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POLICY DEPARTMENT B
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Agriculture and Rural Development

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IMPACT OF THE ECONOMIC CRISIS ON SOCIAL, ECONOMIC AND TERRITORIAL COHESION OF THE EU
Volume I

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EUROPEAN PARLIAMENT

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES

REGIONAL DEVELOPMENT

IMPACT OF THE ECONOMIC CRISIS ON SOCIAL, ECONOMIC AND TERRITORIAL COHESION OF THE EUROPEAN UNION

STUDY

Vol. I

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IMPACT OF THE ECONOMIC CRISIS ON SOCIAL, ECONOMIC AND TERRITORIAL COHESION OF THE EUROPEAN UNION

STUDY

Abstract:
The impact of the economic and financial crisis that started in 2008 is still being felt.

In November 2008, the European Commission launched a European Economic Recovery Plan with a view to coordinate Member States' action in response to the crisis.

In this context, the Study uses a combination of quantitative and qualitative methods in order to provide an overview of the impact of the crisis across Member States and regions, in terms of economic, social and territorial cohesion, and to assess the responses of cohesion policy to counteract the crisis.

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LIST OF ABBREVIATIONS

AGRI	Agriculture and Rural Development Committee
CAP	Common Agricultural Policy
CEECs	Central and Eastern European Countries
CJ	Court of Justice
CoR	Committee of the Region
DG	Directorate-General
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
ECB	European Central Bank
EERP	European Economic Recovery Plan
EI	European Institute
EIB	European Investment Bank
EIF	European Investment Fund
EMU	Economic and Monetary Union
EPSO	European Personnel Selection Office
ERDF	European Regional Development Fund
ESCB	European System of Central Banks
ESF	European Social Fund
ETF	European Training Foundation
EU	European Union
EUROREG	Centre for European Regional and Local Studies
Eurostat	Statistical Office of the European Union
INTERREG	Innovation & Environment Regions of Europe Sharing Solutions
JASPERS	Joint Assistance to Support Projects in European Regions
LSE	London School of Economics
LSEE	London School of Economics Enterprise (LSE Enterprise Ltd)
MSs	Member States

NGO	Non-governmental organisation
NUTS	Nomenclature of Territorial Units for Statistics (Eurostat)
OECD	Organisation for Economic Cooperation and Development
OJ	Official Journal of the European Union
OP	Operational Programme
OSCE	Organisation for Security and Cooperation in Europe
RQ	Research Question
SFs	Structural Funds
ToR	Terms of Reference
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WB	World Bank

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EXECUTIVE SUMMARY

Context and Aim of the Study

The impact of the economic and financial crisis is still being felt. It started as an acute crisis of the banking system, but then quickly affected the real economy, causing a substantial slump in business investment, household demand and output. European Union economies were deeply affected: in 2009 the EU GDP fell by 4.1% and industrial production by 20%.

In November 2008, the European Commission launched a European Economic Recovery Plan (EERP) with a view to coordinate Member States' action in response to the crisis. Among other things, the Plan stressed the importance of the role of cohesion policy in mitigating the effects of the crisis. Indeed, the Structural Funds, especially the European Social Fund, proved to be a remarkably flexible instrument, and the speed with which its procedures allowed for a re-direction of the funds has been praised. Nevertheless, its ability to adjust to widely diverse national and local contexts that have been impacted differently by the effects of the crisis, and to support the different patterns of economic growth that will result from it, is yet to be seen.

Conceptual Framework and Methodology

The conceptual framework that guides our research draws on relatively recent literature on how regional and local economies have been affected by, and responded to, disasters such as a major recession. The guiding question of this literature is why such macroeconomic shocks have a particular geography, i.e. why do they affect sub-national socio-economic spaces differently? The follow-up question is whether this geography has a discernible pattern, which is determined by certain economic features and political capacities.

There are three major transmission channels of the crisis to sub-national economies: (i) credit availability and interest rates; (ii) trade; and (iii) domestic/local demand. Once the crisis is transmitted from national to regional level, the diversity of sectors and economic activities is supposed to be an advantage. This refers to the sense of raising resistance, as different sectors exhibit different sensitivities, for example to interest rate shocks or a credit crunch. However, this may be counteracted by sectoral inter-relatedness which increases the transmission of a shock in a particular sector to all others. Indeed, along with the transmission factors, a second set of factors that shape the national/regional ability to innovate, as well as to adapt to shocks and change, are the so-called resilience factors. In particular, three key (quantitative) dimensions are relevant with reference to regional resilience: (i) regional sectoral specialisation/diversification patterns; (ii) human capital and skills; and (iii) innovation efforts.

Under the constraint of data availability, the quantitative analysis develops a broader picture of the link between the crisis and national and regional transmission, and resistance factors. Conversely, the case studies' analysis draws a more accurate qualitative picture of all these processes. This is achieved by making use of both literature reviews and desk research, but enriching the general information with a more in-depth analysis through conducting interviews with key actors.

Main Findings

Impact of the economic crisis on Member States and regions

First, compared to common belief channelled by media, the exploratory analysis carried out suggests a territorial picture which cannot be captured by simple **North-South metaphors**. Overall, while pre-crisis patterns are more complex and depend on whether attention is paid to economic or social variables, the picture that emerges analysing post-2008 trends is rather one resembling a centre-periphery spatial pattern.

It is possible to identify a core continental area where the impacts of the crisis have been low or moderately low. Such an area is centred on Germany, most of Poland, and partly extends to neighbouring regions (such as most areas of Slovakia and the Czech Republic) in a less homogeneous regional pattern. It is then circled by a group of more peripheral areas where the impacts have been high/very high and which include most of the regions of Ireland, Spain, parts of Italy, Greece, Cyprus, Lithuania, Latvia and Estonia.

Second, in terms of cohesion the analysis suggests overall that **two contrasting trends** are occurring. While within-country variation has shrunk, variation across the Union as a whole has increased overall both in terms of unemployment and of urban/rural economic inequalities.

Out of eight explanatory variables[1] that can describe the crisis transmission factors and regional resilience factors, and which were considered empirically in the Study, four are correlated with the outcome variable at a statistically significant level, meaning that they do explain post-2008 economic trends in the European regions. These four variables are: current account balance and foreign direct investments' stock net balance (crisis transmission factors) as well as specialisation in manufacturing & energy and in construction (regional resilience factors).

In **Italy**, where the crisis was driven by both private debt and sovereign debt, the initial impact of the crisis had an equalising effect. However, more recent developments of the crisis brought about changes in the opposite direction. Richer regions, where resilience factors are stronger, partially managed to reverse the trend, whereas the social and economic outlook kept worsening in Southern regions, where features in term of resilience and performance factors are very low.

In **Germany**, the crisis was transmitted through the trade channel. It had experienced the first wave of the global financial crisis primarily as a steep decline in exports in 2009, resulting in a decline in GDP. However, Germany was able to mount a strong recovery, which was to a large extent fuelled by trade with non-EU markets. The recovery was also accelerated by strong resilience factors in Germany, where innovation and human capital skills score above the EU average. This is confirmed in Bavaria and North Rhine-Westphalia.

Poland felt the crisis less and through different channels compared to developed economies such as Italy or Germany. Indeed, the financial institutions in Poland did not suffer from direct effects of the collapse of the mortgage market in the United States. Also, the Polish economy is less dependent on export markets, having the largest internal market among all

[1] Current account balance, foreign direct investments' stock net balance, government debt, sectoral specialisation in manufacturing & energy, sectoral specialisation in construction, sectoral specialisation in market services, university attainment, total R&D expenditure.

of the Central and Eastern European Countries. The reduction, in 2006, of pension contributions and taxes supported domestic consumption. The depreciation of the Polish zloty supported advantageous export terms. Also, the resilience factors in the examined regions show a moderate score and resisted the crisis because of the limited exposure to transmission channels.

The **Bulgarian** economy's performance is strongly interconnected with the performance of its trading partners and thus the crisis was channelled through the external (drop in exports and FDI) and real sectors (output contracted especially in construction, metallurgy, mechanical engineering, chemical and textile industries). However, the effect of the crisis has to some extent been limited due to the immaturity of its financial sector.

Responses of cohesion policy to counteract the crisis

The crisis has led to two main consequences that mainly affected the management of EU cohesion policy, which changed in order to favour spending and absorption of funds. In this respect, the Structural Funds (SFs), in the slowdown period, turned out to be effective as they helped to maintain the level of investments in the private and public sectors, and to implement some non-investment projects.

In convergence regions (such the two Italian regions as well as the two Polish regions), interviewees agreed that cohesion policy had a role in preventing an escalation of the social and economic consequences of the crisis.

The main constraints posed by the crisis – and determining a consequent adaptation of regional strategy – seem to be twofold:

(i) A shift away from long-term developmental objectives of the region in order to tackle the most immediate needs posed by the crisis;

(ii) Simplified measures and reduction of co-financing requests, due to the worsening financial situation of the beneficiaries, primarily enterprises and local government entities.

A common trait in underdeveloped regions is that regions with wider contextual problems tend to have a more complex strategy with strategic goals that are wide-ranging. This can be imputed to the region's considerable developmental backwardness and the need to design a 'broad-based economic development' strategy. Such a strategy tends to remain unchanged during the crisis, mainly because it already touches upon several alarming issues (this is the case in the Campania, Podlaskie, SC and NW regions).

Conversely, cohesion policy in competitiveness regions (such as Bavaria) was less relevant in reacting to the crisis. Indeed, these regions seem to be equipped with strong resilience factors that have made the impact of the crisis milder. Also, in these regions, cohesion policy does not address large and long-term problems, but instead focuses on specific problems that have not suffered from any change in strategies. This is a similarity that can also be found in more-developed convergence regions (such as Dolnośląskie).

Structure of the Report

The structure of the Draft Final Report is as follows:

The Introduction describes the key concepts and definitions of social, economic and territorial cohesion.

Chapter 1 provides a description of the conceptual framework used for answering the ToR’s research questions.

Chapter 2 offers a detailed description of the methodology used for each of the three main parts of the Study – Description, Assessment, and Conclusions.

Chapter 3 presents the main findings of the literature review concerning the impact of the economic crisis on regions and the responses of cohesion policy to counteract the crisis.

Chapter 4 delivers the quantitative analysis, which draws a broader picture of the impact of the crisis on both the national and regional levels.

Chapter 5 summarises the main outcomes of the work carried out in the eight regional case studies.

Chapter 6 provides conclusions.

Chapter 7 offers recommendations.

The report concludes with a bibliography and a number of annexes (Section 8).

INTRODUCTION: RESEARCH QUESTIONS AND KEY CONCEPTS

The crisis and cohesion policy

The economic and financial crisis

The impact of the economic and financial crisis which started in 2008 is still being felt. It started as an acute crisis of the banking system, but then quickly affected the real economy, causing a substantial slump in business investment, household demand and output. European Union (EU) economies were deeply affected: in 2009, the EU GDP fell by 4.1% and industrial production by 20%. In order to avoid a downward spiral, Central Banks swiftly resorted to a major monetary policy stimulus and national governments put in place a string of fiscal 'packages' which amounted altogether, including the effects of automatic stabilisers, to some 5% of GDP.

As a result of these efforts, financial markets were stabilised and the real economy was set back on a moderate growth path. Nevertheless, the Commission's winter 2013 economic outlook forecasts low annual GDP growth in 2013 of 0.1% in the EU and a contraction of 0.3% in the euro area based on the weakness of economic activity towards the end of 2012, the low starting point for the current year and a very modest return of growth. The adverse impact of the crisis is expected to unfold over several years. For one thing, the labour market, which typically lags behind developments in the real economy, is still showing considerable signs of weakness. Unemployment in the EU is forecasted to overshoot 11% in the EU and 12% in the euro area in this year. The young have been particularly badly hit: youth unemployment already reached 23% in the last quarter of 2012 and is expected to remain high throughout 2013. Moreover, long-term unemployment, which tends to be relatively low at the inception of economic crises when the new inflow into unemployment is high, will soon start to rise significantly. This is likely to exacerbate existing problems with poverty and social exclusion.

The story of the past years shows, once more, that Member States (MSs) have good potential to act in concert in the monetary policy field – especially the euro area, through the European Central Bank – but limited ability for coordinated action on fiscal and employment policy.

The role of cohesion policy in counteracting the crisis

In November 2008, the European Commission (EC) launched a European Economic Recovery Plan (EERP) with a view to coordinate MSs' action in response to the crisis. Among other things, the Plan stressed the importance of the role of cohesion policy in mitigating the effects of the crisis. Yet the key challenge at this point in time is flexibility. Even though the risk of a 'double dip' seems to have been avoided, in a relatively short time-frame public policies have had to adapt to different contexts and meet different needs in order to deal with the chain of events that brought the EU from a period of economic growth (2006-2008), to economic crisis (2008-2010) and, finally, to recovery (from 2010 on).

The Structural Funds, indeed, proved to be a remarkably flexible instrument, especially the European Social Fund (ESF). Indeed, the speed with which its procedures allowed for a re-direction of the funds has been praised. Yet its ability to adjust to widely diverse national and local contexts, which have been hit differently by the effects of the crisis, and to support the different patterns of economic growth that will result from it, is still to be seen. In some MSs, economic recovery has entailed a thorough revision of previous growth models. For instance, countries with fast-growing construction sectors have been forced to move resources towards manufacturing and services and reconsider their use of the European Regional Development Fund (ERDF). This, in turn, has created the need for investment in new skills and new forms of coordination between relevant stakeholders. These investments must be supported by adequate policy instruments and clear long-term strategies. Thus, the role of SFs in mitigating the effects of the crisis and supporting future national strategies is potentially of paramount importance.

However, one shortcoming of cohesion policy is that for SFs to be deployed at the regional level they require that projects are co-financed by regional and national budgets. This principle suggests that the more a region has been affected by the crisis, the less it will be able to mobilise resources to implement SFs. In this context, the following research questions (RQs) guided the Study:

RQ1. What is the impact of the economic and financial crisis on European economic, social and regional cohesion? Have the inequalities increased or decreased and which are the regions that won/lost the most?
RQ2. Which are the main changes, caused by the crisis, in terms of the local/regional variables like public finances, poverty, labour market or economic activities?
RQ3. What is the impact of the economic and financial crisis on implementation of cohesion policy and use of the Structural Funds and the Cohesion Fund?
RQ4. Effectiveness of cohesion policy before and after the crisis. Has it changed? If yes, in which aspects?
RQ5. What are the main constraints, caused by the crisis, for the implementation of cohesion policy?
RQ6. How have different regions adapted their regional strategies and management of the Structural Funds?
RQ7. How have different regional strategies resulted in different degrees of capability of crisis resistance and helped counteract the crisis?

Source: Tender Specification, European Parliament.

These guiding questions have been adapted and are supplemented by more specific questions throughout the analysis.

Definition of key concepts

This section outlines the definition of economic, social and territorial cohesion in order to provide a theoretical framework for the operationalisation of these key concepts. The review is based on an analysis of existing recent material from EU Commission Cohesion reports, published yearly since 1996, and annual progress reports on cohesion, as well as academic literature and studies. The aim is to capture the historical evolution of these concepts, the current understanding of them, and an overview of the ways in which they have been operationalised in this Study.

What is economic, social and territorial cohesion?

This sub-section analyses the concepts of economic, social and territorial cohesion as related to the EU context. It firstly presents a brief overview of the evolution of the notion of cohesion in the EU framework, and then the definition of its three dimensions as provided by the EU institutions and as discussed by the most relevant academic literature.

Concern about cohesion within the European architecture first arose in the Preamble of the Rome Treaty (1957:2), which recognised the aim to *'strengthen the unity of their economies and to ensure their harmonious development by reducing the differences existing between the various regions and the backwardness of the less favoured regions'.* In 1957, however, the establishment of a European Social Fund (ESF) and the legal basis for *'one or more agricultural guidance and guarantee funds'* (ibid: 17) were the sole policy responses to such concern. A renewed focus upon cohesion was then emphasised in the Thomson Report (1973), precursor of the establishment of the European Regional Development Fund (ERDF), which considered a commitment towards the reduction of regional disparities as a *'human and moral requirement of the first importance'* for the existence of a Community and as necessary for achieving the Economic and Monetary Union (EMU).

The formal inclusion of economic and social cohesion among EC competencies followed a decade later with the 1986 Single European Act. From then on, the EU institutions pursued a more structured approach to cohesion and its finance (the SFs and the Cohesion Fund, the latter introduced with the 1992 Maastricht Treaty), which led to the on-going reform process. The notion of territorial cohesion is added to the other two dimensions only with the Lisbon Treaty and aims at emphasising *'the role of cities, functional geographies, areas facing specific geographical or demographic problems and macro-regional strategies'* (EC, 2010c:28). It was already introduced in the Second Cohesion Report (2001), reflecting the EU agreement on the European Spatial Development Perspective (1999) which *'signalled the inauguration of the recognition that the economic and social dimensions had spatial/territorial impacts that policy needed to take into account'* and that *'policy, at European, national, regional and local levels needed to be framed with this in mind'* (Servillo *et al*., 2011:351).

In the current EU legal framework, economic, social and territorial cohesion are named among the objectives of the EU (art.3 TEU) and listed as shared competencies of the EU (art.4 TFEU). Articles 174-178 TFEU set the legal basis of cohesion policy, outlining the EU's goal to reduce disparities and its three instruments to attain this.

The definitions of the three dimensions of cohesion are provided in the European Commission's Cohesion Report:

- **Economic cohesion** is defined by the First Cohesion Report as the *'convergence of basic incomes through higher GDP growth, of competitiveness and employment'* (EC, 1996:13).
- According to the First Cohesion Report, the aim of **social cohesion** is instead *'the reduction of the disparities which arise from unequal access to employment opportunities and to the rewards in the form of income'* (EC, 1996:13). The term embraces five complementary aspects which ground the concept in a normative perspective (EC, 1996:14): universal systems of social protection, regulation to correct market failure, systems of social dialogue, policies which promote solidarity and mutual support, and policies which strengthen the productivity of European society and contribute to economic and social wellbeing.

- The **territorial dimension of cohesion** is defined in the Third Cohesion Report (2004) as anchored in fundamental values embodied in the EU's Treaty and, in particular, in its right to not *'be disadvantaged by wherever they happen to live or work in the Union'* and to *'have access to essential services, basic infrastructure and knowledge'* (EC, 2004:27). In this context, attractiveness and mobility are considered important factors to be addressed by policy objectives. By the time of the fifth report (2010), following the official recognition of territorial cohesion as the third dimension of cohesion, a change was introduced by the 2008 Green Paper 'Turning Territorial Diversity into Strength', and then strengthened by the 2009 Barca Report, which focused on diversity as a means of attraction (EC, 2008d; Barca, 2008). Finally, the Sixth Progress Report on Cohesion noted that the policy goal of territorial cohesion is *'to encourage the harmonious and sustainable development of all territories by building on their territorial characteristics and resources'* (EC, 2009:6).

The academic literature has tried to identify some characterising features of the three dimensions of cohesion as inscribed in the EU framework. Firstly, their goal is to reach a greater equality in opportunities rather than a harmonisation of outcomes (EPRC, 2010). Secondly, this goal implicitly contains a normative judgment about the degree of disparities which should be considered politically or socially tolerable or should instead be reduced (Molle, 2007). Thirdly, it shares the importance of narrowing disparities without hampering growth of the most advanced regions (EPRC, 2010). In this line, some authors recognised a shift from the initial redistributive purpose of the policy towards enhanced attention on fostering competitiveness (Begg, 2010; Rumford, 2000). Finally, whilst the notion of cohesion originally focused on long-term development, in the wake of the current financial crisis, the 2008 report on the role of the SFs and Cohesion Fund in recovery suggested a more balanced approach between short-term and long-term impacts on the growth capacity of the MSs' economies (EC, 2008c).

The difficulty in pinning down a precise definition of cohesion reflects a lack of agreement upon the political motivation that led to the creation of the policy (Begg, 2010; Begg, 2003; CoE, 2000; Molle, 2007). The often referred aims of *'internal solidarity'* and *'mutual support'* seem to reflect, according to some authors, the EU's broad aim to simply *'be more than a giant market-place'*, a redistributive intent or a concession to interventionism in an EU increasingly dominated by the logic of the market (Rumford, 2000; Drake, 1994; Amin and Tomaney, 1995). Other authors refer instead to the necessity of paying greater attention to internal differences as a necessary element in the construction of a monetary union, as suggested by the Barre Document and the Weber Report,[2] and as a result of the outbreak of the oil crisis which raised social issues within EC debates and drew attention to the close link between declining industries and specific territorial areas (Manzella and Mendez, 2009). Finally, another group of authors explains the origin of the policy as the result of political bargains. In this perspective, EU cohesion policy represents well-calculated side-payments, a monetary reward granted in exchange for an agreement in which the receiving party has an incentive to defect (Leonardi, 2005; Marks *et al*., 1996; Pollack, 1995).

[2] See the Commission's Memorandum on the coordination of economic policies and monetary cooperation (12 February 1969), in Bulletin of the European Communities, 1969, No Supplement 3/69, pp. 3-14 and Report on the realisation by stages of economic and monetary union (8 October 1970), in Bulletin of the European Communities, 1970, No Supplement 11/70, pp. 5-29.

Our approach to operationalise the three dimensions of cohesion

In order to operationalise the concept of cohesion for the purpose of this Study, our approach takes stock of the above review and the many indicators suggested. It follows eight recognised axes divided by the three broad dimensions of economic, social and territorial cohesion, as outlined in Table 0.1. These eight thematic axes of cohesion policy represent the channels through which the SFs and the cohesion fund are targeted to MSs and regions. The relevance of these subdivisions is recognised by their reiteration by the European Commission and MSs in implementing, monitoring and evaluating the effectiveness of cohesion policy.

Table 0.1: Indicative list of eight thematic axes

ECONOMIC COHESION	Enterprises	Innovation
	Structural adjustment (sectoral development)	Green economy
SOCIAL COHESION	Labour market/social inclusion	Community development
TERRITORIAL COHESION	Spatial distribution of economic activity within the region	Infra-regional infrastructural endowment

Source: authors

Each thematic axis is captured by a number of recognised indicators listed in Table 0.2.

Table 0.2: Indicative list of indicators to operationalise the concepts

THEMATIC AXES	COHESION POLICY RESPONSE TO THE CRISIS	INDICATORS
Economic Cohesion	**Main action: Assist SMEs to develop innovative approaches**	**GDP per capita**
Enterprise	• Help SMEs gain access to finance • Help start-ups • Identify tomorrow's jobs for recovery • Encourage entrepreneurship and job creation	• Gross fixed capital formation at regional level • Number of SMEs
Structural adjustment	• Better anticipate and manage restructuring	• Service-sector employment • Nights spent in tourist accommodation establishments • Total labour productivity (GDP/employed)
Innovation	• Help small businesses maintain and develop innovative approaches	• Human resources in science and technology (total) • Employment in technology & knowledge-intensive sectors • Total numbers of patent applications per million inhabitants
Green economy	• Increase the share of energy-	• Biotechnology patent applications

	efficiency investment	• Greenhouse gas emissions • Share of renewable energy in energy production
Social cohesion	**Main action: Assist groups worst hit by the crisis**	**Dispersion of regional employment rates**
Labour market	• Give young people opportunities • Keep people in employment • Immediately help the unemployed • Tackle long-term unemployment • Make workers' mobility easier • Upgrade skills at all levels	• Disposable household income • Unemployment: by age groups (youth, adults, older), by sex and total • Employment rates: by age groups (youth, adults, older), by sex and total • Long-term unemployment as a share of total unemployment
Social inclusion	• Combating poverty	• Aged people at risk of poverty • Dispersion of unemployment rates • Total number of crimes per 1000 inhabitants • Young people aged 18-24 NEET
Community development	• Promoting active inclusion	• Infant mortality rate • Participation of adults in education and training (some years and regions missing from regional data) • Participation of employed person in Lifelong Learning • Total number of students attending tertiary education (ISCED levels 5/6)
Territorial cohesion	**Main actions: integrated territorial development**	**Accessibility potential**
Spatial distribution of economic activity	• Support for strong local economies • Build innovative territories	• Ratio between GDP per capita in mostly urban vs. rural regions • Ratio between % of population at risk of poverty in densely vs. thinly populated areas
Infra-regional infrastructural endowment	• Ensure fair access to services & markets • Build attractive regions of high ecological values and strong territorial capital	• Length of railways, motorways • Infrastructural bottlenecks: total vehicles/km of roads • Investments and maintenance spending in transport infrastructures

Source: authors

This approach is especially useful for evaluating the impact of the economic crisis as well as cohesion policy’s reaction due to four characteristics:

a. It clearly links the thematic axes according to which funds are distributed to the concepts that we want to measure: economic, social and territorial cohesion.
b. The approach makes the connection between the three concepts and wider issues in social-economic analysis which have been evaluated before and during the on-going crisis from various perspectives. These are inequality, competitiveness and regional imbalances. These wider issues are directly linked with growth and the paths to growth after the crisis, as well as with growth and convergence models.
c. On their side, these areas and wider issues directly link the economic, social and territorial cohesion with the three objectives of cohesion policy ('Convergence', 'Regional Competitiveness and Employment', 'European Territorial Cooperation').
d. The themes clearly relate to the move from the Lisbon Strategy to Europe 2020 and the precise targets which each of the countries and regions have set for themselves.

Objectives of the Study and overview of our approach

The Study aims to shed light on the impact of the economic and financial crisis on different EU regions and regional strategies. The crisis has affected regions differently, conditional on their initial situation, national economic strengths and weaknesses, their sectoral structure and the response of policy-makers. Even though the crisis initially started in the financial sector, it quickly spilled over to the real economy and has not necessarily had the strongest impact on those areas with the largest banking sector, as initial research would suggest. By looking into these aspects, the Study objectives are twofold:
1. To offer a description of how MSs and regions have seen a change in their main economic, social and territorial indicators during the crisis period;
2. To provide an in-depth analysis of eight regional case studies in order to investigate if and how cohesion policy measures and regional policy strategies have changed in order to counteract the crisis.

With regard to the impact of the crisis on regional policy, the Study explores the different responses by regional governments which have a direct or indirect link with the anti-crisis measures proposed by the Commission in the EERP.

General research design

The research design used for the Study consists of three structural dimensions that respond to the ToR specifications. The structural dimensions constitute the fundamentals of the research design, by determining its approach, scope, and time.
1. Approach: the breadth of our research design spans across the MSs, by adopting a territorial approach that analyses their similarities and differences and thus, has allowed for the selection of a representative sample of regions.
2. Scope: the scope of our research design achieves a balance between documentary evidence (secondary data) and fieldwork, producing evidence (primary data) that most of all yields comprehensive findings.
3. Time: the timeframe of our research design incorporates the pre- and post-crisis contexts, thus allowing for the appropriate comparative analysis of the degree of significance of policy and programme adjustments.

Research components

In order to answer the RQs and contribute to the understanding of the present situation and possible future developments, the Study is divided into three main research parts:

1. **Description:** This descriptive section is not meant to provide a causal explanation but a synthesis of information, based on the desk research, relating to the economic, social and territorial cohesion of the entire EU (Chapters 3 and 4). The focus of this section of the Study is to answer RQ1 and RQ2.
2. **Assessment:** This analytical section is based on in-depth examples of eight case studies representative of all the EU, of the impact of the crisis on different regions, identifying how the different regional strategies might have helped to counteract the economic and financial crisis (Chapter 5). The focus is more on RQ3, RQ4, RQ5, RQ6 and RQ7.
3. **Conclusions:** On the basis of having assessed practices in Europe, recommendations for improving the strategies of cohesion policy implementation are made in order to facilitate future policy-making (Chapter 6 and 7).

1. CONCEPTUAL FRAMEWORK

In this chapter, we outline the conceptual framework that guides our research. It draws on relatively recent literature that has studied how regional and local economies have been affected by and responded to disasters, such as a major recession (Martin, 2012: 1-2). The guiding question of that literature is why such macroeconomic shocks have a particular geography, or in other words why they affect sub-national socio-economic spaces differently. The follow-up question is whether this geography has a discernible pattern that is determined by certain economic features and political capacities. These two general determinants are not necessarily overlapping, e.g. an economic feature like the dominance of a sector for regional employment may not correspond to a region in administrative-political terms that can produce certain public goods. For our case studies, we have to take the latter as given, namely NUTS 2 regions, and seek economic features that include their extra-regional linkages.

The research questions as formulated in the terms of reference for this report are well-served by this perspective that is concerned with the 'resilience' of regions in the face of shocks. The research questions ask for the effects of the crisis on cohesion (RQ1-RQ2), the effects of the crisis on the implementation and effectiveness of cohesion policy (RQ3-RQ5) and the adaptations of cohesion policies in the regions triggered by the crisis (RQ6-RQ7). All these questions assume that the regions had to address a recessionary shock that was not of their own making. In some European MSs, such as Ireland or Spain, this may be too strong an assumption of exogeneity. Our case study selection of two regions in each of Bulgaria, Germany, Italy and Poland is, however, compatible with this assumption that treats the crisis as a shock, not as the manifestation of a crisis that was generated within the region.

1.1. The ambiguous effects of the crisis on cohesion

Why is the effect of the crisis on the equality of regions in Europe not straightforward and requires some empirical research to establish? Ex ante, the impact of the crisis on regional inequalities is ambiguous, i.e. inequalities may have increased or decreased especially for our timeframe that extends to about 2010. This is due to the nature of the financial crisis. It is, in most MSs, a private debt crisis that turned into a sovereign debt crisis. Private debt was accumulated in current account deficits and in mortgage credit, the latter fuelling house-price inflation and thus costs of living, with an effect on wage demands. The construction boom, increasing rates of home-ownership and rising earnings, in particular for employees in the financial sector, came to an abrupt end in 2008. Regions that were flourishing before the crisis were then hit in more than one respect: relatively well-paid work in construction and related sectors disappeared, middle-class households were left in negative equity, and white-collar workers lost their jobs. To the extent that migrant workers or second-home owners from other EU countries were affected by the housing-market crash, there was some cross-border risk-sharing.

In other words, it is conceivable that there was a paradoxically equalising effect of the crisis until 2010, because better-off regions lost relatively more and better-off households within regions were more exposed to the materialising downside risks. The historical study of Reinhart and Rogoff (2009), as well as the experience of two lost decades in Japan, suggest that the return to normal growth and previous income levels may take a long time. The challenge for cohesion policy would be that the deprivations suffered by such formerly well-off regions would not necessarily trigger a policy response: income levels or unemployment rates may still be above the national average or above the thresholds defined for qualifying. But without stabilising intervention, these regions may slip into a downward spiral of depressed household demand, loss of employment opportunities and outmigration of the younger skilled workforce.

Yet, we can also think of a scenario in which in many dimensions of more vulnerable regions are even harder hit than better-off regions. This is because jobs in poorer regions may be more dependent on demand from outside the region, as the low purchasing power of households does not support a self-sustaining dynamic of income growth. The drying-up of trade credit can lead to mass unemployment, exposing the vulnerabilities of such regions immediately. The pervasive nature of this crisis also means that migrants from such regions can no longer support their families with remittances and may even have to return due to lack of employment opportunities elsewhere. Labour migration that acted as a trickle-down mechanism of growth before the crisis may thus work in reverse: in the crisis, it can act as a mechanism through which richer regions and MSs manage to cushion the blow for themselves, to the detriment of poorer regions. The silver lining in this scenario is that cohesion policy is designed to deal with exactly such situations: income levels and other indicators of deprivation are meant to trigger a response. The second phase of the crisis, when it turns into a sovereign debt problem, may preclude an adequate response from cohesion policy, because its limited size cannot compensate for the cutbacks that the fiscal authorities are then forced to implement.

In short, our Study has to differentiate between the impact of the crisis on inequalities in different dimensions within and between regions (RQ1) and the effect of the crisis on various outcomes that determine the wellbeing of residents in these regions (RQ2). This analytical distinction between inequalities and outcome levels allows us to capture two distinct aspects of the impact that the crisis had on cohesion. While outcomes such as public finances, poverty and economic activity must have been affected negatively everywhere, the extent to which this was a fairly uniform process or led to rising inequalities between regions, at least temporarily, is an open question. The answer to this latter question will determine how much additional pressure will be created for cohesion policies by answering the second set of questions (RQ 3-7). For instance, rising inequality between regions, making poorer regions even poorer while better-off regions get through the crisis relatively unscathed, is likely to trigger more labour migration, social tensions and long-lasting divergence of living standards than if the crisis had no such differential and regressive effects. If, however, better-off regions are now the big losers from this crisis, cohesion policy may have to tackle new challenges, comparable but not equal to de-industrialisation.

1.2. The differential impact of resilience and performance indicators on regional and cohesion policy

The second set of RQs (RQ3 to RQ7) leads the qualitative assessment related to how cohesion policy has been challenged by the crisis and how it has responded to the crisis. Generally speaking, the transmission channels of the crisis influence where the challenge came from and how well cohesion policy was equipped to meet that challenge. For instance, if the local economy is dominated by sectors that have a relatively high need for capital (manufacturing rather than service sectors), the transmission of the crisis came through a prolonged credit crunch. Cohesion policy can alleviate the financing needs of local firms, but the question is how fast and effectively the local administration can respond to make up for the failure of banks. This administrative capacity (Milio,2007; Milio,2010) as well as the sectoral composition of income and employment are, in turn, determinants of how resilient the region is to the shocks transmitted. Regional resilience is defined as 'the ability of a region to anticipate, prepare for, respond to, and recover from a disturbance' (Foster 2007: 14). Given our timeframe determined by the availability of data, we have to focus on the preparedness and the response to the crisis. There are three major transmission channels of the crisis to sub-national economies which have not themselves generated the crisis, as in Ireland or Spain (Groot *et al*., 2011: 441-445; Gourinchas and Obstfeld, 2011; Babecký *et al*., 2012). For our purposes, we can disregard exchange rates.

- Credit availability and interest rates: while this is nationally determined, a region may still suffer more if SMEs have a high share in regional output and employment because they tend to be more rationed by financial institutions and cannot themselves issue debt instruments.
- Trade: to the extent that the region has export-oriented sectors, the crisis may be more readily transmitted, but subsequently the economy can also benefit from a resumption of growth elsewhere.
- Domestic/local demand: if the export-orientation of the regional economy is low, transmission will depend on how strongly domestic or local demand was affected by the crisis, notably how much unemployment rose in the aftermath of the Lehman Brothers collapse.

The resilience of regions has different dimensions (cf. Martin, 2012: 11): (a) Resistance, which refers to how sensitive regional output and employment respond to a shock – this will, in turn, determine the strength of demand for public intervention generally and for cohesion policy in particular; (b) Recovery, that is how fast and comprehensively the region bounces back from a negative shock like the financial crisis since 2008 –this will determine how long there will be exceptional pressure on public policy; and (c) Reorientation, which concerns the extent to which a regional economy changes subsequent to a shock – which constitutes a long-term need for public intervention if it is feared that the structural reorientation leads to a low level equilibrium.

As already mentioned, the time horizon of our Study can only capture the extent of crisis resistance and how it was affected by (the adaptation of) cohesion policy, as explicitly mentioned in RQ7. The sectoral composition of the regional economy is a main factor determining regional crisis resistance. *'Conventionally, […] manufacturing and construction industries have been viewed as being more cyclically sensitive than private service industries, and the latter more sensitive than public sector services, which are often assumed to be largely immune to economic recessions*.' (Martin, 2012: 13) The sectoral structure is a composite indicator that captures institutional and economic-structural determinants (Groote *et al*., 2011: 449). The regional sensitivity is a product of these sectoral sensitivities and the corresponding shares of sectors in the region. This determines how strongly the regional economy, its output and employment, reacts to cyclical shocks.

Another determinant of resistance is that output and employment may show different degrees of sensitivity to shocks. The two may react differently because the strictness of employment protection may prevent falling output to translate into a proportional fall in employment. More stringent protection and less flexible labour markets may be an advantage for the resilience to temporary shocks, in that stable employment stabilises local demand, with productivity absorbing the shock (Groote *et al*., 2011: 447-449). Hence, we look at both employment and output in our empirical analysis.

The diversity of sectors and economic activities is supposed to be an advantage in the sense of raising resistance, as different sectors exhibit different sensitivities, say to interest rate shocks or a credit crunch. However, this may be counteracted by sectoral inter-relatedness which increases the transmission of a shock in a particular sector to all others (Martin, 2012: 12). Hence, the effect of a fairly diversified economic structure on resistance is ambiguous. Public sector employment is likely to be hit hard after the crisis, due to the fiscal legacy of the financial crisis and bond markets forcing national governments to pro-cyclical retrenchment measures. Resilience will be affected in all dimensions, depending on how much output and employment rely on the size of the public sector. It is likely that the fiscal constraints are relevant for the long-lasting effects on the specialisation of regions and the availability of secure employment, but limited data availability on the outcome of fiscal restraint does not allow us to substantiate this point. It is still worthwhile identifying the fiscal environment in which cohesion policy operates in the aftermath of the crisis.

The way in which our empirical analysis captures crisis resistance (resilience in the narrow sense) is discussed in the methodology section of this report (Chapter 2). Under the constraint of data availability, the quantitative analysis develops a broad picture of the link between the crisis and national and regional transmission and resistance factors (addressing RQs 1 and 2). Conversely, the case studies analysis draws a more accurate qualitative picture of all these processes (answering RQs 3 to 7).

Two caveats are in order: cohesion policy is a relatively small support mechanism compared to private and public domestic demand, especially in large and rich MSs such as Germany and Italy. For Poland and Bulgaria, countries for which regional policy funding is vital, the amounts involved relative to the regional budget and GVA are not in and of themselves able to engineer a recovery. It is also important to bear in mind that the implementation of anti-crisis measures through cohesion policy needs to be seen within the context of broader domestic recovery packages, which may be of more relevance in shaping programme responses. However, this is not part of the Study, which focuses solely on cohesion policy changes in order to counteract the crisis. The other caveat concerns the time horizon. The difference between the short term and the long run is crucial, as indicated by the possibility of double-dip recessions and the fact that labour market flexibility is not necessarily an advantage in a crisis; only time can tell whether employment protection and labour-hoarding has merely postponed adjustment or was a way of smoothing the blow for regional growth.

2. METHODOLOGY

Based on the general approach and conceptual framework, this chapter describes the methodology for each of the three parts of the Study.

2.1. Description

The aim of the descriptive section is to provide an overview of the impact of the crisis through both qualitative and quantitative approaches. In light of the complex task at hand, below we present the methodology used to respond to the research questions.

Literature review

Literature on the economic and financial crisis and on the economic, social and territorial cohesion in the EU is abundant, and the purpose of the assessment is to differentiate the publications which have the strongest explanatory value. In order to achieve the objective **to describe the impact of the economic crisis on economic, social and territorial cohesion**, the literature review discussed in Chapter 3 is divided according to the two broad themes of the Study:

- Impact of the economic crisis on regions
- Responses of cohesion policy to counteract the crisis.

The Study makes use of existing recent material from literature, academic studies, websites, databases and any other relevant sources such as EU institutions, authorities of the MSs, research institutes and think tanks.

Quantitative analysis

Chapter 4 represents the second part of the descriptive part of the Study. The first section of the investigation is based on the analysis of quantitative indicators in order to shed some new light on links between the economic and financial crisis and economic, social and territorial dynamics of the EU regions. In particular, a quantitative approach is adopted in order to address RQ1 and RQ2:

RQ1. What is the impact of the economic and financial crisis on European economic, social and regional cohesion? Have inequalities increased or decreased and which are the regions that won/lost the most?

RQ2. Which are the main changes caused by the crisis in terms of local/regional variables like public finances, poverty, labour market or economic activities?
In order to answer these questions, this section of the Report:

a) Operationalises the conceptual framework discussed in Section 3.1 in order to identify the key quantitative indicators and their expected links; and
b) Identifies appropriate analytical strategies.

It is crucial to bear in mind that this section of the Study makes no claim to offer any causal interpretation of the determinants of national and regional impacts of the economic and financial crisis. There is consensus in the existing academic literature that, given the current constraints in terms of data availability (in particular at the regional level), any such attempt would be not only premature but potentially misleading (Groot *et al*., 2011; Martin, 2011).

Conversely, in line with the existing literature, this section of the Study presents a systematic and theory-driven analysis of a number of key quantitative stylised facts on the links between the economic and financial crisis and both regional economic performance (RQ1) and broader structural conditions (RQ2).

Operationalisation of the conceptual framework

The conceptual framework presented in the previous section can be operationalised by identifying a set of pre-crisis conditions able to capture two key aspects:

1. **Crisis transmission factors** – Macro-national conditions/imbalances driving the transmission of the crisis from the international context into the national and regional economies. These factors provide us with a partial explanation for the depth of the crisis in various countries and its 'triggers' and/or 'multiplier' factors. They can be linked to three key dimensions:
    a. Degree of global financial and trade integration;
    b. Fiscal policy and budget imbalances (leading to subsequent fiscal austerity and debt crises);
    c. Sectoral structure (for example with reference to the specialisation in financial services sector or constructions).

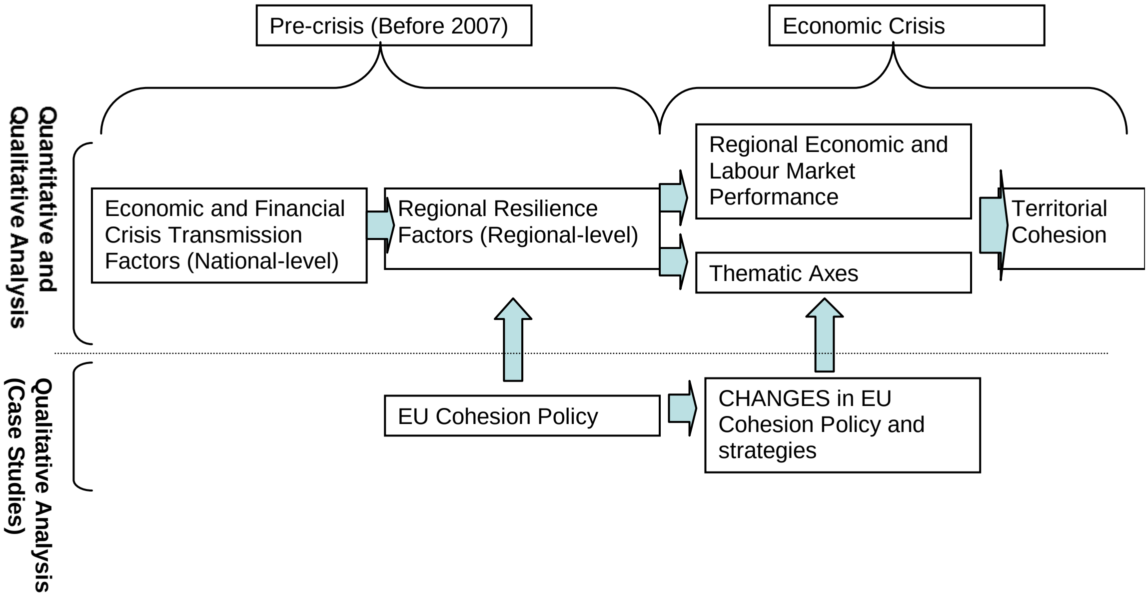
2. **Regional resilience factors** – The economic literature has identified a set of key quantitative features of regional economies that shape their ability to innovate and adapt to shocks and change (Crescenzi, 2009; Crescenzi and Rodríguez-Pose, 2011; Crescenzi *et al*., 2013). In particular, three key (quantitative) dimensions are relevant with reference to regional resilience:
    a. Regional sectoral specialisation/diversification patterns;
    b. Human capital and skills;
    c. Innovation efforts.

Global recession-spreading mechanisms (Point 1 above) and Regional Resilience Factors (Point 2) interact in shaping the regional impacts of the crisis that can be captured by making reference to two key dimensions:

A. **Regional economic performance and labour market outcomes** that, in their turn, impact upon the overall degree of territorial cohesion of the EU (RQ1)
B. **Broader regional factors affecting long-term wealth and wellbeing** captured by the 'thematic axes' presented in this Report (RQ2).

The operational framework for the analysis is summarised in the chart below

Graph 2.1: Operational framework



Source: authors

Empirical Strategy

In order to answer RQ1 and RQ2, this Study adopts a multiple-step methodology.

The initial step is based on the descriptive analysis of quantitative proxies for Crisis Transmission Factors, Regional Resilience Factors and Regional Economic and Labour Market outcomes and Broader Regional Factors/Thematic axes. These indicators are compared before and after the start of the economic and financial crisis (i.e. before and after 2007). A preliminary list of indicators is attached in Annex 10.4.

In terms of data collection, the following working criteria are applied:

- Pre-crisis indicators cover 2000-2007 when possible.
- Regional economic performance and labour market outcome indicators make reference to the 2008-2011 period (although in some cases data availability limits the time coverage to 2010).
- Indicators for the thematic axis are calculated both for the pre-crisis (2000-2007) and the crisis periods up to 2011, where possible.

The second step – following Groot *et al*. 2011 – develops a detailed correlation analysis between the Crisis Transmission and Regional Resilience Factors in the pre-crisis period vs. Regional Economic and Labour Market outcomes and Broader Regional Factors during the crisis. Where allowed for by the availability of regional indicators, both levels and changes of ‘outcome’ indicators are analysed for different time intervals following the start of the crisis.

