



Territorial Observation No. 12
September 2014

12

Territorial Dynamics in Europe
Economic Crisis and the Resilience of Regions

ESPON 2013 Programme

Coordination Unit
4, rue Erasme
L-1468 Luxembourg
Grand Duchy of Luxembourg
Phone: +352 42 59 91 4700
Fax: +352 42 59 91 4701
Email: info@espon.eu

This publication is part-financed by the European Regional Development Fund, the EU Member States and the Partner States, Iceland, Liechtenstein, Norway and Switzerland. The Managing Authority responsible for the ESPON 2013 Programme is the Ministry for Sustainable Development and Infrastructures of Luxembourg.

The present publication was processed by the ESPON Coordination Unit.

ISBN: 978-2-919777-82-2

© ESPON 2013 Programme

Reproduction is authorised provided the source is acknowledged and a copy is sent to the ESPON Coordination Unit.

First edition, printed in September 2014

Printed on paper produced environmentally friendly

In the same series of ESPON publications:

Territorial Observation No. 1:
“Territorial Dynamics in Europe – Trends in Population Development”, November 2008

Territorial Observation No. 2:
“Territorial Dynamics in Europe – Trends in Accessibility”, November 2009

Territorial Observation No. 3:
“Territorial Dynamics in Europe – Trends in Economic Performance of European Regions 2000-2006”, September 2010

Territorial Observation No. 4:
“Territorial Dynamics in Europe – Trends in Internet Roll-out”, April 2011

Territorial Observation No. 5:
“Territorial Dynamics in Europe – The Creative Workforce”, November 2011

Territorial Observation No. 6:
“Territorial Dynamics in Europe – Regions and cities in the global economy”, May 2012

Territorial Observation No. 7:
“Territorial Dynamics in Europe – Natural Hazards and Climate Change in European Regions, May 2013

Territorial Observation No. 8:
“Territorial Dynamics in Europe – Regions Integrating Land and Sea”, August 2013

Territorial Observation No. 9:
“Territorial Dynamics in Europe – Gateway Functions in Cities”, December 2013

Territorial Observation No. 10:
“Territorial Dynamics in Europe – Potentials and Challenges for Iceland, Liechtenstein, Norway and Switzerland - and for the European Union, February 2014

Territorial Observation No. 11:
“Territorial Dynamics in Europe – European Neighbourhoods”, May 2014

Disclaimer:

The content of this report is based on the results of applied research projects by transnational teams of research taking part in the ESPON 2013 Programme. As such, the maps and texts do not necessarily reflect the opinion of the ESPON Monitoring Committee.

The recent economic crisis has witnessed the most severe economic downturn in the history of the European Union and has reversed a long trend of converging GDP and employment rates. Yet not all regions experienced economic decline and rates of recovery have varied greatly. These different experiences raise important questions as to why some regions prove to be more resilient to the economic crisis than others, and what influences the ability to withstand, and respond to, external shocks?

This Territorial Observation draws on ESPON research undertaken by a transnational project group of researchers from across Europe working on the Applied Research project “ECR2 – Economic Crisis: Resilience of Regions”. It gives a snapshot of the unfolding territorial impact of the economic crisis and, using selected case studies, the observed findings of the economic resilience of Europe’s regions.

The analysis highlights 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 and an innovative and higher skilled workforce.

Resilience is a long run phenomenon. It is policy decisions taken years, and even decades, in advance that shape the adaptive capacity of a region to cope with and recover from an external shock. This points to a clear role for policy-makers, place-based actions and territorial development policy.

Regions are shapers and not merely containers of economic activity, and territorial characteristics matter. For example, the experience of the crisis highlights the role played by major urban centres, particularly second-tier cities, as significant in promoting the resilience of the surrounding economy.

The findings of the research support the conclusions of the ‘Sixth Report on Economic, Social and Territorial Cohesion’ and the importance of Cohesion Policy and good governance, including at the trans-national level. Resilience can be enhanced where public authorities work together with neighbouring authorities; where different levels of government work together to share risks; and where there is a collaborative approach to working with economic and social partners.

There is, however, 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. However, it is not enough to simply respond to a crisis, consideration also needs to be given to preparing for future shocks.

