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## **ECR2 Economic Crisis: Resilience of Regions**

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► **To cite this version:**

Gillian Bristow, Adrian Healy, Laura Norris, Rüdiger Wink, Laura Kirchner, et al.. ECR2 Economic Crisis: Resilience of Regions. [Research Report] ESPON | Inspire Policy Making with Territorial Evidence; University of Cardiff. 2014. hal-03168559

**HAL Id: hal-03168559**

**<https://hal.science/hal-03168559v1>**

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# ECR2 Economic Crisis: Resilience of Regions

Applied Research 2013/124/2012

Final Report | Version 31/August/2014



This report presents the final results of an Applied Research Project conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

The partnership behind the ESPON Programme consists of the EU Commission and the Member States of the EU27, plus Iceland, Liechtenstein, Norway and Switzerland. Each partner is represented in the ESPON Monitoring Committee.

This report does not necessarily reflect the opinion of the members of the Monitoring Committee.

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This basic report exists only in an electronic version.

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## EXECUTIVE SUMMARY

### Introduction

The economic crisis of 2008/9 heralded the most severe economic downturn in the history of the European Union. Yet not all regions experienced economic decline and rates of recovery have varied greatly. Whilst some places experienced a swift return to pre-crisis levels of employment and economic output, for others the process has proved much more protracted, with many economies apparently entering a period of sustained stagnation. This differentiated experience raises important questions as to why some regions prove to be more able to withstand economic shocks than others, and what influences their ability to recover.

In order to address some of these questions and to better understand the territorial impacts of the economic crisis ESPON commissioned this study examining the economic crisis and the economic resilience of regions. The overall aim of the project has been to:

*“expose territorial evidence that supports policy-makers at different administrative levels in making the economic structure(s) in Europe and its countries, regions and cities more resilient to economic crises and a sudden economic downturn.”*

It had the following principal objectives:

- To deepen our understanding of the territorial impact of the economic crisis across Europe
- To estimate the economic resilience of European regions
- To understand the role of territorial policy responses in promoting economic resilience

The focus of this report is on the recent economic crisis of 2007-09. This acted as a major shock across the economies of the ESPON area, with severe, and often long-lasting, consequences. The scale of this event provides an opportunity for comparative assessment, the results of which can help to inform our understanding of more localised economic shocks - such as the closure of a major employer, or a more national or regional event, such as with the closure of important export markets or technological shifts that undermine whole industries.

At its simplest, resilience refers to the ability of a system to ‘bounce-back’ or return to its pre-shock position. The faster the economy returns to its pre-shock position the more resilient it is. Whilst this offers a compelling view of resilience in the short-term, it may be less instructive over the medium to longer term. In the longer run,

economic resilience is determined by the adaptive capacity of an economy, which affects its ability to maintain a long-term growth path

With the increase in popularity of the concept of resilience has come a plethora of means by which this might be measured. Indexes of resilience are increasingly popular with academics and policy-makers, seeking to demonstrate how one place is more resilient than another. Whilst these have their strengths they remain largely unproven. In fact, past indexes proved remarkably inaccurate in predicting the resilience of economies to the most recent economic crisis.

Within this report we assess the resilience of regional economies to the economic crisis through the use of two principal indicators: the number of persons employed and levels of economic output (GDP). Economic resilience is defined as the ability of a region to avoid a fall in economic activity or to regain pre-crisis (or pre-shock) peak levels of employment (or GDP). We include two categories of resilient territories: those that resisted the crisis (RS) and those that recovered from the crisis (RC). We also include two categories of regions that were not resilient to the crisis: those that have begun their recovery, but where employment (or GDP) has not yet returned to pre-shock levels (NR1) and those that remain in decline (NR2). Here we use the simple definition of resilience – the ability of an economy to withstand or recover from an economic shock.

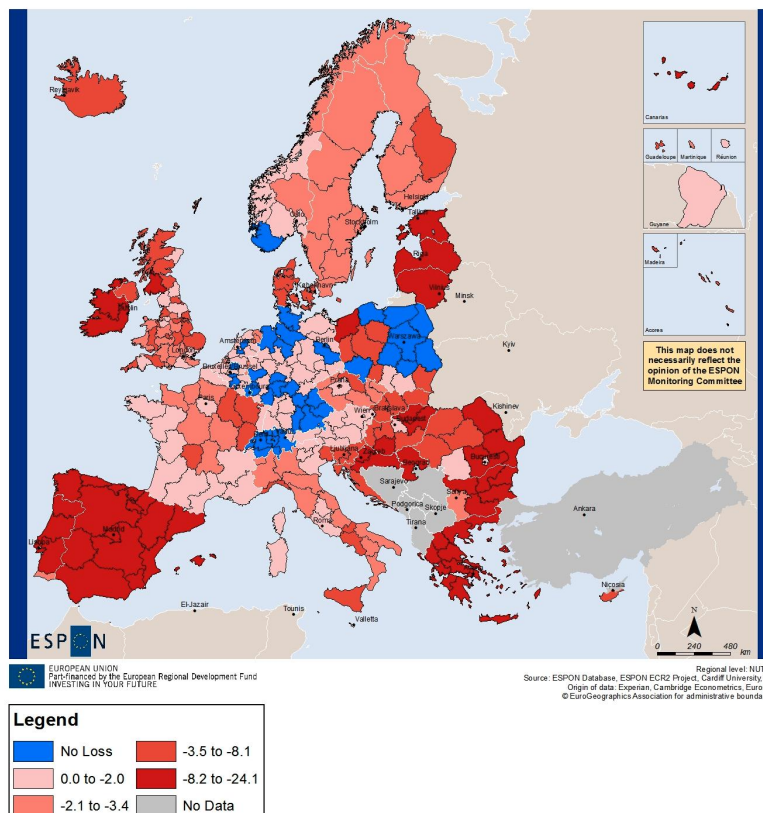
### **Territorial Impact of the Crisis**

Following an almost unprecedented period of sustained economic growth across Europe, the impact of the global economic crisis was sudden and widespread. Economic output contracted across all ESPON members apart from Poland, bringing to a halt the widespread growth experienced since the 1990s. Employment losses swiftly followed the fall in economic output, with overall numbers in employment recording a fall in 2009. The path to recovery since then has been slow for most states, with emerging evidence of a long stagnation.

Whilst the ESPON economy as a whole entered into recession in 2008/09, some regions experienced an economic downturn in the years immediately preceding this. Although economic decline was being experienced in a small number of regions in 2005 and 2006, the number of regions experiencing a decline in employment levels picked up rapidly in 2007 and 2008 as the full effects of the crisis took hold, before reaching a peak in 2009. Since 2009 there has been a gradual increase in the number of regions recovering to their pre-crisis levels of employment, although the effects of the crisis remain long-lasting across large parts of the ESPON territory. Large parts of the area remain mired in economic decline. The dynamic economic situation is highlighted by the fact that since 2011 some regions in Poland that originally withstood the crisis have themselves begun to experience employment decline.

The headline effects of the crisis are common across the ESPON space, principally lower levels of trade and investment; employment losses in exposed sectors; rising levels of unemployment; falling or stagnant wages; reduced working hours and rising levels of household indebtedness and of government borrowing. However, the effects of the crisis have been spatially uneven, with some regions being affected more strongly than others. The spatial distribution of employment loss is illustrated in Map ES1, highlighting a strong peripheral geography to the most severe employment losses.

**Map ES1 Employment loss during the crisis (2004-2012, NUTS 2)**



Within countries there has also been an uneven distribution of the effects of the crisis. In many cases this has led to a widening of pre-existing disparities, but in some countries disparities have narrowed over the crisis. Similarly, even those sectors most exposed to the crisis, such as construction, continued to demonstrate employment growth in some countries.

### The Economic Resilience Of Regions

Across the ESPON territory four countries, Luxembourg, Germany, Switzerland and Poland, resisted the economic crisis and maintained, or increased, levels of employment in the period of the recent crisis. Only Poland also managed to maintain or increase its level of GDP (Table ES1). By 2011, eight countries had recovered to their pre-crisis peak of GDP activity, and five to their pre-crisis level of employment.



**Table ES1 National patterns of resilience to the 2008 economic crisis**

	<i>Employment measure</i>	<i>GDP measure</i>
Resisted	LU, DE, CH, PL	PL
Recovered	NO, SE, MT, AT, BE	DE, NO, SE, CH, AT, FR, MT, SK
Not Recovered: upturn	IS, UK, FR, NL, IT, FI, LT, EE, CY, CZ, SK, HU	IS, UK, IE, LU, NL, PT, ES, IT, DK, FI, EE, LV, LT, CZ, SL, HU, RO, BU, CY
Not recovered: no upturn	IE, PT, ES, DK, LV, SL, HR, RO, BU, EL	HR, EL

Of the 280 regions considered, more than a tenth (12%) had weathered the crisis and not experienced any fall in numbers employed, whilst almost a quarter (23%) had experienced a fall in employment but, by 2011, had recovered to the pre-crisis peak. Two-thirds of regions were still to recover by 2011, divided evenly between those that had passed the trough of the downturn, and those still to register the end of employment decline. The distribution of regional economic resilience is set out in Map ES2, which illustrates a strong geography of resilience for both employment and GDP measures, clearly influenced by national patterns. However, important pockets of recovery and non-recovery are also apparent within this overall geography.

Resilience can also be a more localized phenomena, with neighbouring areas experiencing different patterns of resilience, depending upon specific local particularities. Overall, a slightly greater proportion of NUTS 3 territories have resisted the crisis than is the case at the NUTS 2 scale, and a slightly lower proportion of those that had not yet recovered have begun an economic upturn (Table ES2).

**Table ES2 Employment Resilience of NUTS 3 Territories**

<i>Resilience</i>	<i>Number of regions</i>	<i>Proportion (%)</i>
Resistant (RS)	214	16.19
Recovered (RC)	314	23.75
Not recovered but in upturn	364	27.53
Not recovered and no upturn	430	32.53

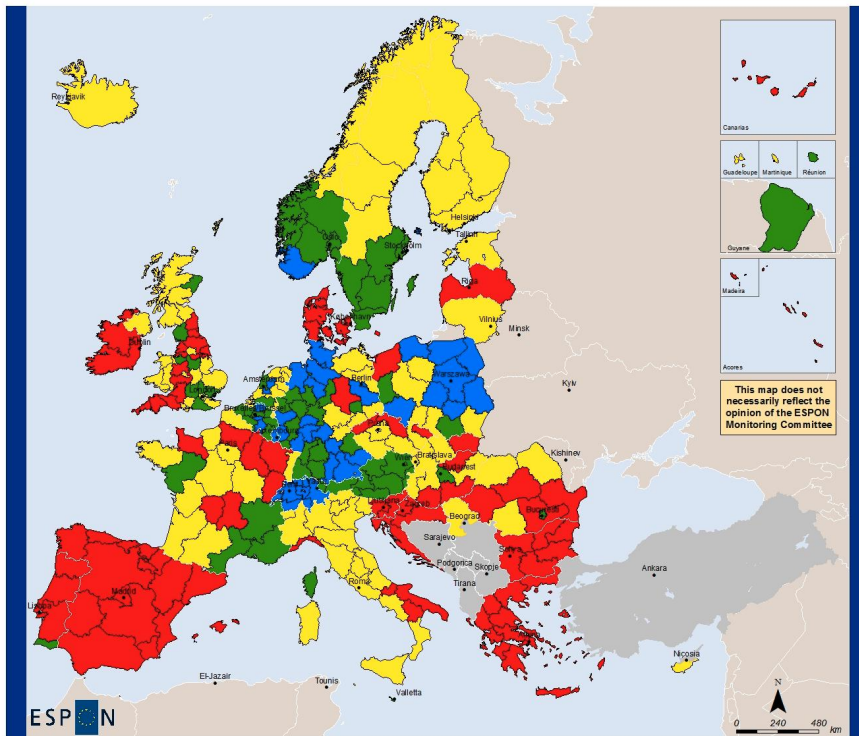
Source: ESPON ECR2 (n=1,322)

The distribution of regional resilience between Member States suggests that macroeconomic conditions and national policy regimes have an influence on the sensitivity of individual regions to economic crisis. Yet, there are also examples

## Map ES2 Distribution of regional economic resilience (NUTS 2, peak year to 2011)

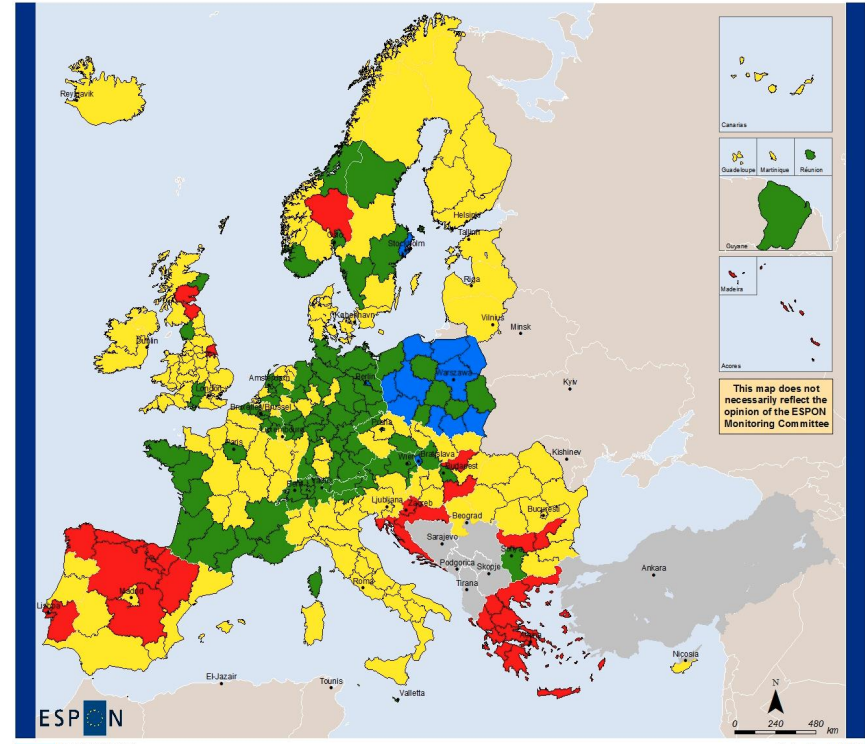
### Employment

### GDP



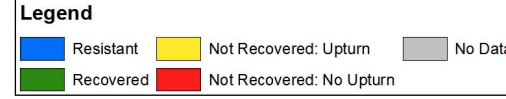
EUROPEAN UNION  
 Part-financed by the European Regional Development Fund  
 INVESTING IN YOUR FUTURE

Regional level: NUTS2  
 Source: ESPON Database, ESPON ECR2 Project, Cardiff University, UK  
 Origin of data: Expetian, Cambridge Econometrics, Eurostat  
 © EuroGeographics Association for administrative boundaries



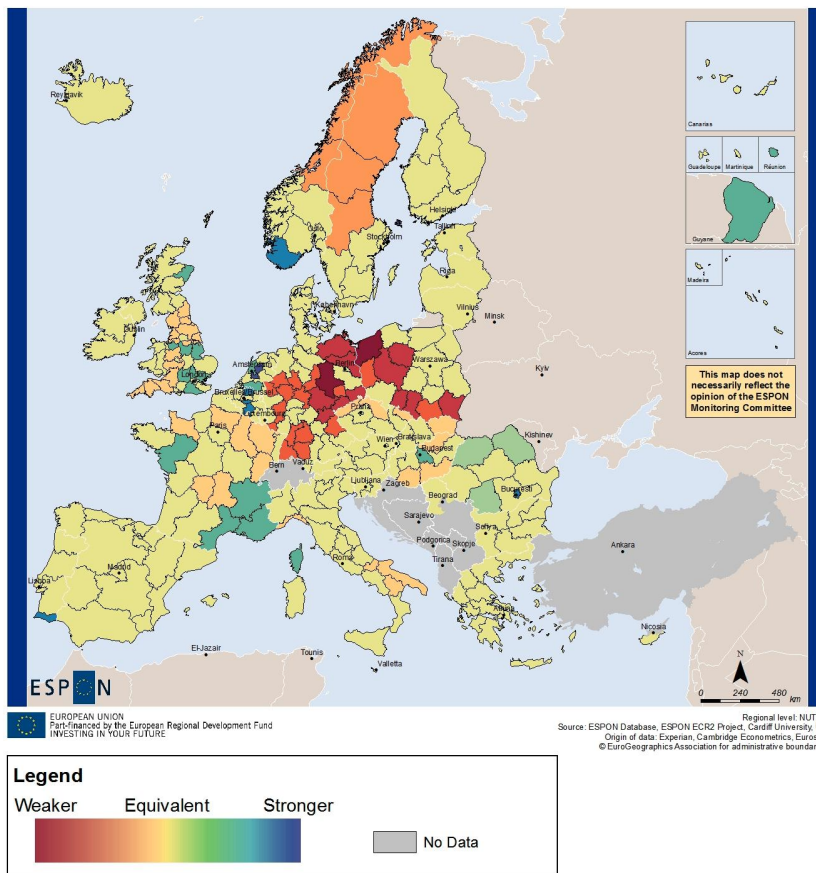
EUROPEAN UNION  
 Part-financed by the European Regional Development Fund  
 INVESTING IN YOUR FUTURE

Regional level: NUTS2  
 Source: ESPON Database, ESPON ECR2 Project, Cardiff University, UK  
 Origin of data: Expetian, Cambridge Econometrics, Eurostat  
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where the experience of individual regions runs counter to national trends, or where there is strong variability within Member States. It is noticeable that those regions with significantly weaker relative resilience are located in Germany and Poland, partly reflecting the better level of national resilience recorded in those two countries (Map ES3). Stronger levels of relative regional resilience are, though, more dispersed, covering regions in Finland, Netherlands, Belgium, Norway, Portugal and Romania. These relatively resilient regions cover a mix of territorial cases, including an island region, capital city region and urban and rural economies with different sectoral economic strengths.

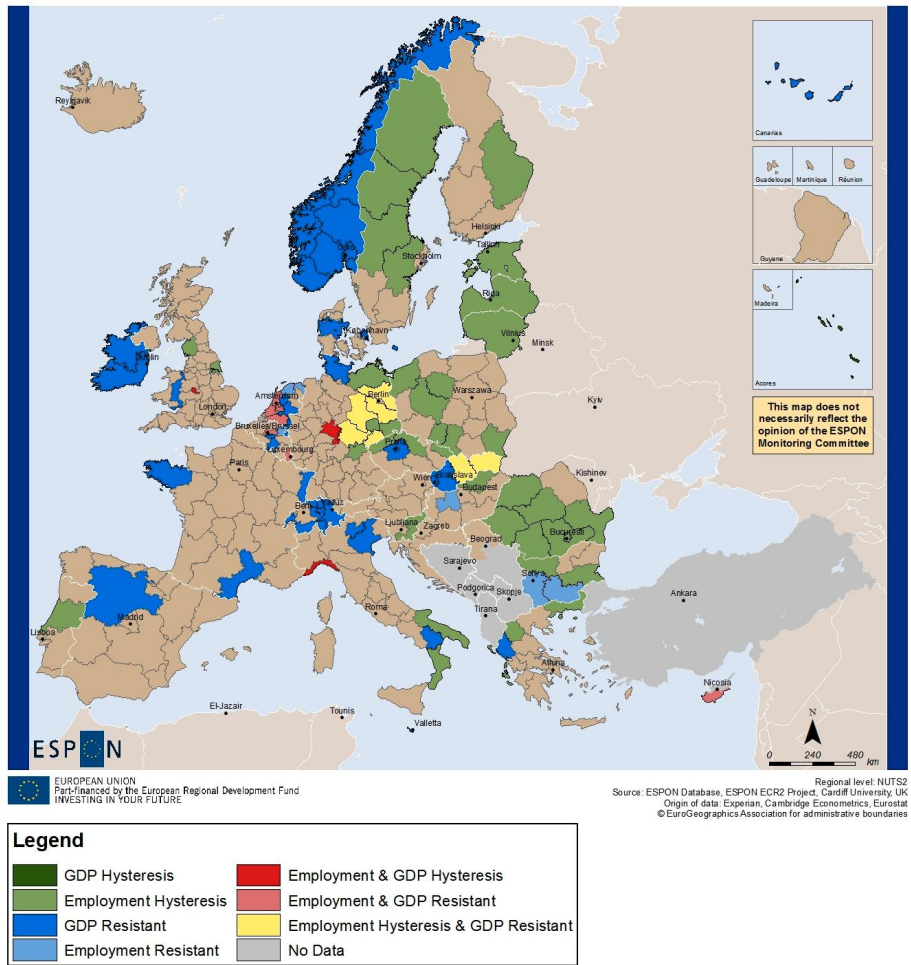
### Map ES3 Relative Regional Resilience in the ESPON space



A key question for resilience studies is over what time period resilience should be considered. Evidence from past shocks demonstrates that most regions recover to pre-shock activity levels, eventually. However, in some regions an economic shock can cause, or reinforce, a structural readjustment that may take many years to overcome and lead to a permanent reduction in output or employment. This is clearly evident in the last major pan-European economic crisis (Map ES4). Most strikingly, a fifth of regions (52) have never regained their peak employment levels following the shock of the early 1990s. For four regions (1%), located in Germany, Italy, Portugal and the UK, recovery to peak GDP levels has still not been achieved. This cautions against any assumption that peak levels of employment should form a natural objective following an economic shock, but

is also suggestive of the important interplay between the interaction of economic shocks and longer-term processes of structural transformation.

### Map ES4 Historical resilience outcomes (economic shock of early 1990s)



### What Helps Build Or Shape Resilience?

The prevailing characteristics of regions set the context for their resilience to economic shocks. These innate properties shape the capacity of a region to react to changing circumstances, often as relatively autonomous responses to economic shocks. These underpinning structures can be divided into four broad categories (Figure ES1).

**Figure ES1 The foundations for resilience**



By far the greatest influence on the resilience of a region is the form and structure of the economy. This includes the initial strengths and weaknesses of regions, their industrial legacy, the size of the market and access to a larger external market. Broadly, dependence on particular sectors, or a small number of employers, is detrimental to the resilience of the economy. A more diverse economic structure provides greater regional resistance to shocks than does a more specialised structure since risk is effectively spread across a region's business portfolio. A key factor underlying resilience is the very strong positive relationship between higher levels of innovation performance and observed resilience outcomes. Regions that are classified as Innovation Leaders were the most likely to resist the economic crisis (23%) and to recover from the crisis (72%).

A region's population can also influence its ability to withstand – or recover from – an economic shock. In practice, the relationship between population characteristics and resilience has proved to be complex and non-uniform. The clearest relationship is in the area of skills. Areas with more highly qualified populations tend to have more positive resilience outcomes. Flexibility in labour markets has also been an important feature shaping the ability of many regions to respond to economic crisis, such as where firms and workers agreed shorter working weeks.

Some place-based characteristics have proven more significant than others. Urban areas, and those which are more accessible, tend to be more resilient than more remote locations. The resilience of mountainous, coastal and island regions depends on wider context rather than simply their physical characteristics. Regions that were eligible under the Competitiveness and Eligibility strand of the Structural Funds also proved to be disproportionately likely to have resisted or recovered from the crisis.

Community-based features appear to have some impact on observed levels of resilience, although the evidence for this is primarily qualitative. Whilst rarely strong enough to impact directly on the ability of an economy to withstand the effects of an economic crisis they are able to play an important role in shaping the way in which it responds and the opportunities available to communities. Strong social ties and positive levels of community based capital (including business networks, and inter-firm social capital) can play an important role in mediating resilience outcomes. Of most significance is the finding that the quality of governance has a crucial influence on observed resilience outcomes.

Alongside important structural features that appear to influence levels of resilience the role of agency and choice also emerge as formative influences on the nature of response to crisis. Resilience is shaped by the ability of individuals, organisations, and policy-makers, to learn and to adapt. Individuals, organisations and communities have adapted to the economic crisis through making changes to their actions and behaviour. The choices they make are highly contingent on individual context and depend on the interplay of local, national and international forces; how they understand these forces to affect themselves, and the choices made by those around them and with whom they

interact. Regions with higher levels of resilience appear to have learnt from their experience of past events, whilst those with less experience on which to draw were impeded in their ability to respond.

### **Policy Approaches To Promote Regional Resilience**

There is no single path to a resilient economy, but some common themes emerge. A key role taken by public authorities in the aftermath of an economic shock is to stabilize the situation, both through its own actions and through helping to reduce the uncertainties facing households and firms. A second dimension of public policy is to promote economic recovery through helping firms and households to adapt to new circumstances. In the current crisis, however, many traditional policy instruments - based around public-sector expenditure - have been limited due to prevailing austerity measures. Typical policy responses to promote recovery can include:

- Economic stimulus packages
- Employment support
- Promoting flexible working
- Supporting training
- Promoting entrepreneurship, competitiveness and innovation
- Encouraging economic diversification
- Tax and investment incentives
- Easing eligibility rules and providing access to credit
- Government reform and institutional change
- Leadership and dialogue
- Supporting community responses

The foundations of resilient economies are formed many years prior to an economic shock. This is where preparatory actions come to the fore. It is policy decisions taken in the years and even decades prior to a shock that shape the capability of the region to respond to the shock itself. Four features stand out as crucial considerations in developing a resilient economy.

1. Diversity – More diverse economies tend to be more resilient over time as they prove more able to adapt to changing circumstances.
2. Skills – Policies promoting higher-qualified and higher-skilled labour help to build economies with greater resilience capabilities.
3. Innovation – Regions with higher levels of innovation activity tend to be able to respond to economic shocks more positively than those where innovation capabilities are lower.
4. Good governance – There is a strong correlation between the quality of government present in a region and its observed capacity for resilience to economic shocks.

Resilient economies are those that are able to embrace change and this requires an understanding of the constituent parts of the economy, associated pressure points and potential vulnerabilities. A resilience ‘healthcheck’, using an appropriate dashboard, can play an important role in preparing a resilient economy. Equally, when developing policies promoting resilience, authorities should not overlook the significance of softer policy instruments, particularly those that enable the development of a self-organising capacity amongst the community.

Regions are shapers and not merely containers of economic agents and their activity . To promote resilience, it is essential to tackle the specific challenges facing particular places. These tend to be most fully understood by sub-national policy actors. This highlights the importance of place-based actions. But, resilience is a shared responsibility. Actions that integrate national and sub-national approaches are to be preferred over those that focus exclusively on one or the other. The experience of sub-national authorities during the past crisis, and in the time leading up to it, demonstrates the limitations of local-actions. The ability to mobilise finances and resources are greater at the national level, particularly when not all places are experiencing the economic shock to the same extent. Resilience is also strengthened where risks can be shared across territories.

## **Recommendations**

Regional resilience is a place-based capacity shaped both by a territory’s inherited resources and structures, as well as its people and the agency of its individuals, businesses and other organisations. To build resilient regional economies for the future we recommend that:

1. Regional policy-makers develop a robust assessment of the potential risks and vulnerabilities to possible shocks facing their region.
2. Policy approaches that seek to develop adaptive capacities within regional economies should be preferred.
3. A long-term approach is taken, that stresses the importance of strengthening the capacity of agents to act independently, rather than necessarily seeking public-sector led solutions
4. Recognition should be given to the importance of high quality governance arrangements in promoting more resilient economies.
5. Policies promoting resilience should take into consideration place-based characteristics, recognizing local variation.
6. Policies promoting resilient regional economies will best be developed through complementary actions at the sub-national and national scale.
7. Developing a risk sharing facility as an explicit element of Cohesion Policy should be explored as a means of promoting balanced territorial development.

8. The European Commission support the development of good resilience practices. This may be through the building of capacities amongst regional actors, through the sharing of information or the development of pilot projects.
9. Attention now be given to the issue of transformation and recovery. Policies are required that encourage the transformation and adaptation of economies in these regions most affected by the recent economic downturn.



# 1 INTRODUCTION

## 1.1 Background

**Why did some regions withstand the recent economic shock better than others?**

The economic crisis of 2008/9 heralded the most severe economic downturn in the history of the European Union. Yet not all regions experienced economic decline and rates of recovery have varied greatly. Whilst some places experienced a swift return to pre-crisis levels of employment and economic output, for others the process has proved much more protracted, with many economies apparently entering a period of sustained stagnation. It is only now, some eight years after the first signs of the impending economic crisis emerged, that we even begin to have the data to fully understand how this has affected the economies of Europe.

**Why did some recover more quickly?**

This differentiated experience raises important questions as to why some regions prove to be more able to withstand economic shocks than others, and what influences their ability to recover. It has also led to an interest in the concept of economic resilience, both amongst academic researchers and policy makers as well as in the popular press. This increasing interest in the resilience of economies raises its own questions. What is it that makes some economies more resilient to economic shocks than others? How might policy-makers positively influence this? And, significantly, what do we actually mean when we speak about a resilient economy?

In order to address some of these questions and to better understand the territorial impacts of the economic crisis ESPON commissioned this study examining the economic crisis and the economic resilience of regions. It had the following principal objectives:

- To deepen our understanding of the territorial impact of the economic crisis across Europe
- To estimate the economic resilience of European regions
- To understand the role of territorial policy responses in promoting economic resilience

This has been undertaken through a mix of quantitative analysis and eight in-depth area studies. The quantitative analysis involved a novel approach based on identifying the actual year that each region entered into economic decline, and the year in which it recovered its pre-crisis level of economic activity. In this way the report avoids assuming that all parts of Europe entered the economic crisis at the same time.

This report sets out a summary of the main findings of the study. Section 1 provides an introduction to the economic crisis and the concept of resilience. Section 2 explores the territorial impact of the economic crisis. Section 3 identifies the resilience of regions across the ESPON space to the economic crisis. Section 4 provides a brief introduction to the experiences of each of the eight cases studied. Section 5 considers the factors that underpin the economic resilience of regions. Section 6 identifies the policy responses that have promoted regional resilience. Section 7 provides some broad conclusions and recommendations. For a fuller coverage of any element of this work readers can refer to the accompanying Scientific Report.

## **1.2 Economic shocks**

Economies are never static, they are dynamic entities that in a continuous state of flux. They expand and contract in response to events, caused by the interplay of decisions taken by a complex web of individuals, firms, public agencies and other organisations connected through a complex transactional web. Occasionally, these existing transactional pathways of production and consumption are interrupted by some shock, with consequences at the individual, local, regional, national or even international level.

The focus of this report is on the recent economic crisis of 2007/08 (Box 1.1). This acted as a major shock across the economies of the ESPON area, with severe, and often long-lasting, consequences. The scale of this event provides an opportunity for comparative assessment, the results of which can help to inform our understanding of more localised economic shocks - such as the closure of a major employer, or a more national or regional event, such as with the closure of important export markets or technological shifts that undermine whole industries.

