were built hoping to attract manufacturing activities around them but in which the expectations were never met.

Infrastructure investments work best where they solve bottlenecks, unleashing the potential of a place, or as part of an integrated strategy to increase the attractiveness of a region accompanied by measures to provide other local growth factors.³¹ It is therefore important to choose the right type of infrastructure for each region. For example, in some peripheral Mediterranean regions or islands, building an airport brought the possibility of attracting tourists from abroad and has been at the core of an effective development strategy based on tourism.

For example, similarly, building a motorway in a congested region with many manufacturing firms which waste their resources and employees' time with trucks stuck in the traffic, may be an effective way of increasing the efficiency of local firms. Building the same motorway in a region where there are few manufacturing firms, hoping that because of this motorway new or external firms will choose the region as their place of location, may lead to delusional results.

Infrastructure entails a cost for building but also a cost for operating and maintenance. Securing the funding to build infrastructure therefore may not be enough. Insufficient (public or private) resources to maintain infrastructure means that it can rapidly deteriorate and become ineffective or even dangerous.

Finally, time is key with infrastructure because construction normally takes years and the benefits cannot start before construction is completed and operation is established. Even when infrastructure is finally operational, however, it may take years before its use achieves the expected levels. Infrastructure may allow for a transformation of the local economy, but these kinds of transformations are never fast because firms need time to change their ways of production, suppliers and ways of doing business. A good

example is the 15km Øresund rail and road bridge, linking Copenhagen in Denmark and Malmö in Sweden. This bridge has been at the core of a large and successful cross-regional integration strategy but it took eight years for traffic to reach the level at which it has since stabilised ([Figure 5.5](#)). Moreover, in 2006 Hospers noted that the cross-border identity was still more an “imagined space”, built by policymakers, rather than an actual identity felt by citizens on both sides. Nowadays, however, the investment is mostly seen as a success since, for instance, innovation in the Malmö region has increased due to the bridge and its increased attractiveness to qualified workers ([Ejerme et al., 2021](#)).

In most cases policies for infrastructure target their endowment, the quality and quantity of motorways, roads, railways, ports, ICT connectivity, etc. These policies, in many cases, are not very effective because infrastructure is a prerequisite to economic development but not enough to induce it. There is in fact no guarantee that, when an infrastructure is present, someone will actually use it.

Beyond new infrastructure construction, therefore, regional policies can in many cases invest in the services which run along the infrastructure. For example, a train line may be already present but an effective commuting service for regional workers may be lacking. Therefore, instead of building railway tracks, it may be better to buy new trains to operate on the line. In some cases, also new trains might not be needed because with a reorganisation of the train services it will be possible to serve more passengers and to reduce travel times. This might be possible, for example, thanks to more sophisticated traffic control systems. This is related to the fact that building the network has a very high cost, usually higher with respect to that of operating services on it, so that having two networks is highly inefficient. For this reason, situations are common in which the network is managed by a public operator, or under public supervision, while the services are run in competition between various (often private) operators (see also section 2.2.1).

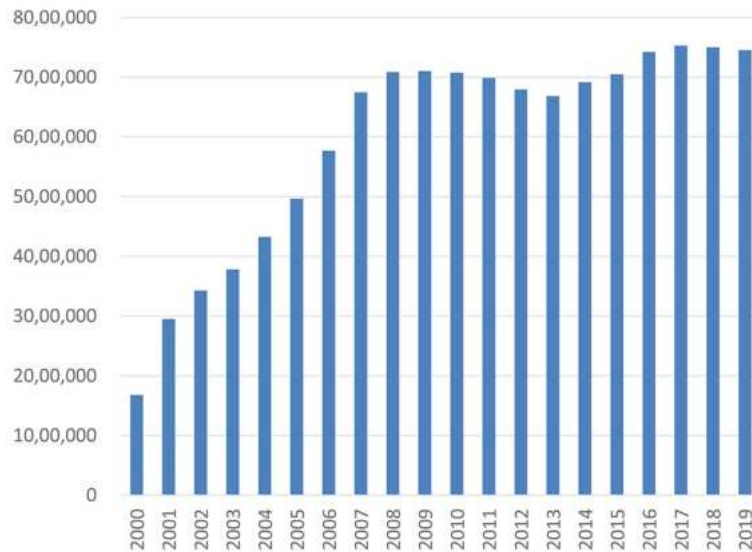


Figure 5.5 Total yearly traffic over the Oresund bridge Source: created using data from official Øresundsbron website.
www.oresundsbron.com/en/traffic-stats Retrieved in December 2020.
 note: Data for 2000 are not comparable because operation only started in July.

5.10.2 ICT infrastructure

The infrastructure for information and communication technology (ICT) has become increasingly important. These technologies allow communication over long distances in real time and the transfer of large amounts of information without delay. The applications of this technology started with plain text email messages and static websites but are now pervasive, including cooperative online gaming, remote teamworking, online shopping, social networking, etc. These applications are growing each year and it is impossible to know what will be possible in the future, from surgical interventions operated at distance to remote 3D printing which may avoid the shipment of actual spare parts or goods.

This ICT revolution began decades ago and, according to some studies, has contributed to significant improvements in productivity. The effect of ICT on the spatial configuration of the economy has long been debated, with some arguing that it will lead to the death of distance (e.g. [Cairncross, 1997](#)) and others pointing out that these claims are premature (e.g. [Morgan, 2004](#); [Rietveld & Vickerman, 2004](#)), not least because ICT infrastructure is not a fully public good. In fact, the value of these technologies depends on the users' abilities since it is possible to get large flows of information but the decodification of this information requires previous knowledge and skills. Furthermore, most internet giants, which dominate online services and social

networks, are located on a small piece of land called Silicon Valley because it happened to be the place where microprocessors were originally produced. This is not a random outcome but a clear indication of how spatial processes are cumulative and path dependent. Internet firms have continued to invest large sums of money to build large campuses where their best minds can exchange ideas to foster creativity and innovation in person.

At the same time, ICT can offer peripheral locations a role in the global economy. For example, many customer service centres are delocalised in countries where the cost of labour is low and the skills of people are sufficiently high. It is also possible for self-employed designers located in different countries to provide their services at lower costs and with comparable quality. These kinds of activities have been a source of jobs for peripheral regions lacking manufacturing activities.

These positive development processes, however, require regions to ensure they are not technologically divided from the most advanced places. The first potential divide is in terms of connectivity. Almost every place now has an internet connection but efficient operation requires a fast and reliable connection. The speed of connection required to keep pace is constantly increasing and requires constant investment. Private operators are keen to provide fast connections to the richest and most agglomerated places where they can serve many customers, whereas peripheral areas require much larger fixed costs per customer, such as long fibre-optic cables to only reach a few people.

Investment in peripheral regions normally need to be incentivised or the infrastructural divide risks increasing. The launch of 5th generation mobile phone infrastructure is also being piloted in rich, large cities and will take time to become more widely available, not least because it needs antennas to be much closer together, which makes it expensive to implement in sparsely populated places.

The ICT infrastructure divide has become more important again because of the push the Covid-19 crisis gave to distance learning and teleworking. Many activities previously only performed inside offices were performed from home and even from remote places when office workers relocated. This could be a way to bring people back to peripheral and remote regions, which will not need to build their own economic activities but take advantage of jobs which come from cities. However, this is only possible if the levels of connectivity are adequate. Maps of connectivity ([Figure 5.6](#)) show that the speed of connection in the most agglomerated and advanced areas is in most cases higher than elsewhere and that in most countries there is a difference between cities and rural areas ([Perpiña Castillo et al., 2021](#)).

To bridge this digital connectivity divide, many countries and regions are investing in ICTs in their regional policy plans, although the results are not always clear-cut and depend on institutions and governance ([Matteucci, 2020](#)). Indeed, some plans to endow lagging regions with good levels of

connectivity have been successful, but as happens for other infrastructure, these are a minimum requirement and not the guarantee that there will be individuals and businesses using them to significantly increase socioeconomic development.

The ICT divide is not just about infrastructure endowment but also about the skills people possess to be able to use it. Lagging regions normally lack the competences and skills to design innovative applications to exploit the internet. For this reason, although ICT infrastructure is a prerequisite of regional development, in itself it does not guarantee regional development because that requires people and firms to use it.

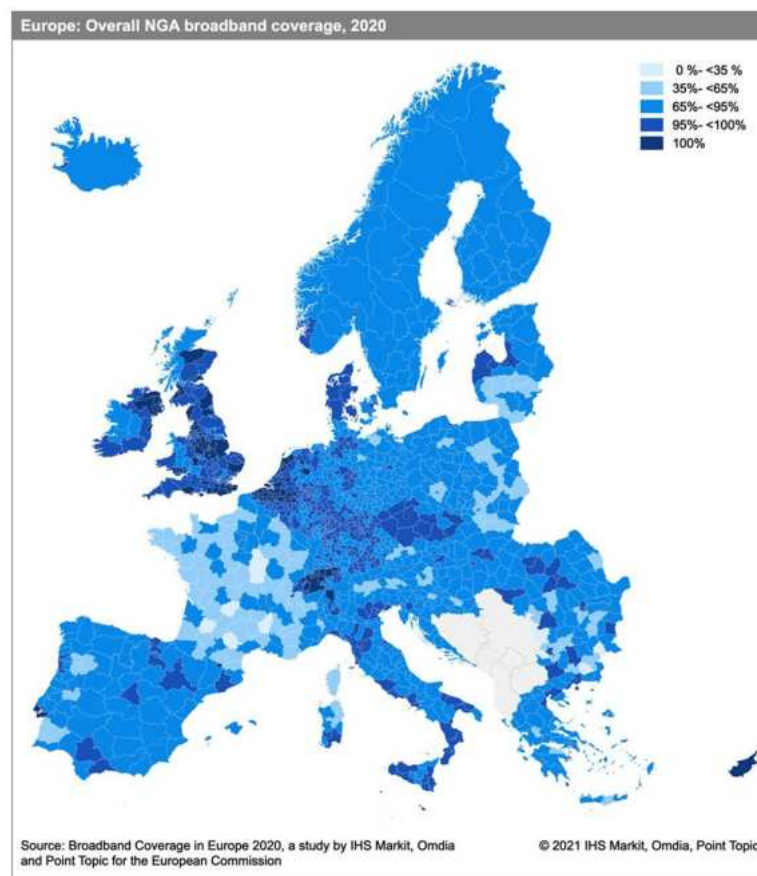


Figure 5.6 Overall NGA broadband coverage in Europe, 2020. NUTS3 level Source: [IHS Markit et al. \(2021\)](#) NGA: Next Generation Access

5.10.3 Other types of infrastructure

Although transport infrastructure probably most often comes to the minds of policymakers and internet connectivity has become the minimal requirement of any economic and human activity, many other types of infrastructure are necessary for regional prosperity. Infrastructure which provides energy is important for firms, especially those in the manufacturing sector ([Box 1.4](#)). Some industrial activities require lots of energy so the price of energy is an

important variable for competitiveness and location choice. Energy stability is also important, even to those firms using less of it.

A sufficient, inexpensive and reliable provision of energy, however, is not always enough because the source of this energy is becoming increasingly important in a world which has rapidly moved towards sustainability as an objective to preserve the interests of future generations. Firms which consume large quantities of energy have incentives, in terms of corporate social responsibility or external visibility, to use energy from renewable sources. For example, the data warehouses of internet giants consume lots of energy and these firms are proud to limit their consumption of energy from fossil sources.

Access to renewable energy at a low price may therefore attract investment, as shown by the Groningen Seaport, in the Netherlands, which is both a logistics platform for the installation of wind turbines in the North Sea and the location for the data warehouses of environmentally conscious firms, branded “Dataport Eemshaven”.³² This case also shows the importance of integrating different infrastructure, as the other main location factor is fast internet connectivity (see next sub-section).

The energy efficiency of the regional production system can be important for economic as well as environmental reasons. It reduces production costs, increases sustainability and makes the regional economy less dependent on external resources. Policies to improve energy efficiency can use incentives for firms, to affect their behaviour, or interventions in infrastructure, to make it more efficient.

Educational infrastructure is also crucial but this aspect will be examined in section 5.11 with the discussion on education and human capital provision.

The maintenance and improvement of the water network is also necessary for three reasons: economic, quality of life and environmental. There are economic activities which use a lot of water and hence locate close to the sea or rivers. Even more important is access to clean freshwater, which is necessary for people and for production. Its importance may be difficult to understand for those living in places where the supply of water is regular and abundant but where this is not the case it can hinder people's lives and firms. Freshwater is a limited resource and wasting it can lead to environmental deterioration as shown by the many cases around the world in which excessive withdrawal from lakes and rivers has led to empty lakes, desertification and even international conflicts.

Related to the provision of water is its treatment through effective sewage systems. These are necessary to avoid a trade-off between economic activities and the local environment because water pollution may even prevent the safe use of land, including for agriculture. The EU Cohesion Fund also funded this kind of basic infrastructure, which is a prerequisite for regional development. Investments of this type may not directly affect the

economy in the short run but make it more sustainable in environmental terms and also in economic ones, as the attractiveness of a place increases when it is clean and pleasant.

Health infrastructure is another fundamental factor of regional prosperity because it improves quality of life and increases life expectancy, which in turn can have economic impacts. Productivity during the 19th and 20th centuries grew in part thanks to improvements in the health of workers because unhealthy workers are less productive. Even when workers are normally healthy, temporary absences due to illnesses may harm the workflow and the dynamics of teams in manufacturing and service activities. Unhealthy family members can also create pressures for the workers who need to take care of them. The provision of health services, therefore, is not just a matter of quality of life, which is obviously of paramount importance per se and is a direct target of regional policy (see [chapter 3](#)), but also has direct repercussions on economic activities.

Health services are therefore often targeted and their provision is generally localised because the presence of doctors, laboratories and hospitals need to be distributed in space. Health in a region not only depends on direct health services but also on lifestyles, quality of life and the environment. Lifestyles in particular vary between places and can also be influenced by policies which try to induce more positive behaviour.

Within the large category of infrastructure, social and cultural infrastructure can also be mentioned. These are highly important, directly, for the quality of life of people, but are also indirectly important for regional economic development, because they can be a factor of attraction or of retainment of workers who, otherwise, might decide to out-migrate or not to work in that region and search for jobs in better places. Cultural infrastructure, moreover, has increasingly been associated with stimuli to innovation, although the relationship acts in both directions, because more innovative places also tend to invest more in culture. More on this topic will be presented in [chapters 6](#) and [8](#).

The setup of areas where firms can locate their activities is also an infrastructural intervention which can be part of a regional policy strategy. In fact, this is not only a planning initiative, because when firms know that they can locate in places where they will have the provision of all things which are necessary to their activities they may be keener on moving to that place. The provision of building areas is relevant in the cases of local technological parks, incubators, workspaces (see the respective sections) and also for general manufacturing activities.

Also, for these types of infrastructure there is the issue of service and use. For hospitals, for example, an urgency to enlarge its infrastructure might be ill-advised. Increasing the number of beds in an hospital might increase its size but might not be the best way to serve a community when new equipment, and additional doctors and nurses could improve the health care

provided to citizens.

5.11 HUMAN CAPITAL

5.11.1 Introduction

Human capital is considered to be one of the keys to regional social and economic development. Many definitions exist, all pointing to related aspects which see it as the accumulated investment in people, most of all in terms of education, competences and skills. While some skills are in fact innate, they need to be nurtured through formal education, experience and lifelong learning.

The accumulation of human capital is nowadays more important than physical capital since without human capital no modern mechanisms of regional development can really work. Moreover, while human capital is tied to persons, it exerts wider effects at territorial level by bringing positive externalities not just to the economy but to the wider society.

Individually, persons with higher human capital are in fact more productive, which leads them to have higher salaries on average, as shown by the analyses of the returns on education, i.e. the extent by which an investment in education pays off in the working life of persons, showing that these returns are higher than for other types of investment, i.e. that spending money and time in education brings more future benefits than spending the same resources in alternative investments.³³ For this reason, high levels of inequality in educational attainment are associated with income inequality (Rodríguez-Pose & Tselios, 2009).

People with human capital, however, bring also external benefits. Human capital is in fact a key to innovation, which cannot take place without it, benefiting technological development and economic growth. And, at the societal level, having persons with human capital means having persons with higher capacity to understand and positively impact what happens around them, for example by being able to monitor the actions of local policymakers and keep them accountable (see [chapters 2](#) and [4](#) on externalities and governance).

Empirically, the analyses show the importance of human capital for regional development and regional policy effectiveness (Rodríguez-Pose & Fratesi, 2004; Rodríguez-Pose & Vilalta-Bufí, 2005), supporting the fact that many regional policy strategies include human capital and education as a main axis. It has to be noted, however, that human capital requires time to accumulate but can also be attracted or lost towards other regions.

For this reason, the following text will start with higher education and the other roles of universities (section 5.11.2), discuss the importance of general skills and lower levels of education (5.11.3), show the importance of well-functioning labour markets in matching educated people with jobs (5.11.4), show the importance of considering people mobility (5.11.5) and, finally, the role of creativity and culture (5.11.6).

5.11.2 Universities and higher education

When thinking about human capital, the incidence of higher education is often the first indicator which is considered.³⁴ For example, more than 40% of 30–34-year-olds having a tertiary education is one of the targets of the EU framework of cooperation in education and training (ET2020 strategy). Many regional policy strategies therefore involve local universities, but this also happens because universities play additional roles in regional economic development, which can be summarised as follows ([Dotti et al., 2013](#)):³⁵

First, providing educational services and training people to acquire a higher level of education is the most traditional role of universities and benefits the regional economy because local firms will be able to hire qualified personnel, making them more competitive. External firms may also be attracted to regions more endowed with university graduates as potential employees. The shift to a more knowledge-based economy has enhanced this role because human capital is a much more important production factor than it was a few decades ago.

Second, universities enhance demand through the expenditure of personnel who spend their salaries, and students who may represent a large share of demand for some local economies where universities are large compared to the region. This additional demand can start Keynesian multiplier effects.³⁶

Third, universities can improve the innovative capabilities of the region and its firms through knowledge transfers and externalities. The research performed in universities may be useful to local firms and applied research may benefit from collaboration with the private sector. University networks are influenced by location, impacting regional innovation capability and competitiveness ([Huggins et al., 2012](#)). As will be further discussed in [chapter 6](#), universities are one of the three pillars of the triple helix framework, which has inspired a lot of policy interventions. Recently, the role of universities in the knowledge economy has also enlarged to include a role for “entrepreneurial universities”³⁷ which can incubate new firms originating from discoveries and patents developed in the universities but which then go into the market, generating growth and employment (see [Box 6.2](#)).

There are two additional roles less often mentioned in the academic literature but highly relevant to policy. One is the role of universities in attracting skilled young people who may choose the region because of its university but then stay, enhancing the regional skill level by importing young people with high potential. Notice that the opposite is also true, as a stronger local economy may help universities attract students from other regions ([Dotti et al., 2013](#)).

Finally, universities drive urban development. The vibrant environment which usually surrounds them, due to the presence of students, has positive effects in terms of demand for opportunities to meet (cafes, restaurants, sports centres and so on) and in terms of liveliness. There are many cases in which the revitalisation of depressed urban areas also involves the establishment of campuses or dormitories.

All regional policies involving universities are aiming at one of the previous five roles. The typology of instruments is very wide and there is not a correspondence between instruments and roles, since the same instrument may be used to target one or more different roles. The following instruments are available to policymakers seeking to enhance regional benefit from universities:³⁸

- Establish a new university, especially when a region does not have its own university or only has small universities. Instead of starting new institutions from scratch, some regions have agreements with external or foreign universities to establish new campuses, in many cases also financing them. One example of development policy through the establishment of a new research institution is the Gran Sasso Science Institute (GSSI) which was advised by the OECD and established to revitalise the city of L'Aquila city, in central Italy, after the earthquake of 2010.
- When universities already exist in the region, policies targeting regional human capital may finance existing universities in order to enlarge the number of enrolled students and, in this way, within a few years also the number of graduates within the local labour market which are present in the economy.
- Related to the previous instrument, there are also interventions to finance the support to students through publicly financed fellowships for good students and also through the provision of services to students such as new dormitories or libraries.
- Increasing the number of students may also serve as a way of urban revitalisation, especially when campuses and dorms are located in deprived urban areas.
- Enhance existing universities' contribution to the knowledge economy by financing research activities, fellowships or research projects within the region. These mechanisms are normally

competitive ones, but the conditionality related to belonging to the region is enough to guarantee that the main beneficiary is the local economy.

- Finance firm-university collaborations, as inspired by the triple helix framework.³⁹ This also usually takes place through specific calls which have the formal requirement of having at least one partner within the university system and one from local firms. In this way, by definition, the transfer of knowledge and technology is ensured by the fact that the two types of agents are forced to work together to the common project.
- Finance university spin-offs, through competitive calls or through the establishment of specific VC funds specifically devoted to new enterprises coming from local universities and established in the region.

A successful example will be presented in [Box 6.2](#).

5.11.3 Education and skills

Higher education is not the only one relevant for regional development, but low and intermediate levels of education are also important in providing skills to the workforce. The creation of human capital also passes through the lower levels of the education system. As well as the numbers of years spent in education, which normally increases human capital endowment,⁴⁰ the quality of schooling is also important. Quality is heterogeneous at both international and regional levels, as shown by standard international educational assessment exercises such as PISA, the OECD's Programme for International Student Assessment.⁴¹ Lagging regions tend to have underperforming school systems that provide students with less knowledge or ability, or in which many students do not complete their studies. Investing in education provides the basis for sustainable development in the long run.

Human capital is not just a matter of formal education but also concerns vocational or on-the-job skills. Learning by doing provides workers with experience, (tacit) knowledge and abilities which may support the innovative or structural transformation of firms since these need experimentation on the ground. Skills acquired at school and on the job are all subject to obsolescence. This is because technological progress is continuous, although with faster and slower phases, and no worker is expected to do the same tasks throughout their working life. Workers themselves are often disinterested in upgrading or rejuvenating their skills through adult learning – this lack of motivation exists in many countries, especially among less skilled workers who may be less able to recognise the benefits of training ([OECD, 2018](#)).

Regional policies in education and training are strongly intertwined with labour market policies because it becomes important for regional development to provide incentives to the firms which train their workers. It is important that workers learn new competences and ways of working and, in some cases, are able to transition between industries when the one they work in gets in crisis. Lifelong learning is needed to adapt and positively react to such changes. The system of local firms as a whole, therefore, benefits from investments in workers' skills more than the single firm; this is a typical case of positive externalities in which public intervention is needed because any investment which the firm makes in the skills of its workers may remain inside the firms but may also be spent elsewhere if the workers decide to move to capture better opportunities elsewhere.

The European Social Fund (ESF), part of the EU Cohesion Policy, invests in the learning and skills of workers, which benefits the wider local economy. The ESF (now ESF+) is the oldest structural fund, established in 1957, and its total proposed budget for 2021–2027 is around EUR 100 billion.

Investing in requalification is also useful when workers are laid off. Finding another job in the same industry may be difficult if the job loss is due to a shrinking industry. Courses and on-the-job initiatives may allow workers to acquire different skills to be used in new jobs in different industries. Initiatives are especially necessary when workers are older and may have difficulty finding opportunities to learn new competences. However, the impact of training on retaining workers may vary across regions, not only because of different economic systems but also different local labour market mobility ([Filippetti et al., 2019](#)).

5.11.4 Labour market matching policies

Interventions on the labour market may have two different focuses:

1. To increase the supply of labour or the skill level of existing labour, which also provides a better base for the competitiveness of local firms, which take advantage of a labour force with better skills or skills in line with their needs.
2. To reduce unemployment when there is an excess supply of labour, by increasing demand. This can be done with policies to support the competitiveness of firms which will then hire new workers, or with incentives to hire new workers, such as reducing the cost of labour through favourable taxation.

Both objectives, however, may require interventions to improve the matching between labour demand and supply. Labour markets, in fact, are imperfect because potential employers have difficulties assessing the skills

of potential employees and potential employees have difficulties finding job opportunities for people with their skills. Good matching between worker competence and firm demand not only reduces frictional unemployment but also increases productivity, since workers who exploit their competences in their job are more productive and so are the firms that hired them and the regions where these firms are located.

Issues with matching also occur when the skills of existing workers do not match those required by local firms. In this case, there is both an excess supply of labour (unemployment) and unsatisfied labour demand from firms. Training initiatives are helpful in this case but interventions are also needed to improve the circulation of information so potential workers invest in acquiring the training and skills demanded by the labour market. These interventions often take place through agencies which combine labour demand and supply. When unemployment is not due to macroeconomic conjuncture but to rigidities and imperfect information, this is an adequate way to intervene, and not a very costly one since there is no need to provide money to firms or workers but only to set up and finance a structure of intermediation.

For example, the UK has established Skills Advisory Panels (SAPs). These are local partnerships that identify and address local skill priorities to strengthen the link between employers and skill providers. SAPs are established within other agencies in charge of governing regional development, such as Mayoral Combined Authorities (MCAs), the Greater London Authority (GLA) and Local Enterprise Partnerships (LEPs). All SAPs are supported by funding from the Department for Education and are expected to produce local skills reports⁴² ([Sevinc et al., 2020](#)).

5.11.5 Education and brain drain

Policies based on human capital have the limit of generally being quite slow to provide their effects. However, the larger conceptual limit lies in the existence of a phenomenon which is usually called brain drain, consisting of the fact that poorer countries and regions experience out-migration of people who are willing to go and search for better opportunities elsewhere, and that generally these flows of out-migration are biased towards persons with the highest skills and levels of education. Brain drain has been detected and measured both at country and at regional level.⁴³ The weakest regions of each country are therefore at high risk of losing young, qualified persons.

The reason for this phenomenon is that, first, the cost of migration is constant or decreases with the skills possessed by the workers. In fact, the personal costs of moving out are expected to be dependent on the social ties⁴⁴ and so on the personal characteristics, skills may even make it easier to adapt to the new reality to which workers move because, for example, a

person with higher skills is able to learn a new language more easily. Second, the advantage from moving tends, on the contrary, to increase with the skill set of people because the low-skilled ones, when they move to another place, will likely find a lowly qualified job, but the high-skilled may indeed find jobs able to provide them with full returns for their abilities, in terms of very high salaries. For example, moving to Singapore may not be very rewarding for a manual worker but may be highly rewarding for a highly skilled engineer.

Because of the brain drain phenomenon, regional policies based on education may even backfire, because the more policies invest in the formation of skills for young people, the easier it will be for them to achieve good opportunities by out-migrating, the consequence of this being that the investment in human capital is paid by the region or by the nation that is willing to increase the human capital of the region, but the advantages of such an investment may end up in the strong regions. This is especially relevant for the highest levels of skills and education, while it is less relevant for the relatively low skilled who may not cross the threshold where migration becomes valuable ([Suedekum, 2005](#)).

However, the brain drain phenomenon may not be completely detrimental, for three reasons:

1. The theoretical possibility of out-migrating may increase the willingness of young people to invest in their personal education and, therefore, increase the skills the full cohort acquires.
2. In many cases migrants are willing to return to their hometown and, when they do, they may be middle-aged professionals who have acquired important new skills. They may even become entrepreneurs who start valuable enterprise activities in their region of origin.
3. Skilled migrants often act as links between the place they migrate to and their hometown. This facilitates technological spillovers which may be important for lagging regions, as well as bilateral trade opportunities.

Even with those advantages, the existence of brain drain is a good reason to make the investment in skills and education a part of a wider regional strategy in which the different aspects are linked together.

Regional policy can also benefit from the fact that skilled workers are more mobile than others by making regions more attractive to them. This means the provision of cultural services and amenities as well as interventions to attract workers, for example through fiscal policies that decrease the taxes paid by firms and workers.

5.11.6 Culture and creativity

Culture, creativity, diversity, trust and other social aspects are all important for regions to attract and retain human capital, as well as to make them innovative. Innovative activities depend on the fact that people can meet, almost randomly, with other people who have different experiences. This buzz, which works over short distances (most commonly in cities, see [chapter 8](#)), is what allows the transmission of tacit knowledge, while codified knowledge can be transmitted over longer distances ([Reades & Crookston, 2021](#); [Storper & Venables, 2004](#)). This is part of the success of large cities and is complemented by investments in long-range communication channels between selected actors ([Bathelt et al., 2004](#)).

Defining creativity is difficult and the term has been used various ways ([Throsby, 2001](#); [Cerisola, 2018](#)): in reference to problem-solving, as the source (e.g. [Santagata, 2009](#) illustrate it as coming from cultural heritage) or content of creativity (e.g. [Florida, 2002](#) according to whom creativity is not intelligence but the ability to synthesise); and in reference to a process, as a search for new solutions or use of the imagination, where it is the product of creativity (e.g. [Woodman et al., 1993](#) refer to doing something for the first time).

There is therefore no complete agreement on whether creativity is a characteristic of people or processes. In both cases, it appears to encompass ([UNCTAD, 2010](#)): artistic creativity, which includes the imagination and ability to generate original ideas and new ways of interpreting the world, expressed in text, sound and images; scientific creativity, which includes curiosity and the will to experiment and create new connections in solving problems; economic creativity, which is a dynamic process that leads to innovation in technology, business practices, marketing, etc. and is closely linked to obtaining competitive advantages in the economy. These three types of creativity are interrelated and have different effects on territorial development

Creativity has not only been investigated as a phenomenon, but also as something belonging to specific people. The concept of the “creative class” was introduced by [Florida \(2002\)](#) as the class of professional, scientific and artistic workers whose presence generates economic, social and cultural dynamism, especially in urban areas. It includes people who work in science, engineering, architecture, design, education, art, music and entertainment. The economic function of the creative class is to create new ideas, technologies or creative content. For Florida, creativity is not synonymous with intelligence but implies the ability to synthesise it by sifting through data, perceptions and materials to find something new and useful. They are therefore people who add economic value through creativity. The values of the creative class are therefore individuality, meritocracy, diversity and openness. In this conceptualisation, the three Ts (technology, talent, tolerance) are what really matters.

This creative class has been measured by approximating it with the jobs it does. In Florida's practical calculations the creative class comprises nearly 1/3 of the US workforce and 1/2 of wages. Although criticised both for the way it formulates hypotheses and the way it empirically tests them, the creative class thesis remains influential and policy relevant. In fact, if development in modern economies depends on the creative class, policies to attract and retain those belonging to it may provide a spur to regional growth.

Questions remain about whether the presence of the creative class attracts economic activities which exploits it or whether it is the presence of creative economic activities which attract the creative class. Either way, establishing regional environments favourable to creative people may be necessary. Interventions to support the creative economy are linked to those targeting human capital since creative people tend to be highly educated. It appears that creative jobs follow people with high educational attainment, although there is also an effect of attraction to creative jobs from other types of jobs and viceversa ([Østbye et al., 2018](#)).

Creative people may be attracted in two complementary ways:

1. Opportunities to work. Artists, especially when they are not yet established, may require public support to produce their work; and those with economic creativity may find it easier to get from ideas to production if supported with the right type of interventions.
2. Living environments, especially urban areas, where cultural activities, museums and festivals are denser. Policies enhancing cultural vibrancy may have the indirect effect of making it more attractive to creative people and, in turn, spurring economic development.

Also, the presence of cultural heritage is relevant in this case. Heritage has long been considered to have an impact on regional development through a direct channel, the one of tourism attractiveness. If tourists are in fact attracted by things to see and visit in a region, they will spend time and money there, improving the regional economy through direct demand (section 5.12 will analyse tourism in more detail).

There is however a second channel by which cultural heritage can provide economic development. In this second channel, the presence of cultural heritage acts as a spur to creativity and innovativeness of people. In this way, indirectly, it will also produce regional growth ([Cerisola, 2019](#)) ([Figure 5.7](#)).⁴⁵

These are part of the so-called gravitation effects, which are “processes that make the region more attractive to live in or to establish firms in, or processes that help foster entrepreneurship and innovation” ([Bowitz & Ibenholt, 2009](#); p.4). These gravitation effects normally lead to better economic situations through employment and production growth, but they

need time to be deployed. Policies for the protection and valorisation of cultural heritage in a region will hence be helpful to the economic system in two complementary and different ways.

Beyond gravitation, the economic impacts of cultural heritage projects are manifold: ([Bowitz & Ibenholt, 2009](#)). First there are direct effects, such as more jobs in a museum. Indirect effects, however, also exist of the following types: input-output effects, due to the demand for intermediate inputs (components, transport, etc.), Keynesian multiplier effects, investment acceleration effects, ancillary spending by visitors (especially tourists from outside the region). Derived effects are those induced by other initiatives or regional economic activities which can benefit from the image provided by cultural investments. Non-economic effects can also be present since cultural heritage can affect identity and social cohesion which, although not economic, are often among the objectives of regional policy (see [chapter 3](#)).

Finally, not all impacts are positive and counteracting effects are present, in terms of displacement of other activities, wear and tear of visitors and tourists and the need for more public investment to deal with increased flows. The investigation of actual cultural policies goes beyond the scope of this book and the reader may refer to many existing books dedicated to the topic.^{[46](#)}

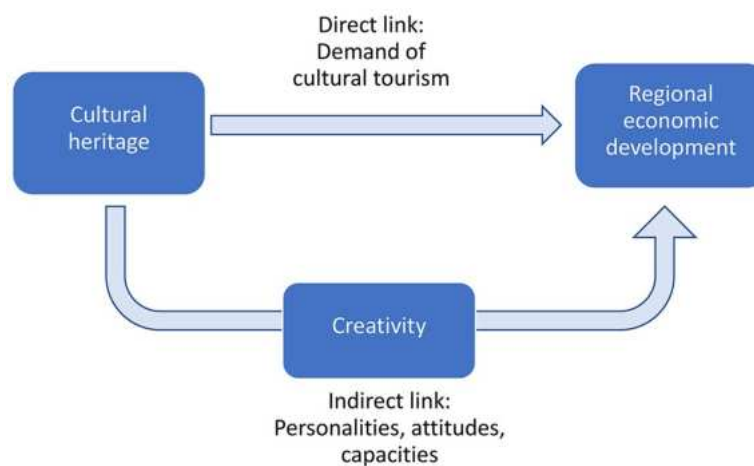


Figure 5.7 Cultural heritage and regional economic development Source: adapted from [Cerisola \(2019\)](#)

5.12 ENHANCING TOURISM ATTRACTIVENESS

Relevance of tourist activities

The World Travel & Tourism Council (WTTC) estimates that in 2019 travel and tourism accounted for 10.3% of global GDP and 330 million jobs (1 in 10 jobs around the world). Moreover, the growth rate of the demand for tourism has been constantly higher than that of global GDP since at least 2011, 3.5% vs 2.5% in 2019 ([WTTC, 2020](#)).⁴⁷ These data reveal the large share of the global economy which depends on tourism and why there are so many policy attempts to acquire a share of it.

Tourism is therefore often seen as a strategy for development by rich and poor regions alike. Increasing tourist flows is a policy objective for many lagging regions with weak manufacturing bases but it is also an objective for most large and important metropolitan areas. There have been many cases in which a region or a city experienced economic development due to the expansion of tourism and in particular the attraction of international tourists. For some regions, promoting tourism might be the only way out of economic struggles.

Regional tourist attractiveness is linked to two aspects that characterise regions and on which regional policy can only marginally intervene. These are the amenities present in the region (including environmental ones such as beaches, lakes and mountains) and the presence of cultural heritage. Although neither amenities nor cultural heritage can be built, they can be the object of policies which preserve and valorise them. Increasingly, however, tourists are also attracted by the experiences available in certain places, some of which can be fabricated with adequate investment (such as theme parks).

Advantages and disadvantages stemming from tourist inflows

The advantages of having large tourist flows are numerous. First, providing tourism services to non-residents is one of the most important ways for a region to export services and get income. This is especially important for those regions whose capability to export goods is limited due to a weak or small manufacturing base. In the regional balance of payments, money from selling tourism services can be used by residents either to buy goods and services, which can increase the demand for local goods or allow regions to import those which are produced elsewhere, or to invest, with local investments being especially important. These monetary flows can therefore provide the necessary resources to upgrade the local economic system.

The presence of tourists may also provide entrepreneurial opportunities to local people to start their own business and become providers of various services, which spreads out from the core tourist sector to other activities such as agriculture and craftsmanship. Contact with people from different places may also stimulate technological upgrading by existing local entrepreneurs. Indirect effects may also take place through scale economies

created by increased demand from tourists. Tourism also attracts investments and firms from elsewhere, and these external firms may be more productive than local ones, especially in lagging regions. Finally, tourism is a relatively labour-intensive activity, which provides a large number of jobs. This may be important for lagging regions, where pockets of unemployment are concentrated and where young people often consider out-migrating.

Large tourism inflows also bring drawbacks, which are evident in practice and academic literature but are sometimes neglected by policymakers. These negative effects are especially linked to “over-tourism”, when the number of tourists is too high compared to the local resident population. The first of these negative effects depends on overcrowding, which has direct congestion costs for residents and economic activities. It also entails higher prices for goods and production factors, which can crowd out residents from the consumption of certain goods and services (for example because restaurants become too expensive) and local businesses (for example if the price of land becomes too high). Venice is a world-famous example of this situation, which is common to many other large and small tourist destinations. It has lost most of its population, which moved to the hinterland on the mainland, and is now mostly populated by tourists. Tourists stay in hotels but also in private apartments because it was convenient for residents to rent their own homes and move elsewhere.⁴⁸

A second negative effect is the wear and tear of those same factors (cultural heritage and natural amenities) which attract tourists in the first place. Cultural heritage is often fragile and can be easily damaged if used by too many people at the same time. There are also cases in which the presence of many tourists makes problematic behaviours that would otherwise be negligible, such as taking some sand from a beach to keep it as souvenir. Venice is again a negative example, since it suffers from the arrivals of cruise ships which cause “pollution, noise, smoke, alteration of heritage and the environment, endangerment of citizenship, architectural and cultural heritage” ([Trancoso González, 2018](#); p.35)

The third negative effect is indeed the possible loss of identity because socioeconomic systems can change when many people bring different cultures and stay only for short periods of time. Again, the same characteristics which attracted tourists are damaged by their presence. For example, local networks can be affected by the interference of newcomers or local shops, economic activities and the way of life may be impacted by new businesses exploiting the arrival of tourists.

Even without over-tourism, tourism can be considered a relatively weak economic activity in terms of development potential. As a labour-intensive industry, most jobs in the tourist sector tend to require low qualifications, have a low level of productivity and, as a consequence, salaries are normally lower than those in manufacturing or advanced services. Further, tourism is generally not an innovative activity so growth in tourism is linked to

increasing flows rather than, as in most other activities, increasing productivity and value added per employee. This can be counterbalanced by strategies to increase the range of tourism and expenditure per tourist instead of raw inflow numbers.

There is also the risk of “beach-disease”. This adapts the idea of Dutch disease to the fact that a booming tradeable sector, tourism in this case, may end up crowding out another tradeable sectors such as manufacturing, although the latter would potentially provide more growth opportunities in the long run.⁴⁹ This could happen at an international level through the appreciation of the exchange rate which makes manufacturing exports more expensive but could also occur at a regional level because of the higher salaries paid in the booming sector, and also in non-tradable sectors due to induced increased demand.⁵⁰

Tourism is also seasonal, so there are months in which the flows of tourists is intense and others in which almost no one is present. This implies that many jobs are seasonal, with pay for only part of the year. There are limited possibilities to intervene in this aspect because seaside resorts only work in the summer in temperate climates; and skiing resorts in the winter, although they try to extend their seasons with snowmaking. The latter also suffer from the variability of climate and global climate change.

Finally, the success of a region in the tourism sector can be affected by exogenous factors. The total demand for tourism depends on the total national and international GDP, and is hence weaker in recessions. There are also consumer trends in which individual localities cannot intervene but can only try to outbid their competitors. Moreover, the demand for types of tourism can change because of national and international trends that make some activities and amenities less in demand but which have nothing to do with the region itself. One example is spa resorts in Europe, many of which were almost abandoned due a reduction in the length of stays and the preference for other types of vacation, while more recently many (but not necessarily the same ones) experienced a resurgence due to the appeal of wellness.

Tourism policies

Despite all drawbacks, the advantages usually overcome the disadvantages, especially if tourism is well-managed. It is therefore important to consider the factors which determine the number of tourists coming to a certain place because these may provide the basis for policy interventions. Demand and supply factors are important.⁵¹ These include the price of tourist services (this variable is negatively related to demand and is affected by exchange rates in case of international tourism and by differences in price levels for regional tourism⁵²), marketing expenditure, consumer tastes, consumer

expectations, word-of-mouth, reputation and habit persistence, population of the country of origin, income per capita in the place of origin, income per capita in the destination, the presence of alternative destinations, regional population, hotel capacity, infrastructure and accessibility, agglomeration economies, cultural capital, natural amenities, the presence of crime (of course with a negative effect), the climate, institutional capacity, the presence of events, transportation networks, telecommunications, commerce, urban development and public health. Neither demand nor supply factors can be neglected because only considering the demand side neglects the specificities of the tourist product, while the only considering the supply side neglects the importance of the conditions in the origin countries and regions. Policies cannot act on all these factors, not least because some supply factors (such as climate) and demand factors (such as world GDP) cannot be changed. However, they can impact many of them because even things such as consumer tastes may be influenced in the long run.

Spillovers are normally also present in the case of tourism, including due to the following effects ([Yang & Wong, 2012](#)):

- Productivity spillovers. These are induced by the movement of workers from one place to another and the competences they bring with them. Moreover, there are “demonstration effects” due to the imitation of good practice and “competition effects” which stimulate efficiency improvements to compete with other similar destinations.
- Market access spillovers. Tourists may also visit other places nearby. This is especially important when a nearby location does not have enough visibility to attract visitors by itself.
- Joint promotion. This is a planned factor by which proximate places join forces to achieve enough scale for marketing campaigns, or in terms of visibility to potential travellers.
- Negative events. A negative or catastrophic event in one locality affects tourism in other localities nearby. In some cases, the tourists may be diverted from the place directly affected by the event to others nearby, which could provide a safer alternative. However, it is also possible that a negative image will spread to other places, reducing tourism there as well.
- Tourists with multi-destination travel plans. It is common, especially for long-distance tourists, to include many different destinations in the same trip.

This discussion of spillovers also provides an entry to the question of whether there is a zero-sum game between localities, in which if one region attracts more tourists it does so to the detriment of others. While this is partially true, especially if two localities provide similar experiences, global tourist flows are negligibly affected by the policies of each region. Visitors

may also decide to visit both places, creating positive externalities between regions.

There are three elements to the revenue a place receives from tourism: the number of arrivals, the length of stay and the expenditure per day, which can be multiplied. Arrivals can be increased by policies which enhance the attractiveness of the region to potential tourists, which may depend on the actual presence of attractions but also on the external image of the region. Length of stay and expenditure are more affected by what the region provides to tourists, who may stay longer and spend more when more, higher-level attractions are present.

The tourism sector, however, also brings indirect revenue related to spillovers. These indirect effects depend on the magnitude of a tourism multiplier, which is smaller when leakages to other regions are present and higher when it is possible for the region to directly provide everything the tourism industry needs from agriculture, manufacturing or services. Normally, urban areas would have higher multipliers due to their larger diversification and hence the possibility to provide more of these services ([Zhang et al., 2007](#)).

There is a plethora of interventions available, most of which normally target direct revenue effects but some which target the indirect ones:

- Improve the quality of the place. Urban planning can improve the quality of life of residents to make cities more attractive to tourists. Renovating and valorising public spaces and roads makes cities much more appealing.
- Restoring cultural heritage and making it more accessible.
- Restoring and making accessible natural amenities, which can be freed from pollution, landscape-covering superstructures and obstacles.
- Creating or improving “artificial” amenities such as experiences, theme parks, experience-based museums and restaurants. This is also a good way to increase the expenditure of tourists once they are in the area.
- Organising meetings, conferences and events are common ways used to attract visitors.
- Investing in the image of places, through direct marketing campaigns, tourism agencies or joining networks. There are also softer ways to increase the visibility of a place, such as making the region the set for movies.
- Hosting festivals and large events, which provide valuable experiences in themselves but are also a good way to improve the visibility of a place. This is the case for the Olympics, world fairs, music festivals, etc.

- Improving the capacity to carry additional visitors, including better hotels and resorts, which may also be a factor of increased attraction.
- Ensuring fast and convenient ways to reach the region (see earlier section 5.10 regarding adequate infrastructure). Air accessibility in particular, combined with the spread of low-cost air carriers, has increased international tourist inflows to coasts or islands which would have not been reached otherwise, as in Spain.⁵³

When designing policy strategies based on tourism, three rules evidenced by [Vanhove \(1999\)](#) should be considered:

1. The existence of economies of scale in the tourism sector. Most localities are too small or have too little to offer to play a role as attractors in the international market. It is therefore necessary to develop synergies between different localities to achieve an appropriate scale for marketing and visibility. This also means that regional policy efforts provide better results if they are concentrated on specific regions and localities rather than trying to develop horizontally.
2. Designing a strategy based on tourism requires a comprehensive approach, like most regional development policies. An unbalanced strategy only based on creating beds or on marketing is deemed to fail.
3. It is risky to have tourism as the only “export” industry because this makes the region dependent on exogeneous factors (e.g. the Covid-19 crisis).⁵⁴ Tourism is compatible with many other activities and in many cases can be complementary to them, growing together with the local production of other goods and services.

5.13 VALORISING REGIONAL SPECIFICITIES AND NATURAL ASSETS

5.13.1 Natural resources

Regions often possess characteristics or natural resources that make them different from other regions and which can be exploited economically. This might be a niche agricultural product that cannot be cultivated elsewhere; a culture, heritage or climate that is attractive to tourists; natural resources that are also commodities or energy sources.

Natural resources can be exploited for regional development especially if policies are able to start development patterns which build self-sustainable strategies to overcome the intrinsic weaknesses of basing well-being on the sale of local assets. [Pike et al. \(2016\)](#) and [Tödtling \(2011\)](#) support the idea that indigenous development strategies can also be based on natural resources, as well as on local softer aspects rooted in regional history, such as entrepreneurship or human capital. The strategies of many resource-endowed regions are based on them, especially in poorer countries. These strategies are less common in more developed regions and countries because it is a risky strategy with drawbacks that make it less appealing in more balanced economies.

One well-known problem is commonly known in economics as the Dutch disease.⁵⁵ This takes its name from the situation in the Netherlands after the discovery of oil in the North Sea. The boom of an amenities-related tradable sector may bring a lot of money to a country but can lead to the appreciation of the exchange rate and, for this reason, other tradeable sectors such as manufacturing can suffer because the appreciation makes them less competitive internationally. The revaluation of the exchange rate is not a regional phenomenon (see section 2.7) but crowding out can occur at a regional level. Higher salaries can increase demand for a third sector, a non-tradeable one (e.g. services), where salaries also increase, crowding out employment and creating higher production costs in tradable sectors. Salary increases in themselves are not negative but these effects can reduce the positive development impacts of natural resources,

Strategies based on natural resources are also vulnerable to variability in the price of commodities. These prices depend on international macroeconomic situations, as well as technological advancements, both taking place at a global scale over which regions have no power. For this reason, regions where wealth depends on the exploitation of natural resources are subject to exogenous forces and potentially significant oscillations.