2.2. Assessment

Having conducted the general overview of all EU regions, the purpose of the assessment is to identify how cohesion policy and, more broadly, regional strategies have changed in order to counteract the crisis. In order to do so, the Study has selected eight regions, which might be of general interest, to evaluate the severity of the crisis as well as the effectiveness of cohesion policy under crisis conditions.

The methodology deployed for the assessment builds on the methodology of the quantitative analysis, making use of both literature review and desk research, but enriching the general information with a more in-depth analysis. A meaningful use of case studies requires the employment of a multi-method approach, in order to maximise the contribution of differential data sources, ensure the greatest possible complementarity of information by way of 'triangulation', and strengthen the power of the analysis and, with it, the significance and validity of the findings. Ultimately, the yielding of such results and findings allows us to identify the impact of the crisis on the implementation of cohesion policy, as well as the effectiveness of the different regional strategies and use of EU funds for counteracting the crisis.

The methodology applied to identify and construct each case study is based on three steps:

Box: Methodological steps

Step 1. Case study selection

Step 2. Deskwork data collection

Step 3. Fieldwork data collection

Step 1. Case study selection

The selection of regions is based on two criteria.

1. **'Impact Criterion':** The different impact of the financial and economic crisis. MSs have been ranked according to the indicators selected for economic, social and territorial cohesion.
2. **'Policy Change Criterion':** The ESF and ERDF policy and cohesion policy changes carried out by MSs since late 2008, i.e. as a response to the economic crisis.

Our selected MSs cover both old EU MSs – Italy and Germany – as well as new MSs – Poland and Bulgaria. The following reasons justify this choice: Italy is representative of the EU southern states that have been hit by the economic crisis and are still struggling to recover (like Spain, Portugal and Greece); Germany is representative of centre-north MSs which are slowly recovering from the crisis (like France, Austria, UK); Poland is representative of new EU MSs which have the highest performance in terms of cohesion policy spending, whereas Bulgaria has the worst performance; and Poland and Bulgaria have suffered the crisis differently.

Having chosen the MSs, regions follow, based on three further criteria:

a. The inclusion of four 'Convergence' regions, two 'Regional competitiveness and employment' regions, and two 'European territorial cooperation' regions.
b. The inclusion of best practices as well as bad practices. This preliminary evaluation is derived both from statistical data and objective results, as well as through document analysis (mainly OPs and related annual implementation reports and evaluation reports) of the effectiveness of changes of strategy related to cohesion policy implementation.
c. The inclusion of sufficient inter-regional variation in terms of contextual variables (e.g. income, economic development, labour market).

We have made a methodological choice to select two regions in each MS. This choice best fits the aim of the Study. Analysing two regions within each MS keeps the national policy, national variation and national strategy constant, and allows identification of how each region has implemented, within the same national context, changes at regional level that can be considered responsible for mitigating the crisis.

Our selected regions are:

- Two convergence regions in Poland: Podlaskie (Białystok) and Dolnośląskie (Wrocław);
- Two convergence regions in Italy: Basilicata and Campania;
- Two competiveness regions in Germany: Bayern (Bavaria) and North Rhine-Westphalia;
- Two territorial regions in Bulgaria: Yuzhen tsentralen (South Central) and Severozapaden (North Western).

Table 2.1: Summary of case studies selection

MS	CRISIS IMPACT	COHESION POLICY CHANGE	REGIONAL CASE STUDIES SELECTED	
Italy	**High:** Severely hit by the crisis, with a sharp increase in unemployment (especially youth unemployment) and severe worsening of the public finances situation.	Cohesion policy in Italy during the crisis has been defined as 'in flux' (EPRC, 2010:46) due to the fact that '[t]he economic crisis has changed the parameters for many aspects of government intervention' (EPRC, 2010: 3). A national programme named Plan of Action and Cohesion introduced a many changes across several of the convergence regions OPs.	**Campania 'Convergence' region:** As far as GDP per capita is concerned, it is below the average of Southern Italy. The overall unemployment rate is above the average of Southern Italy. It is at the lower end of the spectrum as far as absorption capacity is concerned.	**Basilicata 'Convergence' region:** As far as GDP per capita is concerned, it is above the average of Southern Italy. The overall unemployment rate is below the average of Southern Italy. It is – amongst the Italian convergence regions – the highest achiever in terms of absorption capacity.
Germany	**Low:** It has been initially affected by the crisis, primarily as a result of a fall in exports and as evidenced by rising unemployment rates in the initial post-	There have been some cohesion policy changes, with most of them of technical nature. Selected changes could nevertheless be linked to the crisis.	**Bayern (Bavaria) 'Regional Competitiveness and Employment'**: Region with low unemployment and high income where, nevertheless, the funding level in absolute terms is third highest among non-Convergence regions (after Berlin and Nordrhein-Westfalen, the	**North Rhine-Westphalia 'Regional Competitiveness and Employment'**: It currently has the highest unemployment rate of all Competitiveness regions in Germany (except the city-states of Berlin and Bremen, but we are treating them as outliers); ERDF

	crisis period. However, it has quickly recovered, with unemployment rates falling (unlike in most EU MSs) and disposable household income going up. There is some evidence of increasing pressure on public finances.		most populous region) and per capita funding is higher than that in other low-unemployment-high-income regions. The region has also modified its OP in 2011, which largely consisted of re-allocation of funds across the priority axes. Although this is a relatively minor change, it aims to make fuller use of committed funds and is thus in line with the EERP goal to fully mobilise cohesion funding in order to tackle the financial crisis.	programme funding/capita is third highest among Competitiveness regions after Schleswig Holstein (initial choice) and Saarland (very small region) (once again disregarding Berlin and Bremen), so regional policy plays an important role in the regional economy. It is Germany's most populous region. It is also an exporting region with a strong industrial base, so in that sense it is similar to Bayern, although its economic performance is quite different.
Poland	**Low:** The crisis was felt less severely in Poland than in the remaining European economies and should rather be viewed as an economic slowdown. However, as the recession trends in the global economy deepened, the crisis also gradually began to affect the Polish economy.	Economic slowdown did not bring any significant changes related to the goals and priorities of the cohesion policy. The greatest changes in the ROP occurred only in 2011, when the crisis was manifested in the regions. They were intended to improve EU funds spending efficiency in view of the deteriorating economic outlook. Nevertheless, the scale of the changes were still not significant and the changes did not have a strategic character.	**Podlaskie (Białystok) 'Regional Convergence':** The region is located in the Eastern part of the country and it is characterised by a relatively low level of economic development in comparison with the Polish average. The implementation performance is aligned with the Polish average.	**Dolnośląskie (Wrocław) 'Regional Convergence':** The region is performing well in terms of GDP per capita and the unemployment rate in Dolnośląskie is slightly lower than the Polish average. The implementation performance is higher than average.

Bulgaria	**Medium/High:** Mixed picture of the effect of the crisis on the country and especially the pace of recovery. The crisis has highlighted the inter- and intra-regional disparities and the distance between the development levels of the capital, Sofia, and the rest of the country. The crisis has affected to a different extent the labour markets in Northern and Southern Bulgaria.	Bulgaria is one of the countries where regional policy underwent substantial reform during the crisis. Most of the changes reflected management, institutional and legal considerations driven by Bulgaria's accession to the EU and convergence goals. On a national level, as a result of the EERP the five sectoral OPs were amended to speed up the absorption of funds.	**South Central (Yuzhen tsentralen) 'European Territorial Cooperation':** The South Central planning region is characterised by the existence of five large cities, led by Plovdiv, which drive the economic development of the region and GDP growth over the past decade. GDP per capita is well below the country average but Plovdiv was among the few regions which increased output during the crisis (IME, 2013). Wide disparities in the level of FDI among the districts as well as wide differences in the access and quality of services. The South Central region has absorbed the third highest amount of EU funds per capita as of March 2014 and is second to the South West in number of contracts and beneficiaries involved.	**North West (Severozapaden) 'European Territorial Cooperation':** The North West planning region is the least populated planning region in Bulgaria and the poorest in the EU with GDP per capita significantly below the EU average. The unfavourable demographic profile and the low economic activity have kept poverty levels in the region persistently high with more than half of the population identified as being at risk of poverty and social exclusion (NSI, 2012). As of March 2014 the North Western region has so far absorbed the lowest amount of EU funds allocated to Bulgaria.

Source: authors

Step 2. Deskwork data collection

The deskwork takes stock of existing recent material from literature, academic studies, websites, databases and any other relevant sources such as EU Institutions, authorities of the MSs or think tanks. It focuses on three main tasks:

Task 1: Context analysis: The purpose would be to provide the context for assessing the effects of the crisis in the region. The leading RQ of this task is: How has the regional economic, social and territorial structure of the case study regions changed as a consequence of the crisis?

Task 2: Cohesion policy analysis: changes, effectiveness, constraint: The purpose is to identify variation in cohesion policy use within the three dimensions – (i) Change; (ii) Effectiveness; (iii) Constraint. The leading RQs of this task are RQ3, RQ4 and RQ5.

Task 3. Regional strategies analysis: The purpose is to identify variation in the fourth dimension – (iv) Adaptation – in order to capture if and how major or minor changes in strategy have taken place to counteract the crisis and how effective they have been. The leading RQs of this task are RQ6 and RQ7.

Step 3. Fieldwork data collection

The fieldwork that we propose to garner primary data, in order to more convincingly determine how regions have responded to the crisis through the instrument of cohesion policy, is based on interviewing three types of respondents (see Annex 8.3):

- Institutional key respondents level I (2 interviews with Managing Authorities, one with ESF, and one with ERDF).
- Institutional key respondents level II (4 interviews with managers of measures which have been affected by changes as a result of the crisis).
- External interviewees, which serve as control interviews (2 interviews with stakeholders).

We used semi-structured questionnaires with open and closed questions (see Annex 8.2). The aim is twofold. On one hand, the respondents enable us to reconstruct the process of strategy adaptation and crisis-relevant measure implementation, for example identifying changes that may have been brought about. On the other hand, through that process they are asked to reason about and to help us identify 'best practice' in terms of a particularly significant 'crisis response' action being carried out in the region.

2.3. Conclusions

In Chapter 6, the Study aims to shed light on the impact of the economic and financial crisis on different EU regions and regional strategies. Based on the outcome of the Study, the conclusions focus on:

1. Understanding the impact of the economic crisis on MSs and regions; and
2. Identifying the responses and effectiveness of cohesion policy in order to counteract the crisis.

The scope to utilise the results from the use of several research methods in a coordinated manner ('triangulation of results') is a strength. The conclusions are based on the information provided by all of the methods comprising the methodology selected for the Study. Therefore, we are confident that the Study is informative in its narrative and innovative in its conclusions, given that they are supported by the multiple analysis of existing and new data collected by the Study.

3. LITERATURE REVIEW

The Literature Review aims to support the descriptive part of the Study and is divided according to the two main aims of the Study: (i) understanding the impact of the economic and financial crisis on European economic, social and regional cohesion (Section 3.1); and (ii) identifying how cohesion policy has been used to respond to challenges brought about by the economic and financial crisis (Section 3.2).

3.1. Impact of the economic crisis on economic, social and territorial cohesion

The aim of this first part is not to provide a comprehensive picture of the crisis that may already be found elsewhere. Instead, its scope is to specifically focus on its effects on the economic, social and territorial dimensions of cohesion in order to provide a broad-brush picture of the changed context in which EU cohesion policy has been enacted from 2008 onwards. In doing so, this part is divided into two sub-sections:

- The first sub-section looks at the nature of the current economic crisis and its impact on social and economic cohesion (sub-section 3.1.1).
- The second sub-section covers the issue of territorial cohesion ad provides a summary of the state of the literature concerning the capacity of regions to reply to sudden shocks by exploring the notion of resilience (sub-section 3.1.2).

Both sub-sections are built upon secondary sources from the academic literature and EU institutional sources.

3.1.1. Impact of the economic crisis on economic, social and territorial cohesion

In order to set the scene in which EU cohesion policy has been enacted from 2008 onwards, it is crucial to provide a brief description of the nature of the crisis, which explains its effects on social and economic cohesion. The crisis is, in most MSs, a private debt crisis that turned into a sovereign debt crisis. These two different, yet intertwined, phases of the crisis have been following successive paths, with the outbreak of the private debt crisis in 2008 and the consequent uprising of the sovereign debt crisis in 2010. These two separated moments of the crisis have led to very different consequences on regional imbalances which should therefore be analysed distinctly.

First phase of the crisis: Private debt crisis

Private debt was accumulated in current account deficits and in mortgage credit, the latter fuelling house-price inflation and the costs of living, with an effect on wage demands. The construction boom, increasing rates of home ownership and rising earnings, in particular for employees in the financial sector, came to an abrupt end in 2008. Regions that were flourishing before the crisis were then hit in more than one respect: relatively well-paid work in construction-related sectors disappeared, middle-class households were left in negative equity, and white-collar workers lost their jobs. To the extent that migrant workers or second-home owners from other EU countries were affected by the housing market crash, there was some cross-border risk-sharing.

The explosion of the housing bubble and its repercussions on the overheated financial market and on the real economy proved especially detrimental for the better-off regions. Recent evidence of this is the study produced by the European Commission, which has examined how regional unemployment has changed since the outbreak of recession (Bubico and Dijksrtra, 2011). As Bubbico and Dijksrtra comment, between 2007 and 2010, whilst the economically worst-off regions (the ‘convergence’ regions) experienced an increase in the unemployment rate from 11.9% to 14.5%, the transition regions fared even worse with an unemployment rate of 14.8% by 2010, a rise of 6.4% (2011).

Impact on economic cohesion

Across the EU territory, the impact of the crisis led to a decline of 4.5% in real GDP per capita in 2009, bringing to an end a decade of economic growth. Poland was the only country in the EU not to experience a fall in GDP in 2009. GDP grew in many EU countries in 2010 and 2011, but in half of them GDP fell again in 2012 and little or no growth was expected in 2013. The crisis then led to sharp increases in unemployment. Unemployment in the EU rose from an average of 7.1% of the population in 2008 to 9.7% in 2010 and 10.5% in 2012. Estonia, Ireland, Latvia and Lithuania experienced the largest increases in unemployment between 2007 and 2010 but from relatively low levels (around 5% in 2007 tripling to around or over 15% in 2010) and unemployment is now falling in the Baltic states. Both the decline in GDP and the loss of employment vary greatly between the countries, ranging from a decline of less than 5% in both GDP and employment in Cyprus to about 40% GDP decline and 21% employment loss in Latvia (de Beer, 2012). In countries such as Portugal, Greece and Spain, unemployment has also risen to very high levels as a result of the crisis and continues to grow, reaching 16%, 24% and 25% respectively in 2012. Long-term unemployment levels have quadrupled in many of these countries, while youth unemployment has reached rates of over 50% in Greece and Spain (de Beer, 2012). The 2009 economic crisis can be subdivided into a manufacturing crisis, a construction crisis, and a financial crisis, each regionally specific. Due to the **manufacturing crisis**, the regions more vulnerable were the Nordic countries, the UK, and some industrial regions of the Eastern European new MSs together with traditionally industrialised regions in other MSs, such as Ireland, Northern Italy, central Austria or Southern Germany. However, those regions where the industrial mix is stronger have a greater capacity to recover, while those where the industrial mix is more in need of structural reforms will continue to struggle. The **construction sector crisis**, by contrast, is not contingent upon global demand but instead on local financial and real estate markets as well as public and private investments. In these cases, the economic boom regions of the last decade and tourism regions are the most vulnerable (mainly the Baltic States, Ireland, the UK, Spain and many coastal regions in the Mediterranean). The construction sector is much less likely to recover quickly. The **financial sector** upheavals were concentrated in the large financial capitals (London, Paris, Luxembourg, Switzerland, Cyprus and Frankfurt) and in regions with overheated real estate markets such as Spain.

The effects of the crisis on the Baltic State MSs were particularly strong. Latvia experienced a drop of GDP of 13.1% and an increase in unemployment, up to over 12% in 2009. Previous high-growth economies, such as Estonia and Lithuania, are also expected to suffer with a projected drop in GDP respectively of 10.3% and 11%, and their unemployment rates exceeded 10% in 2009. Hungary’s 6.3% GDP fall and close to 10% unemployment rate is also substantial. The crisis also led to social consequences due to the further dismantling of the weak social system, following the Anglo-Saxon model. A vicious cycle of contagion started to spread across the region. This was mainly sparkled by the region’s high reliance on external finance that diminished as a result of the crisis, which led to progressive devaluations in Hungary, Poland, the Czech Republic and Romania and the downgrade of state bonds especially in Latvia and Romania (Galgoczi, 2009). Countries in Central and Eastern Europe (CEE) tended to be hit less seriously than those in the Baltic States or South-Eastern Europe (SEE), suggesting that countries with pronounced vulnerabilities and a higher degree of financial integration tended to be affected more severely (Gardo and Martin, 2010:5).

Labour market regulation plays a crucial role in analysing the heterogeneous effects of the crisis on regions. As suggested by de Beer (2012), in countries where it is relatively easy for employers to reduce the workforce, by laying off either permanent workers (such as in Denmark) or temporary workers (as in Spain), the crisis results in a strong increase in unemployment and has created a sharp dividing line between those who lose their job and those who remain employed and hardly suffer from the crisis at all. On the other hand, where employers are not able to adjust their workforce quickly and therefore have to resort to internal flexibility, by either reducing the number of working hours (as in Germany and Slovakia) or cutting real wages (as in the UK), the consequences of the crisis are more evenly spread among the workforce. The counter-cyclical movement of real wages in a large majority of the MSs differs from the experience of previous recessions and shows how the reduction of working hours can lead to substantial labour hoarding and consequent minor effects on the level of unemployment.

However, the redistributive effects of the crisis are not only dependent on the level of unemployment, and their analysis therefore needs to also take account of policy responses to the changes in the labour market and to the distributional effects of the crisis, which provide an even more heterogeneous picture of the changes. For example, in the UK, the decline in the real incomes of the unemployed did not lead to an increased poverty rate due to a drop in average median household income due to the peculiar impact of the financial crisis on its territory (Basso *et al.,* 2012). Wider institutional settings (employment protection, unemployment insurance benefits, minimum income support, working flexibility and wage-setting) are also crucial in order to understand the heterogeneous effects of the crisis on regions (Bargain *et al.,* 2011). Young workers and those holding non-standard contracts were the most affected by the crisis. They had limited access to unemployment insurance and only rarely minimum income support. Different sources show that short-time work programmes indeed stabilised employment and reduced unemployment (Cahuc and Carcillo, 2011; Hijzen and Venn, 2011; OECD, 2011). However, the positive impact was limited to workers with permanent contracts, thereby further increasing labour market segmentation.

Furthermore, the impact of the crisis on economic cohesion cannot be analysed solely through a national dimension, but needs to be complemented by a regional perspective. As highlighted in the 8th progress report on economic, social and territorial cohesion, the crisis has hit the EU territories in a period of progressive regional convergence. Between 2000 and 2008, regional disparities in GDP per head were shrinking continuously every single year. In 2009, those reductions came to a halt and then increased in 2010 and 2011. This increasing regional gap cannot be fully explained through the MSs' overall performance. Indeed, even among those MSs most impacted by the crisis, there have been remarkable differences among their own NUTS 2 regions. The case of Italy is representative in this concern. Whilst the northern regions suffered a higher impact of the crisis on their GDP level due to a higher level of international openness in terms of trade-balance, the stronger and more durable effects in the medium-to-long run development paths have been suffered by southern Italy.

These differences have to be explained both in terms of the economic background of each NUTS 2 region (and therefore their resilience vis à vis the crisis shock) and in terms of their ability to smooth the downturn (see Section 5.2)

Impact on social cohesion

Increased poverty is a key impact of the private debt crisis on social cohesion, according to the International Federation of Red Cross and Red Crescent Societies (2013). In 2011, a quarter of the EU's population was at risk, having increased by 6 million since 2009 to 120 million in total. This situation has led to a widening of social divide and a shrinking middle class, and it has also resulted in territorial imbalances as the rising poverty has halted labour immigration and the mechanism of remittances.

However, the impact of the crisis has been smoothed by the presence of automatic stabilisers and by the discretionary measures put in place with the outbreak of the recession both at the national and the European levels (EPC-SPC, 2011). According to OECD estimates, excluding the mitigating effects of the welfare state, via taxes and transfers on income, inequality would have increased by more over the past three years to the end of 2010 than in the previous twelve (2013).

Indeed, stabilisers and discretionary measures, such as tax-benefit systems, reinforced by fiscal stimulus policies, were able to absorb most of this impact and alleviate some of the pain. But, as the economic and in particular the jobs crisis persist and fiscal consolidation takes hold, there is a growing risk that the most vulnerable in society will be hit harder as the cost of the crisis increases. The increase was particularly large in some of the countries that experienced the largest falls in average market income such as Ireland, Spain, Estonia, Japan and Greece, but also in France and Slovenia. On the other hand, market income inequality fell in Poland and, to a smaller extent, in the Netherlands.

Automatic stabilisers not only provide a safety net for those groups which have been hit hardest by the crisis, they also have a stabilising effect on the overall demand for goods and services produced in the economy under the current global economic crisis (EP, 2010). In this direction, it is important to recall the crucial role they have played in smoothing the effects of the crisis in Europe compared, for example, to the US. Dolls *et al.* (2012) found that automatic stabilisers absorb 38% of a proportional income shock in the EU, compared to 32% in the US, while this percentage goes up to 34% for the US and up to 47% for Europe in the event of an unemployment shock. This cushioning of disposable income leads to a demand stabilisation of up to 30% in the EU and up to 20% in the US. However, the presence and effectiveness of automatic stabilisers across the EU is far from being homogenous. In the case of income shocks, Denmark has the highest stabilisation coefficient, where automatic stabilisers cushion 56% of the shock. Belgium (53%), Germany (48%) and Hungary (48%) also present strong automatic stabilisers, while the lowest values are found for Estonia (25%), Spain (28%) and Greece (29%). With the exception of France, taxes seem to have a stronger stabilising role than social security contributions. In the case of the unemployment shock, the stabilisation coefficients are larger for the majority of countries. Again, the highest value emerges for Denmark (82%), followed by Sweden (68%), Germany (62%) and Belgium (61%).

Moreover, the smoothing effects of automatic stabilisers did not support all vulnerable socio-economic groups. A strong impact was felt by some social groups, such as young workers and those holding non-standard contracts. They were particularly affected by a deterioration in labour market conditions (Basso *et al.*, 2012). At the same time, however, they had only limited access to social benefits. In particular, unemployment benefits were sometimes found to be insufficient. This was especially problematic where there was no effective minimum income support scheme. In fact, non-standard workers and younger labour market entrants experienced a double disadvantage stemming from less stable jobs and less protection.

Alongside this overall effect of the crisis on social cohesion, as in the case of economic cohesion, it is crucial to highlight the regional dimension of this trend. In terms of regional dispersion of the employment rate, between 2007 and 2010 out of 271 NUTS 2 regions in the EU for which data are available, in 215 regions the unemployment rate increased, in seven it remained unchanged and in 49 it decreased (Eurostat, 2012). Whilst the poor employment performance seem to characterise peripheral European regions, core European regions also seem to be affected by a growing number of precarious jobs and other poorly protected atypical jobs. This highlights how the impact of the crisis on social cohesion cannot be studied solely through a national dimension as the regional patterns of each country are far from uniform. As an example, even some NUTS 2 regions in Germany, which as a whole performed relatively well at the outbreak of the crisis, have experienced significant increases in inequality and poverty, as highlighted by the 2008 OECD report.

As a result, the crisis had huge effects on the on-going trend of convergence of social cohesion among the EU NUTS 2 regions. From the data reported by the 8th progress report on economic, social and territorial cohesion, the crisis hit the EU territories in a period of progressive convergence. Between 2000 and 2007, regional disparities in employment rates were shrinking continuously every single year. In 2007, those reductions came to a halt and a diverging trend has been witnessed from 2007 onwards. The heterogeneous impact of the crisis on social cohesion in each individual NUTS 2 region is related both to the overall effect of the crisis on each regional economic system and to the ability of regional and national social policy instruments to respond to a given effect.

Impact on territorial cohesion

In terms of the impact of the economic crisis on territorial cohesion, the urban aspect of the crisis is particularly interesting. According to the 8th progress report on economic, social and territorial cohesion, metro regions have shown a stronger resilience to the crisis: in two out of three MSs, metro regions performed better in terms of evolution of GDP per head in PPS vis à vis the rest of their national territories between 2007 and 2010. In particular, metro regions appear more volatile and susceptible to booms and busts caused by the crisis. Moreover, in terms of the employment rate, nine out of ten capital metros performed much better in terms of employment performance than the rest of their national territories. However, poverty and social exclusion in the cities, which was already a diffused phenomenon (especially in North-western Europe), has been further intensified by the crisis: the at-risk-of-poverty-or-social-exclusion (AROPE) rate increased by 1 pp in cities in the EU, compared to only 0.5 in cities outside. Other significant elements that characterise cities are: (i) severe material deprivation which is higher in cities than outside cities in 18 MSs, (ii) very low work intensity, which is higher in 15 MSs, and (iii) poverty risk, which is higher in cities in 10 MSs.

Second phase of the crisis: Sovereign debt crisis

The stabilisation function played by automatic stabilisers vis à vis the economic and social effects of the private debt crisis has been weakened by the effects of austerity measures implemented as a response to the sovereign debt crisis. Compared to past crisis experiences, social expenditure reacted in the first year of this crisis slightly more strongly to the economic cycle than in the past. The year after the start of the crisis, the developing trend of social expenditure seemed to broadly follow past trends with an improvement in the output gap and a reduction in the deviation of social expenditure. However, two years after the beginning of the crisis, the adjustment of social expenditure relative to its trend slowed down pro-cyclically with a constant or even accelerating pace. This diverged from trends in past recessions, where a deterioration in the output gap was usually accompanied by an upwards deviation of social protection expenditure from its trend (Bontout and Terezie, 2013). According to Bontout and Terezie (2013), expenditure on unemployment benefits increased in all countries in 2009, and in most countries in 2010, when it started declining in a few countries, including those where unemployment kept increasing (ES, EL, HU, SK, UK). In a few countries, family benefits expenditure (CZ, EL, HU, IT, LT, LV, RO) and social exclusion and housing expenditure declined (EL, HU). Data for the years 2011 and 2012 only allow the tracking of developments in expenditure on benefits in cash and in kind. In 2011, social expenditure declined on average in Europe and in 2012 in most countries. In 2011, declines affected both in-kind and cash benefits. In 2012, in a degraded economic context, most MSs showed declines of in-kind expenditure, but relatively stable cash expenditure.

In 2010, health and disability expenditure showed on average very modest increases, with declines in real levels in some countries (EE, EL, ES, HU, LT, LV, PT, UK) (Bontout and Terezie, 2013). Health expenditure dropped, although with a significant variation across countries. According to the WHO (2013), Estonia, Latvia and Lithuania only experienced two years of lower spending, in contrast with the three or more years in Greece, Ireland and Portugal. Countries with means-tested entitlement to publicly financed healthcare and those that rely heavily on the labour market to fund the health system are particularly vulnerable to economic fluctuation. Regardless of the nature of the health-financing system in place, however, policy responses have been crucial in determining countries' ability to maintain an adequate and stable flow of funds to the health sector. Automatic stabilisers (reserves and counter-cyclical formulas for government transfers to the health insurance system) have played a critical role in some countries. In others, governments have acted quickly to protect transfers and secure additional funding. The effects of this drop in expenditure on health system performance varies across countries depending on the past effectiveness of the system and the policy response taken to counterbalance the cut in expenditure.

Another alarming **effect of the crisis is on pensions,** as the crisis has turned what was an already on-going crisis of the pension system due to societal ageing and the rise of new needs into a no-return scenario (Immergut *et al*., 2007). As asserted by the Joint Report, the financial crisis has affected European pensions in both the short and longer term via a fall in assets values in the funded part of the pension scheme (EPC-SPC, 2010). Moreover, rising unemployment and a shrinking tax basis has put additional pressure on public expenditure in those MSs with a defined-benefits system. Old age and survivors' expenditure grew at a slow pace, also with declines in real terms in some MSs (EE, EL, LT, RO, UK) (Bontout and Terezie, 2013). Casey (2012) recognised three major consequences of this situation: rising public expenditure, a sharp contraction in pension wealth, and damaged public trust in what was previously considered a social right; other authors have highlighted the problem in terms of coverage, social inclusion and the inadequacy of reform in times of crisis (Sarfati and Ghellab, 2012).

The trend in education expenditure is no less concerning worrying. As announced by the European Commission (2013), in total, in 2011 and/or 2012, cuts in education budgets were made in 20 countries/regions for which data are available. Cuts of more than 5% were observed in Greece, Italy, Cyprus, Latvia, Lithuania, Hungary, Portugal, Romania, the United Kingdom (Wales) and Croatia, whereas decreases of between 1% and 5% were seen in the French Community of Belgium, Bulgaria, the Czech Republic, Estonia, Ireland, Spain, France, Poland, Slovenia, Slovakia, and the United Kingdom (Scotland).

More generally, austerity measures have led to a considerable loss of resources from both national and local authorities, leading to a sharp decline in investment, loss of tax revenues, lack of credits and high costs of borrowing, increased expenditure and reduced resources for development (CEMR, 2009; EC, 2013a).

It is important to analyse the **distributional effects of austerity measures**, as they have strong implications **in terms of inequalities** and for the prospect of recovery. Jan in‘t Veld (2013) uses the European Commission’s QUEST model to estimate the impact of fiscal consolidation in the Eurozone (EZ) from 2011 to 2013. The numbers include spillover effects from other EZ country fiscal consolidations, so they are best interpreted as the impact of overall EZ fiscal consolidation over this period. There are at least two important things to note about the exercise. He found a cumulative impact of 2011-2013 austerity measures ranging from a loss of 8.1% for Germany to 18% for Greece. Although these figures are already high, the results have been criticised by Simon Wren-Lewis, who states that the choice of variable underestimates the magnitude of the losses. Avram *et al*. (2013) made an attempt in this direction and noticed that there is wide variation in the scale of the resulting aggregate reduction in household incomes: from under 2% in Italy and the UK to 9% in Latvia and nearly 12% in Greece. In Greece, Spain, Italy, Latvia, Romania and the UK, the better-off lose a higher proportion of their incomes than the poor. At the other extreme, in Estonia, the poor lose a higher proportion than the rich. In Lithuania and Portugal, the burden of fiscal consolidation falls more heavily on the poor and the rich than it does on those with middle incomes. Including increases in VAT alters the comparative picture by making the policy packages appear more regressive, to varying extents. However, different results came from a very similar study performed by Callan *et al*. (2011), showing how the final assessment of the impact of the austerity measures on economic, social and territorial inequalities cannot be settled at this point as the process is still on-going. However, it is still useful in order to see the impacts of successive policy measures on the outcome.

Different studies have been performed in the UK. The Institute for Fiscal Studies has observed that low-income households of working age have the most to lose from the UK Chancellor’s 2010 Austerity Budget (Browne and Levell, 2010). MacLeavy (2011) also highlights how the cutbacks may present a particular challenge to the financial security and autonomy of women in British society. The geographical impact of reductions in public expenditure has also attracted recent comment, as the most economically depressed municipalities are those who historically have benefitted more from public sector employment and may therefore face higher pressure as a result of public expenditure cuts (Centre for Cities, 2011).

A look into the future

How long will the EU economy take to recover? Reinhart and Rogoff (2009) suggest that the return to normal growth and previous income levels may take a long time. The impact of the economic and financial crisis which started in 2008 is still being felt. It started as an acute crisis of the banking system, but then quickly affected the real economy, causing a deep slump in business investment, household demand and output. EU economies were deeply affected: in 2009 the EU GDP fell by 4.1% and industrial production by 20%. In order to avoid a downward spiral, central banks swiftly resorted to a major monetary policy stimulus and national governments put in place a string of fiscal 'packages' which amounted altogether, including the effects of automatic stabilisers, to some 5% of GDP.

As a result of these efforts, financial markets were stabilised and the real economy was set back on a moderate growth path. Nevertheless, the Commission's winter 2013 economic outlook forecast low annual GDP growth in 2013 of 0.1% in the EU and a contraction of 0.3% in the Eurozone based on the weakness of economic activity towards the end of 2012, the low starting point for the current year, and a very modest return of growth. The adverse impact of the crisis is expected to unfold over several years. For one thing, the labour market, which typically lags behind developments in the real economy, is still showing considerable signs of weakness.

Unemployment in the EU is forecast to overshoot 11% in the EU and 12% in the Eurozone in this year. The young have been particularly badly hit: youth unemployment already reached 23% in the last quarter of 2012 and is expected to remain high throughout 2013. Moreover, long-term unemployment, which tends to be relatively low at the inception of economic crises when the new inflow into unemployment is high, will soon start to rise significantly. This is likely to exacerbate existing problems with poverty and social exclusion.

3.1.2. Impact of the economic crisis on regional development: resilience factors

The economic literature has identified a set of key quantitative features of regional economies that shape their ability to innovate and adapt to shocks and change (Crescenzi 2009; Crescenzi and Rodríguez-Pose, 2011; Crescenzi *et al.*, 2013). In particular, three key (quantitative) dimensions are relevant with reference to regional resilience: regional sectoral specialisation/diversification patterns; human capital and skills; and innovation efforts.

Global recession-spreading mechanisms and regional resilience factors interact in shaping the regional impacts of the crisis that can be captured by making reference to two key dimensions:

(i) Regional economic performance and labour market outcomes that, in turn, impact upon the overall degree of territorial cohesion of the EU;

(ii) Broader regional factors affecting long-term wealth and wellbeing captured by the 'thematic axes'.

The concept of resilience is crucial in order to analyse and explain the heterogeneous effects of the crisis on regions, on the basis of which the effectiveness of cohesion policy can be assessed. In order to evaluate the response of policy-makers to an external environment which is undergoing change, we need to take into account the capacity of the whole system to react to those changes. Implicit in this methodological framework is a shift from a paradigm of regional policy which used to focus on space-blind competitiveness to a new one that puts more emphasis on the local identity, knowledge and resources of each territorial level (Hudson, 2005). As such, resilience clearly resonates with literature on sustainability, localisation and diversification, and the developing understanding of regions as intrinsically diverse entities with evolutionary and context-specific development trajectories (Hayter, 2004). As suggested by Bristow (2010), however, competitiveness and resilience are not mutually exclusive. Their interaction would on the contrary be mutually reinforcing by addressing some of the limits of de-contextualised competitiveness and helping to build resilience, particularly since competitive economic activity has an important role to play in regional vitality.

In recent years, various studies have already been using the concept of 'regional resilience' as an explicative variable for the heterogeneous effects of the crisis. Studies on socio-ecological resilience as well as on more- or less-successful responses to disasters, such as 9/11 and Hurricane Katrina in 2005, have raised interest in transferring the use of resilience from psychology, ecology and disaster studies to regional economic development (Agder, 2003; Agder, 2000). As a by-product of the debates surrounding the relevance of neoclassical growth theory and the emergence of so-called 'endogenous growth theory' in the 1980s and 1990s, the focus of this literature on regional growth has overwhelmingly been on how fast regional per capita incomes converge over time, using cross-section regression methods to estimate an 'average' speed of convergence (Martin and Sunley, 1998). By comparison, there have been very few studies of how regional growth varies over time, and whether and why such temporal variation differs from region to region (Fingleton *et al*., 2012). The term 'resilience' has been increasingly used, either to mean adaptation or recovery from economic or environmental changes or in the context of an evolutionary approach to economic geography concerned with the 'processes by which the economic landscape – the spatial organisation of economic production, distribution and consumption – is transformed over time' (Boschma and Martin, 2007: 539). Resilience is typically defined as 'the capacity of a system to absorb disturbance and reorganize while undergoing change, so as to still retain essentially the same function, structure and feedbacks' (Hopkins, 2008: 54; Hudson, 2008).

Pike *et al*. (2010) distinguish adaptation as the geographically uneven ways in which strong and tightly connected social agents respond, cope with and shape movements towards pre-conceived paths in the short run. Interrelated and whether in tension or complementary with adaptation, we interpreted adaptability as the geographically differentiated capacity of loosely and weakly connected social agents to interpret, frame and effect multiple evolutionary trajectories over time.

Fingleton *et al.* (2012) introduce the distinction between 'engineering resilience', which is used to refer to the resistance of a system to disturbances (shocks) and the speed of return or recovery to its pre-shock state, and 'ecological resilience', which focuses on the role of shocks or disturbances in pushing a system beyond its 'elasticity threshold' to a new domain. However, the concept of 'regional resilience' has not been free from critics. Pike *et al*. (2010), as well as Hassink (2010), particularly criticised its implied notion of equilibrium and multi-equilibrium and the neglect of the state, institutions and policy at various spatial levels.

Various indicators considered to have a particularly explanatory value in terms of evaluating the resilience of regions to the effects of the current crisis are: the sectoral composition of the economy, the health of the economy, and the degree of interaction with the international economy or wider economic indicators such as vulnerability in the real, public, monetary, external and banking sectors (Groot *et al*., 2011; EPRC, 2010; Gardó and Martin, 2010).

These indicators are in line with those chosen by our Study. Furthermore, in order to overcome the criticisms of neglecting institutions and policy, our case studies focus on the qualitative aspects of policy implementation as well as institutions, as exemplified by the review below.

3.2. Use of cohesion policy to respond to challenges brought about by the economic and financial crisis

In this section, our focus is mostly on reviewing the changes introduced by national governments in the SFs and Cohesion Fund and the measures proposed by the Commission, and how they have been taken on board at the regional level.

3.2.1. What are the main constraints, caused by the crisis, for the implementation of cohesion policy?

The consequences of the crisis for the policy are twofold. First, a changed ground for policy implementation due to the heterogeneous economic and social repercussions of the crisis on the EU territory and to its distributional consequences within each national and sub-national setting as discussed in Section 4.2. Second, the changed potential of policy-financing due to the effect of the crisis on private and public actors' resources, which led to a lack of both private and public investment and therefore to co-financing difficulties (Policies, 2010).

To start with, an important distinction must be drawn. The consequences of the crisis on SFs programmes which were part of national delivery programmes and were co-financed through central exchequer resources do not appear to be as severe as for those financed by sub-national public sector budgets or private and third-sector resources.

In the first case, the desire not to lose the funds acquired via cohesion policy channels increased the perceived potential loss if the programmes were cut vis-à-vis the potential benefit of immediate savings. However, as the case of Ireland demonstrates, this argument only applies where a central government department is responsible for the delivery of the programme priority or measure. In Ireland's Southern and Eastern Competitiveness Programme, the Innovative Actions Measure under Priority 1 has not been delivered, as no Ministry would provide additional funds from their own budget lines to do so.

On the other hand, third-sector organisations, other than giving less importance to the opportunity cost linked with cutting a programme, were also more affected by another consequence of the crisis. Indeed, third-sector organisations that traditionally made use of credit and overdraft facilities to pre-finance their activities felt the consequences of a changed scenario for banking, hence organisations were lacking the necessary cash flow to engage with SF programmes (Healy and Bristow, 2013). In the case of regional and local public actors, the loss of investment in cohesion policy is the consequence of a plurality of emerging trends: loss of tax revenues,[3] increased level of expenditure,[4] cuts in local

[3] Actual loss volume depends on the type of tax levied or shared by the local or regional government in the respective countries (personal income tax, company income tax, etc.) and the proportion of this income in total budget revenues. Apart from immediate effect on the revenues, a mid- or long-term impact is expected upon local and regional authorities. The direct effect may continue in the coming years due to expected lower consumption during the time of crisis and loss on income tax due to increasing unemployment and on real estate tax due to lower investments in construction in the near future

[4] The main source of worry, as expected by the authorities, is increased expense due to higher demand for social and welfare services requested as a consequence of the economic unease. This has been reported universally by the responding associations. Local authorities especially will have to plan for increased expenses for services provided to citizens due to shortage of income and loss of employment. Also, authorities that levied forward payments on tax throughout 2008 will now face the need for reimbursement to taxpayers who report loss and claim back the excess tax paid.

authorities' staff, decreased attention towards development and difficulties in cash liquidity – i.e. general lack of credit and a high cost of borrowing.[5]

A first effect of the crisis on local authorities is the widespread loss of tax revenues.[6]

A small proportion of local authorities also suffered from a drop in direct investment. This effect is not widespread across the EU, yet has a significant impact where it has accrued. The heaviest direct loss of investment occurred in the United Kingdom, where due to bankruptcy cases of Icelandic banks the local governments lost €1 billion in financial investments, with further loss in unrealised income from interests according to the CEMR (2009). Another significant example is the case of Belgium where local governments were affected by the crisis of Dexia, as they are – through the Communal Holding – shareholders of the bank. The Belgian Dexia SA has received support worth €3 billion from the Belgian federal government, regions and institutional shareholders. For local governments, this means a drop of share market value, dilution of their share in the bank and loss in unrealised income from dividends.

A final effect of the crisis that compromised cohesion policy implementation is the overall cuts in local authorities' staff. The municipalities and councils, especially those severely affected by the direct impacts, need to cut back on the number of employees in order to facilitate savings and decrease the personnel expenditure. Reducing staff leads to a lack of investment capacities for local authorities, which has been translated into a deep cut in local and regional development projects. However, this result led to a vicious cycle: the lack of investment in development does not contribute to economic recovery and therefore leads to a further worsening of the financial situation for local authorities in the long term.

More generally, the reduction in expenditure and in the cycle of programme implementation has suffered from the sense of uncertainty felt by potential applicants. This related particularly to uncertainty over future budget settlements. It led organisations to take a risk-averse attitude and not commit to longer-term project activity, such as that financed by the SF programmes. The main results have been withdrawal of partners from projects or past applicants no longer applying for Funds (Healy and Bristow, 2013).

3.2.2. Regulatory response to the crisis

What is the impact of the economic and financial crisis on the implementation of cohesion policy and use of the Structural Funds and the Cohesion Fund?

Among the various international responses to the crisis that have involved co-ordinated action between central banks and governments, for example via G20 summits, as well as the allocation of assistance to individual countries by the International Monetary Fund, the EU, the European Bank for Reconstruction and Development and the World Bank, the EU has also agreed upon a common strategy within the 2008 European Economic Recovery Plan

[5] The global financial crisis and financial difficulties in the banking sector affect the availability of credit. Even if the municipal sector has a generally high rating as a borrower, the requested volume of credit is not available, or is available only at high cost, due to liquidity shortage on the market. It should be noted that, in some countries, banks that traditionally provided loans to the municipal sector have been particularly affected by the crisis, e.g. Kommunalkredit in Austria, Kommunekreditt in Norway, and Dexia in Belgium, France and Luxembourg (CEMR, 2009: 62).

[6] For more details, see: https://wcd.coe.int/com.instranet.InstraServlet?command=com.instranet.CmdBlobGet&InstranetImage=1863733&SecMode=1&DocId=1637216&Usage=2

(EERP) (EC, 2008a). The EERP brings together the plans of MSs and proposes a number of measures to be taken at EU level. It adds a little money at the EU level but most is to be done at the national level. The Plan is based on two pillars (Smail, 2010):

- The first pillar was a major injection of purchasing power into the economy, to boost demand and stimulate confidence. The Commission proposed that, as a matter of urgency, MSs and the EU agree to an immediate budgetary injection amounting to €200 billion (1.5% of GDP), to boost demand in full respect of the Stability and Growth Pact.
- The second pillar rested on the need to direct short-term actions to reinforce Europe's competitiveness in the long term. The Plan set out a comprehensive programme to direct action to 'smart' investment. Smart investment means: investing in the right skills for tomorrow's needs; investing in energy efficiency to create jobs and save energy; investing in clean technologies to boost sectors like construction and automobiles in the low-carbon markets of the future; and investing in infrastructure and inter-connections to promote efficiency and innovation.

A crucial part of the EERP is represented by changes in the architecture of the SFs as a response to the changing context. The centrality of the EU’s cohesion policy in the common EU recovery plan is the natural consequence of its centrality in the EU budget. The EU's cohesion policy represents over a third of the EU budget and its financial tools account for €347 billion invested in about two million co-funded projects in regions and MSs throughout the EU in 2007-2013. These investments provide a secure source of financing in the real economy to address long-term challenges. They are focused on creating sustainable jobs and growth through support for Lisbon Strategy priorities such as modern infrastructure networks, access to broadband, backing for small businesses, innovation, the environment, human resources and training. In this sense, the EU’s cohesion policy is certainly a crucial tool in the EU common response to the crisis, as suggested by the Commission, and a powerful instrument of stability, as it provides a secure source of financing and it invests in mid- and long-term strategies upon which regional and local partners can rely (EC, 2008a; Hubner, 2008).

The contribution of cohesion policy to the Commission's recovery package consists of a variety of measures, legislative and non-legislative. It had three major impacts in the architecture of the EU’s cohesion policy: enhancing the flow of funds through simplifying procedures, accelerating payments, and protecting major projects (Smail, 2010).

3.2.3. Changes in the regional management of Structural Funds

Following the constraints brought by the crisis to the implementation of SF programmes, as presented in sub-section 3.2.1, the lack of public and private investment led to various changes in the SFs architecture, as described in sub-section 3.2.2. However, the actual modalities of fund management at the local level present more heterogeneous patterns.