Economic shocks can also occur as a consequence of a natural event, such as an earthquake or flooding, or a man-made event such as conflict. Again, we hope that the lessons learnt from this study can help to strengthen the resilience of regions in these cases as well.

Whilst economic shocks are not particularly rare events and their likely occurrence can be broadly foreseen, the consequences of these shocks are much less predictable<sup>1</sup> - as witnessed by the rapid unravelling of the economic order following defaults in the American sub-prime mortgage market. It is the consequences of an event that tends to mark it out as a 'shock' to the system and, certainly, to attach the word 'crisis'. At a local level, the effects of a wider shock can often be exacerbated by localized events, such as the closure the restructuring of a major plant, which leaves the economy more vulnerable to the effects of the wider crisis. It is often this layering of local and international events that precipitates the deepest territorial effects.

### Box 1.1 The financial crisis of 2007/2008

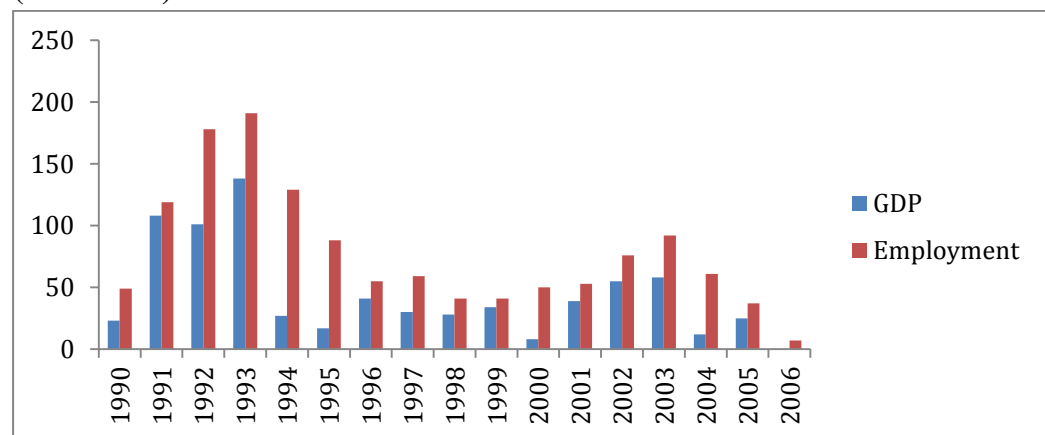
The global economic crisis is generally accepted to have been precipitated by a slow-down in the US economy, triggering substantial losses in the sub-prime mortgage market and creating a global liquidity crisis as losses were passed from bank to bank through their exposure to financial products such as derivatives and credit swap agreements. A short sharp fall in economic output followed as firms struggled to gain credit from a crisis-hit banking sector.

The headline effects of the global ‘credit crunch’ was the bankruptcy and bail-out of over-exposed banks across western economies, resulting in a second wave crisis characterized by rising levels of sovereign debt, swingeing austerity measures in affected economies and the rise of co-ordinated international support. Austerity measures, coupled with the earlier liquidity crisis, have caused firms and households to reduce consumption reinforcing the contractions in economic output first highlighted in 2008.

**At any one time there are always some regions experiencing an economic downturn.**

The ebb and flow of economic fortunes is evident in Figure 1.1. Between 1990 and the emerging economic crisis in 2007 there has only been one year where all regional economies in the ESPON space were experiencing growth in economic output, and no year that all regions experienced employment growth. What then constitutes a crisis (or a wide-ranging shock that merits pan-European analysis)? From the data it is apparent that there are two European-wide downturns within the period 1990-2007, prior to the most recent economic crisis. One occurs in the period 1992-93 and the other, smaller, event occurs around 2002-2003. This provides a context for the present study.

**Figure 1.1 Number of regions experiencing employment or GDP decline (1990-2006)**



Source: ESPON ECR2 (n=280)

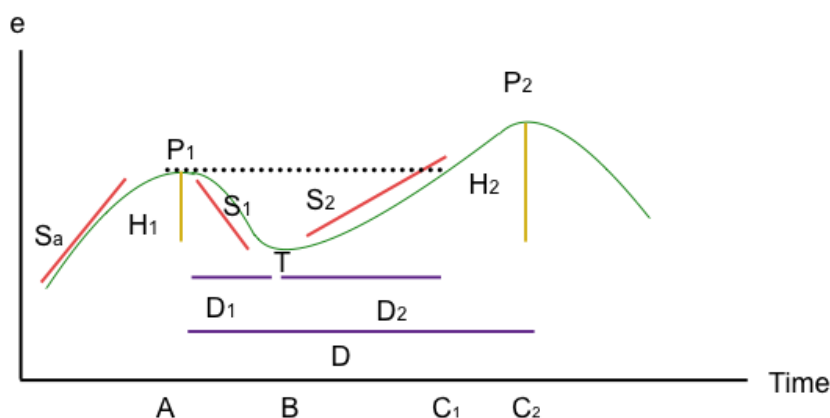
### 1.3 Economic Resilience

Resilience has become one of the leading ideas of our time for dealing with uncertainty and change. It is a concept which is increasingly being utilised by authors and policy-makers keen to understand how local and regional economies deal with economic shocks and recessionary crises. At its simplest, resilience refers to the ability of a system to ‘bounce-back’ or return to its pre-shock position (Box 1.2). The faster the economy returns to its pre-shock position the more resilient it is. Whilst this offers a compelling view of resilience in the short-term, it may be less instructive over the medium to longer term.

**Economic resilience is the ability of an economy to withstand, absorb or overcome an economic shock**

#### Box 1.2 Depicting resilience

The simple model of economic resilience is illustrated below. In this model, following an economic shock at point A recovery occurs at point C1, when employment (or output) regains its pre-shock peak level (P1). The time taken to recover is given by D1 + D2; whilst the duration of the whole business cycle is given by D. H1 signifies the amount of economic output or employment lost during the economic downturn. The model does not consider notions of adaptive capacity, nor the time it takes to return to levels of pre-crisis activity levels.



- P = Peak
- T = Trough
- H = height of economic peak/Trough
- S = slope of growth path (decline or recovery)
- D = duration of downturn/recovery

**In the longer run, economic resilience is determined by the adaptive capacity of an economy, which affects its ability to maintain a long-term growth path**

Here, a second definition of resilience is appropriate. This is based on an adaptive notion of resilience, where resilience is defined as the ‘the ability of the region’s industrial technological, labour force and institutional structures to adapt to the changing competitive, technological and market pressures and opportunities that confront its firms and workforce’<sup>2</sup>. Regional economic resilience from this perspective is conceived as a multi-dimensional property embracing not only

**Definitions of resilience can have a subjective component**

**An economy that is resilient in the short-term may not be so in the longer-term.**

**The longer you can resist, the more time you have to adapt**

recovery from the shock and resistance (the ability of regions to resist disruptive shocks in the first place), but also re-orientation (the extent to which the region adapts its economic structure), and finally, renewal (the degree to which the region resumes the growth path that characterised its economy prior to the shock)<sup>3</sup>. Shocks can thus have both temporary and lasting ‘hysteretic’ impacts on system functioning<sup>4</sup>.

Whilst the notion of recovery is a powerful popular indicator for a resilient economy, it leaves a number of questions to be addressed about the intended state of recovery after a shock; the required adaptations in regional economies, or indeed when relevant crises and transformations can be considered to be over<sup>5</sup>. For many, regional economic resilience has a subjective component, with resilience goals the subject of social construction, particularly at the political level<sup>6</sup>. For example, research in America has found that the perceptions of leaders in a region about a region’s resilience may differ from measured economic performance<sup>7</sup>.

It is worth noting that resilience to an economic shock does not necessarily imply that the economy is otherwise strong and performing well over the longer-term. It is simply a measure of how the economy responds to a particular economic shock. Resilience may thus differ from economic growth. Equally, regions that experience a very tight labour market prior to a shock may appear to be less resilient (owing to the difficulty of returning to artificially high employment rates).

Furthermore, there may be a trade-off between resilience in the short-term and over the longer-run, as an economy that appears resilient in the short-term may simply be papering over fundamental faultlines, constraining adaptation, and prove to be less resilient in the longer-term. A resilient regional economy may also be undesirable if it is characterised by unsustainable growth or behaviour, widespread inequality or excessive economic fluctuations, or social ills associated with continual upheaval and change.

#### **1.4 Measuring resilience**

With the increase in popularity of the concept of resilience has come a plethora of means by which this might be measured. Indexes of resilience are increasingly popular with academics and policy-makers, seeking to demonstrate how one place is more resilient than another. Whilst these have their strengths they remain largely unproven. In fact, past indexes proved remarkably inaccurate in predicting the resilience of economies to the most recent economic crisis. One reason for this is that every crisis is different, making it hard to know which factors are likely to promote resilience and which might constrain it. Also, the

unique combination of features within individual economies makes it difficult to predict how these will interact to promote or constrain resilience outcomes.

Within this report we assess the resilience of regional economies to the economic crisis through the use of two principal indicators: the number of persons employed and levels of economic output (GDP). Neither are perfect, but overall they offer more strengths than weaknesses. Our preference is a measure of resilience based on the number of persons employed, particularly in the short-term. This reflects the commonly-held perspective that having a job is better than having no job, and acknowledges the social costs associated with employment loss. People tend to relate more readily to this as an indicator of economic strength than they do to measures of economic output, such as GDP or GVA. However, we recognise that economic output levels are, themselves, a widely-accepted measure of economic performance, and one which may give a better indication of the overall resilience of an economy over the longer-term.

One alternative measure of economic resilience could be levels of registered unemployment. This offers a strong indicator of the ability of an economy to offer employment opportunities and overcomes the criticism that high pre-crisis levels of employment may have been unsustainable. However, as we are seeking to measure the resilience of the economy we prefer the direct employment measure. A second alternative measure might be in terms of household income levels. Again, there are strong arguments in favour of this, particularly over the longer-term. In the short-term, however, there may be a trade-off in income retention and employment levels. Consequently, for the purposes of this study, we have favoured employment retention, or recovery, as the key goal.

On this basis, economic resilience is defined as the ability of a region to avoid a fall in economic activity or to regain pre-crisis (or pre-shock) peak levels of employment (or GDP). We include two categories of resilient territories: those that resisted the crisis (RS) and those that recovered from the crisis (RC). We also include two categories of regions that were not resilient to the crisis: those that have begun their recovery, but where employment (or GDP) has not yet returned to pre-shock levels (NR1) and those that remain in decline (NR2). Here we use the simple definition of resilience – the ability of an economy to withstand or recover from an economic shock. We have taken a time period of three years as our timescale in which recovery should occur.

**Resilience is not some form of league table with regional rankings. Rather, there are regions that have proven to be resilient and those that have not.**

**Figure 1.2 Regional Resilience Categories**

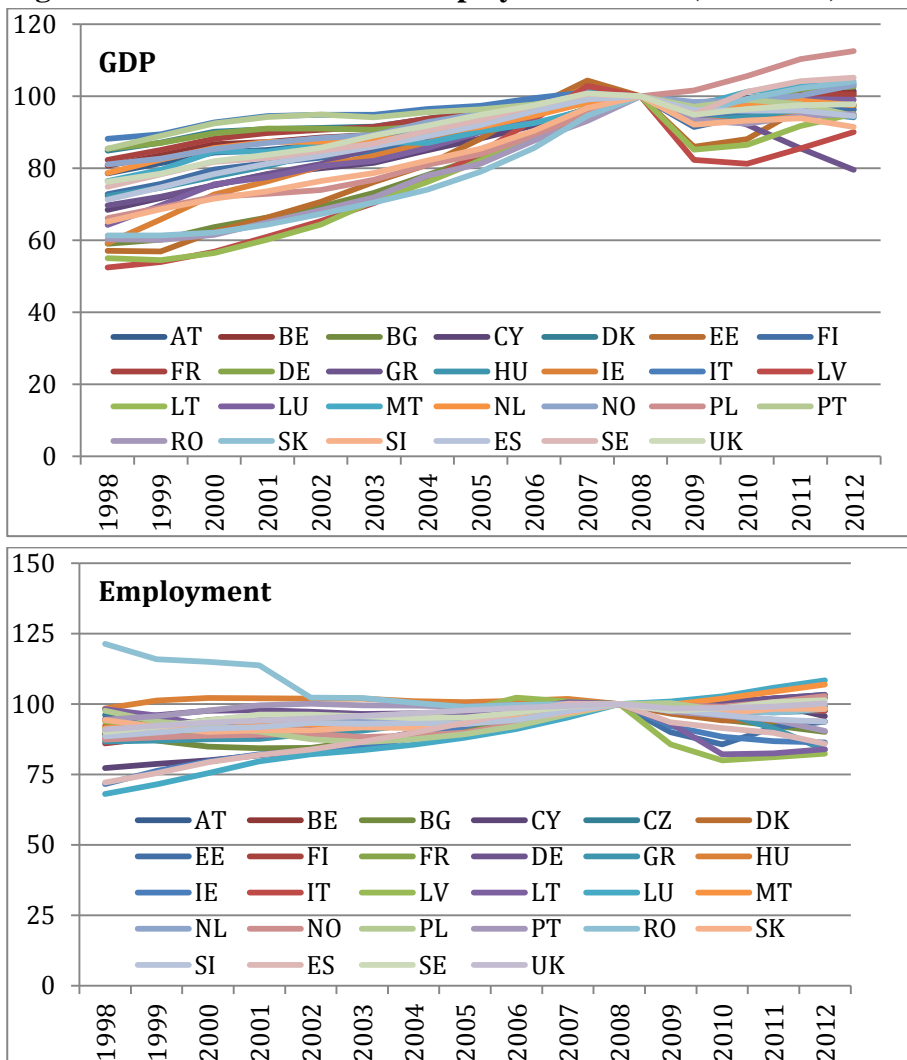
<i>Status</i>	<i>Category</i>	<i>Abbr.</i>	<i>Description</i>
Resilient	Resistant	RS	Resisted an economic downturn ie no fall in numbers employed
	Recovered	RC	Recovered to pre-crisis activity levels (within 3 years of the original downturn)
Non-Resilient	Not Recovered: Upturn	NR1	Activity levels now rising but not achieved pre-crisis levels within 3 years of the original downturn
	Not Recovered: No upturn	NR2	Activity levels continuing to decline 3 years after the original downturn

## 2 TERRITORIAL IMPACT OF THE ECONOMIC CRISIS

### 2.1 The NICE decade comes to an end

Following an almost unprecedented period of sustained economic growth across Europe, the impact of the global economic crisis was sudden and widespread. Economic output contracted across all ESPON members apart from Poland, bringing to a halt the widespread growth experienced since the 1990s (Figure 2.1). Employment losses swiftly followed the fall in economic output, with overall numbers in employment recording a fall in 2009. The path to recovery since then has been slow for most states, with emerging evidence of a long stagnation.

**Figure 2.1 Index of GDP and Employment trends (2008=100)**





**The spread of the economic crisis peaked in 2009, but recovery has been slow**

**2.2 Early onset and later entrants**

Whilst the ESPON economy as a whole entered into recession in 2008/09, some regions experienced an economic downturn in the years immediately preceding this. As Figure 2.2 illustrates, economic decline was being experienced in a small number of regions in 2005 and 2006. The number of regions experiencing a decline in employment levels picked up rapidly in 2007 and 2008 as the full effects of the crisis took hold, before reaching a peak in 2009. Since 2009 there has been a gradual increase in the number of regions recovering to their pre-crisis levels of employment, although Figure 2.2 also vividly illustrates the long-lasting effects of the crisis across large parts of the ESPON territory, and the fact some regions in Poland that withstood the crisis have more recently begun to experience employment decline.

**2.3 Employment losses unevenly distributed**

Across the ESPON area (ESPON 31) total employment fell by 2.14% by 2011, with the EU15 experiencing a similar decline (Table 2.1). The experience of the Member States that have joined the EU post 2004 is somewhat worse, with an average fall in employment of 2.22%, despite the better performance of the Polish economy. This is dwarfed though by the difficulties evident in the Member States that sought assistance from the European Financial Stability Fund, where employment levels fell by almost a tenth. Membership of the Euro currency unit (the ‘Eurozone’) has also been associated with a slightly stronger fall in employment than for non-euro States.

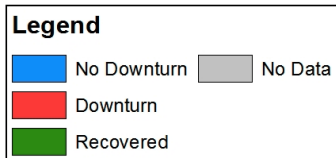
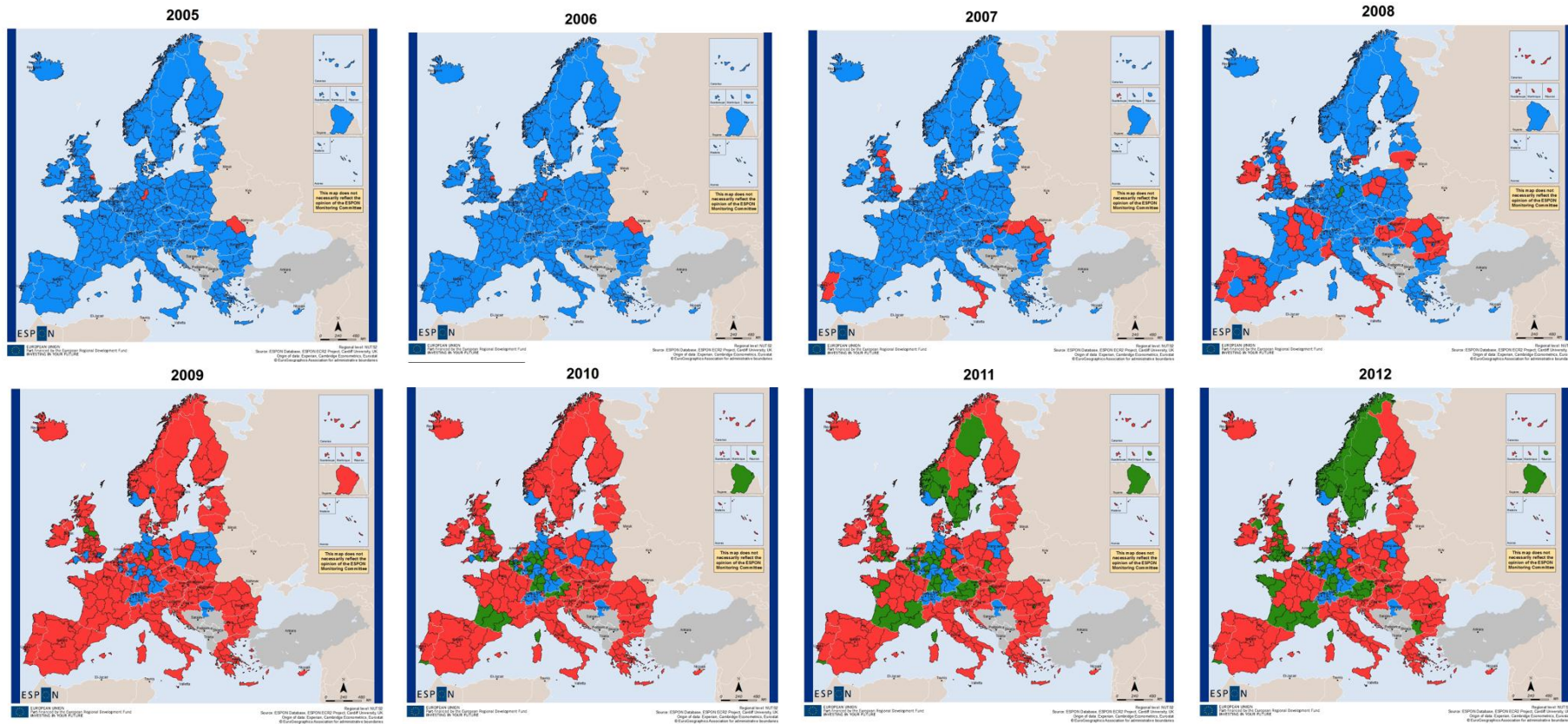
**Table 2.1 Employment decline across territorial groupings (% , peak year to 2011)**

	ESPON 31	EU27	EU15	EU12	Eurozone	Non-Eurozone	EFSF
% employment loss	-2.14	-2.22	-2.14	-2.55	-2.27	-2.11	-9.47

Source: ESPON ECR2. EU27 is used as Croatia was not a member of the EU until 2013.

The severity of the crisis has varied within the ESPON territory, with some regions being affected more strongly than others. The spatial distribution of employment loss is illustrated in Map 2.1, highlighting a strong peripheral geography to the most severe employment losses.

**Figure 2.2 Spread of the crisis across the ESPON Space**



Source: ESPON ECR2

Map 2.1 Employment loss during the crisis (2004-2012, NUTS 2)<sup>8</sup>

**Employment losses have been concentrated in a small number of regions and states**

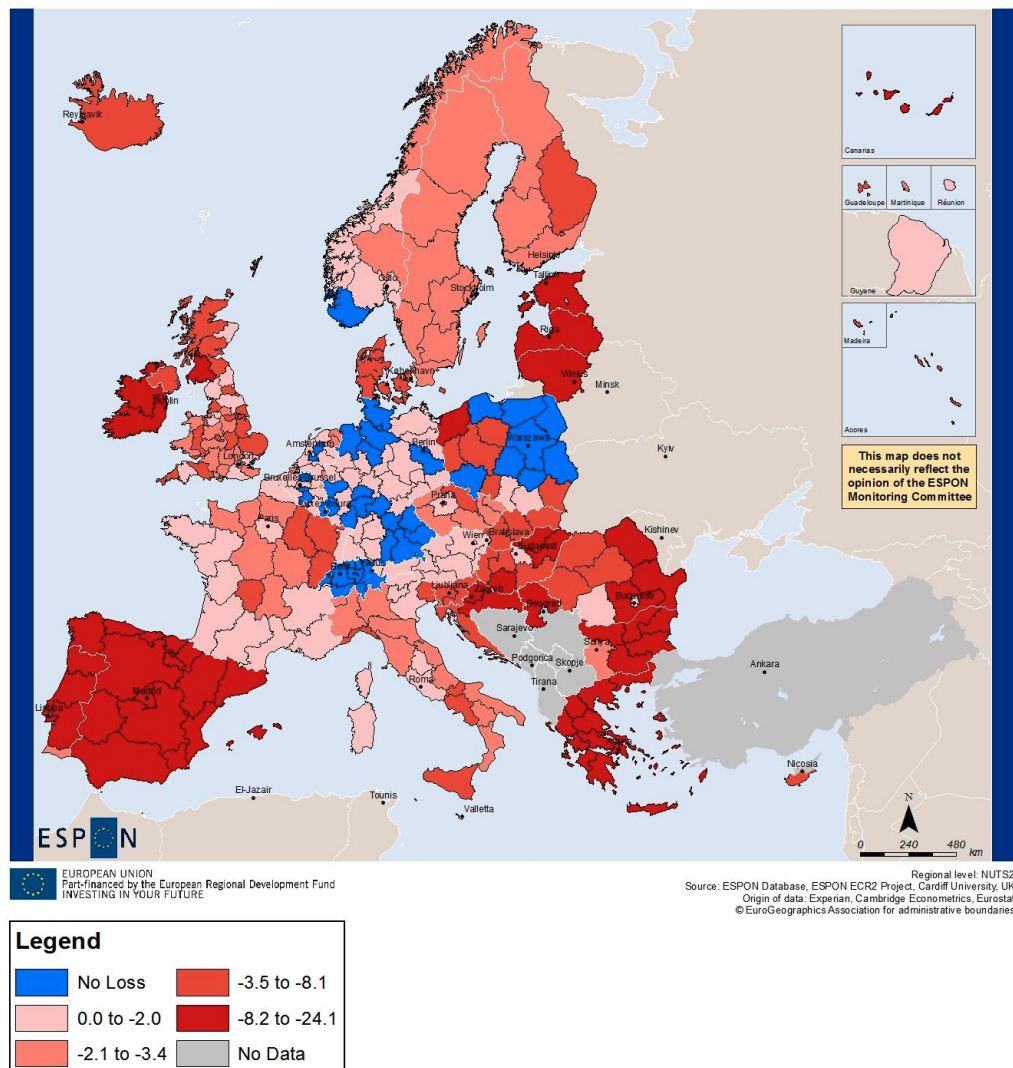
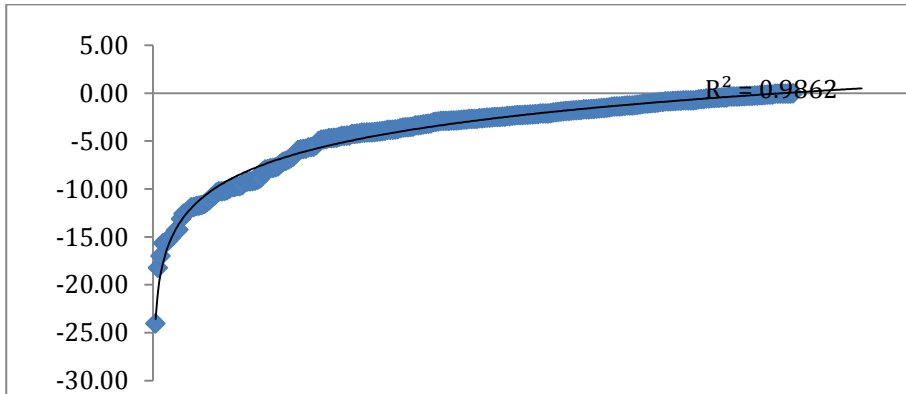


Figure 2.3 illustrates the proportionate fall in employment in each region. Whilst employment levels fell by less than 5% in most regions, a small number of regions have been affected much more adversely. The most extreme case is Latvia, which has recorded a total fall in the number of persons employed that is approaching a quarter of the numbers employed at the peak of the boom. The distribution of employment changes across regions is non-linear and takes a logarithmic form, suggesting that there is a strong reinforcement mechanism at work. This finding is strengthened by the experience of many Greek regions, where recent data suggests that employment losses continue to mount.

**Figure 2.3 Employment decline by region (% , peak year to 2011)**



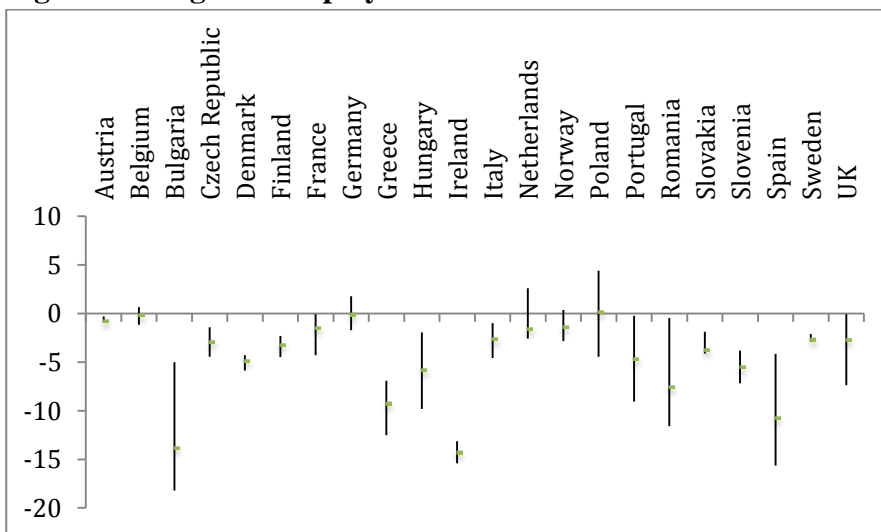
Source: ESPON ECR2

The effects of the crisis are not necessarily evenly distributed within countries, although this can be the case. Figure 2.4 illustrates the distributional impact of the crisis within countries as indicated by the spread of employment losses between those regions most heavily affected within each country and those least affected. The median point within each country is indicated by the bar. We have excluded single region countries, including only those countries containing more than one NUTS 2 region.

Whilst countries like Austria, Belgium, Denmark, Finland and Sweden all exhibit a relatively small range in terms of the recorded employment impact of the crisis, a much wider range of experience is visible in countries such as Spain, Bulgaria and Poland. Whilst the differential between regions might be expected to be less in small two-region economies this is not always the case, as demonstrated in Slovenia.

**Within country variation is also strong in many cases**

**Figure 2.4 Regional employment loss within selected ESPON states**



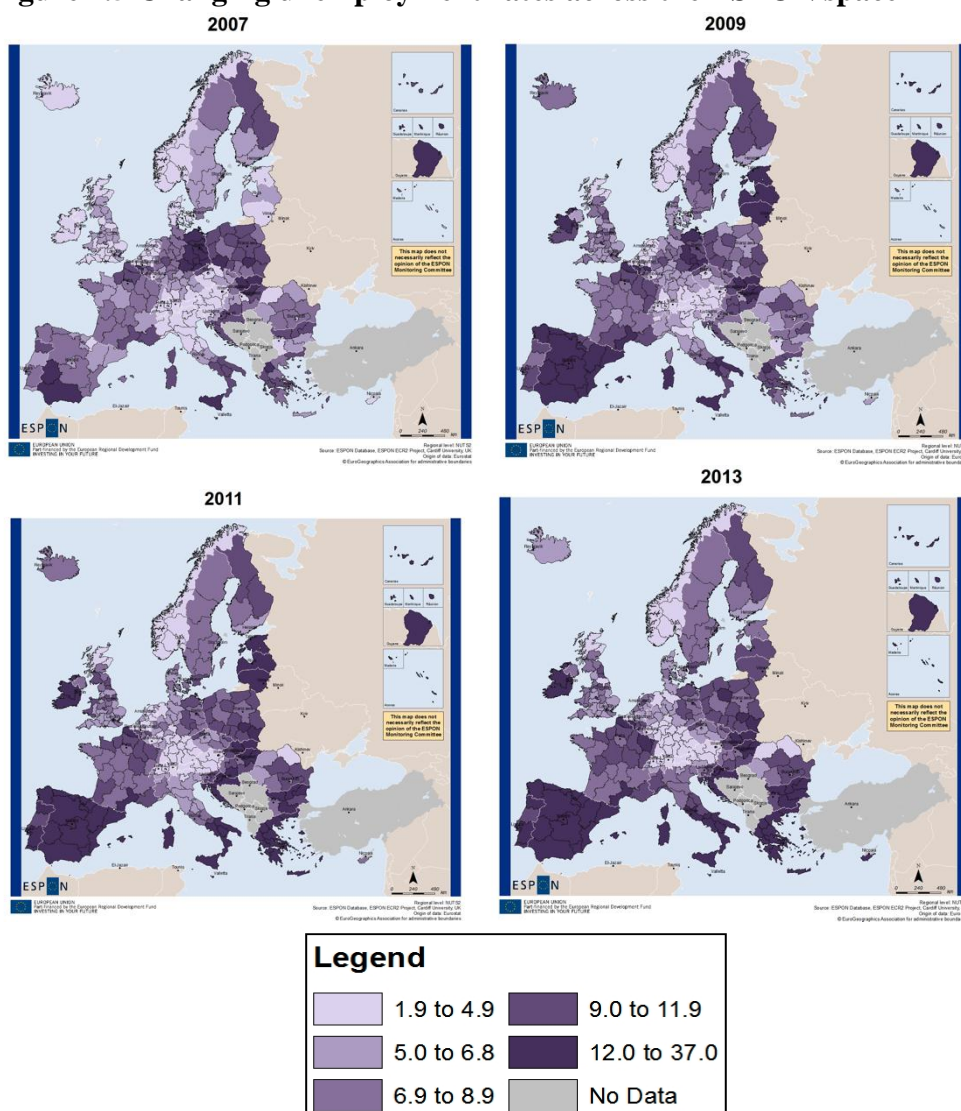
Source: ESPON ECR2



## 2.4 Widening disparities and rising unemployment

Amongst the headline effects of the crisis have rising levels of unemployment. An initial reduction in unemployment rates across the EU in 2010 proved shortlived as the developing fiscal crisis led to a further rise in recorded levels, with the median rate of registered unemployment reaching 8% in 2011. The first signs of a fall in unemployment have begun to emerge in 2013, although this is not uniform across the ESPON space. As evidenced in Figure 2.5, which illustrates the changing pattern of unemployment across the ESPON space over the course of the crisis.