At a national level these exogenous effects may be mitigated by specific strategies which are not normally available to regions. For example, after the discovery of important oil reservoirs below the North Sea, Norway established a sovereign fund, the Government Pension Fund Global,⁵⁶ which collects the revenues from oil extraction. This is a guarantee that the wealth of the country will not be affected when the oil reserves are depleted.

At a regional level, there is also the risk of conflicts of competence and, in particular, who keeps the revenue from extraction (the region or the country). There are many situations in which local people see little or no benefit from resource revenues that are transferred to the central government. What is normally localised, however, is the presence of externalities, which are often negative. For example, gas extraction reduces land levels and may create mini earthquakes, which is why local

communities often fight for environmental protection and to oppose the exploitation of energy resources.

5.13.2 Climate, culture and the residential economy

Culture, heritage and climate can be exploited for development through the attraction of tourists which, as seen in the previous sections, is a very common intervention field for regional policies. Likewise, they can help creativity and innovation (see section 5.11.6). While heritage is a resource whose regional endowment largely depends on the past, at the same time economic development also has an impact on culture, so that the cultural intensity of a place can be developed.

Wealthier places, in fact, normally invest more in the preservation and valorisation of existing heritage, and also spend more on cultural industries and events which are demanded in higher quantities by their citizens (richer people tend in fact to spend more on these goods) and can also indirectly increase the tourism attractiveness of a given place. For example, the largest opera theatres in the world normally belong to large and rich cities, and were built to satisfy the demand of local people. However, they often ended up being important tourism attractions, think about L'Opera in Paris or the Sydney Opera House.

Related to the benefits of tourism are opportunities represented by the residential economy ([Davezies, 2009](#)), such as social transfers and pensions. The population of a region can be greater than the one officially resident there when it attracts people who are residents elsewhere. These people choose to spend a lot of time in another region where they think living conditions are better due to environmental and social characteristics. This is different from traditional tourist flows because these people are more embedded in the territories they select and spend much longer periods of time there (see also [chapter 8](#)). This also brings the likelihood of second-home proprietorship because these people do normally not stay in hotels.

The economic impact of second homes is debated. On the positive side, they may bring significant advantages to the local economy. They provide demand for the local construction sector and, when used regularly, increase the local population without additional economic activities. This will also increase demand for local service activities including shops and restaurants, although with a concentration in certain periods of the year.

The impact of second homes on traditional tourist facilities such as hotels is uncertain. On the one hand, those who spend time in their second homes do not go to hotels but, on the other hand, they may attract other family members or friends to spend time in nearby hotels.

The main limitation of second homes is the unsustainable type of growth they bring. Urban residents are attracted by the environmental quality but the

construction of second homes tends to damage it. Second-home developments can therefore be short-lived and policies have been implemented in some places to limit the building of second homes. In Switzerland, the share of second homes has been limited to 20% in every municipality since a popular vote in 2012. Other places, such as many Spanish coastlines, have reportedly deteriorated because of the boom in construction driven by foreign demand in the 2000s. Second homes also make local housing more expensive, with negative impacts on house prices and the local labour market. For this reason, countries such as Norway have policies which oblige homeowners to reside in their properties ([Sheard, 2019](#)).

Places seeking to attract non-residents often do so at a national level through legislation to lower the foreign pension taxation rate so that retired people may be willing to transfer to a different country. These kinds of schemes exist, for example, in Portugal where a 2009 law created the tax scheme for non-habitual residents, in order to attract non-resident qualified professionals and activities, as well as beneficiaries of retirement pensions obtained abroad.

5.13.3 Place branding

When designing strategies based on the exploitation of regional specificities it is not only important to identify them but to make them recognisable to those outside the region. Many regional development strategies include instruments for place promotion and branding. This can be through the recognition of local products and services, or of the place itself. Such branding is a complex and widespread practice in the global economy, and may entail many different spheres, from architecture to technology, via localities, people and social movements. In particular, there is a clear geographical connotation to products and services which pass through circulators and regulators, in addition to traditional producers and consumers ([Pike, 2015](#)). This is important since the symbolic and intangible qualities of a product are important determinants of its success and firms can find ways of differentiating themselves from others using their links with places, which means that place-branding and firm-branding strategies can be interrelated ([Clifton, 2011](#)).

The branding of local products can be achieved through official certification, such as the Protected Designations of Origin (PDO) set up in Europe to protect valuable local products, which can neither be produced elsewhere nor in a different way. For example, an area in Calabria, a southern and relatively poor Italian region, has established itself as the source of bergamot, a citrus fruit used in the cosmetic, pharmaceutical and food industries. Agricultural production was already present but a specific

development strategy has been built around it through a consortium and the establishment of a PDO so it now employs 6,000 people.⁵⁷

However, in most cases recognition comes from marketing campaigns or the creation of brands without any specific legal intervention. Place branding is important for tourism since a successful regional brand may provide visibility for decades. However, it is also important for manufacturing since it is easier to attract external investments and FDI when potential investors are reassured by their knowledge of the place. Moreover, clear international recognition of a region, with or without a brand, supports innovation and production. It makes it easier for local firms to establish collaborations with firms elsewhere, to get into international research and innovation networks and to find a role within the global value chain.

Although the three concepts are often used interchangeably, place promotion, place marketing and place branding may have different roles and purposes ([Boisen et al., 2018](#)). In the context of this book, distinguishing between these three illustrates important nuances of the phenomenon.⁵⁸ In the definition by [Boisen et al. \(2018\)](#):

- *Place promotion* has the role of attracting the attention of external target audiences and is primarily concerned with the cognitive domain in terms of knowledge;
- *Place marketing* has a larger scope as it also entails trying to accommodate the potential demand of external agents, so it includes initiatives to provide local assets external agents can appreciate and, consequently, to change their behaviour and affect their location choices;
- *Place branding*, finally, is more concerned with identity and tries to influence the attitude of external agents in order to build a long-run reputation for a place.

Policy interventions should therefore be clear on their target, since for place promotion the assessment should be on knowledge, for place marketing it should be on attractiveness and for place branding it should be on attitudes.

These branding/marketing initiatives are usually implemented more for urban areas than for regions in general. All major cities compete to attract investment, firms and people in a wide and confusing landscape, exacerbated by globalisation, which has put cities in competition with each other, especially for FDI ([Anttiroiko, 2014](#)).

One limit of the branding approach is that sometimes it is not consistent with what is required by those in charge of choosing the actual location for investments. Site selectors might be much more sensible to the actual assets of a location (e.g. the availability of workers and skills, accessibility and infrastructure, good government and efficient bureaucracy) while branding favours slogans and ambassadors' references ([Cleave et al., 2016](#)).

NOTES

1. A tax system is progressive when the proportion of tax burden increases with the income of the persons. This may be achieved through a combination of tax exemptions for the lowest incomes and income brackets.
2. Fiscal residuals were originally defined for individuals by Buchanan (1950, p.588) as “the balance between the contributions made and the value of public services returned to the individual”. The actual measurement of fiscal residuals, however, is complex and debated, as it requires regionalising many policies which are national and devoted to people, and neglects the interregional effects of spending in one region (Di Caro & Fratesi, 2019).
3. These regions can normally finance a larger public expenditure because they either receive larger transfers or have to give to the nation a lower share of the tax revenue collected in their territory.
4. Put simply, these come from the fact that larger expenditure/demand requires larger production, which requires more work and more wages, which increases expenditure/demand, which implies larger production, and so on.
5. State aid in the European Union is banned by the treaties because the firms receiving it would gain an unfair advantage with respect to the competitors. There is state aid when there is an intervention by the state or through state resources, the intervention gives the recipient an advantage on a selective basis, competition is or may be distorted and the intervention is likely to affect trade between Member States. The European Commission is in charge of verifying that this is not implemented by member countries, even if it can be allowed under special circumstances of policies stated in the legislation, normally of objectives of general economic development.
https://ec.europa.eu/competition/state_aid/overview/index_en.html
6. See also Capello (2015) for a more detailed discussion of the growth pole theory.
7. The presence of conflicting objectives is a common feature of failed development strategies, and is often caused by political unwillingness to accept the trade-offs that each policy choice involves.
8. There is still some inertia, as shown later.
9. The literature on FDI often takes the viewpoint of a multinational and, as such, distinguishes between different types of activity,

which determine their behaviour: natural resource seekers; market seekers; efficiency seekers; and strategic asset or capability seekers ([Dunning & Lundan, 2008](#)). In the context of the present book, however, it is more relevant to focus on the attraction factors, since these are where regional policy can have leverage.

10. [For](#) a more detailed discussions of FDI attraction factors (mostly at national level), the reader can refer to chapter 4 of [UNCTAD \(1998\)](#) and to [Jones & Wren \(2016\)](#).
11. [However](#), it must also be considered that the possibility to bribe and get more easily and illegally some permissions may lead some multinationals to choose those locations which allow it.
12. [Website](#): www.economist.com/business/2004/03/04/going-east
13. [See](#) <https://press.kia.com/eu/en/home/corporate/factoryslovakia.html>
14. [The](#) first one was established in Shannon, Ireland 1959 ([Farole & Akinci, 2011](#); [Moberg, 2015](#)).
15. [In](#) this respect, [Hartwell \(2018\)](#) noted that SEZs have been able on average to positively influence the institutional development of countries, depending on local conditions.
16. [See](#) [Ambroziak & Hartwell \(2018\)](#).
17. [Notice](#) that this second case does not always take place because, for instance, [Frick & Rodríguez-Pose \(2019\)](#) estimate a positive spillover of SEZs in 22 emerging countries.
18. [From](#) the work of [Kirzner \(1997\)](#).
19. [Their](#) work also shows that entrepreneurial ecosystems positively impact regional resilience, beyond what could be expected by sheer firm formation.
20. [See](#) [Acs & Stough \(2008\)](#) for a review of the different policy interventions which countries can put in place to enhance national entrepreneurship.
21. [For](#) a survey of the clusters organisations in Europe and a detailed description of their role and typologies see [Franco et al. \(2021\)](#).
22. [Important](#) role of financial intermediaries was already identified by Schumpeter in a chapter of his Theory of Economic Development ([Schumpeter, 1934](#)).
23. [It](#) goes far beyond the scope of this book to analyse in detail the role and the characteristics of different types of financial intermediaries.
24. [See](#) for example [King & Levine \(1993\)](#), [Levine \(1997\)](#).
25. [For](#) a meta-analysis which summarises some of the huge academic literature on the impact of transport infrastructure on growth, see [Melo et al. \(2013\)](#).
26. [See](#) for example [Vickerman \(1991\)](#).

27. [The](#) first and most known presentation of a core-periphery model is by [Krugman \(1991\)](#) who in 2008 was even awarded The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel “for his analysis of trade patterns and location of economic activity”. Many other studies have followed showing the different conditions in which agglomeration can occur. See reviews by [Bryson & Daniels \(2007\)](#), [Fujita \(2010\)](#), [Fujita & Krugman \(2003, 2004\)](#), [Neary \(2001\)](#).
28. [This](#) was theoretically demonstrated by P. [Martin \(1999\)](#).
29. [See](#) www.theguardian.com/environment/2018/jan/17/heathrow-third-runway-shorter-cut-costs
30. [As](#) such, it is just one of the possible policy instruments which can be applied and the choice between instruments should be done based on regional needs ([De La Fuente & Vives, 1995](#)).
31. [For](#) example, [Vickerman \(2018\)](#) analyses high-speed networks in the UK and shows that development is impossible without infrastructure but that the transformative effects of transport infrastructure alone are unclear, while they can be transformative if complemented to other policy interventions.
32. [Website:](#) www.groningen-seaports.com/en/
33. [See](#) for example the reviews by [Dickson & Harmon \(2011\)](#), [Harmon et al. \(2003\)](#), [Sianesi & Reenen \(2003\)](#).
34. [Using](#) the years of schooling as a proxy for human capital is a widely diffused practice but also a criti-cised one ([Wossmann, 2003](#)).
35. [For](#) a detailed and extensive exemplification of the development roles of universities in regional development refer to [Varga & Erdős \(2019\)](#).
36. [The](#) local multipliers of university expenditure have been estimated, for example, by [Hermannsson et al. \(2013\)](#) in the case of Scotland using input-output analysis.
37. [See](#) for instance [Etzkowitz \(2003\)](#)
38. [For](#) an extensive discussion of the many roles of universities and examples from around the world, refer to the handbook by [Varga & Erdős \(2019\)](#).
39. [See](#) [Leydesdorff \(2012\)](#)
40. [It](#) is common in regional analysis to approximate skill level based on the number of years of schooling, although it is recognised that this neglects many aspects of human capital (see for instance [Wossmann, 2003](#)).
41. [Website:](#) www.oecd.org/pisa/
42. [See](#) www.gov.uk/government/publications/skills-advisory-panels
43. [See](#) for example [Beine et al. \(2001\)](#) and [Fratesi & Percoco \(2014\)](#).
44. [See](#) for example [Büchel et al. \(2020\)](#).

45. [A](#) study by [Innocenti & Lazzeretti \(2019\)](#) also finds that, to produce innovation and employment growth, cultural and creative industries have to be complemented by other sectors with high degrees of relatedness.
46. [E.g. O'Brien \(2014\), Throsby \(2010\)](#).
47. [At](#) the moment in which this book goes to press it is still unclear whether the large disruption in tourist activities which took place due to the global Covid-19 pandemic will also produce longlasting effects or if it will just be a temporary thing, which will not hamper this rapid growth.
48. [The](#) population of the historical part of Venice decreased from 65,000 to 50,000 inhabitants in just 20 years between 2001 and 2021, while the population in the mainland of the municipality remained constant.
49. [The](#) Dutch disease will be further discussed in relation to natural resources in section 5.13.1.
50. [For](#) the modelling of beach disease please refer to [Copeland \(1991\)](#). It is, however, also useful to mention here that, empirically, beach disease normally does not seem to take place because tourism-dependent countries have been growing more than others ([Holzner, 2011](#)). At a regional level, a similar result was obtained by [Paci & Marrocu \(2014\)](#) who demonstrated that regional growth is positively affected by domestic and international tourism.
51. [Many](#) papers have investigated the determinants of tourist flows, often using gravitational approaches. See for example [Marrocu & Paci \(2013\)](#), [Massidda & Etzo \(2012\)](#), [Pompili et al. \(2019\)](#), [Song et al. \(2010\)](#).
52. [The](#) demand of interregional domestic tourism is estimated to be highly price-elastic and unitary income-elastic by [Álvarez-Díaz et al. \(2017\)](#).
53. [See Vera Rebollo & Baidal \(2009\)](#)
54. [This](#) risk is common to all situations of over-specialisation – see Box 3.4.
55. [For](#) the best-known theoretical demonstration of the Dutch disease, see [Corden & Neary \(1982\)](#), which analyses various situations leading to this disease. A review of different types of resources may be found in [Daniele \(2011\)](#).
56. [See \[www.nbim.no/en/the-fund/about-the-fund/\]\(http://www.nbim.no/en/the-fund/about-the-fund/\)](#)
57. [See \[www.consorziodituteladelbergamoto.it\]\(http://www.consorziodituteladelbergamoto.it\)](#)
58. [This](#) is complex and a plethora of definitions exist, which sometimes overlap or even compete. See for example [Lucarelli & Berg \(2011\)](#).

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CHAPTER 6

Innovation and regional policy

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6.1 INTRODUCTION

Innovation is central to regional policy because, in almost all theories, it is considered to be the engine of long-run growth. The concept of innovation, however, has many nuances that need to be understood to allow for effective policy interventions and to understand the logic behind the many innovation-related instruments which are applied in regional policy.

This chapter starts therefore by showing why innovation is important for growth, because it is the real engine of long-run growth, while other factors such as the accumulation of capital have decreasing returns (section 1). It then shows that innovation is a very complex phenomenon to understand which evolutionary theories are especially helpful (section 2). It then demonstrates why innovation is a spatial phenomenon and why the regional level is hence an adequate scale for innovation policies (section 3). Innovation policy instruments can be classified over a number of different dimensions (section 4) and the most important ones are presented in sections 5 and 6, including: subsidies and incentives; government research agencies; property rights; collaborative instruments; support to university research; technopoles and science parks; demand-side innovation policy instruments.

Finally, section 7 is devoted to smart specialisation strategies, which are currently the basis of many regional innovation policy strategies, illustrating the concept but also its limits, risks and its practical applications.

6.2 INNOVATION AND GROWTH

The importance of innovation for growth – and the related importance of policy intervention for innovation – was recognised by traditional neoclassical economic theory. For example, the [Solow \(1956\)](#) model shows that the accumulation of capital can only bring growth up to a certain point because of decreasing returns in capital investments. In this model, in fact, the starting point is a regional aggregate “production function” which relates the inputs of the production process to its output, i.e. regional production factors to GDP. In most analyses, this function is normally given the following functional form:

$$Y = AK^\alpha L^{1-\alpha} \text{ Equation 6.1}$$

In this equation, Y represents the product, A the level of technology, K the amount of capital, L the amount of labour and α is a coefficient, ranging between 0 and 1, which represents the elasticity of income to capital. ¹ This production function is known as a Cobb-Douglas production function, with constant returns to scale: when K and L double at the same time, the output also doubles; when they both triple, so does the output, and so on.

This function provides a good starting point for discussion because it has a large number of implications. First, in terms of income per capita. Using P to represent regional population, income per capita is by definition equal to Y divided by P. Income per capita, with a simple decomposition, is shown in [Equation 6.2](#) below to depend on:

- How many jobs are present in the economy (more technically, the employment rate, L/P) and
- How much each worker can produce on average, which is also known as the productivity of labour (Y/L).²

$$Y/P = A (L/P)^\alpha \star Y/L = \varepsilon \mu \pi_{\rho\alpha\tau\epsilon} \star \pi_{\rho\delta\upsilon\chi\tau\iota\omega\tau\iota\psi} \text{ Equation 6.2}$$

If a region wants to grow, it has to increase its product per capita and [Equation 6.2](#) above shows this can be achieved through a combination of two processes: increasing the number of jobs and increasing the productivity of labour.

If population is constant,³ there is an upper bound to the number of jobs which can be created, since the maximum would be achieved once all inhabitants of suitable age have a job and work full-time. Creating jobs is hence helpful to increase income per capita, but cannot be the determinant of income per capita growth in the long run.

Let's now concentrate on the productivity of labour. When Y is expressed as in the Cobb-Douglas production function of Equation 6.1, productivity can be calculated as in the following equation:

$$Y/L = A(K/L)^\alpha \text{ Equation 6.3}$$

As [Equation 6.3](#) shows, the productivity of labour depends on two determinants:

- The level of technology (represented by the constant A) and
- The amount of capital per worker (the ratio K/L).

This implies that a worker is more productive in those places where there is a higher technological level, and in those places where there is more capital per worker. Higher capital per worker implies a higher productivity of

labour. Workers in modern societies are much more productive than in the past because, instead of having to work using the strength of their body, machines do most of the physical work, so that in many cases workers just supervise the machines. Think for instance about agriculture, almost all the world's population used to be employed in food production until the start of the industrial revolution and the primary sector was still the majority employer in most countries after the Second World War. Mechanisation means that agriculture now represents a tiny fraction of employment, often below 5%, agricultural productivity is much higher and countries with a minority of agricultural workers are still net exporters of agricultural products.⁴

The accumulation of capital also allows workers to rely on machines not only for physical labour but also for intelligence. Calculators and computers allow for the faster and better use of human intelligence and creativity.

However, the accumulation of capital is also limited as a driver of growth in the long run. This is due to the decreasing returns in the use of capital, which are represented in the equation by the exponent α . Consequently, increasing the amount of capital per worker increases the output per worker less than proportionally. This can be observed in practice because doubling the amount of capital available per worker increases the quantity of goods they can produce but does not double it. For example, providing a clerk with two computers rather than one, or a farmer with a second tractor to operate will not double the amount of work they can do.

These decreasing returns to capital imply that there is a steady state in the Solow model to which regions are expected to converge. This steady state is the same for all regions with the same levels of population growth and technology. This also implies that higher growth is expected in those places which start with lower levels of GDP per capita and hence with lower amounts of capital per worker. This is a process of conditional convergence which has been tested in the literature on Beta convergence.⁵

Having excluded labour and capital accumulation, technological improvement is the only remaining factor to explain growth in the long run in this neoclassical framework. This is because there is no theoretical limit to the increase of the parameter A , which is known as total factor productivity (TFP) because it represents how much the production factors produce. TFP can be measured at various spatial scales from the national to the firm level, and at regional level using the amount of capital and labour available there. Regions with the same amount of labour and capital but with higher total factor productivity have a higher product per worker and, if the employment rate is similar, a higher GDP per capita.⁶ Regional policies have therefore also been assessed in terms of TFP growth.⁷

In the Solow neoclassical growth model, long-run growth depends on innovation but, at the same time, innovation is exogenous, i.e. it is not determined by the model but taken as given. The part of growth which

cannot be explained by the accumulation of production factors had therefore been labelled the “Solow residual”, although it is now more common to read about TFP or multifactor productivity.

Many economic models have proposed different ways to endogenise the growth of technology within economic growth models. This means that the focus on technological progress as the engine of growth has not changed and is even being reinforced with the progress of theories and the main difference has been the fact that growth of technology has been endogenised in many different ways, including for instance with the modelling of a specific knowledge production sector.

The main advancement has been represented by the work of [Romer \(1990\)](#) which starts with the peculiarities of technological advancement. Technology remains the engine of growth but is created in the same way as normal goods – by the efforts of economic agents who respond to market incentives. Like goods, technology is assumed to be costly to produce but, once created, it can be used at no cost for an infinite number of productions. The presence of this knowledge production sector allows growth to become endogenous in the model.⁸ In this conception, technology is different from standard private goods, which can be rival and excludable⁹ and, as such, can be accumulated without bounds. This is interesting because technology is, in this way, also different from human capital which, by definition, goes to zero when the life of a person ends. The inventions of a person can on the contrary last much longer, excluding oblivion (which may take place in those cases when knowledge is forgotten) or obsolescence (when knowledge becomes useless).

6.3 EVOLUTIONARY THEORIES

In the discussion of the previous section, as well as in the popular press, innovation is presented as similar to pure technology, which is used to produce new goods or to produce goods more efficiently. However, innovation should be understood as a much wider concept, as first demonstrated in the contributions by [Schumpeter \(1934\)](#) and then in the works of all those who were influenced by his arguments, starting with [Nelson and Winter \(1982\)](#), a corpus which is now known as evolutionary theories, which includes evolutionary economics and evolutionary economic geography.

First, innovation is different from invention: innovation is doing something new in the economic system, which is possible without a corresponding invention. Innovation, therefore, consists of new combinations of the means of production, and as such comprises the following ([Malerba, 2014](#)):

1. The introduction of new goods, which are invented, developed and brought to the market.
2. The introduction of new production methods, which allow the production of the same goods in new ways that are normally more efficient, faster, less costly, with less waste, etc.
3. The creation of new organisational forms, which allow different and more efficient ways of organising the economic system.
4. The opening of new markets, which is equivalent to creating a new product in that particular market.
5. The acquisition of new sources of supply, which allows new production methods that may also make production more efficient.

Innovation is also different from an adaptive response to changes in the external environment. It is introducing or doing something completely different from what already exists, and it is not the simple adaptation of producers to modified economic conditions.

Any innovation in the Schumpeterian approach gives rise to profits. Innovations can decrease production costs, which in turn increases profits, or they can produce a monopoly when the innovation is not available to competitors. The monopoly may not be longlasting because they are eroded by imitation but normally produce extra profits for that time.

However, it has to be remembered that the outcome of innovation is uncertain because it is impossible to know *ex ante* what the results will be. It is not only impossible to forecast the consequences of an innovation but also impossible to forecast if, and when, an innovation will really become available, despite knowing the efforts which are put in. Moreover, there are many cases in which an innovative effort was pursued in one direction and other unexpected but valuable uses were found. This uncertainty is important for policymakers because they know they can attempt to stimulate innovation by providing incentives to foster it but they cannot be sure of the outcome, nor of when the latter will arrive.

Going back to the Schumpeterian approach, innovations are normally introduced by specific economic agents called entrepreneurs. The defining characteristic of entrepreneurs is a willingness to take risks with uncertain outcomes. Entrepreneurship and innovation are hence two concepts which cannot really be separated from each other and this is also important when designing policies. Many regional development policies therefore include measures to increase entrepreneurship by training potential entrepreneurs, making it easier for them to start their own businesses, nurturing the growth of new firms and making entrepreneurial activities less risky.¹⁰ During the innovative process, in fact, entrepreneurs have bounded rationality¹¹ and cannot know all the effects and possible implications of what they are doing.

It often happens that innovations arise from situations where they are not expected. For example, there are lots of cases in which a new innovation has

been produced by people who were studying something different and whose research turned out to have applications in fields they did not expect. In other cases, innovation comes from the recombination of pieces of knowledge which are adjacent to those already possessed by the innovator, or by innovators seeing things used in different fields which they are able to imagine as potential solutions to existing problems in their own field.¹² This adds to the advantages of diversity, which is especially present in cities, with Jacobian urbanisation economies (see [chapters 2](#) and [8](#)), and to related variety theories, which state that neither sectoral specialisation nor sectoral diversification are the best for innovation, but rather diversification in sectors whose knowledge bases are close and complementary to those possessed by the firm ([Frenken et al., 2007](#)).

Radical innovations often concentrate in small firms, which are normally keener to introduce new ideas, or in new firms lacking a large share of the market.¹³ There are however also examples of established large firms whose innovative capability remains high for a long time, such as the history of Apple Inc.

Moreover, innovations tend to cluster in sectors and time periods so they arrive in waves and can also start specific economic cycles. To really understand the innovation process, it is therefore necessary to understand history because there are many innovation-related phenomena whose outcomes depend on what has been taking place at the time and previously, with context-dependent and path-dependent behaviours.

To study innovation and the evolution of industries which stem from it, there is the need to dynamically study what happened in the process, which can be done using the framework of so-called evolutionary economics. Evolutionary economics has brought to the fore factors previously neglected in more standard economic models, such as:

- Path dependence, the fact that what happens today is influenced by the past, with a sequence of events built on those preceding them. This takes place even when past events were the outcome of random situations because they can start self-reinforcing mechanisms which create longlasting effects. This is true in terms of technology but also in terms of location. For example, many contemporary large cities are where they are because of past situations and needs of the past which are no longer important, such as defence or access to natural resources.
- Lock-in, the fact that once a technology has been widely adopted there are high costs to switching out of it even if a new and superior technology becomes available. This means that in many cases old technology continues to be used. A famous example is the qwerty keyboard, originally introduced to avoid typewriter keys getting stuck and still the standard despite the demonstration that other

layouts are potentially more efficient ([David, 1985](#)).

- Routines, which were already mentioned in [chapter 4](#), are not only relevant in terms of cognitive psychology but also in terms of organisational behaviour, and firms in particular. Organisational routines can be seen in many different but related ways, for instance as “recurrent action patterns” or “rules” ([Becker, 2005](#)), and normally mean that the way an organisation responds to necessities and stimuli tends to be repetitive. This reduces decision-making time and the cost of elaborating different responses to each situation but can result in suboptimal or incorrect choices.
- Creative destruction, the process by which it is necessary to renounce to old ways of doing things to introduce important innovations. Radically new processes, in fact, can rarely be incrementally implanted on existing ones but generally require old knowledge and ways of doing things to be relinquished. For this reason, there can be resistance to the introduction of innovation, which entrepreneurs need to surmount.
- Selection, which affects ideas and firms. As in a Darwinian approach, when different technologies appear, one wins the race and is selected, while the other may disappear and become extinct. Similarly, when different firms compete, it often turns out that some of them exploit their advantages and others are pushed out of the markets altogether. These selection processes affect the structure of technology and markets.
- Increasing returns, which stem from the fact that new technologies, when adopted, imply an increase of experience and the introduction of improvements. Innovative activities, unlike the accumulation of production factors, are therefore subject to increasing returns which are also an important driver of lock-in because they benefit established technology, even if it has become established only due to a random event ([Arthur, 1989](#)).
- Trajectories, which stem from path dependence, are followed by the various systems and are of interest in themselves, since systems are normally out of equilibrium and there is little utility in studying the latter, while the future evolution of a system will largely depend on the trajectory which brought it where it is now.

Even though an entrepreneur works under conditions of uncertainty and bounded rationality, they still respond to incentives. For instance, scientific and technological opportunities increase the possibility of introducing innovations to the market or adapting the production process. Standard economic incentives also act as a stimulus to innovation, especially appropriability, which is the possibility for those who introduce an innovation to reap the benefits without other firms and economic agents

copying it too soon and taking the benefits out of the hands of the innovator. Higher appropriability therefore increases the incentives for innovation but, at the same time, results in lower spillovers. Spillovers, per se, are a good thing because they diffuse knowledge and allow other innovations to build on previous ones. This means there is therefore a trade-off to be considered, which is why patents have been introduced worldwide but are also limited in time.

Most policy interventions to promote innovation, directly or indirectly, provide incentives to economic agents and entrepreneurs, for instance by lowering the cost of innovation or increasing its potential benefits. There is also a role for the demand conditions because larger markets bring better opportunities for entrepreneurs who want to introduce innovations. When a market is growing, moreover, there can be better opportunities for the introduction of new goods and services, which may be more difficult when a market is shrinking. However, there may also be situations in which a weak market provides an incentive to entrepreneurs to introduce innovations. This may happen because entrepreneurs will look for new markets and products to replace traditional ones that are shrinking.

Innovation also depends on the market structure. In an established monopoly there is little incentive for a firm to introduce innovations since profits are already high and quite certain. Conversely, too much competition may also reduce innovation because firms may not be able to retain their benefits if many other firms can imitate them. The most favourable situation for innovation is when there is competition between firms but at the same time some room for innovative firms to acquire a larger market share. It is, however, important to remember that market structures are endogenous to innovation. The incentives to innovate depend on the market structure but, at the same time, the introduction of innovations can create niches and monopolies due to innovative advantages.

The traditional model for the introduction of innovation is known as the “linear” model because it establishes a linear relationship between the different phases which lead to the introduction of new products and ideas ([Balconi et al., 2010](#)).

- The starting point is base research, i.e. research without a direct applicative purpose, developed independently by research institutions and universities to promote the progress of knowledge. Personal incentives for academic researchers are generally not in the practical applications of new knowledge but in the recognition they get for their discoveries, from their peers and, in some cases, from a wider public via mass media.
- The second step is applied research, i.e. research performed with the final purpose of applying new knowledge to the production process to increase profits. In this case, the incentive comes from

the fact that this research can lead to the introduction of innovations in the markets, and hence this kind of research is normally undertaken within, or at least financed by, firms.

- The third step is the development phase, in which products are set up so that they can be introduced to markets. This phase takes place inside the firm and is what allows a prototype to become a product ready to be sold to customers.
- The last steps are production, in which the product is manufactured, and commercialisation, in which the product is brought to the markets and is also made more appealing to customers with devoted marketing strategies.

This linear model remains important for understanding innovation processes but cannot be the only base for the introduction of innovation policies because of its linear and deterministic structure. In this model, the innovation process is represented in a similar way to the production process, in which inputs enter at one end and the output comes out the other. This overlooks the complexities and risks of innovative activities. Evolutionary economics has shown that this linear model of innovation rarely takes place exactly as defined because there are often situations outside of the equilibrium. It is therefore more important to understand the processes and the dynamics by studying the transitions rather than studying the equilibrium and its properties.

From an evolutionary approach, technology is not pure information but knowledge, i.e. something which can only partly be captured by blueprints and instruction notes. Innovation becomes a process of learning in which there is an accumulation of knowledge or the unexpected coming together of many dimensions, related and sometimes unrelated.

This process is often oriented to problem-solving, in which firms act as specific entities whose behaviour is limited by their context, possess limited rationality and hence are governed by a behaviour which is not maximising, as neoclassical economics usually assumes, but satisfying. Satisfying behaviours are not negative but a matter of fact, since usually the economic agents don't look for the best possible situation but just look for a situation which is good enough, and act in this way because they don't have enough information or enough information processing capabilities to look for the optimum or, simply, because it is not convenient to put in all the effort to achieve it.

BOX 6.1 THE RELATIONSHIP BETWEEN INNOVATION AND EMPLOYMENT GROWTH

Technological progress generally allows the production of the same amount of goods using less productive factors, including less labour. in economic jargon, it is called “labour saving”.

if, for example, fewer agricultural workers are needed to produce the same amount of food, this may be good for society but also pulls many people out of their jobs towards unemployment. Thanks to innovation, an economic sector may become more productive so that its products cost less, which benefits consumers. at the same time, however, jobs are lost so those people made unemployed are unable to afford to buy goods.

Despite the fact that most productions which took place decades ago no longer exist or only use a fraction of the workers they used to employ, people have remained in employment. in economics, therefore, many possible compensation mechanisms for labour-saving innovations have been identified ([Vivarelli & gatti, 2014](#)):

- The production of new machines, which is an additional economic sector.
- The reduction of prices. Due to mechanisation, labour becomes more productive, prices decrease, and this stimulates demand and creates room for new production because customers have disposable income to buy other goods of an increasingly voluptuary nature.
- The increase in investments, profits and salaries, which stimulates demand and new opportunities and is due to the increased productivity of labour and capital.
- An increased demand for labour because, thanks to innovation, labour is more productive and as such firms may decide to hire more workers.¹⁴
- An increased demand of labour coming from adjustment mechanisms. a reduction of labour demand in some sectors decreases salaries but lower salaries stimulate labour demand in other sectors.
- Finally, the most important mechanism is the introduction of new products, facilitated by innovation in new products and the creation of new economic sectors. an increasing share of income is in fact spent on leisure goods, beyond the traditional food, housing and clothes.

All these mechanisms may operate at the same time and statistics do not show the mass unemployment forecasted by some in the 19th century, although there might be cycles in employment linked to cycles of technology. more recently, the discussion has involved the issue of automation, which has been extended from manufacturing to services

and even less standardised and creative activities ([manyika et al., 2017](#); [economist intelligence Unit, 2019](#)).

There are important implications for a policymaker. first, if an industry disappears or reduces its employment levels, even if another one creates new jobs it is rare for these to require the same skills. This means that some (often aging) people with traditional skills become unemployed while new jobs are taken by others, normally younger, with more recent qualifications or better adaptability. This can be even more difficult at a regional level because these compensation mechanisms are not necessarily located in the same place.

For example, innovations in the textile sector make the production of clothes cheaper and less labour-intensive, which allows people to spend on clothes a smaller fraction of their income. in this way, the rest of the income can be used to buy other goods, some of which were not available in the markets before.

The problem for a regional policymaker is hence that compensation mechanisms are rarely in the same place: when textile jobs are lost in a region due to the substitution of work with machinery, the new products bought are likely produced elsewhere, so that high unemployment in traditional textile regions can be due to innovations and not only to external competition.

6.4 WHY INNOVATION POLICY IS NEEDED AT REGIONAL LEVEL

In standard approaches, policy interventions are needed when there are market failures, i.e. when firms don't internalise the positive externalities which they generate with their innovative efforts. As such, subsidies for research and development are needed in order to make firms internalise the externalities and put in the (higher) social optimal level of innovation effort. Moreover, a public sector intervention may be useful in order to provide the best possible incentives, so that the innovation process flows smoothly and as fast as possible, thanks for example to the best possible level of appropriability and length of patents.

However, an evolutionary theoretical framework makes clear an additional role of the public sector in supporting innovation. The aim of the state is to get the best possible outcome from the evolutionary trade-offs, for example by providing institutions to support innovators, creating efficient innovation systems and supporting interactions between actors. In evolutionary approaches, innovation does not generally take place inside a single firm but inside a system of actors, which is often a localised system of

firms, research bodies and public institutions, as illustrated by the literature on regional innovation systems among the others.¹⁵ Innovation policy can hence help the different economic agents collaborate in the achievement of common objectives, relevant knowledge to spill from the sector where it was created to other sectors where additional uses are present, create innovation supporting institutions instead of suffocating ones.

Two different strands of academic literature, one coming from the study of innovation processes and the other from the study of regional growth, have shown in fact that innovation is in most cases a localised process, which means that innovation policy should be deployed at the regional level. The reasons for this are explored more below.

The first observation is that innovation does not take place at all places at the same time and with the same intensity. Standard indicators of innovation show that innovation is highly concentrated in space. Patenting,¹⁶ for example, shows that many regions, even of advanced countries, produce almost no patents while there are a few leading regions where patenting is concentrated.

This is visualised in [Figure 6.1](#), where the concentration of patenting among European Union regions is represented and compared with GDP in purchasing power parity. The graph shows a Lorenz curve, similar to the one used to compute the Gini index of income disparities, where the horizontal axis represents the share of population and the three lines show the concentration of patents, GDP and population (which is the reference line, the situation of perfect equality). The graph shows that, while the 10% of the population living in the richest regions profit from more than 16% of the total GDP, the 10% living in the most innovative regions produce 37% of all EU patents. The graph can also be read from the other side and shows that 50% of EU patents are produced in regions whose population is just 16% of the total, and 70% of patents in regions with 30% of the total population, leaving little to the other regions. Indeed 43% of the EU population live in the less innovative regions and only produce 10% of total patents.

This is made even more compelling by the observation that this regional concentration does not depend on the fact that regions belong to different countries. As the [OECD \(2011b\)](#) observed, the heterogeneity in the innovation capability of regions inside the same country is often larger than that between countries, which means that the spatial concentration of innovation is mostly regional.

The second observation is that innovation is a systemic process and involves many different pieces of knowledge and hence many different agents at the same time, often co-localised in space. These agents may be firms, universities, research institutions, single researchers, entrepreneurs, qualified workers and so on. The complexity of innovation processes means no one person, firm or institution is able to implement significant innovations alone. A long time has passed since the age of inventors, in

which single individuals with brilliant minds could design, develop and introduce new goods. Innovation, moreover, is made easier by the nexus of different expertise and often comes from the recombination of knowledge sets, which may come from different economic sectors or research fields. These systemic processes have a specific territorial dimension because interactions are made easier by the physical proximity of people, which facilitates frequent day-to-day interactions so that tacit knowledge can pass smoothly.

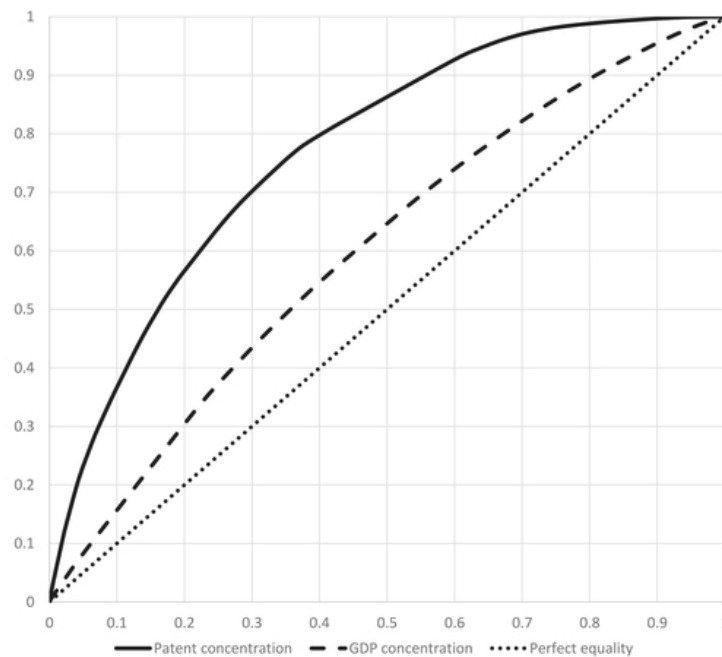


Figure 6.1 Concentration of patents and GDP within EU regions Source: Author's own elaborations based on Eurostat data used within the EU Regional Innovation Scoreboard 2016.

At the same time, physical proximity does not guarantee interactions because these pass through networks and different types of proximities, which can be cognitive, organisational, social and institutional.¹⁷ However, networks are denser among people who live in the same place, and relations are made easier by shorter distances, even though too much proximity may lead to lock-in issues.

The third observation concerns the circulation of knowledge which is created. This is often referred to as knowledge spillover, which represent the involuntary transfer of knowledge from one economic agent, for example a firm, to another. Spillovers allow for instance firms to imitate the successful behaviour of other firms nearby, and in this way to be more competitive compared to more isolated firms. Although proximity in itself is not enough to guarantee the diffusion of knowledge, most mechanisms which facilitate spillovers work best within the same region.

Finally, some places are more predisposed to innovation than others. Local attitudes towards entrepreneurship and change can be different due to social constructs rooted in the long-run history of places. There may even be innovation-prone and innovation-averse societies, depending on the extent to which they facilitate or obstruct the journey from R&D to innovation and growth ([Rodríguez-Pose, 1999](#)). Institutions in different regions may also be more or less conducive to innovation. This has been evident among others in the theory of learning regions, which sees regions as collectors and repositories of knowledge and ideas ([Florida, 1995](#)).

One famous measurement of regional differences in innovation processes is the Regional Innovation Scoreboard (RIS). This is a comparison of the innovativeness of European Regions (EU plus Switzerland and Norway), first developed in 2009 with the most recent edition produced in 2021 ([Hollanders et al., 2009](#); [Hollanders & Es-Sadki, 2021](#)). The RIS is a regional extension of the European Innovation Scoreboard (EIS) which compares the innovativeness of countries. The RIS uses composite indicators with statistical indicators available at regional level for most (but not all) indicators used in EIS ([Hollanders & Es-Sadki, 2021](#)). Many indicators come from the periodic Community Innovation Survey (CIS).

One interesting aspect of the RIS is that it takes into account different phases and aspects of the innovation process at the same time. In particular: (i) the framework conditions, accounted for by “human resources”, “attractive research system” and “digitalisation”; (ii) the investments (in innovation), accounted for by “finance and support”, “firm investments” and “use of information technologies”; (iii) the innovation activities, accounted for by “innovators”, “linkages” and “intellectual assets”; (iv) the impacts, accounted for by “employment impacts”, “sales impacts” and “environmental sustainability”. Taken together, these aspects account for the innovation process as a whole, from inputs to mechanics to outputs.

In this way, regions are divided into four categories, each with three sub-categories: Innovation Leaders, Strong Innovators, Moderate Innovators and Emerging Innovators. [Figure 6.2](#) is a map of these regions, which shows some interesting trends, also relevant for policy purposes. Most innovation leader and strong innovator regions are in highly innovative countries, although there are pockets of excellence in other countries. This means that regional policy cannot by itself determine the innovative outcome of a region but will reflect the national framework in which it operates. Moreover, higher innovative performance is normally present in the richest regions of the respective countries, another signal of the importance of innovation for regional GDP and income but also of cumulative processes because richer regions can invest more in innovation (see [chapter 2](#)). Most highly innovative regions are also those with large cities, signalling the importance of urban systems, so regional policy needs to consider the cities present in regions (see [chapter 8](#)).

Moreover, the comparison between editions of the RIS reveals significant stability in the rankings ([Hollanders et al., 2019](#)). This is important because it demonstrates that these are cumulative and path-dependent processes. Regional innovation policy cannot be expected to suddenly reverse the fate of a region but will need time and systemic efforts. However, it also appears that some convergence has been taking place over time, so the fate of lagging countries and regions is not sealed.

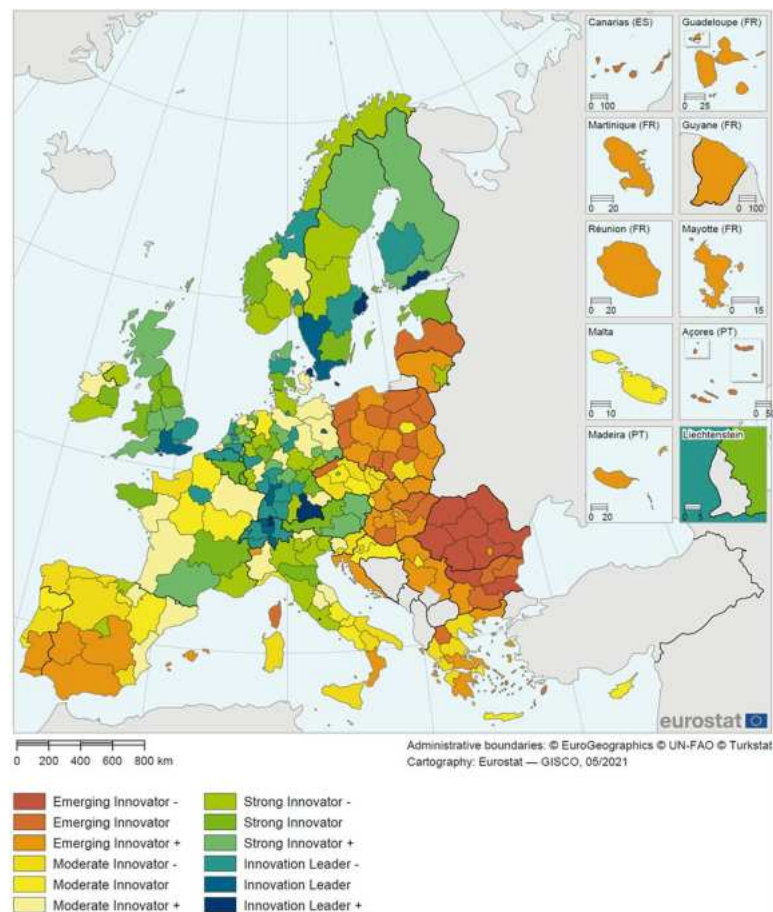


Figure 6.2 The 2021 Regional Innovation Scoreboard Source: [Hollanders & Es-Sadki \(2021\)](#)

It is also important to recognise that different regions innovate in different ways. Different regional innovation patterns exist, and not all regions pursue the full “endogenous” path from the creation of knowledge to innovation to economic efficiency ([Capello & Lenzi, 2013](#)). Other patterns exist, such as “creative application”, which is characterised by creative actors who look externally to acquire the knowledge required for innovation inside their own region; and “imitative innovation”, by which local agents base their innovative capacity on the imitation of external regions adapted to regional needs, a pattern which is hence mostly based on innovation diffusion ([Capello & Lenzi, 2013](#)).

These different innovation patterns have important implications for regional innovation policy. It shows that having forerunners in innovators and the creation of new knowledge is not necessary for regional development, with the exception of the most advanced regions which want to maintain their status. Lagging regions, in fact, may find better and faster paths to prosperity by incentivising the spatial diffusion of innovation and the adoption and adaptation of external knowledge to local needs. Regional innovation policy in middle and low-tier regions should hence target the mechanisms of knowledge diffusion more than those of actual knowledge creation. This is further the case because cumulative nature of knowledge normally provides advantages to those who already possess it, which cannot be surmounted even with the best policies.¹⁸

6.5 THE CLASSIFICATION OF INNOVATION POLICY INSTRUMENTS

As was seen in the previous sections, innovation policies are normally justified on two grounds ([McCann & Ortega-Argilés, 2013](#)). On the one hand, innovation policy is needed to correct market failures. When innovators are not able to correctly estimate the social advantages produced by their innovations and fail to reap all their benefits, the innovative effort of firms is lower than what is socially desirable and innovation policy should provide incentives to innovation, aimed at filling this gap and providing the socially desirable levels of innovation.

On the other hand, more recent theoretical studies have shown that innovation is a systemic process so innovation policies are needed to correct systemic failures of local systems. Modern innovation policies, especially at regional level, also address a combination of supply-and demand-side factors because, for example, public procurement can play a role in enhancing the innovative efforts of firms ([Uyarra et al., 2020](#)).