This Territorial Observation provides some tools and principles to assess the economic vulnerability of territories and to prepare for the potential impact of future crises.

Table of contents

Territorial Dynamics in Europe

Economic Crisis and the Resilience of Regions

Foreword		page	3
1	Executive Summary	page	5
2	The Economic Resilience of Europe's Regions	page	6
2.1	Impact of the Crisis	page	6
2.2	The Unfolding Geography of the Crisis	page	8
2.3	Measuring Resilience	page	10
2.4	Territorial Patterns of Resilience	page	11
3	What Helps Build Resilience?	page	15
3.1	Business, economy and the business environment	page	15
3.2	People and the Population	page	16
3.3	Place-Based Characteristics	page	16
3.4	Community and Societal Characteristics	page	17
4	Promoting Resilience: Messages for Policy Makers	page	18
4.1	Principles for Resilient Places	page	18
4.2	Territoriality Matters	page	19
4.3	Who Should Act?	page	20

Maps

Map 1.	Employment Loss During the Crisis	page	6
Map 2.	GDP Loss During the Crisis	page	7
Maps 3 - 8.	Unfolding Regional Geography of Europe's Economic Crisis - Employment	page	9
Map 9.	Distribution of Regional Employment Resilience	page	11
Map 10.	Distribution of Regional GDP Resilience	page	12
Map 11.	Geographies of Internal Comparative Resilience	page	13
Map 12.	Localised Patterns of Employment Resilience	page	14

Figures

Figure 1.	Change in total household disposable income (2008-12, %)	page	7
Figure 2.	The Foundations for Resilience	page	15
Figure 3.	Resilience Dashboard	page	18

Tables

Table 1.	Measuring Resilience	page	10
----------	----------------------	------	----

1 Executive Summary

Following an unprecedented period of sustained economic and employment growth across Europe, the economic crisis of 2008 and 2009 resulted in the most severe downturn in the history of the European Union. The impact of the crisis throughout Europe has been well documented leading to a slump in demand, a fall in economic output and increasing unemployment. Overall, wages have stagnated and austerity measures have affected many economies severely.

In territorial terms, the crisis had an asymmetrical impact. Not all regions experienced economic decline and the territorial impact of the crisis has varied greatly. Equally, while some regions experienced a swift return to pre-crisis levels of employment and output, for others the process of recovery has proved much more protracted, with many regions entering a period of sustained stagnation.

The economic crisis has abruptly reversed a long trend of converging GDP and employment rates within Europe. By 2011, two-thirds of European regions had not recovered to pre-crisis levels of employment with half of those regions still to experience an end to employment loss and economic decline. On the other hand, almost

a quarter of regions had experienced a decline but had recovered to their pre-crisis peak. At the same time, one-tenth of European regions had weathered the crisis and not experienced any fall in employment or output whatsoever and continued to grow.

Whilst economic shocks are not particularly rare events and their likely occurrence can be broadly foreseen, the consequences of shocks are much less predictable. The differing experiences of the crisis throughout Europe raises important questions as to why some regions prove more able to withstand economic shocks than others, and what influences their capability to recover?

It has also led to an increased interest in the concept of 'resilience' amongst policy makers and a desire for a better understanding of how an economy can withstand or recover from an economic shock? To what extent do the particular characteristics of places influence their resilience to economic shocks? What principles can be applied to help build resilience and how might policy-makers positively influence this? And, significantly, what do we actually mean when we speak about a resilient economy?

From the data which is now available on the unfolding geography of the crisis across Europe, together with a qualitative analysis of some key case studies, we can begin to answer some of these questions and to identify some of the important business, people, place and community characteristics of resilient places. These characteristics point towards some principles, around diversity, skills, innovation and governance; and new perspectives that policy makers might deploy to help make Europe's regions more resilient.