**Figure 2.5 Changing unemployment rates across the ESPON space**



Whilst unemployment rates have generally risen, actual rates of unemployment remained low (below 4%) in 17% of regions even at the height of the crisis (Table 2.2), demonstrating once again the unevenly distributed effects of the crisis.

**Table 2.2 Regional rates of unemployment (2007 and 2011, NUTS 2)**

<i>Unemployment rate (%)</i>	<i>Number of Regions (2007)</i>	<i>Number of Regions (2011)</i>
0-4	75	48
5-9	158	134
10-19	53	93
20-30	1	14

Source: ESPON ECR2

Within countries, there has been a reduction in the range of unemployment disparities in a small number of countries (Austria, Germany, Finland, the Netherlands and the Czech Republic) and they have remained the same in others (Belgium, Denmark, Poland and Slovenia). However, this is outweighed by the larger number of countries where disparities have risen between 2007-11 (Table 2.3).

The highest rises have been in Norway, Switzerland and Ireland, all countries where disparities did not previously exist (and so are disproportionately represented by the calculation). Table 2.3 illustrates that the reduction in disparities has relied on peak rates of unemployment<sup>9</sup> falling (or remaining the same) rather than faster rising rates of unemployment in better performing regions. Only in the Czech Republic has this latter case been evident.

**Table 2.3 Change in peak regional unemployment and disparities within states (2007-11)**

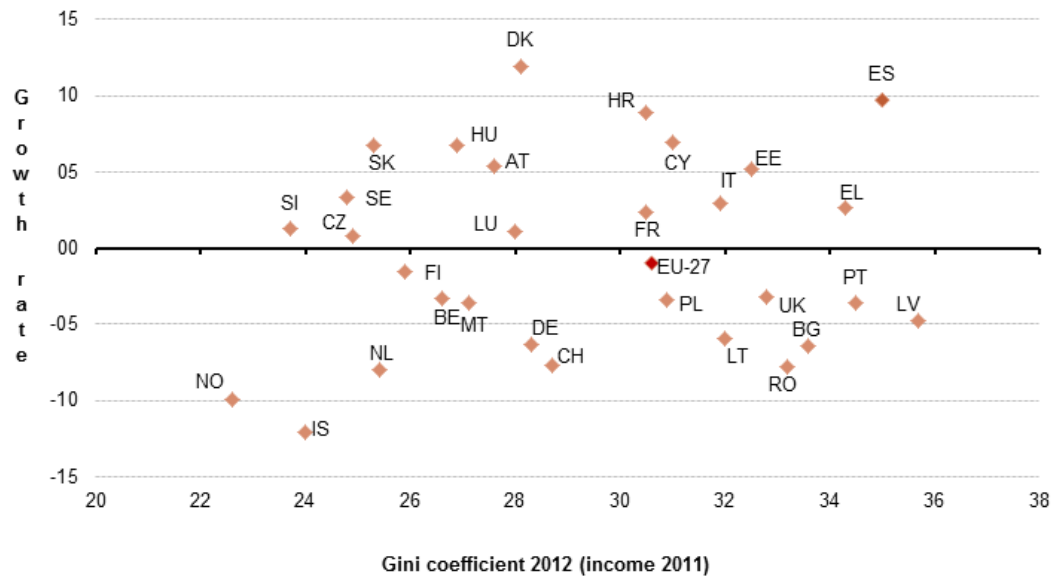
	<i>Lower peak unemployment</i>	<i>No Change</i>	<i>Higher peak unemployment</i>
<i>Widening disparities</i>			FR, EL, IE, HU, IT, ES, SE, SK, PT, UK, BU, RO, NO, HR, CH
<i>No change</i>		BE, PL	SL, DK
<i>Narrowing disparities</i>	AT, DE, FI	NL	CZ

One of the real impacts of the crisis has been the dramatically rising level of youth unemployment, particularly, but not only, in Spain, Portugal and Greece<sup>10</sup>. Concentrations of youth unemployment are visible across much of the EU, outside of the core heartlands of Germany, Austria and the Netherlands. Rates of youth unemployment are particularly affected by labour market opportunities, but also by labour market policies and practices, which can preferentially protect older workers at the expense of younger workers on more flexible contracts.

## Economic shocks do not always exacerbate inequalities

In a further sign of the uneven effects of the crisis, Figure 2.6 demonstrates that whilst income inequalities have worsened in many countries they have also improved in just as many. Particular adverse effects are visible in Cyprus, Estonia, Greece, Italy and Spain, where above average levels of inequality have worsened.

**Figure 2.6 Evolution of income inequalities (Gini coefficient after social benefits and pensions 2012, Gini growth rate 2008-2012)**



Source: Eurostat (ilc\_di12)<sup>11</sup>

## 2.5 Fall and rise of trade, exports and inward investment

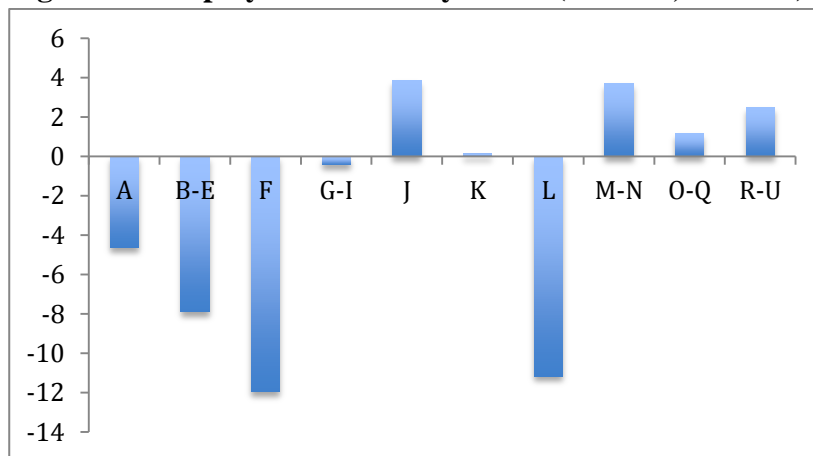
One immediate impact of the crisis was falling levels of credit availability as banks faced a crisis of liquidity and confidence. This affected private firms who were unable to access credit terms or investment finance. This, together with falling levels of confidence, led to reducing level of trade and falling volumes of inward investment. The decline in inward investment flows occurred both within the EU and from sources outside the EU. The gradually recovery of inward investment flows from within the EU from 2009 and from external locations from 2010 highlights the recovery of the global economy. However, levels of domestic demand for products in the EU remain depressed, reflecting the tight economic conditions of EU markets in the face of austerity policies and high levels of household debt in many countries.

## 2.6 Employment losses in construction, primary industries and manufacturing industry

Although total employment in the ESPON space has fallen during the crisis (by around 2%), this is not evenly distributed across sectors (Figure 2.7). Employment in sectors which have experienced job losses during the period of the crisis peaked in 2008, which has informed our choice of dates for the following analysis. Across the ESPON space, job losses during the crisis have been concentrated in the construction sector (NACE F) and the real estate sector (NACE L), reflecting the significance of the collapse in the property ‘bubble’ at the outset of the crisis. Other sectors that were badly affected included manufacturing industries (NACE B-E) and primary industries (NACE A). The number of persons employed in ICT (NACE J), Professional, scientific and technical services (NACE M-N) and Arts, entertainment, recreation and other services (NACE R-U) increased over this period; with public sector employment sectors (NACE O-Q) also registering a slight increase.

**Some sectors were much more affected by the crisis than others**

**Figure 2.7 Employment losses by sector (NACE2, 2008-11)**



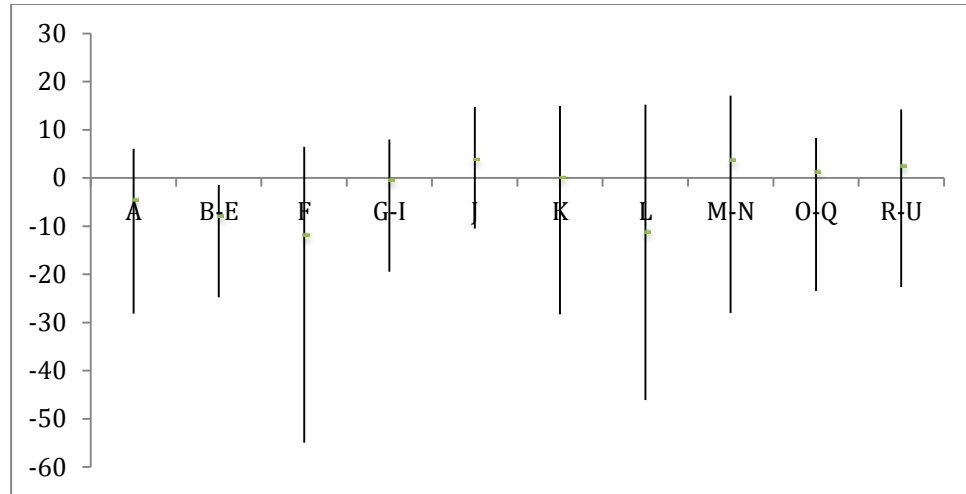
Source: ESPON ECR2

Experience across the ESPON space varies. Whilst industrial sectors (NACE B-E) recorded employment losses across all countries, all other sectors experienced growth in at least one country). Equally, although five sectors recorded employment gains across the ESPON space, all recorded losses in particular countries. The significance of employment falls for some sectors in particular countries is evident for both the construction sector (NACE F) and Real Estate activities (NACE L). Mean employment change for the sector is represented by the bar (Figure 2.8).

**But experience also differed by country**



**Figure 2.8 Variations in sectoral employment change across countries (Max-Min by country, %)**

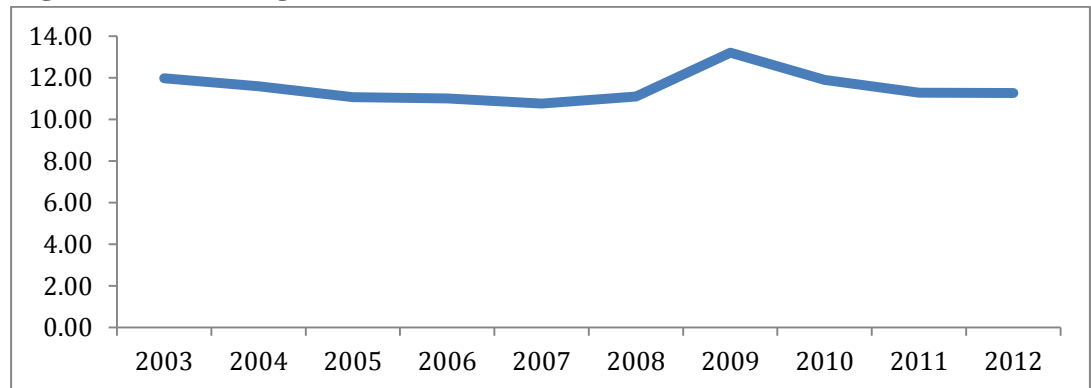


Note: omits outlier of 60% increase in Real Estate (L) employment in Bulgaria.  
Source: ESPON ECR2

### 2.7 Increasing indebtedness overall, but some exceptions

Across the EU, the gradual decline in household debt as a proportion of income during the economic boom came to an abrupt halt as household incomes fell and their debts rose (Figure 2.9).

**Figure 2.9 Ratio of gross household debt to income (EU28)**

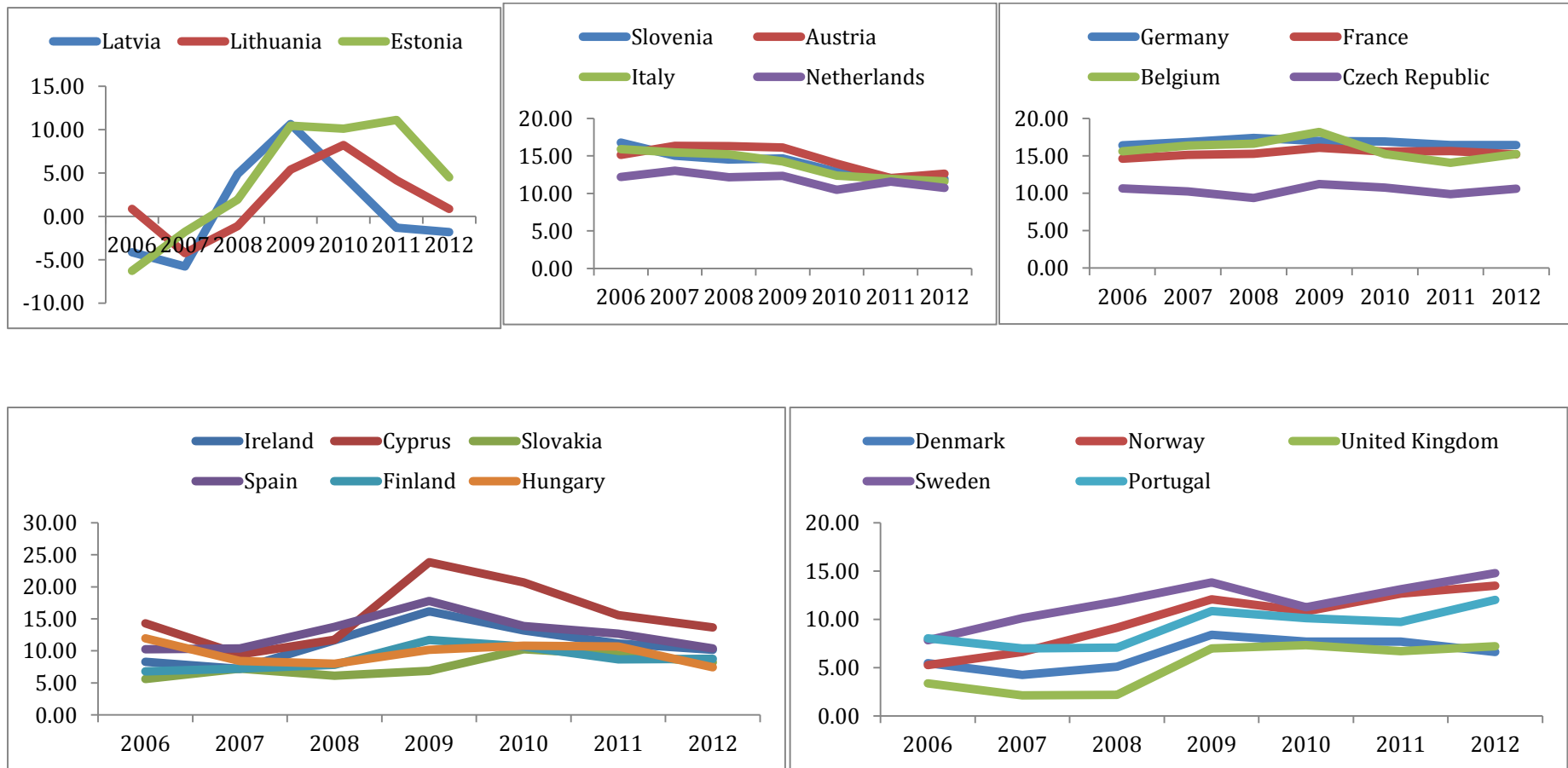


Source: adapted from Eurostat (nasa\_ki)

The aggregate figure for the EU hides some strong differences between countries (Figure 2.10). In four Member States levels of personal debt, relative to household income, have generally declined over the period of the crisis, although this is the exception. In most Member States, the debt:income ratio rose. It did so sharply, from comparatively low ratios, in the case of the Baltic Member States, before falling back. In three Member States, debt:income ratios continue to rise, whilst in a further two levels have only recently started to decline.

**The crisis led to a rise in household debt and to levels of government debt**

**Figure 2.10 Patterns of household debt:income ratio during the crisis**



Source: adapted from Eurostat (nasa\_ki)

The general trend of increasing indebtedness during the crisis, is mirrored by a trend of rising general government debt. By 2012, the ratio of Government debt to GDP had reached almost 160% in Greece. In contrast, in Estonia, also badly affected by the economic crisis, Government debt was just 10% of GDP. In two States (Sweden and Norway) there has been a noticeable decline in debt levels over the period of the crisis, whilst in other states, levels of Government debt are beginning to fall after rising during the crisis itself. Debt levels in Portugal, Greece, Ireland and Cyprus strongly increased between 2009-12.

## **2.8 Reduced working hours and rising levels of low work households**

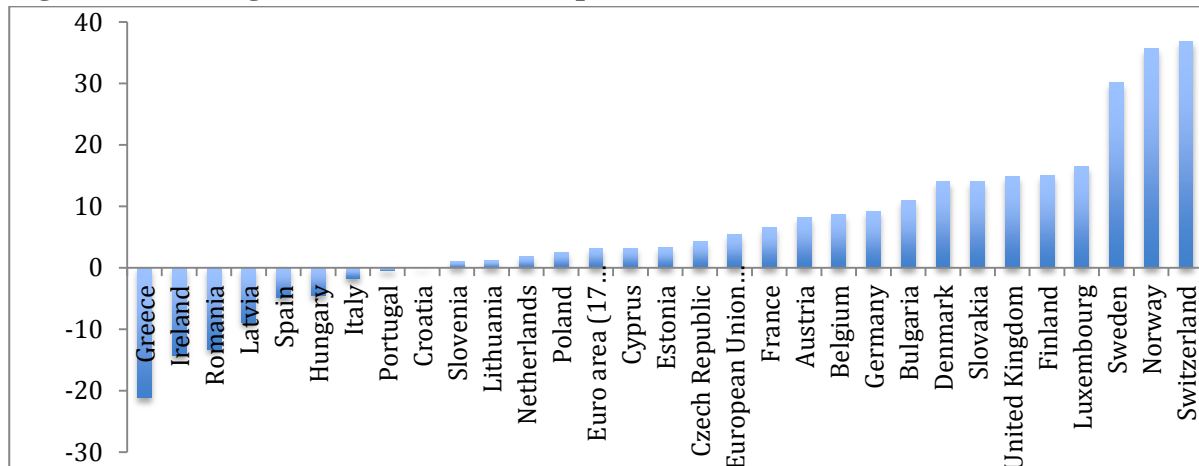
The crisis has been marked by a slight rise in the proportion of people living in households with very low work intensity, where adults worked less than 20% of their total work potential. Significant increases in low work intensity households were recorded in Iceland, Lithuania, Spain, Latvia and other economies badly hit by the crisis. In contrast, reductions in the proportion of the population living in low work intensity households can be seen in Germany Poland and Austria, as well as the Czech Republic and Austria. In 2012, the top five countries in terms of the proportion of their population living in low work households were: Ireland (24.2%<sup>12</sup>), Croatia (16.2%), Spain (14.3%), Greece (14.2%), Belgium (14.1%) and the UK (13%).

Overall, the crisis has also been marked by a slight increase in the number of hours worked (by 1% between 2005 and 2011). There is though a strong disparity in experience across the ESPON space, with the fall in the number of hours worked in 12 of the worst affected economies matched by a rise in hours in 14 economies.

## **2.9 Rising household incomes, but mixed messages for proportion of population at risk of poverty**

Across the ESPON space average disposable household incomes have risen by around 12% between 2005 and 2012. However, examining the period between the pre-crisis peak (2008) and 2012 the rise is around 6%. During this period household disposable incomes have fallen in eight countries, with significant falls recorded in Greece, Ireland, Romania, Latvia, Spain and Hungary (Figure 2.11). In Ireland and Greece household disposable incomes were lower than was the case in 2005, the only two economies where this was so in the ESPON space. The principle increases in household disposable income was to be found in Switzerland, Norway and Sweden.

**Figure 2.11 Change in total household disposable income (2008-12, %)**



Source: Adapted from Eurostat (nasa\_nf\_tr)<sup>13</sup>

One possible consequence of the economic crisis is an increase in the proportion of the population at risk of poverty. The ESPON TiPSE<sup>14</sup> project suggests that this is concentrated in southern Europe, but with important ‘hotspots’ identifiable elsewhere. Drawing on material from Eurostat, TiPSE identifies the significance of national welfare regimes as a mediator of the extent to which national populations are exposed to the risk of poverty.

## 2.10 Changing migration patterns

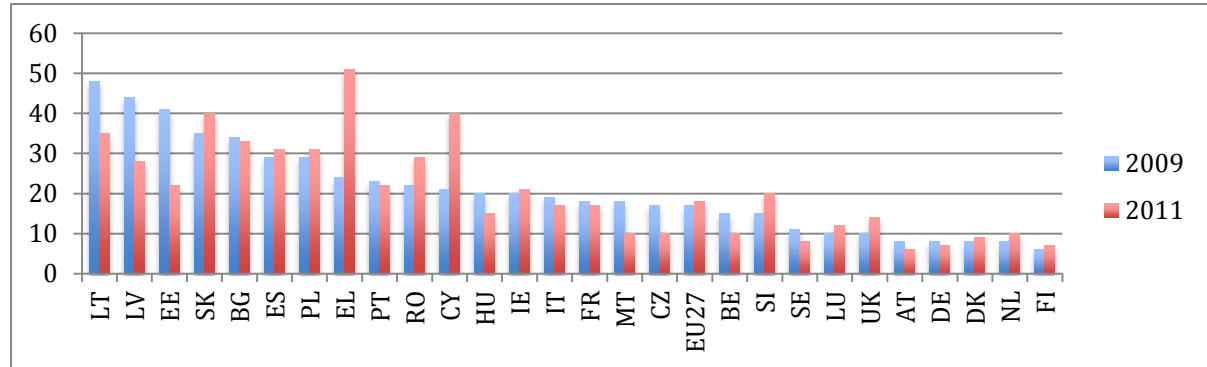
Overall there has been a reduction in levels of migration across the ESPON space, as labour markets tightened and changing economic circumstances reduced the attractiveness of late-career migration. According to the ESPON ATTREG<sup>15</sup> project, many of the regions most affected by the crisis continue to experience net in-migration. The net migration figures available at a regional level, are not able to distinguish local effects, such as those highlighted in some of the case studies for this work, nor the reported out-migration of young adults from Spain, Ireland and other struggling economies in search of work in the more vibrant economies of countries such as Germany and, more often, globally.

## 2.11 Negative perceptions of the future

One of the under-reported elements of the economic crisis is individuals’ perceptions of the economic climate they face. These perceptions can have an important influence on individual and household consumption patterns, as people make decisions on what they anticipate the duration and severity of an economic downturn may be. Qualitative data can also provide insights into the effects of the crisis on the incomes available to households.

In 2009 residents of the Baltic States were feeling least secure in their employment prospects, by 2011 this had changed to residents of Greece and Cyprus, with residents of Slovakia persisting in their feelings of insecurity (Figure 2.12).

**Figure 2.12 Proportion of respondents Not At All or Not Very Confident in their ability to keep their job (%)**



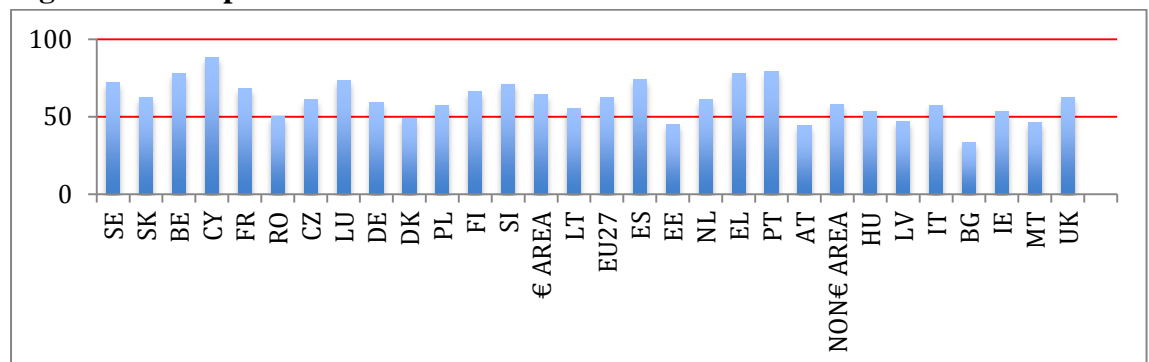
Source: adapted from Eurobarometer Flash EB no 286 (2010) and Flash EB no 338 (2012) Fieldwork in 2009 and 2011 respectively

## Expectations and confidence have also suffered during the crisis

In terms of the effect that the economic crisis is having on different parts of the EU, a survey undertaken in 2010 gives a very strong indication of the varying territorial impact. When asked whether the crisis was having a major impact or no impact, more than 80% of respondents in Hungary, Romania and Greece felt that it was having an important impact. In contrast, respondents in Sweden, Denmark, Germany, Austria, Finland, Netherlands and Luxembourg were most likely to feel that the crisis was having no impact on their personal situation.

Looking forwards from the 2012, most citizens of the EU believed the worst of the crisis remained ahead of them. This was particularly the case in Spain, Greece, Portugal and Cyprus, but also includes citizens of Sweden, Belgium and Luxembourg (Figure 2.13). Only in seven countries did most citizens believe that the worst is now past, and even here it was, on the whole, a fairly slim majority.

**Figure 2.13 Proportion of residents who believe worst of crisis is still to come**



Source: adapted from Standard Eurobarometer 78 (2012 Autumn)

### 3 THE ECONOMIC RESILIENCE OF REGIONS

Since the onset of the economic crisis the resilience of regions to the economic shock has been a pressing concern. In the following section we consider the extent to which economies were able to withstand the crisis, or have been able to recover to pre-crisis levels of economic activity.

#### 3.1 Weak levels of resilience to the economic crisis across the ESPON territory

Across the ESPON territory four countries, Luxembourg, Germany, Switzerland and Poland, have resisted the economic crisis and maintained, or increased, levels of employment in the period of the recent crisis. Only Poland also managed to maintain or increase its level of GDP (Table 3.1). By 2011, eight countries had recovered to their pre-crisis peak of GDP activity, and five to their pre-crisis level of employment.

**Two out of three regions were still to recover to their previous employment levels by the end of 2011**

**Table 3.1 National patterns of resilience to the 2008 economic crisis**

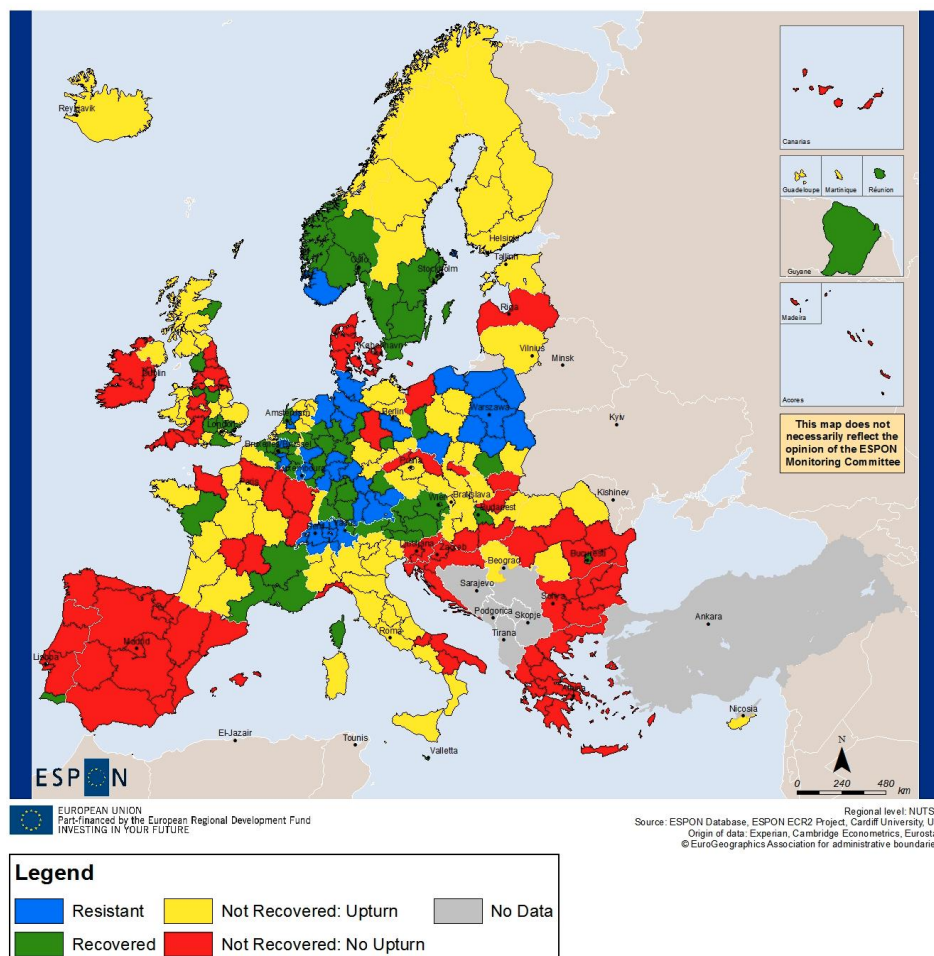
	<i>Employment measure</i>	<i>GDP measure</i>
Resisted	LU, DE, CH, PL	PL
Recovered	NO, SE, MT, AT, BE	DE, NO, SE, CH, AT, FR, MT, SK
Not Recovered: upturn	IS, UK, FR, NL, IT, FI, LT, EE, CY, CZ, SK, HU	IS, UK, IE, LU, NL, PT, ES, IT, DK, FI, EE, LV, LT, CZ, SL, HU, RO, BU, CY
Not recovered: no upturn	IE, PT, ES, DK, LV, SL, HR, RO, BU, EL	HR, EL

Of the 280 regions considered, more than a tenth (12%) had weathered the crisis and not experienced any fall in numbers employed, whilst almost a quarter (23%) had experienced a fall in employment but, by 2011, had recovered to the pre-crisis peak. Two-thirds of regions were still to recover by 2011, divided evenly between those that had passed the trough of the downturn, and those still to register the end of employment decline. The distribution of regional economic resilience is set out in Map 3.1, which illustrates a strong geography of resilience, clearly influenced by national patterns. However, important pockets of recovery and non-recovery are also apparent within this overall geography.