Among the main changes in terms of the regional management of the SFs, modifications of programme priorities have proven particularly interesting to analyse. Most programmes, and particularly in the cases of Ireland, Malta and Portugal, have tended to focus support on those areas where demand has held up and to reduce the emphasis on measures where demand has not been as strong as originally anticipated (EC, 2013b). A significant example in this sense is the case of the ESF-financed programmes which have seen a reduction in the participation of employers in training projects while the request for individual training courses has increased. Furthermore, a more general shift from active labour policies toward more urgent income-support measures was significant in some cases, such as within the Italian ESF-financed programmes.

Priority shift is also evident in programme activities financed by the ERDF. Here, some priorities have proved the ability to maintain planned co-finance levels, resulting in a shift in programme emphasis by default. The case of Ireland suggests that the economic crisis triggered an increase in demand for some farm-based measures in the Rural Development Programme, leading to the early closure of these measures. It is perhaps worth noting that some of the activities that have proved most difficult to secure co-financing for have been in the area of sustainable (urban) development, where urban authorities have either withdrawn from planned activities or novel means to secure their involvement have had to be found (Baden-Württemberg and Southern and Eastern Ireland for example). This reflects the challenging fiscal climate for many sub-national authorities and civil society organisations. These changes in priorities lead inevitably to a clash between the flexibility which is needed to respond to a sudden change and the stability required in order to maintain a long-term investment. According to some authors, a balance between these two aspects has been found and a strong focus on protecting the longer-term growth effects of investments in research and innovation was guaranteed (Healy and Bristow, 2013: 7). However, this view has been challenged by others.

The consequences of the crisis on programme priorities are complementary and to a certain extent linked to the effects of the crisis on outputs and results of the programmes (Healy and Bristow, 2013: 7). For example, the shift of ESF resources from activation measures to unemployment support proves challenging in term of achieving the outputs set in term of job creation.

Another effect of the crisis has been the reorganisation of governance structures in MSs such as Greece and Ireland. In the case of Greece, the 'Kallikratis reform'[7] has affected the implementation of programmes through the need to transfer programme management responsibility, and project implementation, to new institutions which have no experience of such roles (Healy and Bristow, 2013: 7). Implementation delays have affected the ability of programmes to respond to the effects of the crisis.

The regional level, and in particular the regional Programme Authorities, have more generally taken actions in five different directions following the new regulatory possibilities opened up by Brussels (sub-section 3.2.2) in order to allow greater management scope in programme implementation. Firstly, the speed of decision-making on project applications in order to reduce delays in the system was significant in Estonia, but was also explicitly highlighted in the case of Ireland (Healy and Bristow, 2013). Secondly, some rules on eligibility for grant support were smoothed in order to encourage additional applications. In Baden-Württemberg, for example, the State government successfully applied to the Commission to extend eligibility for some measures to non-SMEs (Healy and Bristow, 2013). Thirdly, the provision of larger sums as advances were used for programme that were proving more difficult to implement. This was a strong feature of the approach in the Southern and Eastern Ireland programme, which used the advances to seed investments in sustainable urban development projects which were proving difficult to get off the ground. It was also cited by programme managers from Territorial Cooperation Programmes, where

[7] The Kallikratis programme concerns the administrative reform of the country by creating secondary local administrations at the regional level and the restructuring of the first level local administration with fewer and larger municipalities (Healy and Bristow, 2013: 7).

they sought to move the advances out to beneficiaries as soon as possible (Healy and Bristow, 2013). Fourthly, the increase in the speed of payments in order to avoid cash liquidity problems was highlighted by a number of programmes, which reported that payments were often made before all the required audit checks had been completed (Healy and Bristow, 2013). Finally, the modification of co-financing rates, which was adopted in some programmes but not all. This was particularly the case in Western Macedonia, where the maximum proportion of European funding rose to 85% in July 2011. After December 2011, with each application from the Greek authorities the share could be raised to 95% for payments that had been credited or would be credited from May 2010-December 2013. This change in co-financing rates is aimed not only at the absorption of funds but also at protecting national funds for other activities, a valuable consideration in times of fiscal austerity (Healy and Bristow, 2013). However, the opportunity provided by the Amending Regulation has not been utilised in all programmes. It has not been applied in the South and Eastern Ireland Programme, for example, nor in the Central Greece or South Aegean Programmes in Greece. Other programmes, such as West Wales and the Valleys, have also taken the opportunity to increase their planned co-financing rates, which were originally set below the maximum eligible levels (Healy and Bristow, 2013).

3.2.4. An assessment of the changes in terms of their effectiveness and in terms of their success in counteracting the crisis

Bearing in mind the limitation analysed in sub-section 3.2.1, overall, according to various experts, European cohesion policy has helped MSs to respond to the crisis (EC, 2013b; Healy and Bristow, 2013; Smail, 2010). Moreover, the regulatory changes at EU level and the implementation changes at the regional level have shown the EU regional policy's capacity to provide a prompt response to the changing context. However, by assessing the effectiveness of these changes in counteracting the crisis, a variety of findings emerge.

First of all, it is important to recognise that SFs maintained a focus on investment, which is particularly important in times of crisis when other forms of investment had contrarily shrunk. However, the crisis led to heterogeneous consequences in the EU and therefore to a changing context which required a differentiated approach from region to region. Most importantly, it led to the need to strike a balance between a flexible approach, capable of reflecting the changing context, and the need for accountability and avoidance of disruptive and sometimes confusing alterations. Indeed, sudden changes in the rules mid-way through the programme could easily lead to inequitable treatment between applicants or in the audit procedure (EC, 2010b; EC, 2010a).

Furthermore, in order to provide an assessment of the regulatory and management changes that have occurred in the field of SFs since the outbreak of the current crisis, a deeper analysis should be performed. In particular, there seems to be a need for a greater emphasis in this kind of analysis on soft outcomes (interim steps on the path to employment, such as acquiring skills and confidence-building) to accompany the over-emphasised hard outcomes (the facts and figures on those who enter the workplace following SFs intervention). Hard outcomes tend to be easy to measure and quantify, for example the number of people participating in ESF-funded provision who enter into employment following that intervention, or the number who obtain a qualification. Soft outcomes are somewhat harder to measure and to quantify and include acquiring a skill, developing participants' confidence, improving someone's ability to work with others, or securing an improvement in someone's attendance or timekeeping, i.e. improving a person's employability.

In this sense, soft outcomes can be described as the interim steps on someone's journey towards employment and therefore have a crucial significance in the overall assessment of the policy even if they do not lead to effective hard outcomes. By being the necessary intermediate route towards hard outcomes, soft outcomes may not lead to tangible outcomes during the lifetime of a programme, yet they can be necessary and valid. Furthermore, we are not convinced that soft outcomes are sufficiently difficult to define to prevent their inclusion in assessments of the effectiveness of the SFs. We are concerned that the complete exclusion of soft outcomes would encourage providers to focus on those results which are easier to reach at the expense of those harder to reach.

On a different note, a complete picture of the effectiveness of SFs changes in counteracting the crisis needs to take into account the coordination between the three different instruments. The alignment of the three instruments of EU regional policy is particularly important, because whilst the ESF provides the skills for employment, the ERDF and the cohesion fund ensure that the corresponding job opportunities exist. Furthermore, this analysis should be broadened to analyse the complementarity of the SFs with EU instruments more widely. Indeed, as suggested by Burgoon (2010a), it is interesting to analyse this result comparing the effect that SFs have on EU economic and monetary policies with the strong compensatory role of national welfare provisions in deepening and sustaining international economic openness. And although the ESF and other SFs appear to have a weaker effect in that specific context, the potential for such downstream legitimation of broader EU ambitions is strong and important (Burgoon, 2010b).

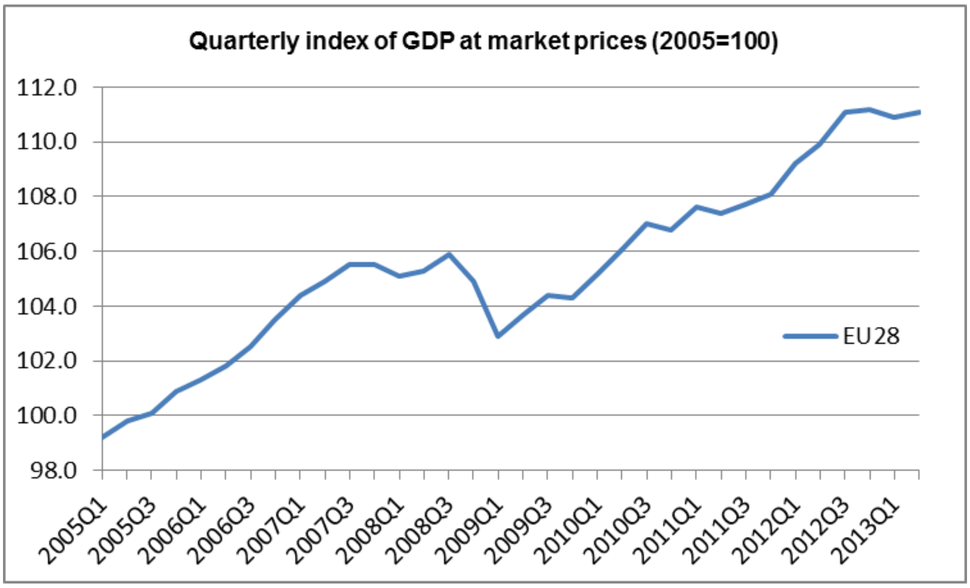
Finally, a complete analysis of the effectiveness of the SFs changes in counteracting the crisis needs to take into account their effect from a long-term and broader perspective, which is beyond the scope of this Study. In particular, it should take into account the long-term direction that the changes incurred during the crisis are giving to the policy goal as a whole. For example, do the current reforms of the ESF create an opportunity for the ESF to help leverage a more human and social face as some authors would hope (Burgoon, 2010a)? Moreover, a broader approach in term of the EU added value that is implicit in the SFs architecture would be desirable.

4. OVERVIEW OF THE EU 28 MSs

4.1. Introduction

Section 3.1 provided a broad overview of the effects that the 2008 crisis had on economic, social, and territorial cohesion. The scope of the current chapter is to delve deeper into the same topics. The recession technically started in the first quarter of 2008 (i.e. in the second consecutive trimester of economic negative growth) and lasted until the last quarter of 2009 (Graph 4.1). Between the second half of 2010 and 2011, the EU recorded a second wave of negative economic growth figures. Whereas the crisis has impacted on the majority of European countries, its depth has been highly unequal across the continent and its long-term impacts are likely to be similarly uneven. As argued by earlier reports and academic articles, the proper understanding of the recession impacts upon which to modulate future cohesion policies therefore calls for a perspective able to take into account the different geographies and intensities of the social, economic and territorial dynamics triggered by the downturn (*inter alia* EC, 2013d; Martin, 2010).

Graph 4.1: Index of Gross Domestic Product at market prices in the EU28 (2005=100), €



Source: own elaboration on data from Eurostat

The first part of this chapter, descriptive in nature, is aimed exactly at exploring the spatially and socially differentiated impacts of the crisis on key performance indicators commonly dealt with in the literature (see Annex 8.4). The analysis briefly sets the scene on the main macroeconomic developments and on sectoral specialisation at national level (sub-section 4.2.1.) and then explores regional performance variables. Such exploration is focused on standard structural-economic measures (such as GDP per capita, Gross Value Added per capita and unemployment) as well as on other indicators able to provide a more detailed picture of economic, social, and territorial cohesion across the EU. The current chapter follows the thematic axes outlined in the introductory chapter and is divided into the three broad dimensions of cohesion. Economic cohesion is explored in sub-section 4.2.2 on smart growth, in turn accounted for by access to finance, investing capacity and innovation.[8] Social cohesion is explored in sub-section 4.2.3, which accounts for labour markets, social inclusion and community development. Territorial cohesion, finally, is analysed through the spatial distribution of economic activities and regional infrastructural endowment in sub-section 4.2.4. The trends from 2008 up until the most recent available years are explored, as well as the pre-crisis conditions upon which such changes occurred.

The goal of this first part is to obtain a clearer picture of the specific impacts of the economic crisis on key indicators of economic, social, and territorial cohesion across the regions of Europe (RQ2). This will allow the identification of the regions that are most/least affected by the downturn. The ultimate aim is to assess whether, and to what extent, the crisis has undermined economic, social and territorial cohesion in the European Union as a whole (RQ1).

The chapter will then attempt, insofar as possible with the available data, to explore the potential links between the pre-crisis resilience factors that may have contributed to exacerbate/mitigate the recession's impacts on cohesion (as discussed in the literature in sub-section 3.1.2). Given the data limitations and the recent nature of the crisis, any attempts claiming to offer clear causal interpretations would be not only premature but potentially (also) misleading. Rather than claiming any fully-fledged answer regarding the crisis determinants, the final part of the chapter aims at offering a systematic and theory-driven analysis of a series of key quantitative stylised facts. Concretely, the analysis assesses the correlation between each region's economic performance during the post-2008 period, with indicators accounting for macroeconomic crisis transmission factors (sub-section 4.3.1) as well as regional resilience factors (sub-section 4.3.2) measured before the crisis (2003-2007 period). This analysis provides a preliminary assessment of the links between pre-crisis factors and the impacts of the recession.

4.2. Exploring the geographies of the crisis

4.2.1. Economic performance

The heterogeneity through which the economic crisis has impacted the European continent is synthetically illustrated in Table 4.1. For each EU MS, the table shows the average annual growth rates of **Gross Value Added (GVA)** and employment since the start of the crisis until the most recent available year (2010) both for the total economy and for disaggregated macro-sectors. Countries are then ranked according to the combined growth rates of total GVA and total employment that they experienced over the period (4th column)[9] (EC, 2013d).

[8] Due to lack of data, the green economy is not explored.

[9] The combination of economic and labour market indicators is not theory-driven but adopted as it provides a clear stylised fact upon which to base the ranking. In doing so, the analysis follows the approach of the EC, 2013d.

Table 4.1: Regional GVA and employment annual average growth rates during 2008-2010, with countries ranked according to the average between the two indicators

	Total			Agriculture		Energy, manufacturing		Construction		Distribution, transport, communication services		Financial & market services		Other non-market services	
MSs*	**GVA**	**Emp**	**Combined**	**GVA**	**Emp**	**GVA**	**Emp**	**GVA**	**Emp**	**GVA**	**Emp**	**GVA**	**Emp**	**GVA**	**Emp**
LATVIA	-5.7	-5.7	**-5.7**	2.9	-7.8	-1.0	-5.7	-19.8	-18.8	-6.7	-3.4	-4.2	-0.9	-4.2	-3.8
ESTONIA	-4.4	-4.9	**-4.7**	4.4	-7.8	-1.9	-5.1	-14.5	-20.4	-8.3	-2.1	-3.9	1.3	1.4	-3.2
LITHUANIA	-3.4	-4.2	**-3.8**	-1.1	-7.0	-1.2	-6.9	-16.6	-18.0	-3.3	-0.4	-4.0	7.9	2.2	-2.6
IRELAND	-3.0	-4.5	**-3.7**	-16.4	-7.9	1.4	-6.7	-24.3	-22.2	-4.9	-1.9	-5.6	0.4	2.2	-0.6
ROMANIA	-4.2	-1.1	**-2.7**	-1.0	1.0	-7.6	-6.5	-0.1	1.2	-2.6	0.8	-6.9	5.6	-1.2	-2.4
SPAIN	-0.7	-3.2	**-1.9**	-1.7	-2.6	-3.7	-7.0	-5.3	-15.8	4.7	-0.4	-4.1	0.5	1.8	-0.6
HUNGARY	-1.6	-1.3	**-1.5**	6.8	-3.8	-1.2	-2.5	-7.1	-4.5	-3.3	-1.0	0.8	5.1	-2.0	-1.3
UNITED KINGDOM	-2.3	-0.2	**-1.3**	-10.0	1.1	-2.8	-4.4	-2.9	-1.0	-3.2	-0.6	-2.2	0.6	-0.4	1.1
GREECE	-1.9	-0.5	**-1.2**	-0.6	1.4	-4.6	-1.4	-7.0	-5.2	-3.6	-0.4	-0.2	1.8	2.1	-0.3
ITALY	-1.6	-0.7	**-1.1**	-0.4	-1.1	-3.5	-2.9	-5.2	-0.9	-2.1	0.0	-0.3	0.0	0.5	0.0
DENMARK	-0.7	-1.3	**-1.0**	13.4	-0.7	-1.3	-5.0	-6.0	-5.6	-5.1	-0.3	1.5	1.3	2.3	-1.0
FINLAND	-1.4	-0.4	**-0.9**	2.8	-1.6	-3.5	-2.9	-0.5	-0.3	1.3	0.2	-2.9	1.3	1.5	0.0
PORTUGAL	-0.4	-1.2	**-0.8**	-0.5	-2.2	-2.7	-3.9	-5.5	-4.9	0.4	-0.3	-0.1	1.8	2.0	0.4
SLOVENIA	-0.9	-0.6	**-0.7**	-4.0	-1.9	-2.1	-4.9	-10.2	0.5	-0.7	0.6	1.0	3.6	3.2	0.7
FRANCE	-0.1	-0.2	**-0.1**	2.8	-2.7	-1.6	-2.7	-3.9	0.2	-0.2	0.4	-0.1	-0.3	1.5	0.5
GERMANY	-0.2	0.6	**0.2**	7.6	-0.7	-3.7	-0.9	-0.9	0.3	1.2	1.0	1.2	1.0	1.2	1.0
BULGARIA	2.0	-1.6	**0.2**	6.2	-0.9	-0.2	-5.1	-1.0	-2.7	3.3	0.8	1.6	6.3	4.5	-3.4
NETHERLANDS	0.3	0.2	**0.2**	1.7	-1.2	0.4	-1.2	-3.6	-0.6	-2.0	-0.6	0.4	1.4	3.6	0.8
AUSTRIA	-0.1	0.7	**0.3**	-5.2	-1.4	-1.2	-1.1	-3.9	0.6	0.8	0.5	1.3	2.4	0.7	1.3
BELGIUM	0.2	0.8	**0.5**	-1.0	-2.9	-0.9	-2.4	-1.0	1.3	-0.8	0.1	0.8	2.6	2.1	1.7
SWEDEN	1.6	-0.1	**0.7**	2.7	0.7	4.4	-3.2	0.0	3.4	-0.4	0.1	0.5	2.7	2.7	-0.8
CYPRUS	1.2	0.5	**0.8**	-1.8	1.8	-0.2	-1.3	-9.0	-2.8	-0.4	0.3	3.8	1.7	5.3	2.1
LUXEMBOURG	-0.4	2.5	**1.0**	-7.5	9.2	-9.4	0.0	0.4	0.9	-0.6	1.2	0.6	5.2	2.8	2.2
CZECH REPUBLIC	2.4	-0.2	**1.1**	-0.5	-2.7	6.2	-2.6	0.6	2.6	-3.3	3.2	3.1	-7.6	0.9	3.0
MALTA	1.6	1.5	**1.6**	-2.3	-0.1	-0.1	-4.2	3.5	-2.7	2.2	2.6	2.7	6.3	1.3	2.5
SLOVAKIA	3.6	-0.1	**1.8**	-3.7	-5.7	9.0	-3.7	6.3	3.7	-2.8	2.1	1.9	1.9	1.6	-0.1
POLAND	6.5	1.6	**4.1**	2.2	-2.8	8.5	-1.1	8.5	6.3	5.4	3.1	8.0	3.0	4.2	3.5
EU27	-0.7	-0.4	**-0.5**	0.8	-1.3	-1.9	-3.0	-3.6	-2.9	-0.7	0.3	-0.4	0.8	1.1	0.5

*Data not available for Croatia. ***Source****:* *Own elaboration on data from Cambridge Econometrics.*

Table 4.2: Regional GVA and employment annual average growth rates during 2008-2010, worst- and best-performing regions (absolute values)

MS*	Region	Total			Agriculture		Energy, manufacturing		Construction		Distribution, transport, communication services		Financial & market services		Other non-market services	
		GVA	Emp	Combined	GVA	Emp	GVA	Emp	GVA	Emp	GVA	Emp	GVA	Emp	GVA	Emp
LV	Latvia	-5.71	-5.67	**-5.69**	2.94	-7.80	-1.05	-5.67	-19.82	-18.83	-6.66	-3.38	-4.24	-0.93	-4.18	-3.82
RO	Vest	-6.47	-2.98	**-4.72**	-9.37	-8.16	-9.04	-1.70	-2.69	-4.58	-1.82	0.56	-10.99	4.95	-1.77	-5.47
EE	Eesti	-4.43	-4.87	**-4.65**	4.37	-7.77	-1.88	-5.09	-14.49	-20.43	-8.31	-2.09	-3.93	1.28	1.42	-3.21
IE	Border, Midlands and Western	-3.42	-5.04	**-4.23**	-15.77	-10.49	-0.05	-9.36	-23.14	-25.76	-3.06	-0.94	-4.46	5.87	2.14	0.48
RO	Sud-Est	-4.62	-3.26	**-3.94**	11.88	-9.13	-10.16	-4.70	-0.99	4.35	-7.67	1.98	-8.25	9.13	0.32	-2.65
LT	Lithuania	-3.42	-4.20	**-3.81**	-1.06	-7.00	-1.20	-6.92	-16.64	-18.01	-3.29	-0.45	-3.98	7.89	2.20	-2.65
RO	Nord-Vest	-6.51	-0.97	**-3.74**	-8.43	3.14	-7.73	-8.60	-2.26	2.54	-5.43	0.73	-11.11	6.33	-1.04	0.60
IE	Southern and Eastern	-2.84	-4.28	**-3.56**	-16.68	-6.39	1.75	-5.78	-24.69	-20.74	-5.28	-2.25	-5.78	-0.70	2.26	-1.01
HU	Észak-Magyarország	-4.28	-2.61	**-3.45**	12.20	-1.18	-4.89	-4.16	-6.96	-10.52	-6.09	-0.29	-3.44	-2.20	-2.83	-1.95
RO	Sud - Muntenia	-3.88	-2.77	**-3.32**	6.16	-1.14	-6.22	-7.64	-0.51	1.22	-2.73	-4.03	-9.90	6.17	-0.64	-1.55
HU	Közép-Dunántúl	-5.10	-1.24	**-3.17**	8.05	-5.98	-4.37	-0.86	-11.24	-10.34	-8.98	0.38	-4.66	2.30	-3.65	0.02
RO	Centru	-6.53	0.30	**-3.11**	-10.24	5.49	-9.64	-2.55	1.18	3.01	-4.17	1.71	-10.05	7.94	-0.18	-3.32
ES	Castilla y León	-1.85	-4.34	**-3.10**	-1.17	-0.71	-0.05	-8.38	-9.41	-21.00	2.59	-0.98	-7.56	0.10	1.18	-1.21
UK	West Midlands	-3.93	-1.77	**-2.85**	-5.57	0.01	-6.49	-4.76	-5.61	-6.74	-4.34	-1.73	-3.00	-0.69	-1.68	-0.09
BG	Severozapaden	-1.34	-4.34	**-2.84**	10.98	0.79	-7.65	-10.06	-17.00	-9.67	-2.90	-1.32	1.60	1.64	1.67	-6.09
SK	Bratislavský kraj	5.19	0.34	**2.76**	5.99	6.85	17.65	-7.94	6.48	-1.60	-2.39	4.98	3.32	-0.98	2.98	0.68
PL	Zachodniopomorskie	5.13	0.95	**3.04**	0.06	-9.09	3.03	-3.25	7.04	13.18	5.57	1.17	4.68	-2.38	8.30	4.25
PL	Lubelskie	5.74	0.84	**3.29**	5.74	-4.69	10.50	-2.20	10.71	9.56	1.37	3.10	3.28	2.92	6.20	6.14
PL	Opolskie	5.26	1.59	**3.43**	-5.89	-9.01	4.10	2.58	4.86	6.26	3.62	1.48	9.95	1.71	10.16	5.21
PL	Wielkopolskie	8.08	-0.51	**3.78**	6.70	-0.20	12.96	-4.42	13.19	6.40	4.60	0.50	1.94	-4.65	7.49	3.08
PL	Swietokrzyskie	6.71	0.89	**3.80**	-2.18	-9.11	8.41	3.83	8.49	9.12	5.27	4.17	10.54	8.11	5.53	4.58
PL	Slaskie	6.80	0.80	**3.80**	-0.45	-16.33	9.30	-0.23	7.23	0.97	5.49	2.47	4.51	-1.12	4.87	3.22
PL	Malopolskie	6.39	1.25	**3.82**	0.51	-4.03	6.01	-3.60	11.79	10.50	5.36	4.23	11.46	6.18	3.13	1.74
PL	Pomorskie	5.72	1.99	**3.86**	-1.33	-5.06	4.21	-0.37	10.13	5.02	6.87	2.82	5.82	0.94	6.78	5.49
PL	Dolnoslaskie	7.18	0.97	**4.08**	2.47	-0.52	10.27	1.40	11.06	-0.23	5.24	2.84	6.27	3.20	2.99	-1.36
PL	Warminsko-Mazurskie	6.05	2.11	**4.08**	3.83	-1.89	8.51	-1.26	8.81	9.71	4.43	4.32	9.24	2.02	3.44	2.51
PL	Podkarpackie	6.81	1.64	**4.23**	-5.21	-5.75	7.94	-0.98	11.06	5.33	5.57	6.85	8.31	4.47	6.45	5.64
PL	Podlaskie	5.25	3.64	**4.45**	2.56	1.80	1.98	-1.45	3.98	8.84	10.28	8.67	8.61	5.43	3.52	3.27
PL	Mazowieckie	6.79	3.47	**5.13**	0.54	4.74	6.74	-0.93	5.84	6.33	7.28	3.05	10.24	4.02	1.70	5.42
PL	Lódzkie	6.49	4.03	**5.26**	2.07	-1.13	12.44	0.03	4.07	11.77	4.58	7.90	4.41	8.27	2.36	4.85

*Data not available for Croatia. ***Source****:* *Own elaboration on data from Cambridge Econometrics.*

Table 4.3: Regional GVA and employment annual average growth rates during 2008-2010, worst- and best-performing regions ranked after controlling for each region's country performance

MS	Region	Total			Agriculture		Energy, manufacturing		Construction		Distribution, transport, communication services		Financial & market services		Other non-market services	
		GVA	Emp	Combined	GVA	Emp	GVA	Emp	GVA	Emp	GVA	Emp	GVA	Emp	GVA	Emp
BG	Severozapaden	-1.34	-4.34	-12.2701	10.98	0.79	-7.65	-10.06	-17.00	-9.67	-2.90	-1.32	1.60	1.64	1.67	-6.09
BG	Severen tsentralen	-0.52	-2.63	-6.8079	8.58	-0.11	-1.86	-6.22	-6.92	-4.82	-4.45	-0.01	-1.40	1.81	4.76	-3.79
FR	Corse	0.55	1.23	-6.12182	3.35	-3.17	0.08	-0.43	-0.68	2.47	-1.65	0.32	2.96	0.11	0.36	2.38
DE	Stuttgart	-2.61	0.45	-5.58147	13.75	-1.15	-5.23	-1.06	-1.64	1.67	1.24	1.91	-1.57	-0.97	-1.49	1.27
BG	Severoiztochen	0.48	-2.85	-5.12378	11.47	-5.05	-5.60	-4.29	-10.14	-3.19	0.05	-0.79	1.93	5.34	8.29	-3.48
DE	Saarland	-1.85	0.00	-4.77057	12.88	0.02	-7.07	-1.56	-2.01	1.45	0.59	-0.23	1.11	-0.99	1.36	1.68
FR	Midi-Pyrénées	0.86	0.51	-4.71368	2.94	-2.31	0.53	-1.41	-2.60	0.25	0.16	0.64	2.32	1.30	0.82	1.21
DE	Braunschweig	-2.17	0.66	-3.90299	7.32	-0.48	-4.21	-1.42	-4.64	1.08	-0.20	0.98	-0.51	1.97	-0.68	1.40
NL	Limburg (NL)	-1.07	-0.68	-3.55825	-2.18	-1.59	-2.39	-2.76	-2.11	-0.75	-1.87	-1.03	-2.18	1.44	2.79	-0.11
BG	Yugoiztochen	2.16	-3.54	-2.97903	5.27	-7.01	0.09	-6.44	4.80	1.85	0.62	0.60	2.52	7.08	6.49	-5.16
FI	Åland	5.06	0.14	-2.93691	1.37	-3.96	10.37	-2.22	10.98	1.83	-1.53	-0.33	2.90	4.81	12.90	0.67
DE	Arnsberg	-1.41	0.31	-2.84243	2.39	-0.26	-6.46	-1.20	-2.88	-0.23	0.30	0.40	1.68	2.20	1.91	0.60
NL	Drenthe	-0.50	-0.71	-2.44994	-2.66	-2.25	-2.13	-1.58	-5.80	-1.82	-0.54	-1.35	-0.67	1.30	3.05	-0.40
FR	Bretagne	0.59	0.11	-2.41915	4.45	-2.62	0.27	-1.29	-2.90	0.07	0.48	0.55	0.54	-0.56	1.31	1.02
FR	Provence-Alpes-Côte d'Azur	0.12	0.56	-2.35915	3.27	-2.32	-1.25	-2.07	-4.82	-0.56	-0.47	0.80	1.20	0.73	0.92	1.27
DE	Mecklenburg-Vorpommern	1.63	0.00	4.22683	10.76	-0.82	-2.71	-0.89	-3.15	-2.74	2.34	0.97	3.35	1.48	1.37	-0.33
NL	Utrecht	1.22	0.95	4.40767	5.17	-1.13	4.47	-0.52	-4.05	-0.11	-2.22	-0.44	1.56	1.34	4.35	2.54
FR	Haute-Normandie	-0.72	-0.58	4.48485	1.36	-3.34	-2.70	-3.29	-3.86	1.07	-0.06	0.19	-1.25	-1.56	2.08	0.40
BE	Prov. Brabant Wallon	2.87	2.42	5.02256	1.53	-2.16	7.73	1.34	-1.72	0.25	1.66	1.45	0.99	4.97	1.77	2.37
FR	Champagne-Ardenne	-0.51	-1.06	5.415	3.20	-2.28	-2.61	-3.44	-3.37	0.92	-0.38	0.30	-3.93	-3.30	3.32	-0.41
DE	Hamburg	0.76	1.35	5.45271	16.16	0.13	-1.97	-1.10	-0.10	0.03	1.25	1.84	1.25	1.80	1.62	1.56
DE	Schleswig-Holstein	1.26	0.86	5.47266	9.28	0.10	-1.65	-1.18	-1.58	0.33	2.23	1.07	1.93	1.98	1.71	1.17
DE	Brandenburg	1.62	0.62	5.77168	8.39	-1.32	1.66	0.20	-2.36	-0.59	2.19	0.90	2.22	1.01	0.65	0.91
FR	Picardie	-0.91	-0.86	6.07568	0.33	-4.40	-3.04	-3.54	-4.05	0.65	0.06	0.41	-2.53	-2.47	2.18	0.04
NL	Groningen	3.13	0.02	6.40756	1.55	-1.83	8.80	-1.33	-6.79	-1.92	-5.45	-2.23	-1.63	2.08	2.22	1.77
FR	Limousin	-0.91	-1.14	7.06171	5.03	-4.27	-2.19	-3.38	-3.69	-1.18	-1.36	-1.02	-0.06	-2.62	-0.95	0.45
FR	Franche-Comté	-0.98	-1.10	7.15619	5.92	-2.56	-1.03	-3.14	-3.31	-0.59	-0.73	-0.17	-2.80	-4.69	0.47	0.83
DE	Berlin	1.91	1.32	8.33457	10.78	-3.08	1.95	-1.46	1.79	0.73	1.12	1.16	2.76	2.58	1.43	1.46
FR	Lorraine	-1.23	-1.23	8.46352	1.64	-1.32	-3.37	-3.86	-5.09	-0.02	-0.52	0.33	-2.97	-2.81	1.90	-0.82
BG	Yugozapaden	3.86	0.61	9.64372	2.12	0.42	4.36	-2.61	0.36	-5.40	6.58	2.39	1.97	7.48	3.97	-1.07

*Data not available for Croatia. ***Source***: *Own elaboration on data from Cambridge Econometrics.*

The impacts differ substantially across MSs: Latvia, Estonia, Lithuania, Romania, Ireland and Spain are the countries worst hit by the economic downturn, and they show average annual reductions in GVA between -3 and -5.7% and in employment between -1.1 and -5.7%. Baltic countries and Ireland, in particular, register contractions above -3% on both indicators. Results for Greece, Cyprus and Spain, three of the most severely hit countries in the EU, appear underestimated in the table. This is caused by two different factors: in the case of Greece and Cyprus, because most GDP contractions took place after 2010; in the case of Spain, because the country suffered more in terms of unemployment than economic output. At the opposite side of the spectrum, a group of countries including Malta, Slovakia and Poland registers positive combined annual growth rates above 1.5 %. Between these two opposite positions, three intermediate groups can be highlighted: Hungary, the UK, Italy, Denmark, Finland, Portugal and Slovenia, recording combined contractions between -1.5 and -0.1%; Germany, Bulgaria, the Netherlands, Austria and Belgium, recording a modest, yet positive combined growth rate between 0.2 and 0.5%; and, last but not least, a group of countries including Sweden, Cyprus, Luxembourg and the Czech Republic recording a combined positive growth rate between 0.7 and 1.1%.

Moving from total to **sectoral impacts**, there are stark differences across sectors. Manufacturing and construction are the sectors most hit by the crisis, with an overall EU annual contraction close to 3% both for GVA and employment in both sectors. In the Baltic countries and Ireland, in particular, construction recorded annual contraction rates close to or above -20%. Agriculture, distribution, transport, communication services, financial and other market services score slightly better, yet still show signs of contraction. By contrast, non-market services are the least impacted by the crisis, with slight, positive growth rates for the EU as a whole.

Table 4.2 provides the same information as Table 4.1 but, instead of each individual MS, it shows data for the 30 regions worst/least affected by the crisis. The ranking is based on the composite indicator as already explained above. The 15 regions where GDP/employment shrank most during the 2008-2010 period include the three Baltic republics (which constitute single-region states), 5 of the 8 regions constituting Romania, Southern/Eastern Ireland, Észak-Magyarország and Közép-Dunántúl in Hungary, Castilla y León in Spain, the West Midlands in the UK and Severozapaden in Bulgaria. As indicated earlier, the data for Greek and Cypriot regions are likely to be underestimated because most of their economic contractions occurred after 2010. The lower part of the table, by contrast, shows the 15 regions which recorded the best economic performance during the period analysed. Astonishingly, 14 out of 15 correspond to Polish regions. Indeed, Poland appears to be the MS least affected by the crisis.

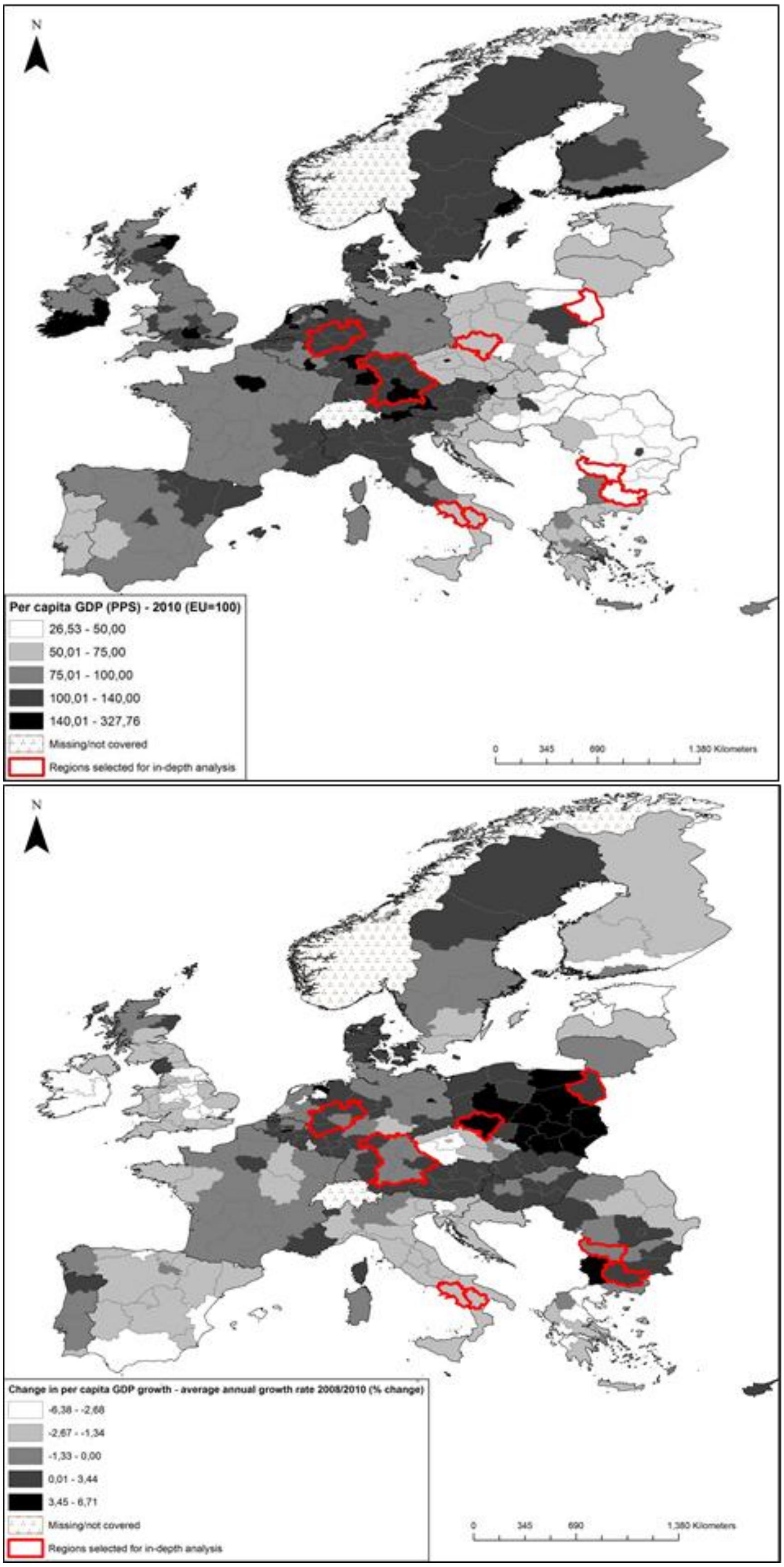
Similarly to Table 4.2, Table 4.3 shows data for the 30 regions recording worst/best performance across the crisis. However, the results are ranked after normalising each region's composite indicator by its national average. In contrast to Table 4.2, which showed absolute levels, Table 4.3 therefore shows performance conditional on national trends. The table provides a very different picture. As a matter of fact, after controlling for national trends, the regions which suffered most from the downturn now appear to be not ones located in the most affected countries, but regions in well-performing national contexts, such as Corse, Midi-Pyreénées and Bretagne in France, Limburg and Drenthe in the Netherlands, or Stuttgart and Saarland in Germany. Interestingly, the same countries also host the regions showing the best conditional performance, such as Yugozapaden in Bulgaria, Lorraine, Franche-Comté, Limousin and Picardie in France, Berlin and Brandenburg in Germany, and Groeningen in the Netherlands. It is worth noting that, due to the national averaging, single-region countries such as the three Baltic Republics disappear from the list of those most affected by the crisis.

Map 4.1 shows regional changes in **GDP per capita** during the crisis. It also offers a snapshot of interregional disparities for the most recent available year (2010). While dispersion and convergence along economic indicators will be discussed in more detail in sub-section 4.2.3, the preliminary information provided in the first map (post-2008 performance) suggests two findings: first, coherently with GVA results discussed above, there are marked differences across countries in the ways the crisis impacted on regional economies. Again, the map confirms that the regions recording the most positive performance are ones from Poland, including Lower Silesia and Podlaskie, two of the selected case studies. Second, there are also differences in the level in which sub-national, interregional economic performance trends evolved across the crisis time-window. For a group of MSs that includes Poland, the Czech Republic, Slovakia, Italy, Denmark, Spain, Latvia, Hungary and Sweden and Slovenia, local economies reacted either mostly positively or mostly negatively across all regions. In other words, in those countries we do not expect a high increase in sub-national regional inequalities. In the remaining countries, by contrast, regional economies show greater sub-national variation. This is for example the case in the United Kingdom and France, which both show regions with very positive – respectively North-West England and North-Eastern Scotland, and Ile-de-France and Provence-Alpes-Cote d’Azur – as well as negative economic performance – Yorkshire, the Midlands, and the regions of Bourgogne, Champagne-Ardenne, Bretagne and Pays-de-la-Loire respectively.

4.2.2. Smart growth indicators: enterprise and innovation

Measures such as per capita GDP and GVA can effectively and synthetically provide a picture of economic wealth. Yet, there is a marked, increasing concern about the distance between such standard economic measures and broader measures able to fully capture the economic performance of regions. Wealth variables, in fact, measure the presence/absence of resources at a particular moment without questioning either the reasons behind poverty or the possible ways to get away from it. In line with such views, contributions have proposed an approach that is better able to account not only for the levels of *contextual disparities*, but also the *structural causes* that prevent regions – i.e. people and firms in them – from overcoming such inequalities in the long term (Rodríguez-Pose, 1999; Crezscenzi and Rodríguez-Pose, 2009). In the remainder of this paragraph, we therefore focus our attention on two key structural economic aspects which are seen as a key to long-term prosperity: access to finance and the ability of firms and territories to invest, and innovative capacities.

Map 4.1: Performance Indicators – Economic Cohesion – GDP Per Capita



Source: Own elaboration on data from Eurostat.

A key indicator that may shed light on the capacities of firms and businesses for recovery is **access to finance.** Table 4.4 proxies this variable by the rate of successful applications for loans by businesses across MSs before and after the crisis. Due to data availability, values are provided at national level. Strikingly, in all of the countries for which data are available there has been a significant decrease in the rate of acceptance of loan requests. Acceptance rates decreased to levels as low as 43% in Bulgaria, 53% in Ireland and 60% in Denmark, Greece, Spain and Lithuania. While this may partly reflect an increase in the care taken by financial institutions towards financing only solid businesses, anecdotal evidence supports the hypothesis of increased difficulty for businesses to finance their activities, a fact which may contribute to exacerbating the negative effects of the crisis and the path to recovery.