[Schot and Steinmueller \(2018\)](#) identify three different frameworks for policies related to science and technology which have been developed at different times, all of them still present. The oldest is that in which public policy related to innovation was considered necessary and implemented because it could help the growth of countries and regions, due to the fact that innovation accelerates growth, and public intervention can accelerate innovation, for instance by providing the right incentives and solving market failures.

The second framework appeared from the 1980s when evolutionary frameworks were put forward and the seminal works on national innovation systems appeared, in which the target was the way in which systems perform innovation. For example, it would be possible to improve the innovative

capability of regions by making innovation systems work better, targeting the right connections for the stimulation of learning between the various elements of the systems, and sustaining clusters and networks.

The most recent strand sees innovation policy as a useful tool to help transformative change in local systems, which innovation policy can accompany and stimulate; this framework is particularly helpful in a context in which innovation policy is no longer only devoted to stimulating growth or competitiveness, but increasingly to helping innovative activities to achieve expanded goals such as sustainability and more broadly defined societal development ([Schot & Steinmueller, 2018](#)).

The instruments applied within the first framework are those which support in different ways basic and applied research, through grants, tax exemptions, subsidies to innovation activities and research. The creation and support of large governmental research agencies was another common feature, with very large budgets especially in those countries, such as the US, which could afford them. Additional soft interventions, especially in terms of legislation protecting property rights, i.e. the appropriability of the outcomes of research, were put in place. Finally, other interventions targeted the education system in terms of guaranteeing the right supply of researchers with adequate capability.

The instruments applied within the second framework are those which aim to foster collaboration and alignment between the various actors involved in the innovation process. As such, the establishment of technopoles and science hubs has been a common practice, sometimes with direct intervention by the state in specific firms. These are all interventions which require longer periods of time before producing their effects or be considered as a failed experiment. Moreover, collaboration between the various actors would be increased by measures whose calls impose conditionalities or premia to collaborations, such as the requirement of having various actors involved and of a different nature (e.g. a university, a private firm and a research laboratory or a local stakeholder, or firms in different environments). These were also deemed to foster technological diffusion and knowledge spillovers between different firms in the territory and between different territories. A special role in these policies would be played, as active agents and as policy targets, by small and medium enterprises, whose innovative model cannot be fully internal due to their lack of size. Although this might be a limit for the individual firm, which is often weak and passive, this could also lead, within the right territorial contexts, to situations of very effective collective learning, such as those evidenced by the local milieu school ([Camagni, 1991](#)). Finally, also within this second framework, there is a role for public investment in education and training, which would help the absorptive capacity of firms ([Schot & Steinmueller, 2018](#)).

The third framework is still developing its own instrument toolbox, which will include policies to enhance transformative change through the involvement of various actors, who will be required to change the way in which they live their private lives and run their business activities. The establishment of networks and alliances is one way by which different actors are called to pursue common objectives. In terms of governance, transformative change may also include new institutional arrangements and governance structures to help societies achieve transformations. Bridging becomes one of the most important features so education policies should accompany this process. This third framework is, more or less directly, related to social innovation, which has a clear territoriality and mostly takes place through spatially embedded mechanisms ([Moulaert & MacCallum, 2019](#)).

All three frameworks should not be considered as separate because modern innovation policies normally involve instruments from each of these waves. In fact, those instruments developed during the first phase are still commonly implemented at national but also at regional level since they provide the prerequisites that allow other innovation instruments to work effectively. Various regional innovation policy instruments should therefore be seen as complementary in the development of a regional strategy.

Beyond the three frameworks other distinctions are meaningful to be considered for innovation policy instruments. The first is between **horizontal** and **vertical** instruments. Horizontal measures are normally applied in the same way across the whole regional economy and are designed to benefit all sectors of the economy in the same way, even if the actual benefit may be different depending on the response. Vertical instruments are those which target the activities of specific firms, sectors or actors and are intended to have a differential impact concentrated on the policy target.

Most instruments of the first wave were horizontal, since they were trying to establish the basis for more innovation, which should translate into higher economic growth. However, some of the instruments of the first wave were also vertical, because the establishment of public research centres often concentrated on specific sectors or technologies considered key or simply more promising. The instruments of the second wave are mostly vertical since the creation of clusters and systems targets specific sectors or specific agents within the economy. However, no vertical policy can work without its prerequisites and these prerequisites are normally built through horizontal policies.

A second relevant distinction is between **collaborative** and **non-collaborative** instruments. These became especially paramount after scientific evidence accumulated to show that innovation is an iterative and collaborative process which benefits from the input of multiple and differentiated actors. Innovation policy instruments therefore often include

mechanisms to ensure that collaborations are implemented. For example, since many innovation policy interventions take place through calls, a call may require the explicit provision that consortia of firms are created to participate. In other cases, a call may require collaboration between private firms and universities or research centres. Even without making them compulsory, many calls award additional points to consortia which put together different abilities in a complementary way.

A third distinction can be made between **demand-** and **supply-side** policy instruments. Supply-side instruments are those which stimulate innovation with measures which are, for instance, devoted to reducing its costs through subsidies or the provision of innovation inputs. Demand-side instruments, on the contrary, stimulate innovation by acting on demand for innovative goods, for example through the public sector as a buyer of innovation outputs or through regulation. The aim of these types of intervention is the diffusion of existing innovative processes or products within the economy, or an expansion of research through demand for innovative products, or a combination of these two ([European Commission, 2015](#)).

6.6 INNOVATION POLICY INSTRUMENTS

6.6.1 Subsidies and incentives

As previously seen, innovation normally brings wider benefits than those which can be reaped by the innovator, which can discourage firms from investing in innovation activities. For this reason, policy instruments have been developed to make innovation less costly for firms through a large number of mechanisms. This can happen through the direct financing of R&D in particular, or through other mechanisms which produce a tax discount for those firms which invest in innovation.

A useful distinction is between instruments which are **automatic** and others which are **competitive**. Automatic instruments are those which affect all firms meeting the criteria, for example any firm which increases its R&D expenditure may receive a tax discount. Competitive instruments are those for which firms bid with only the best innovation projects financed or subsidised by the government. Automatic instruments require less administration and directly affect firms. Competitive instruments require more administration for both firms and policymakers, but target only those firms and projects with a higher probability of success. These competitive instruments, therefore, are better working where there is good administrative capacity and enough information to be able to effectively select the best projects. Moreover, competitive procedures are costly for both the bidders

and the administrations, so they have to be favoured only when there is a good chance to be actually able to select the best, otherwise the disadvantages of market distortions prevail.

Another relevant distinction is between **non-repayable** instruments and **loans**. In the first case, firms receive an incentive or financing they do not have to repay; in the second, the money has to be repaid after a time which should allow them to reap the benefits of innovations before repaying their debt. The incentive for firms is higher for non-repayable support because the loans rely on receiving lower interest rates with respect to market ones, or having a lower guarantee of return or, finally, being able to access the credit market when a firm does not have enough guarantees to be considered viable. The advantage of loans is that the same public money can be used many times after each debt is repaid (see section 5.9).

6.6.2 Government research agencies

Instead of incentivising private investment or local universities, governments can also set up their own research agencies. These may be specific to a research field or span many disciplines. The size and scale of these research institutions varies and is subject to change depending on the financing body, their main objective, the context and the budget available. These agencies normally conduct research in fields that are important to the national government but also to the local economy and sometimes also on themes directly relevant to the regional government, which can use the knowledge generated to implement better policies.

When a research agency is funded by the national government, its location has important spatial impacts. There are cases in which government research agencies are located in the most suitable place for that kind of research, possibly because it already has universities or productive systems conducting complementary research. There are, however, cases in which research agencies are located to increase knowledge in these areas. This is especially relevant in the development of lagging regions, which often lack adequate private research capacity.

6.6.3 Property rights

Establishing or reinforcing a system of property rights protection is not generally a regional policy, as it is normally applied at national level. However, its impact may be spatially differentiated because there may be firms requiring intellectual protection in some places but not in others. It is rare for property rights protection to be established or changed for place-specific reasons. Therefore, this important aspect of innovation policy could

be classified as outside of regional innovation policies, in the fourth type of policies identified in [Table 1.1](#).

6.6.4 Collaborative instruments

Most current regional innovation policy initiatives stem from two interrelated theories, which both see innovation as a systemic process involving different agents and supporting institutions. The first is the concept of systems of innovation, which emerged in the late 1980s. As national systems of innovation were understood to have a clear sub-national characterisation, this led to the concept of regional systems of innovation. These studies emphasised the fact that innovation depends on a location's education system, industrial relations, government policies, formal and informal institutions (including technical and scientific), cultural traditions and their interactions ([Braczyk et al., 1998](#); [Freeman, 1995](#); [Nelson, 1993](#)).

The second is the concept of innovation ecosystems, which stems from the business ecosystem approach developed in the early 1990s. This sees a firm not as part of a single industry but of a wider ecosystem which spans across many industries ([Moore, 1993](#)). Innovation ecosystem approaches focus on actors and their collaboration. They see the innovative performance of an actor (including a firm) as influenced by a wider system of actors and their relations, by cooperation and competition, as well as by “artifacts” (products, resources, inputs and outputs, innovations) ([Granstrand & Holgersson, 2020](#)).

These two theories have many differences¹⁹ but are often cited as justifications for regional research policy initiatives where the interactions between different types of actors are targeted. There are many ways of pursuing such regional policies but most can be summarised into two broad categories:

First, the incentive for collaborations, which usually takes place through specific calls for innovation support. For instance, some calls require small and medium enterprises to collaborate, on the basis that each is too small to pursue valuable innovation activities by itself. Other calls may require collaboration between firms and research institutions such as universities. If successful, these collaborative projects not only result in innovation within the project itself but may establish or reinforce networks that endure in the future. Even if the same collaboration does not continue, collaborative skills may be established to promote participation in networks in the future. Sometimes collaboration is not a formal requirement of a given call but may be incentivised, for example through additional resources or additional points in the evaluation of proposals. Inducing innovation collaboration through calls is difficult, however, so innovation network incentives seem to work better for firms already used to collaborating in networks ([Caloffi et](#)

[al., 2019](#)).

Second, the creation or the reinforcement of mediators of knowledge flows. Such intermediaries may have different forms and functions, including ([Howells, 2006](#)): foresight and diagnostics, scanning and information processing, knowledge processing and combination/recombination, gatekeeping and brokering, testing and validation, accreditation validation and regulation, protecting results, commercialisation and the evaluation of outcomes. Sometimes these functions are performed spontaneously, e.g. by knowledge brokers who act as intermediaries between university researchers and firms. Knowledge brokers, however, tend to cluster in specific places, such as in Brussels to support research projects of the EU-funded Framework programmes ([Dotti & Spithoven, 2017](#)). Regional policies encourage this process in other regions with incentives or, more often, with direct intervention (e.g. a regional innovation agency).

Regional innovation agencies are heterogeneous but common in almost all contexts, from innovation-forerunner regions to innovation followers to metropolitan areas of emerging countries. Some are public agencies, using regional and/or national funds, while others are private, with public support. The role of these agencies has generally been “monitoring their RIS and successful RISs around the world, identifying weaknesses in their RIS, locating the actors with the capacities to address the weaknesses and of creating the place-based programmes to generate the capacities in their RIS” ([Morisson & Doussineau, 2019](#), p.111).

In particular, regional innovation agencies usually have a wide remit, including the design of place-based policy initiatives; the promotion of networks between regional actors and external actors that have relevant knowledge, expertise or investment capital; the transfer of innovative and entrepreneurial practices between firms; and incentivising the acquisition of innovation skills by the labour force and youngsters in particular. The governance of regional innovation agencies is particularly important, because they are supposed to use public resources to mobilise private actors, including firms, academia and civil society, which requires a shared vision on the future and the objectives to be pursued.

6.6.5 Support for university research

The relationship between academic research and firm innovation was demonstrated in 1989 by [Jaffe \(1989\)](#) who confirmed state-level spillovers in the United States between academic research, commercial research and firm innovation. This effect is not the same in every place and industry, and is more important for some industries than others. It also seems that academic research stimulates R&D investment by firms which is another, indirect, way of providing a spark to innovation.

Conceptually, the importance of interactions between private firms and universities for local innovation has been confirmed by studies adopting the “triple helix” framework. According to the triple helix theory, innovation in a system depends on the fruitful interactions between three types of agents: firms, universities and government ([Etzkowitz & Leydesdorff, 2000](#); [Leydesdorff & Etzkowitz, 1998](#)). This theory centralises the systematicity of innovative processes and has been extended to other aspects, including local-global and local stakeholders ([Grundel & Dahlström, 2016](#); [Hasche et al., 2019](#); [Leydesdorff, 2012](#); [McAdam et al., 2012](#)). While many extensions of the original model have been proposed, currently the one most diffused refers to the quadruple helix, in which the three initial elements are complemented by a fourth element, civil society, which includes citizens, consumers, users, workers, labour unions, NGOs. It is through the interaction of these elements that innovation is successfully generated because universities have expanded their role beyond research and are producing a large part of the base knowledge, which is then used by firms in applied research.

Support for academic research is therefore a common instrument of regional innovation policy because local firms will generally have a greater incentive to collaborate with universities if these universities perform frontier research which can later be applied to production. For instance, the EU Horizon programmes (formerly Framework) have many initiatives which require firms and universities to establish relationships to pursue joint research projects.

Firm-university collaborations are much easier when the two bodies are co-located, due to the existence of closer ties between entrepreneurs and academics who can meet on a regular basis. For this reason, when a policy targets a university and its research, it might be expected to have a greater impact locally, in addition to improving innovation and growth for the national system.

The role of universities as educational agents is also relevant to the quality of innovation in the region, since better graduates will be more innovative workers, and better graduates will possibly be better R&D personnel. The role of universities in the formation of human capital was further addressed in [chapter 5](#). Support for universities is also related to the second wave of instruments since it normally entails systemic collaboration.

BOX 6.2 THE ESPOO INNOVATION ECOSYSTEM

To better understand innovation ecosystems, their mechanics and the role of the policymakers, one famous and successful example is presented here: Espoo, in Finland. This example also allows us to see how many elements which have been introduced in these two chapters

on policy instruments work well when they integrate with each other. Because of its reputation, this case is the object of several academic papers and was also the subject of a joint study mission by Jrc and cor which is the basis of the findings presented hereafter ([Rissola et al., 2017](#)).

Espoo is a city in the region of Usimaa, in southern finland. it belongs to the same region as helsinki, the capital of the country, and to its wider metropolitan area. The two cities are only 20 km apart. The municipality of espoo has a population of almost 300,000, second in the country, and the helsinki metropolitan area to which it belongs has a total population over 1.6 million. The population growth within the municipality of espoo has been rapid, since it was only 56,000 in 1960 and 172,000 in 1990.²⁰

The Espoo innovation ecosystem is considered to be highly successful on a number of measures: it is the location of many innovative firms, from large national (e.g. Nokia Networks, Kone) and international (e.g. microsoft) firms, which have their production and research facilities there, to medium and small sized ones. it hosts a very large number of start-ups. moreover, it is the base of the most important university in the country as well as several other research institutions so that about half of the country's R&D is concentrated there.

The success of the ecosystem comes from the contemporary, coordinated and successful presence of several different elements, from pre-enabling conditions, to economic and research actors, to good informal and formal institutions which facilitate the innovation processes, as well as a local culture which enables entrepreneurship and innovation.

Among the agents, the Aalto University is commonly seen as having a central role. This university was born from a successful policy decision to merge three other universities to achieve a larger scale and economies of scope by having different disciplines. moreover, aalto University was created with the purpose of being an entrepreneurial university, whose aim is to affect the economy and the society and generate wide societal benefits, not just to educate people. This is made evident by its statute as a (private) foundation, although the majority of the initial funding came from the state, and by the president who is elected by the stakeholders rather than the faculty. The campus was established in the city, with the main activities concentrated in a relatively small area and premises built to facilitate interactions, exchanges and openness. The aalto University is also excelling in research, thanks to a significant ability to attract external faculty, students and research funding (e.g. from the EU Horizon programme).

Around Aalto University, many other institutions facilitate research and the nurturing of entrepreneurial initiatives. Among them, it is worth mentioning the VTT Technical research centre which is state-owned but is a nonprofit limited liability company. It is active in research (being one of the major attractors of eU research funds) which aims to bring transformation and renewal. Intendedly, it is cooperating with companies, universities, administrations and other research institutes. This concentration of research institutions in a small area is normally considered to be a success factor for Espoo.

Many other centres and facilities exist which facilitate business ventures: training centres, business incubators and accelerators, small business centres, co-working platforms, etc. Also, the large companies set up their own facilities to nurture new ideas and promising projects. Private venture capitalists are also present, although their penetration in Finland is larger than the European average but not large at an absolute scale. Institutions are also very active, the Uusimaa regional government, the Espoo municipality, the chambers of commerce. The central government has heavily invested in the national R&D infrastructure in the area and provided a legislative framework which facilitated the processes, including for entrepreneurship, education and encouraging universities to endeavour the commercialisation of research results.

The culture of the place is also seen as very conducive to innovation and entrepreneurship. Students' associations have long existed to favour them and to lobby for the provision of the best conditions for start-ups. Initiatives which link citizens to science are also common. The whole society, indeed, seems to have a propensity for prototyping and experimentation, which is not confined to laboratories.

Among all actors, the Aalto University takes the leadership of the ecosystem also through several coordinating initiatives between the various quadruple helix actors, as well as encouraging the emergence of innovation demand from society. The other two central actors being the local governments (regional and municipal) and Tekes, the Finnish funding agency for Technology and Innovation ([Rissola et al., 2017](#)).

This case is important as an illustration of a regional successful quadruple helix system, but also to show that adequate policy interventions (the establishment of Aalto University, and targeted innovation policy support) can be effective in places where there is a receptive ecosystem, based on an educated and skilled workforce, pre-existing entrepreneurial initiatives (Nokia's golden age as a mobile phone producer was prior to Aalto University), innovation- and entrepreneurship-prone mentality,²¹ well-functioning national and local institutions.

6.6.6 Technopoles and science parks

Technopoles and science parks have a preeminent role in innovation and collaboration. They are widespread across countries around the world and they are long-term, structural interventions, whose effects are longer-standing with respect to simple calls for collaborative activities. Technopoles and science parks are designed to improve collaboration between firms and universities and to nurture spinoff firms from the latter.

The conceptual idea is that the services and mediation of science parks will allow firms to use the knowledge generated locally, especially by universities, to create new products. As such, science parks represent a connection between the upstream phases of innovation, those linked to base and applied research, which are performed inside universities, and the downstream phases, in which products are developed and marketed by firms.

Technopoles and science parks are sometimes the initiative of universities, which look for somewhere to grow their spinoffs. In most cases, however, central or local government provides resources and takes the initiative to establish the park.

There is even an International Association of Science Parks (IASP)²² which provides a widely used definition of a science park as:

an organisation managed by specialised professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions.

To enable these goals to be met, a Science Park stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; it facilitates the creation and growth of innovation-based companies through incubation and spin-off processes; and provides other value-added services together with high quality space and facilities.

The expressions “technology park”, “technopole”, “research park” and “science park” encompass a broad concept and are interchangeable within this definition. The acronym STP (science and technology park) is used to refer to all of these expressions (www.iasp.ws/our-industry/definitions).²³

This definition highlights the developmental role of science parks, which are normally established to further local economic development by smoothing flows of knowledge between research institutions, especially universities, and private firms. As such, technology parks are intended to foster innovation as a key factor in development.

Another desired effect of science parks is to attract investment from new companies that join the park, or from existing companies which decide to move there. Science parks are also used to attract foreign direct investments (FDI) and to spur collaboration between local firms, universities and multinationals ([Koster et al., 2018](#)).

Science parks have a mix of soft and hard aspects. They normally include physical premises, such as incubators, where local firms can run their activities, as well as receptions, meeting rooms, banks and transport facilities. They also normally provide expert advice on technology, production, property rights, marketing, legislation, internationalisation, etc. Other experts may also provide courses to entrepreneurs and employees, in fields related to their activities. Science parks may also include ancillary services such as catering, surveillance, etc. Finally, they are increasingly providing services to improve the quality of life for those who work there, which helps to attract high-quality human capital. Local people may also benefit from these services.

Science parks are also thought to bring status and prestige to the firms located in them ([Felsenstein, 1994](#)). Even when interactions within the park are limited, small firms may benefit from increased visibility and a reduction in uncertainty in the eyes of potential trade partners. Similarly, science and technology parks can have a positive impact on the reputation of the region which hosts them ([Carvalho, 2009](#)).

Science parks differ in terms of the services they provide and in terms of size. They may have just a few units or employ hundreds of people over many thousands of square metres. Some are publicly owned but others are mixed. Finally, some science parks are concentrated in one or a few sectors and others may be more diverse ([Liberati et al., 2016](#)).

There is also a distinction between virtual (focused on advice) and physical, real-estate based, science parks, or indeed hybrid models ([Durão et al., 2005](#)). There exist in fact many cases in which the provision of actual space for firms to operate is not that important but the focus is on providing advice.

A simple visual tool has been developed by Luis Sanz (cited by [Lund, 2019](#)) to visualise the strategy choices taken by those who establish and manage a science park. These operate over seven different axes:

1. Location and environment, especially expressed in terms of a location inside or outside a city.
2. Position in the knowledge/technology stream, in particular in terms of focusing more on research (upstream) or market (downstream).
3. Target firms, with a continuum between start-ups and established firms.

4. Degree of specialisation, with specialist and generalist (i.e. diversified) parks.
5. Target markets, in terms of mostly domestic or mostly international.
6. Networking, depending on whether it is strategic or not. In particular, science and technology parks are networks themselves but also nodes of wider, often international, networks.
7. Governance/management model, ranging from institutional (i.e. public) to business-oriented.

Empirical analyses of the effectiveness of technological parks are widespread. They are usually measured in terms of their impact on member firms, with innovativeness, R&D expenditure, cooperation for innovation, firm productivity and revenue growth as main indicators of success, or in terms of their wider impact on the local communities.²⁴ The results of these analyses are usually positive and show better performance for firms in science parks compared to those outside them, although often with differentiation in terms of type of firm, type of park, governance, etc. Moreover, there is an issue of selectivity, since science parks may attract the best firms from the start (sometimes due to the requirements to locate there) ([Koster et al., 2018](#)).

6.6.7 Demand-side innovation policy instruments

There are three main types of demand-side innovation instruments ([Aschhoff & Sofka, 2009](#); [OECD, 2011a](#)).

1. Public procurement, which entails public bodies buying specific types of goods that can stimulate production and research in these directions.²⁵ This has always been common in sectors such as defence or health, where stimuli to engage in R&D and the introduction of innovations came from the fact that the public sector was interested in buying specific goods or services which were not yet available. Having the public sector as the final buyer of an innovative good also stimulates innovation because it reduces its intrinsic risk. Although there is still a technological risk, once the product is developed there is already a buyer. More recently, public procurement has been used as a more explicit innovation policy, for example to create new niches, lead to new solutions and allow for the experimentation of new technologies.
2. Regulation, which, from the government point of view, has the advantage of requiring fewer monetary resources. Regulations can force economic actors to produce certain types of goods in certain ways, and this can also stimulate innovation because firms need to

invest in R&D to achieve their targets. Environmental regulations, for example, have encouraged firms to introduce innovations which reduce car emissions.

3. The introduction of standards, which are different from regulations in that they operate at the industry level. They can increase interoperability and transparency. In this case, participation is voluntary but firms have an incentive to participate to set standards which they find convenient. To avoid the exclusion of small and medium enterprises from these processes, there have been policy initiatives to help them participate in the regulatory process, so that they do not have to abide by regulations set by others.

Demand- and supply-side instruments are normally complementary so in practice the use of both can achieve better results. In many cases, demand-side instruments are integrated in wider strategies which involve supply-side instruments, also because a higher requirement for research and innovation (demand side) needs to have the local assets to pursue it (supply side).

There are risks linked to demand-side policy instruments and possible unintended consequences. Many risks come from the fact that demand-side instruments interfere with market forces and lead technology in certain directions, which may not necessarily be the best ones. They may also lock-in production and markets to technologies which are inferior to others which would have won a free competition. Distortion is hence one main problem with these types of policies which can be reinforced by the imperfect information available to policymakers.

A second problem may arise from the complexity of these interventions and their administration. For example, agencies responsible for public procurement are normally different from those responsible for research and development, which makes it difficult to align incentives, not least because purchasing agencies have to focus also on cost-saving and value for money. Complex schemes involving different bodies and governmental levels are hence generally required.

Unforeseen consequences are possible, as demonstrated by national initiatives to install solar panels on houses to reduce dependency on non-renewable energy but also to stimulate production and research in this field. Although the installation and maintenance were normally local, the provision was global, i.e. with production coming from abroad. As such, the market aim was achieved domestically but the technological benefits were not captured within the same nation.

6.7 SMART SPECIALISATION STRATEGIES (S3)

6.7.1 What is smart specialisation?

Smart specialisation strategies (S3) are the most diffused of recent place-based policies. They involve innovation in the strict technological sense but also innovation in a wider, industrial and organisational sense. The genesis of S3, however, was not at the regional level. They were first developed within the Knowledge for Growth Expert Group ([EU Commission, 2009](#)) established in 2006 to assist the Research Commissioner Janez Potocnik (i.e. notably not the Regional Policy Commissioner, at that time Danuta Hübner) with “advice on how knowledge can contribute to sustainable growth and prosperity and to policies in support of the Lisbon Strategy goals”. The Lisbon Strategy was agreed by the EU Council (representing the member countries) at a Lisbon meeting in March 2000. The strategy was intended to make the EU “the most competitive and dynamic knowledge-based economy in the world” by 2010. The knowledge economy was central in this strategy, although the document included many more policy aspects.

The purpose of the Knowledge for Growth Expert Group was to present new policies for research and innovation in the EU. These policies were in fact central to the Lisbon Strategy, at a time when the European Union had a large deficit in public and private R&D compared to other advanced economies, such as the US and Japan. The fact that innovation is a highly localised process means S3 were rapidly extended to the regional level, which is now its predominant domain.

The concept of smart specialisation was officially introduced in the “Knowledge for Growth” report ([EU Commission, 2009](#)), by [Foray et al. \(2009\)](#). S3 have their roots in the so-called “new industrial policy” approach of [Rodrik \(2007\)](#), which calls for selective industrial policy interventions.

S3 offer a third way between previous policies that either further support existing sectors of specialisation or despecialisation by introducing new production sectors and specialisations.²⁶ S3 encourage investment in sectors and activities which expand current economic specialisation towards complementary industries and productive assets to bring new opportunities. As such, smart specialisation strategies expand the diversity inside the regions but usually do it with activities which are related to the existing ones, and complementary to them, even if the possibility of longer leaps is not excluded.²⁷ In this way, S3 exploit the competitive advantages of places and at the same time establish new niches.

S3 strategies are based on the following ideas:

First, the implementation of an **entrepreneurial process of discovery (EDP)**. Rather than a top-down or bottom-up approach, the policy maker assists entrepreneurs in the discovery phases, helping them to coordinate, form connections and access knowledge to accelerate the discovery process. A top-down industrial strategy would in fact risk losing the information available on the ground, while a bottom-up strategy, which takes into consideration the ideas of existing firms, risks introducing path-dependent strategies which are excessively linked to existing ways of doing business. In particular, single entrepreneurs normally lack knowledge on what happens outside their own firm, industry and knowledge domain and would benefit from additional knowledge and external skills.

Entrepreneurial discovery processes normally precede innovation, as they involve exploring and opening new domains ripe with opportunities in terms of markets and technological innovations. These processes can take place in three different ways: (i) exploiting complementarities between a general purpose technology and a traditional sector in which it has not yet been applied; (ii) exploiting economies of scope between two different business activities, which can stimulate a process of diversification; and (iii) transitioning existing collective capabilities towards the creation of a new business ([Foray, 2014](#)).

Second, the importance of **general purpose technologies (GPT)**, which can be used in many different fields. This is different from major innovations that may change the economic paradigm (such as the introduction of steam engines, electrification, internal combustion engines, micro-processors and alike²⁸.) Instead, most innovations that start new specialisations come from the recombination of different existing strands of knowledge. Learning, in this case, takes place through the identification of ways in which technologies used in one sector can be combined with those previously used another sector. It is therefore important to help entrepreneurs, whose knowledge is generally specific to their own sector, to co-innovate with others, whether entrepreneurs or researchers who possess complementary information and knowledge. This way of innovating can be especially fruitful in regions and firms far from the technological frontier – they will be unlikely to introduce new general purpose technologies but may be apply them.

Third, the **role of government**, which is different from the traditional role of government in industrial policies, in that it should not directly select champion firms or areas of specialisation. Instead, its role is:

- To supply incentives which encourage entrepreneurs and organisations to become involved in the entrepreneurial discovery process.

- To timely identify and provide public investments required to support new specialisations which arise from the discovery process (e.g. specific infrastructure or human capital).
- To support networks of firms, researchers and universities inside regions and between different regions. This allows knowledge to flow between economic agents and places. Intervention may be required especially to incentivise interaction with lagging regions where the benefits might be even greater.
- To continuously evaluate the results of its support and adapt to the new experiences and knowledge generated in the economy. This is only feasible if an effective monitoring process is set up at the project and wider local economy levels.

Smart specialisation does not always necessitate government intervention. There are many cases of spontaneous transitions, which exploit existing knowledge and savoir faire in new productions and businesses ([Foray, 2014](#)). This has taken place especially when an old technology has proven suitable for new uses when facilitated by newly introduced general purpose technologies, which is in turn copied by others. However, there are many more cases in which opportunities have been missed because it is difficult to access external knowledge, or to change or, finally, to get the full rewards from innovation activities. In these cases, the intervention of the government is helpful and required.

Smart specialisation interventions, therefore, must be selective, focused on specific economic activities, but their selection is not the decision of a policymaker, nor the result of analytics, but comes from interactions from which opportunities emerge ([Foray, 2015](#)), as in the above-mentioned entrepreneurial discovery process.

Fourth, the **role of knowledge**, which is a key requirement of the discovery process. This does not refer to technological knowledge per se but to entrepreneurial and economic knowledge. Detailed technological knowledge is not sufficient if an entrepreneur is unable to combine it with knowledge about potential markets, competitors, the organisation of firms, how to get the required inputs and so on. In essence, an entrepreneur does not need to grasp the details of a technology but to envisage how to use it in different recombinations. The knowledge generated by the discovery process is therefore not purely technological but wider economic knowledge which of course includes technological applications and facilitates innovation.

The discovery process of smart specialisation requires the integration and the synergic application of many technologies and different aspects of knowledge which are normally not available to a single economic agent. That is why, in most cases, networks and partnerships can best facilitate the discovery processes. However, these synergies may also be present between different departments of the same large organisation.

Finally, **the role of transformation** because when the discovery process is successful, it creates spillovers and these trigger a process of agglomeration. This is a process of **entry** for many entrepreneurs who were not involved in the original process of discovery but jump on the opportunity to also benefit from it. The spillovers reduce opportunities for appropriation by the original innovator but induce systemic change in the economy, giving rise to external economies, including agglomeration, and the birth of a new system. As a consequence, S3 should maximise these spillovers.

Complexity and relatedness are both useful concepts to define smart specialisation strategies. [Balland et al. \(2019\)](#) built an index of complexity (the degree to which a technology is rare and, therefore, entails more difficulty in developing new specialisations but has higher potential growth) and an index of relatedness (the degree to which a technology is related to those that already exist in the region so that it is more likely to develop new specialisations and growth). In a graph ([Figure 6.3](#)), a region's potential technology (or new growth path) can be represented by a point whose size depends on patenting in each technology class. In this way, it is possible to assess new domains based on a trade-off between risks and benefits, since highly complex and highly related domains (the best situation) are rare.²⁹

The change brought by S3, therefore, is not just technological but a much wider organ-isational and even structural change, by which the economic structure of a place may be completely subverted. S3 are needed because of the potential for market failure in the introduction of new innovative activities. Entrepreneurs may lack incentives to enlarge their fields of operation through adequate discovery processes, or imperfect information may prevent firms from adopting important technologies.

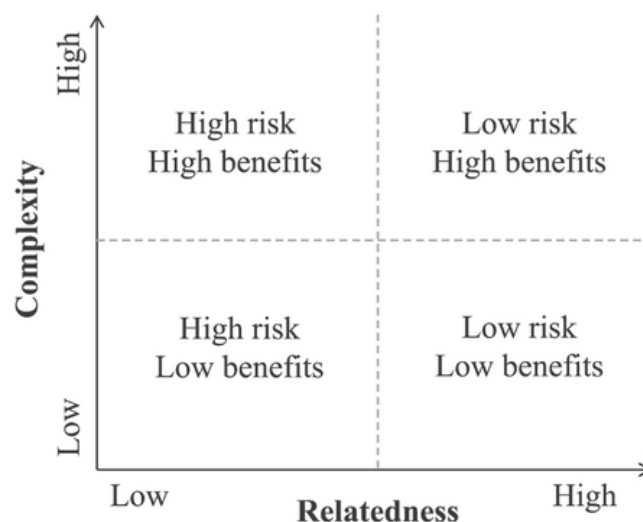


Figure 6.3 Complexity and relatedness in the search for new domains of smart specialisation Source: [Balland et al. \(2019\)](#)

Designing a smart specialisations strategy is like identifying a small number of transformative activities and deciding to support their development ([Foray, 2018](#)). Transformative activities require support measures to develop specific capabilities necessary for success. Of paramount importance is the development of human capital capabilities specific to the new activities. General framework policies are unable to achieve S3 objectives because they disregard the specificities of the required prerequisites.

S3 are by definition **vertical policies** which target specific sectors and situations, and in particular support the entrepreneurial discovery process by helping firms in selected sectors to reap opportunities arising from external technologies. They are different from other innovation policies, which were presented in the previous sections, and which are generally horizontal in the sense that they build – equally – on the capabilities of all firms and sectors. Vertical policies instead target specific firms, sectors and technological domains which are expected to bring the greatest opportunities. S3 therefore require clear priorities that are not horizontal (such as human capital in general) but vertical, in terms of particular fields, technologies, actors. Horizontal and vertical innovation policies, however, should not be considered as alternatives but rather as complementary because vertical policies only work if there is a good base built by horizontal policies.

The **scale of application** of smart specialisation strategies is intermediate, between the firm level and the sectoral level. In fact, transformative activities are not intended to affect the full sector but target some groups of firms which have the potential to introduce new activities. In a second stage, however, the agglomeration and spillover effects may have a wider impact on the whole sector and hence have a sizable impact within the regional economy ([Fantechi & Fratesi, forthcoming](#)).

6.7.2 Criticisms, limits and risks

Smart specialisation has been criticised on a number of levels, linked especially to the challenges of practically implementing a theoretically interesting concept. These criticisms are discussed more below.

Application on an unprecedented scale with little previous empirical evidence of its success

The European Union has made smart specialisation a condition of Thematic Objective 1 (“Strengthening research, technological development and innovation”) in programming period 2014–2020. This means that every region³⁰ had to have a smart specialisation strategy, even though the concept

had only been developed conceptually. This was a big step and the implementation started without the pilot cases or assessment to which policies are normally subject to ([Morgan, 2015](#)).

The role of government

As proponents of smart specialisation point out, even the government does not possess perfect information to identify the technologies and the production processes suited to smart specialisation. The role of the government should therefore be to accompany the entrepreneurial discovery process rather than lead it. This creates some problems because regional plans and policies tend to be designed *ex ante* and may lack the necessary flexibility required by S3.

Political pressures can limit transition

Existing sectors may seek to preserve the status quo through S3, for example by lobbying to identify themselves as those where the regional S3 should focus. It is important not to confuse these sectors with those bringing more opportunities and to resist the political pressures to make smart specialisation processes just another way to support existing firms and economic activities.

Focus on sectors

Continued focus on sectors rather than systems of competence, which are the essence of smart specialisation compared to traditional sectoral policies. Unfortunately, when S3 are applied in practice, smart specialisation strategies still tend to identify specialisation sectors. However, the right scale for discovery processes is that of systems of competences which don't include a sector in full and span over different related sectors. Concentrating on the latter risks missing the real essence of S3 in favour of traditional sectoral policies.

Market distortions

Vertical policies are known to introduce market distortions and these can make the situation worse than a situation without policy interventions. This normally happens because different opportunities are provided to different economic agents, and there is no guarantee that a policy provides the best opportunities to those who are able to make the best use of them. S3,

however, relies on helping economic agents find new opportunities which may not be evident to them, rather than on creating opportunities.

Spatial differentiation

S3 have been enforced in all regions of Europe. However, critics claim that their effectiveness is not the same in all regions and, especially, that they may be less effective in lagging regions because:

- Lagging regions normally lack the administrative capacity to support entrepreneurial discovery processes ([Balland & Boschma, 2019](#)); and weak administrative capabilities can result in lagging regions targeting too many objectives and mimicking neighbouring regions instead of producing strategies linked to their own conditions ([Di Cataldo et al., 2021](#)).
- Opportunities may be less sizeable in lagging regions because they have weaker production structures and less knowledge, reducing the chance to interact with new technologies. Additionally, local assets in lagging regions are weaker so it may be first necessary to provide basic services.

This gives rise to an “innovation paradox”, because lagging regions are more in need of innovation but less able to absorb resources devoted to them ([Gianelle et al., 2020](#)).

A failure to consider interactions between different regions

S3 tend to be focused on one region's potential, at least those which were implemented in EU regions in the 2014–2020 programming period. Those strategies are focused on one region, on the pieces of knowledge it can possess, those which it can acquire and how to make them into a system so that new opportunities arise. However, complementary assets absent in one region might be present in a neighbouring region, from which regional economic agents can “borrow”. This has been demonstrated, for example, in European border regions, which can compensate for the lack of internal endowments with assets present in regions nearby ([Capello et al., 2018](#)) (see [chapter 8](#)).

BOX 6.3 FURTHER CRITICISMS OF S3 AND RESPONSES

Recently [Hassink and Gong \(2019\)](#) put forward a detailed list of six criticisms of smart specialisation, from the very definition of the concept to the way in which it has been applied in practice. [foray \(2019\)](#) provided a reply to each of these. Both criticisms and responses are reported in [Table 6.1](#).

Table 6.1 Hassink and Gong's criticisms of S3 and Foray's responses

No.	Criticism (Hassink & Gong, 2019)	Response (Foray, 2019)
1	Smart specialisation as a concept may lead to confusion for those expected to implement it. Smart specialisation should be more similar to diversification.	It is accepted that the term specialisation in economics tends to have a different meaning from the one used in the context of S3.
2	Smart specialisation is grounded in a traditional innovation system approach, where the purpose of innovation is growth and competitiveness, and might be ill-suited to achieve further objectives such as sustainable development and social innovation. Moreover, there are many similarities with existing approaches to innovation policy.	Smart specialisation owes its origins to many approaches but its novelty is in the recombination of concepts, especially planned and bottom-up approaches, which have usually been seen as separate.
3	Smart specialisation strategies are similar to more traditional cluster policies because they encourage concentration and critical mass, and both are vertical measures (i.e. applied selectively to specific areas and sectors). The novelties are less radical if compared to a bottom-up cluster policy,	Smart specialisation is a mechanism of transformation while a cluster is a structure. Smart specialisation may lead to the birth of a cluster or to the transformation of an existing one.
4	The entrepreneurial discovery process is intrinsically weak. It is at risk of vested interests and depends on entrepreneurs and institutions. It could entrench lock-in due to rent-seeking behaviours or lack of external knowledge. It also tends to be	Smart specialisation is about transformation, so there is no limit to the extent this can take place. There is a risk of negative behaviour, which may be counterbalanced by good and transparent processes and the involvement of external

No. Criticism (Hassink & Gong, 2019)	Response (Foray, 2019)
related to existing specialisations so opportunities may be missed for more radical change.	experts. Radical innovations are not the only way to improve productivity and horizontal measures can help.
Not all types of regions can benefit from smart specialisation to the same extent. Weak regions have limited capabilities to identify and pursue new patterns of discovery but are more in need of innovation. Smaller regions may benefit more because new opportunities may be too small to provide a significant effect in large regions (new opportunities are often linked to the birth of new market niches).	This criticism is accepted: "I no longer think that smart specialisation can be beneficial for all regions" (Foray, 2019, p.2075). However, the tool should remain available for the many regions, especially intermediate ones, which can benefit from it. It will not be required in the 2021-2027 EU programming period.
The way S3 effects are measured, which usually involves quantitative measures such as employment data¹, can hide structural change. Patent data and surveys are unable to demonstrate such a complex concept. This is less a criticism of the concept and more an invitation to use a "clever method mix" (Hassink & Gong, 2019, p.2058).	Even if measurement is a challenge, this does not mean the measurement itself should be abandoned. Measurement should also distinguish between intermediate outcomes and final impact.
Source: Author created, re-elaborating the papers by Hassink & Gong (2019) and Foray (2019) ¹ See also chapter 7 on the difficulties of evaluation.	

6.7.3 Implementation in practice

The European Commission, through its research branch, the Joint Research Centre, has set up a platform to guide regions in preparing their S3 strategies, providing advice, information, cooperation and best practice (<https://s3platform.jrc.ec.europa.eu/>). Currently, there are 180 of these

strategies across Europe, most at NUTS2 level but also at larger scales (national or multi-regional).

[Foray et al.'s \(2012\)](#) guide also contains a “step-by-step approach to RIS3 design”³¹ (p.27). The various steps are not unfamiliar to regional policy strategy building, in that they are:

1. Analysis of the regional context and potential for innovation.
2. Governance: Ensuring participation and ownership.
3. Elaboration of an overall vision for the future of the region.
4. Identification of priorities.
5. Definition of coherent policy mix, roadmaps and action plan.
6. Integration of monitoring and evaluation mechanisms.

The actual development of each of these steps, however, is innovative compared to previous approaches, especially the idea of setting priorities based on technological domains.

Now that some years have passed since the widespread introduction of smart specialisation strategies in regional policy, evidence is starting to accumulate, which allows policymakers to learn from its design, implementation and results in various regions of the EU. This literature comprises many academic papers and policy reports, most focussing on one or a small handful of regions although some have more general relevance.

As shown by [Mora et al. \(2019\)](#), the number of academic papers related to smart specialisation is exponentially increasing, even if the literature continues to cluster around the seminal and defining contributions ([Capello & Kroll, 2016](#); [Foray, 2015](#); [Iacobucci, 2014](#); [McCann & Ortega-Argilés, 2015](#)). However, there are still many more studies concentrating on the design of the strategies and their coherence with S3 principles than studies on their impacts and the actual practical implementations ([Foray, 2019](#)). This is expected considering the date when this book goes to press and the delay needed for effective evaluations ([Marrocu et al., 2022](#)).

Based on the analysis so far, the following provides a concise account of lessons to be considered when implementing S3:

1. **Selectivity** has been implemented only to a limited extent (e.g. [Di Cataldo et al., 2021](#)). A study of seven countries suggests that the transition to this new way of policymaking has been partial ([Fratesi et al., 2021](#)). While some S3 aspects have been implemented in other cases in other aspects, such as selectivity, it seems that the logic of the S3 has been “circum-vented” ([Gianelle et al., 2020](#)). Moreover, the selection process appears to have been so far weak (or at least risky) since many regions did not select the sectors in which they have a current or prospective advantage ([Marrocu et al., 2022](#)), even if other studies show that in most cases a linkage between ERDF-funded projects in the field of R&I

and associated S3 priority areas exists ([Kramer & Sirtori, 2021](#)).

2. The **discovery process** has not yet been implemented as expected. Focusing on the first years (2014–2015), [Aranguren et al. \(2019\)](#) analysed the governance of S3 in a quadruple helix conceptual model to show that the lead role was taken by the government, while the role of civil society was secondary. Moreover, there has been evident path dependence on regional structures and little coordination between territories. This is consistent with [Sota-rauta \(2018\)](#), who suggested that the discovery process will be influenced by leadership, since only some actors will be able to develop a vision and influence others. Coherence was further investigated by [D 'Adda et al. \(2019\)](#), who analysed the technological domains identified in the strategic documents of Italian regions to find a heterogeneous level of coherence with regional strengths (measured in terms of existing specialisation or patent data), although some selectivity may be emerging due to the identification of narrower domains compared to the present.
3. Long-run evidence supports the role of **key enabling technologies**. Over a 30-year panel of patent data (not covering the S3 period), [Montresor and Quatraro \(2020\)](#) found that relatedness to pre-existing knowledge makes the emergence of new green specialisations more probable. This is true for both green and non-green technologies and, while regions which already have green technologies tend to follow their established patterns, others can develop them from general purpose technologies. This evidence provides an optimistic outlook on the ability of S3 to achieve environment-related transformations and objectives.
4. The issue of **governance** is important because of the number of stakeholders and complexity of the relationships. Two issues arise in the implementation of S3, one related to the development of stakeholder networks and the other to the lack of entrepreneurial activities, which gives rise to the need to focus on stakeholder engagement to mobilise resources ([Ghini et al., 2020](#)). The quality of government influences patenting ([Rodríguez-Pose et al., 2014](#)) but S3 in lagging regions supports policy learning and system-building efforts while in more advanced regions it facilitates policy reorientation and system transformation ([Tripp et al., 2020](#)). This is especially important because capacity is one of the main bottlenecks for local administrations and local firms seeking to build strategic networks and use knowledge generated in universities ([Papamichail et al., 2019](#)).
5. Interregional **connectivity** is unfortunately missing from many strategic documents. This means that S3 has little capability to

induce external cooperation ([Uyarra et al., 2018](#)), which help regions to upgrade technologically and fill technological gaps with external cooperation ([Barzotto et al., 2019](#)).

BOX 6.4 AN EXAMPLE OF S3: THE REGION OF CATALUNYA'S STRATEGY

To illustrate the practice of smart specialisation strategies, the example of Catalonia is provided here. Catalonia is a region of Spain, with a population of more than 7 million inhabitants, endowed with a large autonomy, since it has a Statute of Autonomy which endows the “Generalitat of Catalonia” with ample powers. Its capital and largest city is Barcelona, whose metropolitan area represents around two-thirds of the regional population, even if the region is significantly larger and, with an area of 32,000 km², includes other medium sized cities such as Tarragona, Girona and Lleida.

Catalonia has traditionally been one of the most developed regions of its country and of Europe in general, holding a higher than EU average GDP per capita and a model of economic development based on advanced manufacturing (e.g. in the automotive sector) and creative and innovative services, with high levels of global openness ([Boix, 2012](#)).

The smart specialisation strategy of Catalonia for 2014–2020 (RIS3CAT) was approved in 2013³² and was originally embedded into a wider “Catalonia 2020 Strategy” which, in line with the EU2020 strategy, aimed at providing a “stable framework to guide policies for competitiveness towards the year 2020” through six priority areas.

The RIS3CAT main strategic objectives were the following four:

1. To modernise the business fabric by improving the efficiency of production processes, internationalisation and the reorientation of consolidated sectors towards activities with greater added value.
2. To promote new emerging economic activities through research and innovation to create and develop new market niches.
3. To consolidate Catalonia as a European knowledge hub and link technological and creative capacities to existing and emerging sectors in the territory.
4. To improve the overall Catalan innovation system, increasing the competitiveness of companies and steering public policies towards the promotion of innovation, internationalisation and entrepreneurship.³³

RIS3CAT was mostly financed with public funds devoted to Thematic objective 1 (research and innovation) but also with funds

from other Tos. in total, it was able to mobilise about eUr 250 million from erDf and more than eUr 220 million from the catalan government ([esparza masana, 2021](#)). The governance of the strategy is articulated and involves different committees and bodies, with participation of agents of the regional government, the entrepreneurial system and the university system.³⁴ moreover, horizontal and vertical coordination mechanisms exist.