Focusing on those regions that have recovered to their pre-crisis employment levels, the average duration for this is 2.6 years. Whilst this currently captures the

most responsive economies it does provide a benchmark for resilience against which comparisons can be made. Significantly, given that almost two-thirds of economies experienced peak employment in 2008, with downturn recorded in 2009, we should expect to see their recovery in 2012 if average performance is maintained. However, for this to occur we would expect to have witnessed the beginnings of an upturn by this stage. This is not the case for all of those regions categorized as NR2 – not recovered: no upturn. Only 10 regions entered the downturn post 2009, for these we would not necessarily expect recovery by 2011.

**Map 3.1 Distribution of regional economic resilience (NUTS 2, employment, peak year to 2011)**



**National level effects are strong, but resilience is also a local phenomena**

### 3.2 Localised patterns of resilience

Resilience can also be a more localized phenomena, with neighbouring areas experiencing different patterns of resilience, depending upon specific local particularities (Box 3.1). Overall, a slightly greater proportion of NUTS 3 territories have resisted the crisis than is the case at the NUTS 2 scale, and a

slightly lower proportion of those that had not yet recovered have begun an economic upturn (Table 3.2).

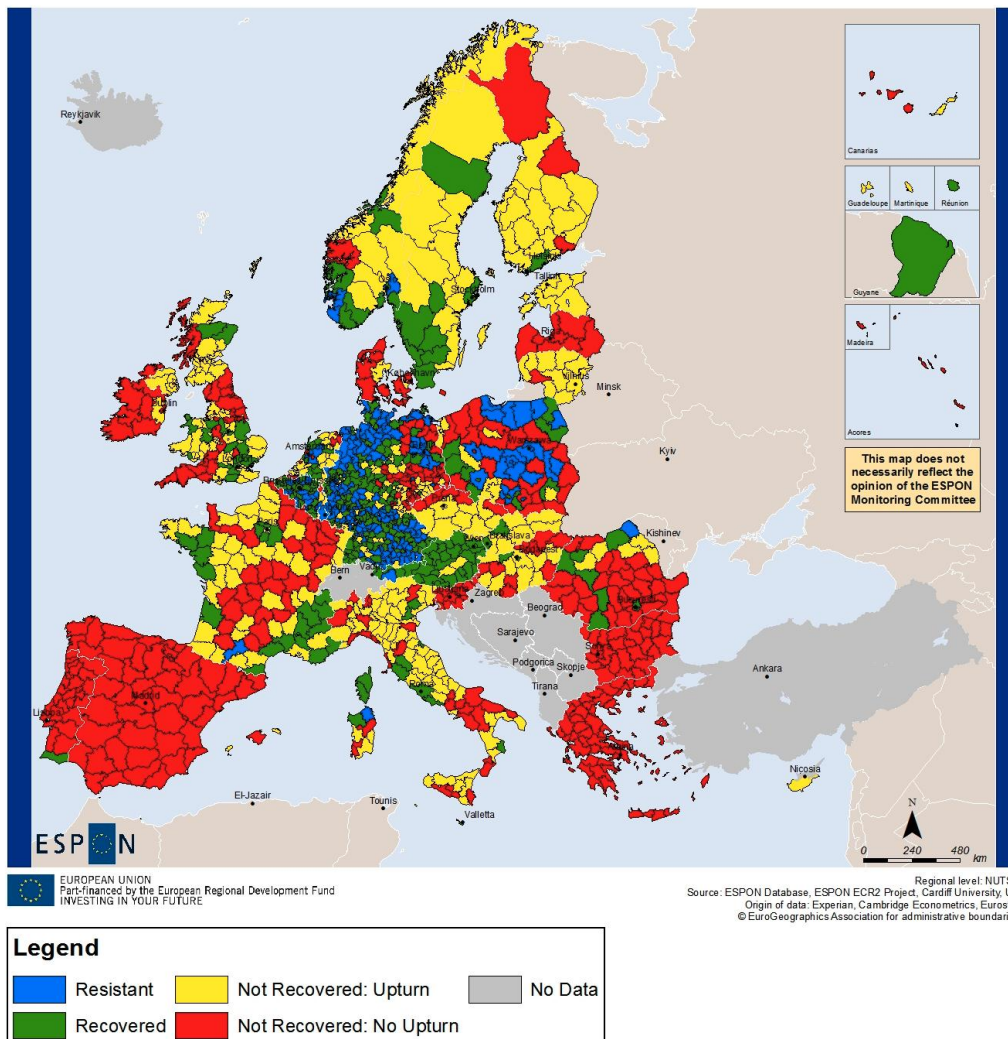
**Table 3.2 Employment Resilience of NUTS 3 Territories**

Resilience	Number of regions	Proportion (%)
Resistant (RS)	214	16.19
Recovered (RC)	314	23.75
Not recovered but in upturn	364	27.53
Not recovered and no upturn	430	32.53

Source: ESPON ECR2 (n=1,322)

Although national paths predominate, clear differences emerge in some ESPON states (Map 3.2).

**Map 3.2 Localised patterns of resilience (NUTS 3, employment, peak year to 2011)**





### **Box 3.1 Regional experience can hide strong local variations**

In Baden-Württemberg, three neighbouring cities provide contrasting experiences of resilience to the crisis. Freiburg, with its concentration of employment in service sectors, university and research institutes has demonstrated stable long-term economic growth rates; Stuttgart, with its focus on technology-based industrial manufacturing, recovered from a short-dip in activity during the crisis to maintain high employment levels (albeit with slightly increased unemployment) and high income levels; Pforzheim, in contrast, struggles with the economic restructuring of a more traditional metals-based industry, higher levels of debt and company insolvencies.

This diversity of experience is present across the areas studied for this work. In South West Ireland, metropolitan Cork has, generally proved to be more resilient to the economic crisis than the western, more rural, areas of the region, particularly County Kerry. In Puglia, however, it is the rural parts that appear to have a stronger degree of resilience to the economic crisis than the urban centres. In Western Macedonia, the contrast is again apparent, with rural areas offering stronger resilience characteristics, but also a contrast between areas dependent on the fur sector and those on the energy sector. The former has proven more resilient in the face of the crisis than the latter.

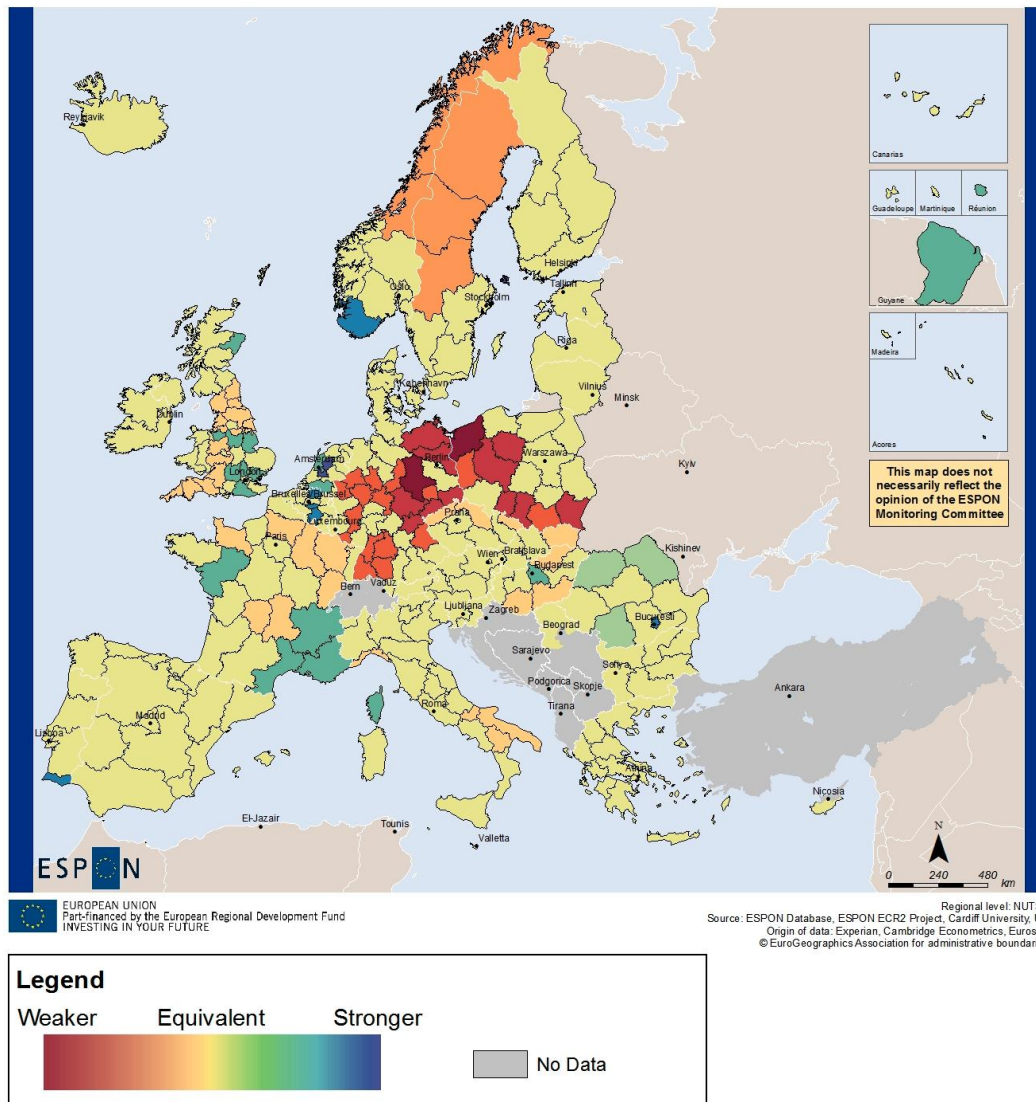
### **3.3 Relative resilience**

The distribution of regional resilience between Member States suggests that macroeconomic conditions and national policy regimes have an influence on the sensitivity of individual regions to economic crisis. Yet, there are also examples where the experience of individual regions runs counter to national trends, or where there is strong variability within Member States. National effects may be expected to be stronger in small and medium sized Member States<sup>16</sup>, where the influence exerted by national policy is proportionately greater, but even in small Member States, variations in relative levels of resilience can be observed.

It is noticeable that those regions with significantly weaker relative resilience are located in Germany and Poland, partly reflecting the better level of national resilience recorded in those two countries (Map 3.3). Stronger levels of relative regional resilience are, though, more dispersed, covering regions in Finland, Netherlands, Belgium, Norway, Portugal and Romania. These relatively resilient regions cover a mix of territorial cases, including an island region, capital city region and urban and rural economies with different sectoral economic strengths.

**Levels of relative regional resilience (R<sup>3</sup>), can provide insights into how well regional economies are performing given national economic context**

**Map 3.3 Relative Regional Resilience in the ESPON space**

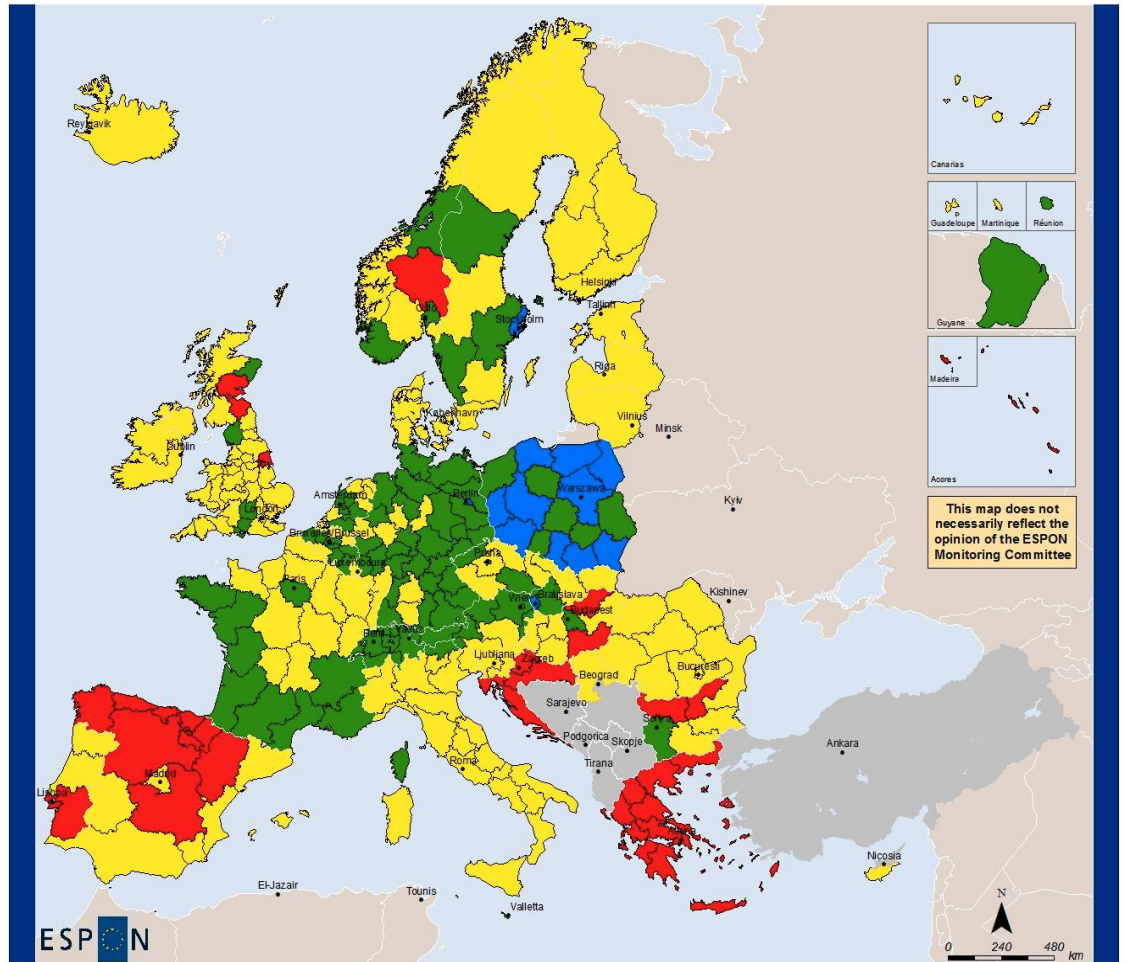


### 3.4 Comparing regional resilience by employment and GDP

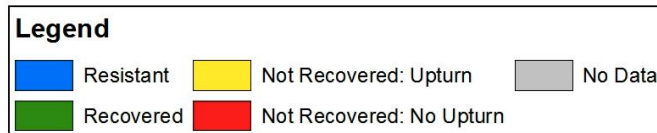
For comparison purposes we also include a consideration of the resilience of regional economies as measured by GDP performance (Map 3.3). One of the features of the recent crisis was that, overall, employment levels proved to be more resilient than levels of economic output. As we show later, this was partly due to policy-decisions and also owed much to the choices made by employers and workers. Understanding differences in resilience performance between GDP and employment within particular regions can be an important input for policy-making. As Map 3.3 demonstrates, it was only in Poland that regions were able to maintain

pre-crisis levels of GDP activity. However, more regions have recovered or begun the recovery process than is the case for employment. Some clear geographical patterns of resilience emerge, which echo those identified in the case of employment.

**Map 3.3 Distribution of regional output resilience (NUTS 2, GDP, peak year to 2011)**



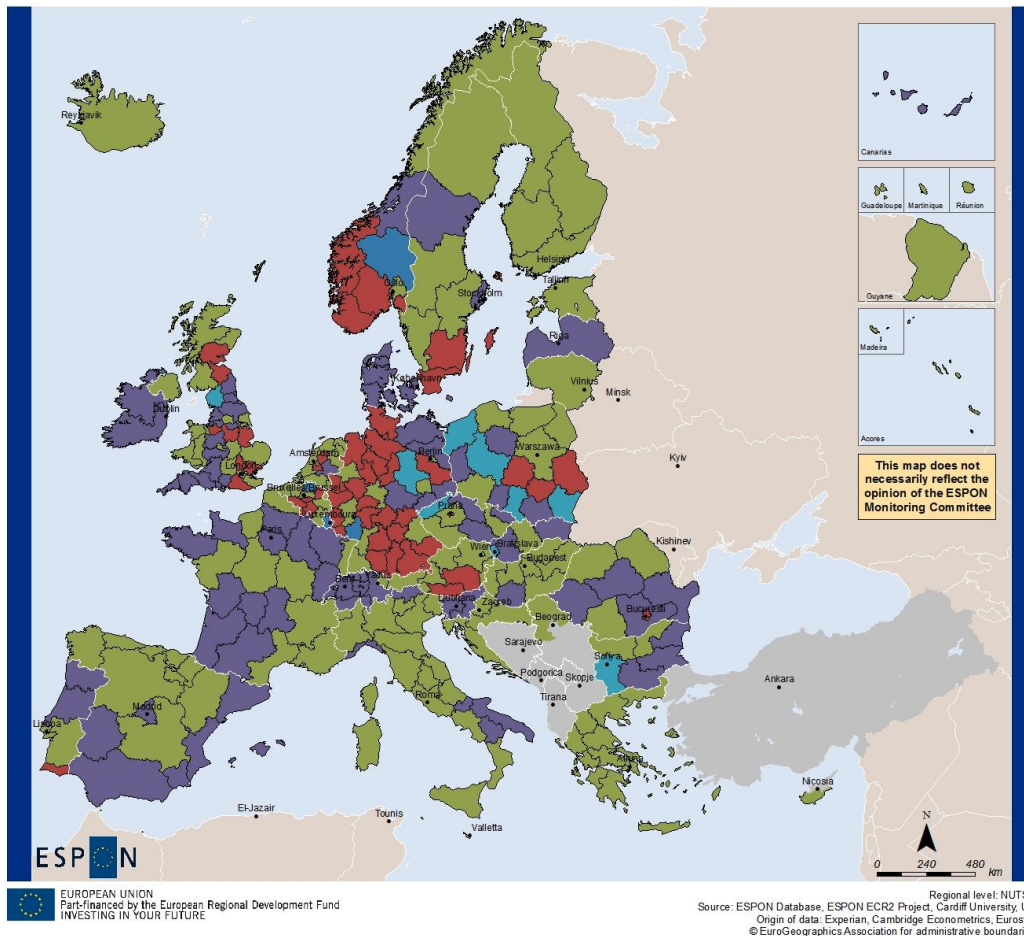
Regional level: NUTS2  
 Source: ESPON Database, ESPON ECR2 Project, Cardiff University, UK  
 Origin of data: Exerman, Cambridge Econometrics, Eurostat  
 ©EuroGeographics Association for administrative boundaries



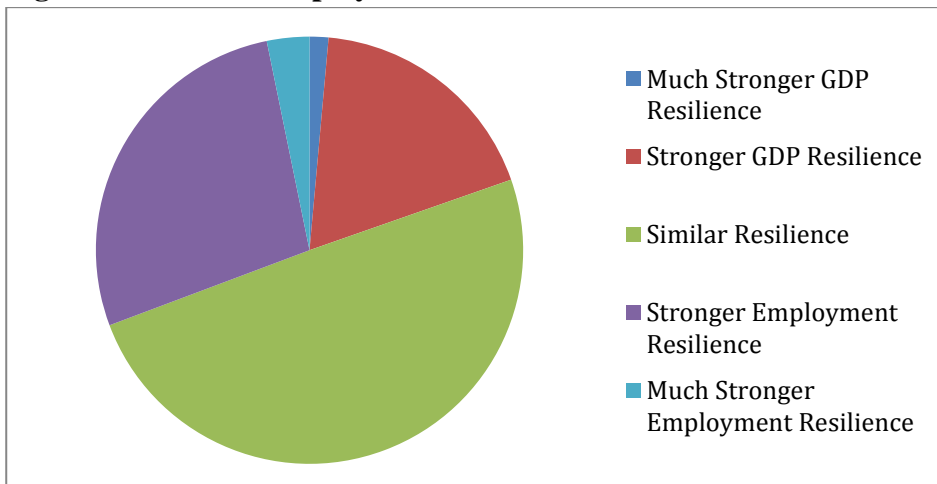
## Resilience outcomes for GDP and employment can vary

Overall, around half of regions exhibit similar levels of GDP and employment resilience, with a third proving to have been more resilient in their employment performance (Figure 3.1 and Map 3.4). Whilst some strong geographies can be identified for both Employment and GDP resilience, this is not the case in terms of comparative resilience.

### Map 3.4 Geographies of comparative resilience



**Figure 3.1 GDP vs Employment Resilience**



Source: ESPON ECR2

### 3.5 Historical resilience patterns

A key question for resilience studies is over what time period resilience should be considered. Evidence from past shocks demonstrates that most regions recover to pre-shock activity levels, eventually. However, in some regions an economic shock can cause, or reinforce, a structural readjustment that may take many years to overcome and lead to a permanent reduction in output or employment, what is termed ‘hysteresis’ in the academic literature.

This is clearly evident in the last major pan-European economic crisis (Map 3.6). Most strikingly, a fifth of regions (52) have never regained their peak employment levels following the shock of the early 1990s. For four regions (1%), located in Germany, Italy, Portugal and the UK, recovery to peak GDP levels has still not been achieved. This strong hysteretic effect cautions against any assumption that peak levels of employment should form a natural objective following an economic shock, but is also suggestive of the important interplay between the interaction of economic shocks and longer-term processes of structural transformation.

Comparison with the 1990s crisis supports the contention that the effects of the current crisis has been more strongly associated with reductions in GDP, and that the effects on employment have been less immediate. In the 1990s crisis less than 5% of regions were resistant to the employment effects of the downturn, compared to 12% during the current crisis. In contrast, almost a fifth of regions (19%) demonstrated GDP resistance, compared to just 5% during the most recent crisis.

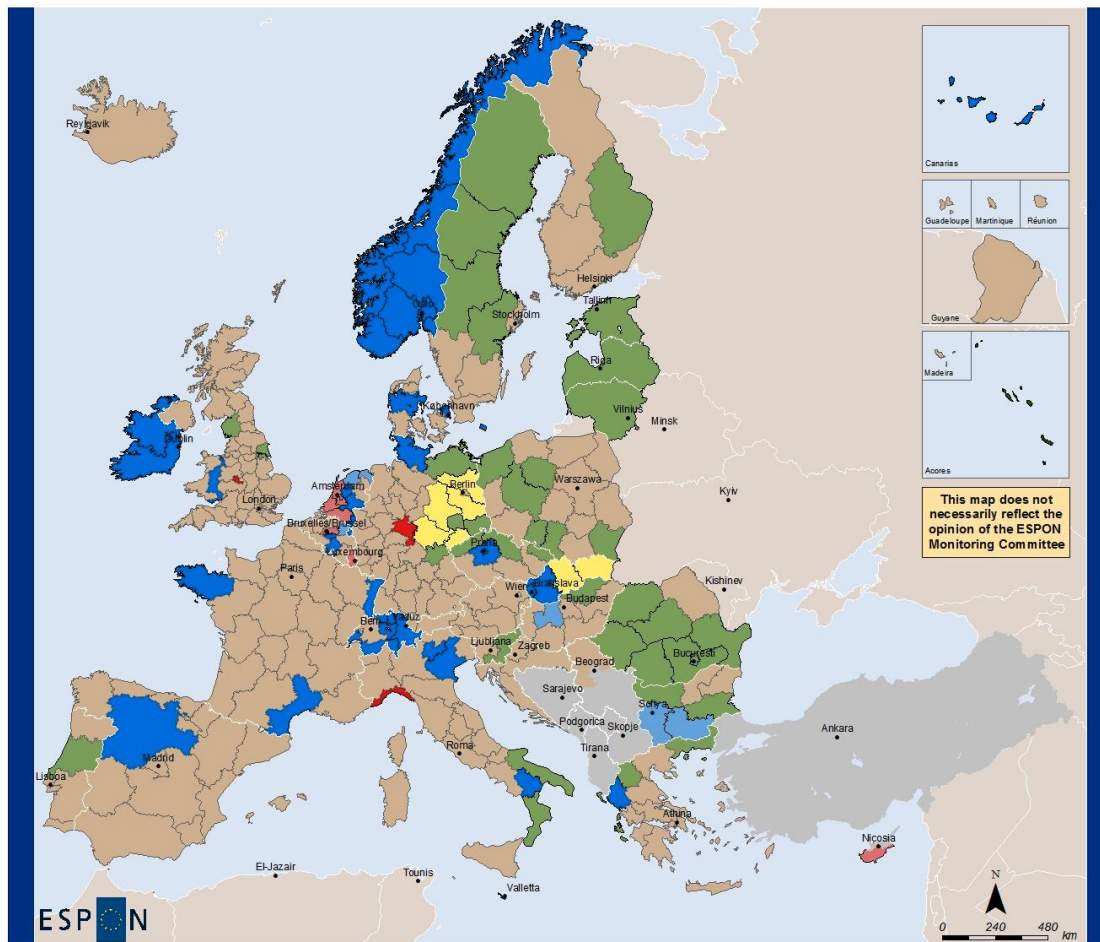
Further comparisons with the current crisis are difficult to make, as it is problematic to compare relative rates of recovery. Although some seven years have now passed since the first aspects of the economic crisis became apparent, experience from the 1990s crisis suggests that this is the average time it takes for a region to recover from such a deep shock. However, at one level, regions appear to be more resilient now than in the past, as they have generally recovered more quickly from the current crisis than in the 1990s. It took four years for 22% of regions to recover to pre-shock employment levels following the early 1990s crisis, whereas 23% of regions had recovered within three years following the most recent crisis.

**We can learn much from the experience of past economic shocks, but we should not expect past patterns to be simply repeated**

**Recovery to pre-shock activity levels is not guaranteed**











**Map 3.6 Historical resilience outcomes (economic shock of early 1990s)**




 EUROPEAN UNION  
 Part-financed by the European Regional Development Fund  
 INVESTING IN YOUR FUTURE

Regional level: NUTS2  
 Source: ESPON Database, ESPON ECR2 Project, Cardiff University, UK  
 Origin of data: Expeian, Cambridge Econometrics, Eurostat  
 © EuroGeographics Association for administrative boundaries

Legend			
	GDP Hysteresis		Employment & GDP Hysteresis
	Employment Hysteresis		Employment & GDP Resistant
	GDP Resistant		Employment Hysteresis & GDP Resistant
	Employment Resistant		No Data

## 4 REGIONAL EXPERIENCES OF CRISIS AND RESILIENCE

Whilst common trends and patterns can be discerned across the ESPON space, every region has experienced the crisis differently. This is a product of the unique interplay of local, national and international forces within regions, together with the effect of the decisions taken by individuals, organisations and policy-makers living and working within these regions. Understanding this qualitative, contextual setting is crucial if we are to fully appreciate the forces that shape regional economic resilience outcomes.

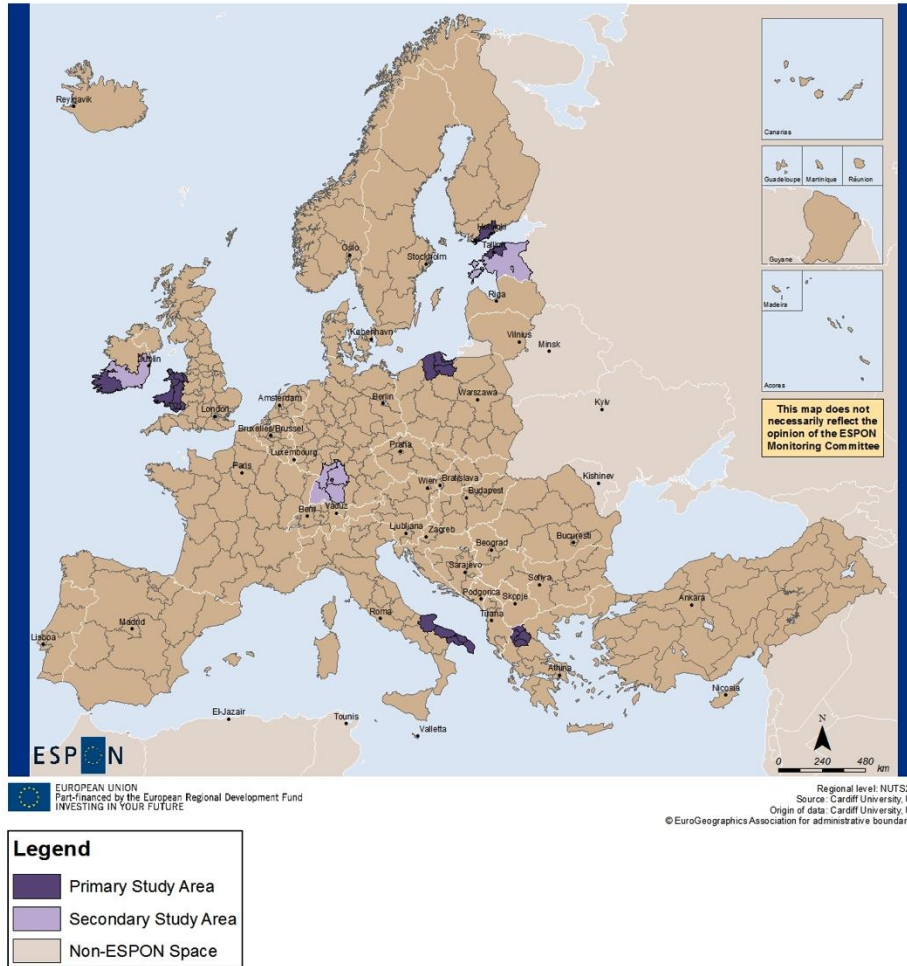
In order to examine the impact of the economic crisis on the ground eight case studies were explored. Taken together, these provide a rich vein of comparative experience informing our understanding of the territorial dimension to economic resilience and the potential role for policy makers in supporting the resilience of European regions. The cases were primarily denominated at the NUTS2 scale, but on occasion NUTS1 and NUTS3 definitions were used where appropriate (Fig. 4.1). The selected cases provide a mix of resilience outcomes ranging from one Resistant region through to three regions that were still to enter a recovery phase (NR2).

**Figure 4.1 Key regional characteristics**

Country	Territory	Nuts Level	Resilience category
Germany	Stuttgart/ Baden-Württemberg	3/2	RC
Finland	Uusimaa	3	RC
Poland	Pomorskie	2	RS
Estonia	North Estonia	2	NR1
Greece	Western Macedonia	2	NR2
Ireland	South West Ireland	3	NR2
Italy	Puglia	2	NR2
UK	Wales	1	NR1

Cases were selected to ensure a mix of experiences, including economic conditions and setting; geographical distribution, and governance and institutional structures. Map 4.1 illustrates the geographical distribution of the cases.