Table 4.4: Success rate by businesses in obtaining loan finance from banks (except financial and insurance services)

Country*	BE	BG	DK	DE	IE	EL	ES	FR	IT	CY
2007	92,4	87,0	91,8	85,3	96,9	87,6	87,3	94,5	86,6	93,2
2010	83,1	42,5	59,8	75,9	53,2	59,1	59,1	83,3	78,3	76,7

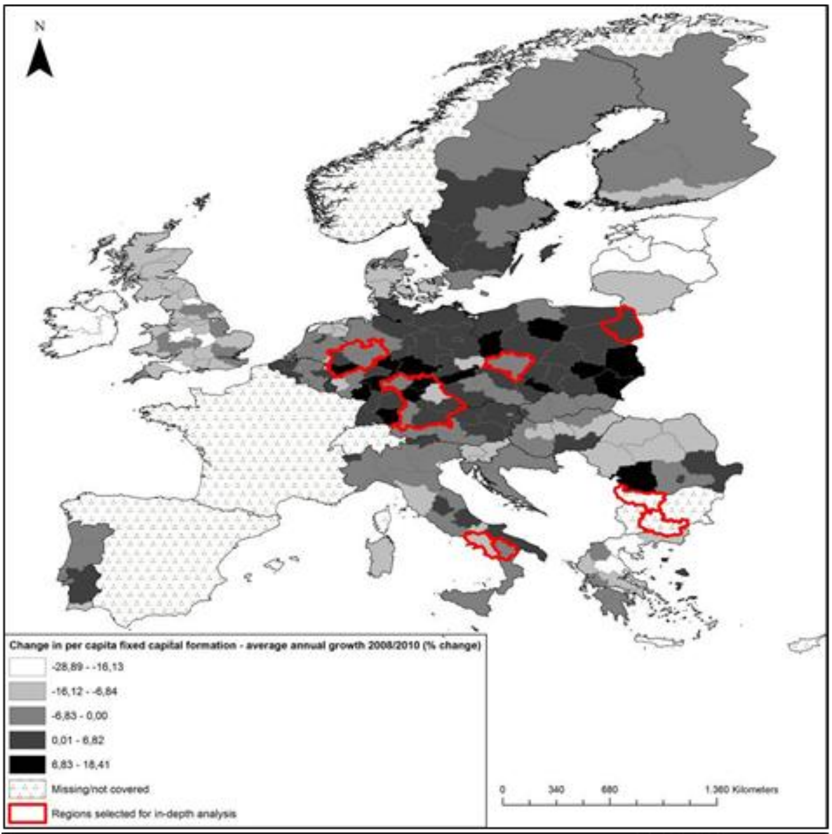
Country*	LV	LT	LU	MT	NL	PL	SK	FI	SE	UK
2007	89,0	89,2	78,8	94,3	84,3	91,9	89,3	98,1	84,2	88,4
2010	63,5	58,4	68,4	91,3	61,3	85,4	76,1	95,9	79,7	64,6

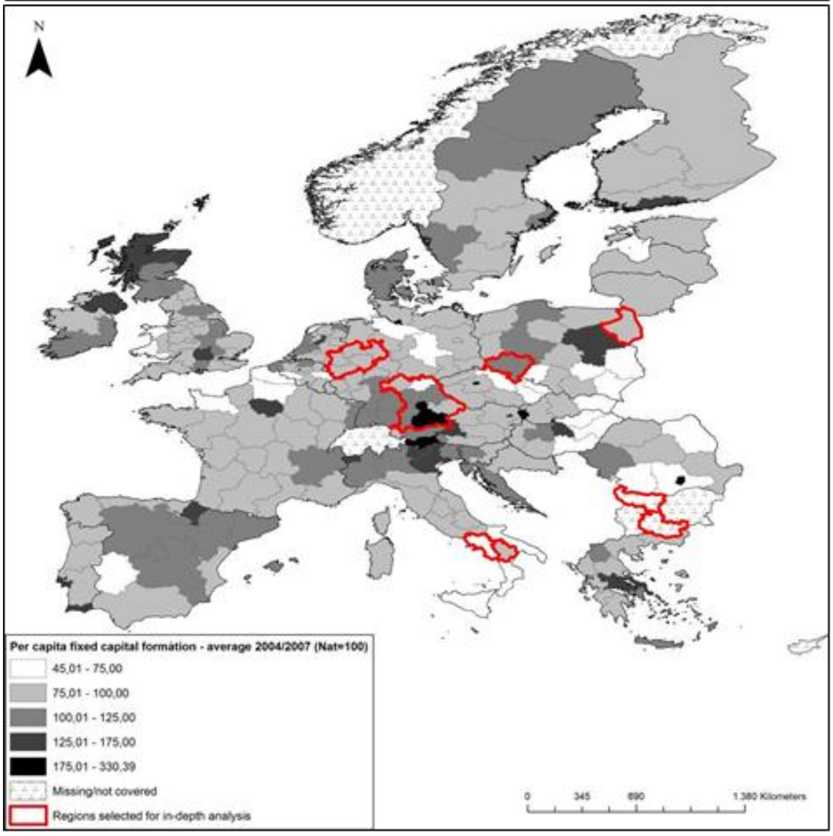
**Data not available for Austria, Croatia, Estonia, Hungary, Czech Republic, Portugal, Romania and Slovenia.*

Source: Eurostat

A second investment variable explored is **gross fixed capital formation**. Such an indicator shows how much of the new value-added produced in the economy is invested rather than consumed. It can therefore be used as a proxy for the capacity of firms and businesses to invest for future activities. Map 4.2 shows, on the top, the average annual amount of per capita gross fixed capital formation recorded in European regions during the 2004-2007 period. The lower map, by contrast, shows the percentage change that occurred during the 2008 recession. In spite of the fact that data are missing for two of the largest MSs – namely France and Spain – as well as for Bulgaria, two key facts can be underlined: first, Latvia, Lithuania, Estonia, the regions in the northern half of Romania, the whole of Ireland, most of Greece, much of the UK (except for the metropolitan area of London), and 4 out of the 20 regions of Italy experienced a marked decline in the amount of wealth re-invested in fixed capital. By contrast, the regions that were able to increase the amount of fixed capital formation are mostly based in Poland, parts of Germany and the Czech Republic, Croatia and, unexpectedly, in three regions of central and southern Italy. Considering that many of them showed pre-crisis levels (first map) lower than the best-off regions of the Union, this might be seen as a proof that in spite of the crisis a modest trend of convergence has been occurring. Nonetheless, the first map, which shows each regional level compared to each MS's national average, still shows significant interregional differences. Regions in countries such as Poland, Germany, Italy, Slovakia and the UK all show significantly high within-nation levels of variation. For example, Bavaria in Germany, and Campania and Basilicata in Italy – 3 of the 8 case study regions – show respectively very high and very low levels compared to each country's average.

Map 4.2: Performance Indicators – Economic Cohesion – Enterprise





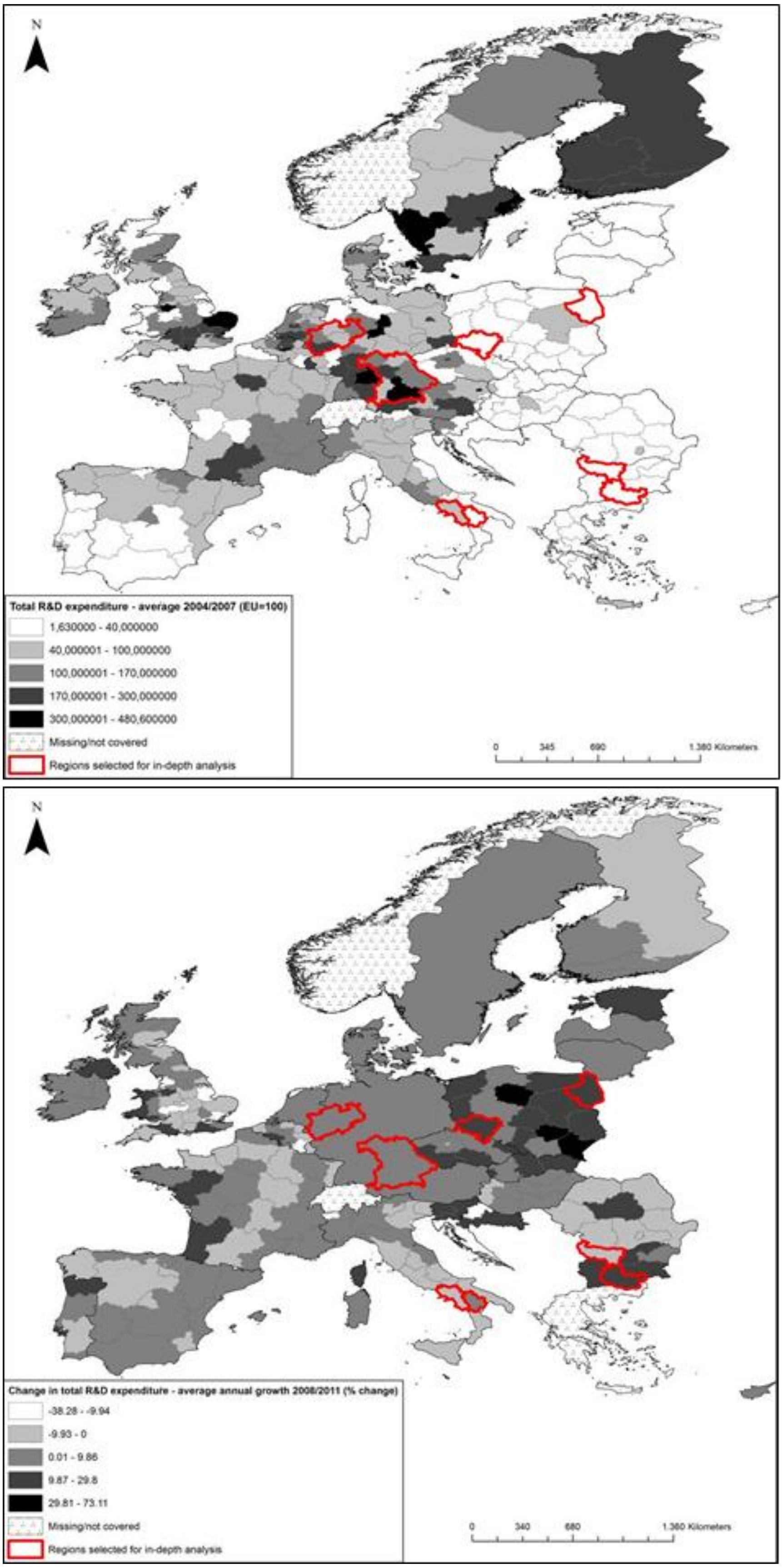
Source: Own elaboration on data from Eurostat.

Innovative efforts, as well as innovative outputs, are explored in Map 4.3 and Map 4.4 respectively. The former describe per-capita intramural **gross expenditure on research and development (GERD)**, while the latter relate to the total number of patent applications per million inhabitants, one of the most commonly adopted proxies for innovation performance.

The amount of total resources invested in innovation across Europe varies enormously. Absolute values before the crisis ranged from around 0.1% of regional GDP in the Swietokrzyskie region of Poland, the Ionian Islands and the South Aegean in Greece, and the north-western region of Bulgaria – one of the case study regions – to levels as high as 7% of regional GDP in the Brunswick region of Germany and Walloon Brabant in Belgium. Overall, the regions with the highest levels (i.e. levels higher than 4% of regional GDP) are parts of Germany, Denmark, the United Kingdom, Sweden, and Finland. By contrast, the lowest levels (less than 0.2% of regional GDP) are found in regions of Poland, Greece, Bulgaria, Romania and Spain. The picture that emerges is one of a core innovative area based in the continental core of the EU (also stretching to Scandinavian countries) circled by regions characterised by low innovative efforts. It must nonetheless be recognised that even within such core areas, interregional differences are visible: this is for example the case with France, the United Kingdom and Germany, countries hosting leading innovative regions (Ile-de-France and Midi-Pyrénées, East England and Bavaria to name a few examples) as well as regions with much lower R&D efforts (such as Nord Pas-de-Calais, Limousin and Pointou Charentes, Wales, the North of Scotland and Saxony respectively).

Looking at the first of the maps portrayed in Map 4.3, which depicts the % change of innovation efforts following the crisis, a core/periphery pattern is less evident. No clear patterns are visible, with R&D expenditure reductions recorded in most of the Central and Southern Italian regions, the coastal part of Croatia, the regions of Romania except the central one, a group of regions in the central part of France, and the East and Midlands in the UK. The adjustment of R&D investments is likely to happen over a relatively long time-span, making it difficult to capture clear dynamics with the quantitative data available so far.

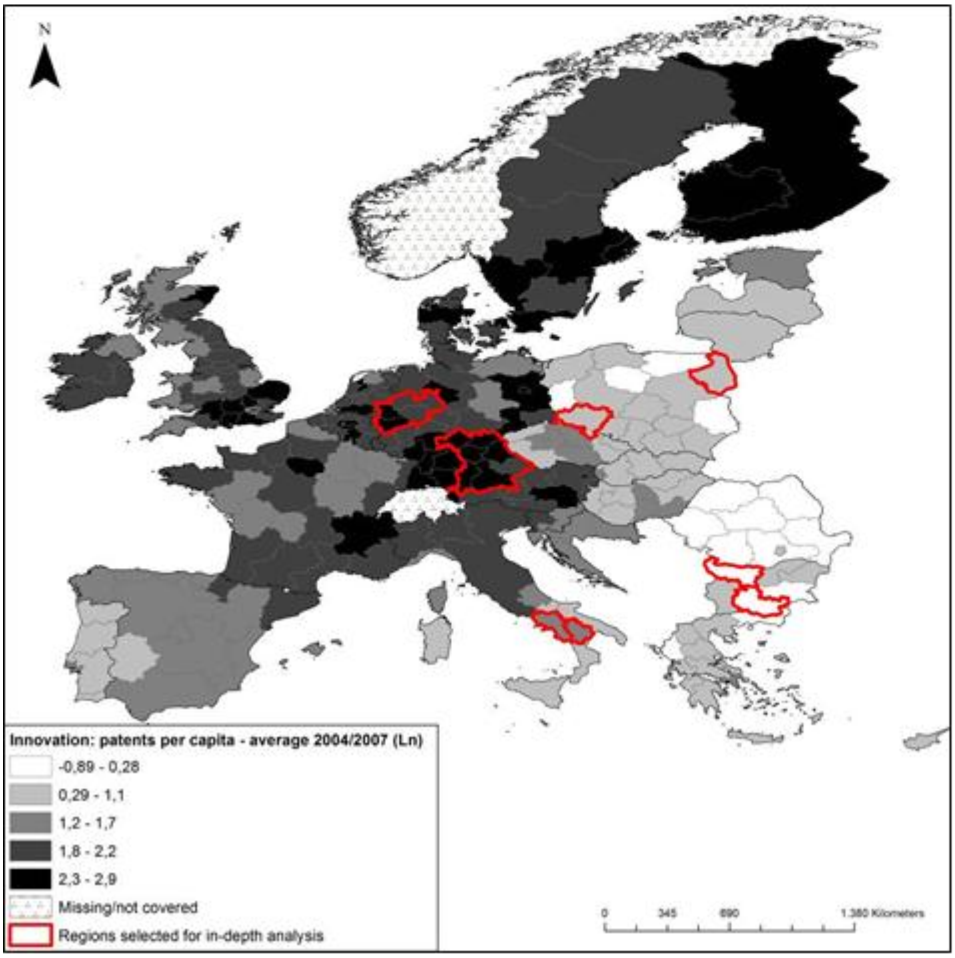
Map 4.3: Regional Resilience Indicators – Innovation efforts



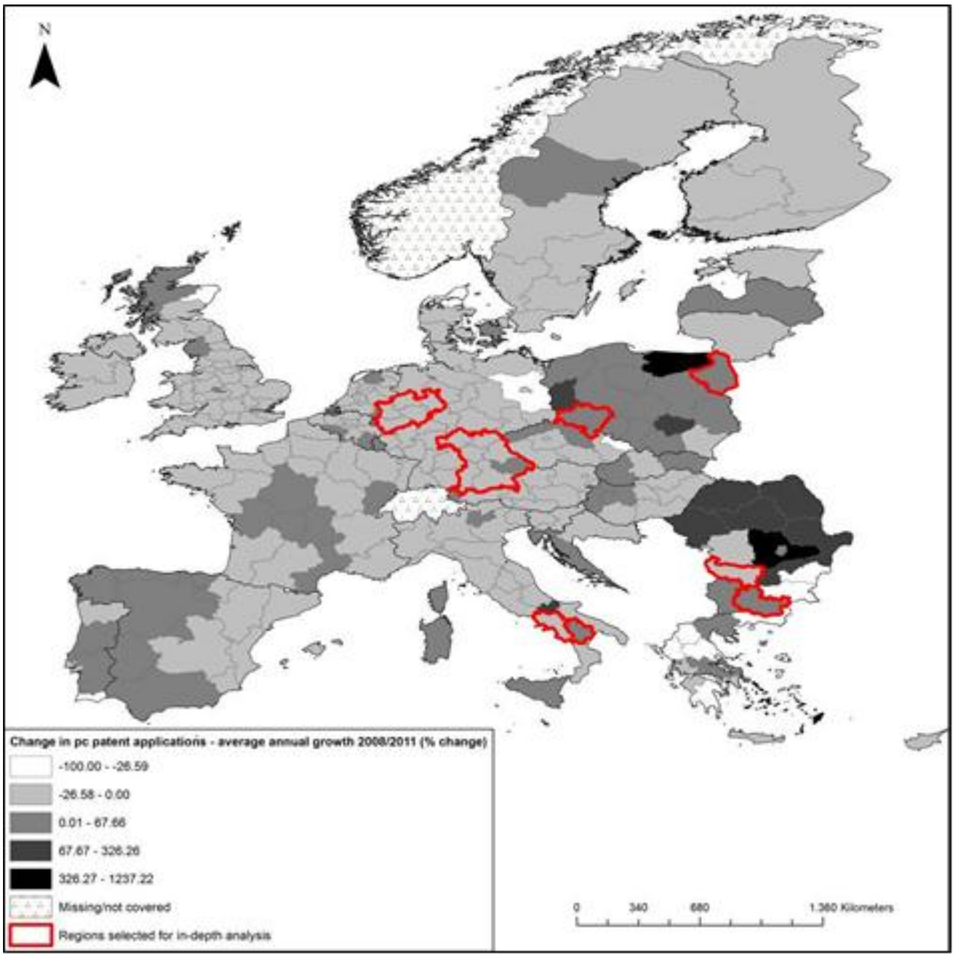
Source*: Own elaboration on data from OECD.*

The analysis of innovation outputs, namely **patent applications**,[10] shown in Map 4.4 confirms the picture sketched above. Outputs vary enormously both within and across states. The overall picture is one of a core innovative area centered in continental Europe and stretching across most of the regions of Germany and its neighbours: the south-east of England, the Paris urban region and the Rhone-Alpes in France, Austria, Denmark, the south of Sweden and Finland. A second area, including the remaining regions of Sweden, Ireland, the rest of the UK, France and the Centre-North of Italy scores medium levels of patenting activities. Around these two areas, much of Spain, Portugal, Greece and all the new EU MSs in the East show significantly lower outputs. The eight regions of Bulgaria, Poland, Italy and Germany, part of the qualitative case studies, appear respectively in the lowest, medium-low, medium and high classes. Trends during the post-2008 period analysed in the second map of Map 4.4 again show no significant variation across the continent. The only encouraging processes of relative catch-up emerge in Poland – particularly in the Warmian-Masurian region – and Romania (except the Macruregionea patru), which register noteworthy increases in patent applications. The case of Poland is the object of in-depth analysis in Section 5.3.

Map 4.4: Performance Indicators – Economic Cohesion – Innovation



[10] For each NUTS 2 region, the analysis includes the total number of patent applications filed to the PCT (Patent Cooperation Treaty), normalised per million inhabitants.



***Source**: Own elaboration on data from OECD.*

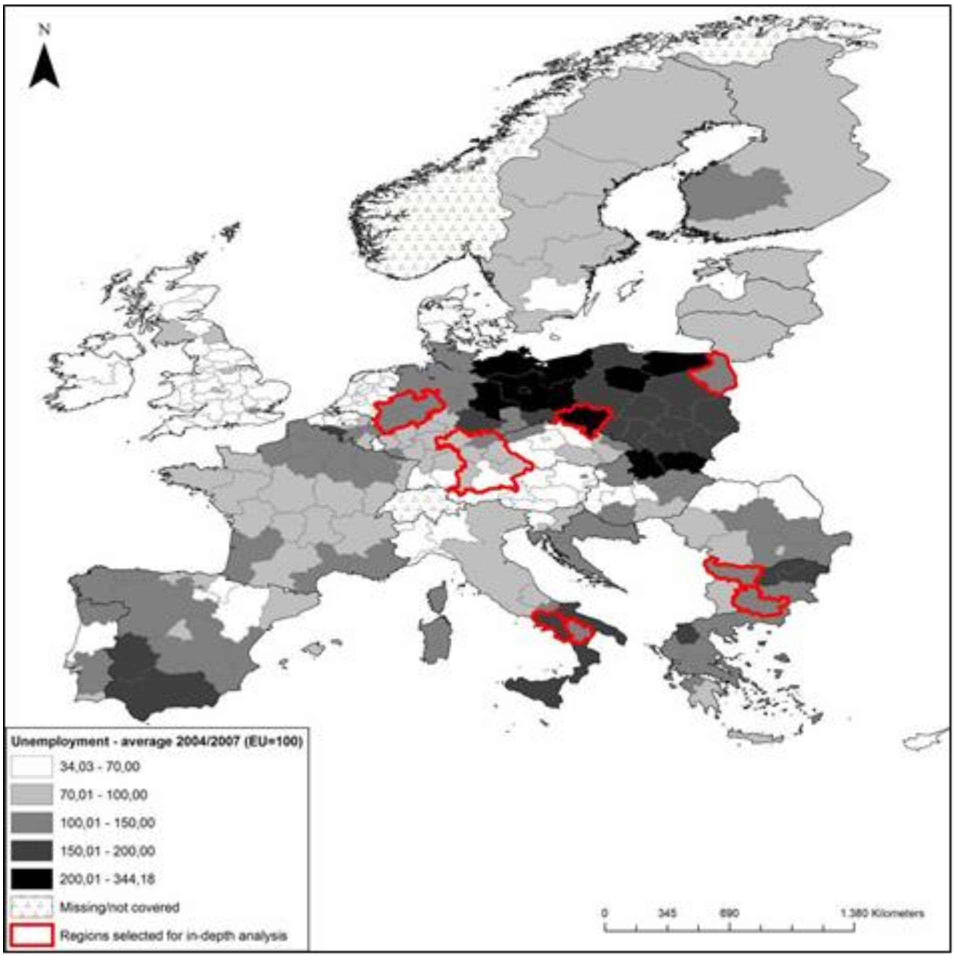
4.2.3. Unemployment, social inclusion and community development

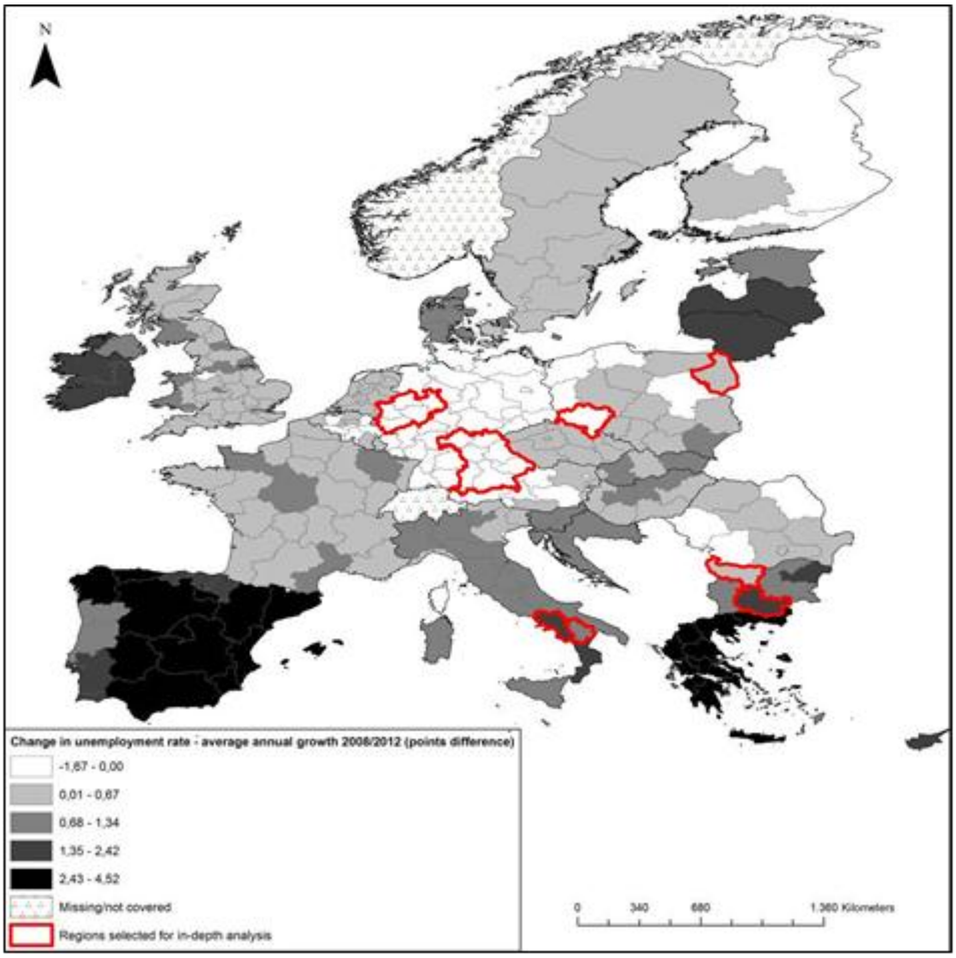
Map 4.5 shows the pre-crisis average regional levels of **unemployment**, as well as the evolution over the crisis (2008-2012 period). Assessing the latter (in the second map), the picture that emerges is one of very significant differences across the regions of the continent. Our analysis does not support the argument of a clear North-South divide. Rather, our results suggest that reductions/increases in unemployment rates follow more complex patterns. Regions of countries in both the North and the South, namely Spain, Ireland, Greece and the Baltic Countries, are among the most severely hit during the crisis, with average annual increases in unemployment rates higher than 2.4 percentage points. The regions of Croatia, Denmark, Slovenia, Cyprus, Italy – Campania and Calabria in particular – and Severoiztochen and Yuzhen tsentralen in Bulgaria also show relevant increases. It is necessary to stress that the data presented in our map for Greece and Cyprus is not completely representative of the impacts experienced by the two countries, since most of the contractions in Greece and Cyprus occurred after 2010, i.e. after the period covered by our data. At the other side of the spectrum, the totality of Germany and part of the Polish, Austrian, Finnish and Belgian regions experienced a decrease, rather than an increase in total unemployment. Between these two opposed groups lie the other regions. Overall, again, the picture is one of a continental European area centred on Germany and Poland which experienced a reduction in unemployment, and an overall ring of more peripheral countries (Spain, Ireland, Denmark, the Baltic Republics, Cyprus and Greece) where unemployment rose quite remarkably.

In contrast to the between-country unemployment trends variation, the within-country variation is much less pronounced. Apart from Poland and Bulgaria – which include both regions with significant reductions and regions with non-negligible increases in the unemployment rate – the majority of other countries show more homogeneous sub-national trends, whether negative or positive.

Trends during the crisis nonetheless impacted on very different initial levels of fragility (first map in Map 4.5). The most striking case is Italy, where a relatively homogeneous variation during the crisis hit regions initially highly heterogeneous: unemployment rates before the crisis were in 4 out of the 5 Southern regions as much as 3 times higher than in the most prosperous parts of the North. A particular example is the case study region of Campania, showing initial levels of unemployment much higher than the EU average and at the same time noteworthy increases across the recession. By contrast, two of the other regions selected for the case studies, namely North Rhine-Westphalia in Germany and Lower Silesia in Poland both experienced initial levels of unemployment higher than the EU average but also reductions across the crisis. The remaining case study regions show intermediate trends, with pre-crisis average levels of unemployment as well as slight increases during the recession.

Map 4.5: Performance Indicators – Social Cohesion – Labour Market

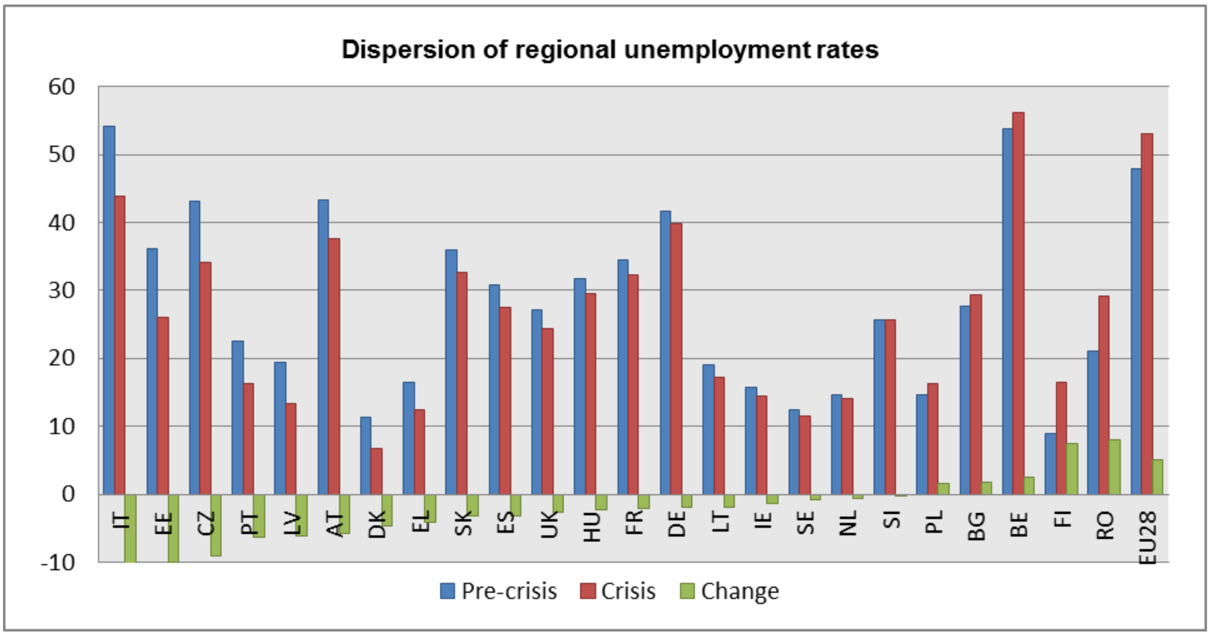




Source: *Own elaboration on data from Eurostat.*

The aggregate effect of both initial levels and crisis trends can be explored by analysing the **dispersion of unemployment rates**. It is operationalised through the within-countries coefficient of variation, a measure able to show the overall spatial dispersion of regional values of a variable around its national average. The higher the values of the index, the wider are the differences across regions. Graph 4.2 shows the pre- and post-crisis index levels for each MS for which data are available, as well as for the EU as a whole. Countries are then ranked according to the difference between the second and the first period. Within-country trends are captured by each MS's values, while between-country trends are described by the EU overall value. Results suggest that, apart from Portugal, Bulgaria, Belgium, Finland and Romania, the majority of EU countries experienced a reduction in the dispersion. In other words, they experienced a trend of national convergence towards more similar unemployment levels. Again, this may suggest that, at least during the 2008-2012 period, the crisis had an equalising effect within countries and hit regions with initially lower levels of unemployment more harshly. Such a result confirms earlier analyses carried out by the European Commission and underlines a process of intra-national convergence driven by the exacerbation of overall unemployment (Bubbico and Dijksrtra, 2011). Yet, while there has been a process of infra-national convergence across most regions, some regions experienced positive trends of unemployment reduction and economic growth: the index for the EU as a whole increased, meaning that there has been a process of divergence across Europe. Such a trend may create tensions across the Union among countries where the crisis has been felt more/less profoundly. The four countries studied in the second part of the report are representative of the different trends that occurred across Europe: Italy is the example that best matches a dispersion reduction driven by the poor performance of initially better-off regions; Poland and Bulgaria represent the opposite case and show a modest increase in the dispersion; Germany, finally, stands in between.

Graph 4.2: Regional labour market disparities: coefficient of variation for NUTS 2 level unemployment rates before (2004-2007) and during/after (2008-2012) the crisis



Source: *Eurostat.*

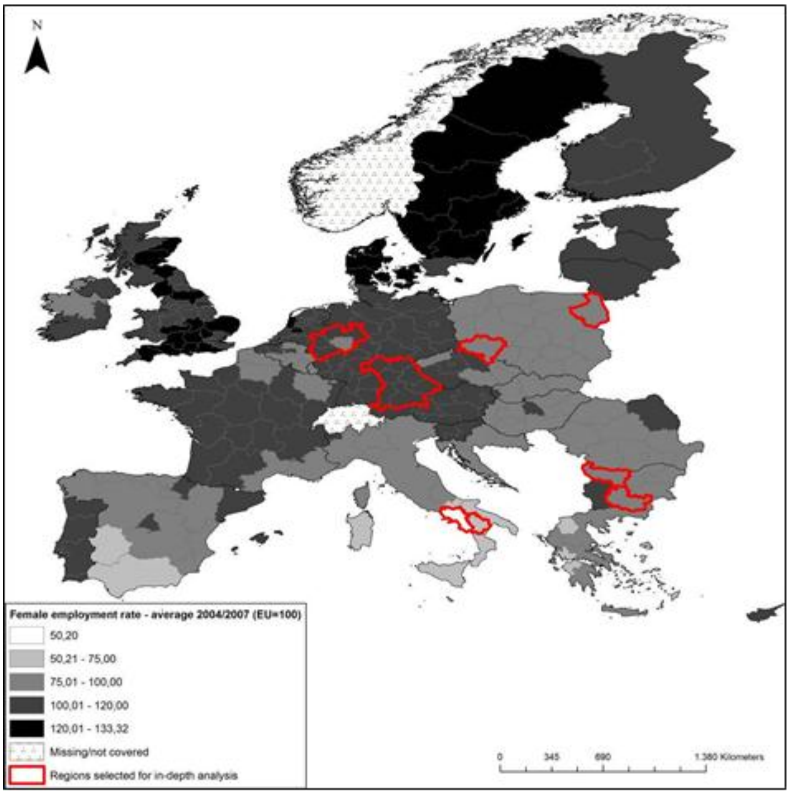
**Not available for Croatia, Cyprus, Luxembourg and Malta. For other states with only 1 or 2 NUTS 2 regions, NUTS 3 level dispersion was used. See Annex 10.6 for a list of abbreviations of countries. The index is calculated as the ratio of the standard deviation to the mean.*

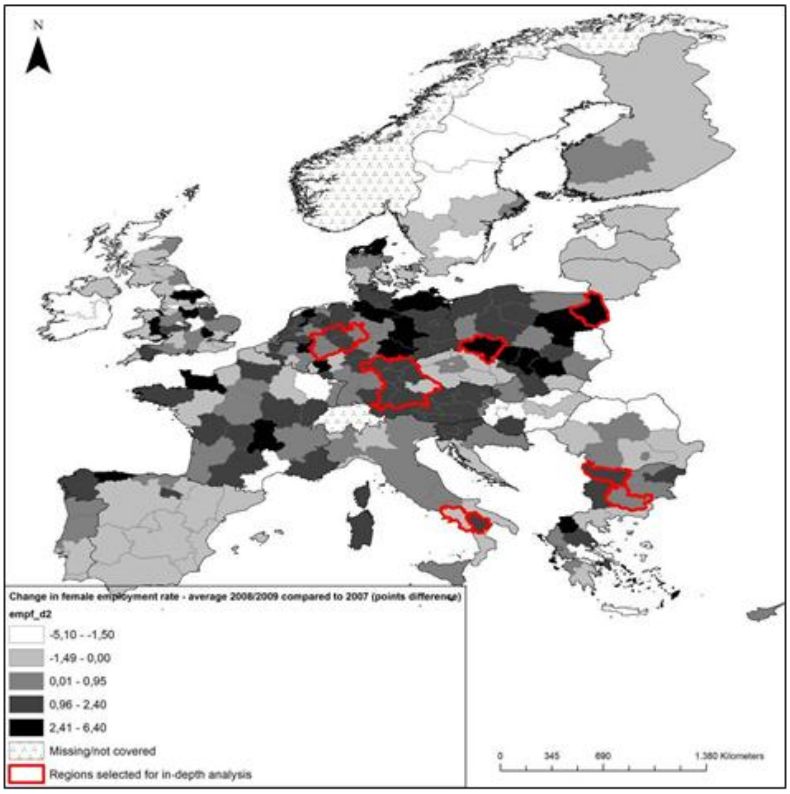
The crisis seems to have contributed to exacerbate challenges to social cohesion *across* the Union. To further explore such a claim, the analysis addresses the evolution of two additional indicators of social inclusion and community development: the level of female employment and the percentage of young people in neither education nor employment (NEETs).

As documented in the first map of Map 4.6, the pre-crisis differences in the **female employment** rate across the Union are high, stretching from the negative low record of South Italy and South Spain (Campania, one of the two Italian case studies, shows a striking negative record with the lowest rate across the whole EU) to the highest values in most of Great Britain, the majority of Swedish regions and Denmark. Trends after 2008 show that the reductions/increases in female employment are spread across the continent in relatively mixed patterns. It is nonetheless possible to identify areas where the reduction in female employment rates is more consistent: such areas include Ireland and parts of the United Kingdom (the Scottish highlands and part of the English Midlands for example), the whole of Sweden, Lithuania, Latvia and Estonia, Normandy and Auvergne in France, the Czech Republic, the north of Romania, most of Hungary (with the exception of the Southern Transdanubiana region), most of Spain (with the exclusion of the north-western regions) and three of the Southern Italian regions. Yet, while the regions in the first seven countries started from some of the highest pre-crisis rates, the latter already showed lower-than-average pre-crisis levels. So if pre-crisis differences already underline regional social fragilities which may hinder the achievement of a more inclusive society and may represent missed opportunities in the optimal utilisation of human capital across the regions of

Europe, trends after 2008 show that the crisis contributed to increase such fragilities in numerous already worst-off regions.

Map 4.6: Performance Indicators – Social Cohesion – Labour Market

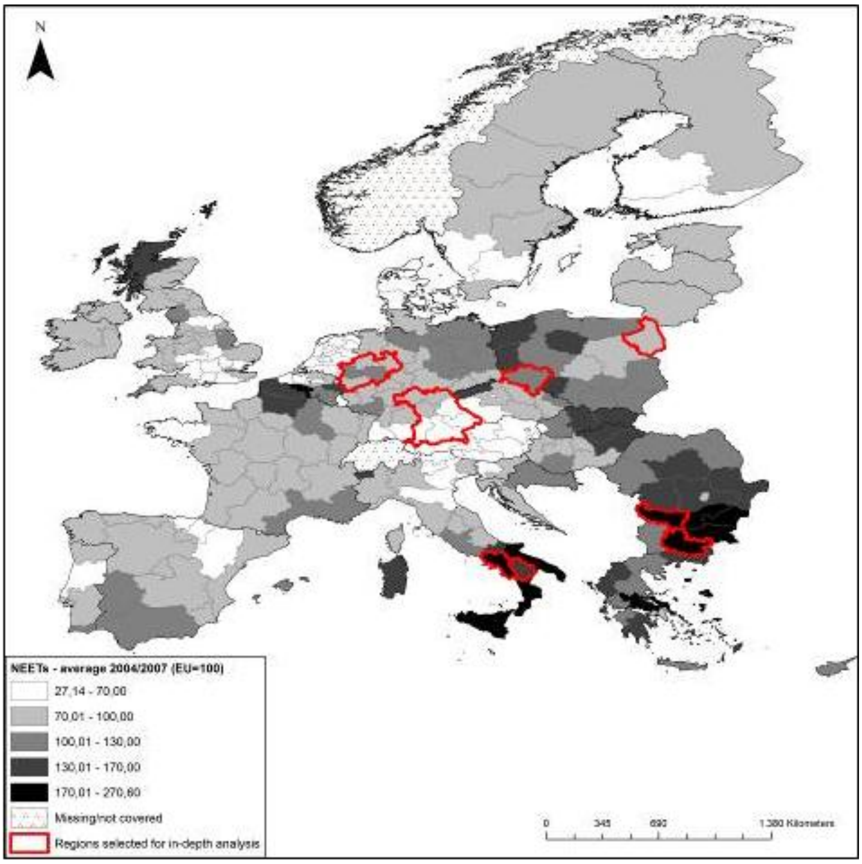


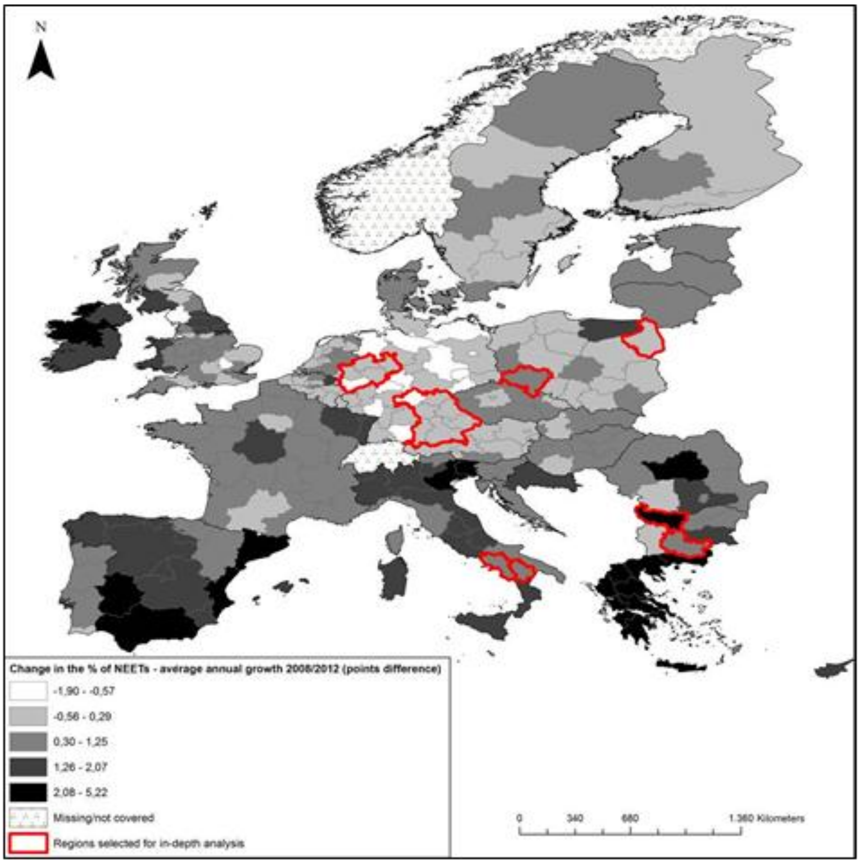


Source: Own elaboration on data from Eurostat.

Map 4.7 explores the percentage of young people aged 15-24 not in employment, education or training. The number of **NEETs** can be a good indicator of resignation among young people and of potential risks for community and regional human capital development. Pre-crisis values show that differences across the Union are very high, with disparities of up to 10 times between the best-off and the worst-off regions. The areas with the highest rates are found in Bulgaria, Southern Italy, Sterea Ellada in Greece and Hainaut in Belgium. The Netherlands, Denmark, Austria, the South-East of England, Bavaria in Germany, the south of Finland and Sweden, the north-east of Italy, Brittany in France, Aragona, Navarra and the Basque Country in Spain are the areas with the lowest levels. The four case study regions of Bulgaria and Southern Italy on the one hand, and Bavaria in Germany on the other, represent the two extreme ends of the distribution. During the crisis, the highest increases in NEETs occurred in most of Ireland and Greece, in Spain (with the exclusion of the Basque Country, Navarre, La Rioja and Aragon), Cyprus, Croatia, Italy (where the impact is higher in the North-East), and parts of Romania and Bulgaria (Northwestern Region in particular). The only areas where a relatively homogeneous pattern of decrease is visible include most of the regions of Germany and Austria, and part of Finland and Poland.

Map 4.7: Performance Indicators – Social Cohesion – Social Inclusion





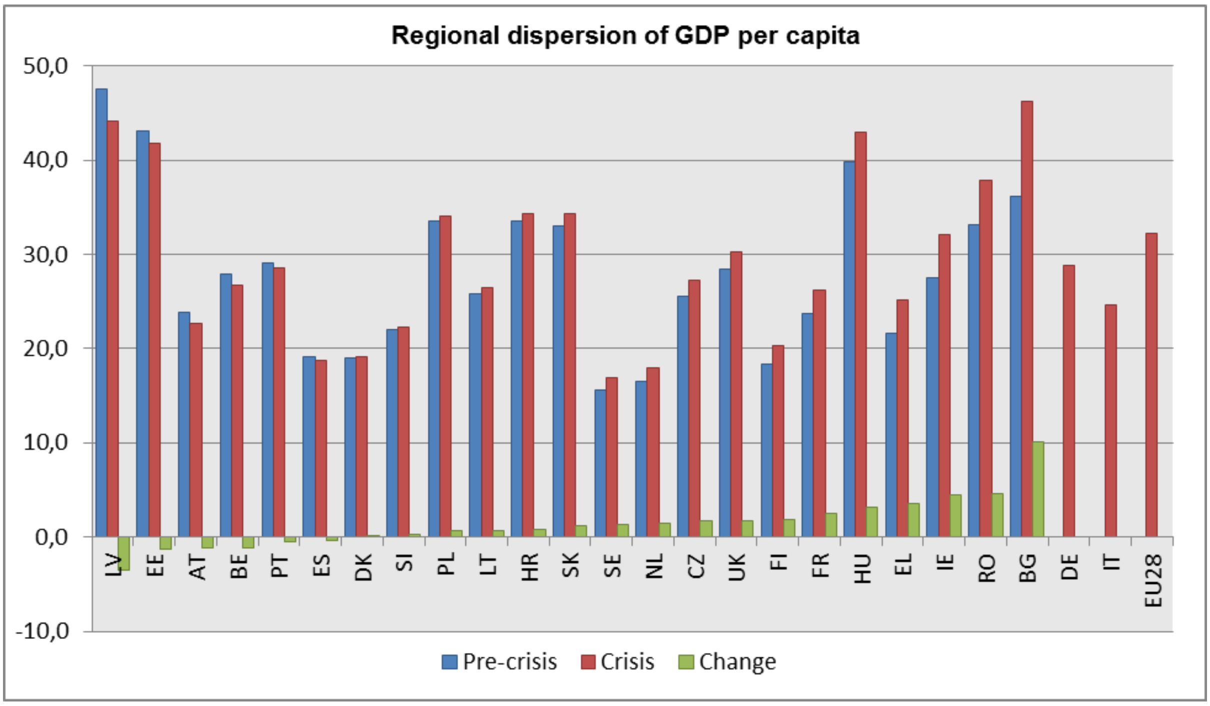
Source: Own elaboration on data from Eurostat.

4.2.4. Territorial cohesion

As discussed earlier in the report, the translation of territorial cohesion from a theoretical notion into an operational hypothesis of analysis is not without difficulties due to the lack of a clear separation between economic and social dynamics and their territorial dimension. Regional economic and social performance have a geography and therefore impact on territorial cohesion. At the same time, geography is not only an outcome but can also have feedback effects into socio-economic dynamics. Sub-sections 4.2.1, 4.2.2 and 4.2.3 have already touched upon the geographical/territorial dimensions of the crisis. This sub-section complements the discussion by providing a closer look at three key spatial dimensions not yet discussed. Such dimensions comprise the level of interregional economic disparities, transport accessibility – which in turn can play a role in the development of core-periphery patterns – and the imbalances between urban and rural regions.