Especially in the first phase, RIS3CAT involved a participative entrepreneurial discovery process which took place through: expert groups, an online public consultation, permanent consulting bodies (for research), dialogue with stakeholders (universities, research centres, business representatives), coordination with local administrations ([esparza masana, 2021](#)). This led to the definition of seven priority sectors which, as the reader understands, don't correspond to productive sectors but more to activities: food sector; energy and natural resources; design industries; industrial systems; sustainable mobility; health industries; culture and experience-based industries.

Among the initiatives are the “communities”, which are consortia of enterprises and other agents of the research system which collaborate in projects linked to the priority sectors. The “territorial specialisation and competitiveness projects”, which aim at involving all territories in innovative activities. The “knowledge industry”, which allows the development of market-oriented projects from research undertaken in universities and research centres. The latter is consistent with the consideration that catalonia has always been an innovative region but, as happens with many others, it is relatively weaker in bringing research into the latter phases of the innovation cycle ([Esparza Masana, 2021](#)).

A monitoring system has also been set up made of concentric layers, from projects to instruments, to smart specialisation, to arriving at the wider impact. This system also produced a data-management system which was helpful in other policy domains ([Perianez-Forte et al., 2021](#)).

The RIS3CAT is usually considered a successful case since it helped achieve at least three positive outcomes: it has been the catalyst of innovative efforts within the region; it increased stakeholder engagement and collaboration; it established the basis for a monitoring and evaluation system which is not just working *ex post* in terms of accountability but works continuously and helps learning³⁵.

NOTES

1. [The](#) elasticity, in economics, is a measure of the sensitivity of a variable to another. It is, approximately, the ratio between the percentage variation of one variable to the percentage variation of the other. More precisely, it can be calculated with a derivative. The elasticity of income (Y) to capital (K) can be calculated as $\Psi = \frac{\partial \Psi}{\partial K} \cdot K \Psi$, which is equal to α . Analogously, the elasticity of income to labour is equal to $1 - \alpha$.
2. [In](#) economics there is a distinction between average and marginal productivity of labour, with the first one being the average product per worker and the latter the product of the marginal worker. For our purposes here, average labour productivity is sufficient, and we will refer to it as just productivity. Notice that A is also known as total factor productivity.
3. [The](#) assumption of constant population is rarely true at regional level where migration flows are easy, however, migration flows cannot be a mean for total regional GDP growth in the long run. Moreover, and most important, the arrival of workers also increases population, which means that it increases both the numerator and the denominator of income per capita, so that the impact on the most diffused indicators of regional well-being is uncertain.
4. [This](#) is the case, for example, of the US, which only employs 1.3% of employees in farming (this increases to 10.9% counting all industries related to food processing, service and eating places) and yet are experiencing a longstanding agricultural trade surplus, thanks especially to grains, soybeans, livestock products and horticultural products ([USDA, 2019, 2020](#)).
5. [Convergence](#) in a neoclassical framework has been tested in a large number of papers, especially in the 1990s, spurred by the works of [Barro and Sala-I-Martin \(1991, 1992\)](#). More on convergence in chapter 3.
6. [Notice](#) that, to remain simple, we only refer here to the so-called Hicks-Neutral technological change, which affects the productivity of factors but not the ratio in which they are used in production.
7. [See](#) for example [Bernini et al. \(2017\)](#).
8. [This](#) idea of endogenising innovation is also behind many new economic geography models with innovation.
9. [Once](#) a rival good is consumed, it cannot be consumed by anyone else; an excludable good is a good for which mechanisms exist by which it is possible to exclude from consumption someone, typically those who don't pay for the good (see section 2.2.1).
10. [Policies](#) for entrepreneurship were discussed further in chapter 5.

11. [A](#) simple explanation of bounded rationality was provided in chapter 4.
12. [For](#) a non-technical presentation of a large number examples, see [Johnson \(2010\)](#).
13. [For](#) example, the introduction of the electric car to mass manufacturing was not driven by established manufacturers such as Ford or Volkswagen but by a new producer, Tesla. This is common because an established producer with a large market share and profits has little incentive to radically transform the market.
14. [In](#) economic models, hiring new workers is convenient for a firm when and until their productivity is higher than their cost.
15. [On](#) regional innovation systems see among others [Asheim et al. \(2019\)](#), [Cooke et al. \(2004\)](#), [Fernandes et al. \(2020\)](#).
16. [Patenting](#) is a far from perfect indicator because it represents some products and process innovations but neglects other innovations that do not lead to a patent. It is often used, however, since it is commonly and reliably measured.
17. [See Boschma \(2005\)](#) for a description of these different types of proximity and how physical proximity can enhance them. See [Balland et al. \(2015\)](#) for a discussion of how these proximities may evolve over time thanks to processes of learning, decoupling, institutionalisation, integration and agglomeration.
18. [See](#) among others [Fratesi \(2007, 2010, 2015\)](#), [Rodríguez-Pose & Crescenzi \(2008\)](#).
19. [For](#) a systemic comparison of these concepts, please refer to [Bassis & Armellini \(2018\)](#).
20. [All](#) data from Eurostat.
21. [See Rodríguez-Pose \(1999\)](#) on the existence of innovation-prone and innovation-averse societies.
22. [The](#) International Association of Science Parks connects, represents and assists its 350 members, which are science and technology parks, innovation districts and other areas of innovation, comprising 115,000 companies over 76 countries. Another association is the Association of University Research Parks (AURP) which aims to foster innovation, commercialisation and economic growth in a global economy through university, industry and government partnerships.
23. [Website](#) last visited on 12 June 2021.
24. [See](#) for example [Ferrara et al. \(2014\)](#), [Lamperti et al. \(2017\)](#), [Liberati et al. \(2016\)](#), [Vásquez-Urriago et al. \(2016\)](#), [Arauzo-Carod et al. \(2018\)](#).
25. [On](#) the role of public procurement in innovation policy, see among others [Aschhoff & Sofka \(2009\)](#), [Guerzoni & Raiteri \(2015\)](#),

- [Uyarra et al. \(2020\)](#), [Uyarra & Flanagan \(2010\)](#).
26. [On](#) the advantages and disadvantages of specialisation see Box 3.4.
 27. [Indeed](#), spontaneously diversifying towards cognitive-related aspects is more common than in unrelated ones ([Hidalgo et al., 2018](#)).
 28. [A](#) nice read on the transformative effects of some innovations is the book by [Freeman & Louça \(2001\)](#).
 29. [As](#) acknowledged by the authors, the most important limits of this analysis are that: it only considers technological diversification rather than full capability diversification as smart specialisation; it does not consider the role of economic agents in the development of new domains and of the strategy; it is a top-down approach in which the prioritisation and selectivity risks losing the bottom-up advantages of a decentralised entrepreneurial discovery process.
 30. [There](#) are also cases in which smart specialisation strategies have been implemented at national level, such as in Hungary.
 31. [RIS3](#) stands for Research and Innovation Strategies for Smart Specialisation.
 32. [There](#) is no point in showing the one for 2021–2027 since there is no information on its actual deployment at the time of writing.
 33. [Tatiana](#) Fernández Sirera presentation on RIS3CAT, available online at <http://catalunya2020.gencat.cat/en/inici/>
 34. [See Esparza Masana \(2021\)](#) for a detailed description of the governance.
 35. [See](#) chapter 7 on evaluation.

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PART C
THE ASSESSMENT OF REGIONAL POLICY

CHAPTER 7

The evaluation of regional policy

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7.1 INTRODUCTION

The evaluation of regional policy was presented in [chapter 4](#) as the last phase of the policy cycle. However, evaluation is helpful in all phases of the process.¹ This chapter discusses the need to evaluate regional policy and how this is normally done. It also covers the pros and cons of different evaluation techniques and how to choose which to use. The focus is on the evaluation of regional policy specifically, therefore some aspects or techniques helpful in other context, e.g. social policy, are not considered.

The chapter also assumes that policymakers will resort to experts to do the actual evaluation. Therefore, this chapter does not teach readers how to do evaluation but demonstrates why it is meaningful and how to understand evaluation reports. It is important to have basic knowledge of evaluation and its techniques to make the best use of these reports even if producing them requires specific expertise.²

First, the purpose of evaluation is presented (why evaluation is important); next, the objects of evaluation are presented (what to evaluate); and third, good practice is considered (how to evaluate). These are important choices to be made because they influence the choice of the evaluation plan, including which techniques have to be used and which indicators have to be collected, in particular which to measure the outputs, results and impact of regional policies.

When to evaluate does not have a dedicated section, since it takes place at the various stages of the policy process. Starting with evaluation before the implementation of programmes, common techniques of *ex ante* policy assessment are first presented, followed by a description of theory-based evaluation, which uses a mix of techniques, many of them of qualitative nature, to assess the contribution of regional policy programmes in their different phases. The main techniques for the assessment of policy effects and impacts, which are evaluated *ex post*, are then presented, with no intention to be exhaustive but to provide a future policymaker the basic tools to understand what they are.

The next part of the chapter discusses why evaluation is a difficult task, which concurring effects are present, which effects and context mechanisms can make a policy more or less effective than expected, problems with measurement, especially the MAUP, and how evaluation, and regional policy in general, has to take the time factor into consideration.

The chapter concludes by showing why it is important to consider the context in quantitative evaluation to make policymaking more effective.

7.2 THE PURPOSE OF EVALUATION (WHY EVALUATE?)

Evaluation has many purposes which are related to the policy phase at which it is implemented. Referring to the policy cycle, policy assessment is often considered to be the fifth and last phase of the cycle, which evaluates whether the policy achieved its aims, as observed in [chapter 4](#). Evaluation at this stage is helpful for the following reasons:

1. Policymaker accountability, showing citizens how their money is spent and the value for money of the actions taken.
2. Informing the next policy cycle, which can restart in similar or different forms depending on the outcome of the first cycle. The choice between adapting, succeeding, terminating, innovating or maintaining policy efforts should depend on what the policy has been able to achieve. This is not just a one-off judgement in which an ineffective policy is terminated. A policy can be cancelled when it has been effective, if evaluation shows the objectives have been achieved, or maintained if evaluation shows that it is going in the right direction but has not yet been able to reach its target (see also section 4.2).
3. Learning from what has been done in the past to produce more effective and efficient policies in the future. In particular, this is enabled by measuring the effects and understanding the mechanisms of how these occurred. Positive externality also exists since learning outcomes can be helpful to administrations confronting similar issues elsewhere.
4. Promoting evidence-based policymaking, i.e. the process by which government choices are taken on the basis of the best information available and according to objective evidence.

Evaluation, however, is also helpful before and during the actual implementation of policies. Before implementation, or *ex ante*, evaluation is helpful in validating and finetuning strategies, objectives and instruments so that their development potential is maximised. For example, policymakers can benefit from the work of evaluators who investigate whether the measures to be implemented as part of a complex development strategy are in line with the stated objectives and even when the choices are validated, there is usually room for better tuning the interventions to achieve better

results.

After the policy starts, ongoing, or *in itinere*, evaluation supports implementation so that it is clearly oriented towards its stated aims. Moreover, preliminary evidence on results can steer the policy when things are not going as expected or when better or unforeseen policy directions become available. For example, the evaluation of different measures active within a policy programme may detect those that are more effective so resources can be transferred from the least to the most effective.

Evaluation can therefore answer many different questions ([Marchesi et al., 2011](#); [Pancer & Westheus, 1989](#)):

- *Ex ante*: when will the needs of a given region be satisfied; what could be done to satisfy these needs or to achieve certain standards; what interventions could be implemented to achieve the desired changes; which is the best approach to achieve the objectives; how should the policy programme be implemented?
- Ongoing or *in itinere*: is the programme operating as expected; what changes might help produce better outcomes; is the programme still adequate given unexpected changes to the context?
- *Ex post*: has the policy programme achieved the desired results; have the costs for achieving them been reasonable?

7.3 THE OBJECTS OF EVALUATION (WHAT TO EVALUATE?)

What is or can be evaluated depends on the phase of the policy cycle at which the evaluation takes place ([Camagni, 2003](#)). [Figure 7.1](#) presents the first four policy phases, excluding the fifth (evaluation), to focus on evaluation as pervasive throughout the policy process rather than occurring at one stage at the end. The figure shows the most important societal and policy aspects in each phase and the relevant object of evaluation, which are also summarised below.

Phase 1 (issue identification): there is no evaluation at this stage. Assessing the issues most relevant for a society requires political judgement and a scale of values which is therefore eminently political. These aspects should be left to politics and not be influenced by policy, since policy should provide the tools to address societal challenges, not tell society how it should shape itself. However, there is certainly a role for policymakers and consultants in accompanying the politicians in understanding for which issues there is the technical possibility of interventions, but this is most likely to be done during the identification of the objectives. Moreover, research might be needed in making implicit societal values emerge and

become explicit.

Phase 2 (policy formulation): evaluation can provide advice on whether there is a relationship between the policy objectives developed and the issues identified in phase 1. This type of evaluation is known by different names, usually **rationality** or **relevance**, since it entails an analysis of whether the objectives are relevant to the societal issues identified.

Phase 3 (policy adoption): the most important aspect for evaluation is the instruments set up for the policy to achieve its objectives. Evaluation can analyse whether the instruments are adequate to the objectives to be pursued. This type of evaluation takes place *ex ante* and is known as an evaluation of **coherence**. It may already be quite technical since it involves knowledge of previous programmes so that the policymaker is aware of the probable outcomes of using particular instruments (see also [chapters 5](#) and [6](#), which present the most common regional policy instruments along with their usual and unexpected effects).

Phase 4 (policy implementation): during this phase, the instruments and measures put in place should bring results so there is room to evaluate their **efficiency**, i.e. whether the instruments have been able to achieve results with the right quantity of resources. Results should also be measured against their **effectiveness**, i.e. compared to the stated objectives of the strategy.

Regional policy **impacts**, however, are normally wider than the narrow target or direct results of the policy, with successful policies bringing societal changes and quality of life improvements to regional communities. For this reason, policies should be evaluated against the societal issues identified in the first phase to investigate whether the policy in all its phases has been able to impact society in the desired way.

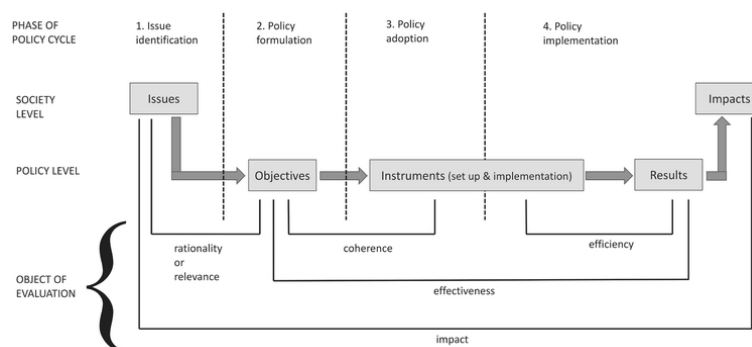


Figure 7.1 The policy process and its evaluation Source: Extended and adapted from [Plante \(1991\)](#)

7.4 GOOD PRACTICE IN EVALUATION (HOW TO EVALUATE?)

Following the discussion of why and what to evaluate, this section looks at how to evaluate and includes good practice for those commissioning evaluations and those undertaking them alike.

The first is that, to be useful, any evaluation needs to have a **clear objective**. When an evaluation is just performed because of compulsory regulation, the findings will most likely be ignored and not have any impact on policymaking. On the contrary, if the commissioner has a clear understanding of why evaluation is being carried out, then the evaluation will be fulfilling its aims.

The **design** of an evaluation clearly depends on its purpose and the questions it seeks to answer. If these are unclear, the evaluation will not produce usable results. Furthermore, the type of information and data which need to be collected varies depending on the context of the evaluation. For example, local policymakers may be especially interested in understanding which interventions are likely to be successful in their regions, and how to implement better policies in the future. National policymakers may be interested in understanding if the money given to regions has been spent efficiently or if it needs to be supported by capacity-building initiatives. The choice of the technique to be used also depends on the objectives that the evaluation has. Having a qualitative or a quantitative one, using counterfactual or theory-based methods, is not independent from what the evaluation aims to achieve.

The second important aspect of evaluation is **independence**. Fully independent assessment is needed to assess what really happened in a region during the policy process and what impacts this brought. Those in charge of the policy's implementation will of course prefer to hear that their work has been effective; and those who fund a policy want to hear that the policy has produced great results, which can be glorified to voters. However, these kinds of pressures should be minimised and kept aside for evaluations to produce trustworthy results, which can in turn improve regional policies in the future.

The third aspect, related to the previous two, is **timing**. Evaluation accompanies the policy process throughout its different phases but most evaluation results, especially in terms of impact, can only be obtained after the end of the programme or measure. Having an evaluation after the end of the implementation phase will inform decisions about what to do next. The problem is that producing good evaluations requires time and should not be rushed since it may lead to the adoption of faster methodological choices which favour speed over reliability. To make things even harder, the production of the data required for many evaluation exercises also requires time so even when the policy intervention is complete, the data needed to assess its impact may not be available for months or even years.

Different policy cycles may even overlap. For example, the EU Cohesion Policy is organised over seven-year programming periods and normally allows fund holders to spend money for two or three additional years after the official end of the period (“n+2” or “n+3” rules).

This means that a complete *ex post* evaluation of this type of programme will not be ready before the start of the next programming period, so too late to influence it. In cases like this, *in itinere* evaluations may fill some of the gap because they allow more timely information about what worked and how. This is another situation in which policymakers face a trade-off, in this case between comprehensive and reliable evaluation results on one side, and their timely arrival to inform new policy measures on the other side.

Finally, it is important to consider that evaluation requires significant **expertise**. Although this chapter is designed to provide some information, there are many good books and manuals solely focusing on evaluation. Evaluation also remains a technical exercise which requires experience, which is why most good evaluations are performed by established consultancy firms or university researchers with the right skills. Further, different techniques should be used depending on the purpose of the evaluation and each requires specific experts. Experts in quantitative evaluation are usually not as expert in qualitative techniques and vice versa, for example. Evaluation exercises should also be verified by independent experts with the skills to assess the technical work of their peers.

BOX 7.1 GOOD EVALUATION STANDARDS

The European Commission's 2014–2020 regulations included a list of good evaluation standards which demonstrate how evaluation activities should be organised to make them more effective and useful (2014b, p.37). These guidelines are helpful beyond eU regional policy and concern the organisation, planning and design of evaluation activities, as well as ways to get reliable and robust results, and are hence reported below.

A. Evaluation activities must be appropriately organised and resourced to meet their purposes.

1. Programmes should use an evaluation function with a clearly defined responsibility for coordinating evaluation activities.
2. For this evaluation function, human and financial resources must be clearly identified and proportionately allocated.
3. Each programme must clearly define the procedures for the involvement of stakeholders.

B. Evaluation activities must be planned in a transparent way so that evaluation results are available in due time.

1. An evaluation programme is to be prepared by the evaluation function in consultation with stakeholders.
2. All activities must be periodically evaluated in proportion with the allocated resources and the expected impact.
3. The timing of evaluations must enable the results to be fed into decisions on the design and modification of activities.

C. Evaluation design must provide objectives and appropriate methods and means for managing the evaluation process and its results.

1. A steering group should be set up for each evaluation to advise on the terms of reference, to support the evaluation work and take part in assessing the quality of the evaluation.

D. Evaluation activities must provide reliable and robust results.

1. The evaluation must be conducted in such a way that the results are supported by evidence and rigorous analysis.
2. All actors involved in evaluation activities must comply with principles and rules regarding conflict of interest.
3. Evaluators must be free to present their results without compromise or interference.
4. The final evaluation reports must as a minimum set out the purpose, context, questions, information sources, methods used, evidence and conclusions.
5. The quality of the evaluation must be assessed on the basis of the preestablished criteria.

7.5 EX ANTE *POLICY ASSESSMENT*

7.5.1 Introduction

All policy decisions benefit from knowing *ex ante* the possible impacts of different choices. In this way, a policymaker can choose policy strategies based not just on objectives but also on the likely effects of the instruments selected. Different instruments can have different impacts and knowing their magnitude *ex ante* is helpful to decide how much they should be used. There is also another important aspect to this, which concerns costs. It is normally possible to estimate the costs of an intervention so knowing *ex ante* its likely impact allows policymakers to compare expected costs and benefits. In this way, they can favour those instruments which have larger expected impacts for the same cost, or lower costs for the same expected impact.

For certain types of public investment an *ex ante* assessment is therefore compulsory. For example, European regulations state that an extended assessment must be performed for large projects co-financed by EU structural funds.³ The regulations include requirements about this analysis since the results of cost-benefit analysis (CBA) depend on the assumptions about the intertemporal discount rate and on how shadow prices are calculated. This is discussed more below.

7.5.2 Input-output analysis (I-0)

Input-output analysis (I-O) is a traditional technique which may be helpful to estimate the impact of a policy affecting the demand for specific goods, services or industries in a region.⁴ It cannot be used to estimate the long-run effects of policies such as innovation ones, but is commonly used to estimate the impact of an event, or of the construction of infrastructure in the building phase. Input-output is especially helpful when a policy affects demand from certain industries more than others. In this case, the policy has direct effects on the target industries but also indirect effects on others. These indirect effects occur because every firm uses inputs from many other firms, which belong to a large set of industries, including but not limited to its own. For this reason, stimulating firms in one industry induces indirect stimuli on other firms, belonging to the same or other industries.

The starting point of input-output analysis is to build a matrix of relations between industries as illustrated in [Figure 7.2](#). The figure can be read horizontally or vertically; reading it line by line it is possible to read in monetary terms to which sector the outputs of any given industry are sold. A_{ij} is the value of production of industry i which is sold to industry j and the last columns represent the final demand, which can be disaggregated into buying sectors.

Reading the columns of the table it is possible to see the industry from which the inputs used for production originate. A_{ij} is in fact also the value of the products of industry i which industry j uses in its production.

Firms sell to other firms (intermediate demand) and also to agents of final demand, comprising private consumption (C_i), public consumption (G_i), investment (I_i) and other entities outside the region (exports, X_i). At the same time, firms buy inputs from other firms (intermediate demand, again) as well as labour (L_i), capital (K_i) and inputs from outside the region (imports, M_i). By definition, the value added of production goes to remunerate labour and capital, so the sum of wages and profits equals the value added.

It is complex and costly to complete the values of a table such as this and in many cases the required data are unavailable and estimations are needed. However, once they are available, they can be used to provide an estimation of the impact of policies which affect regional demand. In many cases, regional tables are not obtained by actual investigation but from so called non-survey techniques, which use available information such as the regional sector specialisation to estimate the regional tables, starting from national ones.⁵

Producing estimates using an input-output table requires an important assumption of stable technical coefficients, which basically means that each industry buys in the same proportion from other industries when its demand changes. If this assumption holds, with relatively simple matrix calculations it is possible to estimate the total impact of policies on production, GVA and

also employment, i.e. indirect effects.

		Buying sectors									
		Industries (intermediate demand)					Final demand				
		1	...	j	...	n	C	G	I	X	
Selling sectors	Industries	1	A_{11}	...	A_{1j}	...	A_{1n}	C_1	G_1	I_1	X_1
		...	...	...	...	...	...	...	...	...	
		i	A_{i1}	...	A_{ij}	...	A_{in}	C_i	G_i	I_i	X_i
		...	...	...	...	...	...	...	...	...	
		n	A_{n1}	...	A_{nj}	...	A_{nn}	C_n	G_n	I_n	X_n
Value added	L	L_1	...	L_j	...	L_n					
	K	K_1	...	K_j	...	K_n					
	M	M_1	...	M_j	...	M_n					

FIGURE 7.2 a schematic representation of an input-output table

In its simplest version, an input-output model can be represented in matrix form as:

$$x = Ax + d \quad \text{Equation 7.1}$$

From which:

$$\xi = (I - A)^{-1} \star \delta = B \star \delta \quad \text{Equation 7.2}$$

Where:

x = vector of production of the various industries

$A = [a_{ij}]$ = matrix of technical coefficients a_{ij}

d = final demand

B = Inverse matrix of Leontief $(I - A)^{-1}$

I = Identity matrix

With this formulation, a change in final demand d (i.e. a vector of different expenses) induces a change of production x (i.e. a vector of the production of different sectors) obtained by multiplying d by the inverse Leontief matrix B .

For example, assume that an upcoming event will take place in a region. This event will increase demand for some sectors in the region such as restaurants, hotels and transport services. These industries, in turn, will buy inputs from other industries, for example food processing, agriculture, energy, textiles, etc. If one assumes that technical coefficients are stable, it is possible to estimate the total impact of the policy on the regional economy.

It is at this point clear that the reliability of the technique depends on two aspects. The first is the availability of a reliable input output table at the regional level which, as mentioned above, is not easy to obtain; the second is the assumption of stable technical coefficients. The latter is certainly wrong in the long run, since technological progress means that the techniques of production change. However, these coefficients may be relatively stable in the short run.

Another aspect which can change technical coefficients is the size of the policy shock. When the demand for the products of firm increases a little, it is likely that the firm will satisfy this additional demand by keeping the same production techniques and the same suppliers, from which it will just request a bit more in terms of inputs. On the contrary, when the additional demand is large it will not be possible for a firm to just increase its production in the same way. It will need to use different production techniques and inputs and, most likely, to also find new suppliers which may in many cases be outside of the region.

Since regions are open entities, as shown in [chapter 1](#), the impact of large policy shocks obtained with an input-output matrix may be overestimated. Normally, national input-output models only represent that country. However, since regions are much more open, regional input-output models need to include spillovers from a regional economy to the rest of the country and the world and vice versa. For this reason, it is increasingly common the use of in multi-regional input-output models, which model the relationships between regions and between the region and the rest of the world. These models have as their main drawback their complexity, in particular they require much data which is costly and not always available.

7.5.3 Cost-benefit analysis (CBA)

CBA is normally used for two complementary purposes: to see whether an investment is worthwhile and to decide which investment should be pursued. It is often used for large projects and in many cases is even compulsory. It is particularly used for large infrastructural projects and, traditionally, for environmentally related projects, for reasons which will be clearer below. The purpose of this section is to provide the basics of the technique and its rationale, while it is possible to refer to more specialistic publications for the details.⁶

The basic idea of CBA is to compare all the benefits and all the costs of a given investment to identify those for which the former overcome the latter. The difficulty for policy assessments, however, is that all costs and benefits must be considered from a societal point of view, which is more difficult than CBA used for private investments. For private investments, investors will make choices based only on revenue and expenditure. For public projects, on the contrary, many benefits and costs are not related to the market and hence do not have a price associated with them. Moreover, it will be necessary to consider the surplus of consumers who will attribute a value to goods which is in most cases higher than the price paid.

All large projects have many possible externalities, both negative and positive.⁷ For example, a new motorway will induce negative externalities in the form of noise, pollution, soil consumption, etc., as well as positive

externalities in terms of reduced travelling time or lower congestion on existing roads crossing towns and villages. Private investors will decide to build this infrastructure based on its direct costs and benefits, which means they will compare the cost of building and operating the infrastructure and the revenues it produces, i.e. the tolls paid by its users. The public sector, however, will need to consider all the effects of the new investments at the societal level, including therefore all positive and negative externalities.

The problem is that, while prices exist for goods sold in the market, for many other goods there is no market and, consequently, no price. The solution is to calculate so called “shadow” prices, which give a monetary value to things for which markets do not exist. Shadow prices are also used to correct market prices when the latter do not reflect the social value of the good because of taxes, subsidies, prices determined elsewhere, spillovers, etc.

The difference between the two ways of assessing a project, from a private or a public perspective, is usually large. [Florio et al. \(2018\)](#) estimate that, for EU Cohesion Policy projects, the financial rate of return (only considering the profitability from a private investor perspective) is on average slightly negative (−2.9%) while the economic rate of return (which considers socioeconomic benefits at a societal level) is on average significantly positive (+16.2%).

Another technical problem of CBA is related to the fact that large projects normally take years to be built and remain effective for many years afterwards. It is hence incorrect to just sum the benefits and subtract the total costs. Instead, it is necessary to discount them so that longer-term costs and benefits are given a lower weight. This requires a discount factor, which is not a simple interest rate but a social discount rate (SDR), which considers society's preference for the present. At that point, the total net present value of the project is equal to the difference between the present value of the benefits and the present value of the costs. This can be calculated as the sum of the difference between benefits (B) and costs (C) at any point in time t , discounted with a rate r as in [Equation 7.3](#), where the project is assumed to be operative for n years.⁸

$$NPV = \sum_{t=1}^n \frac{B_t - C_t}{(1+r)^t} \quad \text{Equation 7.3}$$

The choice of an adequate social discount rate is sensitive, as it is clear from the equation above that different rates provide different values of a project, especially when costs and benefits take place at different moments in time. There is also higher uncertainty about which can be the best SDR to use for things happening far in the future. For this reason, there are guidelines and regulations which control and sometimes impose values to be used in the assessment.

In CBA a project is admissible when its net present value is positive, while those with negative net present values should not be launched because they reduce social welfare. When there are different alternatives, the use of CBA allows decision-makers to choose the best project, the one which maximises net present value, sometimes under a constraint in terms of budget, or those which maximise the benefit/cost ratio.

While CBA is powerful and commonly used, it is technical with results influenced by the assumptions made by those who use it. For this reason, it is unfortunately not rare that the results obtained by an expert are questioned by another.⁹ It has also been estimated, using a large, international sample, that many CBAs prove to be inaccurate or biased ([Flyvbjerg & Bester, 2021](#)). It is therefore important for policymakers to be sure that those in charge of producing a CBA are well qualified and without bias in favour or against the project. To reduce such risks, the European Union has periodically published guidelines, which have to be followed in CBA of EU regional policy projects ([European Commission, 2008, 2015](#)).

7.5.4 Territorial impact assessment and multi-criteria

As seen in the introduction to this section, whenever there is a policy intervention there is the need to assess its impact, both *ex ante* and *ex post*. Doing it *ex ante* is helpful because it informs the policymaker about the likely impacts of the intervention, if it is pursued, and hence allows informed policymaking and programming, for example by choosing the best intervention amongst two alternatives. Often, these impact assessments are also compulsory, for example Environmental Impact Assessments (EIA) are required in many countries for certain types of projects, usually the large ones.

Among the impact assessments, there is one which is specifically relevant within this book, the Territorial Impact Assessment (TIA). This type of assessment is relatively recent, compared to the others, and has been mentioned at policy level following the introduction of territorial cohesion among the EU objectives. As seen in [chapter 3](#), territorial cohesion is an ampler (and vaguer) concept with respect to the simple reduction of disparities, whose introduction as an objective requires a specific type of assessment. TIA was hence first mentioned in the 1999 European Spatial Development Perspective (ESDP), a document produced by the EU Council of Ministers.

Operationalising the concept, however, required the setting up of new techniques and a new conceptual framework, as territory is a multidimensional concept and territorial impact assessment needs to take into consideration this plurality of dimensions. Usually, including in most policy documents, there are three dimensions: economic, social and

environmental. But some authors advocate that these are too few, for example [Medeiros \(2017\)](#) supports that two other dimensions should be added, a governance one and a spatial planning one, this latter looking at polycentricity, urban hierarchy, etc.

The first TIA model was developed within an ESPON project by [Camagni \(2006\)](#), who introduced the TEQUILA (Territorial Efficiency Quality Identity Layered Assessment) model. This model starts from the conception of territorial cohesion as comprehending the three dimensions of territorial efficiency (at the intersection of economic and environmental dimensions), territorial quality (at the intersection of social and environmental dimensions) and territorial identity (at the intersection of social and economic dimensions) (see section 3.3.2) and is built as a multi-criteria model. This required assigning weights (through expert meetings, Delphi, etc.) to provide qualitative and quantitative impacts specific to the different EU regions (at NUTS3 level). These regional specificities were accounted for by considering that, in different regions: the impact may differ according to regional specificities; the intensity of the policy may be different; the relevance of each assessment criterion may be different (e.g. a GDP increase might be more relevant to a lagging region); a region may not be affected by a specific policy. It is hence important to observe that the territorial impact depends on the potential impact, on the one hand, and on the sensitivity, on the other, hence taking into consideration that regions react differently to the same stimuli and that the relevance of the same policy is not the same everywhere (see also section 7.9).

Other TIA models were developed later,¹⁰ including some used for *ex post* assessment, such as the TARGET_TIA ([Medeiros, 2017](#)) which is a multidimensional and multi-vector model considering both qualitative elements (bibliography, interviews, project analysis) and quantitative ones (statistical indicators). This was used, for example, to detect the impacts of EU Cohesion Policy on territorial cohesion in Spain in the programming periods between 1989 and 2013.

In practice, despite all attempts to make TIA a simple and straightforward procedure, its models remain quite complex, being comprised of many indicators and weights, and the use of a TIA procedure depends on the project/programme/policy which needs to be assessed, so different exercises tend to develop and use their own models.

7.5.5 Multi-equation models

Models are commonly used in regional economics to understand problems and in regional policy to assess its possible impacts. They can be used for many different purposes such as for forecasting, building scenarios and evaluating policies, both *ex ante* and *ex post*. Normally different types of

models are used for different purposes since the required model characteristics are different depending on the objective of analysis. Examples of the models which are or have been used in regional policy include: REMI (Regional Economic Models, Inc ([Treyz et al., 1992](#))), Rhomolo ([Brandsma et al., 2015](#); [Brandsma & Kanacs, 2015](#)), Quest ([Varga & in 't Veld, 2011](#)), Hermin ([Bradley & Untiedt, 2012](#); [Bradley, 2006](#)), GMR (Geographic, Macro and Regional (A. [Varga et al., 2020](#); A. [Varga, 2015](#))), MASST (Macroeconomic, Social, Sectoral, Territorial ([Capello et al., 2008](#))), etc.

The distinctions summarised below are especially relevant when understanding and considering models for regional analysis.

Uni-regional vs multi-regional models

This depends on whether a model assesses regional effects on the region of analysis using only data and equations for that region, or by also taking into account different regions at the same time and their interactions. This is also relevant to input-output modelling since multi-regional I-O models are increasingly being developed where data allows.

Top-down vs bottom-up models

These follow the classification presented in [chapter 3 \(Richardson, 1973\)](#). Top-down models assume a distributive approach to regional growth in which the growth of a region depends on the growth of a country and on its capability to acquire a larger share of that growth. In this case, the model starts by determining national growth and then distributes it between regions depending on various assumptions. It therefore follows that the growth of a region will take place at the detriment of the growth of another region belonging to the same country. Bottom-up models assume that national performance is the sum of regional performances and, therefore, the growth of a region will only depend on what happens inside this region and, if regions grow more, they will increase the national growth rate. Recent models, however, are increasingly taking a third way in which national and regional factors are interrelated and influence one another, so generative and distributive aspects are both considered.

General vs partial equilibrium models

In the former, model equations are established so that they endogenously get to their equilibrium values within the model while, in the latter, some parameters are kept exogenous because they act as external conditioning

levers for the modeller to simulate different things. A partial equilibrium approach is better able to leave room for envisaging various possible distant futures, whereas when all variables are linked in a general equilibrium model, there is less room for the researcher to model future challenges. At the same time, a general equilibrium approach has sounder internal coherence. In the longer run where vision is important, a partial equilibrium is preferable; whereas in the short run, where there is a lesser likelihood of unpredictable patterns, a general equilibrium approach produces more reliable forecasts ([Fratesi, 2009](#)). Computable General Equilibrium models (CGE) are now common and produce forecasts and policy assessments under different assumptions, based on systems of many equations which describe the behaviour of different sets of agents (e.g. consumers, firms of different industries, etc.) as well as the equilibria in the different regional markets. Many of these CGE models are also dynamic since they provide results over many different years.

Estimated vs calibrated parameters

When the logic of the model and the equations composing it are set, there is the need to attribute actual values to the parameters in the many equations. Two different ways are typically used to do it, the first is estimating the parameters, for example by using statistical data and econometric techniques. The second is to calibrate the parameters, for example by finding with computational techniques the values of the parameters for which the model better approximates the actual behaviour of the system in the past. The two ways of proceeding are not real alternatives, as their use is often mixed inside the same model, although some models make larger use of one or the other.

The logic behind the models

Models are built on theories about how the regional economy works and the most important relationships linking the region to other regions and the rest of the world. No model can consider all aspects at the same time with the same level of detail. A model with too many possible relationships would add unnecessary complexity and make the results difficult to interpret. At the same time, all relevant relationships for the phenomenon to be studied need to be there. Depending on the type of policy and the context, models adopting different logics may be better suited. Supply-side models give an important role to the local productive capabilities; and demand-side models give a larger role to demand conditions, which as explained in [chapter 1](#) are normally external to the region. A mix of the two is also possible. Moreover, the logic of models can vary in terms of the local agents' assumed capacity

to optimise, possess knowledge and ability to take rational and informed decisions.

Assumptions and estimated impacts

Models are normally used to also estimate the *ex post* impacts of regional policy but their characteristics make them more useful and reliable when assessing the *ex ante* effects of regional policy. All models are characterised by the need to introduce assumptions so models are never fully *ex post* even when they are used for that purpose, since relations are assumed to work in a certain way and it is not possible to check even *ex post* whether these relations worked as assumed.

This might also explain why the estimated impacts obtained through models tend to be higher than those produced by econometric/regression analysis. One reason for this is the limits of the models, as they require at least some assumptions. For example, estimating the impact of infrastructure on regional growth normally assumes that the investment in infrastructure produces new infrastructure (which should be the case, if corruption is limited and construction work progresses as planned) and that new infrastructure increases accessibility (which is the case only if the new infrastructure works well and is used by the economic agents). A model constructed in this way tends to obtain higher results than an analysis through a reduced form regression model (see section 7.7.2) which looks directly at the impacts. Conversely, models can consider second and third order effects much better than reduced forms, through interactions between different parts of the economic system and between regions. Econometric regressions, however, have the advantage of being easier to produce and more transparent because of the reduced reliance on assumptions. While they are often underpinned by a theoretical model, they are also designed based on the data available, which significantly lowers the need for assumptions.

The issue of transparency is intrinsic to regional models due to their complexity. Normally, models include many equations and, even if they are published in books or journals, they can never be fully understood by someone who has not worked with the model and did not participate in its construction. Also, finally, the results obtained with the models have confidence levels, which are rarely communicated but which would be helpful to understand the variance of the produced numbers.

7.6 ASSESSING THE CONTRIBUTION OF REGIONAL POLICY PROGRAMMES

7.6.1 Theory-based evaluation

Theory-based evaluation is currently considered the state of the art to assess programmes based on their capability to achieve their objectives and to find ways to improve policymaking. It can be helpful at different phases of regional policy cycle, *ex ante*, *in itinere* and *ex post*, as it will be clarified later.

Theory-based evaluation is not a single technique but a group of theories and techniques used to assess policy programmes considering the context and the processes behind their intended and unintended effects ([European Commission, 2013](#); [Fitz-Gibbon & Morris, 1996](#); [Leeuw, 2003](#)). The purpose of theory-based evaluation is not simply about transparency but normally also about policy improvement since better understanding of the mechanisms behind policies makes it possible to improve them and make them more effective.

In theory-based evaluation, the most important aspect to be aware of is the theories that different typologies of policymakers (including programme managers and stakeholders) use when implementing regional policies to achieve certain objectives. In fact, any policymaker does this based on an underlying theory of change, which explains how certain interventions will impact the relevant variables and lead to the expected results. For example, the expectation that an intervention of requalification for certain unemployed workers will lead to upskilling, that firms will be looking for those specific skills, that these people will then find a job and local firms will have more choice of skilled workers, which will increase their competitiveness. The causal chain between measures and results can be long and complex or simple and straight. Sometimes, nexuses like these are explicit in the formulation of policies and accompanying documents; in many cases they are implicit in the minds of policymakers so the logic upon which programmes are built remains tacit.

It is, however, important to be aware of the logic by which certain interventions, usually combined with the use of financial resources, act as inputs in a policy process. The contribution of a policy will therefore depend on the policy design, implementation and effectiveness, as well as other non-policy variables which can influence policy impact.

In theory-based evaluation it is essential, first, to understand the mechanisms through which the interventions work – in particular to make explicit the mechanisms which policymakers think are relevant and to test whether they really are. Second, it is important to pay attention to the context in which the policy process takes place, to see if the logic of the policy is behind its outcomes or if there are other factors at play.

Theory-based evaluations normally include two phases. The first is mostly conceptual, in which the logic of the mechanisms behind the programmes is understood and studied. The second phase includes testing whether the policy application to the real world complies with the intended logic and is hence a mostly empirical phase.

Since the logic of the programme is often implicit, evaluators conducting theory-based evaluations need to reveal this logic using appropriate techniques. Identifying the causal relationships behind the logic of programmes can be a difficult task, especially when the policies and the issues it addresses are very complex.¹¹ There are different approaches to this, which have different conceptual assumptions and practical phases. These include theory of change, contribution analysis, strategic assessment approach, prospective evaluation synthesis, realist evaluation and elicitation methods.

According to [Leeuw \(2012\)](#) there are four situations in which theory-based evaluation can help:

1. At the design stage or as *ex ante* evaluation. At this stage, policymakers want to be advised on the mechanisms which can make the programme work. Understanding the mechanisms behind policy effects will help them to design better programmes without relying on guesswork.
2. When policymakers want to know how likely it is that the intervention will achieve the intended results but there is no information or evidence about the specific intervention or this information is too costly to collect. In this case, theory-based evaluation will provide advice on the congruence between the mechanisms of the selected programme and other programmes which have been implemented in similar contexts. It can also analyse similar interventions in similar situations to see which failures have occurred and which can be prevented.
3. During *ex post* evaluation when there is no counterfactual available to assess regional policy impact with quantitative techniques. In this case, a sort of qualitative counterfactual can be built with a number of alternative techniques: by adopting an historical approach which extrapolates from past experiences; by using contribution analysis, which is usually based on the development of a theory of change for the intervention; by working with experts who judge what would have happened without the intervention; or by using the general elimination methodology. The latter invites those who believe in the contribution of the intervention to discuss other explanations for the results to see whether these can be falsified, as well as if the intervention theory itself can be falsified. The more alternative

explanations that can be falsified, the more the theory of the intervention is corroborated.

4. *Ex post* evaluation when a quantitative counterfactual evaluation has been produced but the explanation for its results is weak or lacking. In this case theory-based evaluation can be helpful in providing interpretative schemes which help understand the results. This is like opening the black box, which is also helpful so policymakers can learn lessons from the assessment.

Theory-based evaluations usually produce schemes, diagrams and visualisations which represent the various elements of an argument and their nexuses, i.e. the logic which links the various elements relevant to the programme and its impacts, including those of a contextual nature. These can help to represent, discuss and falsify a rationale of intervention. The theory of change behind these types of evaluations can be complex due to the large number of aspects involved. For example, [Figure 7.3](#) represents the generalised theory of change for individual R&D projects pursued by the ERDF in 2007–2013.

Finally, behavioural aspects need to be considered in theory-based evaluations. For example, working with indicators can drive organisations towards better compliance with their intended objectives, as well as stimulate learning within these organisations. However, in some cases the use of indicators can backfire since it can lead to bureaucratisation, red tape and formal compliance which reduce actual performance ([van Thiel & Leeuw, 2002](#)).

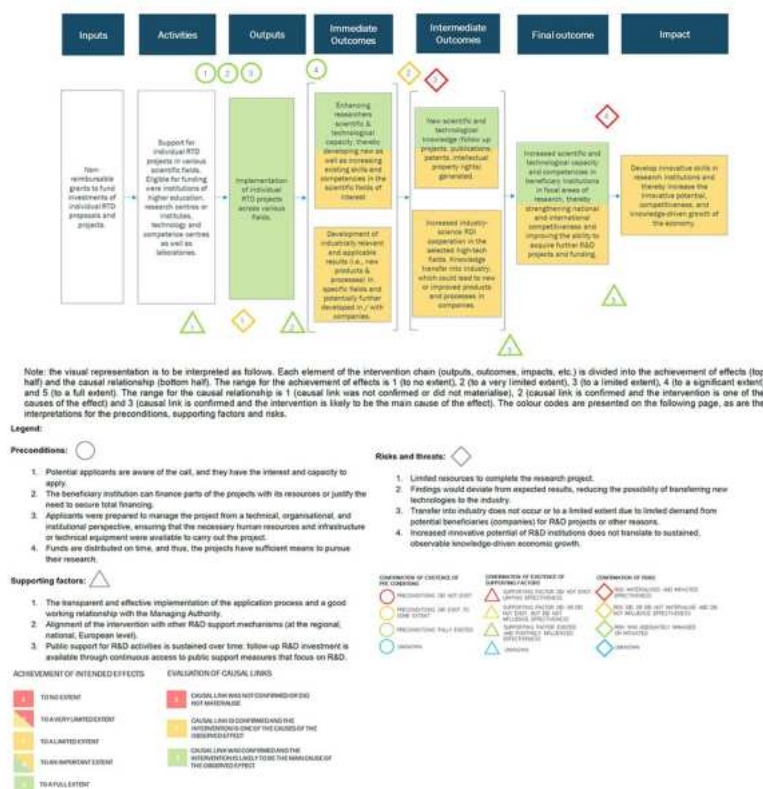


FIGURE 7.3 The generalised theory of change for individual R&D projects financed with ERDF in 2007–2013. source: [CSIL et al. \(2021, p.24\)](#).

In the second phase of theory-based evaluation, in which the logics and mechanisms are tested, several mostly qualitative techniques can be used to collect data and information. Most of these are briefly described in the next section. To provide a recent example, building specific assessment and evaluation plans for smart specialisation is difficult due to the number of aspects involved and the fact that this strategy needs to be continuously rejuvenated during policy implementation as new evidence accumulates (see [chapter 6](#)). Therefore, [Wojnicka-Sycz \(2020\)](#) proposes building the assessment according to theory-based evaluation, dividing the policy into five blocks corresponding to its principal characteristics: specialisation and critical mass; diffusion of knowledge, intraregional and interregional cooperation; related diversification; international competitiveness and niche character; and entrepreneurial discovery. For each, qualitative and quantitative indicators are proposed, some from official statistics and some from survey data. Most are not new or “surprising” indicators in themselves but the value added lies in their systemic use to assess whether the strategies of a specific region meet the goals of S3.

7.6.2 Main qualitative techniques

Many qualitative techniques are used in evaluation, most of them well known irrespective of their use in theory-based evaluation. For example, it is estimated that for EU regional policy, a huge source of evaluations, qualitative assessments remain the most common and only a relatively small number are theory-based evaluations, despite the EU Commission's preference for the latter ([Pellegrin & Colnot, 2020](#)).

It is not the intention here to provide clarification on the working of each of these techniques, for which devoted books and manuals exist,¹² but to present them for illustrative purposes. It is also important to remember that, although the basics of some of these techniques may seem relatively easy to grasp, their actual application has many conceptual and practical difficulties which require expertise and experience.