## Map 4.1 Distribution of study regions



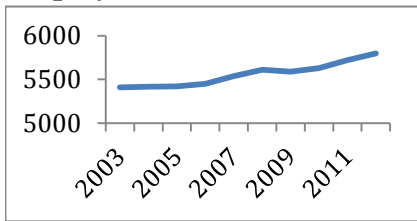
A short summary of each of the cases follows, drawing out key features and the lessons that can be drawn from the experience of each region. There is a particular focus on the policy messages to be taken from the case.



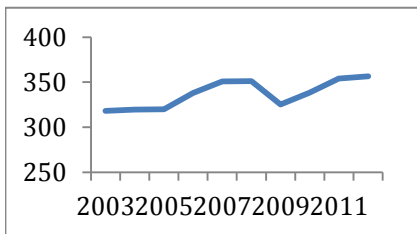
# Baden- Württemberg



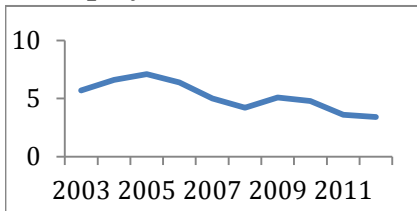
**Employment trend**



**GDP trend**



**Unemployment trend**



Baden-Württemberg is the third largest State of the Federal Republic of Germany based on area and population. As a NUTS 1 region within a Federal state, it has relatively strong autonomous powers. More than 90% of the regional tax income, however, is received from joint taxes, which are set by the Federal Parliament and the Second Chamber with representatives from State governments. Baden-Württemberg has the best performance in almost all innovation indicators among German and EU regions. It has the highest level of manufacturing employment and value added among all German states; with a dominant share of automotive and machinery industry, in particular in the region of Stuttgart. Despite the diversity of economic structures, population density and locational amenities, economic disparities are relatively low with global market leaders even located in rural areas.

## EFFECT OF THE CRISIS

Due to its high share of industrial exports, Baden-Württemberg was particularly negatively affected by the crisis. GDP declined by 8.9% in 2009 (Germany: -5.2%), while workforce decreased by 0.8% (Germany: 0.1% increase). The economic recovery after 2009, however, was also stronger in Baden-Württemberg (GDP growth 7.4% in 2010, 4.7% in 2011) than in Germany (4.0% in 2010, 3.3% in 2011). As export-oriented industrial producers were primarily hit by the crisis' impact, regions in Baden-Württemberg with a high share of export-oriented industries faced an even sharper decline and recovery. Urban areas such as Freiburg, with a high share of service industries, maintained positive GDP growth rates in 2009 (1.7%).

## RESILIENCE OF BADEN-WÜRTTEMBERG

Baden-Württemberg was dramatically hit by the global financial and economic crisis in 2009. Negative effects on employment, however, were minimised, and increasing exports to China and other emerging economies led to a fast recovery with new GDP and employment peaks in 2011.

### *Experiences from past crises were successfully processed.*

During a recession in 1992/93, firms reacted to the crises with a high number of lay-offs, but faced severe human capital scarcity during the ensuing recovery and boom. This was avoided during the current crisis, as firms used flexible working-time arrangements and short-term work to retain their workforce. Additionally, past crises had highlighted the influence of modularity in firms' production structures and a need for international diversity in their product markets. Within mid-term structural adjustment processes, supply chains were restructured, formal qualifications of workforce were improved and service intensity of industrial products was increased. These measures raised the adaptability during the crisis and increased the acceleration of recovery.

### *A diversified and export-oriented economy with strong innovation capabilities formed the basis for a fast recovery.*

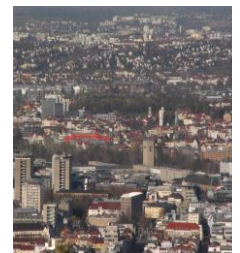
Firms tried to avoid reducing investment in research and development or even increased their activities to foster their innovative capabilities. They also began to look for new strategic markets. All these activities proved to be helpful, when demand from China and emerging markets increased.

### *Dialogue-oriented and consensual governance style led to pragmatic and fast adjusting responses during the crisis.*

During the last decades, a thick web of institutional and personal linkages between different kinds of organizations emerged. These linkages are based on dialogue despite potentially conflicting interests, e.g. between trade unions and employers' associations. A joint monitoring system on structural adjustments by regional business promotion agency, trade unions and chambers in Stuttgart region supported the dialogues, as conflicts on data could be minimized. During the crisis, these dialogues led to pragmatic agreements on flexible working-time and qualification arrangements between trade unions and associations to maintain employment security. Personal linkages and mutual dependencies in modular supply chains stimulated financial support by family-entrepreneurs to help overcoming liquidity shortages of regional SMEs. These experiences further strengthened the linkages between firms in the region.

## Key Messages

Baden-Württemberg was resilient to the economic crisis, as its economy quickly recovered to pre-crisis peaks of GDP and employment.



## **POLICY LESSONS**

The Federal level was predominantly responsible for policy reactions to the crisis. Baden-Württemberg primarily benefitted from the extension of the already existing Federal instrument of short-term work allowances (longer duration of eligibility, reduction of firms' residual costs), as this perfectly fitted into the strategy of maintaining workforce within the firms.

Additionally, Federal and State level offered support for firms in short-term liquidity crisis, which also proved important in single cases to overcome immediate existential threats to competitive firms.

Policy responses on the State level followed the mid-term strategy to strengthen adjusting capabilities by investing in innovation infrastructures and offering "innovation vouchers" to SMEs as support to development processes. Complementary to these activities, the Federal level also increased investments in public research infrastructures and established a new program to support R&D activities by SMEs.

Due to the high economic standard of living and few internal disparities, Baden-Württemberg was only eligible to small shares of ERDF funding for competitive regions. These funds particularly supported mid-term processes to build up adjusting capabilities, e.g. cluster activities, and contributed to new urban development processes in areas like Mannheim with relatively long-term experiences in implementing ERDF projects.

## **CONCLUDING COMMENTS**

Baden-Württemberg and its export-oriented industrial cores were particularly hit by the crisis. After the recovery, however, the industries were even more internationally competitive than before the crisis. The key to this fast recovery – besides the fortunate conditions of increasing demand by China and emerging economies – was the supportive link between short-term and mid-term policy strategies. In the short-term, pragmatic and flexible solutions on the private level combined with targeted public subsidies to keep the workforce in the firms helped to get through the crisis without severe negative employment effects and structural breaks. The mid-term strategies, initiated already in the 1990s, however, prepared the adjusting capabilities for the recovery, as they focused on structural adjustments towards internationalization, modularity, innovation, qualification and diversification. This dialogue-oriented mid-term focus will also form the basis to cope with upcoming challenges as demographic changes and transitions towards new energy systems.

## **KEY LESSONS**

The high export intensity caused a high vulnerability to the crisis, but also proved to be the key to a fast recovery.

Learning from past crises led to the emergence of adjusting capabilities, which contributed to the speed of recovery.

Dialogue-oriented governance styles stimulated the development of pragmatic short-term solutions.

# North Estonia



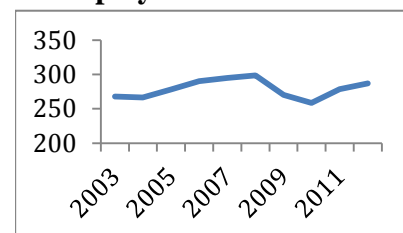
Harju County is a NUTS 3 region that constitutes North-Estonia; it is the capital region of Estonia and the largest county in terms of population as well as economic capacity. The county is subdivided into 24 municipalities which is the smallest administrative unit that has self-governance and representative and executive bodies.

The City of Tallinn, the capital of Estonia, together with its surrounding municipalities, forms the main economic hub in Estonia as more than 60% of the GDP is generated there. The business structure is rather diverse; the most important sectors are business services, wholesale and retail trade, manufacturing, and construction. The most prevalent industries are machinery and metalworking, wood and paper processing, food processing and the chemical industry. However, the sectoral mix is rather imbalanced across the municipalities of North-Estonia – it is the widest in the capital area, but significantly narrower in other municipalities.

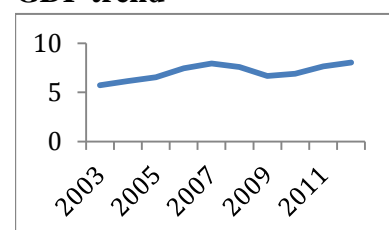
## EFFECT OF THE CRISIS

The economic crisis had a severe impact in Estonia. Countries with small domestic markets, very open economies and with high foreign trade imbalances were most vulnerable in the recent crisis. In addition, Estonia entered the world economic crisis with its own domestic crisis that was induced by the real estate bubble in 2005-2007. The coinciding of these two negative impacts meant a double-digit fall in GDP in 2008-2009. The impact of the following rapid reorientation and productivity enhancing changes was a sharp increase in the unemployment rate, especially among youth, ethnic non-Estonians, and poorly qualified workers, whose unemployment rates reached 22%, 18% and 26% respectively. The effects of the crisis varied across North-Estonia. The municipalities bordering the metropolitan area proved to be less effected and were in a considerably better position in terms of recovering from the crisis.

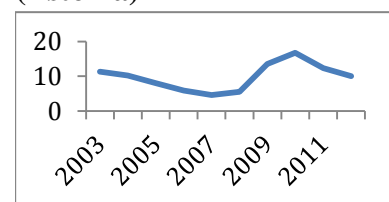
**Employment trend**



**GDP trend**



**Unemployment trend (Estonia)**



## RESILIENCE OF NORTH-ESTONIA

### KEY MESSAGES

North-Estonia was not resilient to the recent crisis.

The recovery of North-Estonia has been speedier compared to other regions.



North-Estonia entered the economic downturn in 2008 and by 2012 had not reached the pre-crisis level of employment or economic output (GDP). The first signs of recovery occurred in late 2009 as the export volumes started to increase, followed by the upturn of GDP. However, the employment numbers continued to decline until late 2010. Relative to the rest of Estonia, North-Estonia has generally followed the pattern of national performance, even though both the crisis and the upturn occurred slightly earlier when compared to other parts of Estonia

#### *Strong presence of FDI*

The strong presence of Nordic firms in various branches of economic activity in North Estonia had a significant impact, particularly as the Nordic countries recovered swiftly from the crisis. This swift recovery was partly as a result of several large-scale stimulus packages and led to an increase in demand for exports from enterprises in North-Estonia. In addition, Nordic FDI based enterprises had a stronger financial position and previous experience going in to the crisis; this meant that their Estonian subsidiaries were not forced to react immediately and that resulted in smaller wage reductions and labour cuts compared to the enterprises based on local capital only.

#### *Flexible labour market*

There are a number of factors in the North Estonian labour market that are considered supportive of resilience, these include: a flexible labour market with a low minimum wage, flexible pay schemes (e.g. based on individual job performance), changes in legislation that simplified the dismissal of employees, a limited reach of collective agreements, and weak trade unions.

#### *Tolerant individuals*

Increased levels of self-employment and relatively highly skilled labour alongside the toleration of wage and working hour reductions have been seen as the main element that helped the region recover. Cuts in social policy and the reduction of wages did not cause any unrest, partly because wage cuts occurred throughout the economy and ‘other options’ for workers were reduced.

#### *Attractiveness for internal migrants*

Harju County and particularly Tallinn has been the main destination for internal migrants in Estonia during the hardship; job opportunities were generally better in the capital regions. As a result, the overall quality of labour in enterprises increased during the crisis and this encouraged restructuring and value-chain upgrading.

## **POLICY LESSONS**

Policy responses to the economic crisis have been predominantly national, due to highly centralised administrative system and low level of financial autonomy of municipalities.

It is considered that the first signs of economic downturn were ignored, but, when the national policy response did come it was implemented quickly. Instead of tax cuts and increased public sector investments as adopted by other countries, Estonia introduced radical austerity measures (reduction of public sector investments and public sector wages, slight decrease of public sector employment), together with increased taxation (value added tax, excise taxes). As the taxation decisions were executed quickly (among the first member states to increase the VAT rate as a response to the crisis), there was a significant positive impact on the tax revenues. Wage cuts and fiscal tightening resulted in a real depreciation without devaluation.

A national policy response that was considered important was the accelerated allocation of finances from the EU structural funds; resources initially scheduled for 2010-2011 were used in 2009. Another important source of finances to smooth the reduction of tax revenues was the selling of Kyoto emission permits (CO<sub>2</sub> quotas). This extraordinary support was used to keep the budget balance.

The crisis has led to a greater attention on the importance of broad sectoral mix and range of export markets. On a regional level, only the largest municipalities had the resources and reserves to respond to the crisis.

## **CONCLUDING COMMENTS**

North-Estonia has come out of the crisis more successfully than other parts of the country. The crisis provoked companies to rethink business models, implement productivity enhancing adjustments, and provided motivation to learn and consider their international competitiveness. Joining the Eurozone has provided improvements of country risk ratings and has ensured access to cheap financing. The case study region is coming out of the crisis with very low public sector debt.

However, the vulnerability of world markets still persists, illustrated by the rather narrow export growth of the case study region. Labour productivity growth is slowing down and wage growth pressures exist, causing an outflow of high quality labour.

## **KEY LESSONS**

Internal economic bubbles could impair resilience to global downturns.

The presence of foreign owned companies could improve resilience.

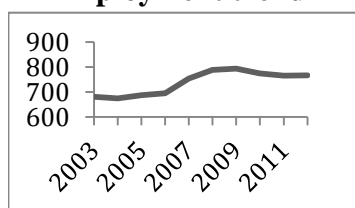
The communities with high degree of solidarity may prove to be more adaptive.

# Pomorskie

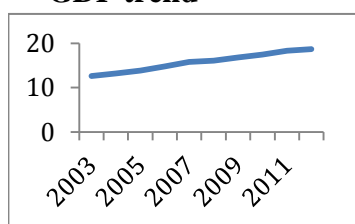


Pomorskie is a NUTS 2 administrative area located in the north of Poland. The region has limited autonomous powers with the ability to create development strategies and influence regional transport infrastructure. Gdansk and Gdynia are the largest cities of the region, where two of the three main Polish seaports are located. The Gdansk metropolitan area has a population of 1.3 million and is one of the seven strongest urban centres in Poland.

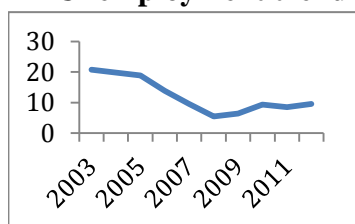
## Employment trend



## GDP trend



## Unemployment trend



The economy of the Pomorskie region is diversified. The main services are: education, health care, finance, tourism, and business process outsourcing. The most important industries for the region are: petrochemical, maritime, logistics, electronics, construction, furniture, and food industries. The restructuring of the shipbuilding industry, flexible labour market, and over twenty years of constant economic growth have situated it among the strongest regions in Poland.

## EFFECT OF THE CRISIS

Poland has not faced an economic crisis; the banking sector did not need public support, and both the financial and construction sectors decreased only slightly. Unemployment increased moderately; however, income and employment have constantly been rising.

The Pomorskie region has also not experienced economic recession. GDP per capita increased by 10% and disposable income grew by 9.5% 2007-2010, similar to the Polish average. The global economic slowdown created an increase in the unemployment rate for Pomorskie from 8% in 2007 to 13% in 2011.

The Gdansk metropolitan area has not been visibly effected by the crisis; however, less urbanized and industrialized south-western and eastern parts of the region have experienced a larger increase in unemployment.



## RESILIENCE OF POMORSKIE

Pomorskie was one of eight regions in Poland that did not experience employment decrease and one of ten regions that did not face a GDP decline between 2006 and 2011. Relative to the whole of Poland, Pomorskie has followed national performance and has fared well when compared with other Polish regions.

### *Diversity, export and cost competitiveness*

A diversified economic structure is considered to have a positive effect on resilience and during the development of the Pomorskie region's economy no one industry was dominant. The high level of international economic openness of the region, including a considerably high export rate, has contributed to its good performance. An inflow of European funds has been translated into modernization of the regional economy; the funds allowed numerous companies to purchase modern technologies increasing the efficiency of production and preserving low labour costs at the same time. The rate of productivity growth has been increasing in the region faster than the labour cost which has strengthened the region's resilience.

### *The significance of social and human capital*

The entrepreneurial spirit and occupational mobility of people living in the Pomorskie could be considered of great importance. Liberalism, self-reliance, lack of demanding attitude and a relatively high level of social and human capital are factors that are considered to strengthen the competitiveness of the economy. Well-qualified employees working in the shipbuilding, yacht-building, electronic, IT and chemical industries contribute significantly to the high level of the region's resilience.

### *Employment and consumption are important*

The better protection of qualified employees during this economic slowdown in comparison to others facilitated a growth in household disposable income and maintained the level of consumption. On the other hand, partial flexibility in the labour market, particularly in electronics assembly and the yacht sector, enabled some companies to survive during the difficult period.

### *Industrialization and transformation*

Due to its coastal location, logistic and maritime industries are highly developed in the region. The establishment in the 1970s of factories from various industries built diversity into the regional economy, thereby supporting resilience. Privatization and the restructuring of companies began in the 1990s; this permanent transformation and modernization means that many companies can now compete in the global market.

## KEY MESSAGES

Pomorskie was resilient and resistant to the economic crisis. Within Poland, it has proved to be relatively resilient.





## **POLICY LESSONS**

### **KEY LESSONS**

Building connectivity within and outside the region means building resilience.

Employment is crucial for social stability and for strengthening the regional economy.

Networks between the business and research sector are more and more important for developing economies.

Regional authorities in Poland do not have much autonomy and have limited tools to mitigate the negative consequences of the crisis. Regional strategies in Pomorskie mainly focused on increasing the region's transport accessibility and there are aims to create a transport hub and to improve territorial cohesion in the region.

Implementing projects based on European Funds and the capital of the large state-owned companies can encourage private business to invest in the time of recession. Projects implemented on the basis of public-private partnership agreements are an important tool to stabilize and accelerate growth during economic recession.

Facilitating business operations are crucial in a time of crisis; non-cost suspension of business, lowering the number of required concessions, simplifying accounting procedures, and the deregulation of labour practices are important. Alongside this, trust-relationships and informal agreements between employers and employees to preserve jobs are also crucial.

Establishing new business incubators, science and technology parks and other facilities help to counter-act the negative effects of crisis. Long-term actions should be aimed at creating links between business and the research sector, especially in developing economies.

Prudent fiscal state policy coupled with proper regional and local budget policy, which includes expenditure rules, can create the capacity that allows public intervention to react to a crisis where needed.

### **CONCLUDING COMMENTS**

Diversity of economic and social structures can be considered positive to the resilience of a region. The more rich a region is in varied forms of economic activity, environmental resources, human and social capital, the more opportunities that exist for its survival in the time of the recession. The development of industrial activities should not be neglected in favour of the service sector.

The post-totalitarian tradition of centralized governance negatively influences the tight feedbacks attributed to resilience. The reluctant devolution and limited financial independence of regions significantly weaken the effectiveness of regional policy.

# Puglia



Puglia in the south-eastern heel of Italy is composed of five provinces: Bari, Barietta-Andria-Trani, Brindisi, Foggia, Lecce and Taranto. Puglia is a NUTS 2 administrative area with a wide array of devolved powers as a result of the system of regional government that was created in Italy in the 1970s.

The provinces of Brindisi and Lecce are the most economically buoyant areas. Brindisi hosts a wide range of activities and sectors, from highly regarded primary products like wine and olive oil, to the airport industry and the burgeoning service sector. Lecce stands out as a premier tourist destination, for the quality of its seaside and the quality of its cultural heritage.

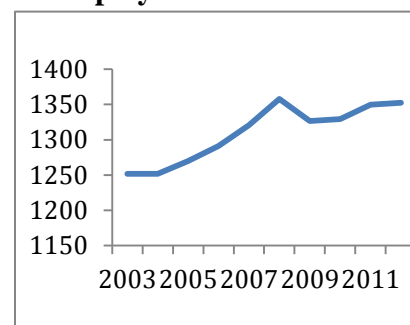
## EFFECT OF THE CRISIS

Along with its peers in the Mezzogiorno, Puglia was one of the economically weaker regions in Italy long before the onset of the economic crisis in 2008. The effect of the economic crisis has been deep but spatially uneven.

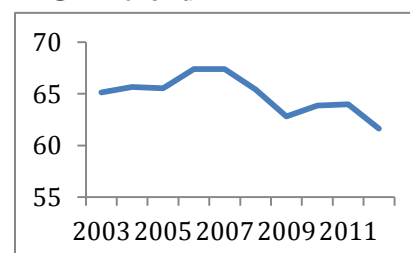
While the official unemployment rate in Puglia increased from 11.2% in 2007 to 15.7% in 2012, this increase compared well with the national average and especially with the much greater increase in peer regions like Campania and Calabria, where unemployment soared to nearly 20%.

Within the region, the greatest labour market effects of the crisis were felt in the traditional manufacturing areas and in the more urbanized areas. This was contrasted by value added figures, where the best results were recorded in rural areas that specialized in high quality agri-food products and niche-based crafts, furniture and clothing, trends that favoured Lecce over Bari for example.

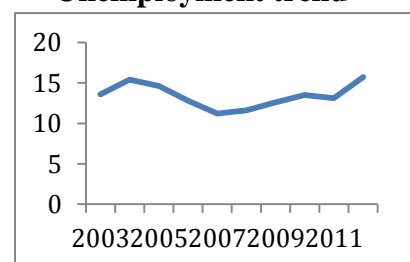
**Employment trend**



**GDP trend**



**Unemployment trend**



## RESILIENCE OF PUGLIA

### KEY MESSAGES

Although Puglia was not resilient to the crisis in general, it fared better than its peer regions in the Mezzogiorno.

Within Puglia some parts of the region proved to be more resilient than others.



Puglia entered the economic downturn in 2008; by 2011, however, some areas were clearly recovering much better than others, making it difficult to generalize about “regional resilience” across the board. The map of value-added in industry reveals very sharp contrasts, with the provinces of Lecce and Foggia performing best, confirming the key trend that the areas of niche production performed better than the areas of heavy manufacturing industry, most of which were located in the provinces of Bari, Brindisi and Taranto.

#### *The value of a niche-based export-oriented economy*

If mass production for the domestic economy could be considered part of the problem in Puglia, the robust performance of high quality niche-based production has been part of the solution. This suggests that small firm clusters that are able to benefit from fast growing, quality-conscious markets abroad have a greater capacity to withstand economic crisis, laying the basis for a more sustainable recovery. The region’s export performance was stronger after the crisis than before, which suggests that the emphasis on branding and marketing around the “Made in Puglia” label is beginning to pay dividends.

#### *Strong networks based on local ties and inter-sectoral linkages*

Local entrepreneurs in the niche-based sectors attributed their success to three attributes in particular: (i) the small size of the firm which afforded a great deal of flexibility (ii) the “fruitful relations” they enjoyed with the local territory and the local workforce and (iii) the uniqueness of the product, which they attributed to the power of the brand and short supply chains. The parts of the regional economy that are locally embedded but globally engaged are considered the most dynamic parts, highlighting the importance of both local and trans-local factors in the regional recovery process.

#### *The enduring legacy of the past*

Some of the greatest challenges in the regional economy can be correlated with national policies that, since the 1960s, have sought to create large industrial complexes in the Mezzogiorno. In Puglia’s case the enduring legacy of the past is best illustrated by the structural crisis surrounding the ILVA steelworks in Taranto, a hugely polluting plant that continues to employ 24,000 employees in total; 16,000 directly and another 8,000 indirectly in local supply chains. The fate of the steelworks is universally agreed to be the single biggest threat to regional resilience in Puglia.

## **POLICY LESSONS**

Policy responses to the economic crisis have been multi-scalar in nature. National policy has played the key role in macro-economic and labour market policy, albeit in the confining context of the eurozone crisis. Regional policy has been much more pro-active in its spheres of competence, especially in deploying EU funds to support economic recovery and in its support for new sectors like solar power.

One of the major achievements of the regional administration under the presidency of Nichi Vendola has been to establish the credentials of the public sector as a creative, honest and enabling interlocutor for private and third sector partners; arguably the most important public policy innovation given the notorious governance problems of the Mezzogiorno.

The advent of a more competent and confident regional government helps to explain the new clarity of Puglia's regional strategy – with its threefold emphasis on innovation, environment and youth – and this in turn has helped private and third sector actors to better calibrate their own activities in association with these public sector investment priorities.

Associational action – based on collaboration between public and private sectors– has informed the most successful parts of the regional economy since 2007. This is especially apparent in the provinces of Lecce and Foggia, which have displayed the strongest performance in recent years.

The economic crisis has sharply exposed the problems of the traditional heavy industry sectors, particularly the steelworks, where the scale of the problems are beyond the scope of the regional government, implying that national and supra-national actors will have to help to resolve these problems if the region is to forestall a social catastrophe.

## **CONCLUDING COMMENTS**

Puglia has come through the economic crisis in a relatively better shape than most of its peers in the Mezzogiorno. However, the crisis has exacerbated prevailing patterns of uneven development, especially between small firm districts and the heavier industrial districts.

Public policy has helped the region to nurture new economic vocations and the public sector has proved itself to be a force for innovation. But the shadow of the past looms large, especially over the crisis-ridden ILVA steelworks.

## **KEY LESSONS**

Fashioning regional resilience requires multi-scalar cooperation over a sustained period.

Good governance is essential to the creative use of regional powers and resources.

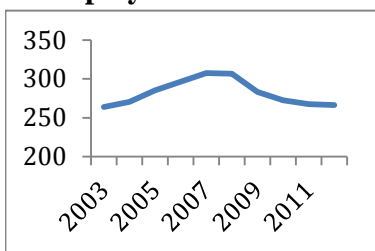
Associational action offers the most sustainable route for regional development.

# South West Ireland



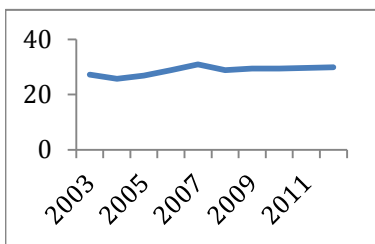
South West Ireland is comprised of the Counties of Cork, Kerry and the City of Cork. It is a NUTS 3 administrative area, but has no autonomous powers; it forms part of the Southern and Eastern NUTS 2 Region.

## Employment trend



The City of Cork is the second city of Ireland and, together with its surrounding area, forms the main economic hub in South West Ireland. The city benefits from a relatively strong service economy; port facilities; university activities, and a diverse economy with a prevalence of export orientated industries. The County of Kerry and western parts of County Cork are more rural in nature with an important agricultural and tourism base.

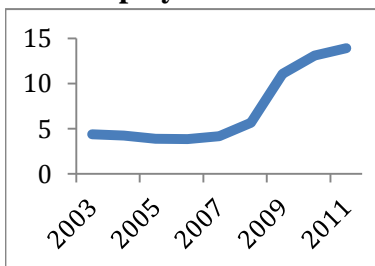
## GDP trend



## EFFECT OF THE CRISIS

The economic crisis had a severe impact in Ireland. An over-exposed banking sector required extensive financial support, leading to national austerity measures; a rising tax burden; falling incomes; the collapse of the construction sector and rising unemployment.

## Unemployment trend



South West Ireland did not escape the financial maelstrom, but the effects were less extreme than in many other parts of Ireland. Across South West Ireland, GDP per capita declined by -17.8% between 2007-2010, whilst unemployment rose from less than 4% of the workforce to more than 14% by 2011. Although very sharp, the decline in average disposable income (-11%) was the lowest in Ireland, reflecting a more positive economic structure.

The effects of the crisis vary across South West Ireland. Overall, the wider metropolitan area of Cork has proved to be less affected. In contrast, County Kerry and western Cork appear to have been more exposed to the effects of the crisis.

## RESILIENCE OF SOUTH WEST IRELAND

South West Ireland entered an economic downturn in 2008. As of 2012, South West Ireland was still to return to its pre-crisis level of employment. It had also not regained its pre-crisis level of economic output (GDP). The first signs of an upturn in economic activity occurred in 2009 with an increase in levels of GDP, although employment numbers have continued to decline. Relative to the rest of Ireland, South West Ireland has broadly followed national performance, placing it in a positive position compared to other parts of Ireland.

### *The value of a diverse, export-orientated economy*

The diverse economic structure of South West Ireland has been an important foundation for the relative resilience of the area. This has been assisted by positive levels of foreign investment, coupled with a tendency for firms to diversify into new markets, with a strong export orientation. Exceptions to this within parts of the South West demonstrate the value of these foundations. Levels of entrepreneurship have proven less significant, except at a very local scale.

### *Strong networks assist the ability to respond*

Strong civic and social networks are seen as one reason South West Ireland has been able to respond positively to the crisis. These are combinations of business networks, community-based collaborations and links between local authorities.

### *Individual responses are complex*

Alongside rising unemployment, working hours have fallen and households have reduced expenditure. Some of the rise in unemployment is due to previously inactive workers returning to the labour market, possibly as a response to falling household incomes.

### *Past decisions influence resilience*

The impact of the crisis has been mitigated by the planning and economic development decisions taken over two decades in the Cork metropolitan area. These encouraged economic restructuring and avoided the worst excesses of the lax planning processes that left Ireland exposed to the financial crisis.

## KEY MESSAGES

South West Ireland was not resilient to the economic crisis. Within Ireland, it has proved to be relatively resilient.



## **POLICY LESSONS**

### **KEY LESSONS**

Building resilience capabilities is a long-term process.

Good governance can help this process, including the use of available powers.

Policies that seek to build adaptive capabilities within social and economic networks may prove more resilient over time.

Policy responses to the economic crisis have been predominantly national. This reflects both the severity of the crisis and the limited powers of sub-national authorities. National policy imperatives have often benefitted the Cork metropolitan area, even where not spatially targeted. County Kerry has been less positively affected.

Local government limitations have adversely affected the ability of areas to respond to the crisis. They also contributed to the vulnerability of places to the economic downturn. This has been recognized and local government reorganization is now underway.

The relative resilience of the economy of metropolitan Cork is based on collaborative working, positive strategic planning and, most significantly, a determination to maintain a vibrant and diverse economic base. This has been a long-standing policy position, based on lessons learnt from the collapse of 'smokestack' industries in the 1980s.

The crisis has led to a greater attention on innovation and sources of economic growth, but has not fundamentally altered economic development policy approaches.

### **CONCLUDING COMMENTS**

South West Ireland has weathered the economic crisis more successfully than much of Ireland. However, the severity of the crisis meant that it could not escape unscathed. Owing to favourable economic and urban structures the metropolitan area of Cork has proven the most resilient, whilst County Kerry has been more adversely affected.