The first indicator the analysis assesses is the **dispersion of GDP** per capita across regions (Graph 4.3), measured both for the period before the crisis and for the post-2008 period. The higher the values of the dispersion index, the wider are the differences across regions. Countries are ranked according to the difference between the second and the first period. The graph shows that the majority of countries have experienced an increase, rather than a decrease, in within-country regional inequalities of GDP per capita. A full comparison with unemployment dispersion results is not possible due to the different indexes adopted and the partially different levels of aggregation upon which the indexes are calculated. Yet, overall, the ranking of countries is relatively constant to the one for unemployment: the group of regions which have experienced a decrease in inequalities are the ones from Latvia, Estonia, Austria, Belgium and Portugal. On the other side of the spectrum, the regions which experienced the highest increase are the ones from Bulgaria, Romania, Ireland and Greece. Due to lack of data, it is not possible to compare overall trends before and after 2008 across the regions of Italy and Germany, nor the EU as a whole. Poland and Bulgaria represent two different cases: in the first one, regional inequalities have been relatively constant, while the second has recorded a dramatic increase. Consistent with the picture presented in Map 4.1, Poland experienced positive performance across most of its regions. Bulgaria, by contrast, has been marked by both very positive and relatively negative regional performance. This fact explains the dramatic increase in the latter's regional dispersion of GDP per capita.

Graph 4.3: Economic regional disparities: index of dispersion for NUTS 3 level GDP per capita (PPS) before (2004-2007) and during/after (2008-2012) the crisis*



Source: Eurostat.

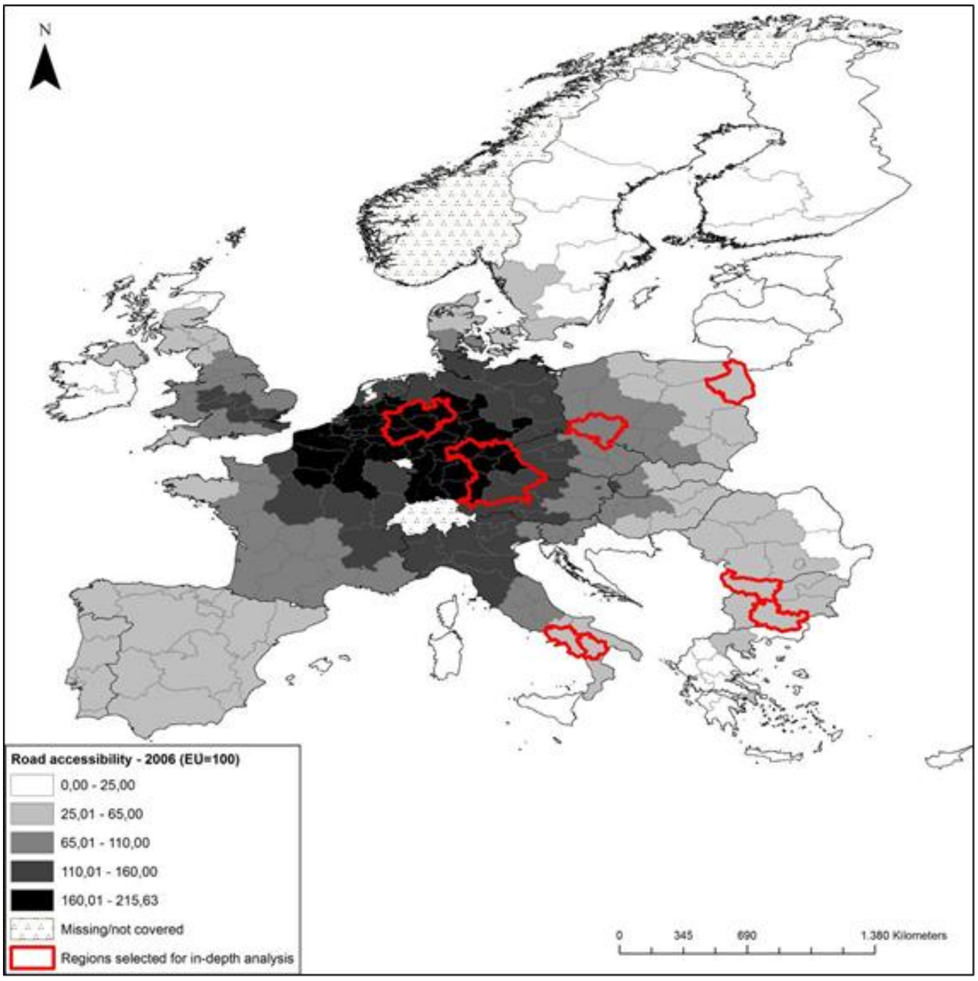
**Not available for Germany, Italy, Cyprus, Luxembourg and Malta. Data are only available for the second period for Germany, Italy and the EU. See Annex 10.6 for a list of abbreviations of countries. The index is calculated as the sum of the absolute differences between regional and national GDP per capita, weighted with the regional share of population, in percent of the national GDP per capita.*

Map 4.8 shows an index of regional **road accessibility**. Road accessibility is the result of two important factors: the level of (road) transport infrastructure endowment, and whether a region is geographically more central than others (e.g. than islands). While the index is only available for 2006 and cannot therefore offer insights on the impact of the crisis, it can nonetheless provide potentially relevant implications for the future of territorial cohesion across the Union. Traditional international and regional economics explained income disparities on the basis of regional endowments of factors of production, technology, or infrastructure. According to such models, the removal of obstacles to the movement of goods/factors would mechanically determine convergence of factor returns and standards of living. Scientific research carried out in the last two decades under 'New economic geography' suggests that with market integration cumulative causation processes may increase rather than decrease economic agglomeration and concentration. Under such theories, the increase of transport accessibility among 'core' and 'peripheral' areas may determine further processes of geographical agglomeration in the centre rather than development of the lagging regions (Puga, 2002).

Tendencies towards the geographical agglomeration of activities around 'core' areas at the expense of the 'peripheries' are potentially at work in Europe (Crescenzi and Rodríguez-Pose, 2012). Improvements in trans-European transport networks carried out during recent decades, therefore, may contribute to increase agglomeration in better-connected areas in the future. Map 4.8 shows, in particular, how road accessibility of regions at the core of continental Europe, an area stretching from most of West Germany to Belgium, most of the Netherlands and North-east France, is significantly higher than in peripheral areas of the Union.

Accessibility *per se* is not a precondition for economic growth: a stark example is the fact that the regions in the north-east of France, albeit having a high level of accessibility, show a trend of industrial decline and poor economic performance. Yet, if endogenous processes of economic dynamism occur in areas also characterised by high accessibility, the latter may favour agglomeration and thus contribute to increasing the disparities between the 'core' and the 'peripheries' of the continent. Bavaria and North Rhine-Westphalia, the two German case studies for the qualitative analysis, are within the very core of road accessibility.

Map 4.8: Performance Indicators – Territorial Cohesion – Accessibility

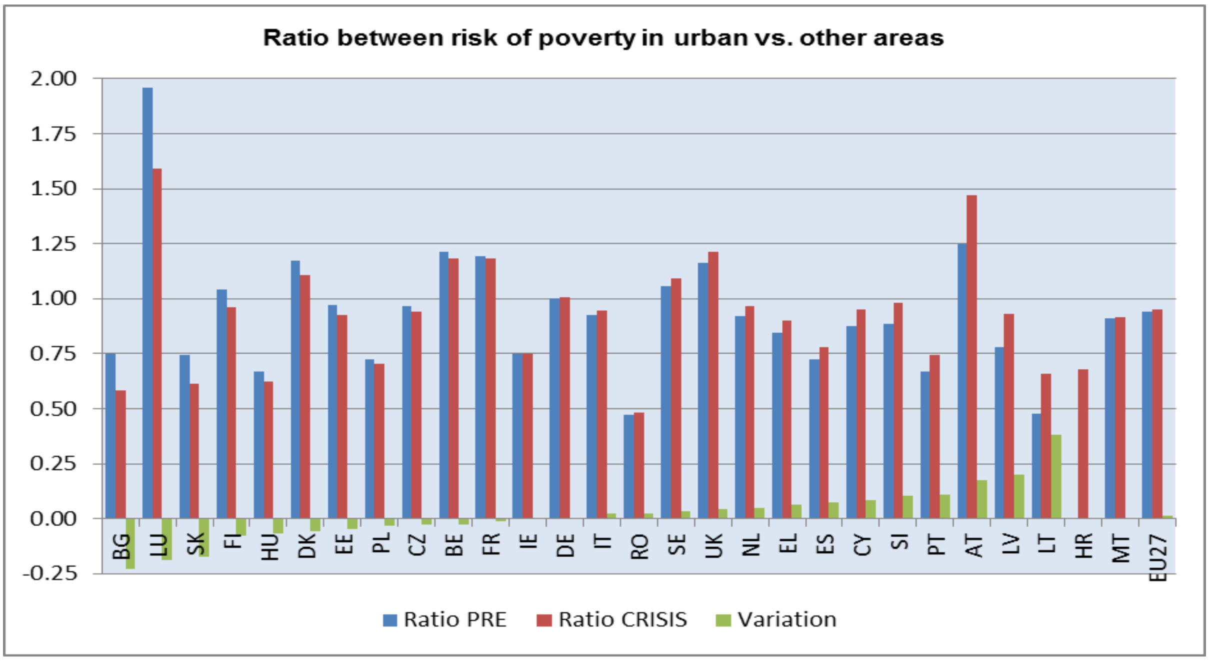


Source: Own elaboration on data from ESPON.

Urban/rural imbalances are explored in Graph 4.4. The graph shows the ratio between the percentages of people at risk of poverty in mostly urban areas compared to other areas (intermediate and rural). Values are calculated after correcting for housing costs. Ratios higher than 1 suggest that the risk of poverty is higher in urban areas than in other areas, while ratios lower than 1 indicate countries where poverty is less concentrated in urban regions than elsewhere. Countries are then ranked according to the variation between the period before the crisis and the post-2008 period. Results show significant variation across countries. Confirming earlier insights, results show that the risk of poverty is higher in urban areas in most of north-western Europe, including Sweden, Denmark, France, Belgium, Austria, the United Kingdom and Luxembourg (the latter being a significant outlier) (EC, 2013d).

Yet, our results differ in that they suggest that, overall, across the Union the risk of poverty tends to concentrate slightly more in intermediate and rural regions and not in urban areas since the index is lower than 1. This result may be driven by the fact that the risk of poverty is significantly lower in urban areas in most of Central and Eastern Europe, namely in Romania, Bulgaria, Slovakia, Hungary, Lithuania, Croatia and Poland as well as in Ireland, Portugal and Spain. At the same time, however, in 15 out of 26 countries for which before- and after-the-crisis data are available, the ratio increased across time, meaning that the economic downturn has impacted in urban areas first. As a matter of fact, the group of countries which experienced an increase in the index includes 5 out of the 7 countries worst-hit by the recession, namely Lithuania, Latvia, Cyprus, Spain and Greece. The case of Bulgaria stands apart in that its ratio has dramatically decreased, meaning that cities, compared to the intermediate and rural regions, continue to provide opportunities that shield from poverty.

Graph 4.4: Territorial imbalances: ratio between percentage of people at risk of poverty in mostly urban vs. mostly rural areas before (2004-2007) and during/after (2008-2012) the crisis



Source: *Own elaboration on data from Eurostat. *Not available for the EU28. See Annex 10.6 for a list of abbreviations of countries. The risk of poverty rate is calculated after deducting housing costs.*

Overall, results may suggest that, coherent with economic development theory, urban agglomerations are the key engines of economic development and provide better economic opportunities for their inhabitants (Rodriguez-Pose and Crescenzi, 2008). Yet, due to their higher levels of responsiveness to the economic cycle, urban regions are also more likely to be the first to suffer in the event of economic downturns. By contrast, rural areas appear to be more resilient to economic shocks, an insight consistent with the sectoral outcomes explored. Yet, it is important to bear in mind the potential risks of economic lock-in for rural regions which, like other types of more 'sheltered economies', may be more resilient in the short term but suffer from low use of internal resources in the long run. Such reasoning is particularly relevant in MSs where overall poverty in rural areas is significantly higher than in urban regions (i.e. where the ratio is below 0.75). Such a group includes Bulgaria, Romania, Slovakia, Hungary, Poland, Portugal, Lithuania, Croatia and Spain.

4.3. Pre-crisis conditions and recession impacts

The aim of this second part of the chapter is to delve deeper into the links between pre-crisis economic conditions and recession impacts. The discussion of possible explanations behind the spatial heterogeneity in the crisis severity is a topic which has only received limited attention in the literature. Studying a large cross-section of world countries, Lane and Milesi-Ferretti (2010) offer a preliminary analysis on the correlation between the severity of the 2008-2009 global downturn and a set of pre-crisis macroeconomic and financial factors. Addressing the topic along a similar line of research but focusing exclusively on the Regions of Europe, Groot *et al.* (2011) extend the scope of the potential explanatory group of variables. In particular, they put forward three classes of possible explanations: (i) the extent to which countries are open to the world economy via trade linkages; (ii) differences in fiscal policy and government budget imbalances; and (iii) dissimilarities in the sectoral composition of regional economies. As already sketched in Section 3.1, the current analysis takes both pieces of research as a starting point and expands on them, exploring two main classes of potential explanatory variables:

1. Macroeconomic crisis transmission factors which, in turn, can be linked to two key dimensions:
   - Degree of global financial and trade integration;
   - Fiscal policy and budget imbalances (leading to subsequent fiscal austerity and debt crises).
2. Regional resilience factors. The choice of including this second class of factors is motivated by following the regional development literature, which has identified a set of key quantitative features of regional economies likely to shape their ability to innovate and adapt to shocks and change:
   - Level of regional sectoral diversification/specialisation;
   - Human capital and skills;
   - Innovation efforts.

Sub-sections 4.3.1 and 4.3.2 explore each factor in detail, and overall correlation results are presented in Table 4.5. Of the eight explanatory variables considered empirically, four are correlated with the outcome variable at a statistically significant level, meaning that they do explain post-2008 trends. First, we find preliminary, significant evidence of a link between the level of pre-crisis trade imbalances and the depth of the post-2008 recession, but no clear evidence of a link between government debt and crisis impacts. Second, countries which have consistently received higher levels of inward Foreign Direct Investment before the crisis (i.e. recorded a negative FDI stock net balance) experienced lower impacts during the recession. Third, we find that the sectoral composition of regional economies explains a large portion of differences in the severity of the crisis. Such results are in line with the sectoral outcomes explored in sub-sections 4.2.1 for two out of three sectors analysed, namely construction and market services (which however is not significant, meaning that the coefficient does not fully explain the correlation). Manufacturing and energy, by contrast, are positively – rather than negatively – correlated to post-2008 regional economic performance, meaning that higher levels of manufacturing specialisation are overall correlated to better economic outputs after 2008. Last but not least, both human capital (proxied by university attainments among the adult population) and innovation efforts (proxied by total R&D expenditure) do not show the expected signs and are not significantly correlated to post-2008 economic performance trends. This result can be explained by the fact that both innovation and human capital – in line with economic theory – are more linked to long-term economic growth than to the cyclical fluctuation of economic output. These factors are therefore more likely to drive the long-term adjustment patterns of countries and regions.

Table 4.5: Pairwise correlation of each explanatory variable (average 2004-2007) with GVA average annual growth rate (% change, 2008-2010)

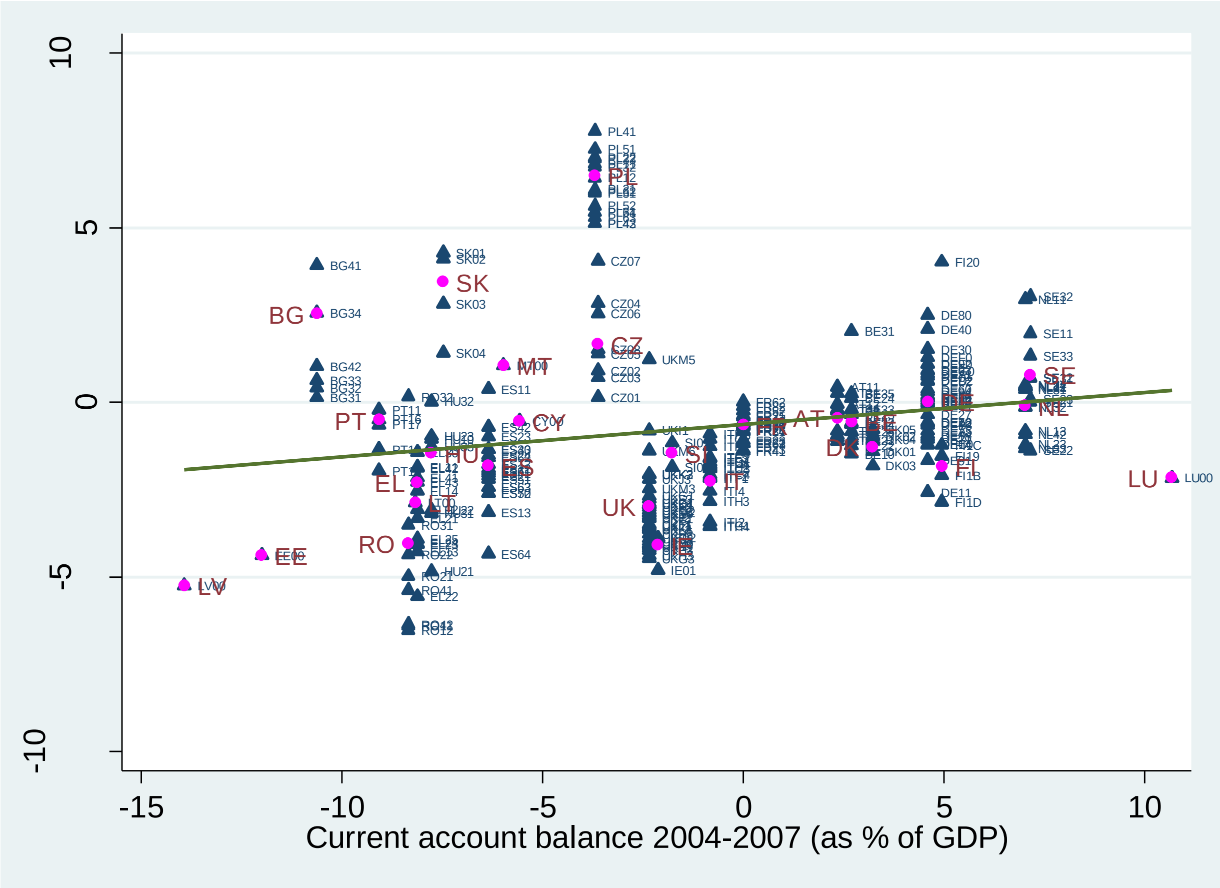
Crisis transmission factors	
Current account balance	0.18* (0.00)
Foreign Direct Investments' stock net balance	-0.28* (0.00)
Government debt	-0.07 (0.25)
Regional resilience factors	
Sectoral specialisation in manufacturing & energy	0.24* (0.00)
Sectoral specialisation in construction	-0.26* (0.00)
Sectoral specialisation in market services	-0.10 (0.09)
University attainment	-0.09 (0.15)
Total R&D expenditure	-0.07 (0.25)
Observations: 257	

*Standard errors in parentheses. * p <0.05.*

4.3.1. Macroeconomic crisis transmission factors

The first factor puts the emphasis on the international context of the crisis, by looking at pre-2008 trade and financial levels of integration. The rationale for analysing such a factor is that one of the main transmission channels through which the initial mortgage crisis in the USA quickly expanded across countries was the high level of trade and financial integration. Following Rose and Spiegel (2010), who suggest that trade linkages were more relevant than financial ones, we focus our attention on the former.

Graph 4.5: Correlation between GVA growth (2008-2010) and pre-crisis current account balance (2004-2007)



Source: Own elaboration on data from Cambridge Econometrics, Eurostat. See Annex 8.6 for a list of abbreviations of countries.

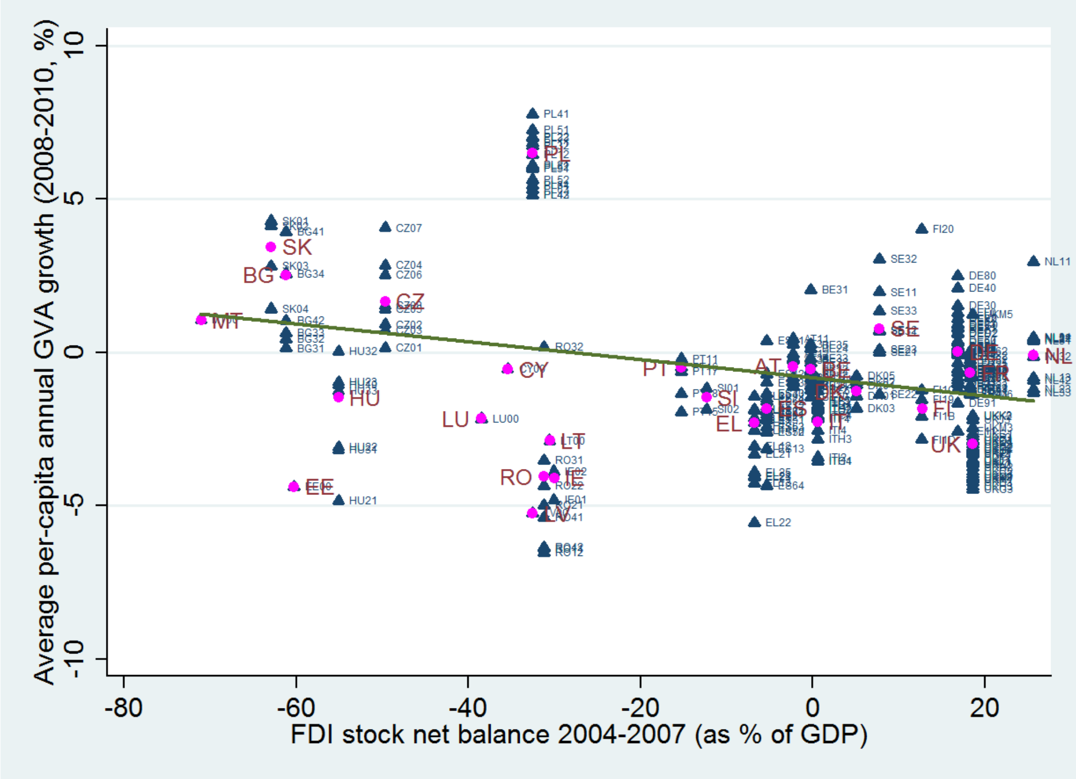
Graph 4.5 plots the average annual current account balance (a national-level indicator, by definition taking the same value for all regions belonging to the same country) before the crisis against the average annual per-capita GVA growth rate between 2008 and 2010 at the regional level. The current account balance is one of the key measures of a country's foreign trade and financial transfers. Following Groot *et al*. (2011), we therefore use it as a proxy for trade imbalances.[11] The plot shows both regional values as well as each country's average, labelled with the country abbreviation. The fitted line on the plot is calculated by weighting each pre-crisis national value for its number of regions in order to account for countries' economic and geographical size heterogeneity. In line with the findings of the literature discussed above, the plot suggests a clear positive relationship between economic performance and the level of trade imbalances. In other words, trade imbalances seem a good predictor for the depth of the crisis' impacts. Regions in countries experiencing a current account balance deficit before 2008 underwent, on average, worse consequences during the recession. The crisis, in particular, is likely to have made it more difficult to finance large current account deficits. At the same time, the correlation between pre-crisis

[11] According to the twin deficit theory, current account balance may be related not only to trade but also to government balance and, therefore, may not be a good proxy for trade. Yet, data not presented here in the report show that the levels of current account balance and of trade balance (exports-imports as a share of GDP) are in our data highly correlated and show a pairwise correlation coefficient of 0.8, statistically significant at the 95% confidence level. We prefer current account to trade balance due to its more comprehensive nature (it also includes factor income and cash transfers).

negative current account balances and post-2008 economic performance is not mechanical. Levels for current account balance are fixed across regions of the same country. For each country, it is therefore also possible to observe the regional dispersion in GVA growth rates holding the national current account balance value constant. It is worth nothing that post-2008 growth rates show lower levels of regional variation for countries with positive current account balances (right part of the plot) than for those with negative current account balances. On the left side, by contrast, there is more significant (vertical) dispersion, both among MSs and within them. The upper left quadrant, showing countries with high growth rates and high current account balance deficits, particularly includes most of the regions whose economic performance scored best during the recession: the whole of Poland, Bratislava, Western and Central regions in Slovakia, Nortwest, Southeast and Central Moravia regions in Czech Republic, Yugoiztochen and Yugozapaden regions in Bulgaria and Malta. This insight may suggest that the positive economic performance occurred independently of macroeconomic imbalances.

Graph 4.6 shows the correlation between pre-crisis foreign direct investment stock's net balance and the European regions' economic performance recorded following 2008. The FDI stock net balance is the difference between outward and inward FDI stocks as a share of GDP: a negative net balance therefore indicates regions in countries which are net receivers of FDI. Interestingly, the upper left-hand side of the graph, showing regions with positive economic outcomes and negative net FDI stocks before the crisis, is significantly similar to the one discussed above for trade balances. The same regions of Poland, Slovakia, the Czech Republic and Bulgaria mentioned above are the ones with very strong FDI inflows before the crisis. At the same time, all the regions of Hungary, Estonia, Latvia, Lithuania, Ireland, Luxembourg and Romania recorded a significant FDI inflow but also negative economic outputs between 2008 and 2010. The two case study regions of Campania and Basilicata in Italy by contrast show negative economic outputs but a neutral FDI balance, while the case studies of Nordrhein-Westfalen and Bavaria are part of a country – Germany – with a strong positive net balance.

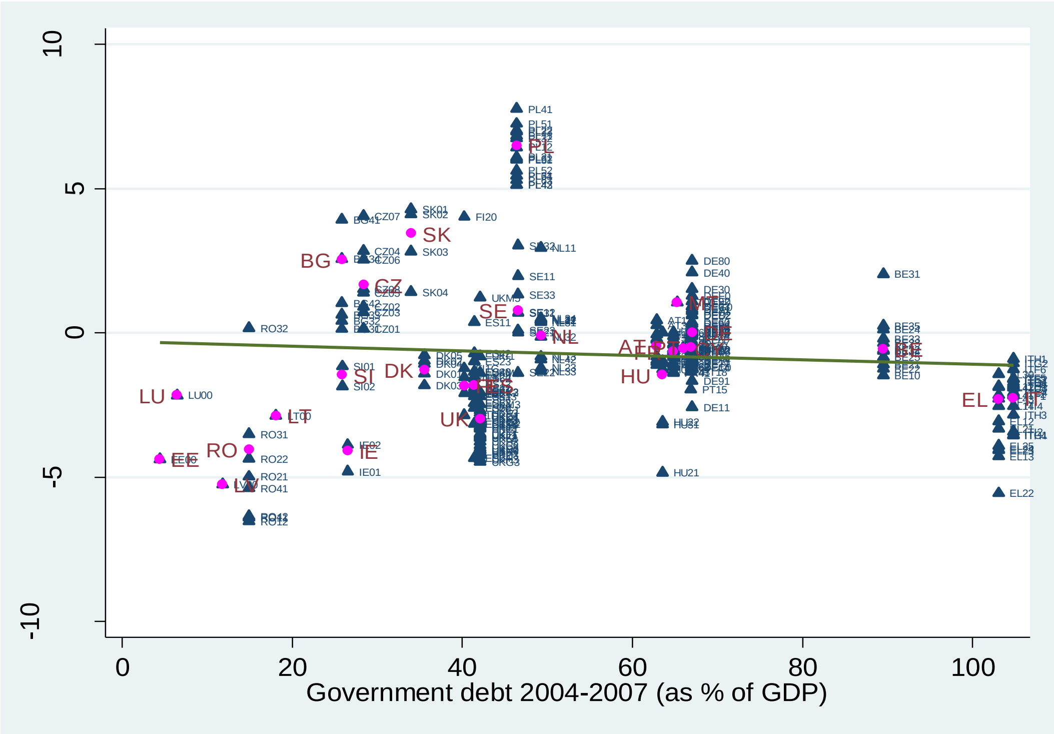
Graph 4.6: Correlation between GVA growth (2008-2010) and pre-crisis FDI stock net balance as a percentage of GDP (2004-2007)



Source: Own elaboration on data from Cambridge Econometrics, UNCTAD. See Annex 8.6 for a list of abbreviations of countries.

The second class of factors refers to public account imbalances and should account for the fiscal austerity and debt crisis triggered across the Union following the 2008 financial downturn. Graph 4.7 explores the correlation between pre-crisis public debt and post-2008 average annual growth rate of GVA per capita. Again, the plot shows both regional values as well as each country's average, labelled with each country's abbreviation. Levels for current account balance are fixed across regions of the same country. For each country it is therefore possible to observe its overall correlation, as well as the extent of its sub-national regional economic performance variation holding public debt constant. The overall sign of the correlation is slightly negative. Yet, the result is statistically insignificant (numerous regions lie far from the fitted line). Such an outcome contrasts with Groot *et al*. (2011), whose work speaks of a statistically significant and positive, rather than negative, relationship. Yet, their analysis is carried out across countries (not regions) without weighting each MS's number and size of regions and, therefore, their results tend to give less weight to the EU large countries and more importance to the small countries in the lower left-hand side of the graph: single/low-region MSs such as Lithuania, Latvia, Estonia, Luxembourg and Romania that show low initial levels of public debt but nonetheless experienced a trend of poor economic performance during the recession. We defend the approach followed by the current analysis on the ground that accounting for each country's number of regions provides a better picture in absolute terms of trends across the continent. Such a choice implies that the overall sign of our fitted line is mostly driven by the negative economic impact experienced in most regions of Italy and Greece, which notoriously suffered from their high national government debt. Considering that the correlation in graph 5.9 is not statistically significant, both our results and those of Groot *et al.* (2011) should be interpreted as an important reminder that low levels of public debt *per se* are not a prerequisite for better economic performance. Indeed, the regions scoring the best economic performance during the recession were mostly in countries with average levels of public debt (central area of the X axis).

Graph 4.7: Correlation between GVA growth (2008-2010) and pre-crisis government debt (2004-2007)



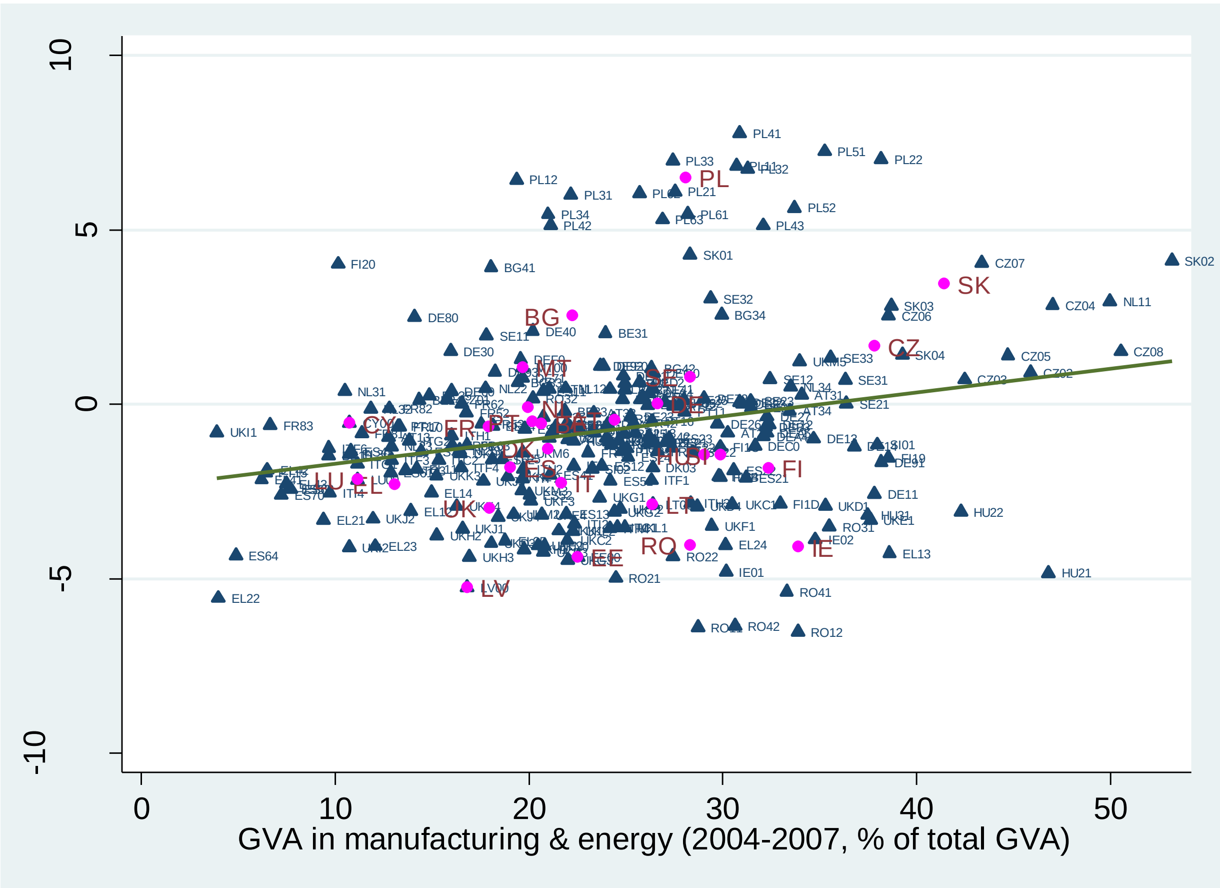
Source: Own elaboration on data from Cambridge Econometrics, Eurostat. See Annex 8.6 for a list of abbreviations of countries.

4.3.2. Regional resilience factors

The economic literature suggests that the regional sectoral composition is the result of complex interactions between demand and supply factors, comparative advantages and related specialisation patterns (Groot *et al.*, 2011). As explored in the first part of this chapter, the effects of the crisis differ substantially across sectors. Sectors more prone to be affected by the economic cycle, such as manufacturing and construction, experienced on average impacts worse than others, both in terms of output and unemployment. It is therefore expected that the pre-crisis sectoral composition of regions will offer potential insights on the economic performance experienced across regions following 2008. The following sections explore the links between the regional specialisation in each of the sectors potentially most responsible for higher/lower regional economic impacts and the effective regional economic performance recorded during the crisis. The rationale behind this analysis is that excessive levels of specialisation in a sector – particularly in one more prone to business-cycle impact – generate a source of 'risk' undermining regional sectoral diversification and consequently regional resilience.

The analysis starts by exploring the correlation between the average share of regional Gross Value Added originating from manufacturing and energy during the 2004-2007 period and the average per-capita annual GVA growth after 2008. Graph 4.8 plots this relationship. It shows regional values (in blue) as well as each country's national average (in magenta and labelled with each country's abbreviation), while also fitting a correlation line on regional variation. In contrast to sub-section 4.3.1, where, for structural data constraints, values on the X axis were constant across regions of the same country, each observation here is assigned regional values both on the Y and on the X axis. Interestingly, the overall sign of the correlation is statistically significant and positive, rather than negative as expected from the analysis of sub-section 4.2.1. The reason for such an apparent contradiction may lie in the fact that the direction of the fitted line is very likely driven by the above-average GVA growth rates experienced by most of the regions forming Poland, Slovakia and the Czech Republic, whose positive economic trends were largely based on manufacturing. As a matter of fact, if these three countries are excluded, the sign of the correlation turns negative.[12] The lower, right-hand side of the graph shows regions with a high specialisation in manufacturing and which recorded very low economic performance. These include the West and Central regions of Romania, both regions of Ireland, Macedonia in Greece and Transdanubia in Hungary.

Graph 4.8: Correlation between GVA growth (2008-2010) and pre-crisis share of manufacturing & energy in the total value of GVA (2004-2007)



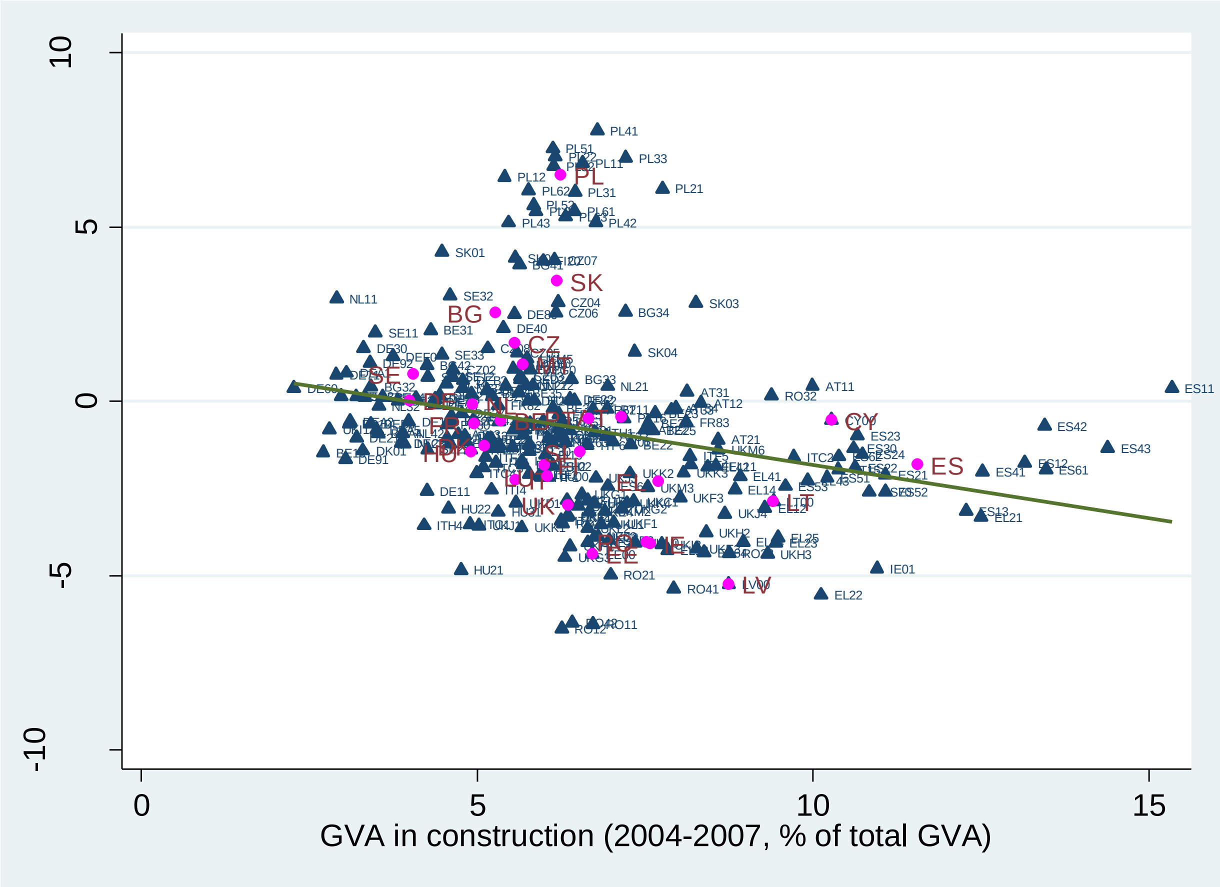
Source: Own elaboration on data from Cambridge Econometrics, Eurostat. See Annex 8.6 for a list of abbreviations of countries.

It is worth underlining that, among the two Polish case study regions, Lower Silesia and Podlaskie present two different structural compositions: the former shows a share of manufacturing and energy on GVA that is almost double that of the latter. Such a high difference is not equalled among the other case study regions: the German and Bulgarian

12 For reasons of space constraints, such results are not presented here but are available from the authors upon request.

ones are all in the medium-high share of manufacturing, while Campania and Basilicata in Italy are both in the low-share quadrant.

Graph 4.9: Correlation between GVA growth (2008-2010) and pre-crisis share of construction in the total value of GVA (2004-2007)



Source: Own elaboration on data from Cambridge Econometrics, Eurostat. See Annex 8.6 for a list of abbreviations of countries.

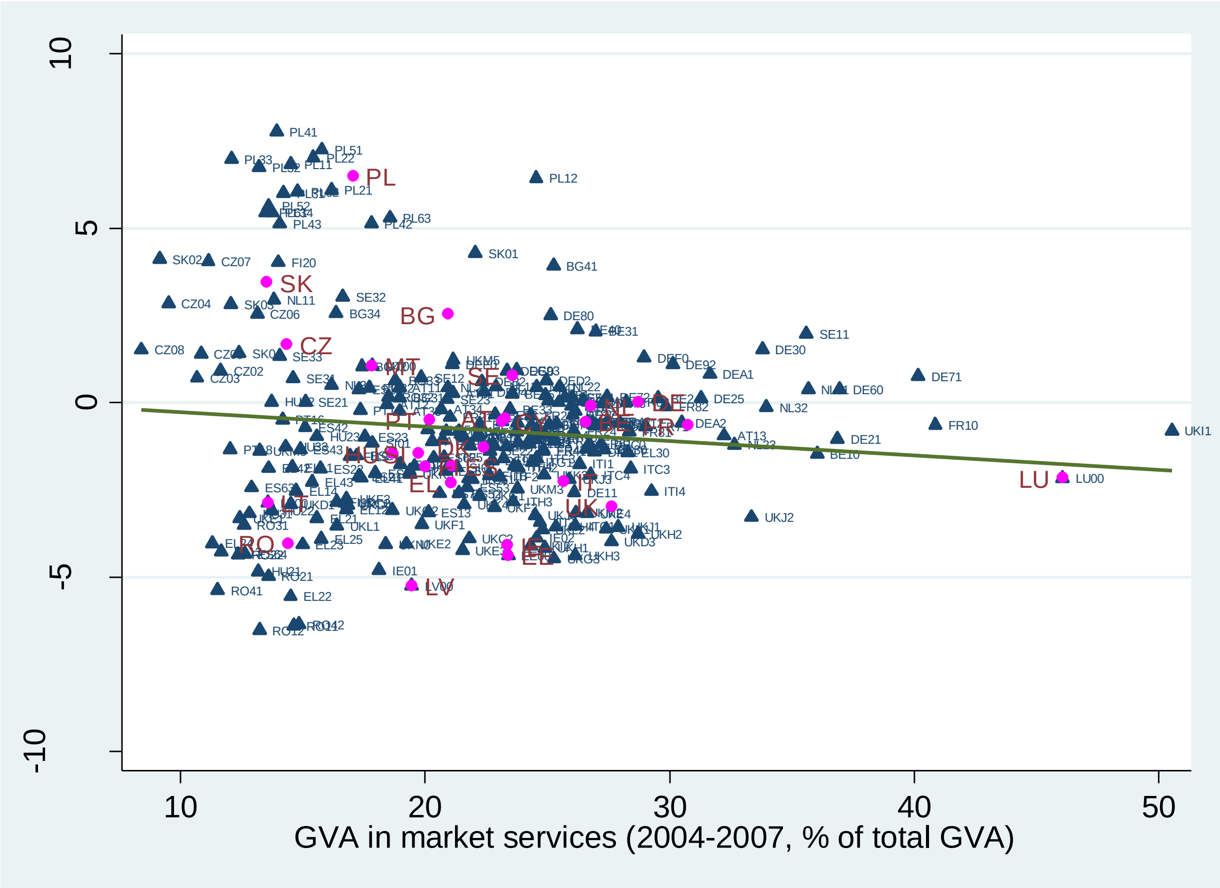
The second sector analysed in order to capture the specialisation/diversification profile of the regions is construction. In line with trends discussed in sub-section 4.2.1 and with the sector's nature, highly prone to be influenced by the economic cycle, the expectation is to find a negative relationship between higher shares of pre-crisis GVA generated from construction and post-2008 economic growth figures. Graph 4.9 indeed confirms such an expectation. While the distribution of regional values above and below the fitted line shows moderate variation, the correlation is robust overall. The right-hand part of the graph indicates regions with strong pre-crisis construction sectors. If Bucharest in Romania, Burgenland in Austria and Galicia in Spain are excluded, none of the regions with high specialisation in construction (i.e. a percentage higher than the median value across all regions which is approximately between 5% and 7% of total GVA) achieved positive average annual GVA growth rates. This figure contrasts with manufacturing and energy, where a larger number of regions (the Eastern European ones discussed above) appeared as outliers. As a confirmation of the negative correlation between construction and post-2008 growth trends, national values show that among the countries most hit by the crisis many also show high levels of pre-crisis GVA shares in construction: the most evident cases are Spain, Latvia and Lithuania. It is also worth noting that none of the regions or the countries selected for case studies show a high level of specialisation in construction. North

Rhine-Westphalia especially stands apart and shows some of the lowest shares in the sector across the whole EU. Campania and Basilicata in Italy, Lower Silesia and Podlaskie in Poland, and South Central and North Western in Bulgaria all show values in the median range of the X distribution. Overall, within the median area of the distribution, European regions show a much higher variation in post-2008 growth rates. Again, this suggests that below a certain threshold the pre-crisis GVA share in construction is not correlated to post-2008 economic performance.

Finally, expectations for the sign of the correlation for **market services** (which also include the financial sector) are mixed. At EU aggregate level, the sector scored between 2008 and 2010 an annual average decline of -0.4% while, at the same time, experiencing a mild average annual employment increase of 0.8% (see Table 4.5). The results of the correlation analysis, plotted in Graph 4.10, speak of a weak, yet negative link. Again as in the case of manufacturing and energy, the regions of Poland, Slovakia and the Czech Republic appear among the main outliers. Their positive economic results are likely to be driven by their strong and growing manufacturing sectors (Graph 4.8) rather than by the market services. Indeed, once the regions from the three countries are excluded from the correlation, the fitted line turns significant and positive. Similarly, the correlation between Polish, Bulgarian, Italian and German regions only shows a much more negative coefficient.[13] Lower Silesia and Podlaskie in Poland, and South Central and North Western regions in Bulgaria show the lowest share in market services among the case studies, as well as very low shares overall. Campania and Basilicata in Italy, and Nordrhein-Westfalia and Bavaria in Germany, by contrast, show shares of between 20 and 30%, i.e. values in the median range of the distribution.