Survey data can be collected with **questionnaires** sent to different agents active in the policy process. They can offer important insights on the working of a policy from policymakers, those working on the implementation of programmes, the beneficiaries of projects, experts and informed observers. Each group will have different information, which will require different questionnaires. Questionnaires can be composed of different types of questions, from open ones in which the replier can freely write their thoughts, to qualitative ones in which respondents signal one or multiple options, to quantitative questions in which respondents provide a value or a judgement on a scale (usually a Likert scale ranging from 1 to 5 or 1 to 7).

Interviews are normally used when it is not possible to gather the relevant information with structured questionnaires. In interviews an evaluator speaks directly to beneficiaries or stakeholders. Interviews can have a structured or a semi-structured questionnaire behind them and are more effective when investigating nuances or gathering observations which are difficult to synthesise in binary replies. One problem with interviews is that they are costly since they need to be conducted in person. Another limit of interviews compared to questionnaires is that they are less objective, being collected by different researchers at different moments in time.

A common problem for both questionnaires and interviews is that they are normally not compulsory so the response rate may vary. Replies can also be biased, for example because beneficiaries who received a positive outcome from a project may be more willing to participate, or, on the contrary, because beneficiaries who had a bad experience with project management might be more willing to participate as a way of complaining. Questionnaires and interviews are complementary since they can provide different pieces of information within the same evaluation plan.

Other techniques are specifically designed to gather the opinion of group instead of single stakeholders. For example, **expert panels** may be brought together to respond to evaluation questions using their own expertise in

relation to others', similar to a jury which has to express a unitary judgement at the end.

A different way of reaching a consensus among experts is the **Delphi survey method**, in which experts reply to a questionnaire sent to them iteratively, so that opinions should converge towards a common position. After the results of the first questionnaire are analysed, a second questionnaire is sent to the same experts, who are also informed of the outcome of the previous round. They are asked to justify if they have opinions different from the consensus which is emerging. After the analysis of the second-round questionnaire, a third is usually administered only to those experts whose views diverge from the majority.

Group values can also be identified and emerge from non-experts, such as beneficiaries. **Focus groups** bring together a small number of people to discuss the evaluation questions under the guidance of a facilitator, who gently steers the discussion towards its intended objectives. In this way, group opinions emerge and are analysed and reported by the facilitator after the meeting.¹³ Focus groups, which were born from market applications, are a common evaluation tool in regional policy and are also used when seeking the opinions of experts and policymakers.

Case studies are also commonly used in qualitative or mixed (qualitative and quantitative) methods. The idea is to work with a bottom-up approach, in which the general messages of evaluations stem from the deep study of specific cases. Case studies are used when it is not possible to study in depth all possible situations to focus evaluation time and resources on specific programmes or regions, and to draw general observations from them.

The choice of which cases to include is important and difficult because different aspects can be studied depending on which cases are selected. Usually, the choice falls on cases which are representative of the whole sample and, when there are different types of situations within the sample to be studied, it is common to pick a few case studies in each of these situations. The construction of a case study may comprise different techniques and information sources. Official statistical data are usually considered as well as data specifically produced for the case. Interviews, focus groups and surveys are also usually administered to relevant stakeholders, including policymakers and beneficiaries.

When an evaluation study involves many case studies, their structure is kept similar to allow for the comparison of different situations and to see whether similar situations produced similar policy outcomes. This is especially important when the different case studies are performed by different experts, for example when they involve different countries and hence require experts with knowledge of the language and context.

Case studies have a number of strengths: they allow for deep examination of what happened with specific instruments or programmes in the contexts they are applied; they are a good way to consider the mechanisms of change,

consistent with theory-based evaluation; they usually allow the reasons for the success or failure of policies to emerge, and do not just focus on success, which is useful for policy improvement; and they integrate the perspectives of different stakeholders.

The limits of case studies lie principally in the fact that they do not offer a counterfactual of what would have happened without the policy. This means their conclusions may be blurred, based on impressions. Another limit is that it is not always possible to draw sound general conclusions from case studies, since every region and policy programme has its own specificities. Also, for this reason, the experience of the experts called to write case studies is key as they need to have an analytical framework which evidences the causal relationships.

7.7 ASSESSING EX POST POLICY IMPACTS

7.7.1 Introduction

Assessing impact has become the most important type of evaluation for regional policies. This is because regional policies are increasingly focused on results and therefore want to make an impact on the well-being of regional societies and to address issues of concern.

Impact assessment also has many possible positive effects. While procedural evaluations may be helpful in legal terms, impact evaluations support the improvement of policies as they facilitate learning from previous good practice and mistakes. In particular, they allow future programmes to choose instruments proven to be effective in similar situations in the past. Impact evaluations can additionally improve understanding of the links between the measures that are implemented and their outputs and results, improving the management and delivery of policies.

Moreover, evaluation produces knowledge, which is then available to researchers and policymakers both elsewhere and locally, improving the institutional capacity of local administrations. Impact evaluations are also important in terms of accountability, showing citizens what their taxes brought to the welfare of the community.

Assessing the actual impact of policies, however, is difficult because what happens in a region is the effect of many concurrent processes taking place. Therefore, it is difficult to unbundle the impact of policies from the impact of other factors. A simple example is provided by a region which identifies its high rate of youth unemployment as an issue which needs to be addressed through a policy programme. After the end of programme, the youth unemployment rate could have increased but this might not signal policy in

effectiveness since without the policy it could have increased more, for example because of regional structural weaknesses or an unfavourable international situation. Similarly, the youth unemployment rate could have decreased but this is not necessarily a signal of policy effectiveness since the decrease might be due to a booming economy and a positive phase of the economic cycle.

There are different techniques to isolate policy impacts, which require technical expertise, and impact evaluations may use both quantitative and qualitative techniques. Some of the most common are covered below since readers of evaluation reports may need to broadly understand them.

When it comes to quantitative evaluations in general, the so-called experimental methods are the best because they allow comparison between two groups which were identical before the policy and of which only one is a beneficiary of the policy being assessed. This way of proceeding is common in medicine where similar patients are treated with either the drug or the placebo. However, it is rare in regional policy because it is not possible to randomly exclude some agents from being beneficiaries. Therefore, it is more common to use non-experimental approaches in which the control group is identified *ex post* with statistical techniques, such as the various propensity score matching algorithms.

Finally, there is an issue with the actual use of quantitative impact evaluations. Indeed, these are increasingly become compulsory and, when it is demonstrated by independent evaluators that a policy is ineffective, it should be cancelled (see also section 7.9.1). However, there is usually a resistance to change by policymakers in adopting real policy termination or succession.

7.7.2 Regressions

Regression techniques are a common way to assess the impact of regional policies, although their importance has recently decreased in favour of counterfactual methods which will be presented in the next section.

The starting point of regression analysis is the observation that simple correlations are not enough to detect the presence of an actual relationship between two variables. Significant correlations can in fact depend on different and independent causes, or even on purely random processes which make some data correlate. Even when correlations are most significant, i.e. in which the variance of the relationship is small, this is not necessarily evidence of a relationship between the two variables. These are known as spurious correlations.

Additionally, when a relationship is present, the correlation does not indicate whether the first variable determines the second, whether the second variable determines the first one, or whether both variables are determined

by the same process. We may, for example, know that rich regions are usually more innovative, which can be observed in a scatter plot showing the correlation, but the correlation alone does not tell us whether this is because richer regions have more money to invest in innovation or because it is innovation which makes regions richer. Analogously, we might observe that lagging regions have higher growth rates than more developed regions on average but we cannot be sure of the extent to which this depends on policy efforts put in place to reduce the gap, since spontaneous convergence processes could also determine this outcome.

It is possible to use multivariate regressions to look for more meaningful relationships between the variables. In this case instead of having just two variables in relation to each other, one which is believed to be the cause and one which is believed to be the effect, many other variables are considered in the analysis. This means that, on the one hand, spurious regressions tend to be reduced due to the introduction of the actual explanatory variables and, on the other hand, control variables are introduced to control for confounding factors.

These kinds of relationships are usually expressed as below:

$$\text{Dependent variable} = f(\text{explanatory variables, controls, errors})$$

Equation 7.4

In Equation 7.4, the dependent variable (for example regional GDP growth) depends with a functional form f ¹⁴ on a number of explanatory variables (e.g. the policy efforts by local administrations), on a number of controls (e.g. global demand growth rates for the products in which the region specialises) and on random error term, which is always present in statistics because there are measurement errors in data which prevent perfect statistical relationships.

For example, to see whether regional policy funds impact regional GDP growth, the relationship might be estimated as:

$$\Delta \Psi_{i,t} = \alpha \Psi_{i,t-1} + \beta \Phi_{i,t} + \delta \sigma_{i,t-1} + \sum_{q=0}^Q \mu_q \gamma_q \zeta_{q,t-1} + \epsilon_{i,t} \quad \text{Equation 7.5}$$

Y is regional GDP and z is a set of possible other factors which impact regional growth in addition to regional policy expenditure. Estimating a relationship like this is relatively easy by importing data into statistical software and running some simple commands. In this way, the software produces estimated values of the parameters $(\alpha, \beta, \gamma_j)$ and the estimated statistical estimation errors for each.

When the estimated errors for the parameters are small, it is possible to statistically reject the hypothesis that they are nil and, in jargon, they are said to be “significant”, which means that the relationship is confirmed. Significant coefficients are usually identified with asterisks to make them easier to spot.¹⁵ In the case of [Equation 7.5](#), if β is positive and significantly

different from 0, this confirms the positive relationship between regional policy funds and regional growth.

Even when the software result is a significant coefficient, however, this is not enough to guarantee the accuracy of the relationship detected. There are many different techniques to get to the estimated coefficients (the values of the parameters $\gamma, \alpha, \beta, \gamma_j$), which produce different results, with normally only one being correct. Moreover, although statistical errors are always present, they can be of different sizes, influencing how confident we can be about the results. Finally, even more important than having small errors, is having errors which “behave well” because otherwise they signal that the estimated relationship is not correct. For example, in Ordinary Least Squares (OLS) regressions¹⁶ the error term needs to be made of independent and identically distributed values, i.e. stemming from the same probability distribution and independent from each other.

Impact evaluations require ample statistical skills, which are far beyond the scope of this book. However, these issues should be acknowledged by policymakers, who need to be aware that an evaluation report with significant parameters (and many asterisks signalling them) can still be inaccurate. It may therefore be helpful to seek an additional expert technical review of a report.

In particular, there is a problem of selection since when policy-treated and policy-untreated entities are randomly selected, OLS estimations are correct but this is seldom the case in the real world, where self-selection and spontaneous dynamics are difficult to take into account and lead to biased estimates. In these cases, counterfactual methods can be preferable (see next section).

The issues that can affect regression analyses include omitted variables (which lead to estimation biases) or irrelevant variables (which lead to inefficiency), non-linearities, parameters which are not constant, non-spherical errors and multicollinearity. Another major issue with regression techniques is endogeneity. In this case, the errors are correlated with the regressors and the estimates are biased. This can take place because: (i) the dependent variable also influences an explanatory variable (inverse causality); (ii) there are omitted variables that affect both the dependent and independent variables; (iii) independent variables are subject to non-random measurement errors. For example, there is normally endogeneity between regional growth and EU structural fund expenditure because structural funds are expected to contribute to growth but they are distributed in larger amount to poor regions, so if a region grows it receives lower funds in the following programming period (see [Box 1.3](#)).

Instrumental variable techniques can be used in cases of endogeneity. An instrumental variable is one that is related to the independent endogenous variable but not related to the estimation error. Using instrumental variable techniques, it is possible to obtain correct estimates with a two-stage

procedure. However, it is generally difficult to find instrumental variables that meet the necessary conditions, and correctly working with instrumental variable estimations requires specific expertise.

Finally, policymakers should be aware of the type of data available for the evaluation. Three types of data are conceptually possible: cross-sections, data for many regions at a given moment in time; time series, observations for different moments in time for just one region; and, finally, panel data, data for many regions at different moments in time. The latter are preferred since they allow for more robust statistical techniques.

7.7.3 Counterfactual methods

Counterfactual techniques are currently the most common and trusted type of impact evaluation. A counterfactual is what would have happened without a given policy intervention to the beneficiaries, being them regions, firms or individuals. This cannot be directly observed but can be estimated using a control group. The control group should be “identical” (i.e. as similar as possible) to the one in which the policy was applied, apart from the implementation of the policy. The difference between what happened in each group provides the best possible estimation of the impact of the policy.

For example, the approach works well when investigating the effects of subsidies to firms because these are usually awarded through tenders and there are other similar firms which did not receive them. On the contrary, other techniques will need to be applied when the counterfactual does not exist, for example when a policy or context is unique, such as in large infrastructural projects.

The basic idea of most counterfactual assessment is the so called dif-in-dif technique (i.e. difference in differences, also abbreviated as DID). This is illustrated in [Figure 7.4](#), which represents the process behind an estimation of the impact of a policy subsidy. On the horizontal axis there is time and, on the vertical axis, the performance of firms. Panel A of the figure shows that the total performance of a firm cannot be attributed to the policy, since some variation (usually growth) would have happened anyway, so the effect of the policy is only the difference between total growth and the growth which would have happened without the policy.

The estimation of this policy effect takes place like in panel B: assuming a similar pattern before the policy for two similar firms, one of which is then assisted by the policy (the “treated” firm) and another which is not assisted (the “untreated” firm), the two firms are expected to have different performances if the policy is successfully implemented. Suppose the relevant performance variable is the level of productivity. If the treated firm improves its productivity from level 3 to level 5 in the time span of the policy, this is its productivity growth, but this is not the effect of the policy.

To measure the latter, it is possible to look at the performance of the untreated firm, which also increased its productivity from level 1 to level 2. Since the treated and the untreated firms were similar and only differ because one got policy support and the other did not, one can assume that the treated firm would have had the same trajectory as the untreated one if it had not been assisted by the policy (parallel trend assumption), i.e. it would have reached level 4. This means that the difference between the performance of the two firms is due to the policy. The policy effect is therefore the difference between levels 5 and 4, which can also be calculated as the difference between the growth of the treated and the growth of the untreated, i.e. the difference of two differences.

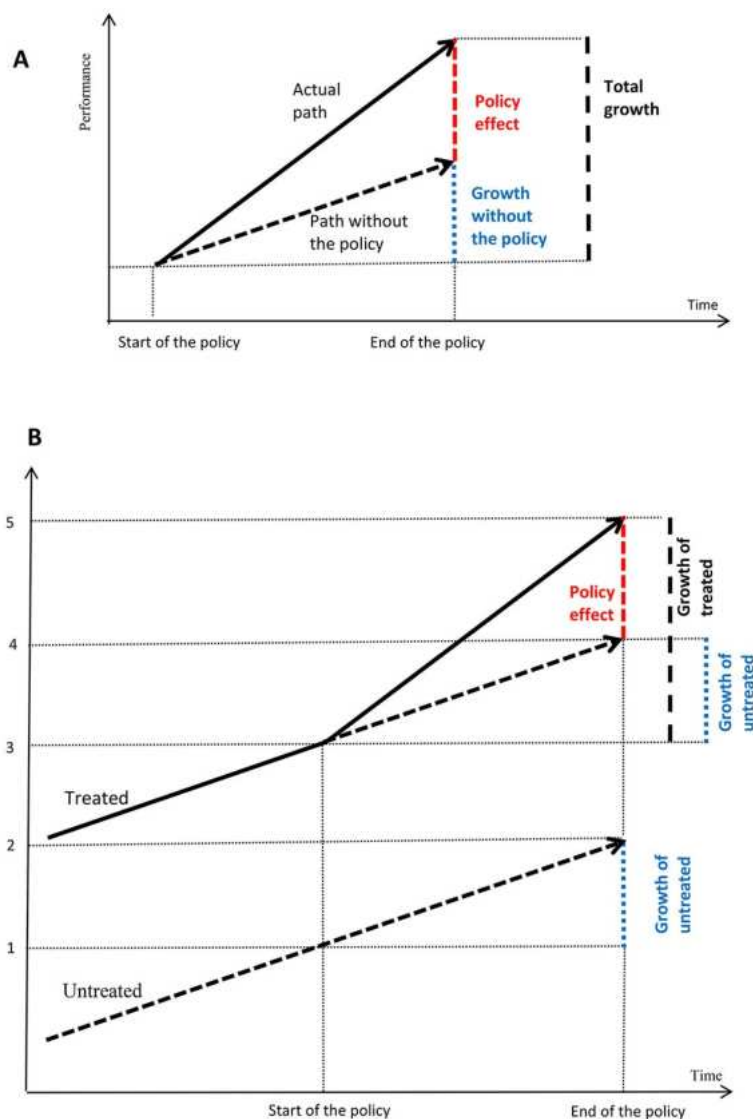


FIGURE 7.4 The dif-in-dif methodology

It is important to point out that, if one simply compares the performance of treated firms (those receiving the subsidy) with untreated ones (all those which did not receive the subsidy), the difference in performance will

probably be large. This is because firms that obtain subsidies usually also have better capacity, which allows them to win the tenders and is also correlated to other structural characteristics which make them more competitive. To observe the real effect of the policy, it is therefore necessary to build a sample of firms comparable to those which obtain policy support and only differ in that one factor.

Many techniques exist to build this counterfactual sample, the most common being propensity score matching (PSM), which selects and matches the control sample through the comparison of a large set of relevant characteristics defined by the researcher. If the analysis is performed well, the difference of performance between the policy-treated group and the control group provides a reliable estimation of the policy impact.

Counterfactuals have also been used in other techniques, including regression discontinuity design (RDD). The basic idea is that if there is a threshold which implies policy change, and if a significant difference of behaviour appears between one side of that threshold and the other, this difference will be due to the policy threshold itself, which means that the policy change will be impactful.

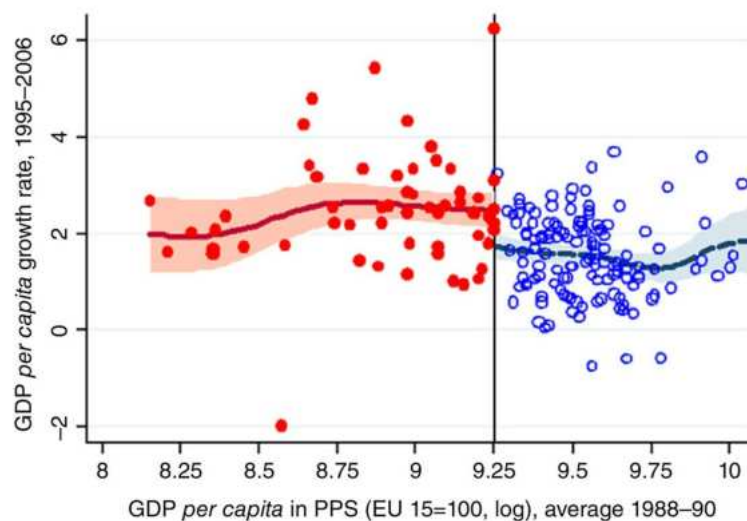


FIGURE 7.5 An example of regression discontinuity design Source: [Pellegrini et al. \(2013\)](#)

EU cohesion policies illustrate this. The EU's least developed regions, those whose GDP per capita is less than 75% of the average, receive a significantly larger share of funds ([Box 1.3](#)). For this reason, if the estimated growth rate for regions just below the threshold is significantly larger compared to those of regions just above the threshold, this indicates a positive policy impact. [Figure 7.5](#) represents the GDP per capita of EU regions in 1988–1990 on the horizontal axis and the GDP per capita growth rate in 1995–2006 on the vertical axis. The figure demonstrates that the policy has been effective because the non-linear interpolation shows a

significant discontinuity.

A different way of exploiting this idea of discontinuity is in spatial terms. If there are municipalities in regions which are policy assisted as well as similar to, and bordering, municipalities in regions which are not policy assisted, it is possible to look at what happens along the border. If there is a difference between the economic performance of policy assisted and unassisted areas, it is possible to attribute the different performance to the policy treatment, confirming that the policy is effective.¹⁷

Another family of methods which are helpful in assessing the impact of policies are synthetic control techniques. The basic idea in this case is to build a synthetic counterfactual, which is then compared with the performance of a given policy-assisted entity (say, a region). For example, take a region that at a certain point receives policy funds, or implements a new policy strategy and the goal is to assess whether the new policy introduced a change. The synthetic control will be comprised of a linear combination of the data of other regions similar to the region subject to the study. If this synthetic control behaves similarly to the region before the policy treatment, and differently after the introduction of the policy, this indicates that policy has had an effect.

7.8 WHY ASSESSING REGIONAL POLICY IMPACTS AND CONTRIBUTIONS IS NOT AN EASY TASK

7.8.1 Conceptual and empirical difficulties in measuring the impact of policies

Assessing regional policy impacts is a complex task because the impacts of the policy are never straightforward. The first reason for this is the context in which the policy is applied, which heavily affects the results of the policy and its general impacts ([Fratesi & Wishlade, 2017](#)). This is similar to throwing a stone, with different effects depending on the surface which it hits. If the surface is asphalt, the stone will bounce and land far from the point of impact; if the surface is sand, the stone will make a small hole and remain in place; if the surface is covered by bushes, the result is difficult to forecast depending on what the stone actually hits, something mathematicians call chaotic behaviour.

The second reason is the role of rumour which can alter the detected impacts of the policy. Once the stone hits the water, it creates circular waves enlarging from the point of impact. These waves can be easily recognised if

the water is calm but are impossible to detect when the water is rough. The waves created by the stone are there but hidden by those of the water. If the former are the impacts of the policy, the latter are what is usually called statistical noise.

The impact of policies which are relatively small compared to the economies that they want to affect can therefore be difficult to detect. At the same time, large policies normally induce significant change to the economic behaviour of regions, which can bring additional problems for quantitative analyses since all types of models have difficulties operating under changing behaviours

There are therefore a series of empirical and conceptual difficulties when measuring the impact of policies and these can result in an evaluation estimating a non-significant result (Dal Bianco & [Fratesi, 2020](#)). These include:

- Effects of anticipation, which can alter the behaviour of economic agents well in advance of policy deployment. For example, after winning a tender, a company might immediately start making investments or recruiting staff, knowing that it will receive additional financial resources in the near future.
- Aid marginality, which occurs when the resources of a regional policy are large in absolute terms but small compared to the size of the regional economy. This is particularly the case for large and advanced regions, which usually receive little help from national resources. Although the additional policy funds may be large, they are small as a percentage of gross domestic product. They can still be effective especially if they activate trigger effects (see [chapter 1, Box 1.2](#)) but the impact may be too small to be detected in the statistics.
- The existence of other aspects that influence territorial outcomes, for example the urban system, the business system and the territorial capital of different sub-regional territories.
- The specific phase of the economic cycle, which can mask the effect of development policies, especially if it is a period of crisis.
- The presence of other policies which might have contradictory effects. For instance, while EU Cohesion Policy intends to spread wealth across European regions, other EU policies such as competition policy or the reduction of trade barriers (which are not regional according to the definition in [chapter 1](#)) also have unintended centripetal effects which push in the opposite direction.

The context in which the policies are applied can also influence policy effectiveness in both directions. Some context mechanisms have a positive influence on policy effectiveness, namely:

- Sectoral, technological and cognitive complementarities in the local economy, which make policies much more effective since they can exploit resources which are already present.
- Synergies with other types of policies. For example, education policies can be complementary to regional policies which try to increase the competitiveness of local firms, since the latter will have a larger pool of qualified potential workers.
- Unused/untapped resources and market failures to be addressed, meaning that regional policy can act as a catalyst which allows endogenous development mechanisms to start working (see also [chapter 2](#)).
- Cumulative causation mechanisms (introduced in [chapter 2](#)). For example, if a policy targets some local firms but the growth of these firms starts agglomeration or cluster effects, these will benefit other firms which were not direct beneficiaries of the policy and trigger much larger economic outcomes.
- The possibility to mobilise local actors around common objectives. In this case, local knowledge and energies add to regional policy and its investment resources so as to achieve wider and more embedded effects (see also [chapter 4](#)).

Other context mechanisms, on the other hand, can negatively affect the impact of policies:

- Crowding-out effects, in which the growth of one actor becomes detrimental to the growth of another because of the presence of limited resources. In this case, the quest for resources from growing firms or regions pushes up the price of resources and negatively affects other economic agents. For example, if there are only a limited number of workers and policies stimulate the growth of some firms, these will seek additional employees with the positive effect of rising salaries but the negative effect of crowding out other firms which employed the same people before.
- Competition for the use of production factors and limited resources. When resources are scarce or fully used, prices rise and the benefits of policies may be limited since what advantages some economic agents ends up disadvantaging others. This also applies to infrastructure, which can get congested, or to land, whose prices can rise, pushing up rents.
- Opposition to, or rejection of, the policy. This may happen for many social or political reasons. For example, a development policy can be seen by local residents as negatively affecting the identity of the place, by importing new ways of doing things and businesses unfamiliar with local traditions and customs. Objections may also

stem from justifiable environmental concerns; and in other cases from self-interested behaviour as in the NIMBY syndrome.¹⁸

7.8.2 The modifiable areal unit problem

Many empirical difficulties lie behind the estimation of actual policy impacts. First of all the problems in identifying on the ground the mechanisms outlined in the previous sub-section. There are then problems in collecting indicators, which are rarely available as desired and need to be replaced by proxies. Some problems, however, are specific to regional policy and derive from its nature of spatial policy.

In particular, the Modifiable Areal Unit Problem (MAUP) exists which concerns the delimitation of the spatial units used for the analysis. This may seem only relevant to statisticians but has important implications for regional policy because it may obscure the representation of what takes place on the ground.

Policy decisions need to be based on evidence, but evidence may be biased, especially when there are problems of correspondence between the statistical regions over which data are collected and the processes which take place in the economy. Some of these problems are presented in [Figure 7.6](#), where a country is always composed of four regions and the symbols represent establishment size and industries (they are the same used in [Figure 2.3](#) of [chapter 2](#)).

In case A, the statistical data represent a situation in which each of the three sectors is equally distributed in the four regions. Therefore, there does not seem to be any specific agglomeration, neither at territorial nor at sectoral level. However, looking at the way in which the firms of the three sectors are distributed in space it becomes clear that there are two agglomerations of firms belonging to sector 3, each across a regional border. Therefore, treating the economy as spread out is inaccurate and there are forces (possibly localisation economies, but this would need to be investigated), which make some firms cluster together. Being unable to understand this would necessarily lead to uninformed policy decisions.

In case B, again there is an agglomeration of sector 3 across the border between two regions. Therefore, even if the two regions share the sector, it would be wrong to neglect the presence of a cluster across the border. Case B is even more interesting if compared to case C where there is a sectoral problem as well as a spatial one. If statistics are collected at the sectoral level, sector 3 seems to spread across two regions; but if statistics are collected at a smaller level of sectoral disaggregation, it becomes evident that sub-sector 3.1 clusters in one region and sub-sector 3.2 clusters in the other. This would be relevant for a policymaker designing a strategy or assessing an impact.

This conceptual issue translates into actual measurement issues and is made more complex where there are commuting flows. When people work in one place and live in another the different variables (jobs and population, in this case) are recorded in different statistical regions.

[Table 7.1](#) presents the values of official statistics for the Départements (corresponding to NUTS3) into which the French region Ile de France (NUTS2) is divided. Overall, this is the most populated EU region (more than 12 million inhabitants) and one of the richest, as well

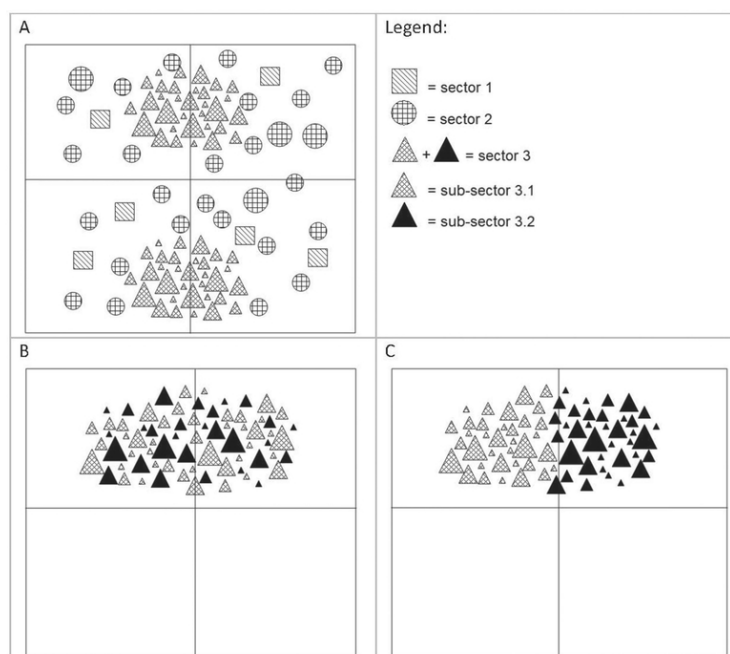


FIGURE 7.6 examples of problems which can take place with maUp
source: author's elaborations on the scheme by [fratesi \(2008\)](#).

TABLE 7.1 Employment and GDP in the lie de France Département (2013)

Department Name	NUTS3	Absolute values			As % of national average		
		GDP per inhabitant	GDP per employee	Employment rate (emp/pop)	GDP per inhabitant	GDP per employee	Employment rate (emp/pop)
Hauts-de- Seine	FR105	85.730	128.231	66.9%	298.4%	184.6%	161.6%
Paris	FR101	82.175	96.861	84.8%	286.1%	139.5%;	205.1%
Val-de- Marne	FR107	34.848	83.126	41.9%	121.3%	119.7%	101.4%

Department Name	NUTS3	Absolute values			As % of national average		
		GDP per inhabitant	GDP per employee	Employment rate (emp/pop)	GDP per inhabitant	GDP per employee	Employment rate (emp/pop)
Yvelines	FR103	34.022	82.224	41.4%	118.4%	118.4%	100.0%
Essonne	FR104	32.971	87.359	37.7%	114.8%	125.8%	91.3%
Seine- Saint- Denis	FR106	30.965	80.799	38.3%	107.8%	116.3%	92.7%
Val-d'Oise	FR108	27.652	79.630	34.7%	96.3%	114.6%	84.0%
Seine-et- Marne	FR102	26.048	73.659	35.4%	90.7%	106.1%	85.5%

as the richest in France. However, the specificities of NUTS3 are relevant and they are lost with an analysis at NUTS2 level. Moreover, population statistics are computed based on where people reside, while GDP statistics are computed based on where people work, which makes it difficult to get the correct statistics for places with large commuting flows.

The result in this case is that the inner city (Paris) and the Hauts-de-Seine (the department with the business district *La Defense*) have a GDP per inhabitant value which is almost 300% of the national average. This value, however, is the result of high productivity but also of commuting flows, since many people living in the external Départements (including *la banlieue*, the suburbs) commute daily to the city for work, which is reflected in the too high and uninformative employment rates in the two core NUTS3 regions.

7.8.3 The timing and dynamics of policies

There is an issue which is often neglected, and which deserves instead to be put to the attention of everybody involved in policies. This is the role of time and the dynamics of policies.

In too many cases, the information conveyed to the public about regional policy interventions is purely qualitative (“the policy intervention will foster regional growth”). Even when the provided information is quantitatively measured, however, the time dimension is often neglected. For example, it is possible to read that “the construction of a certain infrastructure will activate X jobs directly and Y jobs indirectly”. Or that “thanks to the implementation of a given policy intervention, regional GDP will grow by Z%”. This is normally the maximum detail available because most policy documents,

even when they are detailed with the numbers of expected effects, rarely mention how soon these effects will be achieved and for how long they will last.

Policy changes, in fact, can be permanent, i.e. lasting forever, or temporary, i.e. lasting a certain time, either for the duration of the policy intervention or for that duration plus some additional years. And policies can have longer or shorter delays before exerting their effects.

This information about time is important because it can also affect the choice on which, among two or more alternative policy interventions, should be favoured. [Figure 7.7](#) presents some of these situations ([Fratesi, 2017](#)), starting from the comparison of the effects of two different policies ([Figure 7.7a](#)): one of them is relatively slow and achieves smaller effects in absolute terms but these are permanent; the other one is faster and achieves larger effects, but these effects are temporary and fade over time. It is not possible to select one of these two policies without knowing what the intertemporal preferences of the society are, which means knowing at what discount rate the future benefits should be assessed (this aspect, for example, is crucial in cost-benefit analysis, section 7.5.3).

[Figure 7.7b](#) presents another case in which the two policies both have temporary effects which fade over time but one of them has an immediate impact which fades rapidly while the other takes longer to achieve its maximum effect but also lasts for longer. The first case is more similar to policies of support which increase local wealth and demand but fade almost immediately when discontinued. The second case is the one of a systemic policy which requires time to activate the right mechanisms, but then these mechanisms work autonomously for some time.

Policies can also overshoot as in the case represented in [Figure 7.7c](#). For example, there may be backwash effects, congestion mechanisms and the increase of production factors which can take time before exerting their negative effects, so that the policy even if effective in the long run has a larger short-run effect. For example, policies for the attraction of firms in a territory will increase employment but, in time, also salaries will increase (which is good in absolute terms) so that labour demand in other activities decrease and the long-run number of created jobs is smaller than the short-run one.

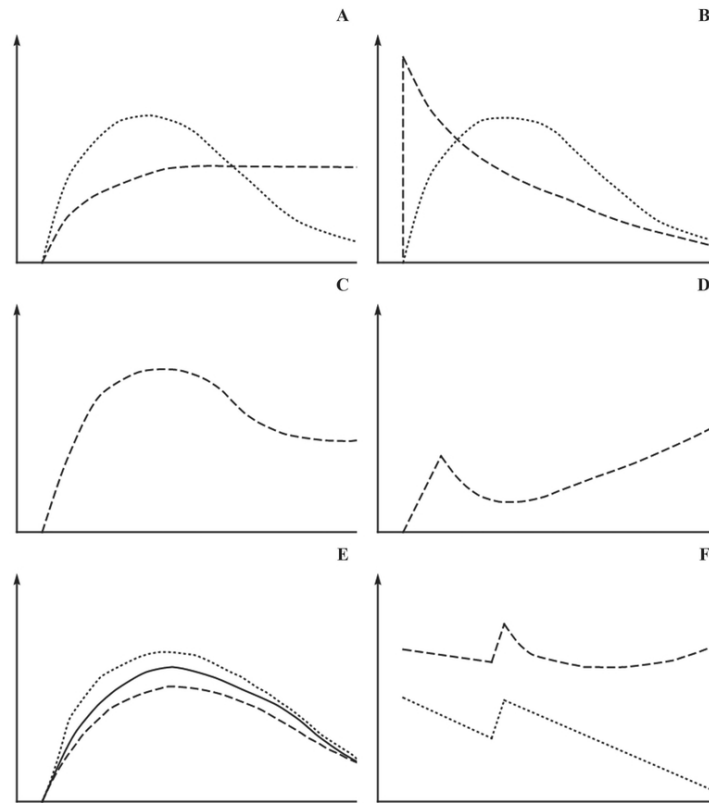


FIGURE 7.7 specimens of possible policy effects source: [Fratesi \(2017\)](#)

As seen, policies can act as a trigger. They could activate cumulative effects which start sustainable growth paths, especially if the regional situation is one of unstable equilibrium in which positive or negative nudges can start a downfall towards other equilibria. The result is the one in [Figure 7.7d](#), where the policy effect is immediately large due to the policy, then fades when the policy is discontinued, but since it ignited cumulative self-reinforcing mechanisms, these have increasing effects on the economy over time. These cumulative effects can take place in technology and innovation, in local resource accumulation and definitely in all territorial capital aspects, better if integrated with each other.

The dynamic effects of policies can depend on the context in which they are applied. Policies with temporary effects can have larger or smaller impacts depending on the regional situation ([Figure 7.7e](#)). For example, providing incentives to entrepreneurs certainly works better if there are cash-strapped potential entrepreneurs, with good ideas and eager to invest, but unable to finance their ventures with private capital.

Finally, policy effects might also depend on what the regional dynamic situation is and its timing. For example, a policy intervention can revert the declining path of a region if it is not too engrained, while it can only have temporary effects when the declining slope is fast and deep-rooted ([Figure 7.7f](#)). This is an indication of the importance of being timely in policy

interventions, since it may be possible to revert a crisis by intervening early enough, but it may not be possible to revert it at a later stage, when the productive fabric has already deteriorated, and the most qualified persons have migrated elsewhere.

These examples showed why it is crucial to provide correct information about the dynamic effects of policies to policymakers and, possibly, to the wider public so that informed choices can be taken which consider the actual preferences of citizens.

Two problems are however present. One is that it may not be politically convenient to politicians, and those depending on them, to signal that the effects of the policies they support are temporary, or that they will need a long time before being realised. The other is that information on the time impacts of policies requires analyses which are normally not available, for example the use of dynamic models, which often do not exist and which, as all models, produce in any case results with a certain degree of uncertainty. This, however, should not deter the policymaker from seeking information on the dynamic effects of policy interventions to decide the best strategies and instruments to achieve the desired outcomes.

7.9 CONSIDERING THE CONTEXT TO MAKE POLICYMAKING MORE EFFECTIVE

7.9.1 What use are quantitative evaluations?

The previous section discussed the importance of context in determining the impact of policies and their evaluation. This section looks at how quantitative evaluations can also be helpful for policy improvement, in addition to more qualitative assessments which look at the logic of interventions. Quantitative regional policy evaluations can have three key applications, all of which are potentially helpful but to different extents and for different purposes ([Fratesi, 2020](#)).

The first is the assessment of policy effectiveness, defined as the ability of a policy to achieve its intended objectives ([European Commission, 2013](#)). This type of evaluation produces an outcome which is fundamentally binary because it shows that a policy has either been effective or not. When a policy is demonstrated to be effective, this provides a good argument to maintain it; when its effectiveness is disproved, this suggests it should be terminated. For example, take an evaluation that assesses the ability of a firm support scheme to generate new jobs. If the scheme is proved to be effective it will

most likely be continued but if it is ineffective it will be either cancelled or significantly redesigned before being reimplemented.

Quantitative evaluation, however, can provide additional information in the form of a degree of effectiveness. This second case is more helpful because it allows a comparison between the costs of the policy and its ability to provide results. In this way, costs and benefits can be compared and the policy assessed in terms of the magnitude of its merits. This also allows policies to be ranked. Following the same example, if a policy aimed at creating jobs through firm support costs x million Euros and the evaluation detects that the number of additional jobs created is y , this allows assessors to calculate the average cost of each new job. With this information, a policymaker can compare the cost effectiveness of this policy with a different job-creation policy which produced jobs at a different cost per job, and decide whether there is a case to maintain one, the other or both.

Quantitative evaluations can also provide much more thorough results. This is the third case in which evaluations investigate the conditions under which different policies are effective. These evaluations produce information which can be summarised as in [Figure 7.8](#) where the policies are on the vertical axis and the conditions on the horizontal axis. The single cells E_{ij} represent the effectiveness of each policy i under each condition j ([Figure 7.8](#)).

The assumption behind this table is that the effectiveness of policies is not independent of the context in which it is applied, which in turn depends on both space and time. The real world, however, is more complex than in [Figure 7.8](#) because different conditions cannot be represented in one dimension and normally are themselves vectors of indicators. For instance, two contexts might be similar in terms of human capital but different in terms of social capital and infrastructure. The impact of a policy cannot be the same in the two situations.

Similarly, policies are not single interventions but often involve a mix of coordinated instruments applied holistically, which makes it difficult to disentangle the impact of a single instrument ([Pike et al., 2017](#)). For instance, the impact of an intervention on human capital is expected to be radically different if coupled with an intervention favouring firm investment, compared to the same intervention applied in isolation. This is because the upgraded workforce can find employment in local firms rather than needing new skills to create their own demand. The latter is unlikely to happen, as shown by the Italian case where the attraction of qualified workers by more dynamic labour markets is sizeable ([Barone et al., 2019](#); [Dotti et al., 2013](#)).

		Territorial conditions				
		Condition 1	...	Condition j	...	Condition m
Policy typology	Policy 1	E ₁₁	...	E _{1j}	...	E _{1m}
	...	...	...	...	...	...
	Policy i	E _{i1}	...	E _{ij}	...	E _{im}
	...	...	...	...	...	...
	Policy n	E _{n1}	...	E _{nj}	...	E _{nm}

FIGURE 7.8 policy effectiveness under different conditions Source: [Fratesi \(2020\)](#)

Although [Figure 7.8](#) is a simplification, this third type of policy assessment, which can be labelled contextual, is the most helpful. Such evaluations allow for the improvement of policies by adopting the most effective policy for the stated objective in the specific context of implementation. The information in [Figure 7.8](#), if fully available, would be the basis for more effective policies by providing information on what policy works better, where and when ([Pike et al., 2007](#)). Although no book, paper or guideline alone provides such information, many different publications provide evidence on single cells or groups of cells.

It is important to consider the place in which a policy is to be implemented as different locations provide different opportunities to firms and citizens, which are in part linked to the pure geography of the places. Some of these aspects are linked to so-called “first nature” geography. For example, remoteness is a structural aspect which can be counterbalanced by other development factors but cannot be removed altogether. When a place is remote, improvements in infrastructure will not normally make it as accessible as other, more central, places. Similarly, mountainous areas have to face higher costs in consumption and demand ([Gorla, 2007](#)) and as such need specific policy governance models to overcome administrative fragmentation ([Ferlandino & Rota, 2013](#); see also [chapter 8](#)).

Other aspects are linked to “second nature” geography. These can change over time but are de facto “sticky” and need to be dealt with without making radical changes. Agglomeration is one of these aspects. The most important cities today largely coincide with the most important cities in history, and this is sticky even when the causes of the location have been removed and the places of settlement have become highly inefficient ([Accetturo et al., 2019](#); [Morettini, 2019](#); see also [chapters 2](#) and [8](#)).

Regional location matters, therefore, also in terms of policies, because the effectiveness of policies is different depending on the regional location. Spatial effects and spillovers are normally at play. At the same time, different regional conditions matter and the same policy, applied in different places, can produce significantly different results as shown in the next subsection.

7.9.2 Some conditioning factors of policy effectiveness

The impact of regional policy is mediated by regional conditions and by the assets with which regional economies are endowed. Local economic development is based on the interaction of many different assets, which work in synergy to provide sustainable and lasting development. It is hence clear, from a conceptual point of view, that the outcome of a policy focusing on some assets, strongly depends on the presence of the other assets, otherwise the imbalance would prevent it from being effective ([Fratesi & Perucca, 2019](#)).

One aspect to be considered in regional policy is the time over which policies obtain their results. This is important because in an intertemporal utility function, policies obtaining smaller results might be preferable to policies obtaining larger results but with a longer delay. Moreover, the magnitude of the impacts is not enough to choose between different policies because some impacts might be longer-lasting than others. Finally, adopting the same policy in different time phases might lead to different result (see section 7.8.3).

In some cases a policy may trigger cumulative effects, while in others it does not, meaning that its impacts are short-lived. For example, providing regions with resources during a phase of recession means these assets may not be used by firms which are seeing their markets and outputs shrink, compared to providing the same resources during a phase of expansion. Similarly, an intervention on human capital might be effective in a region whose economy is booming but might just increase out-migration in a region which is declining.

The setting in which a policy is applied is also important and regional policies normally use mechanisms to identify eligible beneficiaries, including regions, firms and people. This often sets up a framework for heterogeneous effects. For example, policies can provide different amounts of money to different beneficiaries, and this also has consequences, with most literature showing decreasing returns on expenditure. Finally, policies can differ in effectiveness depending on their correspondence to the needs of the regions in which they are applied, with the literature showing that the impact is larger when this correspondence is verified.

The impact can also depend on the policy intensity at a micro level, particularly the amount of subsidy or investment received by a firm, as shown in the literature adopting dose-response functions. The size of the beneficiary firm is also relevant, as shown by [Sterlacchini and Venturini \(2019\)](#). The impact can also be different if a policy invests in different sectors or when a region has a certain specialisation. Apparently, both effects are at place at the same time ([Percoco, 2017](#)). When a policy does not target

a specific economic sector but only firms of a certain size, results might still be different depending on the past behaviour of beneficiary firms.

It is also essential that the policy implemented responds to the actual needs of the territory. Measuring these needs is not easy because different territories have different needs, stemming from different economic models, regional characteristics and regional preferences. Different approaches have been tested, from surveys ([Bachtler et al., 2016](#)) to econometrics ([Crescenzi et al., 2017](#); [Di Cataldo & Monastiriotis, 2020](#)).

Regional policy, especially EU Cohesion Policy, is normally adopted with multiple purposes and axes. This makes it difficult to assess the total impact of the policy on just one indicator, such as GDP per capita. This is because as well as interventions aimed at economic growth and competitiveness, other interventions have more socioeconomic targets which cannot be assessed on the basis of their economic impact ([Fratesi, 2016](#)). Even when the objective is the same, different axes are expected to have different returns, mechanisms and time delays in their impact. For this reason, an assessment of the total amount of policy expenditure is generally averaged over different effects, and as such is not representative of what is taking place.

One final aspect which is often neglected when assessing the impact of regional policy is the fact that regional policy is not deployed in isolation but is affected by the macroeconomic conditions and other policies implemented at the same time. The literature is particularly thin in terms of assessments which consider the interaction between different policies but macroeconomic conditions are now generally considered. Importantly, EU funds appear to have a more significant impact on GDP per capita growth than nationally funded policies ([Coppola et al., 2020](#)).

For instance, in periods of economic crisis, the effects of policies are assessed in terms of resilience rather than in terms of growth ([Dal Bianco & Fratesi, 2020](#)). Similarly, it has become rare to find analyses in which a policy is assessed in terms of absolute convergence. The same is true for unconstrained sigma or beta convergence analyses where the impact of Cohesion Policy in the EU was assessed on the development of convergence indicators at European level. These have given way to more sophisticated analyses in which national aspects are considered and to analyses which consider different time periods, including crisis and the emergence of different patterns among various convergence clubs ([Mazzola & Pizzuto, 2020](#)).

Finally, regional quality of government influences the effectiveness of regional policy funds ([Rodríguez-Pose & Garcilazo, 2015](#); [Bachtrögl et al., 2023](#); section 4.6.2) and is also relevant to the impact of nationally funded subsidies to firms. As mentioned before, however, understanding the effectiveness of expenditure is only a prerequisite of policy implementation and finding ways to improve it requires additional analysis.

NOTES

1. [Evaluation](#) is different and complementary to monitoring which is “the continuous process of examining the context of the programme and the delivery of programme outputs to intended beneficiaries, which is carried out during the execution of a programme with the intention of immediately correcting any deviation from operational objectives” ([European Commission, 2013](#), p.106). As monitoring is an important but less strategic activity, which does not steer policy choices, the focus in this book is on evaluation.
2. [Actually](#), being a good evaluator requires more than just technical skill, since [Maynard \(2000\)](#), p.475) identifies the following seven qualities of effective evaluators: “familiarity with the policy issues and the relevant political, social and economic contexts; understanding of the information needs to guide effective policy making and/or operational decision making; skill in translating information needs into researchable questions and appropriate evaluation methodologies; strong evaluation design skills; commitment and ability to implement strong evaluation designs; follow through on conducting analysis, including performing the statistical analysis and supporting qualitative research; skill in communicating evaluation findings to program staff, policy partners and sponsors.”
3. [Large](#) projects, in the EU programming period 2014–2020, were defined as those exceeding EUR 50 million or EUR 75 million in other cases, excluding financial instruments (Regulation No 1303/2013 of the European Parliament and of the Council of 17 December 2013).
4. [The](#) reader interested in input-output analysis can refer to books such as [Hewings \(1985\)](#), [Miller & Blair, \(2009\)](#), [Oosterhaven \(2019\)](#).
5. [There](#) is an ample debate on the extent to which these methodologies can be trusted. See [Flegg et al. \(1995\)](#), [Flegg & Tohmo \(2016\)](#), [Flegg & Webber \(1997, 2000\)](#), [Kowalewski \(2015\)](#), [Lampiris et al. \(2020\)](#), [Lehtonen & Tykkyläinen \(2014\)](#), [Malte \(2017\)](#), [Malte et al. \(2020\)](#), [McCann & Dewhurst \(1998\)](#), [Pereira-López et al. \(2020\)](#).
6. [For](#) example, [Florio \(2014\)](#), [Mishan & Quah \(2007\)](#)
7. [Externalities](#) were presented in chapter 2.