No specific policies can be identified which account for the resilience observed. Instead South West Ireland demonstrates the importance of long-term preparatory actions for embedding resilience. To be successful these need to engage national and local authorities as well as economic and social actors.

The ability of the economy of South West Ireland to generate new employment opportunities and higher incomes remains uncertain. This is particularly important where there is a continuing reliance on public sector employment.

# Wales



Wales is a NUTS 1 region of the United Kingdom and has a devolved regional government. It is divided into two NUTS 2 regions – West Wales and the Valleys, and East Wales. It is highly dependent upon the fortunes of the UK economy.

Wales is currently the poorest region of the UK in terms of GVA per capita, but is characterised by considerable inter-regional diversity. West Wales and the Valleys has been suffering from a long-term decline in its manufacturing and mining industries, whilst much of East Wales has benefited from greater service sector growth and proximity to England.

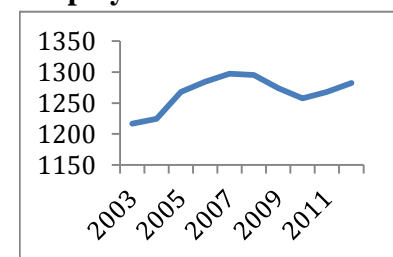
## EFFECT OF THE CRISIS

The crisis hit Wales hard with output falling and unemployment rising, leading to ongoing austerity measures. Wales entered the recession earlier than the UK as a whole and was initially hit harder, with GVA falling by 2.7% in 2009 compared with a fall of 2.4% in the UK.

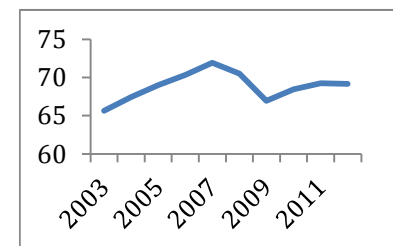
The distinctive feature of this crisis is that across the UK, and particularly in Wales, overall employment fell less significantly than GVA. As a result, unemployment in Wales is now similar to the UK level. Youth unemployment remains a particular problem however and by March 2011 was higher in Wales than any other part of the UK.

Counties in the South Wales Valleys and North East Wales, with greater dependence upon manufacturing and construction, were the worst affected by the crisis. Areas with a great share of services or tourism, such as the capital city of Cardiff, were less badly affected.

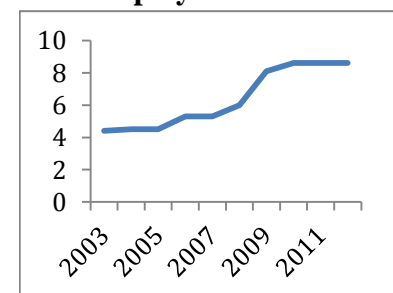
## Employment trend



## GDP trend



## Unemployment trend





## RESILIENCE OF WALES

### KEY MESSAGES

Wales was not resilient to the crisis. It has witnessed an upturn but is not yet recovered. It has performed similarly to the UK as a whole.



Wales entered an economic downturn in 2008. As of 2012, Wales was still to return to its pre-crisis level of employment. It had also not regained its pre-crisis level of economic output (GVA). The first signs of an upturn in economic activity occurred in 2010 with an increase in levels of GVA and employment. GVA recovery has broadly followed the UK's performance, whilst employment has recovered relatively more quickly.

#### *Past crises have long-term debilitating effects*

The crises of the 1980s and 1990s had a bigger impact on Wales than the most recent crisis and have left an enduring legacy of de-industrialisation. The subsequent damage to both the ecology of businesses and the skills and entrepreneurialism of the workforce continues to cast a shadow over the region's economy.

#### *A lack of diversity inhibits resilience*

The lack of diversity in the region's economic structure has inhibited resilience in Wales. The economy remains over-dependent upon manufacturing, external business investment and the public sector, and has a narrow export portfolio.

#### *Adaptation is reactive and short-termist*

Economic crisis and dependency upon external support and public subsidy has become something of a 'norm'. Households have adapted to the recent crisis in a short-term, reactive way by trying to quickly recover their employment security rather than look for more transformative opportunities to improve their income over the longer-term.

#### *A lack of significant urban agglomerations is problematic*

The lack of urban agglomerations is a key constraint in Wales. The greater distance of most firms from major urban centres reduces their productivity and access to markets.

## **POLICY LESSONS**

The most significant policy responses to the economic crisis have been by the UK (national) government. This reflects both the severity of the crisis and the limited powers and resources of the devolved Welsh Government. The austerity measures introduced nationally have had a significant and ongoing impact in Wales, resulting in significant reductions in capital and revenue spending.

The Welsh Government's response to the crisis has focused on helping keep people in work through labour subsidies for businesses. This response has been supported by workers, who, in the context of welfare cuts, have been more inclined to take pay cuts and accept reduced working hours rather than become unemployed.

The economic crisis has not led to a transformative shift in economic development policy in Wales towards a 'greener' economic development agenda. On the contrary, spending cuts have resulted in much greater emphasis upon the immediacy of supporting the creation of jobs in any sector, rather than the pursuit of longer-term sustainable development and low-carbon goals.

## **CONCLUDING COMMENTS**

The recent economic crisis has hit Wales hard and added to its existing and long-standing economic problems. Whilst the economy has started to recover in line with the upturn in the UK as a whole, the crisis has further exposed the structural fragilities in the Welsh economy and, particularly, its over-dependence upon external investment and decision-making.

Austerity measures coupled with immediate employment concerns have tended to result in short-term, reactive responses focused upon coping with the crisis and recovering employment, rather than encouraging longer-term transformative adaptation and change. The lack of economic diversity and significant urban agglomerations present continuing threats to the long-term resilience of the economy.

## **KEY LESSONS**

Short-term adaptations by people and policy-makers do not necessarily build longer-term resilience in production and livelihood systems.

Policy decisions made outside regions have a powerful impact upon them.

# West Macedonia



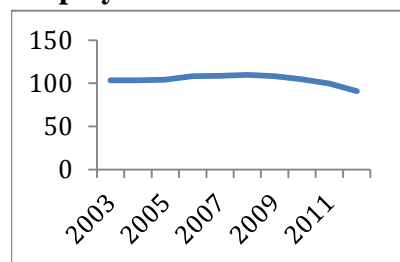
West Macedonia is a peripheral region located in northern Greece, mountainous and landlocked at the border with FYROM and Albania. It is one of the 13 self-administered regions (NUTS2) and consists of four Regional Units. Despite its peripheral character it holds a strategic role in Greece in terms of energy production and energy networks infrastructure. More than 50 years ago, massive installations of the Public Power Corporation (DEI S.A.) were established in the area, triggering the enlargement of the public sector and allowing for DEI to become the principal employer and local economic motivator. More than 70% of the country's total electric power is being produced in West Macedonia. Around 6,000 persons are permanently employed by DEI, while several subcontracting companies are clustered around DEI. The Region is also specialized in fur manufacturing. Due mainly to these two production activities, the employment percentage in the secondary sector has historically been higher than the country's average.

## EFFECT OF THE CRISIS

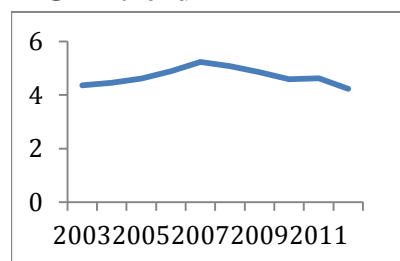
There are two inter-related components of the economic crisis which started in 2008 in Greece: a) the financial and banking crisis and b) the debt crisis of the public sector. The most visible signs are high rates of unemployment, cut-offs in salaries, firms ceasing operations, and the public sector's retreat regarding social services.

West Macedonia was impacted by both components of the crisis. Since 2008, over 20% of the regional enterprises have ceased operations while, given the payment cuts and increased taxation, there was around 40% decrease in their turnover. 2008 to 2011 saw the construction sector lose around 40% of jobs, whereas before this it represented 7.5% of regional employment. New touristic activities in certain areas absorbed part of the negative consequences of the crisis.

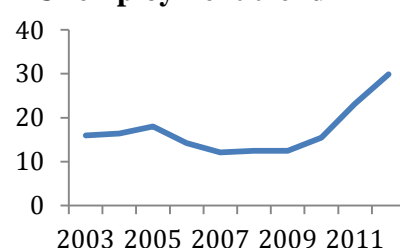
### Employment trend



### GDP trend



### Unemployment trend



## RESILIENCE OF WEST MACEDONIA

The region has seen the greatest reduction of construction activity and second-greatest increase of unemployment in Greece. Due to the high proportion of persons whose income depends on the public sector, the Region of West Macedonia should be among the worst hit by the curtailment of public sector salaries. However, the fur sector has proved to be resilient mainly due to internal processes and private action.

### *High level of dependency on one sector increases vulnerability*

West Macedonia's niche as the centre of electric power production in Greece defines both the severity of the impacts of the crisis and the degree of regional resilience. The dominance of the energy sector and the low diversification of the local productive system have hindered resilience in the current crisis. This is more significant when it is not combined with the introduction of innovation and actions to attract private investments.

### *Social solidarity actions lack coordination and 'formal' governance support*

There is increased interest in volunteering and in participating in collective actions of social solidarity (NGO's, citizens' groups, local initiatives); however, these are not yet capable of altering the developmental trajectory of the region. Informal activity by groups of citizens could sometimes be more effective than the more formal governance arrangements; however, without proper coordination and support the current enthusiasm might lead to demoralisation with detrimental effects for future regional resilience.

### *Traditional attitudes and structures affect resilience*

The Region's specialization in the energy sector, and the, until recently, viable option for the local population to find a 'safe job' with relatively high salaries in the public sector, brought DEI to people's consciousness as a factor of resilience. The long duration of this option had led to a kind of economic dependency which hampers the creation of conditions for the diversification of the Region's productive base.

The regional population retains many characteristics of a traditional society with a patriarchal family structure, which was able to absorb the first wave of the consequences of the current economic crisis.

## KEY MESSAGES

West Macedonia experienced with higher intensity the impacts of the crisis compared to other Greek regions.



## **POLICY LESSONS**

To date no comprehensive efforts have been undertaken in order to formulate and implement focused policies that will complement the macro-economic efforts for stabilization and recovery.

### **KEY LESSONS**

Policies should target the causes of vulnerability.

By focusing only on mitigating the consequences of a crisis they may create further vulnerability.

Policies should incorporate a long-term vision for the region.

There is no single level of policy making for building resilience.

Policy makers seem to implement ad hoc and fragmented policies that may benefit specific types of activity, or may help to overcome specific types of problems, but have very little and a rather temporal effect upon the resilience of the region.

The selectivity of single policies without their integration into a comprehensive long-term plan might generate distortions in the overall economy, negating any temporary relief that may arise.

Lack of coordination among different levels of decision making led to significant contradictions in terms of the imposed policies.

There is relatively limited experience of regional authorities in the design and implementation of development programme; this means that they might need to be enforced by highly skilled human resources and technical assistance.

### **CONCLUDING COMMENTS**

The structural deficiencies of the local economy along with the fiscal inadequacies have magnified the extent and the intensity of the crisis' impact at all levels: economic, social and spatial.

The region did not manage to create a diversified economy and remains trapped in a vicious cycle characterized by a fear of what will come at the end of the meta-lignite era. The public sector in its long-term role of shielding the region has, in fact, contributed to further vulnerabilities. West Macedonia presents some examples of resilience, which are encouraging but not on a scale that could change the overall course of regional development (e.g. fur processing, saffron etc).

The development of an integrated strategy that would set clear objectives and reflect regional consensus could be considered vital. Alongside this, an increase in regional collaboration and networking are considered critical for regional renewal.

# Uusimaa

Uusimaa is one of Finland's 19 counties and a NUTS 3 level territorial unit. The Uusimaa Regional Council is also the regional authority and is indirectly elected by the member municipalities. The regional council does not have taxation rights but acts as a coordinator and consensus builder for the region and its 26 municipalities.

Uusimaa is the capital city region of Finland. The region is the economic core with a high level of GDP per capita and strong Nordic-type welfare system. The regional economy is characterised by service sector dominance and also by strong ITC and logistics sectors; but, there are significant subregional sectoral differences within the Uusimaa region.

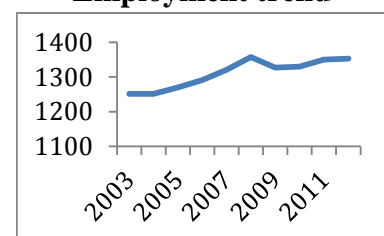
## EFFECT OF THE CRISIS

The economic crisis has had powerful but contradictory effects on the Finnish economy. The GDP decline in 2009 was one of the deepest among EU countries, which was followed by strong recovery in 2010. While the resistance in production was weak, the national economy has demonstrated strong employment and income resistance at the same time.

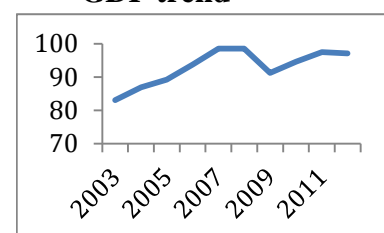
In the national context, Uusimaa has had marginally better economic resilience compared to the rest of Finland. The sub-regional differences in employment resilience have been related to the sectorial composition of the local economies, and to the size and location of local labour markets. As a rule, more remote localities have been less resistant to the current crisis, but the real situation depends very much on particular developments in localities and their key industrial enterprises.



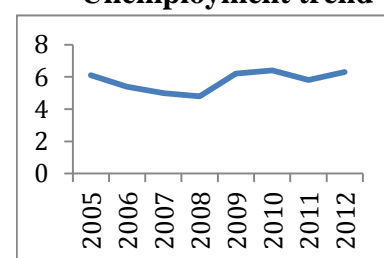
**Employment trend**



**GDP trend**



**Unemployment trend**



## RESILIENCE OF UUSIMAA REGION

### KEY MESSAGES

Uusimaa region was not resilient to the economic crisis.

The negative effects of the crisis have been more significant for volumes of economic production compared to employment.



The crisis impacted the regional economy at the end of 2008, but annual GDP data shows decline only in 2009. Uusimaa has performed more strongly than the rest of the country, with a lower level of GDP decline and a greater level of recovery. However, in 2011 when the country had slight growth in GDP, negative growth numbers returned to Uusimaa, with a drop of 2%. The unemployment rate grew from 4% to 6% in years 2009 and 2010, and reduced a little in 2011. Yet, the pre-crisis low unemployment rates have not returned to the region, and in 2012 the unemployment rate started to grow again. In summary, the regional economy has demonstrated some upturn, but has not recovered to pre-crisis levels in terms of production volumes and employment.

### *Innovation-led globally competitive businesses have a key role in the reorientation of the regional economy necessary for its renewal*

The factors which have hindered the recovery of Uusimaa's economy relate to an insufficient reorientation after the weakening of the Nokia cluster and the loss of some export opportunities. The strong reliance on the global success of Nokia, which once supported quick innovation based growth, now is considered to contribute to the slower recovery and renewal of the regional economy. However, the decline of Nokia and the resulting surplus of excellent workforce and good intellectual property could be seen as an important source of renewal.

### *Structural advantages are not necessarily translated into better resilience*

As a capital city region, Uusimaa has clear structural advantages over other regions of Finland. Nevertheless, the region has been influenced by the recession almost as deeply and broadly as the rest of the country. The slightly better resistance to the crisis compared to the rest of the Finland can be related to the dominance of the service sector and the abundance of public sector jobs in the region. Other regional factors contributing to resilience have been: diversity of regional economy, size of labour market, and good international connectivity.

### *Significant territorial variations within the region*

The impact of the current crisis has been characterised by territorial differences within Uusimaa region. The small peripheral sub-regions, where traditional industries have experienced difficulties, resulting in bankruptcies and massive job losses, are more affected than Helsinki metropolitan area and localities closer to Helsinki labour market. If the regional ambition is to be at the forefront of the global economy and to return to previous growth rates, this suggests that there is little room for traditional industries in small communities or even the capital city region of Uusimaa.

## **POLICY LESSONS**

The experience of Finland and Uusimaa region indicates that policy-makers can enhance the resilience of regions with sound long term policies; responsible budget policy; constant support for innovation based growth; and through promoting a strong education system. Reaction to crises is necessary, but long term policies to build a healthy economy and society are more effective.

The key policies, both macro-economic and targeted policies, have been formulated and financed by the central government and its agencies. The social security system, governmental contra-cyclical measures and accumulated wealth were able to maintain strong domestic demand and thus make regional economies more resistant to the external problems, at least in terms of incomes and employment. However, prioritizing Nordic welfare system policies does have its drawbacks in the context of resilience building, as they may promote too much stability and resistance, at the expense of reorientation and renewal.

The role of regional policy makers to complement macro-economic measures stimulating economic recovery in Uusimaa has been minor. Local and regional authorities do not have tools and resources to resist global crises, and it would be inefficient for Finland as a small country to devolve them to a regional level. Local and regional authorities should firstly co-operate with national authorities in implementing governmental economic policies.

## **CONCLUDING COMMENTS**

The economy of Uusimaa region came out to be moderately non-resilient in the context of the current crisis. In fact, it is too early to make conclusive evaluations about the issue. The impacts of the external and internal shocks are still “operating” within Finnish regional economies.

There was a short term recovery or bouncing back from the 2008/09 deep recession in 2010 and 2011, but the developments in the last three years indicate that it is premature to talk about new growth or full recovery. Indeed, there is a community perception that at least in some aspects the economic situation could become worse in the near future.

These future problems could be related to the diminished productivity of many companies during the crisis, persisting problems in export demand, changes in global security situation, and also to the depletion of public resources to continue with governmental countercyclical measures.

## **KEY LESSONS**

Long term policies are more effective and efficient.

Too much resistance may hamper reallocation of resources (labour, capital) and thus also reorientation and renewal.

The financial buffers of economic actors should absorb the shock, without compromising creative destruction.



## 5 WHAT HELPS BUILD OR SHAPE RESILIENCE?

Alongside the burgeoning literature on the meaning of resilience, there is a developing body of work on the factors shaping it. To date, attention has primarily focused on factors pertinent to the structural features of regional economies and the decisions of businesses or firms. Much less emphasis has been placed upon understanding issues around the decisions and choices of other actors in the system, such as households and, more notably, policymakers.

Experience from the recent crisis demonstrates how important these decisions can be in mediating the immediate effects of an economic shock, and also in building resilience capabilities over the longer-term. The evidence also highlights that there are no ‘magic bullets’ that both insulate regions from the harmful impacts of economic downturns and help them recover quickly.

### 5.1 Innate characteristics provide the foundations of resilience

The prevailing characteristics of regions set the context for their resilience to economic shocks. These innate properties shape the capacity of a region to react to changing circumstances, often as relatively autonomous responses to economic shocks<sup>17</sup>. These underpinning structures can be divided into four broad categories (Figure 4.1):

- Businesses, economy and the business environment
- People and the population
- Place-based characteristics, and
- Community, or societal, characteristics

**Figure 5.1 The foundations for resilience**



#### 5.1.1 Business, economy and the business environment

By far the greatest influence on the resilience of a region is the form and structure of the economy. This includes the initial strengths and weaknesses of regions,

their industrial legacy, the size of the market and access to a larger external market.

Broadly, dependence on particular sectors, or a small number of employers, is detrimental to the resilience of the economy. A more diverse economic structure provides greater regional resistance to shocks than does a more specialised structure since risk is effectively spread across a region's business portfolio, although a high degree of sectoral interrelatedness may limit this. In the recent crisis, the decline in the construction sector was particularly marked, with considerable implications for regions where this was a significant component of economic activity, whilst regions with higher levels of agricultural employment have also proved less resilient.

There are, though, exceptions. Dependence on some sectors promoted resilience during the crisis, with regions with concentrations of activity in Financial Services or a stronger exposure to high-tech, knowledge intensive industries, as well as as health and education), experiencing greater resilience. This is illustrative of the influence of differential sectoral experiences during the crisis. Higher levels of manufacturing employment are associated with higher levels of GDP resilience, although levels of employment resilience demonstrate a more mixed picture.

Fortunes can also change. Regions that had a greater dependence on the public sector were initially shielded from the worst effects of the crisis. However, since 2011 and the widespread development of austerity measures, our qualitative research suggests that this may now be a source of weakness in some places. Regions with high shares of employment in service industries have tended to be more likely to prove resilient.

Economic structure is, though, only a partial explanation of resilience. Our research highlights that ownership structures, export orientation and market focus are all more significant. The presence of international companies, with access to financial resources and greater expertise, positively assists resilience, as does a strong export orientation to the economy, often focused on more modern production techniques.

Stable growth patterns prior to an economic shock also appear to promote resilience. High levels of employment growth in the years preceding the crisis are associated with regions that proved less resilient to the crisis. Lower levels of unemployment prior to the crisis also characterise regions that have proved resilient to the economic crisis. Taken together this suggests that resilience is a longer-term phenomenon based on stable growth rates over longer periods of time. Whilst higher rates of employment are associated with regions that exhibit employment resilience this is less strong regarding GDP resilience.

**An innovative, modern, diverse business base promotes resilience**

**Dependency on small numbers of firms, sectors or markets makes an economy vulnerable to shocks**

A key factor underlying resilience is the very strong positive relationship between higher levels of innovation performance and observed resilience outcomes. Regions that are classified as Innovation Leaders<sup>18</sup> were the most likely to resist the economic crisis (23%) and to recover from the crisis (72%). They also experienced the lowest levels of employment loss, the lowest rates of decline in employment levels, exhibited the highest levels of relative regional performance and experienced the effects of the economic crisis for the shortest duration. Low levels of innovation do not necessarily impede resilience though. Regions classified as Modest Innovators tended to have a stronger resilience performance compared to those in the ‘Moderate Innovator’ category above.

Across the cases studied the economic crisis has also led to a renewed interest in the potential offered by entrepreneurship. Several of the regions already have strong entrepreneurial cultures and some report that this provides a greater diversity of activity and enables local communities to maintain economic activity. In areas where there has been less importance attached to entrepreneurship, such as Western Macedonia, the economic crisis has exposed the inability of existing structures to adapt and has led to an increasing interest in the potential alternatives offered by starting new businesses. There is, though, limited evidence from the cases studied, or our wider quantitative analysis, of a more entrepreneurial culture making an observable difference to resilience experiences. Evidence from South West Ireland, for example, suggests that higher levels of entrepreneurship have not led to stronger resilience outcomes.

### 5.1.2 People and the population

A region’s population can also influence its ability to withstand – or recover from – an economic shock. In practice, the relationship between population characteristics and resilience has proved to be complex and non-uniform. The clearest relationship is in the area of skills. Areas with more highly qualified populations tend to have more positive resilience outcomes. However, simply increasing the extent of educational qualifications does not appear to confer greater levels of resilience. In our analysis the ‘no upturn’ group is the group with the second highest increase in educational attainment, after the ‘resistant’ grouping. Case studies also reported on the importance of workforce experience and managerial skills in promoting resilient outcomes.

Labour market flexibility has also been an important feature shaping the ability of many regions to respond to economic crisis. The crisis not only affected the levels of employment but also influenced the number of hours that were worked, this impact was seen throughout the case study regions. The reduction of working hours in order to retain –as opposed to shed - skilled labour and human capital was a common strategy adopted by firms and, broadly, accepted by workers as an alternative to higher levels of redundancy and potential unemployment. In several

**A well-skilled population operating within flexible labour market arrangements promotes economic resilience**

cases, public policies have actively supported this practice, either through amendments to national regulations and practices or through the introduction of short-term working allowances. This labour-led strategy is one reason that employment-resilience has proved stronger than GDP-resilience.

A common finding in the US literature is that regions with higher incomes or wages (independent of human capital) tend to recover more quickly from economic shocks<sup>19</sup>. However, in the ESPON area, the level of household disposable income does not appear to be related to observed levels of regional resilience, except at the highest quartile level - which has a limited relationship to employment resilience. Lower growth rates are positively associated with regions that resisted the crisis or recovered. Again, this may suggest that stable, longer-term, growth paths provide a greater degree of resilience. Our findings also suggest that lower levels of income inequality can be beneficial to longer-term resilience.

The relationship between demographic structure and observed resilience is not straightforward, and varies between employment and GDP resilience outcomes. Levels of migration prior to the crisis do not appear to have a significant influence on the observed employment resilience of regions, lower levels of in-migration do appear to be associated with regions with observed GDP resilience.

### 5.1.3 Place-based characteristics

All places differ. But to what extent do the particular physical characteristics of places influence their resilience to economic shocks?

The evidence suggests that the presence of an urban centre, particularly second-tier centres<sup>20</sup>, is positively associated with resilience. In contrast, regions that are more remote from major urban centres have tended to prove less resilient. This finding is reinforced by our qualitative evidence. A strong feature of several of the case studies is the significant role played by a major urban centre in promoting the resilience of the surrounding economy. This was identified in the case of Cork, Ireland; the tri-city of Gdansk-Gdynia-Sopot in Pomorskie, Poland; Tallinn, Estonia and Helsinki, Uusimaa.

And what of other territorial characteristics? Initial data analysis suggests that characteristics such as mountain, coastal or border features are correlated with the economic resilience outcomes of regions at the European level. Regions that are remote; have external borders, or have high levels of population living in mountainous or coastal areas all tend to have proven less resilient to the economic crisis.

**Urban areas tend to be more resilient than more remote locations**

**The resilience of mountainous, coastal and island regions depends on wider context rather than simply their physical character**

However, this does not take into account the possibility that territories with particular characteristics appear to have weaker levels of resilience outcomes simply because they are disproportionately located in countries where overall levels of resilience are weaker. When location is controlled for a more complex picture emerges. Overall, it appears that in around a third of countries the territorial characteristics of regions may have some influence on the observed level of resilience. However, there is no consistent pattern to this, as in each case there are examples of where the same characteristics are associated with different resilience outcomes. For example, in some countries mountainous regions have proved more resilient than the national average, whilst in others they have proved less resilient.

Looked at in another way, we can ask whether the presence of challenging geographic features, such as mountains, coast etc might affect the overall resilience of the national economy itself. Overall, a more favourable territorial composition does appear to be important for states that resisted the crisis, with low proportions of regions in all territorial categories, although this finding is based only on 3 states. Similarly, the presence of more regions with external borders appears to affect the overall resilience of the Member State concerned. However, a higher prevalence of mountain, coastal or island regions does not appear to be a significant factor affecting the ability of states to recover following the onset of an economic downturn.

**Table 5.1 Resilience and territorial characteristics**

<i>Observed national resilience</i>	<i>Percentage of regions in States concerned</i>				<i>Total number of states</i>
	<i>Mountain</i>	<i>Coastal</i>	<i>Island</i>	<i>External Border</i>	
RS	6.0	6.4	0.0	7.6	3
RC	30.0	54.4	21.0	4.1	5
NR1	17.4	40.0	12.1	12.1	11
NR2	39.9	51.7	16.3	21.6	9

Source: ESPON ECR2

Regions with higher levels of accessibility also tend to be associated with more resilient outcomes. This was reinforced by the findings of the case studies. In the case of South West Ireland, the port facilities were regarded as an important dimension of the ability of the region to engage with global markets. The significance of port facilities was also reported in Uusimaa, Pomorskie and Estonia. In Puglia, the port facilities were seen as a positive element for the economy, together with the connections promoted by the local airport. Air links were also important for the City of Cork and for Helsinki. In each case the links

helped to underpin economic activity, and overcome peripheral geographic locations. Higher levels of broadband availability also appear to be related with regions with more resilient outcomes.

A high quality natural environment can also contribute to a higher standard of living in an area, with potential positive implications for the resilience of a region. This was the case in Pomorskie, Poland, where the quality of the natural environment was remarked upon as a positive element in the area's ability to attract inward investment and skilled labour. To a certain extent it was felt that this could act as a counterweight to the higher salaries on offer in the capital Warsaw. Strong levels of natural capital were also reported to underpin more resilient agricultural and tourism sectors in South West Ireland and Puglia.

Finally, and although not strictly a 'place-based' characteristic, it is also useful to consider the significance of a region's status under the EU's Cohesion Policy, as this influences the levels of external assistance provided through the EU's Structural Funds and can impact on levels of eligible aid intensity. Using eligibility status under the 2007-13 programming period, we find that regions that were eligible under the Competitiveness and Eligibility strand of the Structural Funds proved to be disproportionately likely to have resisted or recovered from the crisis.

In contrast, regions eligible under the Convergence strand have proven less able to resist or recover from the crisis, with a significantly lower proportion of regions in the recovered category, and over-representation in both not recovered categories. Transition regions have also fared poorly in the crisis, with a particularly high proportion of regions still experiencing decline in 2011.

#### **5.1.4 Community and societal characteristics**

The fourth factor considered is the role that community-based features play in the economic resilience of the region as a whole. A number of features do appear to have some impact on observed levels of resilience, although the evidence for this is primarily qualitative. Whilst rarely strong enough to impact directly on the ability of an economy to withstand the effects of an economic crisis they are able to play an important role in shaping the way in which it responds and the opportunities available to communities.

Amongst residential communities there is some evidence that the strength of social capital networks have affected the ability of places to respond to the effects of the crisis. In both Uusimaa and Estonia it is reported that a tradition of self-reliance has resulted in communities taking responsibility for their own well-being during the crisis. Similarly in South West Ireland and Wales, strong levels of social capital have contributed to the response of communities to the crisis, although in the case of South West Ireland, the effect have been unevenly

**Social ties and community based capital plays an important role in mediating resilience outcomes**

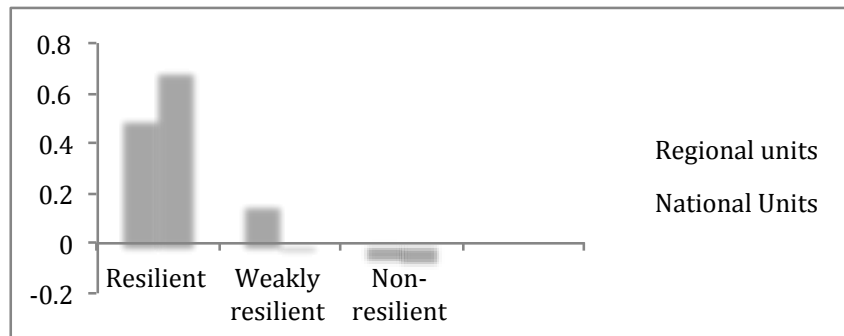
**Quality of governance has a crucial influence on observed resilience outcomes**

distributed and, in many ways, is being stimulated by the effects of the crisis and a senses of fending for themselves. Across several of the case studies an increase in volunteering bore witness to communities seeking local solutions and responses. Several of our studies report on the significance of business networks, and inter-firm social capital, in shaping responses to the economic crisis. In Baden-Württemberg, it is reported that larger firms or owners of family owned firms often offered short-term guarantees and loans to help out firms that were facing insolvency. This corresponds with wider research reporting on how larger firms offered payment holidays, or made credit available to their supply chains. Similarly, formal and informal business networks in other regions were important agents in promoting adaptation and mutual support.