[13] For reasons of space, such additional results are not presented on this report. However, they are available from the authors on request.

Graph 4.10: Correlation between GVA growth (2008-2010) and pre-crisis share of market services (including finance) in the total value of GVA (2004-2007)



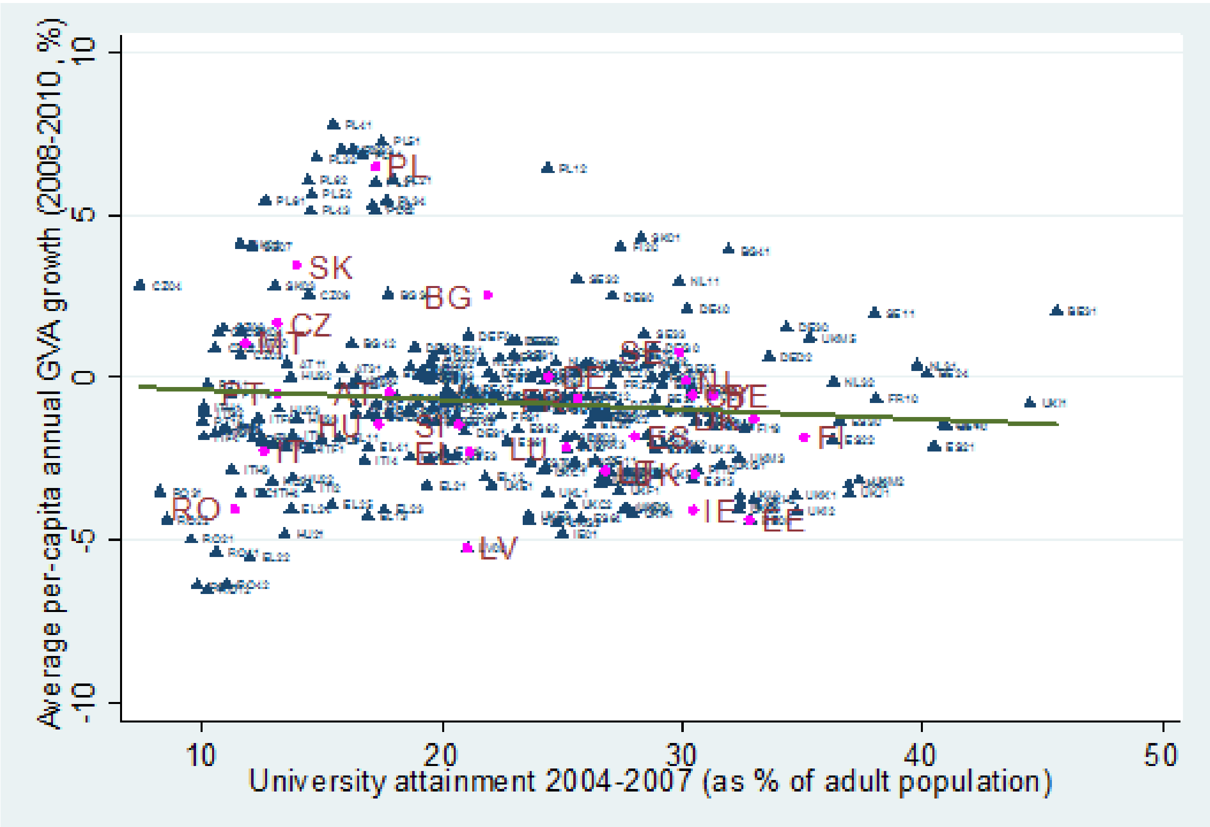
Source: Own elaboration on data from Cambridge Econometrics, Eurostat. See Annex 8.6 for a list of abbreviations of countries.

The last two factors account for the 'soft aspects' of regional resilience, namely human capital stocks and innovation efforts. In the last 20 years, the regional science literature has paid increasing attention to such aspects, which are more and more seen as key elements in moulding long-term regional socio-economic performance. In the case of EU cohesion policy, Rodriguez-Pose and Fratesi (2004) have underlined how the greatest returns to the SFs in the medium term are the ones triggered by investment in education and human capital.

Graph 4.11 proxies the level of **human capital stock** with university education attainments. In particular, it shows the correlation between the regional average percentages of adult population aged 25-64 holding a degree in tertiary education before the crisis (2004-2007) and the average annual growth rate of per capita gross value-added (GVA) during 2008-2010. The sign of the relationship results is mildly negative, although statistically insignificant. Indeed, the distribution of regions above and below the fitted line is substantial. It is necessary to acknowledge the relatively high variation across the Y dimension (GVA growth), particularly for regions and countries with low levels of human capital (i.e. levels between 10 and 20% of the total adult population). This picture may suggest that if human capital accumulation and strategies aimed at fostering innovation form a positive strategy for regional development in the medium and long term, their presence is not enough to shield regional economies from macroeconomic shocks in the short term. In this light, standard macro-structural factors such as the sectoral composition of the economy, or the level of trade openness and current account imbalances, still seem to play a more relevant role in determining regional economic performance trends in the short term.

Once again, all the regions of Poland, as well as Western and Central Slovakia, and Northwest, Southeast and Central Moravia regions in the Czech Republic appear as clustered in the same quadrant, showing high levels of economic growth in spite of low and very low levels of tertiary education attainments. This result suggests that, rather than being driven by knowledge-based sectors, their economic development has been strongly grounded on more 'traditional' manufacturing. At the opposite end of the spectrum in the lower right-hand side of the graph lies a group of regions that suffered during the crisis in spite of their high levels of human capital. Such regions include many parts of the UK, Denmark and Finland, as well as the single/two-region countries of Latvia, Ireland and Estonia. The regions of Bulgaria and Germany mostly lie in the median values of the Y axis distribution, while showing a higher dispersion on the university attainment axis (with medium-to-high values in both cases). The four case study regions from such countries lie exactly in the centre of the graph. Finally, Italy and its regions (including its two case study ones) are in the lower left-hand side of the graph, with poor economic performance and extremely low university attainment (among the lowest in the entire EU).

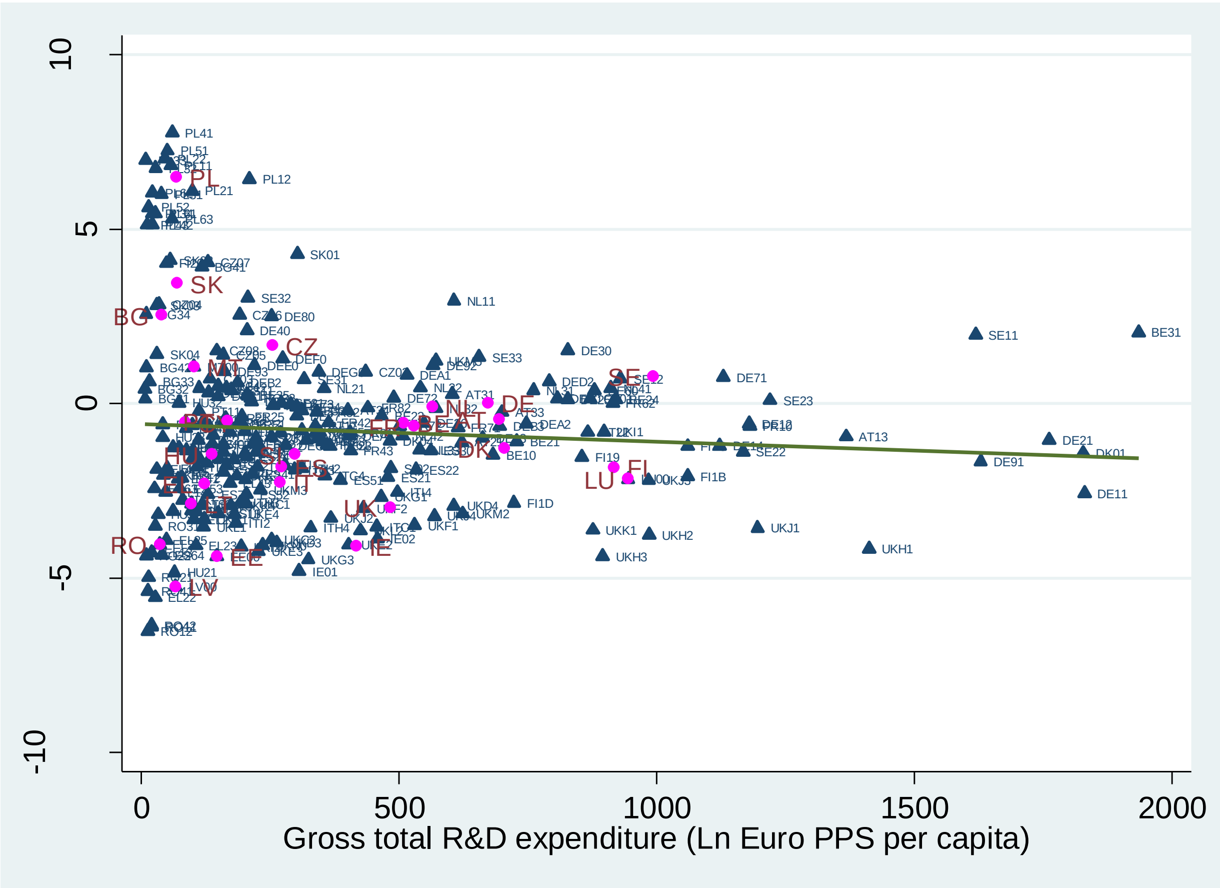
Graph 4.11: Correlation between GVA growth (2008-2010) and pre-crisis level of human capital (university attainment among adult population, 2004-2007)



Source: Own elaboration on data from Cambridge Econometrics, Eurostat. See Annex 8.6 for a list of abbreviations of countries.

Finally, Graph 4.12 plots the correlation between pre-crisis **innovative efforts**, proxied by the regional level of gross R&D expenditure, and the post-2008 GVA average annual growth rates. As anticipated in Table 4.5, the correlation coefficient is mildly negative but statistically insignificant. Variance above and below the fitted line is relatively high, particularly for low levels of R&D expenditure. Among the regions and countries which experienced the worst impacts during the crisis, most lie in the lower left-hand side of the graph (poor economic performance, low R&D intensity), namely most of Spain, Estonia, Latvia, Lithuania and Greece. The very left-hand part of the graph also hosts the regions which scored the highest economic growth levels, including ones from Poland, Slovakia, the Czech Republic and Malta. Similar to outputs for educational attainment, it is therefore necessary to acknowledge the 'traditional' economic development of such countries, more driven by manufacturing than by knowledge-based sectors. Moving towards the centre of the X axis, higher levels of R&D seem to be partly correlated to better post-2008 economic trends. Yet, at the same time, the very right-hand side of the graph also includes regions with very high levels of R&D expenditure and poor economic performance, such as the East of England. Again, all the Italian regions lie in the lower left-hand side of the graph. The two case study regions from Bulgaria are among the ones with the lowest level of R&D expenditure, while Germany's North Rhine-Westphalia and Bavaria are respectively in the medium- and high-level groups.

Graph 4.12: Correlation between GVA growth (2008-2010) and pre-crisis intensity of innovation efforts (total R&D expenditure, 2004-2007)



Source: *Own elaboration on data from Cambridge Econometrics, Eurostat. See Annex 8.6 for a list of abbreviations of countries.*

4.4. Concluding remarks

Building on the exploration of the economic recession's impacts that started in Section 3.1, the current chapter analysed the scope and a potential set of causes of the spatial heterogeneity which characterise the post-2008 economic, social and territorial landscape of the European Union. The first part of this chapter, descriptive in nature, explored the spatially and socially differentiated impacts of the crisis on key performance indicators. The analysis briefly set the scene on the main macroeconomic developments and on sectoral specialisation at national level (sub-section 4.2.1.) and then explored regional performance variables (sub-sections 4.2.2, 4.2.3 and 4.2.4). The subsequent part of the chapter tried, as much as possible given the availability of data, to explore the potential links between the pre-crisis macroeconomic and regional resilience factors that may have contributed to exacerbate/mitigate the recession's effects. The overall results can be synthesised in three main groups of findings.

1. First, compared to the common belief channelled by media, the exploratory analysis carried out in the first part of the chapter suggests a territorial picture which cannot be captured by simple North-South metaphors. Overall, while pre-crisis patterns are more complex and depend on whether attention is paid to economic or to social variables, the picture that emerges analysing post-2008 trends is rather one that resembles a centre-periphery spatial pattern. Broadly speaking, it is possible to identify a core continental area where the impacts of the crisis have been low or moderately low. This area is centred on Germany, most of Poland, and partly stretches to neighbouring regions (such as most areas of Slovakia and the Czech Republic) in a less homogeneous regional pattern. It is then circled by a group of more peripheral areas where the impacts have been high/very high and which include most of the regions of Ireland, Spain, parts of Italy, Greece, Cyprus, Lithuania, Latvia and Estonia.

2. Second, in terms of cohesion the analysis overall suggests that two contrasting trends are occurring. While within-country variation has shrunk, variation across the Union as a whole has increased overall both in terms of unemployment and of urban/rural economic inequalities. Data unavailability does not allow assessment of the evolution in terms of GDP per capita.

3. Last but not least, results from the second part of the chapter show that out of the eight factors put forward in the theoretical framework as potential determinants of the crisis' outcomes, four are correlated with the outcome variable in a statistically significant manner, meaning that they do associate with post-2008 economic outcomes. First, the analysis puts forward preliminary but statistically significant evidence of a link between the level of pre-crisis trade imbalances and the depth of the post-2008 recession. Yet there are no signs of any significant correlation between government debt intensity and crisis impacts. Second, results suggest that the sectoral composition of regional economies explains a large part of the differences in the severity of the crisis. Such results are in line with the sectoral outcomes explored in sub-section 4.2.1 only for two of three sectors analysed, namely construction and market services. In the case of manufacturing, instead, the correlation analysis supports the hypothesis of a positive relationship between manufacturing specialisation and better economic performance across the crisis. Such results are in line with the sectoral outcomes explored in sub-section 4.2.1 only for two out of three sectors analysed, namely construction and market services. In the case of

manufacturing, instead, the correlation analysis supports the hypothesis of a positive relationship. Such a correlation is particularly driven by the regions of Poland, Slovakia and the Czech Republic. Neither human capital (proxied by university attainment among the adult population) nor innovation efforts (proxied by total R&D expenditure) show the expected sign, and neither is significantly correlated to post-2008 economic performance trends. The reason behind such a puzzling result has to be linked to another of the outcomes of the analysis. This reference is to the outlier position occupied on almost all regional resilience factors by the regions which experienced the best economic performance trends across the economic recession. This group, which includes Poland, Slovakia and the Czech Republic and, to a certain extent, also Malta, shows strong evidence of a sector-driven process of economic growth: led by manufacturing in the first three cases, and by tourism in the latter. Yet, such an economic trend seems to be driven by the overall structural and technological catching-up of these countries that are still benefiting from relatively recent integration into the EU that seems to be supporting an above-average economic growth 'notwithstanding' the generalised downturn. This force might be able to support economic growth in the short run, but in the medium term it is likely that the more fundamental drivers of productivity and economic performance – R&D and human capital – will become the key sources of competitive advantage for the EU regions. To assess whether regional resilience factors will be able to positively influence the recovery, it is therefore necessary to wait for more updated data on economic performance and employ more sophisticated statistical techniques to single out the contribution of the different factors.

5. CASE STUDIES ANALYSIS

The second set of RQs (RQ3 to RQ7) leads the qualitative assessment related to how cohesion policy has changed in response to the crisis.

The hypothesis under which we structure our approach stems from the role that cohesion policy has had in addressing the problems caused or worsened by the crisis. We believe that cohesion policy, which was made more flexible by the changes introduced by the EERP, might have been used by MSs to address immediate issues, therefore shifting away from long-term development objectives. Assessing the effectiveness of cohesion policy during the crisis is a difficult exercise. Arguably, the crisis has not yet finished, and therefore the analysis must take into account the fact that it focuses on events that are unfolding at the time of writing and that the data available are limited. Having acknowledged this note of caution, the case studies analysis allows us to make some critical reflections about changes in effectiveness, rather than providing definitive answers.

In this context, the RQs posed by the ToR appear critically important. Indeed, it remains to be established what changes cohesion policy has experienced (RQ3); whether cohesion policy was effective after the changes (RQ4); which constraints caused by the crisis have hindered cohesion policy implementation (RQ5); how different regions have adapted their regional strategies and Structural Funds management (RQ6); and how different regional strategies have resulted in different degrees of capability for crisis resistance and helped counteract the crisis (RQ7).

RQs 3, 4, 5 and 6 allow us to design a framework based on four dimensions, respectively: (i) Change; (ii) Effectiveness; (iii) Constraints; and (iv) Adaptation.

In terms of RQ3 and RQ4, the Study uses the intended changes of the EERP as a starting point, i.e. to accelerate investment and simplify the implementation of European cohesion policy programmes.[14] Once we have assessed which of the above changes have been used by the regional programmes and how effective they have been, we move onto a broader approach by qualitatively identifying the constraints that the crisis has had on cohesion policy (RQ5) as well as the capacity for adaptation of regional strategies (RQ6).

The analysis of these four dimensions – changes, effectiveness, constraints, adaptation – allows the identification of how different regional strategies have resulted in different degrees of capability for crisis resistance and how they have helped counteract the crisis (RQ7).

[14] This is achieved by: (i) Accelerating and facilitating the actual take-up of SFs: increasing cash flow to ERDF and ESF (additional advance payment €4.5 billion), accelerating intermediate payments for major projects (increasing JASPERS by 25%), and simplifying state aid; (ii) Introducing greater flexibility in terms of: modifying cohesion policy programmes in order to meet the new challenges being faced by the EU regions, adjusting the European contribution to projects (i.e. frontloading to ensure sufficient co-funding by allowing some measures to be financed at 100% through the EU funds in 2009), extending the final date of eligibility for the 2000-2006 OPs to ensure the maximum use of all cohesion policy resources from the 2000-2006 period, and introducing a temporary framework for State aid rules; (iii) Targeting cohesion policy programmes on smart investment, such as: increasing the share of energy-efficiency investment, and simplifying reimbursement for expenditure; and (iv) Simplifying the use of technical support for programme implementation: facilitating the implementation of financial engineering instruments, promoting entrepreneurship and enhanced cooperation with the European Investment Bank (EIB) and European Investment Funds (EIF), and increasing the capacity of JASPERS to help MSs to prepare major projects.

Based on previous studies conducted by LSE Enterprise for the EC,[15] we are testing the adoption of the following regional strategies based on the intervention logic of the OPs.
The first two have common features, but are distinguished by the degree to which the logic emphasises transport connections. They are: 1. Broad-based economic development (catch-up broadly based); 2. Transport connectivity (catch-up narrowly focused); 3. Building on the position secured (consolidation of existing model of economic development); and 4. Advanced and inclusive development (greater social inclusion and environmental sustainability). Three further logics constitute a second 'family' in which there are common traits associated with the fostering or exploitation of emerging or existing regional strengths, but which have been distinguished because they imply different routes towards development: 1. Catalysts for regional economic restructuring (focused on a limited number of sectors); 2. Advanced industrial development (focused on areas with industrial decline); and 3. Leveraging region-specific assets (focused on under-exploited natural assets)

In the case of the ESF OPs, the strategies we will be testing are the following: 1. Improving human capital, 2. Improving access to employment and sustainability, 3. Increasing the adaptability of workers and firms, enterprises and entrepreneurs, 4. Improving the social inclusion of less-favoured persons, 5. Strengthening institutional capacity at national, regional and local levels, and 6. Mobilisation for reforms in the fields of employment and inclusion.

Some of these strategies are used as hypotheses to test possible changes in the selected regional case studies.

The four sections below summarise the findings of the eight selected regions in order to answer the RQs that informed the empirical analysis (RQ3 to RQ7). An extended version of the case studies can be found in volume 2.

5.1. Italy

As illustrated in detail in the conceptual framework (Chapter 2) and literature review (Section 3.1), the economic and financial crisis can be broadly divided in two phases, driven respectively by private debt and sovereign debt. Italy is no exception to this categorisation. Conversely, while the main features of the crisis have been broadly the same across the country, the impact has been different across macro-geographic areas. A main distinction can be made with respect to the timing of impact of the crisis between Centre-Northern regions (i.e. competitiveness and phasing-in regions) and Southern Regions (i.e. convergence and phasing-out regions) (Fabbris and Michielin, 2011:4). In particular, Centre-Northern regions – characterised by more integration with the global economy and specialised in investment goods – were hit harder by the initial phases of the crisis than Southern regions, which have less open economies specialised in traditional sectors that were initially less affected by lower demand (ibid.; Signorini, 2013:3; Eurofound, 2010). However, for the very same reason, Centre-Northern regions were able in the second phase of the crisis to take advantage of the partial recovery of the global economy as well as to increase their competitiveness, by diversifying exports and investing

[15] See: 'Study on the Impact of the Single Market on Cohesion: Implications for Cohesion Policy, Growth and Competitiveness', Available from: http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/single_market/single_market_report.pdf

in innovation more than Southern regions (Signorini, 2013:3). Further, firms in Southern regions are more dependent on external financing than Centre-Northern regions and are also considered more risky by financial markets, making access to credit more difficult and more expensive in Southern Italy than Northern Italy (Signorini, 2013: 6).

Thus, in addition to the dynamics of lower competitiveness and innovation and more difficult access to credit experienced by convergence regions, the austerity measures also contributed to a further divide between Northern and Southern Italy in the second phase of the economic crisis, which led, overall, to an increased level of inequality between the South and the North of the country (SVIMEZ, 2012: 6). Within the pattern of shrinking public expenditure just outlined, cohesion policy became an important element in the Southern regions' policy mix to cope with the crisis insofar as, in many respects, it replaced – rather than added to – ordinary public expenditure (SVIMEZ, 2012:24). Also, it is important to bear in mind that cohesion policy in southern Italian regions acts as 'regional policy'.

In this context, it is particularly interesting to compare the choices made by the MAs in Campania with those made by the MAs in Basilicata with regard the use of cohesion policy under crisis conditions. While the ROPs in both regions were re-programmed[16] to respond to some of the challenges posed by the crisis, Basilicata – characterised by a higher absorption capacity – carried out the re-programming within the existing ROPs. By contrast, Campania – characterised by a lower absorption capacity – carried out the re-programming to a large extent through the national Plan of Action and Cohesion (PAC). The PAC did not substantially alter the priorities of the ROPs, but allowed for resources to be spent in a simplified, more agile way, representing a change mostly in terms of the implementation and management of cohesion policy, rather than in content.

This observation suggests that a distinction should be made between the 'content' of the re-programming (i.e. what measures are foreseen) and the process of re-programming (i.e. how these measures are enacted). Comparing Basilicata and Campania, it emerges that the content of the re-programming was associated with external factors (i.e. the crisis) and was different in the two regions; in addition, the process through which the re-programming was carried out seems to have been associated with internal factors (i.e. the absorption capacity of the region) and differed significantly between the two regions.

5.1.1. Basilicata

The region's development during the crisis

At the outset of the economic crisis, in 2007, the socio-economic structure of Basilicata appears to have been ill-suited to respond to a major external shock. Limited endowment of resilience factors and weak socio-economic structure prior to the crisis, translated into a worsening of the regional conditions, between 2007 and 2008-2009, across most of the main indicators analysed. Indeed, if we consider that the EU scores 100, than the percentage of adults aged 25-64 with tertiary education is less than half (i.e. 48.29%) and is lower than the national average (55.345). Also, very low is the total gross domestic expenditure on R&D (Basilicata=24.48; Italy 66.73; EU=100).

16 The ROPs were designed at the beginning of the programming period in 2007 for the whole duration of the cycle (until 2013). However, they could be re-programmed – i.e. some changes could be introduced – during the course of the seven years in order to reflect contextual changes.

Poor resilience factors at the outset of the economic crisis were accompanied by low performance among most of the social and economic indicators analysed. The GDP per capita was 73.63% (much lower than the Italian average 105.06), and the unemployment is much higher than the Italian and EU average (Basilicata=186.47; Italy=128.92; EU=100).

Along with these main indicators, other criticalities of the regional context are a very low accessibility of its territory and economic development which is extremely polarised in the urban areas, leaving the inner areas of the region characterised by higher unemployment and an ageing population (Boschma *et al*., 2012: 10).

Initial regional strategy

Based on the above context for cohesion policy, the following strategies can be identified at the beginning of the programming period, and both are discussed at length in the following sections of the report. As far as ERDF is concerned, the ROP was geared towards transport connectivity (catch-up narrowly focused), with strong priority given to developing the infrastructural endowment of the region, as identified by LSE Enterprise (2012: 66) and confirmed by stakeholders (Interviews C, D, E). The ESF strategy was heavily focused on improving human capital, with over one-third of the overall resources of the ESF ROP devoted to the human capital axis, and it aimed to fill the innovation gap identified in the socio-economic analysis of the region (Interviews B, E).

Changes in cohesion policy and adaptation of regional strategy

Cohesion policy in Basilicata during the crisis presents a mix of path dependency and path deviations. Some central characteristics of the ROPs as they were designed before the crisis were maintained. Notably, these include a heavy focus on increasing the accessibility of the region by improving its infrastructure endowment. The crisis also prompted some changes – and consequent financial re-allocations – within the ROPs. Some long-term endeavours (e.g. investment in human capital as far as the ESF ROP is concerned, or investments in green energy start-ups in the ERDF ROP) were replaced by more pragmatic measures aimed to provide immediate relief from the crisis to individuals (e.g. through anti-poverty income support measures) and firms (e.g. through measures to ease access to credit).

However, it must be noted that the extent to which the strategy was modified appears to be different between the ERDF and the ESF ROPs. The main line of differentiation between the ERDF and ROP strategies seems to lie in the different interaction and relationship between pre-crisis long-term objectives and immediate needs posed by the crisis. In the case of the ERDF strategy, long-term objectives and short-term needs did not enter into a significant conflict. Although some resources initially devoted to long-term innovation-driven endeavours (e.g. start-up creation) were re-directed towards short-term counter-cyclical measures (e.g. increased *de minimis* aid) (Interview A), the overall strategy still saw a major increase of resources (from 12% to 21% being allocated to 'Knowledge Society'. A different pattern was followed in the ESF ROP. In this case, the conflict between long-term objectives and short-term needs prompted the MA to shift resources away from the human capital axis in order to finance measures aimed at poverty relief and tackling social exclusion This is confirmed by the reallocation of resources, which in the case of ESF saw social inclusion investments increase from 16% to 19% and human capital investment decrease from 40% to 34%; whereas, in the case of ERDF, investment in energy decreased from 25% to 19%. Practically all the changes that occurred during the crisis were made within the existing ROPs, with only limited interaction with the national anti-crisis programmes; thus, the crisis did not substantially affect the management of cohesion policy. A traditional feature of the region in terms of cohesion policy spending, i.e. its high absorption capacity, was indicated by the Managing Authorities (MAs) as a crucial element to counteract the crisis, by ensuring liquidity of the regional economy, although social parties, while acknowledging the merits of having a high absorption capacity, lamented the lack of selectivity in the use of cohesion policy.

Effectiveness of cohesion policy

The financial resources transferred to Basilciata region under cohesion policy amount to 5% of its GDP. MAs and social partners agree that cohesion policy was effective insofar as it provided relief for the immediate needs posed by the crisis.

However, the social partners also observed that such a strategy fails to address the structural weaknesses of the region. The main constraint posed by the crisis – determining a consequent adaptation of regional strategy – seems therefore to have been a shift away from long-term objectives to focus more on short-term needs, raising doubts as to whether the provision of immediate relief to pressing socio-economic issues, such as those posed by the crisis, should be a primary concern of cohesion policy.

5.1.2. Campania

The region's development during the crisis

Similarly to Basilicata, Campania's features in term of resilience and performance factors are very low. The percentage of adults aged 25-64 with tertiary education is the same as in Basilicata, but the total gross domestic expenditure on R&D in 2007 was much lower (44.74%). The performance indicators were worse. The GDP per capita was 66.63% (7 points lower than Basilicata), and the unemployment was much higher (162.29% and youth unemployment 207.98). Additionally, the region suffered from low innovation, limited infrastructural endowment (physical and technological) and severe environmental problems, such as insufficient and inefficient mechanisms of waste disposal (NVVIP, 2012: 38), impacts on the economic performance of the region (e.g. negatively affecting tourism), and social issues (e.g. waste disposal forms a significant component of illegal activities conducted by organised crime).[17]

Initial regional strategy

Based on the above context, at the beginning of the 2007-2013 programming period, the ERDF strategy was geared towards a broad-based economic development approach, with resources mostly invested across three axes, namely the improvement of tourism and environment, the competitiveness of the region, and accessibility and transportation.

[17] This alarming context is mitigated by some 'unofficial automatic stabilisers' that helped the region – to some extent – to cope with the crisis, such as: (i) strong family links (Campania's share of elderly living alone is well below the EU average, suggesting that family ties are strong and proved to be an important factor of resistance to the crisis); informal economy (the regional economy of Campania is characterised by a significant degree of informality, which appears to have absorbed part of the macroeconomic shock caused by the crisis); and (ii) the major presence of the public sector in the employment structure (the public sector is a significant source of employment in the region, and it was sheltered and largely unaffected during the crisis).

The ESF strategy was less focused and more overarching, trying to address most of the region's problems with a mix of major investments: improving human capital, policies to boost employment, increasing adaptability of workers and firms, improving social inclusion, as well as strengthening institutional capacity at regional and local levels.

Changes in cohesion policy and regional strategy adaptation

Cohesion policy in the region underwent substantial changes in the period analysed. Such changes were prompted by two sets of factors, namely (i) the slow implementation and low absorption capacity displayed by the region at the beginning of the programming period;[18] and (ii) the changed socio-economic context as a consequence of the economic crisis.

The role of cohesion policy during the crisis was mostly one of support for anti-cyclical measures (ESF, 2013: 6) aimed, among others: to provide fiscal incentives for SMEs to retain workers (funded via ERDF); to provide ALMPs and safeguard – as much as possible – levels of employment (funded mainly via ERDF and partially via ESF); and to foster professional training (funded mostly via ESF, with a substantial contribution via ERDF).

In addition to the anti-cyclical measures, two additional features characterise cohesion policy in Campania during the crisis: (i) introduction of innovative instruments (e.g. equity funds and internationalisation vouchers) for enterprises relatively untouched by the crisis; and (ii) investments in 'large projects' favouring concentration of resources in strategic areas and speeding up advancement of expenditure.

The main changes that occurred in cohesion policy during the crisis need to be framed in a dual – European and national – context. Two elements stand out: (i) the European Economic Recovery Plan (EERP) and (ii) the national Plan of Action and Cohesion (PAC, Piano di Azione e Coesione). The former allowed for some modifications in the use of cohesion policy that fed into the latter. In particular, as part of the EERP, regional governments were allowed more flexibility in the management of cohesion policy funds. Thus, the regional administration used this increased flexibility to transfer some funds out of the ROP and place them within the PAC, which had analogous objectives to the ROP, but which is characterised by simplified rules of implementation (ESF MA, 2013: 15) allowing resources to be spent more speedily.

Similarly to Basilicata, the major changes that occurred in the reprogramming during the crisis were led by pragmatic reasons, such as providing an immediate response to some criticalities caused by the crisis (e.g. through counter-cyclical measures) as well as speeding up absorption capacity. In contrast to Basilicata, however, most changes were also driven by concentrating the expenditure (e.g. through 'large projects', more visible in the ERDF ROP) and speeding up the absorption of funds by decreasing the total amount of resources within the ROPs. In some instances, those axes that were characterised by slow advancement in terms of financial absorption were sensibly downsized to provide additional

[18] The advancement of the programme was negligible until 2008-09. This was due to both internal and external constraints. The former refer to the election of a new regional government that made changes to the original programming and therefore slowed the launch of interventions funded through the Structural Funds. The latter refer to the Internal Stability Pact (SP) and the problems that it caused for national and regional administrations to provide co-funding, as well as the sanctions that the region was subject to for non-compliance with the SP (ESF MA, 2013: 13). Polverari and Tagle (2013: 55) note that discussing achievements for the 2007-2013 programming period 'is still premature', considering that as of 2011, hence already in the second half of the programming period, only 12% of ERDF ROP resources had been spent. Thus, the actual implementation of cohesion policy in Campania, and the bulk of its expenditure, started and developed during the crisis.

resources to other axes.[19] However, overall, as noted by the interviewees, the major changes occurred within axes rather than across axes, for instance by concentrating expenditure on fewer projects and initiatives (Interview A).

Effectiveness of cohesion policy

The financial resources transferred to Campania region under cohesion policy amount to 5% of its GDP. While stakeholders agree that the counter-cyclical measures seem to have been effective in providing immediate relief from some socio-economic problems posed by the crisis, it is not possible to assess any of the long(er)-term measures adopted, such as the large infrastructural projects or the measures in support of enterprise internationalisation.

Nevertheless, deskwork and interviews with stakeholders point towards specific initiatives that may be seen as promising practices, although they have only been developed to a limited – and in some instances very limited – extent. Two promising practices have been identified, reflecting two of the different 'logics of change' exposed in the previous section, as summarised in Table 5.1.

Table 5.1: Promising practices emerging from changes in cohesion policy

Initiative	Description	Why promising?
Credito d'imposta	The Credito d'Imposta is an incentive given to enterprises that hire disadvantaged workers on permanent contracts, favouring their participation in the labour market, by funding 50% of the salary of these workers for up to 24 months[20]	The initiative seems to have been effective as far as the demand for it is concerned. It was initially financed to the tune of 20 MEUR and the requests exceeded the financial allocations, prompting an allocation of additional 100 million EUR. The high demand for it suggests that this initiative was effective in responding to a need of enterprises during the crisis (ESF MA, 2013: 15). On the other hand, while responding to an immediate need effectively, interviewees expressed uncertainty as to whether this (and other) counter-cyclical initiatives would have a positive impact in the longer term on the economic structure of the region.
Ultra-band	A large project to equip the regional territory with ultra-wide band	The ultra-wide band project has just been assigned through public tender, and it will equip a large part of the regional territory with ultra-wide band. The project was presented as a potential best practice, and is therefore reported here as a 'promising' practice – because it is an example of using funds at a time of crisis to promote longer-term development. For instance, interviewees mentioned the spillovers created with private sector development and actions foreseen in the next 2014-20 programming period, where the availability of ultra-band will be used to support investment and enterprise development in the region, particularly start-ups.

Source: Author.

[19] ESF Axis 7 (Institutional capacity) is an obvious example of considerable resources being moved into the CAP to finance counter-cyclical measures, with the relative incidence of this axis almost halved.

[20] See: http://www.fse.regione.campania.it/index.cfm?m=69&s=70&a=creditoimp-detail&i=1331, last accessed on 13 December 2013 at 17.27.

5.2. Germany

Germany, a traditionally export-oriented economy, has experienced the first wave of the global financial crisis primarily as a steep decline in exports in 2009 resulting in a decline in GDP . Germany was however able to mount a strong recovery, which was to a large extent fuelled by trade with non-EU markets, e.g. China. By 2010, the country was broadly seen as having recovered from the crisis, experiencing GDP growth and falling unemployment. Although it would be incorrect to say that Germany was not affected by the crisis, the duration of the crisis in Germany was shorter than in many other EU MSs and was followed by a period of recovery.

The notions of transmission channels and resilience factors, as set out in the conceptual framework of the Study, are particularly important for understanding the impact of the crisis in Germany. Transmission factors contribute to the impact of the crisis on regional economies, with the main transmission channels including credit availability and interest rates, trade, domestic/local demand, as well as government finance. Trade was a key transmission mechanism in Germany, which can be seen in the fall in German exports as a percentage of GDP from 48.2% in 2008 to 42.9% in 2009, only to recover later to 47.6% in 2010 and 50.6% by 2011 . Examining another transmission channel, government finance, one can see that the German recovery did have its cost, with government-consolidated gross debt as a percentage of GDP increasing from 66.8% in 2008 to 82.5% in 2010 and remaining on this broad level in the following years.

Another element allowing a better understanding of the impact of the crisis is the concept of resilience. As conceptualised on the basis of the literature review conducted in the Study, resilience in this context is defined as 'the ability of a region to anticipate, prepare for, respond to, and recover from a disturbance' (Foster, 2007: 14). The disturbance here comprises the constraints created by the global financial crisis, including the above transmission factors.

Germany scores above the EU average (EU=100) for both resilience factors, i.e. the percentage of adults with tertiary education (107.48) and total gross domestic expenditure in R&D (167.2).

Another important aspect of resilience is the sectoral composition of the regional economy. As set out in the conceptual framework for this Study, existing literature identifies manufacturing and construction industries as the most cyclically sensitive sectors followed by private service industries, with public sector services seen as being broadly unaffected by recessions.

Analysing the sectoral specialisation of Germany, the share of total GVA generated in the construction sector is broadly in line with the EU as a whole, and an above-average proportion of Germany's GVA has been generated in the energy and manufacturing sectors. Although this would normally imply a relatively low regional crisis resilience, Germany's swift recovery from the crisis suggests that other crisis resilience factors, combined with external factors such as trade with non-EU MSs, offset the potential effect of the above-average regional specialisation in manufacturing.

5.2.1. Bayern (Bavaria)

The region's development during the crisis

Bavaria is a prosperous southern-German region, with large urban centres in Munich, Nurnberg, and Augsburg, as well as a large rural area. It is a key exporting region with a strong industrial base. It is home to a range of world-class automotive producers, as well as financial and technology companies. Bavaria is a Regional Competitiveness and Employment region selected to better understand the impact of the crisis on prosperous export-oriented regions. When examining the relatively short-lasting crisis in Bavaria, it is important to keep in mind that Bavaria was a very prosperous region prior to the crisis. Its GDP per capita of over 29,200 EUR exceeded the EU average by over 25%, while at 6.85% the unemployment rate was almost 20% below the EU average. Even within a national comparison, Bavaria was an economically strong region with GDP per capita over 9% higher than the German average and an unemployment rate just over two-thirds of the German average.

The crisis in Bavaria largely mirrored the impact of the crisis in Germany as a whole, with a decline in exports followed by a fall in GDP per capita. Using the conceptualisation of the crisis developed in the Study, Bavaria could be seen as being primarily affected by the first phase of the crisis, the private debt crisis. The timing of the crisis in Bavaria reflects this, with the effects primarily observed in 2008 and 2009. Bavaria followed the broader German trend and staged a broad recovery from the crisis starting in 2010.

Bavaria falls behind the German and European averages with regard to the percentage of adults with tertiary education (which could be attributed to the well-developed vocational education system), but it significantly outperforms the German and European average when it comes to gross R&D expenditure. Analysing the sectoral specialisation of Bavaria, it is noticeable that the share of total GVA generated in the construction sector is broadly in line with the EU as a whole, but an above-average proportion of Bavaria's GVA has been generated in the energy and manufacturing sectors. In fact, in Bavaria energy and manufacturing generate broadly the same GVA as the market services sector (financial intermediation, real estate, renting and business activities).

The region's manufacturing focus is offset by strong innovation performance, which most likely contributed to crisis resilience, together with a strong focus on trade with non-EU countries.

Initial regional strategy

The SWOT analysis undertaken as part of the preparation of the ERDF Operational Programme (OP) for Bavaria notes that although the economic position of the region is a strong one, there are a number of disparities within the region, in particular between the Munich urban agglomeration and the border regions to the east of Bavaria. As a result, the programme focuses the ERDF funding on these weaker-performing regions ('target regions'). Overall, the OP specified that 65% of the ERDF funds will be directed at these areas (StMWI, 2011).

Compared to the ERDF, the focus on the border area is less explicit in the ESF programme, although the border area is also the area with lower employment, less-developed training and education markets, a higher proportion of SMEs, and a large number of younger workers moving away to urban areas. This in turn implies that the ESF measures are designed to principally target the border area.

Overall, given the explicit focus on the border area within the ERDF and, to a lesser extent, within the ESF, the initial regional strategy can be viewed as comprising 'catalysts for regional economic restructuring'. This strategy is defined in the hypothesis as a strategy focusing on a traditionally economically weaker part of a region. Although the priority axes of the ESF in Bavaria reflect a number of different regional strategies, the distribution of the funds suggests the strategy of 'improving human capital' to be the main driving strategy for the ESF (52% of funds allocation) (StMAS, 2012).

Changes in cohesion policy and adaptation of regional strategy

The region made use of some of the EERP provisions, including the extension of the final date of eligibility of expenditure for the 2000-2006 programming period, as well as the relaxing of state aid rules.

However, overall, despite the limited impact of the crisis, the implementation reports single out the border area as most vulnerable with regard to the crisis. On this basis, the OP's focus on these areas was seen as still appropriate, which in turn means that no strategic changes were deemed necessary to address the crisis.

Overall, representatives of the consulted ERDF Managing Authority believed the main impact of the crisis has been not so much on the change in strategy but in slowing down the implementation of cohesion policy. This could be attributed to two effects: a direct one, relating to private enterprises' increasing reluctance to invest, and an indirect one, relating to the fact that the use of certain national funds for infrastructure projects took priority over ERDF funds during the period. Expert interviews identified a similar indirect effect for the ESF programme, where for specific measures such as continuing education measures under ESF priority axis A the extension of federal funding in the area has had a negative effect on the take-up of ESF funding.

Effectiveness of cohesion policy

In terms of effectiveness, it is too early to make an assessment. However, a more thorough analysis can be given if looking at the main constraints and challenges imposed by the crisis relating to the limited take-up of financing instruments or joint projects by enterprises. Also, it is important to bear in mind that compared to the Italian or Polish regions – which receive a higher percentage of funds compared to their GDP – the financial resources transferred to the Bavaria region under cohesion policy amount to a mere 0.32% of its GDP.

Interim evaluation of the ERDF identified one financing instrument that has not been taken up by its potential beneficiaries (industry) as a result of the crisis. The instrument in question is the Investivkredit 100 pro fund, which aimed to finance innovations, as well as to strengthen the capital basis of enterprises. The instrument was initially structured as a form of 'mezzanine financing' (a form of financing classified as senior to equity but subordinated to senior collateral-backed debt and used by enterprises to fund growth); however, the crisis has contributed to the instrument finding little traction within the industry. The reasons given for this are twofold: firstly, the first wave of the crisis contributed to lowering trust in structured financial instruments; and secondly, a number of enterprises financed through the instrument have been wound down during this period, resulting in increased reluctance from enterprises. According to the evaluators, both of these factors resulted in limited take-up of the instrument. In response, the funding stream was restructured into a revised Investivkredit 100 pro and integrated into an existing enterprise-financing programme of the Bavarian regional development bank (*LfA Förderbank Bayern*). In addition, it has also been refocused to concentrate on the structurally weaker regions within Bavaria.

Another broader constraint identified in the evaluation was the fact that the administrative procedures associated with financing instruments such as the Investivkredit were too slow to react to changing economic conditions, with any changes requiring long negotiation processes.

5.2.2. North Rhine-Westphalia

The region's development during the crisis

North Rhine-Westphalia is the most populous German region and the traditional industrial heartland of Germany. It has undergone substantial structural change since the 1980s, which have seen a decline in the coal and steel industries, the previous source of prosperity in the region. The social and economic consequences of these developments are still visible today, in particular in the urban areas of the Ruhrgebiet. The region has therefore traditionally been an area of focus for the European Structural Funds since the late 1980s (Untiedt *et al*., 2010). North Rhine-Westphalia is a Regional Competitiveness and Employment region selected to better understand the impact of the crisis on competitiveness. At the same time, compared to a number of other West German regions, it is a worse-performing region with particular challenges in the labour market.

Similarly to other German regions, the crisis in North Rhine-Westphalia can be largely linked to a decline in exports followed by a decline in GDP per capita. Using the conceptualisation of the crisis developed in the Study, the region could be seen as being primarily affected by the first phase of the crisis, namely the private debt crisis. North Rhine-Westphalia's performance on key social and economic cohesion indicators prior to the crisis was a mixed one. At just over EUR 26,000, its GDP per capita prior to the crisis was 3% below the national average, although its unemployment rate of 9.46% was still lower than the national average of 10.15%.

When comparing the region to the EU as a whole, the performance was similarly mixed. Despite falling short of the average within Germany, North Rhine-Westphalia was still a prosperous region in European comparison, with its GDP per capita 12% above the EU average. At the same time, its unemployment rate was almost 13% higher than the EU average.

In terms of resilience factors, adults with tertiary education and total gross domestic expenditure on R&D, North Rhine-Westphalia falls short of the national average, although it still outperforms the EU with regard to R&D expenditure. In line with Germany and Bavaria, in North Rhine-Westphalia a higher proportion of GVA has been generated in the energy and manufacturing sectors than in the EU as a whole: at 28%, the energy and manufacturing sector in North Rhine-Westphalia generates broadly the same proportion of total GVA as the market services sector (financial intermediation, real estate, renting and business activities).