8. [However](#), due to the mathematical characteristics of powers, the present value of benefits and costs in the far future is tiny so there is not a large difference between what is obtained with a large value of n and what is obtained with an infinite n .
9. [See](#) for example the 18 often contrasting evaluations of the Lyon-Turin rail project over a span of 30 years ([Massiani & Maltese, 2022](#)).
10. [See Medeiros \(2020\)](#) for the presentation of many of them.
11. [A](#) reader interested in these aspects can look for example at [Funnell & Rogers \(2011\)](#).
12. [See](#) for example [European Commission \(2013\)](#), [Yin \(2011\)](#).
13. [See](#) among others [Krueger & Casey \(2015\)](#) on the different phases of focus groups.
14. [Note](#) that most regression techniques use a linear functional form but this is not always the case. In some cases, it is possible to adopt data transformations to obtain a linear relationship.
15. [The](#) most common in regional economics is to have * for 90% significance, ** for 95% and *** for 99%, but each table normally reports which levels are used.
16. [OLS](#) (Ordinary Least Squares) are the simplest estimation technique by which the parameters are obtained by minimising the squared estimation errors.
17. [See](#) for example the paper by [Giua \(2017\)](#).
18. [NIMBY](#) stands for Not In My Back Yard and is used to describe situations when people are generally in favour of public investments, infrastructure in most cases, but do not want them close to where they live because of the negative externalities they can also create.

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PART D
REGIONAL POLICY UNDER DIFFERENT CIRCUMSTANCES

CHAPTER 8

Regional policy in specific contexts

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8.1 INTRODUCTION

This chapter will introduce the additional theoretical justifications for the existence of regional policy in specific contexts, with the ways in which it has been implemented. Moreover, the different strategies which have to be implemented in these different situations will be presented and discussed.

The previous chapters analysed the most important aspects of regional policy, according to the policy cycle and so starting from their motivations, following with their implementation and finishing with evaluation. However, the way in which regional policy is applied on the ground is very different depending on the situation in which it has to intervene. The same medicine cannot be administered to all patients and, similarly, the same regional policy interventions cannot be applied in the same way everywhere, if they are to be effective.

This chapter will therefore illustrate some important conditions which make the situation of some regions different from those of others. For instance, the first and most important aspect is the presence or absence in the region of cities and, in particular, of large and dynamic ones. As will be clarified in the chapter, cities can act as a catalyst to regional development because many development processes take place with much higher intensity at the urban level.¹

Other situations which can be impactful depend on the location of regions since their centrality or peripherality can make a huge difference in terms of accessibility, which is an asset of paramount importance for most economic activities. Other purely geographical aspects are also important, for instance the presence of mountains, rivers and seas.

Other aspects depend on the so-called second nature geography, i.e. the geography which has been established by humankind, starting from the presence of borders between countries which require specific policies for border regions. Other second nature geography aspects concern the productive specialisation of regions and, in particular, if regions are rural. Moreover, there are variables related to demography (e.g. sparsely populated areas). Finally, the level of economic development is also a condition which influences which policies are usually implemented.

For the most relevant of these situations, this chapter will present the reason why they are relevant as well as some intervention specificities coming from regional policy experience in these special contexts. The first

part of the chapter will hence extensively investigate the role of cities in regional development and policy. The second, what happens in regions which have different spatial settings, i.e. which are peripheral, mountainous, sparsely populated or rural. The third part will analyse the specific case of border regions and, finally, a brief idea of how to intervene in regions at different levels of development will be presented.

8.2 THE URBAN DIMENSION OF REGIONAL POLICY

8.2.1 The relationship between cities and regional success

The advantages of cities in the modern economy

Cities, and especially large ones, are important drivers of regional development since they normally act as hubs for the whole territory and therefore provide those assets in terms of visibility, connectivity, interactivity, etc. which are needed by regions, and which are lacking in those regions without large urban areas. Especially, large cities usually have innovation-led economies and also “significant media and brand profiles (especially capital cities), are well connected in the global knowledge and scientific networks and display significant lobbying activities” ([McCann & Soete, 2020](#), p.20)

Moreover, urban areas are the locus where all those aspects concerned with agglomeration economies, especially urban economies, are at their peak (see [chapter 2](#)). Cities are often considered to be wealth generators in the modern economy, and an efficient way of organising human economic activities and even happy lives ([Glaeser, 2011](#)). Inside cities, labour markets are especially thick and allow firms to find the competences they need. Many workers with different experiences are concentrated in the same place and can easily move from one firm to another and from one industry to another without the need to relocate, which makes the labour market less rigid and makes it easier to hire people with the required experience. This is confirmed by the fact that earnings are higher and that this depends on a static premium and accumulated experience ([de la Roca & Puga, 2017](#)).

Infrastructure is also thicker in cities and allows easier connectivity and larger productivity for firms. The hubs of almost all transport infrastructure are located in cities because it is more efficient to locate them where demand is highest. Social infrastructure is also easier to provide in cities, think about hospitals which may serve larger populations and in this way exploit

economies of scale and provide specialised assistance in many specialties. Financial institutions also concentrate in cities and for this reason access to capital markets is easier for firms located there.

However, the aspects in which the presence of dynamic and large cities are most important nowadays are related to innovation, culture and creativity. The importance of cities to innovation, technological diffusion and overall economic growth is nowadays commonly recognised and pushes some scholars to even argue that innovation and entrepreneurship are not just taking place in cities but require them ([Duranton & Puga, 2001](#); [Clark et al., 2018](#); [Florida et al., 2017](#)).

Agglomeration, in fact, is no longer mainly due to transport costs, nor is it solely dependent on the convenience of having concentrated services but now mostly depends on the ability to have face-to-face contacts (F2F) ([Reades & Crookston, 2021](#); [Storper & Venables, 2004](#)). Despite the improvements in technology, in fact, communication between people still largely depends on non-verbal aspects, which can provide credibility to communications or, on the other hand, allow insincere behaviours to be spotted (see [chapter 4](#) on the importance of behavioural aspects of regional policy). For example, the most important aspects of localisation economies, the links between companies, the connections between companies and workers, and the interactions between workers (especially if they are skilled, and especially if they are working in technological fields) all depend on the quality of personal relationships, for which meeting face to face is extremely important.

Face-to-face relationships have at least four different functions and in each of them they provide an advantage: they can first act as a communication technology, in which F2F allows high-frequency, rapid feedback and the detection of body language; they are able to provide trust and incentives in relationships, to; allow screening and socialising; finally, they are capable of inducing rush and motivation ([Storper & Venables, 2004](#)) ([Table 8.1](#)).

[Jacobs \(1969\)](#) had already pointed out that the innovative success of cities depends on their diversification and this is even more important for the most creative and innovative sectors, such as technology, fashion, design, media, entertainment, advertising ([Scott, 2000](#)), where cities allow unplanned and fortuitous encounters with people of different backgrounds. Colocalization is in this sense very important because, on the one hand, it allows easier access to new people and information and, on the other hand, it reduces the costs of evaluation by those who are already inside. In this way coordination problems are not solved but significantly reduced with respect to interactions at distance.

As mentioned, these aspects are especially important for innovative and creative activities and this depends on the fact that innovation is, in many cases, based on the recombination of different pieces of knowledge and

varied ideas which can only come from random interactions with different, qualified and creative people of mixed backgrounds (see section 5.11.6). The success of cities in the global economy is therefore not just a matter of sectoral diversification but also, and increasingly so, a matter of personal and competence diversification.

City size does not guarantee that these interactions take place effectively and create opportunities for innovation. In fact, this heavily depends on the local formal and – especially – informal institutions, on the characteristics of inhabitants and on their modes of behaviour.

Table 8.1 Advantages of face to face in its various functions

Function	Advantage of face-to-face	Context
Communication technology	High frequency	Non-codifiable information
	Rapid Feedback	R&D
	Visual and body language cues	Teaching
Trust and incentives in relationships	Detection of lying	Meetings
	Co-presence of a commitment of time	
Screening and socialising	Loss of anonymity	Professional groups
	Judging and being judged	Being "in the loop"
	Acquisition of shared values	
Rush and motivation	Performance as display	Presentations

However, it is normally in the most globalised cities that interactions take place most effectively, also because they act as hubs for their hinterlands and countries. There is an apparent contradiction by which the most global places, those where the connections with the different corners of the world are most intense, are also those places where the local interactions between people are denser and most fruitful.²

And urban density plays a role in this sense.³ It has been noted that proximity is better than commuting and that denser cities are in a better situation with respect to dispersed ones, for the same reasons that F2F is preferable with respect to telecommunications, and for other reasons which are related to the efficiency of the urban system in particular ([Shearer et al., 2019](#)). First of all, the proximity allowed by density enhances economies of agglomeration, facilitating the growth of firms and regional economies. All interactions between firms, between workers and between firms and workers are much easier when people don't need to spend long hours in commuting

and can easily meet outside of their working hours. Moreover, density in cities reduces the amount of infrastructure needed to serve the same amount of people, so that it also reduces the fiscal burden. For transport, especially, proximity allows intermodality, affordability and the inclusiveness of people of different ages. In this way, it also allows reducing the emissions coming from transport and hence achieving environmental objectives as well as reducing the dependence on energy. Proximity is also a way of having better quality of life in cities, as it increases social capital and makes people more likely to engage in community activities.

Cities and regional performance

As a consequence of the processes outlined above, there is a crucial role of cities in regional performance and, in particular, regions which have large cities tend to overperform others.

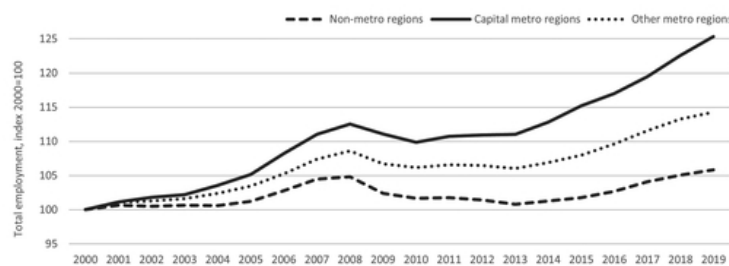


Figure 8.1 employment growth in European regions by urban settlement 2000–2019 source: [European commission \(2022, p.35\)](#)

This can be easily visualised in [Figure 8.1](#) where the employment performance of EU regions at NUTS3 level is compared depending on whether they are metropolitan, capital or not, in the period from 2000 to 2019 (i.e. before the Covid crisis). The results are striking. Before the global financial crisis of 2008, the performance of capital metropolitan regions was already highest, followed by other metropolitan regions and non-metropolitan regions. The crisis hit all the three typologies, with an intensity not too dissimilar, but then the first years after the crisis saw capital metropolitan regions starting a (slow) recovery, other metropolitan regions having a flat pattern and non-metropolitan regions having a further small employment decrease. The faster recovery which started from 2014 saw again a much faster growth for capital metropolitan regions, followed by the other metropolitan regions and then the nonmetropolitan regions so that, after almost 20 years, a wide gap has been created between these typologies.

The figure also evidences an important capital effect, by which, for a given size, capital regions often overperform their country's rivals because the closeness to public institutions and the largest public investments

provide an additional spur in the attraction of the highest level functions. This happened for example for Madrid with respect to Barcelona,⁴ in Spain, Moscow with respect to Saint Petersburg, in Russia, Lisbon with respect to Porto, in Portugal, London and Paris with respect to any other metropolitan area of the United Kingdom and France. When capital cities are not the main economic areas of their own country,⁵ however, they may find it hard to position themselves as business attractors in addition to government cities (Kaufmann, 2020).

Finally, it has to be remembered that the relationship between cities and regions goes both ways. If it is important for regions to have competitive cities inside, it is also true that the most successful cities can rely on being located in a competitive region and on valuable assets present in their hinterland.

8.2.2 Urban policies as instruments of regional policy

Since, as we have evidenced in the previous section, the competitiveness and economic performance of regions is so strictly related to the one of the cities they host, it becomes clear why every policy which enhances urban competitiveness will exert wider systemic impacts on the region.

In this sense, we might consider urban policies as an instrument of regional policy, since regional development can be affected by the success of policy interventions at the urban level. However, we must not confuse the two levels by considering urban policies as merely a subset of regional policies. The two sets of urban and regional policies are distinct yet overlapping.

Purely regional policies include most interventions for which the urban scale is too small, such as those for regional infrastructure, and many interventions for innovation and human capital, smart specialisation strategies, policies for districts and clusters. Purely urban policies include most urban planning initiatives not intended to have economic impacts, especially those devoted to improve the quality of life of citizens, to provide safer neighbourhoods, to reduce segregation, to improve the aesthetics of the city, etc.

There are however many cases in which policy interventions take place at urban level and are expected to have a wider effect on regional development. For example, special economic zones can be established in some parts of cities (e.g. around a port), higher education facilities are generally located in cities (although university campuses can be also located outside them), the main transport investments (the stations of high-speed rail, airports, ports, etc.) are also predominantly located at an urban level.

There is no point in further discussing here how the implementation of many of the instruments of regional policy can be concentrated in the cities

of the region, since these same instruments are amply discussed in [chapters 5 and 6](#). It is, however, necessary to point out how some instruments of urban policy and planning, especially those which have urban competitiveness as their final objective, can be important for regional development in those situations in which the city constitutes the largest part of the population of a given region, or when it constitutes a smaller part of total population but is still relevant enough to drive regional performance.

Cities have been competing among themselves to assert their role in the world economy since at least the mid-19th century, when the largest tried to achieve a global image through investments in physical assets as well as in immaterial ones and events which should help them stand out ([Kresl & Ietri, 2017](#)). The competitiveness assets, however, have evolved. If location and the presence of geographical features facilitating communications or allowing military control played a paramount role in the earlier historical phases,⁶ the growth of cities in the 19th and 20th centuries was still linked to the presence of material assets such as raw materials, industrial plants, accessibility, labour, housing, etc. Urban dimension played a crucial role in this competition since it allowed agglomeration economies, especially to achieve scale, and this pattern mostly continued during the industrial revolution, since human-built infrastructure (e.g. roads, railways and at a second stage airports) allowed accessibility besides geography.

With the decreased weight of manufacturing on the economy, and its relocation towards more peripheral areas, the success factors of cities became more immaterial (“soft”), and especially concentrated on those which allow them to attract and retain skilled, innovative and creative workforces, such as public safety, health services, entertainment, culture, high-level education and (still) transport.

In this context, urban size is no longer the main determinant. On the contrary, the situation of many megalopolises of the emerging world shows that when size increases too much or too fast the diseconomies of agglomeration become a tangible issue, with the presence of slumps, pollution, poverty, etc.

The main success factor for cities, and for their regions, then has become the presence of high-level functions which, in a globalised economy, allow them to keep the phases with highest added value, the highest salaries and the ability to command their own economic destiny. The specialisation of cities has in fact shifted from a sectoral to a functional one ([Duranton & Puga, 2005](#)). And even if higher-level functions tend to concentrate in large cities, even medium-sized cities can be lively and competitive, when they have the right immaterial assets, especially human capital, and are inserted in the right networks.

Urban competitiveness is also strictly linked to urban attractiveness, i.e. its ability to attract and retain skilled and creative workers and innovative firms. This happens by providing all the assets which are appreciated by

firms and qualified workers, which have been mentioned before, but also by putting the city on the global map in a distinctive way.

This may include policies of place branding (see section 5.13.3) which, in some cases, can intersect with architectural development initiatives which materially help to provide adequate locations to firms and workers and, immaterially, help give a distinctive image to the city, aimed at conquering the status of significant place in the mental maps of global decision-makers. Architectural initiatives, therefore, can attract businesses, skilled workers, tourists and entrepreneurs. Or drive them away. Moreover, they can be used to revitalise cities which lost their status due to the crisis in their specialisation industries, or which need to reposition themselves as relevant poles in the global knowledge economy after having previously been known as production hubs ([Throsby, 2010](#); [Kresl & Ietri, 2017](#)). Very important are those interventions which make a city physically able to host the headquarters of major global corporations, or which make it possible from a cognitive perspective. It has to be remembered that real assets and perceived ones are intertwined but not coincident, so for instance, it is much easier to attract a corporation headquarters for a city which already hosts those of other corporations.

Finally, urban and planning policies can be an instrument to attract and retain specific cohorts of people, especially those young, highly skilled and creative workers whose presence is fundamental for the success of modern economies. These will be sensible to the presence of an efficient network of public urban transport (these individuals are less keen on driving), urban amenities such as parks, sustainable buildings, entertainment opportunities, cultural initiatives, etc.

Urban policies are increasingly integrated into wider regional development strategies. For example, within the EU Cohesion Policy framework, each phase has seen an increasing importance of urban instruments, which were mostly experimental in the earlier phases (e.g. the URBAN Community Initiative and JESSICA, Joint European Support for Sustainable Investment in City Areas). In programming period 2014–2020 a minimum of 5% of ERDF was earmarked for actions for sustainable urban development, with significant flexibility in the fields of intervention but an integrated approach as a requirement ([Cotella, 2019](#)).

8.2.3 Coordinating urban and regional policy interventions

Since urban and regional policies are complementary, it is crucial to coordinate them to ensure that they are pursuing compatible objectives and that overlaps are minimised. This requires complex multilevel governance schemes, since the individual municipalities are normally in charge of urban policies while higher order administrations (regional governments,

governors, etc.) are in charge of regional policies.

The issues of governance and coordination are of paramount importance because large cities can drive regional development but can also drain economic activities and jobs from their own hinterland. Without coordination, in fact, it is common to see the municipalities of the core city implementing policies which are problematic for the other municipalities around them. The problem is that, when there is not a correspondence between the constituency of electors and the problems which need to be addressed, politicians are only elected by some of those which are affected by their choices, and may hence favour their constituency electors to the detriment of others.

For example, in terms of planning transport and mobility, the inner cities are usually too small with respect to the people commuting flows, so for example interventions to reduce congestion in the inner area can have as an unintended effect an increase of congestion elsewhere and longer travel times for commuters. Analogously, for large public infrastructures such as train stations, stadiums or airports, their accessibility (and therefore their success) often heavily depends on the simultaneous investments of municipalities not directly affected by the primary investment.

Fiscal competition may be another problem induced by the lack of coordination. Competition in the attraction of major investments between different municipalities is quite common and leads to wasting public resources and the suboptimal location of these investments.⁷ For example, two municipalities (even in the same region) may compete for the location of the new headquarters of a large firm, through tax exemptions and ancillary public investments, while the jobs created will not stay within the municipality boundaries.

It is true, on the other hand, that even in the absence of formal coordinating bodies, forwardlooking smaller-tier administrations sometimes are able to create informal forms of coordination which can work effectively for a long time, such as the case of Manchester shows, where the abolition of the metropolitan county council in 1986 did not prevent 10 local authorities continuing and improving their cooperation until the creation of the Greater Manchester Combined Authority (GMCA) in 2011 and the first directly elected mayor in 2017 ([Harding, 2020](#)).

Policy interventions in urban areas are often assumed to spread their effects towards more rural and peripheral regions. For example, this is what the EU strategic policy documents seem to mostly assume, since development concentrated in bigger cities should then diffuse to smaller cities, then to the rural areas of their regions and then to also peripheral and lagging regions, such as urban areas that act as development poles whose concentrated growth later diffuses spatially ([Rauhut & Humer, 2020](#)). However, with disparities on the rise within most countries ([Camagni et al., 2020](#); [Feldman et al., 2021](#)), it is clear that interventions favouring the

strongest areas within each country in order to create development poles need to be complemented with other interventions to ensure that the benefits of growth spread to the hinterlands and the peripheries, which is unlikely to happen spontaneously.

8.2.4 Regions without urban areas

If the presence of urban areas is so strictly related to regional economic activity and growth, one is left wondering what can be done for the other regions, since the creation of new urban areas with policy interventions is a strategy which cannot be pursued, apart from some very specific cases, mostly located in emerging countries. The latter, in fact, created in the last decades new cities with very large public investments and mixed results, since some of these have started endogenous and self-sustained growth patterns, while others have not been emancipated from public assistance.

Indeed, a much larger variety of outcomes exists with respect to what could be expected by just knowing the basic theories of agglomeration. If it is true that some large agglomerated regions have had disproportionate shares of growth at the OECD level, it is also true that the largest part of growth still comes from intermediate and rural regions ([Garcilazo & Oliveira-Martins, 2015](#)). Moreover, regions of similar sizes and urbanisation level often have different economic performances.

The first observation in this respect is that size is not the main determinant of urban economic performance and the concept of optimal city size, which maximises the difference between agglomeration benefits and congestion costs ([Richardson, 1978](#)), should be replaced with a concept of efficient city size, which depends on the functional specialisation of the city and on the organisation of its urban system ([Capello & Camagni, 2000](#)). Especially important for the city are the quality of its production factors, the quality of the economic activities present, as well as two factors related to how it is inserted in networks, in particular the density of external linkages and co-operation networks, and the characteristics of the overall urban system in which the city is located ([Camagni et al., 2016](#)).

The latter aspect is known in the literature as “borrowing size”, which means that a city of medium or small size can acquire functions which would be reserved to cities of a larger size if it is able to stay within an efficient network of cities, which achieve the same levels of static or dynamic efficiency by synergy or specialisation ([Camagni & Capello, 2004](#)). A good example is the case of the Randstadt Holland, the system of Dutch cities which, taken together, are able to perform all high-level functions (e.g. in finance, transport, innovation, etc.) and be competitive with much larger global cities, despite no Dutch city is very large in itself. The relationship between size and connectivity is however complex and, while for some

activities the presence of networks is enough to guarantee urban functions, for others size is still very important. Moreover, the advantages obtained by participating in city networks can be larger for larger cities, competition effects can take place between cities nearby and other cities can be cast in an agglomeration shadow ([Meijers et al., 2016](#)). Identifying and supporting the participation of regional cities in networks is therefore something which regional policy should not forget, although it cannot be a panacea.

In cases in which cities are not present, local structures such as an innovative milieu can also exert many urban functions, since these concentrations of firms in cognitive proximity can be able to act as reducers of dynamic uncertainty and allow milieus to innovate and compete with regions where innovation takes place in cities.⁸

Summing up, there are some options for those regions which don't have large enough cities: they can borrow size from cities in regions nearby. This allows acquiring the functions which cannot be performed inside your region, by delegating them to the economic agents and structures present close to them. For example, international airports may not be present in a region without large cities but accessibility could be ensured by the airport of a region nearby. Similarly, large financial institutions, venture capitalists or innovation consultants may not be present in the region but can be present in cities of a close region and hence be available to local firms too. Alternatively, size can be borrowed from networking, by staying in international networks of regions and cities so that the network in its totality achieves the same performance that the single firms could perform.

If neither of the two options is available, because there is no region nearby from which to borrow functions and because the region is not inserted in the right international networks, the policymakers will need to go for other avenues which reduce the disadvantages of peripherality and exploit those locational advantages, of a different nature, which are also present in rural and remote regions. This is the topic of the next section.

8.3 REGIONAL POLICY FOR PERIPHERAL REGIONS

8.3.1 The issues associated with peripherality

Peripherality imposes limits on regional economic development which require specific interventions. It is not simply intended as a geographical concept, as there are countries where the core areas are positioned far from the geographical centre, but is concerned with the lack of accessibility, which entails a large number of possible problems and delays.

Starting from the most traditional issue, transport costs are linked to the distance and, in cases such as fuel consumption of trucks, even proportional to it. Moreover, they entail additional impedances of material and immaterial nature, as was shown in section 5.10.1. As a consequence, the access to intermediate goods and services is more costly for the firms of peripheral areas, and so is the access to the final markets where they can sell their products.

Limiting the physical impact of peripherality might necessitate costly investments in infrastructure, since it requires long railways and motorways, or airports. Noticeably, some regions in the past labelled infrastructure investment measures as improving the geographical position of the region. The investments in data connectivity are also more expensive in peripheral regions, apart from the few cases in which they are located in hubs (e.g. those regions where transcontinental cables start).

Peripheral regions are usually characterised by low levels of attractiveness. This in terms of foreign direct investments, which tend to concentrate in core areas where they are perceived as less risky, can be better monitored and take advantage of external economies (section 5.5), and also in terms of human capital, since local educated people tend to leave these areas to look for better opportunities and stimuluses in the core areas, while reverse flows are narrower (section 5.11). This brings demographic decline and imbalances, because many of these regions in advanced countries are actually shrinking.

Accessibility also involves problems with the provision of services to firms and citizens. Indeed, the provision of both business and citizen services is subject to economies of scale and hence, when an area is accessible, it is usually either well-endowed with services (because it can provide them also to surrounding areas) or able to access the services of other areas nearby. Non-accessible areas, on the contrary, can only rely on their internal endowment of services, which is limited by the size of internal demand.

There are then issues related to technology and knowledge diffusion. No region can innovate based on just its internal knowledge, and peripheral regions experience delays (if not obstacles) in accessing new knowledge developed elsewhere. This is especially important for tacit knowledge, which requires intense interactions to be transferred, so that most peripheral regions usually have innovation gaps.

Finally, there are problems in the links with the rest of the country and international areas. Peripheral areas can in fact be internally cohesive but are also often less relevant in the political decisional processes which take place in the core areas and in the capital areas in particular. Problems with governance may be also present because the multilevel governance schemes which are currently considered to be the best way of implementing regional policy require the coordination of different bodies at central and local scale,

which is more difficult for peripheral regions whose representatives need to travel to the capital or wait for government officials to travel to their region.

As a consequence of all these processes, most lagging regions are peripheral and most peripheral regions are also lagging. The policy interventions for peripheral regions are hence similar to those for the lagging regions, intervening on the various development bottlenecks which can be present (usually human capital, entrepreneurship, innovation, infrastructure, governance, etc.) but in addition to them there is the need to tackle the specific issues due to peripherality.

First of all, there is the need to act for the provision of the so-called services of general interest. These are necessary to ensure adequate standards of living for the citizens and a viable location for the firms. The first ones can be labelled Social Services of General Interest (SSGI) and include labour market services, education, health care, child care, elderly care, social care, (social) housing and social assistance services, while the others can be labelled Services of General Economic Interest (SGEI) and include technical infrastructure such as gas, electricity, energy, transport as well as water and waste management and communication infrastructure, e.g. ICT, electronic communications and postal services ([Rauhut et al., 2013](#)).

The provision of these services in peripheral areas is usually more expensive and adequate levels can rarely be achieved with just the local resources, which implies the need for subsidising them with resources coming from the national government and, in many practical cases, lower levels of provision. The involvement of the private sector, and especially nonprofit entities can be beneficial in this sense, as well as innovating the modalities in which these services are provided, since new technologies allow the provision of services with the same or a higher level of capillarity with much thinner and flexible structures.

Demographic and migration trends are of paramount importance in this case, because they determine the amount of population and can have cumulative effects. In fact, if peripheral areas lose population in favour of core and urban areas, they might not be able to sustain the same level of provision of public services (section 3.7.8). Consequently, the lower provision of public services will increase the depopulation trends, reinforcing the problem. For this reason, one main objective of policies for areas which suffer from depopulation is to find ways to provide services.

Peripheral areas can be also present within regions. Most regions, in fact, are large enough to be characterised by a core and a periphery internally, with some areas far away from the centres of provision of services. An interesting pilot experience, in this sense, is the one of Italy which developed its Strategy for Inner Area⁹ ([Lucatelli, 2015](#)). This country, beyond the traditional and internationally well-known dualism between north and south ([Dunford, 2002](#)), is characterised by strong depopulation and economic decline of its inner areas, those further away from large cities and main

communication routes, which are however areas of large significance in social, historical and cultural terms. The first step of the strategy was hence to divide the municipalities into three categories based on their accessibility to three essential services: high school education, railways and hospitals. The three categories are the poles, where services are provided, the belt, where the municipality is close enough to a pole and people can easily access services from there, and peripheries, the inner areas, which are more than 75 minutes of driving away from these services.

These policy interventions, financed by national and European sources, are then selected and involve the setup of Framework Programme Agreements signed by local, regional and national bodies to pursue a strategy identified for a specific inner area (usually a group of municipalities characterised by spatial continuity and socio-economic-geographic homogeneity). Two types of interventions are contemplated, those for “essential services” (instruction, health care and mobility) and those for “local development”, whose aims are protecting the territory and local communities, developing natural and cultural resources and sustainable tourism, supporting agro-food systems, energy saving and local renewable energy supply chains, tapping local know-how and craftsmanship. The financing of these initiatives includes EU, national and local sources, as well as private funding.

The last important issue concerns innovation. In the peripheral regions, innovation is usually insufficient and more difficult with respect to core areas, where exchanges of knowledge are more intense. Due to the cumulativeness of innovation, peripheral areas have a structural disadvantage due to their difficulties in accessing external knowledge and so should mostly rely on internal knowledge, which is however too limited to be used for frontier innovation. Smart specialisation strategies, therefore, might also be more difficult to implement due weak stakeholder networks and the lack of entrepreneurial discovery activities ([Ghini et al., 2020](#)).

Yet, it has been demonstrated that different types of regions innovate in different ways and through different patterns, so that the endogenous innovation pattern is only one of them, mostly present in advanced regions well-positioned in international networks. A creative application pattern, by which local actors look for knowledge external to the region to apply to local innovation needs, and an imitative innovation pattern, based on imitation and adaption of external innovations, also exist ([Capello & Lenzi, 2013](#)). The two last patterns are more relevant to peripheral regions, which can benefit more from policies devoted to enhancing spillovers and supporting knowledge diffusion from forerunner regions than traditional R&D initiatives ([Rodríguez-Pose, 2001](#)).¹⁰

Moreover, the efforts to enhance base research seem to be insufficient as a development policy. It is in fact relatively easier, with a consistent amount of funds, to promote base innovation in peripheral regions by, for example,

establishing higher education institutions ([chapter 5](#)) and base research laboratories ([chapter 6](#)), but then this additional knowledge should go through the other phases of the innovation process and lead to the development of new products and the acquisition of new markets, i.e. be able to generate additional economic activities, which is not easy unless comprehensive strategies are developed which target simultaneously the entrepreneurial system and the assets it needs.

8.3.2 Regions with mountains

Regions with mountains have specific characteristics and necessitate specific interventions. These areas, in fact, have a series of disadvantages due to their structural and permanent geographical location ([Gorla, 2007](#)). First of all, there are physical factors which prevent the emergence of agglomeration economies and determine a limited accessibility if not the isolation of local communities. Some of these aspects are related to geography, such as morphology, climate, hydrogeological risk; others to human geography factors, such as low density. Many economic activities are inherently more expensive in mountainous areas: building houses, for example, is made more expensive by the fact that the land is rarely flat and specific precautions have to be considered to guarantee structural stability. Since the weather is, *ceteris paribus*, colder with increasing height above sea level, more heating is needed, or houses with better thermal insulation. In those places where snow is common and abundant, buildings need to be suitable.

In terms of public capital, infrastructure has to overcome physical obstacles and its construction is therefore more difficult and expensive. Roads connecting mountain villages are usually longer than the straight distance, require hairpin bends and viaducts. Their maintenance is also more expensive, due to threats such as ice and landslides. Geography and low density also increase the costs of provision of ICT infrastructure.

In addition, a large number of traditional economic activities of mountainous areas can only be carried out in certain seasons of the year, such as agriculture and silviculture. Agriculture, in particular, is less productive for many crops. Some modern activities are also seasonal in many mountainous places, such as skiing which can only take place in winter in many resorts.

Mountainous areas are also usually peripheral, which imposes additional transport costs of physical goods, which can be more expensive if purchased in these areas or may incur higher shipping costs when local companies export, as well as knowledge and innovation spillovers.

Despite these objective difficulties, areas with mountains can be wealthy. For example, in Europe, many Alpine regions are among the most developed of the continent and of their respective countries. This comes from the fact

that they have been able to use their advantages which are also present and are again part natural and part human built.

Among the natural advantages of mountainous areas is their natural environment which is usually better conserved with respect to urbanised or intensive agriculture areas in the plains. For this reason, these areas are important tourist attractors, especially where natural amenities have been complemented with services, hotels, spas, and structures such as aerial lifts. When tourism development has been sustainable and nature-aware, it represents an important richness, which is more important for those regions which are located relatively close to urban areas and are hence relatively accessible.

The richest mountainous areas, however, also have advantages of social nature. They tend to be socially cohesive, due to their rich and long historical traditions, and the love for their conservation and transmission to the next generations. The material and immaterial cultural heritage is usually also abundant, which is an important development asset, not just for tourism attraction but for the visibility of the region and for the creation of place-specific, sophisticated and high-quality products.

Possibly due to this attention to public goods and a high level of social participation, many successful mountainous regions are among the best administered ones, as shown by the indicators of quality of government (see [chapter 4](#)). Good administrations are able to better use public funds, in many cases coming from the national state, which can overcome the expensiveness of investments through more funding and better management of them. As a result, successful mountainous areas are relatively well endowed with capital and are also state of the art in the provision of public services, through innovative provision systems able to overcome the difficulties of local geography. They can also be quite attractive to investments when they are able to leverage their strengths ([Musolino & Silvetti, 2020](#)).

8.3.3 Remote and sparsely populated regions

Some remote regions, in addition to being peripheral, are characterised by being sparsely populated. This applies, for example, to the northern regions of Scandinavian countries, where population density can be below 10 inhabitants per square km. It is obvious that, with these tiny density levels, it is impossible to benefit from agglomeration economies, even if most of the population is not really sparse in the territory but concentrated in cities. These cities, however, tend to be relatively small and usually far from each other, so that it is impossible to achieve additional scale from synergies.

In many cases, being remote and sparsely populated does not result in low levels of GDP per capita; however, the specific issues of these regions make them the target of specific support and development policies. For instance,

in the European Union, these regions are considered to deserve the same assistance as the lagging regions,¹¹ although their GDP per capita may be higher than the EU average.

In fact, in addition to the issues of peripherality and insufficient agglomeration, the European remote and sparsely populated regions are characterised by some specific issues. In particular, they face demographic challenges, which come from the difficulties in attracting young and skilled persons, with consequent limited human capital and an aging population (section 3.7.8). Gender imbalances can be a related problem, as some of the jobs traditionally associated with these areas, such as those related to the exploitation of natural resources and woodlands, are traditionally held by men and hence women find jobs in other activities, for example in the public sector ([Gløersen, 2022](#)).

Regional governance may represent an issue in these regions, since coordination between municipalities and between the municipalities and the regional government can be more difficult than elsewhere due to the longer travel distances. The issue of governance can also affect regional development policies since, even when they should specifically target the most remote areas of the region, it is difficult to aim them at this target.

Finally, when these remote and sparsely populated regions are in subarctic areas, such as in northern Scandinavia, climate can represent a challenge because of the freezing temperatures and the very short daylight in the winter, which requires specific settlement characteristics and organisation of human activities.

Regional policy interventions in these remote and sparsely populated areas, as everywhere, should exploit the local potentials and limit the existing disadvantages. For example, recent evidence shows that smart specialisation strategies in sparsely populated areas have been beneficial in terms of proactive approaches to natural resource management and unlocking opportunities in bio-innovation ([Sörvik et al., 2019](#)).

Even if remoteness cannot be changed, investments in infrastructure can make it easier for these regions to have viable economic activities. In addition to physical infrastructure, data connectivity is of paramount importance, since these are places which can be attractive to remote workers as the period of the Covid pandemic showed.

In terms of potential, the limited population density is usually accompanied by significant natural resources, since the land is less anthropised and nature is flourishing. This potential is especially strong in terms of sustainable growth and green economy, as these areas usually present favourable conditions for wind parks and hydropower plants. Moreover, woodlands represent a renewable resource which can be increasingly important when building is increasingly taking place with natural and renewable materials.

Finally, it is possible to compensate the thin demographic and economic fabric through organisational and institutional strategies, and reliance on national instead of regional assets, as demonstrated by the specific mechanisms of learning in Nordic regions ([Flåtén et al., 2015](#)).

8.3.4 Rural areas and regions

Rural areas, for which a single definition does not exist ([Torre & Wallet, 2016](#)), are without cities, tend to be peripheral and sometimes are mountainous and sparsely populated, for this reason they share the characteristics of most of the cases which have previously been analysed. Whilst rural areas are very different from each other and have their own growth patterns ([Rizzo, 2016](#)), some specific challenges and opportunities come from being rural, and regional policies targeting rural areas are quite common, for this reason it is worth presenting the distinct characteristics of this case.¹²

In advanced countries, rural areas cover the majority of territory, although with a population which is lower than that of urban areas. A low population density is therefore a common characteristic, with disadvantages stemming from it in terms of missing agglomeration economies, but also advantages in terms of lower negative environmental externalities and little to no congestion.

It is important to remark that, in advanced countries, jobs in rural areas do not concentrate in agriculture. The share of employees in the primary sector is significantly larger than the average but still represents a minority of the total, due to the developments of technology and productivity improvements, while the majority of employment is in services, private and public.

Various challenges exist for rural areas which can be classified in three categories: social, structural and geographical ([Kah et al., 2020](#)). Among the social ones, demographic change is very relevant because rural areas are usually characterised by significant out-migration, especially of young persons, the most educated and females, who look for better opportunities in cities. This is not compensated by a limited attractiveness to immigrants, with the consequences of demographic imbalances and population aging. In some cases (but not for all regions and all countries) there is a larger than average share of population at risk of poverty and social exclusion, due to the weak labour market and the relatively low levels of education. Among the structural challenges, a growth rate trend which, on average, has been significantly lower than in urban areas for a long time, due to lower firm productivity and workers' educational levels and a specialisation in activities with relatively low value added. The provision of public capital is also more limited than elsewhere. The geographical challenges are mostly due to

remoteness and low population densities, which are however present in some rural regions and less in others. For example, there are rural areas which are very peripheral, while others are relatively close to major urban centres.

The provision of public services tends to be more difficult and costly, and also usually lower, due to distance from the centre, lack of enough demand and low density. For this reason, public services usually need to be subsidised with national resources since the local ones are insufficient, but the states have been decreasingly keen on supporting them. New modalities of provision have increasingly been implemented to make service provision more capillary and less costly.

Rural areas, however, also have assets and potentials, especially related to their social organisation and rich environment ([Kah et al., 2020](#)). In terms of environment, landscape and biodiversity provide potential for activities such as tourism and for the production of distinctive products. In social terms, cultural capital, material and immaterial, is usually rich, as is social capital since there are stronger bonds within rural communities, which are usually smaller and more cohesive than urban ones. In terms of quality of life, if cities provide better economic and work opportunities, rural areas provide less pollution, lower congestion, lower crime rates and affordable and enjoyable housing. This brings opportunities in terms of residential economy ([Davezies, 2009](#)).

Rural areas appear especially be able to take advantage of the shift of most advanced countries towards green and sustainable activities, where they have significant advantages. On the contrary, digitalisation, which could represent an opportunity to provide more capillary services in rural areas, is hindered by the large infrastructural investments needed.

As in all other situations, regional policy interventions should focus on tackling the challenges and tapping the opportunities, which are very differently exploited in different rural regions. The endogenous local ability to do so also depends on the levels of local institutions, which is positively affected by the attention that residents pay to their communities, but also negatively affected by smaller administrations (see [chapter 4](#)).

Some of the objectives which policies for rural areas can adopt are: economically, the diversification of economic activities, the improvement of the value added generated by agricultural activities; socially, the development of socially cohesive and empowered communities, also through social innovation; environmentally, the development of resilience and climate change reduction and mitigation of effects; in terms of public investments, the improvement of the access to services, the creation of better transport links, the improvement of digital connectivity.

Additionally, the usual shortcomings of rural areas are targeted, i.e. the reduced presence of talents and creative class, the low skills in research and development, the poorly developed transport and communication networks,

the small size of demand (because they are difficult to access), the low density of enterprises and networks, the limited access to finance. Moreover, there are policies for responding to climate and ecological challenges, and to adapt to the agroecological and energy transitions ([Torre et al., 2021](#)).

In terms of innovation, rural areas cannot compete with urban ones in endogenous innovation patterns (see earlier in this chapter) but yet can innovate in technological as well as organisational, social and institutional terms ([Madureira & Torre, 2019](#)). Local firms, however, being in most cases SMEs, require relations with extra-regional partners.

An important strategy is that of borrowing size, and hence incentivising those entrepreneurs who bring innovation from outside. This requires proximity and, since physical proximity is absent, strategies of “temporary geographical proximity” (i.e. short visits, participation in congresses and events, etc.) could be implemented ([Torre et al., 2021](#)). This should be complemented with education and training measures and with measures to take advantage of natural, social and cultural amenities, which can establish the bases for the creation of economic activities. Finally, digital connectivity is important as a factor to increase attractiveness to young and creative persons (although it is just a prerequisite as seen in previous chapters) ([Torre et al., 2021](#)).

Many countries have specific development programmes for rural areas but with very different approaches. For example, in the US and Australia the main interest has been the development of agricultural activities, more than rural areas. In China, which traditionally has a large rural population, an evolution took place from more centrally planned to more balanced approaches, even if the rural-urban divide of the registration remains ([Torre & Wallet, 2020](#)).¹³ The EU invests in rural areas in two ways. One is the traditional support to farming, farmers and agriculture in general, coming from the Common Agricultural Policy (CAP) which represents about one third of the EU budget and which is mostly concerned with the preservation of rural areas’ social, environmental and landscape qualities, as well as providing safe and affordable food to EU citizens.¹⁴ The regional economic development of rural areas (including the LEADER initiative) represents a minor but relevant share of these funds.¹⁵ Second, many rural areas are also targets of EU Cohesion Policy assistance, whose role is more explicitly developmental (the reader can refer to many previous parts of this book).

8.4 REGIONAL POLICY FOR BORDER REGIONS AND INTERREGIONAL COOPERATION

International borders are a human construct which has little to do with actual geography but comes from the organisation of the world into states. Borders determine a situation for regional development which needs to be addressed with specific policies; their presence, in fact, makes regional development more difficult for a number of reasons which have been studied in different phases.

First of all, it was evidenced that borders are an obstacle to trade, which implies that border regions will find it harder to trade with their counterparts in the other country. This demand-side effect reduces the markets for the products of all regions and especially for those closer to the border. Analysing the trade between regions with a gravitational model ([Box 8.1](#)), it is possible to see that the presence of a border decreases flows. This can be due to the existence of specific duties, which make buying goods from a different country more expensive. But even when duties are absent or negligible, along a border usually run many other types of obstacles which make trade more costly and decrease it. These obstacles may be of various natures, institutional, physical and sociocultural.

BOX 8.1 GRAVITATIONAL MODELS TO ESTIMATE INTERREGIONAL TRADE

A gravitational model, which is called as such because it is inspired by the theory of gravity of physics, considers trade flows (T_{ij}) between pairs of regions as a function of their regional economic sizes (their masses) and physical distance (the impedance). the masses can for example be expressed in terms of total regional gdp (Y_i, Y_j) and the distance (d) in km.

$$T_{ij} = \alpha Y_i^\gamma Y_j^\gamma / d^\gamma \quad \text{Equation 8.1}$$

Estimating with econometric techniques the relation of [equation 8.1](#), it is possible to estimate the values of parameters α and γ , and to verify that trade is normally larger between larger and closer regions. the model can be made more complex and realistic by accounting for other aspects such as regional characteristics and also used to measure the extent to which borders reduce trade levels between regions belonging to different countries, compared to a similar situation without a border.

Among the institutional obstacles, one can mention the currency, which is usually different apart from cases of monetary unions such as the Euro. A different currency necessitates the conversion of money and, since the exchange rates are not constant, entails a risk from the impossibility of

predicting with certitude the final price, so that it may be more convenient to trade with partners inside the same country. The legal system, which is different in different countries, can be another obstacle, since firms will need to respect different regulations if they want to trade, and to invest in order to first understand and then comply with foreign regulations.

Among the physical obstacles, borders usually run along natural ones, because they were easier to draw and defend, and therefore include mountains, rivers, lakes, seas and even deserts.

There also are sociocultural aspects, for example a different language, which necessitate costly translations and increases the risk of misunderstandings, and different customs, all which can lead to cognitive aspects. For example, there can be some additional diffidence in having commercial relationships with firms on the other side of the border, which is especially true when the two countries have an history of fighting and especially if the fighting is recent or if the two countries separated in a violent way.

The border obstacles, however, can also cause development delays from the supply side, since they make local firms less productive and competitive. This can be due to two effects which can cumulate their impact and can be labelled as ([Capello et al., 2018c](#)):

- Endowment needs, when the border regions suffer from an under-endowment of specific productive resources due to their peripheral location with respect to the country they belong to. With some exceptions, in fact, border regions are far from the core areas and the country's capital,¹⁶ mostly for geographical and historical reasons and, consequently, they suffer from peripherality and from a lower endowment of public investments.¹⁷
- Efficiency needs, when border regions suffer from inefficiencies in exploiting local resources, due to a limitation in the size of the market achieved by goods and services produced locally. Market limitations, in fact, prevent them from achieving economies of scale and economies of agglomeration, which make border firms less efficient.

Border obstacles, therefore, usually limit the presence of local growth assets and usually make regions less efficient in exploiting them. Some aspects are therefore common to all border regions. First, peripherality implies a low endowment of growth assets. Second, the internal assets are inefficiently used because of missed economies of scale due to a limited market size and the loss of synergies and complementarities between internal and external assets. Finally, the external assets (those present on the other side of the border) are also inefficiently used because of the obstacles in accessing them ([Capello et al., 2018b](#)).

Policy interventions need to be complex and customised because different obstacles (institutional, physical and socio/cultural) limit the exploitation of different growth assets ([Capello et al., 2018a](#)). Moreover, the steepest barriers are cultural, behavioural and social, rather than physical or institutional ([Capello et al., 2018c](#)); interventions in cultural, social and behavioural aspects are particularly difficult and require extensive times to be effective.

Many border regions, however, also suffer from situations which are not necessarily linked to the border. They are often characterised by a mountainous landscape, which implies higher transport and production costs (see section 8.3.2). They are often sparsely populated (see section 8.3.3) and characterised by demographic decline. Since they are far from the location of political power, they are often less influential on policy processes, receiving less public investments and therefore less endowed with public infrastructure and services.

The fact that a border region has lower endowments of growth factors does not necessarily mean that it is doomed to poverty; in fact, it can compensate the lower endowments with a more efficient use of resources, either internal ones or external ones, available on the other side of the border. Similarly, with additional endowment it is possible to compensate for inefficiencies, although this certainly requires high levels of public investment. Other studies also showed that being close to a border can be beneficial in various aspects. For example, border effects can affect positively urban development in terms of: specific border activities, scale and agglomeration economies, cross-border spillovers, gateway functions, economies of scope, regional identity and external branding ([Sohn & Licheron, 2018](#)).