The role of community-based initiatives in countering the consequences of the economic downturn featured in all the cases studied. At the very local scale the development of strong localist agendas, epitomized by ‘buy-local’ campaigns formed one response to the crisis. In no case, though, were significant initiatives identified that had made a strong impact on the observed level of resilience within the regions concerned. However, there is evidence from other locations of the role that a variety of long-standing initiatives, such as alternative currencies, can play in tempering the effects of economic downturns. The role of such potential ‘safety-valves’ in supporting resilience over the longer-term merits further consideration.

Finally, the project considered the role of governance in promoting more resilient outcomes. The findings are unequivocal in their significance of good quality governance for stronger resilience outcomes. Using the European Quality of Governance Index (EQI)<sup>21</sup>, the average score for regions which proved resilient to the past economic crisis (RS+RS) is higher than those which have begun their recovery, but not yet regained their pre-crisis peak (weakly resilient), which is, in turn, higher than those regions that have still to begin their economic recovery (non-resilient). The relationship is more apparent when national units are considered.

**Figure 5.1 Observed economic resilience and average EQI score**



Source: adapted from the European Quality of Governance Index<sup>22</sup>

Our qualitative research reinforces these findings. Overall, it was found that fragmented governance structures impeded resilience. Resilience appears to be enhanced where public authorities work together with neighbouring authorities; where different levels of government work together towards shared objectives, and where there is a collaborative approach to working with economic and social partners.

Where local government has more limited powers, this appears to act against resilience, although the finding is not without exceptions. A key consideration appears to be the extent to which sub-national governments have the capability to act, not just the capacity. The application of land use planning systems in different parts of Europe provides strong evidence of how different implementation approaches can support or restrain resilience outcomes (Box 5.1).

#### **Box 5.1 Planning approaches and economic resilience**

Planning regimes and the property market, which act to shape places, can influence resilience, with the collapse of inflated property markets in both Ireland and Estonia major factors underpinning the economic crisis in each country. Planning regimes are reported to have had some impact on observed levels of resilience in a small number of our case study regions. Whilst the overall impact in South West Ireland was negative, owing to the readiness of the system to grant permission for residential and commercial development, some positive attributes are also identified. The Cork Area Strategic Plan (CASP) developed for the wider metropolitan area of Cork is widely regarded in the region as a model for strategic development planning, and is regarded as having moderated the excesses of the property boom, leaving Cork better-placed during the economic crisis. In Stuttgart, also, a strong strategic planning approach, that is able to combine plan-making with infrastructure investments alongside transport and economic policies, is argued to underpin the longer-term development of the economy and so contribute to their observed resilience.

There is also some evidence from the case studies that the nature of welfare regimes can influence the resilience of regions. This was reported in the case of Uusimaa, where the social compact provides for strong redistribution effects. Similarly in economies where there is an emphasis on collective bargaining the social compact between firms, states and workers can also impact on observed levels of resilience. This was remarked upon in the case of South West Ireland, in Uusimaa, in Stuttgart and in Western Macedonia. The effects of this were not uniform though.

Equally, there also has to be the willingness to use those powers that are available. In Western Macedonia it is reported that available resources from the



Compensatory Fund, available from the DEI operations, were not fully utilized, whilst in South West Ireland, it is also reported that County Kerry did not make use of the opportunity to levy an economic development fund, unlike the neighbouring County and City of Cork.

## 5.2 Behavioural choices shape resilience outcomes

Alongside important structural features that appear to influence levels of resilience the role of agency and choice also emerge as formative influences on the nature of response to crisis<sup>23</sup>. Regions are complex and adaptive systems, that are shaped by the decisions made by those that make up those systems, whether they are businesses, households, policy-makers or other agents. In social systems, agents have the capacity to react to crisis situations in positive ways. It is of course also possible that the actions (or inactions) of agents might result in less positive adaptation and weakening resilience over time. The choices made are influenced by their contextual setting and so differ within and between places, understanding these micro-responses can be critical to developing a stronger understanding of resilience processes within regions. Box 5.2 provides an example of divergent social responses to the economic crisis within a common setting.

### **Resilience is shaped by the ability to learn and the ability to adapt**

The role of agency and choice in underpinning resilience outcomes is manifested in two key processes: the ability to learn, and the ability to adapt. Both influence the decisions made by key agents, which, in turn, influences the resilience outcomes observed within and across regions.

The significance of learning from past events was a consistent message across the cases studied for this project. In Stuttgart in particular, the reactions by many firms in the region to the 2008 crisis were shaped by their previous experiences and helped create the strong imperative to keep human capital inside firms to avoid skill shortages in the recovery period. Firms here, and in Pomorskie, appear to have learnt from previous crisis experiences and developed a strong focus on self-financial strategies and innovation through the crisis as a means of preparing for the future. In South West Ireland, politicians from the City of Cork highlighted how they had learnt from the dramatic ‘smokestack’ collapse of traditional manufacturing in the 1980s and were still applying the lessons learnt then regarding the importance of a diverse and competitive export-orientated economy. In other cases, our respondents reported that the limited previous experience of firms, and government actors, in dealing with economic downturn was a limiting factor.

### **Box 5.2 Adaptive behaviour, choices and agency**

Individuals, organisations and communities have adapted to the economic crisis through making changes to their actions and behaviour. The choices they make are highly contingent on individual context and depend on the interplay of local, national and international forces; how they understand these forces to affect themselves, and the choices made by those around them and with whom they interact.

Data from Ireland for the period 2006-2011 provides a window on the choices made by individuals and households as they adapted to the crisis. This demonstrated a general decrease in the numbers reporting that they were looking after the home or family (but with a changing gender composition as the number of males doing so increased by 8% against a decline of 13% in the number of females). Significantly, whilst the number of males joining the labour force over this period has increased by 1% the number of females has increased by 12%. This may reflect changing labour market conditions and the role of collective household decision-making.

In considering resilience capabilities the agency of the actors involved should, then, not be overlooked. This considers the capacity of the individual – whether that is a person, household, firm, policy-maker or other organisation - to make choices and act, in ways that are shaped by the surrounding environment.

There is also evidence that a willingness, and capability, to adapt over both the short and the medium-term aids resilience outcomes. Evidence lies in the choices made by workers and employers in making short-term changes to working hours and compensation arrangements during the duration of the crisis. Equally, firms and economies that were able to develop new markets proved more able to manage the economic crisis than those that did not. Workers and households affected by redundancy also developed adaptive strategies, based on new labour market choices.

It is in these adaptive strategies that we begin to see the first signs of transformative effects of the crisis emerging, such as increasing rates of entrepreneurship. However, in some cases the choices made appear to constrain adaptation. It is suggested by some firms that this is the case in Uusimaa, Finland, where short-term subsidies to reduce workforce losses effectively locked-in structures which, it is argued, require transformation to ensure future competitiveness. Similarly, in Western Macedonia, the choices made in the past to further tie economic success to the fortunes of DEI (the state-owned energy provider), are affecting the ability of the region to respond to the current crisis. Similarly, the crisis itself has acted to constrain the ability of economies to

develop new development paths, through changing priorities and restricting funds (Box 5.3).

**Box 5.3 Transformation and renewal: Green development paths and resilience**

Adaptive economies tend to be more resilient over the longer-term, as new development paths are explored. Equally, an economic shock can also act as a catalyst for change, promoting a shift from an outmoded development path to alternative growth paths. In recent years there has been much interest in promoting new development paths that are associated with the green economy. Has this had any discernable effect on the resilience of regions? Or has the crisis itself encouraged the development of new greener development paths? There is some evidence that the crisis initially accelerated green economy ambitions and practices in some case study regions, particularly those where greening strategies were already in place, such as Wales and Puglia. However, this has not made a discernable impact on their observed resilience; whether this is because the green economy is not yet fully-developed; is not visible in any statistics, or does not have a positive impact on resilience is too early to tell. However, we also found some evidence that the crisis and the tighter fiscal conditions it ultimately promoted, significantly affected the priority afforded to greening strategies, suggesting that, in contrast to competitiveness and innovation, green growth is not seen as a priority at a time of fiscal tightening.

Overall, then, the crisis has had no clearly discernible or obviously transformative effect upon regional development paths. For some regions, such as Pomorskie in Poland and Baden-Württemberg in Germany this is because progress towards renewable energy is seen as a both an existing pathway and a long-term commitment, and is something largely unaffected by the crisis. In Baden-Württemberg, political decisions at federal and state level in support of renewables such as on-shore wind energy were regarded as more significant in influencing this pathway than the economic crisis. In most of our other regional case studies, it is either simply too early to discern what, if any, transformative effects the crisis has had, or the efforts of dealing with the crisis has been all-consuming and has limited the potential for anything more than rhetorical statements from regional actors to emerge as yet. Our case studies also highlight the importance of understanding greening strategies and transitions in their contexts. They clearly reveal the importance of national and federal government agendas and strategies in shaping regional government agendas.

A final consideration shaping the role agency plays in framing resilience outcomes is that of expectations. The expectations of firms, households and policy-makers have played a critical role in shaping responses to crisis in national

and regional economies. As we showed in Section 3, expectations vary significantly across the ESPON space and change over time, with strong implications for the choices made by key system agents.

### 5.3 Regions are complex systems with unique combinations of features

The consistent theme emerging from our cases, and quantitative analysis, is that not only does each region experience the economic crisis differently but that the interplay of factors that influence this is also uniquely different. Whilst the univariate and bivariate techniques employed by the project demonstrate strong, and relatively consistent, relationships between observed resilience outcomes (of both employment and GDP) and a number of key variables the results of multivariate techniques are more complex and offer poor levels of explanatory power. Numerous models have to be run before ones demonstrating a good fit between observed outcomes and potential independent variables can be identified, and these tend to rely heavily on the significance of dummy variables.

In turn, the inter-connectivity of places, through value-chains and supply-chains, may also impact on levels of resilience. This is remarked upon in the case of Estonia, whose firms benefited from efforts to stimulate the Finnish economy. Arguably, it also serves to underpin observed resilience in Pomorskie and Baden-Württemberg where German competitiveness is supported by a pool of low-wage, well-educated and highly productive workers in Poland, whose firms benefit from German market access. Detailed data on these inter-relationships is not yet available, although academic work on this is ongoing.

It is tempting to think that more data may enable more robust models to be derived but the analysis makes clear that the interactions are complex, that the direction of influence can often reverse depending upon specificities of regional contexts, and that the characteristics identified only explain a part of the resilience observed. It is likely that other factors are also at play, and that the role of policy will be a further important influence. In this context, it may be optimistic to assume that resilience at a regional level can be robustly modelled.

**Whilst data can help us to understand resilience capabilities it may be optimistic to assume that resilience at a regional level can be robustly modelled**

## 6 THE ROLE OF TERRITORIAL POLICIES IN PROMOTING RESILIENCE: MESSAGES FOR POLICY MAKERS

### 6.1 Territorial policy approaches

The economic crisis precipitated a massive round of fiscal interventions by the world's leading economies in an effort to stave off a collapse of the financial system. This set the context for subsequent policy interventions as European economies entered the economic downturn. These fiscal (and monetary) policy approaches are not the focus of this study, despite their contextual significance. Rather, we are interested in the role of territorial policies in promoting resilience.

The significance of territorial policies stems from an appreciation of the importance of local conditions in shaping resilience responses. This thinking clearly aligns with, and has informed, the conceptualisation of resilience developed in this study. Regions are highly diverse and evolutionary entities. Furthermore, their resilience is conceived as a place-based capacity shaped both by a territory's inherited resources and structures, as well as its people and the agency of its individuals, businesses and other organisations.

In line with this thinking policy strategies across the EU are placing an increasing emphasis on encouraging the development of integrated, place-based policy actions (Box 6.1). This is policy which is tailored to contexts; where intervention elicits and utilises local knowledge; where linkages and interdependencies between places are taken into account; and which is part of a territorialised social agenda which aims at guaranteeing socially agreed standards for particular aspects of well-being<sup>24</sup>.

The EU's Territorial Agenda 2020 places particular emphasis upon the development of strong local economies through effective use of territorial assets and the integration of local endowments, characteristics and traditions into the global economy. This is seen as critical 'in strengthening local responses and reducing vulnerability to external factors' (p.8) – in other words for the development of economic resilience.

As Territorial Agenda 2020 puts it, 'local endowments and territorial characteristics have growing importance for regions in order to cope with and recover from external shocks' (p. 5). However, this is not to suggest that places stand alone in the face of crisis. The EU recognises that regions may well "need external support to help find (and realise) their own paths of sustainable development"<sup>25</sup>, as, in many cases, the crisis has exposed the limitations of internal capacity and resources. As the Barca report observes, "an exogenous intervention might be needed to trigger change"<sup>26</sup>. It goes on to acknowledge,

**Regional resilience is conceived as a place-based capacity shaped both by a territory's inherited resources and structures, as well as its people and the agency of its individuals, businesses and other organisations**

however, that such intervention must work with the grain of territorial assets and capacities – “the purpose is obviously not to import institutions from outside, but to provide the pre-requisites for them to develop, to tilt the balance of costs and benefits for local actors to start building up agency, trust and social capital, to change beliefs and to experiment with institutions and democratic participation”.

### **Box 6.1: Territorial policies for promoting resilience**

Place based policies take many forms. At one level there are those that are specific to the characteristics of particular places, such as those targeted at urban, rural or coastal areas. These can be complemented by policies that seek to overcome patterns of uneven development, such as the EU’s cohesion policies promoting regional economic convergence. Policies may also be tailored to the needs of particular places, such as those seeking to develop the endogenous potential of regions, rather than be uniformly applied across a national economy. At the local or regional level policy officials are able to integrate diverse funding sources to better meet local needs, priorities and agendas.

All these policies can support efforts to promote the resilience of regions. In addition, it is worth considering policies that act to share risk across regions, and those which recognise the interdependencies between regions. Whilst neither are typically considered as place-based policies both are fundamental elements of any approach promoting the resilience of regions and other territories. To consider places solely as independent entities is to miss the very foundations of creating resilient places.

However, countervailing tendencies are also visible in the cases studied for this work. In more than half these examples it was reported that the crisis had led to a reduction in the emphasis attached to spatially-informed policies, with attention instead focusing on national economic priorities with limited consideration of the spatial consequences of this. The effects of the crisis are also impacting unevenly across the EU, with the 6th Cohesion Report<sup>27</sup> highlighting the widening of disparities between Member States and within some Member States, and the interruption of the convergence trends witnessed prior to the onset of the crisis.

## **6.2 Responding to crisis**

The scale of the economic crisis precipitated a substantial level of intervention by public authorities. These interventions occurred at an international, national and subnational scale, as authorities sought to stem the effects of the economic shock sweeping across global and European economies. Alongside the headline measures of bank bailouts; austerity budgets and international credit arrangements (Box 6.2), automatic stabilisers, such as welfare provision, played an important,

but variable, role in maintaining income levels across Europe and so contributed to resilience outcomes. The following section focuses on discretionary policy interventions made by national and regional authorities in their efforts to respond to the economic crisis.

### **Box 6.2 Monetary and Fiscal Policy Responses**

#### ***Securing international liquidity and credit markets***

International mechanisms for sharing the risks associated with economic shocks are not well-developed<sup>28</sup>. Despite this, concerted coordinated action occurred across the world's major economies in response to the unfolding crisis, most significantly in 2008 through major equity injections into banks in the US and the EU - a process that effectively turned the financial crisis into a sovereign debt crisis – and, later, through the practice of Quantitative Easing.

Within the EU, Member States had to develop mechanisms to respond collectively to the crisis. Measures to promote financial stability and support Member States that required financial assistance included the creation of the European Financial Stabilisation Mechanism (EFSM) and, later, the European Financial Stability Facility (EFSF) - to provide a collective investment vehicle and replace the reliance of EU members on the provision of bilateral loans.

The path to these measures was by no means straightforward, as Member States debated the form that each should take and tensions arose as to the distributional burden of the adjustments required<sup>29</sup>. The impact of these measures has also set a context within which national and sub-national actions are set, particularly the move to austerity-based policies as Governments seek to reduce historically high levels of public debt.

#### ***The imposition of austerity measures***

A key aspect of the policy response to the current economic crisis has been the imposition of substantial austerity measures. For some countries this has been a condition of financial support from international institutions such as the International Monetary Fund or the EU; for others an internal objective owing to fears that inflated public debt liabilities would raise borrowing costs and constrain growth<sup>30</sup>; whilst for prospective Eurozone applicants such as Estonia it was a prerequisite for membership.

This has resulted in public sector pay freezes and job losses, reductions in public expenditure and investment and an increase in indirect and direct taxation and other charges for the provision of public services. Austerity measures have been particularly marked in our case study areas of Ireland, Greece and Estonia, but are also reported in the UK and Italy.

A key role taken by public authorities in the aftermath of an economic shock is to stabilize the situation, both through its own actions and through helping to reduce the uncertainties facing households and firms, and so assist in maintaining investment and consumption decisions. A second dimension of public policy is to promote economic recovery through helping firms and households to adapt to new circumstances. In the current crisis, however, many traditional policy instruments - based around public-sector expenditure - have been limited due to prevailing austerity measures. In doing so, authorities need to consider whether their response requires new policy instruments, or whether existing initiatives can be adapted or amended (Box 6.3).

**A key role taken by public authorities in the aftermath of an economic shock is to stabilize the situation**

### **Box 6.3 Implementing Policy Responses**

Policy responses take time to design, develop and implement. This leads many authorities to seek to adapt existing regulations and initiatives to respond to economic shocks. Four types of approach can be identified:

- Introduction of new provisions – often in response to the particular dimensions of the crisis, occasionally on a precautionary basis. The advantage is that these are particular to the circumstance, but their introduction takes time and its implementation is unfamiliar.
- Amendment of existing instruments – such as in Germany where long-standing provisions for Temporary Short-Term Working Allowances were amended to ease eligibility, extend the payment period and increase the allowance available. The advantage is that the instrument is familiar to all parties and can be introduced relatively swiftly.
- Repurposing of existing initiatives – whereby funds earmarked for one group are diverted to a new priority, such as in Estonia where resources under the Unemployment Insurance Fund were diverted from training and follow-up schooling to support enterprises avoid labour cuts.
- Activation of special measures – where additional resources and policies can be mobilized through the identification of a crisis situation. Often used to respond to disaster and emergency situations there is limited evidence of authorities making use of such tools to tackle the shock of the economic crisis.

Typically, policy responses to the economic crisis included one or more of the following. Whilst not all might be regarded as archetypally territorial policies, all had territorial dimensions in that their effects played out differently across diverse places.



### *Economic stimulus packages*

In an effort to boost economic activity, governments across the EU have introduced a range of economic stimulus packages, even whilst implementing austerity measures. These range from bringing forward, or increasing, investment in infrastructure projects through to more specific schemes, such as the ‘car scrappage’ incentives enacted in many economies at the start of the crisis. In practice, many infrastructure investments suffer from implementation delays, limiting their short-term impact. There is also a risk that the economic benefits of stimulus packages are felt in localities other than those initially intended. Stimulus measures enacted in Finland for example have reportedly played a positive role in supporting economic recovery in Estonia as many of their firms benefit from trade links with Finland and Finnish firms.

### *Employment support*

A host of policy initiatives have been aimed at maintaining employment levels; assisting redundant workers, and supporting those unable to gain jobs. Measures include short-term working allowances, which compensate workers who are affected by reductions in their working hours; temporary wage subsidies; retraining initiatives and advice and support schemes. These can prove an effective mechanism for protecting firms and workers from short-term reductions in demand, but their cost can be high, particularly if kept in place for extended periods. The positive benefits of the value of short-time working allowances are widely acknowledged in Germany, but in Finland, the benefits (compared to the costs) are currently subject to some debate.

### *Promoting flexible working*

Governments have also intervened in labour market institutions, imposing pay freezes for public sector workers in some cases, as part of national austerity measures, but also encouraging pay restraint in centralized bargaining procedures. In other cases, national governments have moved to increase flexibility, through introducing legislation or, as in the case of Finland, encouraging a move to decentralized pay bargaining to enable appropriate factory-level responses to the crisis.

### *Supporting training*

A key policy approach has been the support of training, in the case of Baden-Württemberg this was allied to temporary short-term working allowances, providing an opportunity to raise skill levels during the reduced hours of the working week. This counters the tendency whereby employers reduce training

budgets during the economic downturn. In contrast, in other regional cases training was targeted on the unemployed to assist their return to work. In a contracting labour market this may prove less effective, but may provide longer-term benefits through a general raising of skill levels within the region.

#### *Promoting entrepreneurship, competitiveness and innovation*

The crisis has strengthened national policy efforts directed at creating more competitive economies. This ranges from policies to encourage business start-ups, through to increasing support available for innovation and research – with some initiatives seeking to combine both. Where overall budgets are under pressure, levels of activity relative to other policy areas have often increased. There is a sense that the crisis has not changed the underlying fundamentals of economic growth and that investments in these areas will assist the longer-term transformation of the economy. If anything, there is some evidence that the crisis has caused “countries to think more in terms of longer-term growth and international competitiveness”<sup>31</sup>.

#### *Encouraging diversification*

Several regions responded to the crisis by seeking to encourage the diversification of their businesses. This ranged from assisting firms to access new market opportunities, particularly through promoting export activity, to encouraging the development of a more diverse business base. This included encouraging regional engagement in national initiatives promoting emerging sectors or technologies.

#### *Tax and investment incentives*

Although largely a national response to the crisis, many States strengthened tax and investment incentives to encourage additional economic activity, or eased the requirements to access existing incentives.

#### *Easing eligibility rules and providing access to credit*

In an effort to stimulate economic activity, and to limit constraints, national and European authorities sought to ease eligibility rules of existing aid schemes and to raise award ceilings where possible. At a European level measures included the relaxation of rules on the use of existing financial support mechanisms, such as State Aid rules and the European Globalisation Adjustment Fund<sup>32</sup>. Similarly, governments have also sought to overcome the difficulties experienced by firms in raising external credit facilities, including the provision of risk capital, access to loan guarantees and other financial support instruments. Other examples of policy initiatives in this area include the easing of regulatory costs and burdens as well as the reform of administrative procedures.

### *Government reform and institutional change*

A final policy response that merits inclusion is where the economic crisis has acted as a catalyst for the reform of Government structures. The reasons for this vary from the potential efficiency savings that can be realized to anticipated improvements in the effectiveness of government. Two clear cases of reform were reported in our cases, firstly the reorganization of the public sector in Greece under the Kallikratis law of 2010 and, secondly, the planned rationalization of government structures in Ireland. Both are a clear consequence of the economic crisis. At a European scale though, significant institutional changes have also been enacted owing to the crisis, notably in the development of the EMSF.

### *Leadership and dialogue*

An often overlooked aspect of positive responses to the crisis has been the importance of dialogue. This may be in private spaces, such as between workers, Trade Unions and employers, or in the public space, involving government, labour organisations and firms. Developing mutually-agreed responses to the crisis proved to be significant in many places, although the scale of the crisis did not always enable this. In this respect a key element for the promotion of crisis responses that supports resilience is one of leadership. This can be a critical role for the governments, particularly in setting and shaping resilience agendas within a territory.

### *Supporting community responses*

The crisis has also witnessed the burgeoning of self-organised, community-based responses. These include actions by charitable and other civic associations seeking to counteract the effects of the crisis on those most affected, as well as actions by firms and business in support of suppliers, competitors and other businesses in the surrounding economy. Many, if not most of these actions, occur independently of policy responses and actions. However, consideration could be given as to how policy might act to strengthen the capacity for self-organising community-based responses to shocks and crisis. One area of interest may be the role of alternative currencies, which evidence from Switzerland suggests could act as a viable counter-shock mechanism for maintaining economic activity<sup>33</sup>.

## **6.3 Promoting Resilience**

Whilst it is tempting to focus on policy responses in the aftermath of a shock, our case studies demonstrate that it is policy decisions taken in the years and even decades prior to a shock that shape the capability of the region to respond to the shock itself.

**The foundations of resilient economies are formed many years prior to an economic shock.**

Four features stand out as crucial considerations in developing a resilient economy. These are all features that policy-makers can seek to influence and, indeed, in the best cases have sought to do so. All form long-term foundations for resilient economies and need to be implemented over a sustained period of time.

- **Diversity** – More diverse economies tend to be more resilient over time as they prove more able to adapt to changing circumstances. Policies that avoid establishing a dependence upon particular firms or market segments tend to develop more resilient economies. Equally, policies that promote a diversification of markets have also proved beneficial.
- **Skills** – Policies promoting higher-qualified and higher-skilled labour help to build economies with greater resilience capabilities. This is a long-term foundation of more resilient economies and its base is laid through consistent policies implemented over a long period of time.
- **Innovation** – Regions with higher levels of innovation activity tend to be able to respond to economic shocks more positively than those where innovation capabilities are lower. Policies promoting firm-level innovation may assist in developing more resilient economies.
- **Good governance** – There is a strong correlation between the quality of government present in a region and its observed capacity for resilience to economic shocks. Developing high quality governance arrangements should be a key component for the formation of more resilient economies.

Many of the policies that assist in promoting resilience have much in common with traditional economic growth policies, such as inward investment promotion; investing in accessibility; promoting enterprise development and so forth. The value of counter-cyclical policies and preventing excessive growth ‘bubbles’ – even at the risk of lower aggregate growth rates overall - have also been reinforced by the experience of the economic crisis. In other cases, traditional policy areas, such as planning, have demonstrated both the strengths of well-implemented regimes and the weaknesses where implementation is more lax or, conversely, inflexible.

In developing policies promoting resilience, authorities should not overlook the significance of softer instruments. Leadership is a key feature, particularly in setting appropriate agendas. The development of more resilient outcomes may involve making choices between higher-growth paths for those that are more diverse and so potentially offer stronger resilience in the future. Equally, choices may need to be made on the balance between favouring employment outcomes, over incomes or economic output. These are political choices which reflect

**In developing policies promoting resilience, authorities should not overlook the significance of softer policy instruments**

## **Resilient economies are those that are able to embrace change**

agreed societal agendas. Authorities should also not overlook the significance of dialogue, particularly in building consensus as to an agreed agenda. This dialogue may be led by policy-makers, but need not be – with numerous examples of firms and employees and their representatives making arrangements in the absence of the involvement of the public sector.

Often, the promotion of resilience is founded on a good understanding of the economy; its evolving development and surrounding circumstances. Resilient economies are those that are able to embrace change and this requires an understanding of the constituent parts of the economy, associated pressure points and potential vulnerabilities. Whilst most authorities collect economic statistics these are often outdated, or used to demonstrate rates of economic growth. A resilience healthcheck for the economy needs to adopt a slightly different approach and assess the ability of an economy to respond in the face of an economic shock. For example, as part of its assessment of vulnerability it might consider the indebtedness of firms or households, or the extent of income inequalities.

One part of a dashboard approach must be an understanding of the existing policy environment and the legacy that this is creating. In many cases, the economic crisis highlighted weaknesses in public policies that had acted to accentuate, or at best cloak, vulnerabilities in the local or regional economy. Public policy initiatives do not always act to strengthen the longer-term resilience of an economy. Equally, the development of new policy approaches is shaped by what went before and it is critical that any constraints that this might impose on available policy responses is fully recognized.

There are some areas where a stronger focus on potential resilience outcomes may suggest alternative policy approaches. One such area is in enabling the development of a self-organising capacity amongst the community. This may be between businesses; within a neighbourhood, or amongst other groupings. The economic crisis has provided numerous examples of where social communities were able to act more readily than public authorities, such as where firms make loans between themselves in order to overcome liquidity constraints, or where volunteering and charitable activities seek to replace lost services. Equally, it has emphasized the need for these capacities to act to be in place prior to the onset of the crisis.

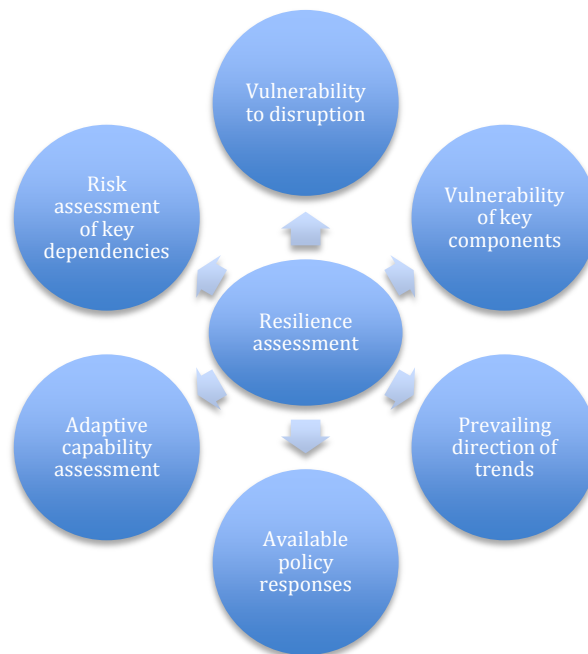
Finally, we highlight the significance of risk-sharing in developing policies for resilience (Box 6.5). One way of regarding many public policy interventions is as a mechanism for the sharing of risks<sup>34</sup>. This is particularly so where private markets cannot, or will not, provide insurance. Where places are adversely affected by an economic shock one role of public policy may be to provide an external mechanism to assist their recovery. An element of this can be seen in the

role of the EU's Structural Funds, which in many regions most affected by the economic crisis became a significant stimulus, providing external funds for investment.

**Box 6.4 Developing a resilience dashboard**

An important role for policy-makers will be in terms of monitoring the potential vulnerability of their economy to economic shocks, not in the sense of being able to predict particular shocks, but rather the ability of an economy to absorb the effects of potential shocks. Here, traditional indicators may be of limited value. Of more significance is the shared knowledge that is developed of an economy in a more qualitative sense.

*Compiling a resilience dashboard*



**Who should act?**

*Resilience is a shared responsibility*

From the evidence available, it is clear that place-based and integrated actions can play a very strong role in promoting resilience. Endogenous conditions tend to become more important during an economic downturn than in the upturn, weaknesses are accentuated and strengths rewarded. Thus, it is essential to tackle the specific challenges facing particular places. These tend to be most fully understood by sub-national policy actors. Locally-based actions can also be better targeted to meet the particular needs of local economies. Social and business

networks are also centred on places, which provides a further stimulus to the value of place-based actions.