Initial regional strategy

The analysis of strengths and weaknesses conducted as part of the preparation of the ERDF OP for North Rhine-Westphalia notes that the region has an advantageous location in the centre of Europe, with strong multinational enterprises located in the region, as well as a large number of competitive SMEs. At the same time, the region is seen to lag behind the rest of the country in terms of knowledge-intensive industries and the service sector. Another weakness relates to specific territorial disparities, including high unemployment in the Ruhr region, as well as the need for regenerating a number of urban centres affected by structural change (MWEIMH, 2012).

The three main areas of action identified for the ERDF OP are therefore investment in businesses, including supporting entrepreneurs and technology-oriented businesses, fostering innovation (49% of funds allocation), and investment in infrastructure.

Overall, drawing on the hypothesis of the Study, the regional strategy in North Rhine-Westphalia can be characterised as 'advanced industrial development', given that the main focus of both programmes is on innovation, corresponding skills and necessary adaptability. Like other regions following this strategy, North Rhine-Westphalia has a legacy of traditional industry, which needs to be supplanted by an innovation-driven knowledge-based and service-oriented economy. The ESF OP priority axes correspond to a mixture of regional strategies, although, as shown in the funds distribution, improving human capital appears to be the main priority and hence can be seen the main ESF regional strategy (53% of funds allocation).

Changes in cohesion policy and adaptation of regional strategy

Cohesion policy documents recognised the first signs of the crisis relatively early. The annual ERDF implementation report for 2008, published the following year, noted a decline in industrial orders in North Rhine–Westphalia affecting in particular the automotive, chemicals, and steel sectors and linked this to the crisis (MWEIMH, 2008). By 2009, the scale of the crisis became clear and so were its consequences, with regional exports falling by 18.5% as a result of reduced global demand. At the same time, as shown in the previous sections, by 2009 the crisis had not had a significant labour market impact in North Rhine-Westphalia, with the unemployment rate remaining broadly stable, but falling compared to 2008 (MWEIMH, 2009). By 2010, there were signs of recovery with an increase in exports and the unemployment rate remaining stable (MWEIMH, 2010).

This is not to say that the crisis had no impact on the structure of the labour market in the region. The 2009 ESF implementation report noted that one response to the crisis from businesses was the shift to part-time and short-term employment, which contributed to avoiding larger-scale unemployment. This can also be linked to the broader Germany-wide labour market policy at the time[21] and appears to be consistent with the observed combination of stable or improving labour market indicators, accompanied by falling household incomes and increasing proportion of people at risk of poverty. Another consequence of the crisis was a decrease in the number of open vacancies on the labour market (MAIS NRW, 2010). The 2010 ESF implementation report however recognises a broad improvement in the key indicators compared to the previous year (MAIS NRW, 2011).

[21] See: Krause, Michael U. and Uhlig, Harald, 2012. Transitions in the German labor market: Structure and crisis, Journal of Monetary Economics 59 (2012) 64–79.

Although, as noted above, cohesion policy documents recognised the crisis and its impact, there is no indication that steps were taken to address the crisis through major changes in cohesion policy. This could potentially be attributed to the fact that the regional strategy aimed at turning a traditional industrial core of Germany into a more human capital-driven knowledge-based economy. This, in turn, is in line with the main resilience factors conceptualised in the Study. With cohesion policy already working towards improving resilience and the impact of the crisis being less severe over time, the need for cohesion policy to play a more active role in responding to the crisis also diminished.

Effectiveness of cohesion policy

Similarly to Bavaria, the financial resources transferred to NRW region under cohesion policy amount to a mere 0.56% of its GDP. Although the crisis did not affect the implementation of the programme as negatively as expected in 2009 (MWEIMH, 2009), it had the effect of markedly reducing demand for the NRW/EU Investitionskapital, a funding instrument designed to finance SME business investment in the region. The main reason for this appears to be more reluctance on behalf of enterprises to invest further in growing their business during the crisis, which is the type of investment that the NRW/EU Investitionskapital supports.

The effect of the reduced demand was primarily visible in 2009 and 2010, with the volume of committed funds falling by 25% in 2009 compared to 2008, and by a further 23% in 2010 compared to the previous year, with the trend showing a sign of reversal only in 2012 (MWEIMH, 2010 & 2011).

This in turn had an impact on the programme’s performance with regard to its indicators. The indicators particularly affected include ones corresponding to the first priority axis, such as the number of new technology-oriented businesses, where the figure for 2007-2012 of 83 fell short of the target of 312. At the same time, no clear steps were taken to address the low demand for the NRW/EU Investitionskapital. Similarly, no steps appear to have been taken within the scope of the ERDF programme to address the fact that existing instruments insufficiently promote technology-oriented businesses, although this problem has been identified in the annual implementation reports (MWEIMH, 2013).

With regard to the ESF programme, an expert interview identified specific challenges related to employability measures under Priority Axis A of the programme due to more limited number of placements available in enterprises. A similar effect also applied to labour market integration measures under Priority Axis C. However, this effect could only be observed in 2009. The underperformance of these projects is attributed to the insufficient business participation as a result of the crisis (Fertig *et al.,* 2011).

Another challenge faced by the ESF programme as a result of the crisis, identified in the evaluation of the programme, is an increased gender imbalance among individuals benefitting from ESF-funded projects. Businesses primarily affected during the crisis had more traditionally male-dominated workforces, meaning that men were more likely to be beneficiaries of ESF-funded projects, which in turn resulted in women being unrepresented amongst programme beneficiaries (Fertig *et al*., 2011).

5.3. Poland

The average annual rate of GDP growth fell from 6.0% in 2006-2008, i.e. the years preceding the crisis, to 3.4% in 2010- 2012, that is by nearly twofold. But even this deterioration did not undermine Poland's exceptional resistance to the effects of the crisis: the Polish GDP growth in 2010 was the third-highest in the EU, while in 2011 Poland ranked fourth among the 27 MSs. Although its GDP performed well through 2009, Poland suffered an increase in the unemployment rate from 7.1% in 2008 to 8.1% in 2009, and up to 9.7% in the next two years. The crisis in Poland was experienced more as an economic downturn, and it was postponed by two to three years in comparison with other European countries. There are several reasons why Poland suffered relatively less acutely from the crisis in comparison to other European countries. Firstly, the crisis has mostly affected the financial markets of the developed countries, as they had unlimited access to the instruments of the U.S. mortgage market. Financial institutions in emerging economies such as Poland did not suffer direct losses from investments in American equities due to a relatively lower interest in these instruments and their limited availability (Jasiński, 2013). Secondly, the Polish economy is (in comparison to other post-communist countries) relatively less dependent on export markets, having the largest internal market among all of the Central and Eastern European countries. Thirdly, the rapid weakening of the Polish zloty exchange rate in late 2008 and 2009 helped to mitigate the decline in demand for Polish export goods (Nikołajczuk, 2012). Fourthly, in 2006 the government decided to reduce pension contributions and taxes (this policy was maintained by the subsequent government). As a result, economic growth was largely driven by high domestic consumption. Strong internal demand and solid private consumption are typically pointed out by economists as strengths of the Polish economy, helping the country to retain its economic growth even under the difficult conditions on the international markets. All of these factors, acting jointly, facilitated a smooth transition through the crisis.

5.3.1. Podlaskie (Białystok)

The region's development during the crisis

The Podlaskie voivodship (województwo podlaskie) is one of the most peripheral regions in Poland and in the European Union. Its peripherality is manifested in both geographical and economic terms. Podlaskie is located on the eastern border of the EU; its neighbouring regions have a lower level of development and the nature of the border with Belarus is a challenge. The region is one of the poorest in Europe and has the lowest level of GDP and disposable income.

An overview of the resilience factors identified in the conceptual framework of the Study shows a low performance of the Podlaskie region in all three resilience measures.

The number of adults with tertiary education in Podlaskie is close to the national average (77.8 vs. Poland= 75.9). At the same time, the total gross domestic expenditure on R&D is very low and achieves only 27% of the national average. These results are even more alarming if compared to the European average (i.e. EU=100, Poland=16.8 and Podlaskie=5.3).[22]

[22] It must be said that low innovativeness of the region is the result not only of the low R&D expenditure, but also its unfavourable structure and low quality of research activities, as well as a lack of cooperation between science and business.

In terms of GVA, Podlaskie is an agricultural region, with shares that are lower than the national (and European) averages in manufacturing and market services in GVA, but with a higher-than-average share of agriculture in GVA (i.e. EU=100, Poland=63.8, Podlaskie=119.2). However, the productivity of the agriculture sector is low, with the share of agriculture in GVA being significantly lower than its share in employment (9% vs. 25% in 2011).

It can be said that Podlaskie was not affected by the first phase of the crisis because of its specific economic structure, characterised by a relatively high level of agriculture and a lower level of manufacturing and market services. Moreover, the regional economy is rather closed to international markets in terms of export and foreign capital investments.

The social structure of the region is determined by a low level of economic activity. As mentioned above, Podlaskie is one of the poorest regions in Poland (and in Europe); the level of disposable income was well below the Polish average before the crisis and the impact of the crisis was visible in a further drop of this indicator.

The region's territorial structure is characterised by its low transport accessibility (Rosik *et al*., 2012). This result relates to the peripheral location but also to the underdeveloped transport infrastructure connecting the region with Poland's major city centres. The length of hard-surface roads in Podlaskie is one of the lowest in Poland (68% of the Polish average), and the length of railway lines is similar (58% of the national average) (Płoszaj, 2012). This feature, together with low access to, and use of, information and telecommunication infrastructure (Batorski, 2012), impairs the attractiveness of the region manifested by a significantly lower share of enterprises with foreign capital in comparison to the rest of the country (20% of the national average).

Initial regional strategy

Similarly to the other convergence region analysed in this Study (e.g. Campania), Podlaskie adopted a broad-based economic development strategy touching upon all of the contextual problems identified above (i.e. increase the region's attractiveness for investors and transport (32%); boost the competitiveness of local companies both in Poland and abroad (24%); develop tourism based on natural and cultural heritage (5%); and develop agriculture and create conditions for multi-functional development of rural areas).

Changes in cohesion policy and adaptation of regional strategy

The impact of the economic crisis on the implementation of cohesion policy was manifested mostly by introducing measures intended to improve the spending efficiency of the EU funds. No significant modifications were introduced to either the Development Strategy or the OPs. Indeed, the core investments were maintained. What is noticeable is more a process of adaptation to address the new problems that the crisis created.

The measures for improving spending were mostly related to the EERP, such as: submitting payment applications in the so-called 'large projects'; extending to 2008 the eligibility period for expenditure in the 2000-2006 programmes; and increasing the scale of possible advance payments for project beneficiaries to up to 95% of the project value.

The main constraints affecting cohesion policy implementation were related to the financial situation of the beneficiaries, primarily enterprises and local government entities. Their deteriorating financial standing was manifested by a reduced number of grant agreements, and lack of interest in calls for proposals due to the lack of the required own contribution. The problems that some beneficiaries encountered with ensuring their own contribution were first noted in 2010. In consequence, this made applying for ROP PV funds more difficult and extended the time needed for signing the agreements. In this context, many arrangements to simplify the process of applying for co-financing and settlement of projects were put in place. For example, moving the obligation to submit mandatory appendices concerning *de minimis* assistance (extending up to 40 pages in length) from the application stage to the stage of signing the agreement by the beneficiaries; and the possibility to waive sanctions if the financial and economic results anticipated in the project were not achieved as a consequence of the economic slowdown.

Effectiveness of cohesion policy

Although the financial resources transferred to the Podlaskie region under cohesion policy amount only 2.3% of its GDP, they represent a significant contribution to promoting regional development and alleviating the consequences of the economic slowdown (Wojtowicz, 2011).

A special role of funds in this respect is due to the fact that they allowed the continuation of the investment policy both in the public and private sectors. With no EU funds available, the investment level would have been severely limited due to two reasons. Firstly, from 2008 onwards, problems with obtaining loans from commercial institutions have continually increased. Banks became much more cautious in assessing the creditworthiness of their potential clients, and the number of loans granted decreased. Secondly, in 2009, the personal income tax (PIT) rates were lowered in Poland, as a result of which the revenues of local governments as a share of that tax also decreased. Changes in the tax rates and the decrease in public revenues from PIT were not accompanied by any changes in the income system that would compensate local governments for the loss of a major portion of their sources of income, which greatly diminished the scope for implementing their investment projects. The need to maintain the level of investments to be made by companies, local governments, and government institutions and scientific and research institutions, as well as the implementation of non-investment projects, generated demand effects which were particularly significant during the economic slowdown. That is why cohesion policy is treated as a driver of the economy that helps counteract the effects of the economic downturn. It should also be noted that the delay in spending the funds in the 2007-2013 period (during the first two years of implementing the support programmes, only 3.4% of the allocation was spent) paradoxically turned out to be advantageous for the Polish voivodships. Accumulation of unspent EU funds together with government activities aimed at accelerating the absorption of the funds coincided with a decline in the condition of the regional economies. This increased the demand in a period when Polish regions had started to experience the first consequences of the world recession.[23]

[23] The effects of the economic slowdown were less acutely felt in the region as a result of the EU funding made available. Above all, the demand effect was observable as a result, in addition to the restructuring effect of a more long-term nature. The dairy sector is a good illustration of technological modernisation with the use of the Structural Funds from the POIG. Another example of enterprises that enhanced their competitive advantage in spite of economic slowdown by using the opportunities presented by EU funds is the construction sector. Beneficiaries of ERDF also include innovative firms forming medical clusters in the regions (e.g. CHM, Medgal) and other highly advanced enterprises (e.g. PLUM).

5.3.2. Dolnośląskie (Lower Silesia)

The region's development during the crisis

The Lower Silesian voivodship (województwo dolnośląskie) lies in the south-west part of Poland; it borders Germany in the west and the Czech Republic in the south. The region is strategically located in Poland and Europe, at the intersection of centuries-old transport routes leading from the east to the west and from the south to the north. The capital of the region is Wrocław, a city located close to the capitals of the neighbouring European countries. This means that the city and its region are conveniently located in the European economic space.

An overview of the resilience factors identified in the conceptual framework of the Study shows a moderate performance of the Lower Silesia region in all three resilience measures. Measures related to the 'soft aspects' of regional resilience, namely human capital stock and innovation efforts, despite some positive trends, cannot be expected to sustain the improvement of the region's condition in a long-term perspective. The number of adults with tertiary education in Lower Silesia is slightly lower than the national average (95 vs. Poland=100). Nevertheless, a positive trend can be observed. In recent years, a steady increase in the share of people with higher education (from 15.2% to 17.1%) has been recorded, in parallel with a decreasing share of persons who completed education at no less than secondary level (from 18.5% to 16.7%). The total gross domestic expenditure on R&D in the region is 4.2 pp. lower than the average for Poland, and very far behind the EU average (EU=100, Poland=16.8, Lower Silesia=12.6). The economic structure of Lower Silesia is characterised by a major role of industry in the generation of gross domestic product and a high degree of diversification of its industrial base. The Lower Silesian voivodship is one of the most industrialised regions in Poland. The share of industry in the generation of gross added value in the region is not only higher than the average for Poland as a whole (28.2%) but is also higher than the average for the European Union (22%). The predominant percentage of people employed in Lower Silesia work in industry. The region is to a large extent still shaped by deeply rooted and well-established traditional industries like mining (Büttner and Heidenreich, 2005). The major regional industrial activities concentrate on the extraction of copper and silver ores, lignite, paving and building stone, fire-resistant clay and natural gas. This points to a significant dependency of the region's economic condition on external demand and export conditio ns. An analysis of Eurostat data confirms the good socio-economic situation of the region in relation to the country at large and its significant backwardness in comparison to the EU countries. The value of gross domestic product (GDP) per capita remains higher than the national average – before the crisis it was 5 pp. above the average, whereas after 2008 this gap rose by another 5 pp. Due to the lower rates of growth of both Śląskie and Mazowieckie voivodships, after 2008 the region managed to change its position in the ranking and rose to the second position, preceded only by Mazowieckie. However, the comparison of Lower Silesia in terms of the value of GDP per capita (65.5% of the EU27 average) in relation to other European regions indicates its distant position. Nevertheless, it must be stressed that the region managed to reduce this gap by over 10 pp. compared to the pre-crisis period. At present, the Lower Silesia voivodship ranks among the leading Polish regions in terms of exports and imports. The dynamics of exports in the years 2008-2011 were amongst the highest in Poland and amounted to 24.8%. Analyses of the destinations of Lower Silesia's exports indicate a strong prevalence of EU countries, to which about 90% of the total exports of the region were directed. The most important trade partner is Germany, with a 53% share in the total exports of the region.

There was a decrease by 15% in the total unemployment rate and by 10% in the long-term unemployment rate compared to the pre-crisis period. Nonetheless, we must take into account the fact that the level of total unemployment before the crisis was well above the national average and amounted to 20% (the youth unemployment rate in the same period was 37% and exceeded the average for Poland by 5%). In terms of long-term unemployment, the decrease from 10% to 3.5% ranks Lower Silesia below the European average, which is 3.6%.

The main reason why Lower Silesia – one of the leading export regions in Poland – continued to grow after 2008 lies in the advantageous export terms (depreciation of the Polish zloty and an increased demand for the copper extracted in the region). However, above all, what played an important role in limiting the crisis impact was the closed economy and weak linkages with the foreign economy.

The region is characterised by a dense network of roads that provide connections with the neighbouring regions, both Polish and European. Also, the rail network offering internal and external connections is well developed. However, in recent years the number of active lines has markedly decreased, which has had a huge impact on the inner and outer accessibility of the region and restricts its access to some labour markets, thereby exacerbating social cohesion even further (Zaleski *et al*., 2011).

Initial regional strategy

The general objectives of the strategy are very much in line with the contextual weaknesses: to ensure an improvement in the living standards of the Lower Silesia inhabitants; to improve the competitiveness of the region while respecting the principles of sustainable development; and to increase the territorial and infrastructural cohesion of the region and its integration with European growth areas.

Changes in cohesion policy and adaptation of regional strategy

Document analysis and interviews have confirmed that the adopted strategic objectives and the corresponding priorities and measures of the ROP are of a long-term nature and outline the directions to be followed irrespective of any current economic downturn. No-one expects the strategy to resolve the immediate problems, but rather to provide a complex approach to the issue of strengthening the development potential. It can be said therefore that the Dolnośląskie voivodship witnessed no significant changes relating to the strategic objectives and priorities of the ROP interventions. Therefore, the main changes were associated with issues involving the fund implementation process, due to the Government's decision to undertake measures intended to improve EU funds spending efficiency in view of the deteriorating economic outlook.

Effectiveness of cohesion policy

The availability of cohesion policy funds eased the negative effects of the economic downturn, because unemployment did not rise as significantly as would have been the case in the absence of EU funds. Beneficiaries who failed to reach previously planned new-job-creation indicators often pointed out that thanks to the granted donation they were able to maintain the level of employment in the company in such difficult times. Comprehensive support is offered to persons in the region threatened with redundancies or laid off by employers. Considering the significant percentage of large export-oriented companies in

Lower Silesia's economy, such activities are especially important in alleviating the consequences of problems of companies and group layoffs.[24]

Another instance of effectiveness of cohesion policy during the crisis is reflected in the Vocational Education Project. In Lower Silesia (Dolny Śląsk), as in the whole of Poland, there is a mismatch between the education provided to university graduates and school leavers and the needs of the labour market. This problem becomes especially significant in the period of an economic slowdown, characterised by job redundancies. Projects aimed to modernise the general and vocational education system are being implemented in the Dolnośląskie voivodship. Despite the separation of the programmes implemented with EFRD and ESF financial support and various institutions implementing the programmes, a high level of complementarity of the two types of projects, hard and soft ones, has been achieved.

5.4. Bulgaria

The Bulgarian economy's performance is strongly interconnected with the performance of its trading partners, and thus the crisis was channelled through the external (drop in exports and FDI) and real sectors (output contracted especially in construction, metallurgy, mechanical engineering, chemical and textile industries). In this respect, the transmission of the crisis has been in line with the expectations of the conceptual framework, given the initial low level of development of the country and the structure of exports. However, the effect of the crisis has been to an extent limited due to the immaturity of its financial sector.

The effect on the labour market has been notable, with unemployment sharply increasing in 2010 and 2011 after an initial lag due to the perception that the EU would recover quickly from the crisis (CoM, 2012: 6). The crisis had unequal effects on the labour market where significant differences between North and South Bulgaria exist, and within each of the planning regions, but it effectively resulted in high unemployment, low growth and lack of resources for investment (IME, 2013).

5.4.1. Yuzhen tsentralen (South Central region)

The region's development during the crisis

The case study on the South Central region (SC region) is one of two reports that explicitly reviews the interaction between multiple levels of governance and emphasises the impact of the crisis on territorial cohesion. In order to assess the effect of the crisis on the territorial dimension, the Study draws on the regional development planning for the SC region, the Greece-Bulgaria Cross-Border Cooperation programme, the intra-regional disparities and the role of municipalities. The conceptual framework introduced the transmission factors which contributed to the impact of the crisis on regional economies, with the main transmission channels including credit availability and interest rates, trade, domestic/local demand, and government finance. The SC region has been affected by the lack of investment resources at the central level, constrained credit availability and low domestic demand.

[24] In view of the fact than an increase in the number of group layoffs has been observed since 2009, the region decided to resign from offering grants for competition-based projects in this area. In return, a 'fast response' systemic project was implemented, which provided scope for a rapid launch of support and was more flexible than competition-based projects.

Overall, the crisis affected the SC region through the credit channel due to the more conservative credit policy – limited access to credit as well as increased interest rates, also applied to past credits (Interview CITU, 2014). The sectors and branches affected were metallurgy, construction and production of construction materials, mining of metal ores and the clothing industry. The strongest effect was on the labour market, with employment increasing across all districts due to the shrinking output of enterprises (MRDPW, 2011).

The SC region, similarly to other Bulgarian regions, was ill-equipped to face the crisis. The region compared to the rest of the EU is one of the worst performers with GDP per capita at PPS in 2007 at 28 per cent of the EU average. It also lagged behind most EU regions in terms of quality of infrastructure, innovation investment (EU=100, Bulgaria=9.77, SC region=2.50) and human capital (EU=100, Bulgaria=96.37, SC region=71.40). The region is also defined by a high concentration of unfavourable environmental factors, and it was identified as the most polluted with regard to soil, air and water presenting additional challenges to the population (MRDPW, 2011a: 59). The SC region is characterised by a very large share of agriculture in the gross value-added of the country, contributing 21.58% (in 2009) and lower value-added in services than both industry and agriculture, which make it less vulnerable to shocks in the financial sector (MRDPW, 2011a, 9). This limited integration of the region meant that the crisis exacerbated existing challenges but did not create new ones.

The intra-regional discrepancies[25] have been one of the challenges for cohesion policy in the country, and they also explain the mixed impact of the crisis on the SC region. Overall, it was ill-equipped to face the effects especially vis-à-vis the labour market and the ability of employment rates to bounce back to pre-crisis levels, widening social inequalities. Social exclusion is also exacerbated by the territorial profile of the periphery of the region and the cross-border area characterised by low mobility and accessibility, poor road and railway infrastructure, and limited broadband penetration.

The impact of the economic and financial crisis on the South Central region in particular was mixed. Relative to the average EU levels, the region is still among the poorest but given the severity of the crisis, economic development remained fairly stable in the first years of the crisis.[26]

[25] The strongest pressure was witnessed with regard to the intra-regional differences, especially between the Plovdiv district and the rest of the regions. Plovdiv was among the five best-performing districts in the country before 2008, and the effect of the crisis was not as pronounced as in other districts in the country (IME, 2013). The analysis of the resilience factors in the case of SC can be better illustrated at the district level, where Plovdiv has been most resilient due to the higher economic performance measured by the GDP per capita and investment in tangible fixed assets, higher levels of highly-skilled individuals, and relatively well-developed infrastructure (IME, 2013). For example, in 2008 Plovdiv contributed 6.93% of the national GDP while the districts Kardjali and Smolqn had shares of 1.21% and 1.28% respectively.

[26] Regional GDP in million euros (NUTS 2 and 3).

NUTS 2 and NUTS 3	GDP (millon euro) 2007	GDP (millon euro) 2008	GDP (millon euro) 2009
Bulgaria	30,694.15	35,340.45	34,844.02
South Central	4,458.17	4,985.86	4,891.61
Kardjali	349.50	429.68	402.19
Pazardjik	812.89	903.82	801.47
Plovdiv	2,077.94	2,449.48	2,613.39
Smolqn	345.83	453.95	399.64
Haskovo	613.48	748.94	674.99

Source: *Author, based on the Regional Development Plan 2014-2020.*

One consideration to mention is that the intra-regional disparities trigger unequal effects of the crisis on the region with an emphasis on the dynamic centre– periphery. The district of Plovdiv, which contributed 53.4% to the regional GDP in 2009, remained relatively stable. Despite the high unemployment rate it benefits from the existence of industrial parks, five universities providing high-skilled labour, a positive net migration rate, and better infrastructure than most other regions (IME, 2013).

Initial regional strategy

In this context, the strategy defined in the original Regional Development Plan and confirmed by the update of the Plan in 2011 to respond to these challenges puts the region in the type-1 strategy group, i.e. broad-based economic development (catch-up broadly based). The goal of the strategy is to accelerate convergence by improving transport and technical infrastructure (24% of the of the planned resources), increasing competitiveness of the local businesses (24%), and protecting the environment in line with improving efficiency (46%).

The Cross Border Cooperation (CBC) programme contributes funding along the themes of mainstream funding. Despite its relatively small budget (7.8% of the total for Bulgaria), interviews with stakeholders illustrated that its added value can be seen in supporting the most pressing infrastructural issues, which are not financed by other programmes but clearly improve the development and tourism potential of the region (Interview NA, MA, 2013).

Changes in cohesion policy and adaptation of regional strategy

The 2007-2013 programming period was the first for Bulgaria after the accession of the country to the EU. In 2007, the country was ill-prepared in terms of its administrative capacity and experience, and consequently the uptake of Structural and Cohesion Funds (SCFs) has been slow. At the time the crisis hit Bulgaria in 2008, the central government, the regions and the municipalities were similarly unprepared to react swiftly to the changes in the socio-economic context. The first programming period was largely focused on 'learning-by-doing' and improving the management and implementation of cohesion policy. The ability of the authorities to react to the crisis using cohesion policy is varied across levels of government, but overall the strategy and priorities of all sectoral and territorial programmes remain unchanged. The use of EU funds as a tool for delivering investment has been recognised at the municipal level due to the restricted capacity of municipalities to generate their own revenue.

As a result of the crisis, the regional strategy has remained as the broad-based economic development of the region building on internal resources to strengthen the resilience of the region. Even though there have been no changes in the core objectives, modifications were made in order to facilitate access to resources and improve absorption of funding (EEN, 2012). These modifications relate to the central level and are in line with the EERP – i.e. increased size of the funds advanced to public beneficiaries for the implementation of projects of up to 35% of the value of the grant provided from European and national co-financing; accelerating the absorption of funds with an accent on energy saving and energy-efficient technologies; access to financing for projects that have received approval but no finance due to lack of resources; as well as reduced administrative burden and, wherever possible, simplification of existing procedures.

Effectiveness of cohesion policy

Even though there is agreement that the CBC programme has supported municipalities, compensating for their lack of revenue and ability to generate own resources, the implementation and management of the national and regional programmes have been hampered by multiple constraints during this first programming period. The constraints were not triggered by the crisis and resulted predominantly from the limited experience in the management of Structural and Cohesion Funds in Bulgaria. On the territorial cooperation level, some of the practices that decreased effectiveness during the crisis relate to the essence of cross-border relations and the difficulties created from multi-country involvement. The major issue with the implementation of the programme under the circumstances has been high administrative burden and little capacity to cope with complicated procedures for the management and control of the CBC programme (Interview 2, 2013). These issues can be observed in: (i) the insufficient staffing levels and high workload of employees, especially in the smaller and poorer local authorities in the SC region; (ii) the limited experience of the beneficiaries in the management, control and reporting of investment projects related to being the first planning region (unless they have benefited from the PHARE programme); and (iii) limited resources for training, poor material and technical support.

5.4.2. Severozapaden (North Western region)

The region's development during the crisis

The North West (NW) region has a very low level of resilience with regard to GDP per capita (lowest in the EU), investment in innovation and R&D, and human capital as indicated by the percentage of adults with tertiary education.

Firstly, the NW region has long been the poorest region in the European Union with GDP per capita significantly below the EU average (GDP per capita in 2007 was 27% of the EU average at current market prices) (MRDPW, 2013; NSI). The regional gross value-added (GVA) has been the lowest among other Bulgarian regions since 2005. In 2007, the shares of agriculture, manufacturing and distribution, tourism, transport and communication services were 16%, 26% and 17% respectively. Firstly, with regard to the sectoral sensitivities, the share of the energy and manufacturing sector generated higher GVA than any other sector, exposing the region to the lack of capital in the manufacturing sector triggered by the crisis. As expected by the framework, the manufacturing share declined in favour of agriculture as a result of the crisis (comparing 2003-2007 and 2008-2012).The share of agriculture in GVA has been almost two times the levels for the country and significantly higher than that in Europe (EU=2%, Bulgaria=9%, NW region=16%). At the same time, the productivity of the sector is low, with the share of agriculture in GVA being significantly lower than its share in employment (MRDPW, 2011b). The same holds true for the services sector, which contributes a very small percentage of employment opportunities.

In addition to the high share of agriculture, the indicators display low intensity of economic activity and lack of private and public investment in innovation and research and development (EU=100, Bulgaria=9.77, NW region=1.92). The limited expenditure on R&D reflects the poor quality of infrastructure in the region, unfavourable conditions for the development of human capital, and the weak link between the education sector and the labour market (MRDPW, 2010).

The region is also the worst performer vis-à-vis tertiary education attainment. The reason for the low performance in human capital and skills is twofold. First of all, the NW region is experiencing strong demographic decline triggered by an ageing population and outward migration to the capital and abroad. On the other hand, the region has only one institution which provides university-level education, which is insufficient to provide the necessary high-skilled employees needed in a competitive economy, so creating a further skills mismatch (MRDPW, 2010).

The slow restructuring, the peripherality of the region and low accessibility have resulted in the lowest amount of Foreign Direct Investment (FDI) among all Bulgarian regions, recording only 2.4% of FDI (EC RIM, 2013; MA CBC Territorial analysis, 2013: 22).

With regard to social inequalities, the levels of unemployment are persistently high and above the EU average. The unfavourable demographic profile and the low economic activity have kept poverty levels in the region persistently high with more than half of the population identified as being at risk of poverty and social exclusion (NSI, 2012).

These factors leave the North West region very exposed to external shocks, with the lowest GDP among Bulgarian and EU regions and notably 'overall decline in GDP during the crisis which has been worse than the average for the European Union' (EEN, 2012: 5).

Initial regional strategy

In this context, the original Regional Development Plan and the updated version of 2011 support three broad strategic goals encompassing, among others, the development of technical and transport infrastructure, competitiveness, entrepreneurship, and regional and local development. Similarly, the RO-BG Cross-Border Cooperation (CBC) programme supports activities along the same dimensions as the Regional Development Plan and the mainstream funding: accessibility (37% of funds), economic and social development (22% of funds), and environment and wellbeing (35% of funds). This puts the region in the type-1 strategy group, i.e. broad-based economic development (catch-up broadly based) financed by the ERDF.

Concerning the role of the ESF in the NW region and the CBC area, the focus is on increasing the adaptability of workers and firms, enterprises and entrepreneurs, i.e. supporting those in employment.

Changes in cohesion policy and adaptation of regional strategy

In line with the national context and the findings for the SC region, even in the NW region there has been no change in the core objective, but modifications have been made in order to facilitate access to resources and improve the absorption of funding (EEN, 2012). Also, the CBC framework with its limited resources and the timing constraints was not capable of replying to the challenges of the crisis due to the limited resources and the timing of allocation of resources (Interview Geratliev, 2013; Interview MA, JTS, 2013). Indeed, concerning the territorial cooperation area, the immediate risks previewed by the Managing and National Authorities in 2009 focused on the difficulties faced by the beneficiaries especially with regard to financing and co-financing the on-going activities. Even though the potential effects of the crisis were anticipated, the role that cohesion policy could play to counteract them was limited due to the characteristics of territorial programming. Some of the reasons for the limited changes are summarised in the table below.

Table 5.2: Territorial cooperation and flexibility

Reason	Example
Early project selection and **early commitment** of the resources of the programme	The role of cohesion policy at the start of the crisis was limited, since a large percentage of the project proposals were submitted before the crisis was felt (Interviews MA, JTS, 2013). The CBC programme was under implementation and the main challenge was to keep the resource flow to the beneficiaries at project level to continue the implementation (Interviews MA, JTS, 2013).
Financial allocation to CBC area not sufficient to respond to cyclical challenges (Interview MA, JTS, 2013; Interview CITU Vratsa)	The resources allocated to the CBC programme for the 2007-2013 period were EUR255 million (213.4 million from ERDF, and 41.7 million from public and private national co-financing). This represents roughly 6% of the total financial allocation to Bulgaria and covers 16 districts and counties across Bulgaria and Romania. Given the low performance of the region, the CBC Programme's limited budget has not been able to influence the socio-economic performance of the area substantially, and the interviews confirmed that the initial strategy behind the Programme has been too ambitious and too dispersed.

Source: Interviews with stakeholder, 2014; Interviews NA, MA, 2013.

Lastly, the local and regional authorities do not have the necessary tools and are constrained in their ability to respond to the crisis (Interview CCI Vratsa, 2014). Indeed, within the regional policy architecture, the Council for Regional Development has monitoring responsibilities but the mechanisms through which it reports the results back to policy-makers is underdeveloped and thus observations cannot trigger direct change. The Council for Regional Development discusses the RDP but does not have power over the allocation of the funds. On the level of municipalities, which have governance autonomy, action is constrained due to high dependence on state funding. Municipal budgets also have own resources and benefit from EU funds but the primary source remains the state. In this way, local and regional authorities have limited space for manoeuvre when they identify existing gaps.

Effectiveness of cohesion policy

Given the deterioration of indicators for the development of the North West region and the limited resources available to the CBC, coupled with little flexibility to target cyclical challenges, the effectiveness of cohesion policy in counteracting the crisis has been minimal if not nil.

In addition, some of the underlying structural challenges to the effectiveness of cohesion policy in the NW region and the eligible area under the CBC Programme include:

- competitive elements among the municipalities: those authorities with stronger capacity are privileged in receiving funds (Interview 2, 2013);
- from the previous point, it follows that the areas worst hit from the crisis have less capacity to apply and therefore the allocation of funds is not effective; and
- the effectiveness of cohesion policy is hampered by a lack of clear link with the Regional Development Plan and the interventions most needed for the region.

Similarly to the SC region CBC programme, some of the practices which decreased the effectiveness during the crisis relate to the essence of cross-border relations and the difficulties that stem from multi-country involvement. The existing national limitations have been exposed at the cross-border level with limited harmonisation in the rules and procedures across programmes and countries, lengthy formal processes, lack of joint capacity, and lack of coordination. These issues are not a direct effect of the crisis but are further underscored with the decrease of adequate financial and human resources for cohesion policy management.

Some of the external constraints which also limited the effectiveness of cohesion policy came from the European Commission and the cumbersome processes related to the management of the CBC programme. Stakeholders explained that procedures were not flexible and could not be simplified sufficiently to assist the beneficiaries (Interview MA, JTS, 2013). Financial reimbursements by the EC have been slowed down on a number of occasions, and the national authorities had to step in and provide the advances and payments (Interview MA, JTS, 2013).

The multiple external and internal constraints outlined point to the limitations facing the authorities to use the existing tools in responding to the crisis. The issues discussed also underline the limited flexibility available to the regional authorities.

6. CONCLUSION

6.1. Impact of the economic crisis on regions

In most MSs, the crisis is a private debt crisis that turned into a sovereign debt crisis. These two different, yet intertwined, phases of the crisis have been following successive paths, with the outbreak of the private debt crisis in 2008 and the consequent uprising of the sovereign debt crisis in 2010.

The 2008 private debt crisis can be subdivided in a manufacturing crisis, a construction crisis, and a financial crisis, which each targeted a particular type of region. Due to the manufacturing crisis, the more vulnerable regions were the Nordic countries, the UK, and some industrial regions of the Eastern European new MSs, together with traditionally industrialised regions in other MSs, such as Ireland, Northern Italy, Central Austria or Southern Germany. However, those regions where the industrial mix is stronger had a greater capacity to recover, while those where the industrial mix was more in need of structural reforms will continue to struggle.

The construction sector crisis is, by contrast, not elastic to global demand but to the local financial and real estate markets as well as to public and private investments. In this case, economic-boom regions of the last decade and tourism regions are the most vulnerable (mainly the Baltic States, Ireland, the UK, Spain and many coastal regions in the Mediterranean). The construction sector is much less likely to recover quickly. The financial sector upheavals were concentrated in large financial capitals (London, Paris, Luxembourg, Switzerland, Cyprus, and Frankfurt) and in regions with overheated real estate markets such as Spain.

The repercussions of the economic crisis on social cohesion have been dependent upon the presence of automatic stabilisers, both pre-existing and crisis-led. According to OECD estimates (2013), excluding the mitigating effects of the welfare state via taxes and transfers on income, inequality would have increased by more over the past three years to the end of 2010 than in the previous twelve.

Dolls (2012) has found that automatic stabilisers absorb 38% of a proportional income shock in the EU, compared to 32% in the US, while in the case of an unemployment shock, this percentage goes up to 34% for the US and up to 47% for Europe. This cushioning of disposable income leads to a demand stabilisation of up to 30% in the EU and up to 20% in the US. However, the stabilisation function played by automatic stabilisers has been weakened by the effects of austerity measures on welfare systems which were taken as a result of the outbreak of the sovereign debt crisis in 2010. Cuts in public expenditure have been enacted in the fields of unemployment benefits, healthcare, old-age pensions and education, due to a widespread loss of resources from both national and local authorities, leading to a sharp loss of investment, loss of tax revenues, lack of credits and high costs of borrowing, increased expenditure and reduced resources on development.

It has to be said that both the presence and effectiveness of automatic stabilisers as well as the entity and structure of the austerity measures across the EU are far from being homogenous. Indeed, they vary from country to country, leading to different patterns of redistribution among socio-economic groups.

In this context, it is clear that the transmission channels of the crisis can be grouped into three categories: (i) credit availability and interest rates; (ii) trade; and (iii) domestic/ local demand.

Based on the above, the Study aimed to test the hypothesis that regions where there were strong resilience factors were less affected by the crisis and had stronger means to recover. Administrative capacities, as well as the sectoral composition of income, expenditure in innovation, human capital skills and employment are all relevant factors that can make a region well equipped to 'anticipate, prepare for, respond to, and recover from a disturbance'.

The findings from our case studies confirm our hypothesis.

Italy provides an example for both the dynamics hypothesised in the conceptual framework of the Study. The crisis was driven respectively by private debt and sovereign debt. However, the impact has been different between Northern regions (i.e. competitiveness and phasing-in regions) and Southern regions (i.e. convergence and phasing-out regions). Indeed, on one hand, the crisis had a (temporary) equalising effect at the very beginning, when richer regions – characterised by more integration with the global economy and specialised in investment goods – were affected more severely than poorer regions. On the other hand, more recent developments of the crisis brought about changes in the opposite direction, richer regions – where resilience factors are stronger – partially managed to reverse the trend, whereas the social and economic outlook kept worsening in Southern regions, where features in term of resilience and performance factors are very low. The Southern regions' condition was also worsened by the austerity measures, which clearly reduced public spending.

In **Germany**, a traditionally export-oriented economy, the crisis was transmitted through the trade channel. It experienced the first wave of the global financial crisis primarily as a steep decline in exports in 2009, resulting in a decline in GDP. However, Germany was able to mount a strong recovery, which was to a large extent fuelled by trade with non-EU markets, e.g. China. The recovery was also accelerated by strong resilience factors in Germany where innovation and human capital skills score above the EU average. This picture is mirrored in Bavaria and North Rhine-Westphalia.

Poland was affected by the crisis less and through different channels compared to developed economies such as Italy or Germany. Indeed, the financial institutions in Poland did not suffer from direct effects of the collapse of the mortgage market in the United States. Also, the Polish economy is less dependent on export markets, having the largest internal market among all of the Central and Eastern European countries. The effect on exports were also mitigated by the rapid weakening of the Polish zloty exchange rate in late 2008 and 2009, which helped to ease the decline in demand for Polish export goods. Finally, the government decided to reduce pension contributions and taxes, so that economic growth was largely driven by high domestic consumption. The resilience factors in the examined regions show a low/moderate score and resisted the crisis because of the limited exposure to transmission channels. Podlaskie was not affected by the crisis because of its specific economic structure, characterised by a relatively high level of agriculture and a lower level of manufacturing and market services. Moreover, the regional economy is rather closed to the international markets in terms of export and foreign capital investments; and the main reason why Lower Silesia – one of the leading export regions in

Poland – continued to grow after 2008 lies in the advantageous export terms (depreciation of the Polish zloty and an increased demand for the copper extracted in the region).

The **Bulgarian** economy's performance is strongly interconnected with the performance of its trading partners, and thus the crisis was channelled through the external sector (drop in exports and FDI) and real sectors (output contracted especially in construction, metallurgy, mechanical engineering, chemical and textile industries). In this respect, the transmission of the crisis was in line with the expectations of the conceptual framework, given the initial low level of development of the country and the structure of exports. However, the effect of the crisis was to an extent limited due to the immaturity of its financial sector.

6.2. Responses of cohesion policy to counteract the crisis

Assessing the effectiveness of cohesion policy during the crisis is a rather difficult exercise. Arguably, the crisis has not yet finished, and therefore the analysis must take into account the fact that it focuses on events that are unfolding at the time of writing and that the available data are limited. Having acknowledged this note of caution, the case-studies analysis allows us to make some considerations about changes in effectiveness, rather than providing definitive answers.

The crisis has led to two main consequences that mainly affected the management of EU cohesion policy, which changed in order to favour spending and absorption of funds. This was mainly due to two reasons: firstly, a changed ground for policy implementation due to the heterogeneous economic and social repercussions of the crisis on the EU territory, and to its distributional consequences within each national and sub-national setting; and secondly, a changed potential of policy-financing due to the effect of the crisis on private and public actors' resources, which led to a lack of both private and public investment and therefore to co-financing difficulties. The effects on public investment were experienced particularly due to the cumulated effects of a widespread loss of tax revenues, an increase in the local authorities' level of expenditure, a general lack of credits, and a high cost of borrowing.

In this respect, **the cohesion policy funds in the slowdown period turned out to be effective, as they helped maintain the level of investments in the private and public sectors and to implement some non-investment projects**. The activities supported by these funds generated demand effects which were particularly significant during the economic slowdown. In Italy, the sharp decrease of ordinary government expenditure leads cohesion policy to become a replacement for ordinary expenditure rather than an addition. This emerges as the central problem undermining the capacity of cohesion policy to be an effective developmental tool acting upon the structural weaknesses of both regions.

In convergence regions (such the two Italian regions as well as the two Polish regions), interviewees agreed that cohesion policy had a role in **preventing an escalation of the social and economic consequences of the crisis.**

The main constraints posed by the crisis – and which determined a consequent adaptation of regional strategy – seem to be twofold:

(i) **A shift away from the long-term development objectives of the region,** as exemplified in Campania and Basilicata. Although this shift seems to have been effective in tackling some of the most immediate needs posed by the crisis, the overall strategy adopted during the crisis, with the exception of the continued investments in infrastructure, does not seem to strengthen future regional resilience precisely because by focusing on short-term needs, it failed to act upon structural problems. However, this may be partly seen as a necessity stemming from the sharp decrease in ordinary public expenditure during the crisis that made cohesion policy less of an additional resource and more a replacement for ordinary expenditure.

(ii) **Simplified measures and reduction of co-financing requests**, due to the worsening financial situation of the beneficiaries, primarily enterprises and local government entities. Their deteriorating financial standing was manifested by a reduced number of grant agreements and lack of interest in calls for proposals due to the lack of the required own contribution. This called for simplified measures and a reduction of co-financing requests.

Also, **absorption capacity** seemed to play a crucial role in convergence regions. Those regions with higher absorption capacity (such as Basilicata) have experienced fewer changes and constraints in implementation, compared to regions with lower absorption capacity (such as Campania and Podlaskie). The impact of the economic crisis on the implementation of cohesion policy in less absorbent regions manifested mostly by introducing **measures intended to improve the speed of spending of the EU funds**. No significant modifications were introduced to either the Development Strategy or the OPs.

Another common trait in underdeveloped regions is that regions with wider contextual problems tend to have a **more complex strategy with strategic goals which are wide-ranging.** This can be imputed to the region’s considerable developmental backwardness and the need to design a 'broad-based economic development' strategy. Such a strategy tends to remain unchanged during the crisis, mainly because it already touches upon several alarming issues (this was the case in Campania, Podlaskie, SC and NW regions).

Conversely, **cohesion policy in competitiveness regions (such as Bavaria) was less relevant in reacting to the crisis**. Indeed, these regions seem to be equipped with strong resilience factors that have made the impact of the crisis milder. Also, in these regions cohesion policy does not address large, long-term problems, but rather focuses on specific problems, which have not suffered from any change in strategies. This is a similarity that can also be found in more-developed convergence regions (such as Dolnośląskie).