Policies for border regions therefore normally intervene in the endowments and in the inefficiencies. Concerning the endowments, public investments often include funding for peripheral and border regions, where the endowment of public capital is insufficient. Specific investments can also target the endowments of all other territorial capital assets, such as private capital, human capital, social capital, etc. These policies, however, are not specifically different in border regions with respect to policies for other peripheral and lagging regions.

The inefficiencies coming from border regions are sometimes compensated by adopting, in these regions, different regimes, in terms of regulations and taxation. The policies which mostly characterise border regions are, however, policies of cooperation, because it is through cooperation that it is possible to overcome the limited endowments and the inefficiencies. For example, a border region can be lacking a certain asset which can be present in another region on the other side of the border and, at the same time, the latter region can be missing an asset which is present in the first region. In this case, by facilitating regional cooperation, the

economic agents present in both regions can take advantage of the assets of both regions and hence overcome the limited endowments of their own region.

For example, a region can be little endowed of infrastructure but on the other side of the border an international airport can be present, which could also be exploited by local firms and incoming tourists. Similarly, an hospital can be present on the other side of the border and it may be easier and more efficient to get an agreement for the use of this existing hospital rather than building a new one ([Leloup, 2021](#)).

In terms of the productive system, synergies can be exploited between the two sides of a border if policies facilitate cooperation between firms and the integration of labour markets. Intense input-output relationships between firms located across the border often spontaneously exist when there aren't large institutional obstacles. A decrease in these obstacles may facilitate this cooperation and hence allow a higher economic efficiency of the cross-border region as a whole. Similarly, it is possible that people living on one side of the border have the skills required by firms operating on the other side. If the possibility to work in the different country is allowed, this can be beneficial for both regions.

In general, successful cooperation between border regions can hence exploit both synergies and complementarities. There are synergies when the size of the single region is not enough to guarantee efficiency but there are other similar activities on the other side of the border which, considered together, can represent a large enough cluster, able to induce agglomeration economies. For example, tourism destinations close to the border can create a joint offer to achieve the required scale, think about joint and international ski areas which exist in the Alps. There are complementarities when different economic assets and activities are present on the two sides of the border which complement each other, so that what is needed by those on one side of the border is present on the other. For example, there are huge complementarities between Singapore and the areas of Malaysia and Indonesia most close to it, with the economy of Singapore being able to upgrade to higher-level functions thanks to the location of other activities towards Johor (Malaysia) and the Riau Islands (Indonesia), with these two areas benefiting and experiencing faster growth than their respective countries ([Hutchinson & Chong, 2016](#)).

The interventions for cross-border regions are of many different natures and, as outlined, aim at reducing the obstacles to cooperation. Some of these interventions can be of a mostly soft nature, such as the support to joint R&D projects between firms and universities on different sides of the border. The removal of administrative obstacles to the movement of people, workers and goods. The initiatives to build a common identity, the setup of joint cultural events or opportunities for people to know the other national cultures (e.g. the Museum Pass for the Upper Rhine, which provides free

access to dozens of museums in the bordering regions belonging to Germany, France and Switzerland).

Others can involve the establishment of infrastructure, for example building rails, roads and bridges over rivers which often delimit countries (e.g. the new Monoštor bridge over the Danube between Hungary and Slovakia, opened in 2020).

Finally, some projects can have a mixed nature, such as the coordination in establishing natural parks on the two sides (e.g. the Tejo/Tajo International Transboundary Biosphere Reserve, along river Tagus between Spain and Portugal).

Cross-border cooperation is not limited to pairs of regions on two sides of the border but can take larger scales with programmes involving many regions belonging to multiple countries. An example of this is provided by the European Union and its currently four macro-regional strategies, for the Baltic (EUSBSR established in 2009), the Danube (EUSDR established in 2010), the Adriatic and Ionian (EUSAIR established in 2014), and the Alps (EUSALP established in 2015). These aim to address common challenges faced in these areas, with the involvement of EU member states and non-member ones located in the same area, with the aim of strengthening cooperation and achieving improved economic, social and territorial cohesion.

8.5 REGIONAL POLICY FOR DIFFERENT LEVELS OF ECONOMIC DEVELOPMENT

Different levels of regional economic development require different types of interventions. The various instruments which have been described in [chapters 5](#) and [6](#) constitute the tools which are available to the policymaker, irrespective of the situation, but their actual implementation and the relative importance of each of them inside the policy mix depends on the specific situation of the target region.

Each region is different from the other and has its own specificities, but some trends tend to be common depending on the level of development. Lagging regions are characterised by low levels of economic development which in turn depend on a mix of low productivity and not enough jobs. In turn these depend on technological reasons and/or a low endowment of multiple territorial capital aspects. These types of regions usually require interventions in the basic endowments of territorial capital because, otherwise, the economy is unable to compete and to generate jobs. As was shown in the previous chapters, none of these basic assets is able to ensure development, but if they are missing, they act as bottlenecks which take a toll on firms and prevent regions from tapping their growth potential and

catching up with the richest ones. The message in this case is that it is not effective to invest in advanced growth assets where there are important gaps in the basic ones. Providing support to state-of-the-art base research when there is not a viable system of innovative firms to exploit it and not even roads to transport goods and qualified people for the jobs may lead to disappointing outcomes.

Intermediate regions usually already have the minimum levels of most territorial capital assets and can take advantage from filling some still existing gaps, focusing their interventions there. In intermediate regions it is also possible that the productive fabric is not performing well enough for structural reasons and hence policy strategies often involve supporting firms with interventions which make them able to cooperate among themselves, enter international networks, expand their presence in the international markets, or become more innovative through additional R&D investment.

The policy mix to be used clearly depends on the actual situation of the intermediate region, since regions can be at an intermediate level but, dynamically, be in three very different situations. There are regions which are intermediate because they started as lagging and are catching up with the advanced ones, there are intermediate regions which used to be advanced but, due to structure crisis, have fallen down and, finally, there are intermediate regions which are stuck in that position because they cannot take the next step ([Iammarino et al., 2019](#)). Policy interventions are therefore different and usually require understanding the regional economic structure and the extent to which it is adequate to take the leap towards more advanced wealth levels.

The most advanced regions are normally so because they are already rich in most territorial capital assets, have valuable productive fabric and an innovative economy. Policy interventions in this case often focus on softer aspects, such as advanced human capital which is necessary to remain innovative forerunners. And in social interventions which improve the quality of life for citizens but also, in the long run, make the region additionally competitive since they make it more attractive to creative people and provide the basis for improved social interactions which lead to creative innovation.

An analysis of the actual regional policy expenditure axes of the regions of the European Union shows that this is usually the case, since its lagging regions are generally investing in larger shares in the various types of infrastructure, intermediate regions in business support measures and finally advanced regions in human capital and social initiatives ([Figure 8.2](#)).

Regional policies, therefore, are not limited to weak regions, but advanced regions also benefit from them and usually implement them. Well-designed regional policies, in fact, can increase the growth rate of advanced regions too, and it is quite common to observe that the quality of regional policy programming and implementation in advanced regions is higher than in

poorer regions, due to better administrative capacities and the synergies with a better local production system, which can facilitate, for example, the entrepreneurial discovery process in smart specialisation strategies (sections 4.6.2 and 6.7.2).

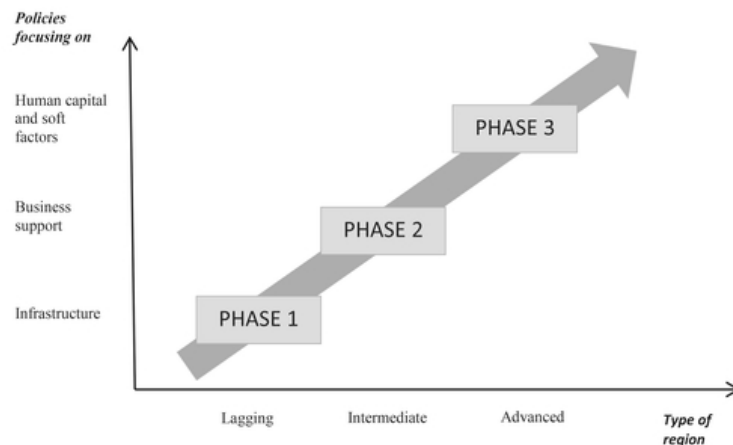


Figure 8.2 EU Cohesion Policy focus by level of development 2007–2013 source: [fratesi & perucca \(2017\)](#)

Furthermore, regional policy is needed in advanced regions to respond to the external challenges which can indent their status as wealthy ones. Global challenges are especially important, as the globalisation processes see the continuous emergence of new players and fierce competitors, especially from emerging economies, so that they need to renew their competitive assets to maintain their advantage. Since the world is running, slowing down allows others to catch up to advanced regions and for them to slip down towards intermediate levels and middle-income traps.

Furthermore, there may be internal imbalances inside strong regions, between people with income concentration and poverty, and between places, either the municipalities or even neighbourhoods inside the same city, which need to be addressed because social diseases tend to concentrate spatially and can lead to social injustice, long-run unsustainability and even turmoil.

In dealing with their challenges, apart from the usually higher than average administrative capacity, advanced regions have another advantage. While they usually receive little external funding, which is devoted to problem regions, they can levy more of their own resources from the local economic base, allowing endogenous policy choices and regional policies of type 1 (see [chapter 1](#)). Moreover, the wider economic base and the larger demand for advanced services allow the establishment of public-private-partnerships and project financing initiatives which permit investment in infrastructure and other forms of territorial assets with a limited use of public funds, while the local administration usually maintains the role of catalyst and steers the processes. This is made easier by the fact that, as seen in [chapter 4](#), there is feedback from local development to regional

administrative capacity due to supply and demand effects.

NOTES

1. [There](#) is no need to present here the basic principles of urban economics, for which many manuals have been published from the classics to more recent ones ([Richardson, 1971](#); [Camagni, 1992](#); [O'Sullivan, 2003](#); [McCann, 2013](#)). The chapter will focus instead on some specific urban aspects which are especially relevant to modern regional policy.
2. [On](#) the importance of global connectivity and local embeddedness see [Huang & Fan \(2021\)](#) and [Fratesi & Senn \(2009\)](#).
3. [See Duranton & Puga \(2020\)](#) for an extended treatment of the benefits and costs of density in cities.
4. [The](#) Spanish case, however, is mostly to be ascribed to institutional factors and, especially, to the growing societal divide in Barcelona which gave rise to negative externalities ([Rodriguez-Pose & Hardy, 2020](#)).
5. [Think](#) about Washington DC, in the US, Ottawa, in Canada, Bern, in Switzerland.
6. [Many](#) of the currently most important cities were born along rivers, where it was possible to cross them or to control the goods flows or be close to harbours to build ports, just to name the better known, London with the Thames, Paris with the Seine, Rome with the Tiber, New York with the Hudson, etc.
7. [See](#) the concept of yardstick competition in section 4.6.4 and in [Salmon \(2019\)](#).
8. [See](#) for example [Camagni \(1991\)](#).
9. [See \[www.agenziacoessione.gov.it/strategia-nazionale-aree-interne/?lang=en\]\(http://www.agenziacoessione.gov.it/strategia-nazionale-aree-interne/?lang=en\)](#), last accessed in July 2022.
10. [The](#) mechanisms by which knowledge diffusion from core regions is possible are manyfold. An interesting analysis of two cases of exogenous path development can be read in [Isaksen & Trippl \(2017\)](#).
11. [Those](#) with a GDP per capita in PPS below 75% of the EU average (see Box 1.3).
12. [A](#) reader who is specifically interested in rural areas can refer to [Torre & Wallet \(2016\)](#) and [De Souza \(2017\)](#).
13. [The](#) article reports detailed information on five cases, US and Australia, China, Europe, Brazil and Japan, for readers with specific interest.

14. [The](#) stated objectives are: ‘ ‘ support farmers and improve agricultural productivity, ensuring a stable supply of affordable food; safeguard European Union farmers to make a reasonable living; help tackle climate change and the sustainable management of natural resources; maintain rural areas and landscapes across the EU; keep the rural economy alive by promoting jobs in farming, agri-food industries and associated sectors’. Source: https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agriculturalpolicy/cap-glance_en. Last accessed July 2022.
15. [See Aubert et al. \(2022\)](#) for a recent assessment of LEADER initiatives.
16. [One](#) notable exception in this sense is Wien, the capital of Austria which is very close to the border with Slovakia (including its capital Bratislava) and Hungary, due to the dismembering of the Habsburg empire after the first world war.
17. [It](#) also seems that the effects of peripherality can be more sizeable than that of border ([Fantechi & Fratesi, 2023](#)).

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CHAPTER 9

Conclusions: established trends in regional policy

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This book has so far been deliberately analytical in its approach to regional policy. Wanting to deliver a bias-free account of regional policy and the related issues, it has addressed the various topics in a neutral way, by showing the advantages and the disadvantages of each aspect and by discussing them without neglecting counterbalances and contraindications. The various types of interventions and the logic behind them have been presented impartially, aware that there is not a one-size-fits-all recipe for regional policy.

There are, however, some ideas on which there is a general consensus, or at least a prevailing orientation in academic and policy thinking. This concluding chapter aims to present these trends, both the consolidated ones and the more recent ones. What will emerge in these last pages, therefore, is a synthetic account of some important beliefs which policy practice and academic research have arrived at in the last decades. Concentrating on it alone in the previous chapters would have made little sense, as the purpose was to allow the reader to develop critical thinking about the issues, in order to be able to analyse and intervene in different situations. Recapping here the prevailing orientations, however, is valuable insofar it provides a synthetic state of the art.

The starting point is that many different situations exist in which **regional policy is needed**. In a significant number of cases, it is not enough to rely on market and spontaneous adjustment mechanisms to solve the various socioeconomic drawbacks that exist in space, but intervention may improve things in multiple situations, especially when there are market or institutional failures. The fact is that the regional level is of paramount importance in a large majority of socioeconomic development processes, and this is increasingly recognised by scholars of different disciplines and social sciences, including those not concerned with space. Many differentials and local specificities exist, and these usually change slowly, and not necessarily in a desirable direction. In particular, there are many issues which arise at a spatial scale, for which spatialised interventions are the only effective solution. Moreover, there are many situations in which the targets are direct at people – i.e. the citizens, their opportunities and their well-being – which are better addressed with policies for places instead of policies for people or instead of macro policies acting uniformly at the national level, think about unemployment pockets, school dropout rates, etc.

The issue is therefore how to **make a better life for people** living in a certain place, without forcing them to leave in search for better opportunities, while still allowing relocation to those who want it. In this

way, regional policy is also a way to preserve the specificities of different places which still constitute a richness in an increasingly globalised world, preserving the diversity of cultures and providing more resilience through socioeconomic diversification. It is in fact true that the world is much more mobile than in the past, as the large flows of goods and services, capital, people, knowledge and ideas show, but places still matter. Just as examples, there are the local determinants of multinational location, the local factors affecting firm competitiveness, the innovation ecosystems, the different opportunities available to people born and raised in different places, the so called “revenge of places which don’t matter”, etc.¹ Related to that there is spatial sorting, by which, for example, educated people move to where other educated people are, which can leave behind other people and worsen the situation of certain places, with consequent underutilisation of resources and sociopolitical turmoil. Consequently, regional policies still matter, because **places are important**.

In addition, regional policies can be, as seen in [chapters 2](#) and [3](#):

- A way to reduce disparities between people when there are localised issues, and to provide everyone similar opportunities, so that individual outcomes are the same for the same levels of effort and ability.
- A way to avoid the additional costs and inefficiencies coming from having to relocate public services following people’s migration.
- A way to avoid the disintegration of consolidated social fabrics, making it a better quality of life.²
- A way to preserve natural, semi-natural and urban-built environments.
- A way to defend the diversity of human contexts, as well as biodiversity and geodiversity, to avoid the homologation of the world into one flat land characterised by the same shopping malls everywhere.
- A way to exploit the various potentials of people and places. Even though they may be different in extent, some potential for self-realisation and societal contribution exists in everybody, and every place has some potential to tap to improve the society and the economy.³

To counterbalance that, however, it is also true that **intervention is not always needed**, as there are cases in which it is better to rely on spontaneous mechanisms which may be less costly and more effective. These are the cases in which it is not the market which fails but in which it is policy to interfere with equilibrating forces, as well as those cases in which interventions are too complex or too costly to be put in place. Or, finally, the situations in which policy interventions are at high risk of unintended detrimental consequences.⁴

And, while there are many places and situations in which regional policy is fruitful to be implemented, there are many other situations in which **non-regional types of interventions may be better suited to solve societal issues**, referring here to the instances of physical planning, macroeconomic policies, monetary policies, labour market policies, innovation policies, etc., which can improve system efficiency enlarging the resources available to rich and poor areas alike.

Actually, it is also true that local and global phenomena are active at the same time and therefore regional policy ought in most cases be applied and coordinated with these different types of intervention. This is especially true because the policy interventions of non-regional policies will often have unintended spatial effects which may concur with and offset those of regional policy.⁵ The **concurring effects of different policies** are hence a very common phenomenon which requires a holistic view of policymaking to avoid being disappointed by policy outcomes.

As already mentioned in [chapter 1](#), **informed choices** are essential to successful regional policy, since in almost all cases some valid principles and objectives have to be tempered with other valid principles and objectives. There is almost always the need to make political choices between alternatives, to sacrifice something in favour of something else, and to be transparent about the political values which drive them. The common real stance – running throughout the book – has been that **trade-offs exist in most cases**, and should not be neglected, instead they must be navigated with the objective of finding a good equilibrium between different and conflicting objectives, an equilibrium which is not always the same but needs to be the most appropriate to a given region. In this sense, the optimistic idea that place-based policies, being based on place potentials, would be able to avoid the traditional trade-off between equity and efficiency collided with the evidence of the different reactions of places to the many challenges of the last decades.

At this point, some **regional policy myths have to be debunked**, of which the first one is that regional policies need to be win-win. Valuable regional policy interventions exist even when some people, constituencies or places don't benefit from them. It is possible, in fact, that the benefits to disadvantaged communities, or to the aggregate society, overcome the socioeconomic costs to some constituencies. However, this is not always the case, so policy choices involving costs need to be transparent and, in some cases, adequate compensations need to be set. Related to that, is the myth that policies should be able to pursue all objectives at the same time. This is impossible in the real world, and **priorities** need to be set if the policymaker wants to avoid falling short of achieving any of too many different and often conflicting objectives.⁶ Another false myth is that regional policies need to be effective fast. On the contrary, the spatial situations in the society and the economy are usually significantly entrenched, so that intervening needs to

consider **an adequate timeframe** for the intervention results to be achieved. It often takes a consistent policy approach over many years for the effects of a policy to fully materialise, while fast fixes normally do not exist and, when they do, they are often short-lived.

The theories of economic geography have shown that **thresholds** are a common phenomenon and that no effects can be achieved without overcoming these thresholds. This comes from the existence of multiple equilibria and self-reinforcing mechanisms, by which an economy cannot move out of a stable equilibrium unless the shock is sizeable enough. Moreover, a critical mass normally has to be achieved for an intervention to be successful. This also implies that, when policies are successful, their **effects are often non-linear** so that the policymaker should never assume a simple correspondence between effort and result. The need for time, and the existence of thresholds and non-linearities does not reduce the need for ongoing **evaluation**, otherwise policies risk being implemented for purely political purposes, while assessment can help, *in itinere*, understand if the direction is right and steer the policy if needed, while, *ex post*, making policymakers accountable and letting new improved policy cycles start.⁷

Coming to the way in which policy interventions actually have to be implemented, the first commonly agreed lesson is that **regional policies have to be place-specific**.⁸ The strategies have to be tailored to the place in which they are executed. For many of the present-day policies, e.g. those based on knowledge and innovation, such as S3 and ecosystems, being place-specific is within their essence. Other, more traditional, policy interventions, also require being adapted to the local specificities in a place-based framework, which does not mean just doing what local constituencies ask for, since local interest groups might be rent-seeking or lacking all necessary information.

It is therefore important to observe that **the same policy interventions don't work for every region**. This depends on the fact that the many components of territorial capital, those who contribute to regional development in the long run, have to integrate among themselves to provide their positive effects on growth.⁹ Policy interventions complementary to the local assets are more effective than those focusing on unrelated aspects trying to establish new paths from scratch. Similarly, regions can benefit from policies which target their own specificities, by leveraging the local assets, and addressing their weaknesses. A lesson to keep in mind is therefore that of **complementarity**: those expenses that are complementary to the economic structure of the territories are more effective in inducing growth.

Regional policy strategies do not just need to be place-specific but also **time- and situation-specific**. Regions are not monads, are inserted in their nation and in their global economy. The macroeconomic context in which regional policies are implemented is able to increase or decrease their

effectiveness. And this is also valid in terms of timing, because the same policy approach, implemented in a different phase of the cycle, can provide different results, for example depending on whether there is a recession or an expansion, a crisis and the origin of the crisis (demand, supply, at national or global level, etc.), and the presence of unused resources in the region and in the rest of the economy.¹⁰

Related to places, one commonly agreed issue is that **the settlement structure of regions matters** in terms of regional development and effective policy interventions.¹¹ Cities, in particular, are fundamental as loci where many positive development circles concentrate, so there is the need to take advantage of their assets but also to balance the growth and dynamics of large cities (for many countries, capital ones in particular) with measures ensuring that growth spreads to the rest of the country and is not absorbed from it. This does not mean that rural and peripheral areas are unimportant or doomed. They are not deprived of opportunities, especially considering some international political and economic tendencies such as those towards green and digital transformations, but in many cases these potentials need to be nurtured with adequate policies to avoid these regions depopulating and the local people feel abandoned by the wider national community.

Then there is the lesson of **systematicity**. We have seen how territorial economic development works well when the system as a whole is strong and there are sufficient capacities in the various elements that integrate in a balanced way among themselves. In this case it will be a question of carrying out systemic interventions because, for example, it is useless to invest in education if there are no companies looking for those skills and qualified young people will leave. It is therefore important to act through **integrated strategies** so that the various instruments are complementary. Evidence supports the larger impact of policy bundles – especially if they are internally consistent and adaptive. The approach to regional policy has hence to be a strategic one, with attention to the complementarity of the different elements of regional development and to the various policy instruments, and to the interaction between different types of policies.¹² In particular, it seems more effective to integrate hard and soft measures, including, among the former, infrastructure, the reuse and development of urban areas, physical capital investment, transport and energy networks, environmental infrastructure, etc. and, among the latter, human capital, social capital, networks of firms, people and innovation, public and private services, cooperation assistance, etc. In particular, **human capital is a catalyst** to the effectiveness of most regional policy interventions.¹³

A specific issue has to be mentioned about infrastructure, which is traditionally the most commonly mentioned aspect when it comes to public investment. It was at the core of regional policy thought decades ago, but nowadays still represents one of the largest expenditure chapters. Evidence has shown that only in certain cases has infrastructure succeeded in

producing territorial growth. The problem is that **infrastructure must respond to the needs of territories** in a systemic way, otherwise the risk is that it is underutilised and therefore, in fact, only serves to provide additional public expenditure during the construction period. Investments in infrastructure will hence be useful in all those cases in which they resolve existing bottlenecks and when they are complementary to the productive vocations of the areas in which they will be built.

The lesson of **embeddedness** indicates that the more effective interventions are those embedded in the local socioeconomic fabric. For example, those in favour of enterprises are more effective when these enterprises are rooted in the production system of the territory, because companies are not isolated agents but interact with other companies and local agents. If regional policy funds support companies (and technologies) that are part of a locally embedded system, there will be a multiplier effect in the region, otherwise it will be elsewhere and it will be a wasted opportunity.

Embeddedness also includes local people. It is important to **involve local communities**¹⁴ because in this way civil society can support and “**own**” the policy interventions. Local people and communities can bring a vision to the local issues which the policymakers may lack. Moreover, people are human beings, not algorithms, so cognitive aspects are crucial in the ways they react to policy stimuli, which means that successful policies will be able to find the right balance between regulating and stimulating which allows control of the processes and ownership by those who are affected.¹⁵ In particular, the design of incentives should be a careful one, if they are to really induce action.¹⁶

The collaboration of different types of actors at different levels is now commonly considered essential. Establishing the right **multilevel governance** scheme is important to allow each level to bring its own advantages and complement them with those by the other levels. For instance, central governments often bring financial resources and competences which are not available to the local ones, while the local governments provide better knowledge of the place and the ability to better embed the interventions. Finally, firms, citizens and civil society organisations, being stakeholders or beneficiaries, will be able to steer the process from below and to make it effective by buying into it, or derail it if opposed.¹⁷

For this reason, the **additionality** issue should not be forgotten. Many regional policy interventions, such as those of the European Structural Funds, are intended to be additional to already existing investments but the risk is that, when some financial resources are found to target regions, other resources are diverted, sometimes by even diverting investment budgets towards current expenses. It is important to avoid this if results need to be obtained. In fact if, as seen above, the impact of regional policy has to be lasting and not limited to the years in which the funds are there, these funds

have to be mostly considered as **investment opportunities**, in order to trigger development dynamics. Many past cases of regional policy interventions showed instead that they have been conceived as too similar to transfers, but these did not consequently have lasting effects. On the contrary, investment in territorial resources, both its tangible and intangible elements, if well-tailored on the region, have had long-term effects and should be preferred.

Alongside embeddedness, policymakers need to consider also that **openness and connectivity are important**, although sometimes forgotten. No region is able to develop by itself, not even the most advanced ones. Too many assets are not present inside a region, and need to be accessed from elsewhere in the world. Technology and information, services, intermediate goods, competences, cannot be developed internally in all their facets and need to come from international networks.

Successful regional policies hence need to **find the right mix** of openness and embeddedness. And in many other cases an equilibrium is needed between alternatives, each of them having some advantages: between strategic interventions and flexibility, between large and small investments, between concentration and diffusion of measures, between simplification and control, between continuity and discontinuity, etc. The best equilibrium will also depend on values and objectives.

In all cases there is a transversal issue which has found attention because it is a paramount determinant of policy success. Regional **administrative capacity is key** to any policy intervention, since it allows regions to select better projects, to better implement them and to learn from past experiences to that future interventions will be even better.¹⁸ Administrative and institutional capacity is usually stimulated by a strong socioeconomic regional context which demands more from its administrations, but can also be stimulated by specific policy interventions, including interventions on the training and qualification of workforces and initiatives of policy learning, by which different regions and different administrations share experiences and allows each to improve itself guided by the successes and failures of the others.¹⁹

Key is in this sense to **develop a culture of transparency and evaluation**, because evaluation, in the different phases of policy cycle, can make a difference and improve policy design and implementation, so that better results are achieved.²⁰ Evaluation should hence be pervasive and impartial, with the purpose of producing better policies and not be considered a way to punish when, inevitably, something does not go as expected.

In conclusion to this short chapter, it has to be remembered that **many types of regional policy exist**, which have to be assessed on their own different objectives. Before saying that one is a “good” regional policy, one should ask “good for what?”. For instance, it is good to overcome trade-offs

such as the one between equity and efficiency, but worthwhile policies exist even with the trade-off. Moreover, effectiveness is a necessary but not sufficient condition for the implementation of regional policies, since the achieved effects might not be those which are most needed by the region in that specific situation. Similarly, having an efficient implementation is not a sufficient condition for the implementation of regional policies. Efficiency does not guarantee the achievement of policy objectives, and in some cases some redundancy might even be better, especially in case there is a threshold to overcome.

Finally, most current approaches investigate how to “improve” regional policy. They are helpful but also limited, insofar they take a partial equilibrium approach, in which the current situation is improved by making incremental changes. Sometimes, by **looking outside the box** new results might be obtained which require completely new thinking and approaches and, in this way, it is possible to escape the search of local maxima to seek global ones. For instance, regional policy research is still too separate from that of national and international policies and the study of regional systems too often takes place for given external conditions. All this puts further pressure also on research, as further analysis is needed to understand when regional policy has to be applied and which intervention is most appropriate to which situation. Further research is hence also needed to target the relationship between regional needs and policy responses.

NOTES

1. [All](#) these topics have been addressed in chapters 2, 3, 4, 5, and 6 of the book.
2. [Quality](#) of life has always been one important objective of regional policies, as seen in chapter 3.
3. [Refer](#) here specifically to section 2.11.
4. [Refer](#) here in particular to chapters 2 and 4.
5. [See](#) chapter 2.
6. [Chapter](#) 3 in particular elaborated on many of these trade-offs between different objectives.
7. [See](#) in particular section 4.2 on the options at the end of a policy cycle.
8. [Chapter](#) 8 illustrates some among the most important specificities.
9. [See](#) section 3.7.4.
10. [See](#) in particular sections 7.8.3 and 7.9.2.
11. [See](#) in particular sections 8.2 and 8.3.
12. [See](#) section 4.7.
13. [See](#) sections 3.7.5 and 5.11.

14. [See](#) section 4.5.
15. [See](#) Box 4.1, sections 4.5.3 and 4.7.
16. [See](#) in particular section 5.3 and Box 5.1.
17. [See](#) section 4.5.
18. [See](#) section 4.6.
19. [See](#) in particular sections 4.6.3 and 4.6.4.
20. [See](#) chapter 7.

Index

- accountability [34–5](#), [117](#), [162](#), [164](#), [175–178](#), [181](#), [186](#), [215](#), [231](#), [302](#), [320](#), [373](#)
- actors [1](#), [9](#), [26](#), [34](#), [39](#), [40](#), [42](#), [59](#), [62](#), [80](#), [83](#), [133](#), [151](#), [154–156](#), [159](#), [165](#), [167](#), [169–172](#), [180](#), [182](#), [184](#), [187–8](#), [201](#), [206](#), [236](#), [266](#), [270–277](#), [280](#), [285](#), [289](#), [327–8](#), [356](#), [375](#)
- advanced regions [72](#), [114–5](#), [121](#), [131](#), [137](#), [180](#), [197](#), [270](#), [290](#), [327](#), [356](#), [365–6](#)
- adverse selection [162](#)
- advisors [13](#), [47–51](#), [153](#), [156](#), [188](#)
- agglomeration [1](#), [8](#), [27](#), [33](#), [38–9](#), [46](#), [53](#), [58](#), [62–71](#), [74–5](#), [79](#), [80](#), [82–3](#), [87–8](#), [114–116](#), [126](#), [133–135](#), [141](#), [199](#), [203](#), [206](#), [209](#), [211–2](#), [217](#), [223](#), [227](#), [241](#), [247](#), [283](#), [285](#), [293](#), [327–329](#), [335](#), [346](#), [350](#), [352–3](#), [356–359](#), [363–4](#)
- aging (of population) [6](#), [136–7](#), [265](#), [358–9](#)
- agriculture [23](#), [46](#), [53](#), [117](#), [119](#), [229](#), [239](#), [242–3](#), [245](#), [258–9](#), [264](#), [292](#), [309](#), [356–360](#), [367](#)
- anticipation [327](#)
- appropriability [35](#), [262](#), [266](#), [271](#)
- architecture [84](#), [236](#), [239](#), [245](#), [350](#)
- assessment [6](#), [8](#), [42](#), [110](#), [112](#), [151](#), [153–4](#), [167](#), [174](#), [182](#), [233](#), [246](#), [285](#), [301–307](#), [311–2](#), [316–7](#), [323](#), [333–336](#), [367](#), [373](#)
- assets [1](#), [24](#), [27](#), [38](#), [40](#), [69](#), [82](#), [94](#), [107](#), [110](#), [116](#), [121](#), [127–131](#), [140](#), [185](#), [195](#), [199](#), [217–219](#), [243](#), [246–7](#), [268](#), [281–2](#), [286–7](#), [335](#), [345–6](#), [349–351](#), [356–359](#), [362–366](#), [374](#), [376](#)
- asymmetric information [151](#), [161–2](#)
- attractiveness [121](#), [131](#), [204](#), [207](#), [218](#), [235](#), [237](#), [242–3](#), [268](#), [357–359](#), [365](#)
- banks [14](#), [30–1](#), [38](#), [76](#), [161](#), [178](#), [183](#), [191](#), [200](#), [211](#), [216](#), [219–221](#), [279](#)
- behavioural aspects [4](#), [9](#), [26](#), [37](#), [40–1](#), [61–2](#), [109](#), [118](#), [139](#), [151](#), [159–164](#), [183](#), [191](#), [201–2](#), [212–3](#), [219](#), [222](#), [229](#), [230](#), [239](#), [246–7](#), [261–264](#), [268](#), [288](#), [313–4](#), [316](#), [325–328](#), [336](#), [347](#), [362](#)
- beneficiaries [25](#), [36](#), [156–158](#), [161–2](#), [174–5](#), [177](#), [180](#), [182](#), [189](#), [190](#), [208](#), [218](#), [232](#), [245](#), [318–320](#), [327](#), [336–7](#), [375](#)
- biases [34](#), [137](#), [159](#), [160](#), [162](#), [164](#), [178](#), [235](#), [311](#), [318](#), [322](#), [328](#)
- border regions [9](#), [14](#), [17](#), [43](#), [197](#), [225](#), [287](#), [326–329](#), [345–6](#), [361–364](#), [367](#)
- bottom-up policies [21](#), [26](#), [164](#), [167–169](#), [282](#), [287](#), [293](#), [313](#), [319](#)
- bounded rationality [159](#), [160](#), [183](#), [261–2](#), [292](#)
- brain drain [133](#), [137](#), [234–5](#)
- branding [208–9](#), [245–6](#), [346](#), [350](#), [363](#)
- Brexit [85](#)
- capacity (administrative) [27–8](#), [92](#), [107](#), [109](#), [117](#), [151](#), [155](#), [159](#), [160](#), [163](#), [169](#), [170](#), [176–178](#), [180–184](#), [189–191](#), [195](#), [197](#), [204](#), [214](#), [216](#), [224](#), [231](#), [241–2](#), [270–275](#), [286](#), [290–1](#), [314](#), [320](#), [325](#), [366–7](#), [374](#), [376](#)

capital [1](#), [14](#), [41](#), [65](#), [71](#), [73](#), [77](#), [80](#), [85](#), [87](#), [99](#), [101](#), [103](#), [115](#), [120–1](#), [124](#),
[127–133](#), [137](#), [178](#), [198](#), [200–1](#), [205–207](#), [209–221](#), [224](#), [230](#), [231–235](#),
[241](#), [257–259](#), [265](#), [275–6](#), [290](#), [292](#), [308](#), [333](#), [346](#), [348–9](#), [354–359](#),
[362–3](#), [365](#), [367](#), [372–375](#)

capital regions [178](#), [197](#), [349](#)

centrality [14](#), [16](#), [26](#), [30](#), [32](#), [37](#), [39](#), [42](#), [69](#), [70](#), [76](#), [83–4](#), [130](#), [158](#), [166–](#)
[171](#), [175](#), [190](#), [197](#), [199](#), [200](#), [209](#), [210](#), [217–8](#), [232](#), [244](#), [257](#), [277–8](#),
[281](#), [288](#), [335](#), [345](#), [353–4](#), [359](#), [375](#)

cities [9](#), [16–18](#), [25](#), [31–2](#), [38](#), [43](#), [65](#), [69–71](#), [80–84](#), [88](#), [99](#), [103](#), [107](#), [113–](#)
[120](#), [126–7](#), [133–136](#), [139](#), [141](#), [183](#), [197](#), [213–4](#), [217](#), [219](#), [223–4](#), [227](#),
[232](#), [236](#), [238](#), [242](#), [244](#), [246](#), [261](#), [268](#), [276–7](#), [279](#), [290](#), [331](#), [335](#),
[345–353](#), [355](#), [357–359](#), [366–7](#), [374](#)

city size [65](#), [135](#), [141](#), [347](#), [352](#)

civil society [42](#), [162](#), [169](#), [174–5](#), [188](#), [275](#), [289](#), [375](#)

climate [43](#), [53](#), [83–4](#), [116–119](#), [138](#), [198](#), [240–1](#), [243–4](#), [356](#), [358](#), [360](#), [367](#)

clusters [2](#), [66](#), [125](#), [209–212](#), [216–218](#), [247](#), [261](#), [270](#), [272](#), [275](#), [287](#), [289](#),
[327–329](#), [349](#), [364](#)

cohesion [1](#), [3](#), [4](#), [9](#), [19–21](#), [25](#), [33](#), [36–7](#), [42–44](#), [53](#), [68–9](#), [74](#), [85–6](#), [94](#),
[101](#), [103](#), [113–4](#), [119](#), [140](#), [158](#), [172–3](#), [175](#), [177](#), [188](#), [208](#), [229](#), [233](#),
[237](#), [305](#), [310–312](#), [325](#), [327](#), [336](#), [351](#), [354](#), [357](#), [359–361](#), [366](#)

cohesion fund [43](#), [74](#), [208](#), [229](#)

collaborations [28](#), [32](#), [64–5](#), [103](#), [165–6](#), [169](#), [171](#), [175](#), [206](#), [218](#), [231–2](#),
[245](#), [257](#), [271–2](#), [274](#), [276](#), [278–9](#), [375](#)

collaborative instruments [257](#), [274](#)

collective action [58](#), [62](#), [165](#)

collective resources and commons [58–9](#), [139](#)

comparative advantage [58](#), [74](#)

competences [30](#), [80](#), [109](#), [169](#), [175](#), [180](#), [182](#), [185](#), [200](#), [227](#), [230](#), [233–4](#),
[241](#), [244](#), [286](#), [346–7](#), [375–6](#)

competition [30](#), [106](#), [109](#), [122](#), [158](#), [169](#), [183](#), [200–1](#), [204–5](#), [215](#), [225](#), [241](#),
[246–7](#), [263](#), [265](#), [274](#), [281](#), [327–8](#), [350](#), [352–3](#), [367](#)

competitiveness [1](#), [9](#), [24](#), [27](#), [33](#), [40–1](#), [71–2](#), [74–5](#), [92](#), [102–3](#), [105–110](#),
[113–4](#), [123](#), [127](#), [130–1](#), [180](#), [210](#), [212](#), [217–8](#), [222](#), [224](#), [228](#), [231](#), [234](#),
[271](#), [278](#), [287](#), [290–1](#), [315](#), [318](#), [327](#), [336](#), [349](#), [350](#), [372](#)

complementarities [7](#), [49](#), [50](#), [53](#), [57](#), [62](#), [77](#), [98](#), [107](#), [130](#), [132](#), [139](#), [195](#),
[199](#), [207–8](#), [215](#), [218–9](#), [224](#), [237](#), [243](#), [261](#), [272–3](#), [280](#), [282](#), [285](#), [287](#),
[310](#), [318](#), [327](#), [337](#), [351](#), [362–364](#), [374–5](#)

concentration [1](#), [23](#), [37](#), [68–9](#), [73](#), [83](#), [103](#), [110](#), [114–116](#), [124](#), [135](#), [189](#),
[203](#), [211](#), [216–218](#), [244](#), [266–7](#), [277](#), [287](#), [353](#), [366](#), [376](#)

congestion [58–9](#), [69–71](#), [79](#), [80](#), [82–3](#), [86](#), [94](#), [103](#), [114–116](#), [120](#), [133–135](#),
[206](#), [218](#), [224–5](#), [239](#), [310](#), [328](#), [331](#), [351–2](#), [359](#)

connectivity [59](#), [71](#), [177](#), [186](#), [205](#), [210](#), [214](#), [225](#), [227–229](#), [290](#), [346](#), [353–](#)
[4](#), [358](#), [360](#), [367](#), [376](#)

context [5](#), [7](#), [13](#), [15–6](#), [27](#), [34](#), [39](#), [58](#), [87](#), [96](#), [98](#), [106](#), [109](#), [115](#), [119](#), [132](#),
[152](#), [154](#), [157](#), [165](#), [167](#), [169](#), [171](#), [175–6](#), [181](#), [184](#), [186](#), [195](#), [205](#),
[207–209](#), [211](#), [246–7](#), [264](#), [271](#), [273](#), [275](#), [287–8](#), [301–303](#), [305](#), [314–](#)
[316](#), [319](#), [323](#), [326–328](#), [333–335](#), [337](#), [345](#), [350](#), [372](#), [374](#), [376](#)

control [14–5](#), [19](#), [31](#), [34](#), [46](#), [53](#), [79](#), [164](#), [176](#), [178](#), [189](#), [190](#), [199](#), [205–207](#), [225](#), [311](#), [320–1](#), [323](#), [325–6](#), [350](#), [367](#), [375–6](#)

convergence [25](#), [40](#), [95–6](#), [101](#), [103](#), [132](#), [140](#), [211](#), [259](#), [269](#), [292](#), [319](#), [321](#), [336–7](#)

coordination [24](#), [58](#), [62](#), [69](#), [73](#), [167](#), [169–172](#), [176](#), [195](#), [201](#), [276](#), [289](#), [291](#), [334](#), [347](#), [351–2](#), [354](#), [358](#), [364](#), [372](#)

cost–benefit analysis [307](#), [310–1](#), [331](#)

counterfactuals [213](#), [305](#), [316](#), [319](#), [321–323](#), [325–6](#)

country/national level [1](#), [3](#), [6](#), [7](#), [13–18](#), [20–1](#), [23–26](#), [29](#), [30](#), [32](#), [34](#), [37–8](#), [42–3](#), [48](#), [52–3](#), [59](#), [66](#), [68](#), [71–77](#), [79](#), [80](#), [82–3](#), [86–7](#), [95–6](#), [98–9](#), [101](#), [103–4](#), [106](#), [111–114](#), [116–7](#), [121](#), [124–126](#), [131–2](#), [136–138](#), [140](#), [161](#), [166](#), [168](#), [170](#), [172–3](#), [176–178](#), [180–1](#), [183](#), [196–7](#), [199](#), [200](#), [203](#), [205–212](#), [214](#), [217](#), [220](#), [222](#), [227](#), [233](#), [235](#), [241](#), [243–245](#), [247–8](#), [258–9](#), [266](#), [268–271](#), [275–6](#), [278](#), [281](#), [289](#), [290](#), [293](#), [309](#), [311](#), [313](#), [319](#), [328](#), [345](#), [348–9](#), [352–355](#), [357](#), [359–364](#), [374](#)

creative destruction [122](#), [262](#)

creativity [17](#), [107](#), [121–2](#), [136–7](#), [227](#), [231](#), [236–7](#), [244](#), [248](#), [259](#), [262](#), [265](#), [270](#), [290–1](#), [346–7](#), [350–1](#), [356](#), [360](#), [365](#)

crowding out [201](#), [240](#), [243](#), [328](#)

culture and cultural heritage [15](#), [38](#), [66](#), [107](#), [110](#), [120](#), [131](#), [138–9](#), [184](#), [207](#), [215](#), [230–1](#), [235–239](#), [241–244](#), [248](#), [274](#), [277–8](#), [291](#), [346](#), [350–1](#), [355](#), [357](#), [359](#), [360](#), [362](#), [364](#), [376](#)

cumulative causation [71](#), [327](#)

cumulative development [58](#), [71](#)

cycles [8](#), [57](#), [105](#), [151–153](#), [180](#), [191](#), [199](#), [261](#), [265](#), [291](#), [302](#), [320](#), [327](#), [374](#)

decline [88](#), [103](#), [105](#), [131–2](#), [217](#), [333](#), [336](#), [354–5](#), [363](#)

decoupling [138–9](#), [293](#)

degrowth [138–9](#), [141](#)