#### **Box 6.5 Promoting firebreaks and sharing risk**

In developing strategic approaches towards resilient economies, policy officials need to give consideration to two concepts. The first is the notion of firebreaks – the ability to insulate the wider economy from the spillover effects of a downturn in any single part of the economy. The more diverse the economy the simpler this may prove. However, other mechanisms may include the development of alternative exchange systems – such as alternative currencies – or other mechanisms to insulate communities from market downturns, such as community energy schemes or food-growing initiatives.

The second is the notion of risk-sharing. This may be through public policy initiatives, such as automatic stabilisers or policies that span wider territorial areas – such as the Structural Funds or policies within larger Member States – enabling economic shocks in one place to be mediated through support from other places. Equally, however, attention can be given to promoting mechanisms based on sectoral or community support structures that operate independently of government. In many countries, the farming community acts to support its members overcome particular shocks, on the basis that support will then be offered should they be in need themselves in the future.

The experience of sub-national authorities during the past crisis, and in the time leading up to it, also demonstrates the limitations of local-actions. The ability to mobilise finances and resources are greater at the national level, particularly when not all places are experiencing the economic shock to the same extent. Resilience is strengthened where risks can be shared across territories. The value of this has been seen across the EU, with the Structural Funds providing resources to support transformative actions and fiscal stimulus in adversely affected regions. However, where national policies withdraw from localities so resilience can be weakened as the ability to respond to the crisis reduces.

The emergent message is that actions that integrate national and sub-national approaches are to be preferred over those that focus exclusively on one or the other. This raises new challenges for places that have less capacity, or capability, to engage with national policy initiatives. In particular it suggests that there are new roles for sub-national authorities, to act as signposts to alternative sources of support or to facilitate the ability of others to access this, rather than to directly intervene themselves.

### **Box 6.5 Structural Funds, resilience and economic crisis**

Cohesion Policies formed part of successful policy responses to promote more resilient economies. They did so through sharing risks and mobilizing external fiscal support; through actions that helped to stabilize adverse economic pressures, and by helping to build absorptive, adaptive and transformational capacities. In the best cases they epitomize the shared approach required to building resilience capacities in both the short-term (responding to crisis) and the longer-term (strengthening adaptive capacity).

However, in many cases Structural Fund programmes found it difficult to react and respond to the unfolding consequences of the economic crisis. Many programmes were demand-led and focused on securing the absorption of available funds. In doing so they were reactive rather than seeking to develop more active responses. The weaknesses in response mechanisms equally highlight the importance of the capacity of local and regional actors to construct positive responses to changing circumstances.

Actions that integrate different policies tend to be best constructed at the sub-national level, as local specificities demand a more nuanced approach. This forms the foundation of any place-based approach. The example in Baden-Württemberg of combining ESF-financed training alongside Federal short-time working allowances is a powerful one, although debates on its overall effectiveness continue. To facilitate policy integration a more objectives-led approach might offer dividends, compared to the problem-led approach that is often adopted.

The fundamental role of place-based, and integrated, policies is less about how it can react and respond to economic shocks, but how places can be strengthened to make them less vulnerable to shocks in the longer-term. Here there are clear gains to be made from taking place-based approaches. However, there are also limitations to place-based actions. Local actors do not always make good choices. The effects of the crisis have been exacerbated in Ireland by the loose application of planning powers by local planning authorities. A similar experience is reported in Spain, coupled with large municipal and regional debts. Authorities also do not always make use of the powers available to them. There is role for oversight and for a sharing of responsibility.

Reliance on national policy initiatives can raise questions as to how places that may be passed over by national initiatives, owing to the structure of their economy for example, can strengthen their own resilience. Equally, there are questions as to how effective national initiatives can be in the face of localized

**There are clear gains to taking place-based policy approaches**



shocks, or highly differentiated sub-national experiences. These are not insurmountable.

*Whilst local is important, national responses are predominant*

Overall, local and regional policy responses to the economic crisis have been relatively modest. As reported in our case studies, there is a strong reliance on national measures to counteract the effects of the crisis. For some this is because “regional policy is a medium-term response to structural issues, not a short-term cyclical or crisis measure”<sup>35</sup>. Where policy responses have been identified they argue that these tend to be associated with significant local events, such as the closure of a major employer. The very scale of the crisis itself may also have acted to limit the ability of local or regional authorities to intervene.

It is certainly the case that in many countries the scope for local and regional action is also modest. This is particularly, but not only, so in our Irish and Estonian cases. Indeed it is only in our Baden-Württemberg and Welsh cases where stronger structures (and resources) for regional policy actions have been identified. In both these cases there has been a commensurately stronger response. It is important to recall that these are also both NUTS 1 territorial units, equivalent to Estonia, Ireland and all of mainland Finland.

Where the scope for local and regional action is limited, then national level actions take on a greater significance. The composition of the local area may influence the extent to which it benefits, or does not, from such policies. By example, the Baden-Württemberg case reported that the region was well-placed to benefit from national policies stimulating investments in research and innovation, as well as the car-scrappage scheme. Regional participation in the Federal short-term working allowance scheme was also reportedly disproportionately high. In these circumstances a key role for local and regional authorities can be to ensure that their area reaps maximum benefits from the opportunities available. However, there are also occasions when national policies limit the ability of a region to develop their own solutions to experienced problems, as reported in the Puglia case.

The crisis has also witnessed a reduction in the emphasis attached to the spatial dimension of policies, as well as a certain level of policy centralization, further limiting the potential opportunities for local and regional authorities. Whilst this has been reported as a limiting factor for Western Macedonia, South West Ireland and Estonia, it is also the case that individual areas can reap benefits from this, including Helsinki in Uusimaa; Cork in South West Ireland and Tallinn in Estonia.

**Where the scope for local and regional action is limited, then national and supranational actions take on a greater significance.**

## **7 CONCLUSIONS AND RECOMMENDATIONS**

The recent economic crisis has witnessed the most severe economic downturn in the history of the European Union. Yet not all regions experienced economic decline and rates of recovery have varied greatly. This differentiated experience raises important questions as to why some regions prove to be more resilient to economic shocks than others, and what influences the observed resilience outcomes. ECR2 sought to answer these questions, whilst considering the territorial impact of the most recent crisis, the observed resilience of regions to the crisis and the role of policy in strengthening resilience and promoting recovery.

### **7.1 The territorial effects of the crisis**

Although the crisis is generally regarded to have begun in 2008, the first signs of impending problems were visible in 2007. This is reflected in the data, where significant proportions of regions began to experience economic decline in 2007, with the depth of the crisis broadly experienced in 2009. The first signs of recovery began to emerge in 2010, but progress has been slow, with many economies still experiencing decline in 2012. There are also signs that some economies that resisted the economic crisis, particularly those in Poland, have begun to slip into economic downturn from 2011, highlighting the ever-changing economic circumstances across the ESPON economy.

The economic crisis has not been a single event, but rather consists of three distinct – though interrelated – elements: an initial financial crisis, which sparked a wide-ranging ‘credit crunch’; a sovereign debt crisis, where high levels of public debt (partly driven by the bail out of national banking sectors) proved difficult to sustain in financial markets, and a more traditional slump in demand, as adversely affected firms and households reduce their expenditure.

The effects of the crisis across the ESPON space have been well-documented. It has led to a fall in economic output, a decline in overall levels of employment and an increase in unemployment. Economic trade and levels of foreign investment initially declined but soon rebounded, whilst different economic sectors have recorded differential performance. Overall, wages stagnated and austerity measures have affected many economies severely. Not all regions have been equally affected and more detailed analysis of national data illustrates the varied spatial geometry of the crisis, setting a clear macro-economic context for the economic resilience of regions.

## **There is no single path to a resilient economy**

### **7.2 The resilience of regions**

Despite the severity of the economic crisis around a third of NUTS 2 regions have proved resilient to its effects. Of these around a tenth (12%) of all regions did not experience any decline in employment levels and 23% have since recovered to their pre-crisis peak employment levels. Of the remaining two-thirds of regions, one half have begun the path to recovery, but the remainder remain mired in decline. There are strong national patterns identifiable in the spatial distribution of national economic resilience, but this is not a sufficient explanation for the observed resilience on its own. Our exploration of relative regional resilience provides a useful insight into which regions exhibit relative strengths, and weaknesses, within states.

Evidence from past crises, particularly that of the early 1990s, suggests that the average recovery duration can last up to seven years, suggesting that recovery would only be occurring now and so is not picked up by our data. Indeed, from the evidence available it appears that the rate of recovery under the current crisis is proceeding slightly faster than occurred in the 1990s. However, evidence from the 1990s also highlights the long-tail of regions that took more than ten years to recover to pre-crisis employment levels, and that a fifth of regions never achieved this, despite the long economic boom during the first decade of the Millennium.

There is some evidence to suggest that there is not just one path to a resilient economy. Whilst urban centres, innovative firms and a skilled population seem to be key features of resilient economies there are also indications that more traditional economies can also exhibit resilience in the face of economic shocks. This might be characterized as a high path and a low path. Equally, there is some evidence that there may be trade-offs between exhibiting strong levels of resilience in the short-term and sustaining longer-term resilience. This is because short-term resilience might be secured at the expense of adaptation and restructuring, which acts to lock-in outmoded structures.

### **7.3 Factors underpinning resilience**

Our analysis has highlighted a number of factors that are positively associated with more resilient regions. These include more diverse, export-orientated economies, with the presence of international companies. The experience of the crisis highlights the resilience risks of dependency on particular firms, sectors, markets and public-sector transfers. Sectoral composition is also important. Strong concentrations of construction and agricultural activity are associated with less resilient economies. Economies with a higher share of service-based activities tend to have proved more resilient. The significance of manufacturing industry is less clear, demonstrating a need for greater disaggregation but also that the industry sector is less influential than the business models adopted.

A flexible and adaptive workforce, with higher levels of skills and qualifications, also aids resilience. However, simply increasing the density of qualifications in the population does not appear to offer a short-cut route to resilience. There is a strong relationship between the innovation performance of a region and its observed resilience outcomes. Our evidence highlights the challenges of making simplistic assumptions regarding the relationship between observed indicators and resilience outcomes. Whilst innovation activity is clearly an important feature of a resilient economy it is not evident as to whether this relates to the innovation activity itself or that this is a proxy for firms that are, in themselves, more flexible, adaptive and responsive to changing market conditions. Similarly, a more highly qualified labour force may be a proxy for the adaptive capacities of workers and their occupational activities.

**Regions are shapers and not merely containers of economic agents and their activity**

Initial analysis of the data suggests that place-based characteristics can also influence observed levels of resilience. Regions are shapers and not merely containers of economic agents and their activity, some physical characteristics matter. Urban areas, and those close to urban areas, tend to be more resilient, with more remote regions proving less so. The situation of island; mountainous, and coastal communities, and regions with external borders is more mixed, depending strongly on context. It would be wrong to seek to generalize across these territorial types. Cultural norms and institutional structures also play an important role in shaping regional resilience.

The role of community features in resilience merits further exploration. It appears that social networks are a significant mechanism for mediating the effects of an economic shock, whilst community-based responses can provide important opportunities for limiting local impacts. At a more 'grass-roots' level, the economic crisis raised fundamental questions about the basis of a market-led economy driven by financial institutions, leading to a groundswell of popular counter-movements and an exploration of alternative possibilities. Whilst our case studies, and wider research, has cast doubt on the extent to which the development of more sustainable, and greener, development pathways affected the resilience of particular places, they do offer glimpses of alternative possibilities. In particular, this focuses on the role of green, sustainability-based activities not as a driver of economic growth and development but as insulation from the perturbations of market cycles. Such activities are not an alternative to mainstream economic activities. However, they might act to complement such activities, providing societal outcomes that could include the potential to act as a buffering influence on the possible risks associated with future economic shocks.

We should not overlook the significant role played by governance quality in framing resilience outcomes across Europe. Higher quality governance is very

strongly associated with stronger resilience outcomes. This appears to be more significant than other governance indicators, such as levels of regional autonomy.

Finally, the focus on the role of innate characteristics in shaping resilience outcomes should not obscure the important framing role played by agency and choice. The aggregate decisions taken by individuals and organisations, and the institutional landscape that shapes those decisions, influence the resilience capacity of regions. In particular, our work highlights the significance of adaptivity, learning and expectations in shaping resilience responses.

Resilient economies are not the outcome of activities by any single agent, it is a collective endeavour shaped by policies operating at multiple scales, as well as by the activities of other economic and social actors. One important role for public authorities is in shaping a narrative and understanding of resilience and economic shocks, such that it guides the actions of others, without direct intervention.

Promoting resilience involves supporting the development of adaptive capacities and capabilities throughout the system. This raises new roles for public authorities and highlights the significance of adaptive and responsive governance institutions as a critical feature of resilient regions.

#### **7.4 The role of territorial policies in promoting resilience**

Policy roles in promoting resilience are significant. The foundations for resilient outcomes have been laid over a long-period of time, whilst the challenges facing non-resilient economies are equally long-standing. There is a clear role for policy makers in preparatory actions that support the development of resilience capacities and capabilities. Similarly, the project has identified a series of policy-approaches that successfully helped stabilize regional economies in the face of the economic crisis. These operated at an international, national and regional scale. Policy interventions were more readily mobilized where they could draw on pre-existing instruments and institutions.

Responses to the economic crisis illustrate how economies reorientate as part of a process of economic recovery. They also provide glimpses of transformative effects engendered by economic shocks. However, the constraining effects of shocks on transformative actions are also visible, such as evidenced by our exploration of green development paths, navigating this complex environment is a key policy challenge.

Our work clearly demonstrates the validity of the place-based approach to policy action. The effects of the economic crisis have varied across and within places and, consequently, the place-based approach is the most appropriate means of building resilience over the longer-term. The experience of the recent crisis

**Resilient economies are not the outcome of activities by any single agent, it is a collective endeavour shaped by policies operating at multiple scales, as well as by the activities of other economic and social actors**

illustrates the importance of seeing this as a shared responsibility between multi-level governance actors. The distribution of responsibilities will vary across contexts but the principle is sound. Resilience is both a property of a complex economic system and a shared responsibility for those involved in managing that system.

### 7.5 Policy lessons from the crisis

There is no single set of policies to promote resilient economies that can, or should, be applied consistently across all territories. No two shocks are the same, nor do any two territories respond to a shock in the same way. Small variations in starting conditions can lead to extremely divergent results, whilst looking backwards only tells us what worked there then. There is also a risk that we equate policy, actions and results, when in fact the causal relationships are much less certain.

However, certain lessons can be learnt from the most recent crisis, and those that preceded it, as to the role that policy can play. Now is the time to learn from past experience, and to begin to implement policies and initiatives that may strengthen the resilience of regions to future economic shocks.

The role of policy itself can, perhaps, be summarized as seeking to prevent a shock from becoming a crisis. To do so involves three, inter-related, sets of actions:

- To stabilize the situation following a shock, and prevent circumstances worsening further
- To share the risks associated with a shock, in order to limit the absolute effects on particular individuals or localities
- To reduce the vulnerability of an economy to a future shock event, in order to limit the absolute effects as a whole

Lessons for each can be learnt from the crisis. In particular, national governments initially struggled to craft a collective response to the common problems facing individual European economies. Yet, where institutional structures were present, collective arrangements, particularly amendments to Cohesion Policy regulations, were swiftly adopted. On the whole, Structural Fund programmes themselves did not change significantly during the crisis. They remained focused on the longer-term growth of the economy. One consideration for the future may be to strengthen the risk sharing element of the Structural Funds and to increase the emphasis on understanding vulnerabilities, and acting on these to reduce dependence on a narrow spread of activities, to promote the continuous restructuring, adaptation and diversification of regional economies and to strengthen human capital formation.

### **Resilience policies:**

**-Stabilise**

**-Share risks**

**-Reduce vulnerabilities**

**-Promote adaptation**

## **Consider the capacity and capability of policy makers themselves**

Through our work the need for policy to support the development of adaptive capacities in firms, households and communities has come to the fore. It is this adaptive capacity that enables regional economies to withstand, absorb and respond to economic shocks and so strengthens the economic resilience of the territory. Our research highlights that to support resilience policies also need to be adaptive, and that public authorities have the capacity and capability to make the best use of the tools available. A range of tools can be appropriate – many of which are highlighted in this report – but it is not enough to simply respond to a crisis, consideration also needs to be given to preparing for future shocks. In doing so, policy-makers should seek to strengthen the capacity of the regional economy to act independently of the public-sector.

We should not overlook the importance of the capacity and capability of policy makers themselves. The crisis has highlighted the importance of experience, resources and aptitude for positive policy making, for taking responsibility for change rather than leaving it to others. It emphasizes the importance of learning cultures in learning regions. This capacity and capability is not available in all cases and national reforms are, in some cases seeking to overcome identified weaknesses. More significant will be to take the opportunity to build the capacity to develop adaptive policy approaches over time. Consideration should be given to mechanisms for building the capacity and capability for sub-national policy making across Europe. This should not seek to simply replicate existing good practices but rather to build the knowledge and awareness of alternative approaches and to build the capacity to act in the future.

### **7.6 Recommendations**

Our recommendations are divided into two aspects: firstly, those pertaining to actions which might be taken to strengthen regional economic resilience and, secondly, those relating to areas for future research.

#### ***Strengthening regional economic resilience***

It is essential that regional policy-makers develop a robust assessment of the potential risks and vulnerabilities to possible shocks facing the region. We suggest a dashboard approach is taken to regularly monitor regional resilience capacity. This should make use of contemporary data sources, including intelligence from businesses and other regional actors, rather than rely on historic data.

Policy approaches should seek to develop adaptive capacities within regional economies. This may require a refocusing of traditional growth orientated objectives in order to strengthen longer-term resilience. The factors underlying

resilient economies provide a guide to appropriate areas for action, but should not be considered as a simple checklist to be applied without consideration of local contexts. An innovative, diverse business base supported by a skilled population are important underlying features, alongside others highlighted by our work.

Building resilience capabilities is a long-term process, that requires the development of shared agendas. There may be a trade-off between longer-term resilience agendas and short-term growth objectives. Regional resilience would benefit from policy approaches that seek to build the capacity of agents to act independently, rather than necessarily seek public-sector led solutions.

Recognition should be given to the importance of high quality governance arrangements in promoting more resilient economies. This is a key finding of the study. It is essential that sub-national government bodies have both the capacity and the capability to act to strengthen the resilience of regional economies. It is perhaps self-evident that counter-cyclical policies have strengthened the ability of places to respond to the crisis, and pro-cyclical policies have exacerbated and deepened the effects of the crisis.

Policies promoting resilience should take into consideration place-based characteristics. This may be to recognise the additional challenges faced by some places – such as more remote areas. Policy makers should, though, be cautious of simple territorial typologies. Our evidence highlights the different resilience experiences of mountainous and coastal areas depending on context and location. This reinforces the importance of ensuring locally-appropriate policy making.

Policies promoting resilient regional economies will best be developed through complementary actions at the sub-national and national scale. The mix will vary by governance context. It is the responsibility of policy-makers at the sub-national level to ensure the resilience of the regional economy, it is the responsibility of national policy-makers to provide the tools for this to be achieved.

There is also an important role for the supra-national scale, particularly, in the EU, for the European Commission and other institutions. This role includes developing mechanisms to support the sharing of risk between Member States – the existing European Union Solidarity Fund may provide one possible model; an alternative may be emergency compensation payments (such as those currently supported under the Common Agricultural Policy), or, alternatively, some forms of automatic stabilisers might be considered. Developing a risk sharing facility as an element of Cohesion Policy is a key recommendation of this study.

A further significant role for the European Commission is to support the development of good resilience practices. This may be through the building of



capacities amongst regional actors, through the sharing of information or the development of pilot projects. The Rockefeller Foundation's recent initiative to support the development of '100 Resilient Cities'<sup>36</sup> is a valuable example of such a learning-orientated approach.

Our final recommendation moves beyond the concept of resilience to the notion of transformation and recovery. Our evidence suggests that many parts of the EU are at risk of entering a prolonged period of suppressed economic activity. Policies are required that encourage the transformation and adaptation of economies in these regions in order to avoid the hysteretic effects witnessed at the end of the 1990s economic downturn. There is a fundamental role for national and supranational support to promote these efforts.

### ***Further research***

The research for this study has provided a comprehensive insight into patterns of resilience across the ESPON territory and the factors, and policies, that have contributed to this. There are some areas where further research is warranted.

A key area to consider is the concept of renewal and recovery. We are entering a period where the transformative effects of the crisis are now becoming apparent. This is a prime opportunity to assess the features underpinning the longer-term resilience of economies, based on their ability to adapt to new circumstances. This would build on the research completed for this study.

In doing so we recommend that the research consider the role of longer-term growth trajectories in influencing resilience outcomes, as well as the spatial interactions between places. This may offer new insights into territorial groupings that have greater policy relevance than many of those currently used.

A further key area for research is into the role that governance quality plays in shaping resilience outcomes, and economic growth more widely. The significance of this factor in explaining resilience outcomes during the recent crisis makes this a compelling theme.

One area where additional research is required is the role that community capacity building can play in stimulating resilience outcomes in different contexts. The role of agency and adaptive capability is particularly significant here. This should include consideration of complementary market activities as a mechanism for stabilizing economies during an economic shock, and offering opportunities for renewing growth paths in the recovery phase.

Finally, we propose that further research be undertaken into the resilience of regional economies to disruptive events. In the face of climate change events,

food security concerns and potential energy shocks, amongst others, the risk of temporary disruptions is rising. The characteristics that will enable regional economies to withstand such shocks remains to be explored.

## Glossary

Adaptive capacity	The ability to change (adapt) in the face of changing circumstances
Agency	The capacity to make choices and act, often influenced by prevailing structures and surroundings
Austerity	A common term denoting policies to reduce budget deficits during the economic downturn
Credit crunch	A common term for the liquidity crisis at the outset of the financial crash
Convergence Region	A region in the EU with per capita GDP of less than 75% of the EU average. Called a Less Developed Region since 2014
Disposable income	The amount of income available to an individual or household net of taxes and welfare transfer payments
EFSF	European Financial Stability Facility
ESM	European Stability Mechanism
ESPON	A research programme financed by the 28 Member States; the Governments of Iceland, Lichtenstein, Norway and Switzerland, and the European Commission
ESPON 31	The 31 states comprising the ESPON programme area
EU15	European Member States prior to 2004
EU12	European Member States that acceded post 2004 (except Croatia – acceded 2013)
EU27	EU 15 + EU12
EU28	EU27 + Croatia
Eurozone	Members of the Euro currency
GDP	Gross Domestic Product
GVA	Gross Value Added
Gini coefficient	A measure of the equality of income distribution
Hysteresis	The risk that employment levels become permanently reduced following an economic shock
Kallikratis Law	The reform of administrative divisions within Greece
Low work intensity	Where less than 20% of available working time is spent in work in a year
Member State	A state that is a member of the EU
NACE	A statistical classification of economic activities in the EU
NUTS 0, 1, 2, 3	A classification of territorial units in the EU. NUTS 0 relates to a Member State, subsequent divisions to smaller areal units. Some small Member States are classified as NUTS 0, NUTS 1 and NUTS 2.
Sovereign debt	The amount a country owes, generally financed by bonds

Sub-prime

Loans made to individuals who may have difficulty in repaying these

Transition Regions

A region in the EU with per capita GDP of between 75% and 90% of the EU average.

## Endnotes

- <sup>1</sup> Taleb, N. N. (2010) *The Black Swan: The Impact of the Highly Improbable*. (Revised Edition) Penguin. London
- <sup>2</sup> p. 30, Simmie, J. and Martin, R.L. (2010) 'The economic resilience of regions: towards an evolutionary approach', *Cambridge Journal of Regions, Economy and Society*, 3, 1, pp. 27 – 44.
- <sup>3</sup> Martin, R. (2012) Regional Economic Resilience, Hysteresis and Recessionary Shocks *Journal of Economic Geography*, vol. 12 (1), pp.1-32
- <sup>4</sup> Martin, R. (2012) Regional Economic Resilience, Hysteresis and Recessionary Shocks *Journal of Economic Geography*, vol. 12 (1), pp.1-32
- <sup>5</sup> Hudson, R. (2010) 'Resilient regions in an uncertain world: wishful thinking or a practical reality?' *Cambridge Journal of Regions, Economy and Society*, vol. 3, 1, pp. 11 – 25.
- <sup>6</sup> Hill, E., St.Clair, T., Wial, H., Wolman, H., Atkins, P., Blumenthal, P., Ficenec, S.' Friedhoff, A.(2011) Economic shocks and regional economic resilience. Working Paper 2011-13, Building Resilient Regions: Institute of Governmental Studies, University of California, Berkeley.
- <sup>7</sup> Hill, E., St.Clair, T., Wial, H., Wolman, H., Atkins, P., Blumenthal, P., Ficenec, S.' Friedhoff, A.(2011) Economic shocks and regional economic resilience. Working Paper 2011-13, Building Resilient Regions: Institute of Governmental Studies, University of California, Berkeley.
- <sup>8</sup> Polish regions that initially resisted the crisis experienced employment downturn from 2011, this is not included here.
- <sup>9</sup> This refers to the highest regional rate of unemployment within a country compared across the two years considered
- <sup>10</sup> European Commission (2013) *The Urban and Regional Dimension of the Crisis: eighth progress report on economic, social and territorial cohesion*. DG Regional Policy. Brussels
- <sup>11</sup> Downloaded from:  
[http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/File:Evolution\\_of\\_income\\_inequalities\\_\(Gini\\_coefficient\\_after\\_social\\_benefits\\_and\\_pensions\\_2012,\\_Gini\\_growth\\_rate\\_2008-2012\)\\_V2.png](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/File:Evolution_of_income_inequalities_(Gini_coefficient_after_social_benefits_and_pensions_2012,_Gini_growth_rate_2008-2012)_V2.png)
- <sup>12</sup> In 2011, no data available for Ireland for 2012.
- <sup>13</sup> Eurostat reports that comparable data for Malta is not available
- <sup>14</sup> see [http://www.espon.eu/main/Menu\\_Projects/Menu\\_AppliedResearch/tipse.html](http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/tipse.html)
- <sup>15</sup> see [http://www.espon.eu/main/Menu\\_Projects/Menu\\_AppliedResearch/attreg.html](http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/attreg.html)
- <sup>16</sup> In small States (ie those with one NUTS2 region) the distinction between national and regional becomes rather artificial.
- <sup>17</sup> Rose, A. (2004) 'Defining and measuring economic resilience to disasters', *Disaster Prevention and Management*, 13 (4), pp. 307-314.
- <sup>18</sup> For further details see [http://ec.europa.eu/news/pdf/2014\\_regional\\_union\\_scoreboard\\_en.pdf](http://ec.europa.eu/news/pdf/2014_regional_union_scoreboard_en.pdf)
- <sup>19</sup> Hill, E., St.Clair, T., Wial, H., Wolman, H., Atkins, P., Blumenthal, P., Ficenec, S.' Friedhoff, A.(2011) Economic shocks and regional economic resilience. Working Paper 2011-13, Building Resilient Regions: Institute of Governmental Studies, University of California, Berkeley.
- <sup>20</sup> See also Parkinson, M. et al (2012) Second Tier Cities in Europe: In an age of austerity why invest beyond the capitals? Liverpool JMU
- <sup>21</sup> Charron, Nicholas, Lewis Dijkstra & Victor Lapuente. 2013: Regional Governance Matters: Quality of Government within European Union Member States, *Regional Studies*, DOI:10.1080/00343404.2013.770141
- <sup>22</sup> Charron, Nicholas, Lewis Dijkstra & Victor Lapuente. 2013: Regional Governance Matters: Quality of Government within European Union Member States, *Regional Studies*, DOI:10.1080/00343404.2013.770141
- <sup>23</sup> Bristow, G and Healy, A. (2014) Regional Resilience: an agency perspective. *Regional Studies* 48:5
- <sup>24</sup> see, Barca, F. (2009) An Agenda For A Reformed Cohesion Policy  
A Place-Based Approach To Meeting European Union Challenges And Expectations; and European Commission (2011) *Territorial Agenda of the European Union 2020: Towards an Inclusive, Smart and Sustainable Europe of Diverse Regions*. Agreed at the Informal Ministerial Meeting of Ministers responsible for Spatial Planning and Territorial Development on 19th May 2011 Gödöllő, Hungary
- <sup>25</sup> European Commission (2011) *Territorial Agenda of the European Union 2020: Towards an Inclusive, Smart and Sustainable Europe of Diverse Regions* (p.3)
- <sup>26</sup> Barca, F. (2009) An Agenda For A Reformed Cohesion Policy  
A Place-Based Approach To Meeting European Union Challenges And Expectations (p. 22)

- <sup>27</sup> European Commission (2014) *Investment for Jobs and Growth: promoting development and good governance in EU regions and cities. Sixth Report on Economic Social and Territorial Cohesion.* Brussels
- <sup>28</sup> Ahrend, R., Arnold, J. and Moeser, C. (2011) *The Sharing of Macroeconomic Risk: who loses (and gains) from macroeconomic shocks. OECD Economics Department Working Paper No. 877* July, 2011
- <sup>29</sup> Begg, I. (2012) 'The EU's response to the global financial crisis and sovereign debt crisis'. *Asia Europe Journal*, 9 (2-4). pp. 107-124.
- <sup>30</sup> See for example the contested findings of Reinhart, C. M., Rogoff, K. S. (2010). "Growth in a Time of Debt". *American Economic Review* 100 (2): 573–78.
- <sup>31</sup> Yuill D, McMaster I and Mirwaldt K (2010) *Regional Policy under Crisis Conditions: Recent Regional Policy Developments in the EU and Norway, European Policy Research Papers, No 71* , European Policies Research Centre , University of Strathclyde, Glasgow (p.28)
- <sup>32</sup> This was amended to include eligibility for effects emanating from the crisis as well as globalization.
- <sup>33</sup> See work by Lietaer, B on the *Wirtschaftsstring*. Reported in Zolli, A. and Healy, A. M. (2012) *Resilience: Why Things Bounce Back*
- <sup>34</sup> Ahrend, R., Arnold, J. and Moeser, C. (2011) *The Sharing of Macroeconomic Risk: who loses (and gains) from macroeconomic shocks. OECD Economics Department Working Paper No. 877* July, 2011
- <sup>35</sup> Yuill D, McMaster I and Mirwaldt K (2010) *Regional Policy under Crisis Conditions: Recent Regional Policy Developments in the EU and Norway, European Policy Research Papers, No 71* , European Policies Research Centre , University of Strathclyde, Glasgow (p.28) (p.v)
- <sup>36</sup> See <http://www.100resilientcities.org>

[www.espon.eu](http://www.espon.eu)

The ESPON 2013 Programme is part-financed by the European Regional Development Fund, the EU Member States and the Partner States Iceland, Liechtenstein, Norway and Switzerland. It shall support policy development in relation to the aim of territorial cohesion and a harmonious development of the European territory.

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