The analysis of both convergence and competitiveness regions, in the overall quantitative analysis as well as in the more qualitative case studies, shows that richer regions (such as Bavaria and North Rhine-Westphalia) were hit by the crisis first, but recovered quicker than poorer regions where the impact of the crisis was delayed but is still visible and the recovery is far from happening (as exemplified by Basilicata and Campania).

However, **Polish regions are an exception to this**. Indeed, even though they are classified as poorer and their resilience factors show a very low/moderate performance, they were able to mitigate the effects of the crisis thanks to specific elements such as: depreciation of the Polish zloty, an increased demand for the copper extracted in the region

(Dolnośląskie), and high level of agriculture and lower level of manufacturing and market services (Podlaskie) within a large market where demand did not fall. Above all, the factors that played an important role in limiting the crisis impact were the closed economy and weak linkages with foreign economies.

The Bulgarian cases of the SC and NW regions suggest that that **programmes that cover border areas and neighbourly cooperation** are likely to react less to the crisis than sectoral ones. This is mainly for three reasons: (i) fewer resources are available to CBC programmes in comparison with the total resources allocated to the Structural Funds in Bulgaria; (ii) the centralised system and competitive principle for the distribution of resources are not tailored to respond to local challenges; and (iii) CBC priorities focus on enhancing the relations between the local populations living in the border regions and they have to be assessed against this background.

In general though, it emerges that where no changes were made to strategies, there were definitely **modifications in management and implementation procedures in line with the EERP** in order to speed absorption and spending of funding. This is true for both the national and the regional levels.

7. RECOMMENDATIONS

Based on the main findings of the Study, some recommendations emerge for future investigation.

Firstly, the results of the analysis carried out in the quantitative analysis confirm that the design of future cohesion programmes should pay particular attention to the **geographically-differentiated** intensity through which the crisis has impacted on regional performance. In other words, future efforts should reflect such regional differences in order to target problems where they are more concentrated and maximise effectiveness.

Secondly, even though the SFs maintained a focus on investment, which is particularly important in times of crisis when other forms of investment had contrarily shrunk, the crisis led to some heterogeneous consequences in the EU and therefore to a changing context which required a differentiated approach from region to region. What has emerged from the Study is the need to strike a balance between a **flexible approach**, capable of reflecting the changing context, and the **need for accountability** and avoidance of disruptive and sometimes confusing alterations. Indeed, sudden changes in the rules mid-way through the programme could easily lead to inequitable treatment between applicants or in the audit procedure.

Thirdly, there seems to be a need for **greater emphasis on the analysis of soft outcomes** (interim steps on the path to employment, such as acquiring skills and confidence-building) to accompany the over-emphasised hard outcomes (the facts and figures on those who enter the workplace following SF intervention). In this sense, soft outcomes have a crucial significance in the overall assessment of the policy even if they do not lead to effective hard outcomes. By being the necessary intermediate route towards hard outcomes, soft outcomes may not lead to tangible outcomes during the lifetime of a programme, yet they can be necessary and valid.

Finally, the **alignment of the three instruments** of EU regional policy is particularly important, as whilst the ESF provides the skills for employment, the ERDF and the Cohesion Fund ensure that the corresponding job opportunities exist. Further analysis should be broadened to address the level of complementarity of the SFs with EU instruments more widely in order to capture synergies and complementarities, as well as obstacles to such alignment.

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8. ANNEXES

Annex 8.1. Literature review

Table 8.1: Selected literature

Num	Type of document	Author(s)	Year	Title	Source	Brief description of content (3-5 liens)	Method
1	Article in peer-reviewed journal	Affuso, Antonio Capello, Roberta and Fratesi, Ugo	2010	Globalization and Competitive Strategies in European Vulnerable Regions	*Regional Studies,* pp. 1–19, First article	Measures the degree of success of industrial competitive strategies for vulnerable regions, specialised in sectors that are particularly open to global trade.	Case studies
2	Article in peer-reviewed journal	Avram, Silvia Figari, Francesco *et al.*	2013	The Distributional Effects of Fiscal Consolidation in Nine Countries	*EUROMOD Working Paper No. EM 2/13*	This paper compares the distributional effects of policy changes introduced as part of the fiscal consolidation measures in Estonia, Greece, Spain, Italy, Latvia, Lithuania, Portugal, Romania and the UK.	Case studies
3	Article in peer-reviewed journal	Bachtler, John and McMaster, Irene	2008	EU Cohesion policy and the role of the regions: investigating the influence of Structural Funds in the new MSs	*Environment and Planning C: Government and Policy*, Volume 26, pp. 398-427	Detailed assessment of the technical, variable, and complex reality of working with Structural Funds at different stages of SF implementation. Cases: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, and Slovenia.	Case studies, interviews with national and regional-level organisations and actors in EU8
4	Article in peer-reviewed journal	Basso, Gaetano Dolls, Mathias *et al.*	2012	The Effects of the Recent Economic Crisis on Social Protection and	*Intereconomics,* Volume 47, Issue 4, pp. 200-229	The paper finds that some social groups were particularly affected by the crisis. It concluded	Data analysis and policy-oriented

				Labour Market Arrangements Across Socio-Economic Groups		that automatic stabilisers should be preferred over discretionary measures and general minimum-income schemes for all working-age people should be preferable.	
5	Article in peer-reviewed journal	Beauvais, Carline and Jenson, Jane	2002	Social Cohesion : Updating the State of the Research	*CPRN Discussion Paper, No. F/22*(May)	Analysis of social cohesion: the definitional range of the concept, its nature of dependent or independent variables, its operationalisation and the measurement of its effects, understanding its hypothetical decline and its political uses.	Theoretical analysis, methodological approach
6	*Article in peer-reviewed journal	Begg, Iain	2010	Cohesion or Confusion: A Policy Searching for Objectives	*Journal of European Integration*	Analysis of the historical evolution of EU cohesion policy objectives.	Analytic-narrative, policy-oriented
7	Article in peer-reviewed journal	Begg, Iain	2009	Regulation and Supervision of Financial Intermediaries in the EU: The Aftermath of the Financial Crisis	*JCMS*, Volume 47. Number 5, pp. 1107–1128	Discusses how the growth of cross-border financial intermediation can best be regulated to limit the ensuing risks of financial contagion.	Document analysis
8	Report	Begg, Iain	2003	The Impact of MSs' Policies on Cohesion		This paper analyses the main categories of MSs' policies that bear on cohesion.	Document analysis
9	Article in peer-reviewed journal	Blazek, Jiri and Netrdova, Pavlina	2012	European Urban and Regional unemployment impacts of the	*European Urban and Regional Studies*, Volume 19, Issue 1, pp. 42-61	Analysis of the regional impact of the crisis on CEE states. No common impact on regional	Quantitative analysis

				global financial crisis in the new MSs of the EU in Central and Eastern Europe Studies		patterns can be identified; the only common characteristic is the low impact of the crisis on capital cities (with the exception of the Baltic states).	
10	Working Paper	Bontout, Olivier and Terezie, Lokajickova	2013	Social protection budgets in the crisis in the EU	European Commission Working Paper 1/2013, pp. 1-42	The paper reviews social protection expenditure developments in the crisis, focusing on expenditure trends in volumes following the peak of the crisis, on changes in the distribution of incomes and, notably, on the distributional impact of austerity packages.	Data analysis
11	*Article in peer-reviewed journal	Bradley, John	2006	Evaluating the impact of European Union Cohesion policy in less-developed countries and regions	*Regional Studies.* Volume 40, Issue 2, pp. 189-200	Macro-models are potentially capable of analysing the impact of Structural Funds from other shocks affecting the economy at the same time. However, such results are only imprecise and need to reconcile micro-analysis with macro-analysis.	Theoretical analysis, methodological approach
12	Report	Bradley, John and Untiedt, Gerhard	2012	Future Perspectives of EU Cohesion Policy	*GEFRA Working Paper:* May 2012 – Nr. 7	Looks at the different issues that influence approaches to EU cohesion policy and critiques the way the policy cycle is implemented in practice	Policy-oriented

13	Article in peer-reviewed journal	Bristow, Gallian	2009	Resilient regions: re-'place'ing regional competitiveness	*Cambridge Journal of Regions, Economy and Society,* Volume 3, No.1, pp. 153-167	The paper analyses the concept of resilience using Cultural Political Economy. It argues that placeless competitiveness strategies lead to problems of resilience that can be at least partly overcome with respect to more contextualised approaches.	Theoretical approach
14	Speaking Notes	Burgoon, Brian	2010	A Social and Political View on the ESF's Future: Never Let a Crisis Go to Waste		This document analyses ESF future perspectives.	Policy-oriented
15	*Article in peer-reviewed journal	Cappelen, Aadne Castellacci, Fulvio *et al.*	2003	The Impact of EU Regional Support on Growth and Convergence in the EU	*JCMS: Journal of Common Market Studies*	The paper argues for an effective impact of EU regional support on EU regions' growth performance, which is evident especially since the 1988 reform and in more-developed environments.	Econometric analysis
16	*Article in peer-reviewed journal	Casey, Bernard H	2012	The implications of the economic crisis for pensions and pension policy in Europe	*Global Social Policy,* Volume 12, No.3, pp. 246-265	The paper analyses how the crisis has forced politicians to address the consequences of societal ageing while exposing the fallibility of funded schemes as a source of pension security.	Qualitative and quantitative analysis
17	Report	Committee on Social Affairs,	2012	The impact of the economic crisis	*Parliamentary Assembly, Council of*	Outlines the effect of the crisis on local and	Policy-oriented

		Health and Sustainable Development		on local and regional authorities in Europe	*Europe,* Doc. 12944, 01 June 2012	regional authorities and gives recommendations on further actions.	
18	Article in peer-reviewed journal	Condeço-Melhorado, Ana Gutiérrez, Javier García-Palomares, Juan Carlos	2011	Spatial impacts of road pricing: Accessibility, regional spillovers and territorial cohesion	*Transportation Research Part A: Policy and Practice,* Volume 45, Issue 3, March 2011, pp. 185–203	Analyses accessibility disparities as a result of road-pricing policy implementation in order to measure equity effects.	Theoretical analysis, methodological approach
19	Report	Council of European Municipalities and Regions		The economic and financial crisis. Impact on local and regional authorities.		Overview of the consequences of the crisis on local municipalities and regions. Common trends are: a loss of investment, a loss on tax revenues, a lack of credits and high cost of borrowing, lack of liquidity, increased expenditure, cuts in local authorities' staff and reduced development.	Survey
20	*Conference Paper	Cuadrado-Roura, J. R. *et al.*	2004	Economic and Social Cohesion in the EU: a critical approach	*ERSA conference paper,* ersa04p657, European Regional Science Association	The paper presents a new index to evaluate cohesion in the EU and applies it to the 1987-1999 period.	Methodological approach, model simulation, case study
21	Report	Dabrowski, Marek	2009	The global financial crisis: lessons learned for European Integration	*Case Network Studies and Analyses,* No.384/2009	Analysis of the various challenges facing European integration and the EU institutional architecture as a result of the global financial crisis.	Analytic-narrative, policy-oriented
22	Report	Davies, Sara	2010	Regional	*European Policies*	Examines the	Theoretical

		Kah, Stefan and Woods, Charlie		Dimensions of the Financial and Economic Crisis	*Research Centre,* European Policy Paper, Number 70	macroeconomic responses of European countries to the crisis, including support for the financial sector, monetary policy and fiscal policy and impact on regional economic development.	analysis, methodological approach
23	Article in peer-reviewed journal	De Beer, Paul	2012	The impact of the crisis on earnings and income distribution in the EU	*European Trade Union Institute, Working Paper 2012.01*	The paper analyses the heterogeneous effects of the 2008 economic crisis on employment levels, earnings and inequality. Firstly, the paper discusses theoretical views, then it examines previous empirical studies, and it finally conducts a comparison of Denmark, Spain, Germany, Slovakia and the United Kingdom and their performance in the current crisis.	Model simulation and case studies
24	Article in peer-reviewed journal	Dolls, Mathias Fuest, Clemens and Peichl, Andreas	2012	Automatic stabilizers and economic crisis: US vs. Europe	*Journal of Public Economics,* Volume 96, No.3-4, pp. 279-294	This paper analyses the effectiveness of the tax and transfer systems in the EU and the US to provide income insurance through automatic stabilisation in the economic crisis. It also investigates whether countries with weak automatic stabilisers have enacted larger fiscal stimulus programmes.	Data analysis

25	Article in peer-reviewed journal	Ederveen, Sjef de Groot, Henri L.F. and Nahuis, Richard	2006	Fertile Soil for Structural Funds? A Panel Data Analysis of the Conditional Effectiveness of European Cohesion Policy	*KYKLOS,* Vol. 59, No. 1, pp. 17–42	Evaluates how effective the SF funds are in promoting economic growth and reducing welfare differences in the EU.	Model simulation, case studies and econometric evaluation
26	Report	European Parliament	2010	The Role of the Social Protection as Economic Stabiliser: Lessons from the Current Crisis	IP/A/EMPL/ST/2009-07	This paper analyses the contribution of social protection to reducing the depth and duration of the crisis and addresses the action that still needs to be taken.	Data analysis and policy-oriented
27	*Report	European Policies Research Centre, University of Strathclyde	2010	Regional Policy and Recovery from the Economic Crisis Annual Review of Regional Policy in Europe	*EoRPA Paper 10/1*	The report analyses the changes in national and European regional policies since 2009 by examining the evolution of regional economic disparities, the latest academic and policy debates, and the changes incurred in regional policy objectives, spatial orientation, instruments, implementation mechanisms and expenditure channels.	Analytical-narrative
28	Report	EPRC and EUROREG	2010	The objective of Economic and Social Cohesion in the Economic Policies of MSs		The study discusses the concepts of economic, social and territorial cohesion, provides an overview of MSs' policies that can have an impact upon these variables,	Official documents, academic literature and case studies analysis

						how they relate with EU cohesion policy and how they changed in the course of the crisis.	
29	Working Paper	European Commission	2012	The Role of International Transfers in Public Investment in CESEE: The European Commission's experience with Structural Funds	*Directorate-General for Regional Policy Working Papers, No.* 2, 2012	Highlights how difficult it is to measure the impact of a policy such as cohesion policy by reviewing the most important results on the macroeconomic impact of the policy.	Econometric evaluation
30	Communication and Staff Working Document	European Commission	2011	Regional Policy Contributing to Sustainable Growth in Europe 2020	Brussels, 26.1.2011 COM(2011) 17 final; SEC(2011) 92 final	Recommends practical ways for regions to use the policy to develop a resource-efficient, low-carbon, climate-resilient competitive economy.	Document analysis, case studies of good practices
31	Report	European Commission	2011	Seventh progress report on economic, social and territorial cohesion	Brussels, 24.11.2011 COM(2011) 776 final SEC(2011) 1372 final	Assesses how, in the context of cohesion policy, regions and cities can contribute to smart, sustainable and inclusive growth and Europe 2020 headline targets.	Document and data analysis
32	Communication and Staff Working Document	European Commission	2010	Cohesion policy: Strategic Report 2010 on the implementation of the programmes 2007-2013	Brussels, 31.3.2010 COM(2010)110 final; SEC(2010)360	Recommendations on how effective implementation could be strengthened to maximise the contribution of the 2007-2013 programmes.	Document analysis, case studies of good practices

33	Communication	European Commission	2010	Driving European recovery: Volume I	Brussels, 4.3.2009 COM(2009) 114 final	Outlines financial sector reform, as well as measures being taken to sustain demand, boost investment and retain or create jobs.	Document analysis
34	Commission Staff Working Paper	European Commission	2010	A review of the implementation of cohesion policy measures adopted in support of the European Economic Recovery Plan	Brussels, 25.10.2010 SEC(2010) 1291 final	Reports on the implementation and results of the aspects of the Recovery Plan that concern cohesion policy in the European Union.	Document analysis
35	Report	European Commission	2010	Investing in Europe's future: Fifth report on economic, social and territorial cohesion	*Luxembourg: Publications Office of the European Union, 2010*	Outlines support to the Europe 2020 strategy and highlights the contribution that regions, and cohesion policy, can make to meet these objectives.	Document analysis, data analysis, case studies
36	Communication	European Commission	2009	A Shared Commitment for Employment	Brussels, 3.6.2009 COM/2009/0257 final	EU Shared Commitment for Employment to strengthen cooperation between the EU and MSs as well as between EU social partners with the help of Community instruments.	Document and data analysis
37	*Report	European Commission	2009	Economic Crisis in Europe: Causes, Consequences and Responses	*European Economy 7/2009*	The report focuses on the origins of the current financial and economic crisis, its consequences for national and regional economies and global imbalances, as well as	Analytical-narrative and policy-oriented

						policy-makers' responses and the policy challenges ahead.	
38	Background document	European Commission	2009	Territorial cohesion: unleashing the territorial potential	*Background document to the Conference on Cohesion Policy and Territorial Development: Make Use of the Territorial Potential!,* Kiruna, Sweden 10-11 December 2009	Input to the workshop on Territorial potentials for European regions and tools for further Development: definitions and implications of territorial cohesion.	Policy-oriented
39	Communication	European Commission	2008	Cohesion Policy: investing in the real economy	Brussels, 16.12.2008 COM(2008) 876 final	Elaborates a range of measures proposed to accelerate the contribution of cohesion policy investment to the real economy.	Document analysis
40	Communication	European Commission	2008	From financial crisis to recovery: A European framework for action	Brussels, 29.10.2008 COM(2008) 706 final	Three-part approach on how best to respond to the current crisis and its Aftermath.	Document and data analysis
41	Communication	European Commission	2008	A European Economic Recovery Plan	Brussels, 26.11.2008 COM(2008) 800 final	Proposes a counter-cyclical macroeconomic response to the crisis in the form of an ambitious set of actions to support the real economy.	Document and data analysis
42	Report	European Policies Research Centre	2010	Regional Policy and Recovery from the Economic Crisis Annual Review of Regional Policy in	*EoRPA Paper 2010/01*	This report analyses the changes in national and European regional policies since 2009 by examining the evolution of regional economic	Document and data analysis

				Europe		disparities, the latest academic and policy debates, and the changes incurred in regional policy objectives, spatial orientation, instruments, implementation mechanisms and expenditure channels.	
43	Report	European Policies Research Centre (EPRC) and EUROREG	2010	The Objective of Economic and Social Cohesion in the Economic Policies of MSs	*European Policies Research Centre, No.2009 CE 16 AT 018 / 2009 CE 16 CAT 014*	Analysis of MSs' economic policies which are most relevant for economic and social cohesion; develops a general typology of existing approaches to the attainment of social and economic cohesion.	Document analysis, data analysis, case studies
44	*Article in peer-reviewed journal	Fingleton, Bernard Garretsen, Harry and Martin, Ron	2012	Recessionary Shocks and Regional Employment: Evidence on the Resilience of UK Regions	*Journal of Regional Science,* Vol.52, No. 1, 2012, pp. 109-133	The paper analyses the resilience of UK regions to employment shocks, distinguishing between engineering and ecological resilience.	Methodological approach
45	Presentation	Gaffey, Veronica	2012	Evaluating the Impact of EU Cohesion Policy	*European Commission*	This paper describes the problems in evaluation because objectives are too general to judge if they have been achieved, difficult to establish whether there are efficiency gaps, no common indicators, too much attention on absorption rather than outcomes, weak national	Methodological approach

						and regional evaluations, and over-reliance on macroeconomic models.	
46	Working Paper	Gáková, Zuzana Grigonytė, Dalia and Monfort, Philippe	2009	A Cross-Country Impact Assessment of EU Cohesion Policy Applying the Cohesion System of HERMIN Models	*Directorate-General for Regional Policy Working Papers,* No. 1, 2009	Assesses the impact of cohesion policy on the economies of the main beneficiary MSs, carried out using the HERMIN model to simulate the effect of cohesion policy.	Econometric evaluation
47	Article in peer-reviewed journal	Galgóczi, Béla	2009	Central Eastern Europe five years after enlargement: in full grip of the crisis	*South East Europe Review for Labour and Social Affairs,* issue: 01/ 2009, pages: 2131	Observes effects of the crisis on the CEE MSs, providing an overview of the factors in their vulnerability as underlying reasons for the intensity of the downturn.	Analytic-narrative
48	*Article in peer-reviewed journal	Gardiner, Ben Martin, Ron Sunley, Peter and Tyler, Peter	2013	Spatially unbalanced growth in the British economy	*Journal of Economic Geography* (2013), pp. 1-40	The article examines the scale and nature of imbalance in the British economy in order to assess the need to rebalance the economy, both sectorally and spatially.	Methodological approach and policy proposal
49	Report	Groot, Stefan P.T. Möhlmann, Jan Garretsen, Harry and de Groot, Henri L.F.	2011	The Crisis Sensitivity of European Countries and Regions: Stylized Facts and Spatial Heterogeneity	*Tinbergen Institute Discussion Paper TI 2011-071/3*	Investigates the impact of the recent global recession on European countries and regions.	Model simulation, case studies and econometric evaluation
50	Article in peer-reviewed journal	Hassink, Robert	2010	Regional resilience: a promising concept to explain	*Cambridge Journal of Regions, Economy and*	The paper analyses the concept of resilience, building upon concepts	Theoretical approaches

				differences in regional economic adaptability?	*Society*	derived from ecology, psychology, and disaster studies, amongst other themes.	
51	*Report	Healy, Adrian and Bristow, Gillian	2013	Economic Crisis and the Structural Funds	*ESPON Applied Research Project ECR2-Economic Crisis: Resilience of regions*	The paper examines how the SFs have been affected by the economic crisis through case studies.	Analytical-narrative, case studies
52	Report	House of Lords European Union Committee	2010	Making it work: the European Social Fund Volume I: Report	Authority of the House of Lords London: The Stationery Office Limited	Inquiry into the effectiveness of the ESF and whether its policy priorities need to be amended in the context of the economic recovery and the imminent adoption of Europe 2020.	Document and data analysis, case study: UK
53	Speech	Hubner, Danuta	2008	Cohesion policy response to the financial crisis	SPEECH/08/653	Proposal of changes in cohesion policy as a response to the crisis in order to ensure its role as a powerful instrument of stability.	Policy proposal
54	*Report	International Federation of Red Cross and Red Crescent Societies	2013	Think differently: Humanitarian impacts of the economic crisis in Europe		The report analyses the consequences of the financial and economic crisis on humanitarian aid in Europe.	Analytic-narrative
55	*Article in peer-reviewed journal	Kitson, Michael Martin, Ron and Tyler, Peter	2011	The geographies of austerity	*Cambridge Journal of Regions, Economy and Society* 2011, 4, pp. 289-302	The paper explores the origins of the current economic and financial crisis and assesses the consequences of the austerity measures that have been chosen as a solution to the crisis.	Analytic-narrative

56	Report	Lannoo, Karel	2008	Concrete Steps towards More Integrated Financial Oversight. The EU's Policy Response to the Crisis	*Centre for European Policy Studies,* CEPS Task Force Report	Analysis of the reaction of policy-makers to the crisis, focusing on the roadmap of the finance ministers, the attempts to unfreeze the interbank market and the large bail-out plans of national governments.	Analytic-narrative, policy-oriented
57	Article in peer-reviewed journal	Lion, Cristina and Martini, Paola	2006	The evaluation of a Complex Social Program: Lessons learned from the experience of the European Social Fund	*Evaluation and Program Planning,* 29 (2006) pp. 1–9	Outlines an approach to the mid-term evaluation of ESF within the multi-level governance context, describing the main methodological choices.	Theoretical analysis, methodological approach
58	Article in peer-reviewed journal	Lion, Cristina Martini, Paola and Volpi, Stefano	2004	The Evaluation of European Social Fund Programmes in a New Framework of Multilevel Governance: The Italian Experience	*Regional Studies,* 38: 2, pp. 207–212	Outlines the Italian experience in the evaluation of programmes co-financed by the European Social Fund (ESF) over the 2000–2006 period.	Analytic-narrative
59	Article in peer-reviewed journal	Marchante, Andrés J. and Ortega, Bienvenido	2010	Evaluating Efficiency in the Implementation of Structural Funds Operations	*Evaluation,* 16(2) pp. 193–209	Assesses the efficiency of the EU Structural Funds operations using two approaches: by a unit cost analysis of the output indicators; and by the comparative study of the tendering, contract-awarding and implementation costs of a sample of projects.	Theoretical analysis, methodological approach
60	*Article in peer-reviewed	Martin, Ron	2012	Regional economic resilience,	*Journal of Economic Geography,* 12	The paper explores the meaning of the notion of	Methodological approach

	journal			hysteresis and recessionary shocks	(2012), pp. 1-32	resilience and its usefulness in understanding the reaction of regional economies to major recessionary shocks.	
61	Article in peer-reviewed journal	Mirwaldt, Katja McMaster, Irene and Bachtler, John	2009	Reconsidering Cohesion Policy: The Contested Debate on Territorial Cohesion	*European Policies Research Centre*	An analysis of territorial cooperation and its qualitative and quantitative impact on territorial cohesion.	Qualitative and quantitative analysis
62	Working Paper	Mohl, Philipp and Hagen, Tobias	2011	Do EU Structural Funds Promote Regional Employment? Evidence from Dynamic Panel Data Models	*European Central Bank*, Working Paper Series No 1403/December 2011	Analyses the impact of EU Structural Funds on employment, drawing on a panel dataset of 130 European NUTS regions over the 1999-2007 period.	Comparing different dynamic panel econometric approaches
63		OECD	2013	Crisis squeezes income and puts pressure on inequality and poverty		The report analyses the effects of the global economic crisis on income inequality.	Data analysis
64	Article in peer-reviewed journal	Pike, Andy Dawley, Stuart and Tomaney, John	2010	Resilience, adaptation and adaptability	*Cambridge Journal of Regions, Economy and Society*, Vol. 3, N.1, pp. 59-70	The paper analyses the concept of resilience, drawing upon evolutionary Economic Geography in a framework based upon agents, mechanisms and sites.	Theoretical approach
65	Journal Article	Polverari, Laura and Bachtler, John	2005	The contribution of European Structural Funds to territorial cohesion	*Town Planning Review,* Volume 76, Issue 1, pp. 29-42	Analysis of the historical importance given to territorial coherence in EU regional policies and suggestions for a	Qualitative analysis and policy proposal

						definition of territorial cohesion that is more transparent and operational for the post-2006 scenario.	
66	Journal Article	Prezioso, Maria	2006	Cohesion Policy: Methodology and Indicators towards a common Approach	*Romanian Journal of Regional Science,* Volume 2006, No.2	Analysis of different measurements of territorial cohesion, evaluating their effectiveness and efficiency and identifying a new set of indicators.	Theoretical analysis, methodological approach
67	Article in peer-reviewed journal	Reinhart, C. M. and Rogoff K.S.	2009	The Aftermath of Financial Crises	*The American Economic Review* , Vol. 99, No. 2, Papers and Proceedings of the One Hundred Twenty-First Meeting of the American Economic Association (May, 2009), pp. 466-472.	This paper stresses that recessions that follow a financial crisis have particularly severe effects on asset prices, output and unemployment.	Data analysis
68	Working Paper	Rodríguez-Pose, Andrés and Tselios, Vassilis	2008	Mapping Regional Personal Income Distribution in Western Europe: Income per Capita and Inequality	*DYNREG Working Papers, 33/2008*	Analysis of the microeconomic perspectives of a region, paying attention not only to average but also to inequality levels of individual incomes within regions.	Theoretical analysis, methodological approach
69	*Article in peer-reviewed journal	Rumford, Chris	2000	European Cohesion? Globalisation, Autonomisation and the Dynamics of EU Integration	*Innovation: The European Journal of Social Science Research*	The paper argues that globalisation, together with the dynamics of neo-liberal growth, lead to autonomisation as well as integration, the effects	Theoretical analysis

						of which are mainly regional.	
70	Article in peer-reviewed journal	Sarfati, Hedva and Ghellab, Youcef	2012	The political economy of pension reforms in times of global crisis: State unilateralism or social dialogue?	*Industrial and Employment Relations Department/Social Security Department. ILO Working Paper No.37*	The paper analyses the process of pension reform and the role of social dialogue in ten countries.	Case studies
71	Article in peer-reviewed journal	Servillo, Loris Atkinson, Rob Russo, Antonio Paolo	2011	Territorial attractiveness in EU urban and spatial policy: a critical review and future research agenda	*European Urban and Regional Studies,* Volume 19, N. 4 pp. 349-365	The paper defines the concept of 'territorial attractiveness', which is advanced to enhance the integration of regional development strategies under the overall objective of territorial cohesion.	Theoretical analysis
72	Report	Watt, Andrew	2008	The economic and financial crisis in Europe: addressing the causes and the repercussions	*European Economic and Employment Policy Brief* No. 3 – 2008	Analysis of the economic situation, looks at the forces that have driven the European economy off a quite decent and seemingly sustainable growth trajectory.	Policy-oriented
73	Document	WHO	2013	Health, health systems and the economic crisis in Europe		This document summarises the findings from a study analysing the effects of the crisis on health and health systems in Europe.	Data analysis

Annex 8.2. Illustrative list of research questions for the case studies

Context analysis

- How has the regional economic, social and territorial structure of the case study regions changed as a consequence of the crisis?
- Can you provide some specific examples?

Cohesion policy analysis

- What is the impact of the economic and financial crisis on implementation of the cohesion policy and use of the Structural Funds and the Cohesion Fund?
    - Which of the changes introduced by the EERP have been used by your region? Identify and describe three main changes that have occurred in the use of Structural Funds because of the crisis and the reasons for these changes.

- Effectiveness of cohesion policy before and after the crisis. Has it changed? If yes, in which aspects?
    - Identify some specific examples of changes
    - Are there any good practices?
    - Are there any bad practices?
    - Have the changes produced any positive output?
    - Have the changes improved the use of the Funds?

- What are the main constraints, caused by the crisis, on the implementation of cohesion policy?
    - How has your region overcome these constraints?
    - How has the management of the Structural Funds changed?
    - How has the implementation of the Structural Funds changed?

Regional strategies analysis

- Which regional strategies has the region adopted before the crisis?
  1.Broad-based economic development (catch-up broadly based)
  2.Transport connectivity (catch-up narrowly focused)
  3. Building on the position secured (consolidation of existing model of economic development)
  4. Advanced and inclusive development (greater social inclusion and environmental sustainability)
  5. Catalysts for regional economic restructuring (focus on a limited number of sectors)
  6. Advanced industrial development (focus on area with industrial decline)
  7. Leveraging region-specific assets (focus on under-exploited natural assets)

- How have you adapted your regional strategies to the crisis?

- Have different strategies resulted in different degrees of capability of crisis-resistance and helped counteract the crisis?

Annex 8.3. List of people interviewed

Table 8.2: List of people interviewed

Category	Code/Name	Role	Date of interview
BASILICATA, ITALY			
Strategic Interviews			
1	A1	ERDF MA	Potenza, 12.12.2013
2	B1	ESF MA	Potenza, 12.12. 2013
Operational interviews			
1	C1	ERDF Axis I delegate	Potenza, 12.12.2013
2	D1	ERDF Axis IV delegate	Potenza, 12.12.2013
3	E1	ESF MA member	Potenza, 12.12.2013
External Interviews			
1	F1	Representative of CGIL Basilicata	Telephone interview, 29.01. 2014
2	G1	Academic from the University of Bari	Telephone interview, 29.01.2014
CAMPANIA, ITALY			
Strategic Interviews			
1	A2	Head of Programming of Region Campania	Napoli, 11.12. 2013
Operational interviews			
1	B2	Member of the ESF MA	Napoli, 11.12.2013
2	C2	Member of the ERDF MA	Napoli, 11.12. 2013
3	D2	Member of the Group for Evaluation of Public Investment, Campania Region	Napoli, 11.12. 2013
4	E2	Member of the Group for Evaluation of Public Investment, Campania Region	Napoli, 11.12. 2013
5	F2	Member of the Dept. for Education, Research and Cultural and Social Policy	Napoli, 11.12. 2013
External Interviews			
1	G2	Researcher at the University of Strathclyde	Skype, 07.02.2014
	H2	Representative of Confindustria Campania	Written feedback provided on 31.01.2014
2	I2	Representative of CGIL Campaina	Written feedback provided on 27.01.2014
BAVARIA, GERMANY			
Strategic Interviews			

1	Christian Halsbeck	Manager, ERDF	Written submission[27]
2	Georg Moser	Manager, ESF	26.11.2013[28]
External Interviews			
1	Kai Sattler, ISG Institut	Expert/evaluator, ESF	04.03.3014
2	Ralph Rautenberg, Prognos	Expert/evaluator, ERDF	05.02.2014
NORTH RHINE-WESTPHALIA, GERMANY			
Strategic Interviews			
1	Petra Schulz	Coordinator, ERDF	Participation declined
2	Daniel Jansen	Manager, ESF	Written submission[29]
External Interviews			
1	Marco Puxi	ISG Institut	21.01.2014
PODLASKIE VOIVODSHIP, POLAND			
Strategic Interviews			
1	Piotr Machański	Head of Office of ROP Coordination, Department for Coordination of Regional Programmes and Digitization, MID[30]	9.11.13
2	Michał Ptaszyński	Vice Director, Department for Coordination of Regional Programmes and Digitization, MRD	19.11.13
Operational interviews			
1	Elżbieta Romańczuk	Director, Department of ESF, Marshal Office of PW	28.11.13
2	Małgorzata Kukor - Kołodko	Head of Office, Department of ESF, Marshal Office of PW	28.11.13
3	AgnieszkaGodlewska	Head of Office, Department of ESF, Marshal Office of PW	28.11.13
4	Marcin Sidorczuk	Head of Department of Coordination and Implementation of HCOP, Podlaskie Voivodeship Labour Office	28.11.13
5	Daniel Górski	Director, Managing Authority of ROP (ERDF), Marshal Office of PW	29.11.13
6	Marcin Podłubny	Head of Monitoring Department of ROP, Marshal Office of PW	29.11.13
7	Małgorzata Żynel	Deputy director for New Programming Period, Managing Authority of ROP, Marshal Office of	29.11.13

[27] The ERDF Authority did not agree to participate in a full interview programme, but provided written input after consultation with measure managers.

[28] The ESF Managing Authority did not have detailed input into the study and did not agree to participate in a full interview programme, with the broad position and broad answers provided in a telephone conversation on the date indicated.

[29] The ESF Authority did not agree to participate in a full interview programme, but provided written input.

[30] Ministry for Infrastructure and Regional Development, newly established as joint body of the Ministry of Transport, Construction and Marine Economy and Ministry of Regional Development (27 November 2013).

		PW	
External Interviews			
1	Andrzej Parafiniuk	Chairman of the Board of the Podlaska Regional Development Foundation	29.11.13
2	Urszula Jabłońska	Secretary of the Lapy Comune	29.11.13
DOLNOŚLĄSKIE VOIVODSHIP, POLAND			
Strategic Interviews			
1	Joanna Reduta	Department of Structural Policy Coordination, MIR	9.11.13
2	Michał Ptaszyński	V-ce Director, Department for Coordination of Regional Progammes and Digitization, MRD	19.11.13
Operational interviews			
1	Sławomir Sobieszek	Director, Department for Management of Regional OP, Lower Silesian Marshall's Office	22.11.13
2	Barbara Dziubak	Department for Management of Human Capital OP (EFS), Lower Silesian Marshall's Office	22.11.13
3	Monika Kwil-Skrzypińska	Director, Lower Silesian VoivodeshipLabour Office	25.11.13
External Interviews			
1	Dr Andrzej Raczyk	Department of Spatial Development, Faculty of Earth Science and Environmental Management	22.11.13
SOUTH CENTRAL REGION, BULGARIA			
Strategic Interviews			
Interview MA JTS	Mr Kiriakos Fotiadis Jointly with the Joint Technical Secretariat members	Director of the Joint Technical Secretariat, Greece-Bulgaria Cross Border Cooperation	Call, 05.12.2013
Interview NA	Ms Maria Duzova	Director General, DG 'Territorial Cooperation Management', Ministry of Regional Development and Public Works	Sofia, 27.11.2013
Interview NA	Ms Dimana Sandonkova Jointly with Mr Milen Obretenov	Deputy Director General, DG 'Territorial Cooperation Management', Ministry of Regional Development and Public Works	Sofia, 27.11.2013
Operational interviews			
Interview MA JTS	Galina Georgieva	Members of the Joint Technical Secretariat, Greece-Bulgaria Cross Border Cooperation	Call, 05.12.2013
Interview MA JTS	Dimitrios Papathanasiou	Member of the Joint Technical Secretariat, Greece-Bulgaria Cross Border Cooperation	Call, 05.12.2013

Interview NA	Mr Milen Obretenov	Head of the 'Monitoring, Evaluation, and Programming' Division, DG 'Territorial Cooperation Management', Ministry of Regional Development and Public Works	Sofia, 27.11.02013
Interview MRDPW	Ms Elka Vasileva	Head of Regional Development Strategies and Plans and Territorial Cooperation Department, DG Strategic Planning of Regional Development and Administrative-Territorial Organization	Sofia, 28.11.2013
Interview CoM	Ms Angelina Todorova	Advisor on Territorial Cooperation to the Council of Ministers of Bulgaria	Sofia, 27.11. 2013
Interview Geratliev	Mr Kiril Geratliev	Former Director General, DG 'Territorial Cooperation Management', Ministry of Regional Development and Public Works	Sofia, 28.11.2013
External interviews			
Interview CSD	Mr Plamen Salafov	Research Fellow, Centre for the Study of Democracy	Telephone, 29.01.2014
Interview CITU	Mr Todor Kapitanov	Chairman, Confederation of independent trade unions (CITU)	5.02.2014 Written response received
NORTH WEST REGION, BULGARIA			
Strategic Interviews			
Interview RO MA	Ms Julia Hertzog	Director, Managing Authority, 'Romania - Bulgaria' Cross Border Cooperation, Ministry of Development, Public Works and Housing	Bucharest, 29.11.2013
Interview RO MA	Ms Ioana Glavan	Head of Unit, Managing Authority, 'Romania - Bulgaria' Cross-Border Cooperation	Bucharest, 29.11.2013
Interview NA	Ms Maria Duzova	Director General, DG 'Territorial Cooperation Management', Ministry of Regional Development and Public Works	Sofia, 27.11.2013
Interview NA	Ms Dimana Sandonkova Jointly with Mr Milen Obretenov	Deputy Director General, DG 'Territorial Cooperation Management', Ministry of Regional Development and Public Works	Sofia, 27.11.2013
Operational interviews			
Interview MA, JTS	Ms Alexandra Calotita	Head of Unit, Managing Authority, Monitoring Department	Bucharest, 29.11.2013
Interview MA, JTS	Ms Michaela Piroi	Counselor (Contracting officer), Managing Authority	Bucharest, 29.11.2013
Interview MA,	Mr Bogdan	Head of the Joint Technical	Bucharest,

JTS	Musat	Secretariat	29.11.2013
Interview MA, JTS	Mr Sandu Serban	Head of Romanian First Level Control	Bucharest, 29.11.2013
Interview MRDPW	Ms Elka Vasileva	Head of Regional Development Strategies and Plans and Territorial Cooperation Department, DG Strategic Planning of Regional Development and Administrative-Territorial Organization	Sofia, 28.11.2013
Interview CoM	Ms Angelina Todorova	Advisor on Territorial Cooperation to the Council of Ministers of Bulgaria	Sofia, 27.11.2013
Interview Geratliev	Mr Kiril Geratliev	Former Director General, DG 'Territorial Cooperation Management', Ministry of Regional Development and Public Works	Sofia, 28.11.2013
External Interviews			
Interview CSD	Mr Plamen Salafov	Research Fellow, Centre for the Study of Democracy	29.01.2014
Interview CCI Vidin	Mr Krasimir Kirilov	Chairman, Chamber of Commerce and Industry Vidin, North West Planning Region	5 .02. 2014 Written response received
Interview CCI Vratsa	Ms Maria Panaiotova	Administrative Secretary, Chamber of Commerce and Industry Vratsa, North West Planning Region	29 .01. 2014
Interview CITU Vratsa	Ms Mila Ivanova	Chairman of the Confederation of Independent Trade Unions (CITU), Vratsa, North West Planning Region	31 .01. 2014 Written response received

Annex 8.4. List of indicators

Table 8.3: Macroeconomic crisis indicators

1	Macroeconomic crisis framework	Indicators	National Level	Regional Level
1.1	**Real Economy**			
1.1.A 1.1.B		• Exports as % of GDP • Imports as % of GDP	X X	
1.2	**Government finance**			
1.2.A 1.2.B 1.2.C		• Government deficit/surplus • Government debt • Marginal Tax Rate	X X X	
1.3	**Financial sector**			
1.3.A 1.3.B		• Share price index • Current Account Balance	X X	

Table 8.4: Regional Resilience Indicators

2	Regional Resilience Indicators	Indicators	National Level	Regional Level
2.1	**Regional Sectoral specialisation**			
2.1.A		• Gross Value Added per sector		X
2.2	**Human Capital and Skills**			
2.2.A		• Population aged 25-64 with tertiary education		X
2.3	**Innovation efforts**			
2.3.A 2.3.B		• Total GERD (Gross domestic expenditure on research and development) • Public GERD (Gross domestic expenditure on research and development)		X X

Table 8.5: Performance indicators

3	Thematic axes	Cohesion policy response to the crisis	Indicators	National Level	Regional Level
3.1	**Economic Cohesion**		• **GDP per capita**	**X**	**X**
3.1.1.A 3.1.1.B 3.1.1.C	**Enterprise**	• Help SMEs gain access to finance[31] • Help start-ups • Identify tomorrow's jobs for recovery[32] • Encourage entrepreneurship and job creation	• Per capital fixed capital formation • Number of SMEs • Access to finance	X X (2008-10) X (2007 and 2010)	X
3.1.2.A 3.1.2.B 3.1.2.C	**Structural adjustment**	• Better anticipate and manage restructuring	• Service sector employment • Nights spent in tourist accommodation establishments • Total labour productivity (GDP/employed)	X X X	X X X
3.1.3.A 3.1.3.B 3.1.3.C	**Innovation**	• Help small businesses maintain and develop innovative approaches	• Human resources in science and technology (total) • Employment in technology & knowledge-intensive sectors • Total numbers of patent applications per million inhabitants	X X X	X X X (until 2010)
3.1.4.A 3.1.4.B 3.1.4.C	**Green economy**	• Increase the share of energy-efficiency investment	• Biotechnology patent applications • Greenhouse gas emissions • Share of renewable Energy of energy production	 X X	X (until 2010) X

[31] European Commission, (2010), 'Cohesion Policy: Responding to the economic crisis': A review of the implementation of cohesion policy measures adopted in support of the European Economic Recovery Plan, Brussels, 25.10.2010, SEC(2010) 1291 final.

[32] MEMO/09/259, (2009), Tackling the social impact of the crisis: a Shared Commitment for Employment, Brussels, 3 June 2009.

3.2	**Social cohesion**	**Main action: Assist groups worst-hit by the crisis**	**Dispersion of regional employment rates**	**X**	**X**
3.2.1.A 3.2.1.B 3.2.1.C 3.2.1.L 3.2.1.G	**Labour market**	• Give young people opportunities • Keep people in employment • Immediately help the unemployed • Tackle long-term unemployment • Make workers' mobility easier • Upgrade skills at all levels	• Disposable household income • Total unemployment • Youth unemployment • Long-term unemployment as a share of total unemployment • Female employment	X X X X X	X X X X X
3.2.2.A 3.2.2.B 3.2.2.C 3.2.2.D	**Social inclusion**	• Combating poverty	• Aged people at risk of poverty • Dispersion of unemployment rates • Total number of crimes per 1000 inhabitants • Young people aged 18-24 NEET	X X X X	 X X
3.2.3.A 3.2.3.B 3.2.3.C 3.2.3.D	**Community development**	• Promoting Active inclusion	• Infant mortality rate • Participation of adults in education and training (some years and regions missing from regional data) • Participation of employed persons in Lifelong Learning • Total number of students attending tertiary education (ISCED levels 5/6)	X X X X	X X X X
3.3	**Territorial cohesion**	**Main actions: integrated territorial development**	**Accessibility potential**	**X**	**x**
3.3.1.A 3.3.1.B	**Spatial distribution of economic activity**	• Support for strong local economies • Build innovative territories	• Ratio between GDP per capita in mostly urban vs. rural regions • Ratio between % of population at risk of poverty in densely vs. thinly	X (only 20 MSs up to 2009) X	

			populated areas		
3.3.2.A 3.3.2.B 3.3.2.C	**Infra-regional infrastructural endowment**	• Ensure fair access to services & markets • Build attractive regions of high ecological values and strong territorial capital	• Length of railways, motorways • Infrastructural bottlenecks: total vehicles/km of roads • Investments and maintenance spending in transport infrastructure	X X (Only 21 MSs) X (Only 24MSs)	X X X

Annex 8.5. Country abbreviations

Table 8.5: Abbreviations

Country	Abbreviation	Country	Abbreviation
Austria	AT	Italy	IT
Belgium	BE	Latvia	LV
Bulgaria	BG	Lithuania	LT
Cyprus	CY	Luxembourg	LU
Croatia	HR	Malta	MT
Czech Republic	CZ	Netherlands	NL
Denmark	DK	Poland	PL
Estonia	EE	Portugal	PT
Finland	FI	Romania	RO
France	FR	Slovakia	SK
Germany	DE	Slovenia	SI
Greece	EL	Spain	SP
Hungary	HU	Sweden	SE
Ireland	IE	United Kingdom	UK

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