Delphi [312](#)

demand instruments [272](#), [280–1](#)

demography [24](#), [71](#), [135–6](#), [345](#), [354–5](#), [358–9](#), [363](#)

desertification [87](#), [106](#), [117](#), [131](#), [229](#)

development [1](#), [3](#), [4](#), [6](#), [7](#), [9](#), [13–16](#), [18–21](#), [23–4](#), [26](#), [28–30](#), [32](#), [34](#), [38–43](#), [46](#), [53](#), [60](#), [68](#), [71–2](#), [74](#), [80](#), [82–3](#), [87](#), [95](#), [99](#), [101](#), [103–4](#), [110](#), [113–117](#), [121](#), [127](#), [130](#), [136–138](#), [140](#), [151](#), [164–168](#), [170–1](#), [176–7](#), [180–1](#), [187–189](#), [191](#), [195–6](#), [198–201](#), [203–206](#), [208–211](#), [214–5](#), [217](#), [219](#), [220](#), [224–5](#), [227](#), [229–234](#), [236–238](#), [240–245](#), [247–8](#), [261](#), [263](#), [270–273](#), [279](#), [284–5](#), [287](#), [289–291](#), [293](#), [302](#), [311](#), [316](#), [327–8](#), [335–6](#), [345–6](#), [349–358](#), [360–367](#), [371](#), [374–376](#)

directionality [62](#), [87](#)

disparities [1](#), [10](#), [19](#), [20](#), [27](#), [33](#), [37–8](#), [42–3](#), [48](#), [53](#), [68–9](#), [72–3](#), [75](#), [79](#), [81](#), [91–101](#), [103](#), [110](#), [113–115](#), [120](#), [131](#), [139](#), [140](#), [173](#), [197](#), [210](#), [212](#), [223](#), [266](#), [311](#), [352](#), [372](#)

dispersion [95](#), [97](#), [114](#), [140](#)

displacement [28](#), [204](#), [206](#), [237](#)

distributive growth [29](#), [41](#), [111](#), [313](#)
districts [66](#), [84](#), [125–6](#), [133](#), [172](#), [216–7](#), [293](#), [331](#), [349](#)
diversification [66](#), [123–126](#), [189](#), [214](#), [242](#), [261](#), [279](#), [282](#), [287](#), [293](#), [318](#),
[347](#), [360](#), [372](#)
Do No Significant Harm (DNSH) [118](#)
dualism [99](#), [355](#)
Dutch disease [240](#), [243](#), [248](#)

economies of agglomeration [33](#), [46](#), [58](#), [62–64](#), [66–69](#), [75](#), [88](#), [115](#), [125–6](#),
[133](#), [199](#), [207](#), [209](#), [211](#), [223](#), [241](#), [346](#), [348](#), [350](#), [356–7](#), [359](#), [362–364](#)
economies of localisation [63–4](#), [66](#), [69](#), [125](#), [216–7](#), [328](#), [347](#)
economies of scale [38](#), [60](#), [63](#), [66](#), [69](#), [125–6](#), [172](#), [199](#), [211](#), [223](#), [239](#), [242](#),
[346](#), [354](#), [362](#)
economies of urbanisation [63](#), [65–6](#), [107](#), [126](#), [261](#)
ecosystems [117](#), [214–216](#), [247](#), [274](#), [276](#), [372](#), [374](#)
education [6](#), [32](#), [117](#), [130](#), [133](#), [135–137](#), [199](#), [207](#), [229–231](#), [233–237](#), [271](#),
[274](#), [277](#), [327](#), [349](#), [350](#), [354–356](#), [359](#), [360](#), [372](#), [374](#)
effectiveness [5](#), [19](#), [20](#), [28–30](#), [32](#), [34–36](#), [39](#), [40](#), [71–2](#), [83–4](#), [86](#), [98](#), [103](#),
[107](#), [111–2](#), [117–119](#), [121](#), [130](#), [153](#), [161–163](#), [165–6](#), [171](#), [173](#), [175–](#)
[178](#), [180–182](#), [184](#), [190](#), [195](#), [199](#), [201](#), [207–8](#), [211–2](#), [214](#), [218](#), [224–5](#),
[229](#), [231](#), [257](#), [271](#), [280](#), [283](#), [286](#), [289](#), [301–303](#), [305–6](#), [310](#), [315](#), [318](#),
[320](#), [326–7](#), [332–337](#), [345](#), [362](#), [365](#), [371–376](#)
efficiency [1](#), [19](#), [25](#), [29](#), [33](#), [36](#), [38–40](#), [48](#), [51](#), [53](#), [58–60](#), [63](#), [65](#), [70](#), [73–4](#),
[76–79](#), [82–3](#), [86](#), [88](#), [91–2](#), [94](#), [102–3](#), [108–117](#), [123](#), [133](#), [138](#), [161](#),
[180](#), [182–3](#), [187](#), [190–1](#), [197](#), [199](#), [203](#), [207–8](#), [211–2](#), [221–223](#), [225](#),
[227](#), [229](#), [241](#), [246–7](#), [260](#), [262](#), [266](#), [270](#), [291](#), [302–3](#), [312](#), [346](#), [348](#),
[351–353](#), [362–3](#), [372–3](#), [376](#)
embeddedness / local cohesion [36–7](#), [53](#), [169](#), [177](#), [181](#), [184](#), [208](#), [219](#), [244](#),
[271](#), [290](#), [327](#), [367](#), [375–6](#)
Emissions Trading System (ETS) [139](#)
employment [1](#), [2](#), [35](#), [65](#), [70](#), [91](#), [97](#), [103–105](#), [117](#), [123–125](#), [132](#), [141](#),
[177](#), [195](#), [199–201](#), [203–4](#), [212](#), [215](#), [220](#), [225](#), [231–2](#), [234](#), [237](#), [240](#),
[243](#), [248](#), [258–9](#), [264–5](#), [268](#), [279](#), [288](#), [292](#), [308](#), [328](#), [331–2](#), [334](#),
[348–9](#), [359](#)
energy [31](#), [46](#), [68](#), [80](#), [83–4](#), [102](#), [117](#), [119](#), [138–9](#), [207](#), [228–9](#), [243–4](#), [281](#),
[291](#), [309](#), [348](#), [355](#), [360](#), [375](#)
engagement [174](#), [184](#), [290](#)
entrepreneurial discovery process (EDP) [40](#), [243](#), [282–286](#), [288–9](#), [291](#),
[293](#), [318](#), [356](#), [366](#)
entrepreneurship [109](#), [121](#), [123](#), [199](#), [204](#), [214–216](#), [235](#), [239](#), [261–263](#),
[267](#), [276](#), [279](#), [282–284](#), [288](#), [333](#), [351](#), [360](#)
environment [2](#), [8](#), [9](#), [20](#), [23](#), [25](#), [31](#), [35](#), [41](#), [43](#), [46](#), [58–9](#), [61](#), [69](#), [82–84](#), [86–](#)
[7](#), [91–2](#), [94](#), [102](#), [109](#), [110](#), [115–6](#), [118–121](#), [138–140](#), [156](#), [165](#), [181](#),
[205](#), [210](#), [215–6](#), [218](#), [229](#), [230](#), [232](#), [238–9](#), [244](#), [247](#), [260](#), [268](#), [279](#),
[280](#), [311–2](#), [328](#), [348](#), [357](#), [359](#), [360](#), [375](#)
equilibrium [8](#), [27](#), [38](#), [40](#), [57](#), [69](#), [77](#), [79](#), [81](#), [121–2](#), [135](#), [188–190](#), [262](#),
[264](#), [313](#), [332](#), [373](#), [376](#)

equity [9](#), [19](#), [33](#), [40](#), [53](#), [91–95](#), [103](#), [108–116](#), [139](#), [187](#), [220](#), [373](#), [376](#)
European Regional Development Fund (ERDF) [43](#), [291](#), [316–7](#), [351](#)
European Social Fund (ESF) [43](#), [233](#)
European Structural and Investment Funds (ESIFs) [43](#), [53](#), [73](#), [103](#), [158](#),
[173](#), [182](#), [208](#), [307](#), [322](#), [375](#)
European Union (EU) [3](#), [4](#), [6](#), [14](#), [16–18](#), [20](#), [23–26](#), [37–40](#), [42–44](#), [53](#), [73–](#)
[4](#), [85–6](#), [88](#), [99](#), [101](#), [103–4](#), [109](#), [113–4](#), [117](#), [119](#), [120](#), [139](#), [140](#), [156–](#)
[158](#), [173](#), [175](#), [177](#), [181–184](#), [191](#), [200](#), [208–9](#), [229](#), [231](#), [233](#), [246–7](#),
[266–268](#), [276–7](#), [281–2](#), [285](#), [287–290](#), [305–307](#), [310–312](#), [318](#), [322](#),
[325–327](#), [329](#), [336–7](#), [348](#), [351–2](#), [355](#), [358](#), [360–1](#), [364–367](#)
evaluation [6](#), [7](#), [9](#), [10](#), [26](#), [42](#), [62](#), [153–4](#), [157–159](#), [164](#), [170–1](#), [174](#), [176](#),
[185–6](#), [189](#), [191](#), [197](#), [207](#), [213](#), [215](#), [219](#), [220](#), [222](#), [231](#), [274–5](#), [283](#),
[288–9](#), [291](#), [293](#), [301–306](#), [315–320](#), [322–3](#), [327](#), [333–335](#), [337](#), [345](#),
[347](#), [373](#), [376](#)
ex-ante (evaluation) [36](#), [185](#), [204](#), [260](#), [286](#), [301–303](#), [307](#), [311–2](#), [314–](#)
[316](#)
exchange rate [24](#), [74–5](#), [240](#), [243](#), [362](#)
experts [6](#), [13](#), [48–9](#), [65](#), [153–4](#), [156](#), [168](#), [170](#), [177](#), [182](#), [188](#), [208](#), [211](#), [267](#),
[275](#), [279](#), [281](#), [288](#), [291](#), [301](#), [306](#), [311–2](#), [316](#), [318–320](#), [322–3](#)
ex post (evaluation) [153](#), [204](#), [301](#), [303](#), [305](#), [311–2](#), [314–316](#), [320](#), [373](#)

fiscal competition [352](#)
fiscal policy [4](#), [24](#), [48](#), [118](#), [170–172](#), [196–199](#), [207](#), [210](#), [212–3](#), [235](#), [246](#),
[348](#), [352](#)
fiscal residuals [196–199](#), [246](#)
flexibility [6](#), [34–5](#), [163](#), [165](#), [186](#), [286](#), [351](#), [376](#)
Foreign Direct Investments (FDI) [73](#), [121](#), [132](#), [205–210](#), [219](#), [245–247](#),
[279](#), [354](#)
functions [16](#), [110](#), [123](#), [176](#), [190](#), [205](#), [212–3](#), [274](#), [336](#), [347](#), [349](#), [350](#), [353](#),
[363–4](#)

GDP [1](#), [3](#), [4](#), [18](#), [21](#), [35](#), [37](#), [43](#), [48](#), [73](#), [77](#), [79](#), [94–5](#), [97–99](#), [101](#), [103](#), [110](#),
[115](#), [124](#), [131](#), [138](#), [140–1](#), [222](#), [238](#), [240–1](#), [257](#), [259](#), [266–268](#), [290](#),
[292](#), [312](#), [321–2](#), [325–6](#), [331](#), [336](#), [357–8](#), [367](#)
gender imbalances [117](#), [137–8](#), [358](#)
generative (growth) [41](#), [79](#), [86](#), [111–2](#), [313](#)
globalisation [2](#), [14–5](#), [58](#), [72–3](#), [106](#), [120](#), [131](#), [205](#), [215–6](#), [246](#), [348](#), [350](#),
[366](#), [372](#)
governance [9](#), [15](#), [24](#), [26](#), [31](#), [39](#), [40](#), [42](#), [48](#), [151](#), [155](#), [163](#), [166–173](#), [178](#),
[182](#), [188](#), [191](#), [219](#), [227](#), [231](#), [271](#), [275](#), [280](#), [288–291](#), [293](#), [312](#), [335](#),
[351](#), [354](#), [358](#), [375](#)
government [1](#), [21](#), [26](#), [32](#), [37](#), [39](#), [42](#), [48](#), [53](#), [62](#), [68](#), [76](#), [91–2](#), [95](#), [130](#), [140](#),
[155](#), [158–9](#), [162–3](#), [166–180](#), [182](#), [187](#), [191](#), [196–7](#), [199](#), [200](#), [206–7](#),
[209](#), [212](#), [215](#), [224](#), [243–4](#), [246](#), [248](#), [257](#), [271](#), [273–275](#), [277–8](#), [280–](#)
[283](#), [285](#), [289–291](#), [293](#), [302](#), [337](#), [349](#), [351](#), [354–5](#), [357–8](#), [375](#)
grants [23](#), [162](#), [177](#), [200](#), [205](#), [220–1](#), [271](#)
gravity model [237](#), [248](#), [361](#)
green deal [119](#)

green economy [358](#)

growth [7](#), [9](#), [10](#), [19](#), [20](#), [25](#), [28–9](#), [32–36](#), [38](#), [40–1](#), [57](#), [68](#), [71–73](#), [77](#), [79–82](#), [86–7](#), [91–2](#), [95](#), [99](#), [103–107](#), [109–114](#), [116–7](#), [121–123](#), [126–128](#), [130–1](#), [133](#), [135–6](#), [138–140](#), [161](#), [174](#), [177](#), [180](#), [187–8](#), [196](#), [199–201](#), [203–205](#), [208–211](#), [213–216](#), [218–220](#), [222](#), [224](#), [226](#), [231–2](#), [236–238](#), [240](#), [243–4](#), [247–8](#), [257–261](#), [263–4](#), [266](#), [268](#), [270–272](#), [276](#), [278](#), [280–282](#), [284](#), [287](#), [292–3](#), [313–4](#), [321–323](#), [325–328](#), [331–2](#), [336](#), [346](#), [348–350](#), [352](#), [358–9](#), [362–365](#), [367](#), [374–5](#)

heat islands [118](#)

horizontal instruments [272](#)

human capital [9](#), [27](#), [40](#), [48](#), [72](#), [85–6](#), [106](#), [121](#), [123](#), [130–133](#), [137](#), [186](#), [214–5](#), [218](#), [224](#), [229–237](#), [243](#), [247–8](#), [260](#), [276](#), [279](#), [283](#), [285](#), [334](#), [336](#), [349](#), [350](#), [354](#), [358](#), [363](#), [365](#), [375](#)

identity [15](#), [101–103](#), [155](#), [225](#), [237](#), [240](#), [246](#), [309](#), [312](#), [328](#), [363–4](#)

impact assessment [311](#), [320](#)

impacts [1](#), [2](#), [4](#), [19–21](#), [23–4](#), [26–29](#), [31](#), [34–5](#), [46](#), [52](#), [57](#), [60–1](#), [65](#), [68](#), [75](#), [80](#), [83](#), [88](#), [94](#), [103](#), [109](#), [111–2](#), [117–121](#), [131](#), [133](#), [138](#), [165–167](#), [171](#), [177](#), [180–1](#), [184–186](#), [199](#), [201](#), [204](#), [206](#), [213–4](#), [216](#), [222–224](#), [229](#), [231](#), [234](#), [237](#), [241](#), [243–245](#), [247](#), [268](#), [272–3](#), [276](#), [279](#), [280](#), [285](#), [288–9](#), [291–2](#), [301](#), [303](#), [305–309](#), [311–2](#), [314–316](#), [320–323](#), [325–329](#), [331](#), [333–337](#), [349](#), [354](#), [362](#), [374–5](#)

incentives [19](#), [26–7](#), [35](#), [48](#), [58](#), [62](#), [68](#), [118](#), [161–2](#), [164](#), [171](#), [188](#), [190–1](#), [198–202](#), [204](#), [206](#), [208–9](#), [212–3](#), [215](#), [229](#), [233–4](#), [257](#), [259](#), [261–263](#), [266](#), [270](#), [272–275](#), [280–1](#), [283–4](#), [292](#), [333](#), [347](#), [375](#)

increasing returns [72](#), [79](#), [88](#), [262](#)

indivisibilities [65](#), [88](#), [117](#), [224](#)

industrial policies [24](#), [29](#), [30](#), [282](#)

inequalities [72](#), [85](#), [87–8](#), [117](#), [136](#), [138](#), [141](#), [199](#), [206](#), [231](#)

inflation [58](#), [75–6](#), [79](#), [80](#), [86](#), [91](#), [140](#)

information [5](#), [34](#), [36](#), [39](#), [40](#), [49](#), [57–59](#), [62](#), [64](#), [95](#), [151](#), [153](#), [155](#), [159–164](#), [167](#), [169](#), [170](#), [174](#), [176](#), [183–4](#), [191](#), [200](#), [208](#), [211](#), [213](#), [217](#), [219](#), [220](#), [222](#), [226](#), [234](#), [264](#), [268](#), [273–4](#), [281–2](#), [284–5](#), [288](#), [293](#), [302](#), [305–6](#), [308](#), [316–319](#), [331](#), [333–335](#), [337](#), [347](#), [367](#), [374](#), [376](#)

Information and Communication Technologies (ICTs) [60](#), [73](#), [225–229](#), [355–6](#)

infrastructure [1](#), [9](#), [16](#), [24](#), [27](#), [29](#), [31](#), [38](#), [46](#), [48](#), [60](#), [65](#), [74](#), [77](#), [83–4](#), [86](#), [106](#), [117–119](#), [128](#), [131](#), [155–6](#), [158](#), [162](#), [199](#), [203–4](#), [208](#), [210–215](#), [221–230](#), [241–2](#), [246–7](#), [277](#), [283](#), [307](#), [310](#), [314](#), [323](#), [328](#), [331](#), [334–5](#), [338](#), [346](#), [348–350](#), [354–356](#), [358](#), [360](#), [363–366](#), [375](#)

innovation [1](#), [2](#), [9](#), [20](#), [27](#), [30](#), [35–37](#), [39](#), [40](#), [46](#), [53](#), [63](#), [71–2](#), [79](#), [87](#), [107](#), [109](#), [114](#), [116–119](#), [123](#), [125–6](#), [130–133](#), [136–139](#), [153–4](#), [160](#), [165](#), [170](#), [188](#), [196](#), [200](#), [203](#), [207](#), [209](#), [214–217](#), [220](#), [225](#), [227](#), [230–1](#), [233](#), [236–7](#), [240](#), [244–5](#), [248](#), [257](#), [259–293](#), [307](#), [321](#), [333](#), [346–7](#), [349](#), [350](#), [353–357](#), [360](#), [365](#), [372–375](#)

input–output [16](#), [30](#), [53](#), [112](#), [199](#), [205](#), [237](#), [248](#), [307–309](#), [313](#), [337](#), [363](#)

institutions [14](#), [17](#), [26](#), [38–9](#), [82](#), [95](#), [109](#), [157–8](#), [163](#), [165–6](#), [177–8](#), [181–2](#), [197](#), [212](#), [219](#), [221](#), [232](#), [241](#), [247](#), [267](#), [271](#), [280](#), [320](#), [358](#), [360–363](#), [367](#), [371](#), [376](#)

instruments [5–7](#), [9](#), [10](#), [15](#), [24](#), [28](#), [31](#), [34–5](#), [38](#), [41](#), [43](#), [47](#), [49](#), [50](#), [53](#), [68](#), [71](#), [74](#), [93](#), [121](#), [126](#), [131](#), [135](#), [153](#), [157](#), [170](#), [191](#), [195–6](#), [200–1](#), [208](#), [213](#), [216](#), [220–1](#), [224](#), [232](#), [245](#), [247](#), [257](#), [270–273](#), [275–6](#), [280–1](#), [291](#), [302–3](#), [307](#), [319](#), [320](#), [333–4](#), [337](#), [349–351](#), [364](#), [374](#)

integration [9](#), [14](#), [37–39](#), [41–2](#), [58](#), [72–75](#), [137](#), [141](#), [188](#), [195](#), [207](#), [211](#), [223–225](#), [280](#), [283](#), [289](#), [293](#), [333](#), [351](#), [363](#), [374](#)

investment [23](#), [28](#), [31](#), [37](#), [40](#), [42–3](#), [46](#), [71](#), [80](#), [83](#), [103](#), [109](#), [114–5](#), [118](#), [120–1](#), [127](#), [130–133](#), [136](#), [140](#), [156](#), [161–2](#), [177](#), [180](#), [183](#), [189–191](#), [199–200](#), [203–4](#), [207–211](#), [213](#), [215–6](#), [218–221](#), [224–5](#), [227](#), [229–231](#), [233](#), [235–239](#), [242](#), [245–6](#), [257](#), [265](#), [268](#), [271–275](#), [279](#), [282–3](#), [307–8](#), [310](#), [314](#), [327](#), [334](#), [336](#), [338](#), [349–354](#), [357–8](#), [360](#), [362–3](#), [365–6](#), [375–6](#)

involvement [14](#), [20](#), [24](#), [30](#), [32](#), [34](#), [36](#), [39](#), [59](#), [60](#), [71](#), [98](#), [133](#), [135](#), [139](#), [151](#), [156](#), [158](#), [161](#), [163](#), [169](#), [174–5](#), [181–2](#), [187–189](#), [199](#), [205](#), [210–1](#), [231–2](#), [271](#), [274](#), [281–2](#), [288](#), [291](#), [306](#), [319](#), [334](#), [355](#), [364–5](#), [373–5](#)

Just Transition Fund (JTF) [43](#), [117](#)

justice (spatial) [85](#), [95](#), [117](#), [140](#)

justifications and rationale [6](#), [8](#), [20](#), [57–8](#), [74–5](#), [79](#), [80](#), [82](#), [84](#), [86](#), [93](#), [196](#), [203](#), [220](#), [274](#), [310](#), [316](#), [345](#)

knowledge [1](#), [5–7](#), [9](#), [20](#), [35–37](#), [39](#), [47–49](#), [51](#), [62](#), [65–6](#), [72–3](#), [79](#), [88](#), [102](#), [107](#), [118](#), [125–6](#), [137](#), [153](#), [156](#), [159](#), [160](#), [164](#), [169](#), [174](#), [177](#), [180–182](#), [185](#), [190](#), [205–208](#), [210–1](#), [213–215](#), [218–9](#), [226](#), [231–233](#), [236](#), [245–6](#), [259–264](#), [266–268](#), [270–5](#), [278–9](#), [281–283](#), [286–291](#), [301](#), [303](#), [314](#), [318–320](#), [327](#), [346–7](#), [351](#), [354](#), [356–7](#), [367](#), [372](#), [374–5](#)

knowledge diffusion [35–6](#), [270](#), [354](#), [356](#), [367](#)

labour [1](#), [9](#), [14](#), [21](#), [30](#), [41](#), [57–8](#), [65](#), [70](#), [75–77](#), [84](#), [87](#), [107](#), [115](#), [120](#), [130](#), [137–8](#), [141](#), [169](#), [188](#), [200–1](#), [203](#), [206–7](#), [209–213](#), [218](#), [221](#), [227](#), [231–234](#), [245](#), [258–9](#), [264–5](#), [275](#), [292](#), [308](#), [332](#), [334](#), [346](#), [350](#), [355](#), [359](#), [363](#), [372](#)

labour market [9](#), [21](#), [30](#), [41](#), [57–8](#), [65](#), [76](#), [84](#), [87](#), [107](#), [130](#), [137](#), [188](#), [203](#), [211](#), [231–234](#), [245](#), [334](#), [346](#), [355](#), [359](#), [363](#), [372](#)

labour market policies [9](#), [21](#), [30](#), [233](#), [372](#)

land prices [80](#), [206](#), [239](#)

leadership [84](#), [109](#), [151](#), [155](#), [164–166](#), [215](#), [268](#), [289](#), [361](#), [367](#)

left-behind places [69](#), [85](#), [94](#), [131](#)

less developed regions [23](#), [25](#), [28](#), [33](#), [37–8](#), [40–1](#), [43](#), [48](#), [68–9](#), [74](#), [77](#), [82](#), [87–8](#), [94–5](#), [98](#), [103](#), [110](#), [126](#), [131](#), [135–137](#), [168](#), [176](#), [188](#), [195–200](#), [207–210](#), [213](#), [218–9](#), [223–4](#), [227](#), [233](#), [235](#), [238–9](#), [270](#), [273](#), [283](#), [286–290](#), [312](#), [321–2](#), [352](#), [354](#), [358](#), [363](#), [365](#)

loans [200](#), [220–1](#), [273](#)

localisation [1](#), [59–61](#), [63–4](#), [66](#), [82](#), [84](#), [98](#), [107](#), [115–6](#), [125](#), [131](#), [183](#), [200](#),
[203](#), [212](#), [216–7](#), [230](#), [244](#), [266](#), [281](#), [328](#), [347](#), [372](#)
 lock-in [262](#), [267](#), [281](#), [288](#)
 long-run [26–7](#), [33–35](#), [46](#), [53](#), [63](#), [72](#), [76](#), [80](#), [122–3](#), [127–8](#), [130](#), [177](#), [196](#),
[203](#), [206](#), [211](#), [213](#), [222](#), [233](#), [240–1](#), [246](#), [257–259](#), [268](#), [289](#), [292](#), [307](#),
[309](#), [332](#), [365–6](#), [374](#)

 macroeconomic policy [24](#), [29](#), [58](#), [75–6](#), [372](#)
 macroeconomics [24](#), [29](#), [58](#), [75–6](#), [80](#), [86](#), [234](#), [243](#), [312](#), [336](#), [372](#), [374](#)
 marginality [53](#), [124](#), [133](#), [135](#), [220](#), [222](#), [292](#)
 market failures [8](#), [58](#), [61](#), [81](#), [87](#), [220](#), [265](#), [270](#), [284](#), [327](#)
 maximising behaviour [35](#), [48](#), [103](#), [135](#), [140](#), [283](#), [311](#), [352](#)
 medicine [4–6](#), [320](#), [345](#)
 migration [37–8](#), [75](#), [77](#), [84](#), [87](#), [115](#), [120](#), [135](#), [137](#), [199](#), [215](#), [235](#), [292](#), [355](#),
[372](#)
 milieu [217](#), [271](#), [353](#)
 mitigation [83–4](#), [118](#), [162](#), [243](#), [360](#)
 mobility [2](#), [37–8](#), [65](#), [74](#), [77](#), [79](#), [82–3](#), [86](#), [88](#), [98](#), [109](#), [118](#), [120–1](#), [128](#),
[130](#), [133](#), [183](#), [219](#), [227](#), [231](#), [234–5](#), [291](#), [351](#), [355](#), [372](#)
 models [4](#), [5](#), [9](#), [10](#), [14](#), [21](#), [24](#), [29](#), [38](#), [48](#), [58](#), [73–4](#), [77](#), [88](#), [107](#), [111](#), [124](#),
[151](#), [159](#), [160](#), [166–169](#), [177](#), [183](#), [217](#), [223](#), [247](#), [257](#), [259–261](#), [263–4](#),
[271](#), [275](#), [279](#), [280](#), [289](#), [290](#), [292](#), [309](#), [312–314](#), [326](#), [333](#), [335–6](#), [361](#)
 modifiable areal unit problem [97](#), [301](#), [328–9](#)
 monetary policies [15](#), [24](#), [30](#), [76](#), [372](#)
 monetary unions [43](#), [74–5](#), [362](#)
 monopoly [60](#), [136](#), [260](#), [263](#)
 moral hazard [161](#)
 mountains [15](#), [68](#), [113](#), [121](#), [238](#), [345](#), [356–7](#), [362](#)
 multilevel governance [24](#), [26](#), [39](#), [151](#), [155](#), [169–173](#), [182](#), [188](#), [191](#), [215](#),
[351](#), [354](#), [375](#)

 nation [1](#), [14](#), [20](#), [68](#), [74–5](#), [106–7](#), [116–7](#), [156](#), [177](#), [199](#), [205](#), [235](#), [246](#), [374](#)
 natural resources [102](#), [119](#), [243](#), [247–8](#), [262](#), [291](#), [358](#), [367](#)
 nudge [162](#)
 NUTS [17–8](#), [140](#)

 objectives and aims [2](#), [6–9](#), [18–20](#), [25–6](#), [33–36](#), [39–44](#), [47–53](#), [62](#), [68](#), [85](#),
[91–140](#), [153–4](#), [159](#), [165](#), [170–177](#), [182](#), [185–188](#), [195](#), [201](#), [204](#), [210–](#)
[213](#), [219](#), [229](#), [234](#), [237–8](#), [247](#), [266](#), [271–275](#), [285–287](#), [290–1](#), [302–](#)
[307](#), [311–2](#), [315–319](#), [327](#), [333–337](#), [348](#), [350–1](#), [355](#), [357](#), [360](#), [367](#),
[373](#), [376–7](#)
 openness [13–4](#), [16](#), [27](#), [36–7](#), [59](#), [82](#), [201](#), [236](#), [277](#), [290](#), [309](#), [318](#), [376](#)
 opportunities [2](#), [9](#), [20](#), [27](#), [31](#), [33](#), [36–40](#), [53](#), [70](#), [75](#), [77](#), [79](#), [81–2](#), [84–5](#), [91](#),
[94](#), [98](#), [103](#), [107](#), [109](#), [110](#), [114](#), [117](#), [121](#), [131](#), [135–137](#), [139](#), [152–3](#),
[165](#), [167](#), [170](#), [174](#), [185–188](#), [205–6](#), [209](#), [213–218](#), [220](#), [222](#), [232–235](#),
[237](#), [239](#), [240](#), [244](#), [262–3](#), [265](#), [282–3](#), [285–288](#), [335](#), [347](#), [351](#), [354](#),
[358–360](#), [364](#), [371–2](#), [374–376](#)
 outermost regions [43](#)

ownership [26](#), [60](#), [109](#), [163–4](#), [175](#), [181](#), [187](#), [288](#), [375](#)

participation [18](#), [34](#), [36](#), [155](#), [160](#), [162](#), [167](#), [171](#), [173–175](#), [188](#), [190](#), [216](#), [218](#), [272](#), [274](#), [280](#), [288](#), [291](#), [314](#), [318](#), [353](#), [357](#), [360](#)

path-dependence [39](#), [190](#), [227](#), [261–2](#), [269](#), [282](#), [289](#)

patterns of growth [104–5](#), [121](#), [131](#), [140](#), [205](#), [352](#), [359](#)

patterns of innovation [270](#), [360](#)

peripherality [9](#), [39](#), [48](#), [60](#), [70](#), [85](#), [117](#), [131–2](#), [220](#), [225](#), [227](#), [345–6](#), [350](#), [352–359](#), [362–3](#), [367](#), [374](#)

place-based policies [4](#), [8](#), [13](#), [21](#), [27](#), [33](#), [37–40](#), [82](#), [113](#), [169](#), [275](#), [281](#), [373–4](#)

planning [1](#), [2](#), [6](#), [7](#), [15–6](#), [19](#), [31–2](#), [71](#), [83](#), [118](#), [158](#), [166](#), [170–172](#), [212–3](#), [230](#), [242](#), [306](#), [312](#), [349–351](#), [372](#)

poles [9](#), [68](#), [71](#), [188](#), [200](#), [203–205](#), [247](#), [351–2](#), [355](#)

policy cycle [9](#), [151–153](#), [166](#), [174](#), [186](#), [191](#), [301–303](#), [305](#), [315](#), [345](#), [373](#), [376–7](#)

policy learning [182–184](#), [290](#), [376](#)

policy transfer [182–184](#)

policymakers [2](#), [3](#), [5–10](#), [15](#), [19](#), [33–4](#), [39](#), [47–50](#), [94–5](#), [113–115](#), [124–5](#), [151–153](#), [159–162](#), [164](#), [170](#), [183](#), [186](#), [188](#), [190–1](#), [195](#), [201–203](#), [207](#), [218](#), [220](#), [225](#), [228](#), [231–2](#), [239](#), [261](#), [265](#), [273](#), [276](#), [281–283](#), [289](#), [301–303](#), [305](#), [307](#), [311](#), [315–6](#), [318–323](#), [329](#), [333–4](#), [353](#), [364](#), [373](#), [375–6](#)

politicians [34](#), [47–49](#), [51](#), [95](#), [114](#), [153–4](#), [161–2](#), [183–4](#), [188](#), [198–9](#), [201](#), [206](#), [224](#), [303](#), [333](#), [351](#)

pollution [59](#), [61](#), [69](#), [82–3](#), [88](#), [94](#), [116](#), [118](#), [120](#), [133](#), [135](#), [229](#), [239](#), [242](#), [310](#), [350](#), [359](#)

ports [211](#), [224–5](#), [349](#), [367](#)

potentials [27–8](#), [33](#), [35](#), [39](#), [41](#), [48](#), [58](#), [62](#), [82](#), [86](#), [103](#), [109](#), [110](#), [112](#), [114](#), [122](#), [127](#), [161](#), [169](#), [188](#), [203–4](#), [208](#), [212–3](#), [215–6](#), [219–221](#), [223–4](#), [227](#), [231–2](#), [234](#), [240–1](#), [245–6](#), [261](#), [263](#), [279](#), [283–285](#), [287–8](#), [302](#), [312](#), [327](#), [333](#), [358–9](#), [365](#), [372–374](#)

poverty [68](#), [82](#), [84](#), [88](#), [105](#), [110](#), [117](#), [131](#), [136](#), [188](#), [197](#), [207–8](#), [211](#), [218](#), [223](#), [238](#), [245](#), [322](#), [350](#), [359](#), [363](#), [366](#), [372](#)

prices [46](#), [58](#), [62](#), [70](#), [74–5](#), [77](#), [79–81](#), [86](#), [88](#), [95](#), [97](#), [120](#), [124](#), [140](#), [201](#), [206](#), [211](#), [221](#), [228–9](#), [239–241](#), [243](#), [245](#), [264](#), [307](#), [310](#), [328](#), [362](#)

principal agent situations [161–2](#), [318](#)

priorities [31](#), [39](#), [43](#), [92](#), [116](#), [140](#), [159](#), [163–4](#), [173](#), [177](#), [186](#), [234](#), [285](#), [289–291](#), [373](#)

private goods [58](#), [260](#)

procurement [27](#), [101](#), [270](#), [280–1](#), [293](#)

productivity [36–7](#), [39](#), [46](#), [52–3](#), [65–6](#), [69](#), [70](#), [74–5](#), [77](#), [80](#), [86](#), [94](#), [102–105](#), [115](#), [117](#), [123–127](#), [132](#), [138](#), [140–1](#), [200](#), [203–208](#), [212](#), [214](#), [216–218](#), [221–2](#), [224](#), [226](#), [229](#), [230](#), [234](#), [239–241](#), [258–9](#), [264–5](#), [273](#), [280](#), [282](#), [288](#), [291–2](#), [314](#), [323](#), [331](#), [333](#), [345–6](#), [357](#), [359](#), [362–3](#), [365](#), [367](#), [375](#)

programmes [26](#), [30](#), [43](#), [60](#), [151](#), [159](#), [171](#), [173](#), [177](#), [182](#), [186](#), [188–9](#), [191](#),
[199](#), [203](#), [211–2](#), [216](#), [233](#), [275–277](#), [301–303](#), [305–6](#), [312](#), [315–6](#),
[318–320](#), [337](#), [355](#), [360](#), [364](#)
 programming period [4](#), [40](#), [43](#), [103](#), [119](#), [173](#), [182](#), [285](#), [287–8](#), [305](#), [312](#),
[322](#), [337](#), [351](#)
 propensity score matching (PSM) [320](#), [325](#)
 property rights [257](#), [271](#), [273–4](#), [279](#)
 Protected Designations of Origin (PDO) [245](#)
 public choice theory [162](#)
 public goods [39](#), [40](#), [58–9](#), [226](#), [357](#)
 public services [32](#), [40](#), [53](#), [66](#), [77](#), [119](#), [120](#), [131](#), [136](#), [157](#), [174–5](#), [180](#),
[183](#), [197–199](#), [206](#), [210](#), [246](#), [355](#), [357](#), [359](#), [372](#)
 purchasing power parities [43](#), [94–5](#), [97](#), [99](#), [266](#)

 quality of life [9](#), [25](#), [32](#), [35](#), [66](#), [69](#), [80](#), [84](#), [91–2](#), [94](#), [108–9](#), [116](#), [119](#), [120](#),
[130](#), [135](#), [137–139](#), [229](#), [230](#), [242](#), [279](#), [303](#), [348–9](#), [359](#), [365](#), [377](#)
 quantitative vs qualitative growth [35](#)
 questionnaires [318–9](#)

 R&D [72](#), [161](#), [200](#), [205](#), [266](#), [268](#), [273](#), [275–278](#), [280–1](#), [316–7](#), [347](#), [356](#),
[360](#), [364–5](#)
 railways [60](#), [224–5](#), [337](#), [349](#), [350](#), [354–5](#), [364](#)
 recessions [35](#), [58](#), [86–7](#), [126](#), [240](#), [335](#), [374](#)
 reconversion [118](#)
 redistribution [77](#), [103](#), [110](#), [140](#), [196–7](#)
 regional specificities [1](#), [6–9](#), [14–5](#), [17](#), [19](#), [21](#), [23–26](#), [30](#), [32](#), [38–41](#), [43](#), [57](#),
[62](#), [64–66](#), [68](#), [75](#), [79](#), [80](#), [82](#), [84–5](#), [98](#), [102](#), [107](#), [110](#), [118](#), [126–7](#), [130](#),
[135–137](#), [139](#), [151](#), [153](#), [156](#), [162](#), [167–169](#), [172–3](#), [177](#), [182](#), [184–5](#),
[188](#), [190](#), [195](#), [198](#), [200–1](#), [203](#), [208–211](#), [218](#), [220](#), [232–3](#), [236](#), [241–](#)
[243](#), [245](#), [259](#), [261](#), [264](#), [267](#), [271–275](#), [280](#), [282–3](#), [285](#), [287](#), [301](#),
[306–7](#), [311–2](#), [315–319](#), [323](#), [327–8](#), [331](#), [335–6](#), [345–6](#), [351–365](#), [367](#),
[371](#), [374–377](#)
 regression [314](#), [321–2](#), [325](#), [337](#)
 regression discontinuity design (RDD) [325](#)
 regulations [17](#), [23](#), [27–8](#), [31–2](#), [57](#), [59–61](#), [68](#), [84](#), [109](#), [118](#), [153–155](#), [157–](#)
[8](#), [163–4](#), [173](#), [177–8](#), [190](#), [200](#), [205–6](#), [210–1](#), [213](#), [215](#), [272](#), [274](#), [280](#),
[305–307](#), [311](#), [337](#), [362–3](#)
 rejection [220](#), [328](#)
 related variety [65](#), [107](#), [140](#), [261](#)
 remoteness [18](#), [43](#), [198](#), [222](#), [226–7](#), [335](#), [353](#), [357–359](#)
 renewable resources [83](#), [119](#), [139](#), [229](#), [355](#), [358](#)
 research agencies [257](#), [271](#), [273](#)
 residential economy [244](#), [359](#)
 resilience [53](#), [117](#), [120–123](#), [247](#), [336](#), [360](#), [372](#)
 roads [32](#), [46](#), [59](#), [83](#), [198](#), [211](#), [223–225](#), [242](#), [310](#), [350](#), [356](#), [364–5](#)
 routines [160](#), [187](#), [190](#), [262](#)
 rumour (statistical) [326](#)

rurality [9](#), [18](#), [37](#), [53](#), [82](#), [85](#), [119](#), [121](#), [227](#), [345–6](#), [352–3](#), [358–361](#), [367](#), [374](#)

satisfying behaviour [264](#)

scale (spatial) [25](#), [41](#), [66](#), [95](#), [97](#), [125](#), [156](#), [190](#), [217](#), [259](#), [371](#)

selectivity [1](#), [20–1](#), [189](#), [190](#), [219](#), [246](#), [262](#), [280](#), [282–3](#), [289](#), [293](#), [322](#)

services [2](#), [14](#), [16](#), [27](#), [32](#), [37–39](#), [60](#), [62](#), [66](#), [68](#), [70–1](#), [73](#), [77](#), [79](#), [83–4](#), [94–5](#), [102–3](#), [106–7](#), [109](#), [113](#), [117–120](#), [123](#), [132](#), [135–6](#), [138](#), [158](#), [161](#), [172](#), [180](#), [183](#), [186](#), [197–199](#), [211](#), [215](#), [225–227](#), [229–232](#), [235](#), [239](#), [240](#), [242–245](#), [263](#), [265](#), [278–280](#), [286](#), [290](#), [292](#), [307](#), [309](#), [346](#), [350](#), [354–5](#), [357](#), [359](#), [360](#), [362–3](#), [366](#), [372](#), [375–6](#)

short-run [34](#), [76](#), [80](#), [123](#), [130](#), [218](#), [229](#), [309](#), [313](#), [332](#)

skills [30](#), [57](#), [65–6](#), [85](#), [107](#), [121](#), [127](#), [130](#), [132–3](#), [137](#), [159](#), [163](#), [176](#), [181](#), [186](#), [207](#), [215](#), [218](#), [226–7](#), [230–235](#), [246](#), [248](#), [265](#), [274–5](#), [282](#), [306](#), [315](#), [322](#), [334](#), [337](#), [360](#), [363](#), [374](#)

small and medium enterprises (SMEs) [118](#), [157](#), [215–217](#), [219–221](#), [271](#), [274](#), [280](#), [360](#)

Smart Specialisation Strategies (S3) [9](#), [40](#), [65](#), [166](#), [217](#), [257](#), [281–291](#), [293](#), [317–8](#), [349](#), [356](#), [358](#), [366](#), [374](#)

social capital [41](#), [98](#), [102](#), [128](#), [334](#), [348](#), [359](#), [363](#), [375](#)

Social Discount Rate (SDR) [310–1](#)

social services of general interest [355](#)

sorting (spatial) [137](#), [372](#)

space-blind [13](#), [21](#), [29](#), [33](#), [37–39](#), [82](#)

sparsely populated areas [43](#), [227](#), [345–6](#), [357–8](#), [363](#)

special economic zones (SEZs) [9](#), [68](#), [135](#), [208–213](#), [218](#), [247](#), [349](#)

specialisation [35](#), [38](#), [40](#), [66](#), [74](#), [109](#), [124–126](#), [132](#), [168](#), [189](#), [212](#), [261](#), [279](#), [282](#), [285–289](#), [291](#), [293](#), [308](#), [318](#), [321](#), [336](#), [345](#), [350–353](#), [359](#)

specificities [1](#), [6–9](#), [14–5](#), [17](#), [19](#), [21](#), [23–26](#), [30](#), [32](#), [38–41](#), [43](#), [57](#), [62](#), [64–66](#), [68](#), [75](#), [79](#), [80](#), [82](#), [84–5](#), [98](#), [102](#), [107](#), [110](#), [118](#), [126–7](#), [130](#), [135–137](#), [139](#), [151](#), [153](#), [156](#), [162](#), [167–169](#), [172–3](#), [177](#), [182](#), [184–5](#), [188](#), [190](#), [195](#), [198](#), [200–1](#), [203](#), [208–211](#), [218](#), [220](#), [232–3](#), [236](#), [241–243](#), [245](#), [259](#), [261](#), [264](#), [267](#), [271–275](#), [280](#), [282–3](#), [285](#), [287](#), [301](#), [306–7](#), [311–2](#), [315–319](#), [323](#), [327–8](#), [331](#), [335–6](#), [345–6](#), [351–365](#), [367](#), [371](#), [374–377](#)

spillovers [23](#), [29](#), [36](#), [65](#), [79](#), [87–8](#), [111–113](#), [135](#), [168](#), [199](#), [201](#), [206–209](#), [211–2](#), [214](#), [235](#), [241–2](#), [247](#), [262](#), [268](#), [271](#), [275](#), [283](#), [285](#), [309](#), [310](#), [335](#), [356–7](#), [363](#)

spread effects [24](#), [30–1](#), [36](#), [39](#), [73](#), [79](#), [80](#), [114–5](#), [136](#), [203–205](#), [224](#), [241–2](#), [327–329](#), [352](#)

strategies [5](#), [6](#), [9](#), [21](#), [31–2](#), [34](#), [40–1](#), [49](#), [53](#), [65](#), [74](#), [103](#), [107](#), [121](#), [124](#), [130](#), [137](#), [140](#), [153](#), [160–1](#), [164](#), [166](#), [169–173](#), [176](#), [180](#), [184–189](#), [195–6](#), [199](#), [201](#), [203–206](#), [208–9](#), [211](#), [216–218](#), [224–5](#), [230–1](#), [235](#), [238](#), [240](#), [242–3](#), [245](#), [247](#), [257](#), [263](#), [272](#), [279–282](#), [284–291](#), [293](#), [302–3](#), [307](#), [316–318](#), [326](#), [329](#), [333](#), [337](#), [345](#), [349](#), [351–2](#), [355–6](#), [358](#), [360](#), [364–366](#), [373–4](#), [376](#)

structural interventions [34–5](#), [118](#), [201](#), [278](#)

structural upgrading [84](#), [131–133](#), [157](#), [218](#), [233](#), [239](#), [290](#), [364](#)
structure [15](#), [24](#), [26–7](#), [34–5](#), [41](#), [43](#), [60](#), [73](#), [86](#), [94](#), [103](#), [108–9](#), [115](#), [118](#),
[120](#), [122–3](#), [126–7](#), [131–2](#), [136](#), [138](#), [162](#), [165–6](#), [172](#), [176–178](#), [199–](#)
[201](#), [203](#), [208](#), [212](#), [214–5](#), [233–4](#), [262–3](#), [278](#), [284](#), [287–8](#), [307](#), [319](#),
[320](#), [322](#), [325](#), [335](#), [356](#), [359](#), [365](#), [374–5](#)
subsidiarity [175](#)
subsidies [23](#), [30](#), [41](#), [46](#), [61](#), [118](#), [257](#), [266](#), [271–2](#), [310](#), [323](#), [325](#), [336–7](#)
supply-side instruments [272](#), [280–1](#)
sustainability [26](#), [83](#), [91](#), [101](#), [115–120](#), [140](#), [196](#), [199](#), [201](#), [203](#), [205](#), [211](#),
[221](#), [229](#), [233](#), [268](#), [271](#), [281](#), [287](#), [291](#), [332](#), [335](#), [351](#), [355](#), [357–8](#), [360](#),
[367](#)
sustainable development goals [116–7](#), [120](#)
SWOT analysis [185–187](#), [191](#)

technology [1](#), [34](#), [53](#), [63](#), [70](#), [72–3](#), [78](#), [82](#), [84](#), [109](#), [118](#), [123](#), [133](#), [138–9](#),
[156](#), [185](#), [207–8](#), [210](#), [215–217](#), [226](#), [232](#), [236](#), [245](#), [258–262](#), [264–5](#),
[268](#), [270](#), [272](#), [278–286](#), [289](#), [290](#), [293](#), [333](#), [347](#), [354–5](#), [359](#), [375–6](#)
technopoles and science parks [216](#), [257](#), [271](#), [278–280](#), [293](#)
territorial capital [27](#), [110](#), [127–131](#), [133](#), [214](#), [327](#), [333](#), [363](#), [365](#), [374](#)
territorial cohesion [43](#), [48](#), [72](#), [101–103](#), [167](#), [311–2](#), [364](#)
territorial impact assessment (TIA) [103](#), [311–2](#)
Theil index [97–8](#)
theory-based evaluation [301](#), [305](#), [315–319](#)
thresholds [18](#), [36](#), [46](#), [69](#), [161](#), [189](#), [235](#), [325](#), [373](#), [376](#)
time/timing/timeliness [1](#), [4–6](#), [8–10](#), [14](#), [19–21](#), [26–7](#), [31](#), [33–40](#), [46](#), [48](#),
[58](#), [61](#), [65–6](#), [69](#), [70](#), [72–74](#), [76](#), [80](#), [83](#), [95](#), [99](#), [101](#), [110](#), [113](#), [116–7](#),
[119](#), [121](#), [125](#), [128](#), [131](#), [133](#), [136–140](#), [151](#), [160](#), [163](#), [170](#), [177](#), [182](#),
[187–190](#), [195](#), [198–200](#), [205](#), [207](#), [210](#), [213](#), [215–6](#), [219](#), [222](#), [225–227](#),
[230–1](#), [236–7](#), [239](#), [240](#), [244](#), [258–269](#), [271](#), [273](#), [281–283](#), [293](#), [301](#),
[305–6](#), [308](#), [310–1](#), [313–4](#), [318–9](#), [323](#), [326](#), [331–337](#), [347](#), [352](#), [359](#),
[363](#), [372–374](#)
top-down policies [21](#), [26](#), [37](#), [39](#), [42](#), [167–169](#), [191](#), [210](#), [282](#), [293](#), [313](#)
tourism [9](#), [68](#), [112–3](#), [158](#), [225](#), [237–245](#), [248](#), [355](#), [357](#), [359](#), [364](#)
trade [14–5](#), [34](#), [73–75](#), [199](#), [205](#), [210](#), [235](#), [240](#), [243](#), [246–7](#), [279](#), [292](#), [327](#),
[361–2](#)
trade-offs [5](#), [8](#), [13](#), [33–37](#), [40](#), [47–8](#), [51](#), [53](#), [76](#), [93](#), [110–116](#), [118](#), [140](#),
[151](#), [160](#), [187–191](#), [229](#), [247](#), [263](#), [266](#), [284](#), [305](#), [373](#), [376–7](#)
trajectories [15](#), [262](#), [323](#)
transparency [8](#), [42](#), [163](#), [175–6](#), [280](#), [288](#), [306](#), [314–5](#), [373](#), [376](#)
transport [31–2](#), [43](#), [59](#), [64](#), [70](#), [73](#), [80](#), [83](#), [117–120](#), [209](#), [221–223](#), [228](#),
[237](#), [247](#), [279](#), [309](#), [346](#), [348–351](#), [353–355](#), [357](#), [360](#), [363](#), [365](#), [375](#)
triple helix model [231–2](#), [275](#), [289](#)

unemployment [2](#), [27](#), [57](#), [75–77](#), [84](#), [86–7](#), [98](#), [120](#), [131](#), [136](#), [153](#), [157](#),
[209](#), [234](#), [239](#), [264–5](#), [315](#), [320](#), [371](#)
universities [1](#), [6](#), [9](#), [30](#), [62](#), [85](#), [133](#), [188](#), [215–6](#), [218](#), [231–233](#), [248](#), [257](#),
[263](#), [267](#), [271–279](#), [283](#), [290–1](#), [293](#), [306](#), [349](#), [364](#)

unused resources [77](#), [86](#), [327](#), [374](#)

urban areas [2](#), [7](#), [16–18](#), [23](#), [25](#), [31–2](#), [43](#), [59](#), [65–6](#), [70–1](#), [80](#), [83](#), [99](#), [106–7](#), [115](#), [118–9](#), [135–6](#), [140–1](#), [152](#), [165](#), [172](#), [203](#), [212](#), [232](#), [236–7](#), [241–2](#), [244](#), [246](#), [268](#), [312](#), [327](#), [345–6](#), [348–353](#), [355](#), [357](#), [359](#), [360](#), [363](#), [367](#), [375](#)

utilities [60](#)

venture capital [220–1](#), [233](#), [277](#), [353](#)

vertical instruments [272](#)

well-being [20](#), [39](#), [94–5](#), [101](#), [108–9](#), [117](#), [119](#), [120](#), [123](#), [138](#), [175](#), [196](#), [198](#), [243](#), [292](#), [320](#), [371](#)

yardstick competition [183](#), [367](#)