2 The Economic Resilience of Europe's Regions

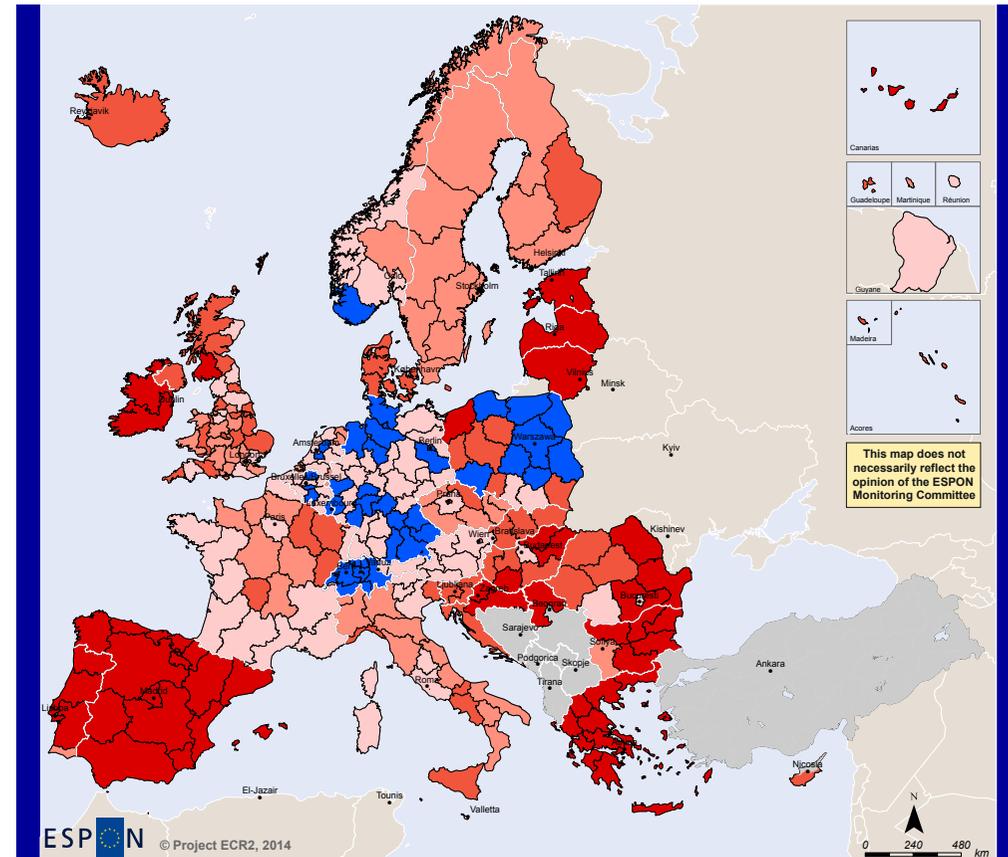
2.1 Impact of the Crisis

Amongst the headline impacts of the crisis has been rising levels of unemployment. Across Europe, total employment fell by 2.14% by 2011. However, this masks very considerable regional differences. For example, in Greece, Ireland and Portugal, employment levels fell by almost an average 10%. Membership of the 'Eurozone' has also been associated with a slightly stronger fall in employment than for non-euro states (see Map 1).

Unlike previous crises in the 1990s, the current crisis has been more closely associated with GDP decline rather than employment loss (See Map 2). Overall, one-third of European regions proved more resilient in their employment performance even when experiencing a decline in GDP output. However, one of the more tangible impacts of the crisis has been the dramatically rising level of youth unemployment, particularly, but not only, in Spain, Portugal and Greece. Concentrations of youth unemployment are also visible across much of Europe, outside of the core countries of Germany, Austria and the Netherlands.

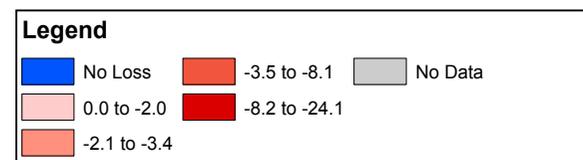
Employment losses have not been evenly distributed across sectors. Job losses during the crisis have been concentrated in the construction and the real estate sectors, reflecting the significance of the collapse in the property 'bubble'. Other sectors that were badly affected included manufacturing industries and primary industries. On the other hand, the number of persons employed in ICT, professional, scientific and technical services and arts, entertainment, recreation and other services increased over this period.

Map 1. Employment Loss During the Crisis, 2004-2012



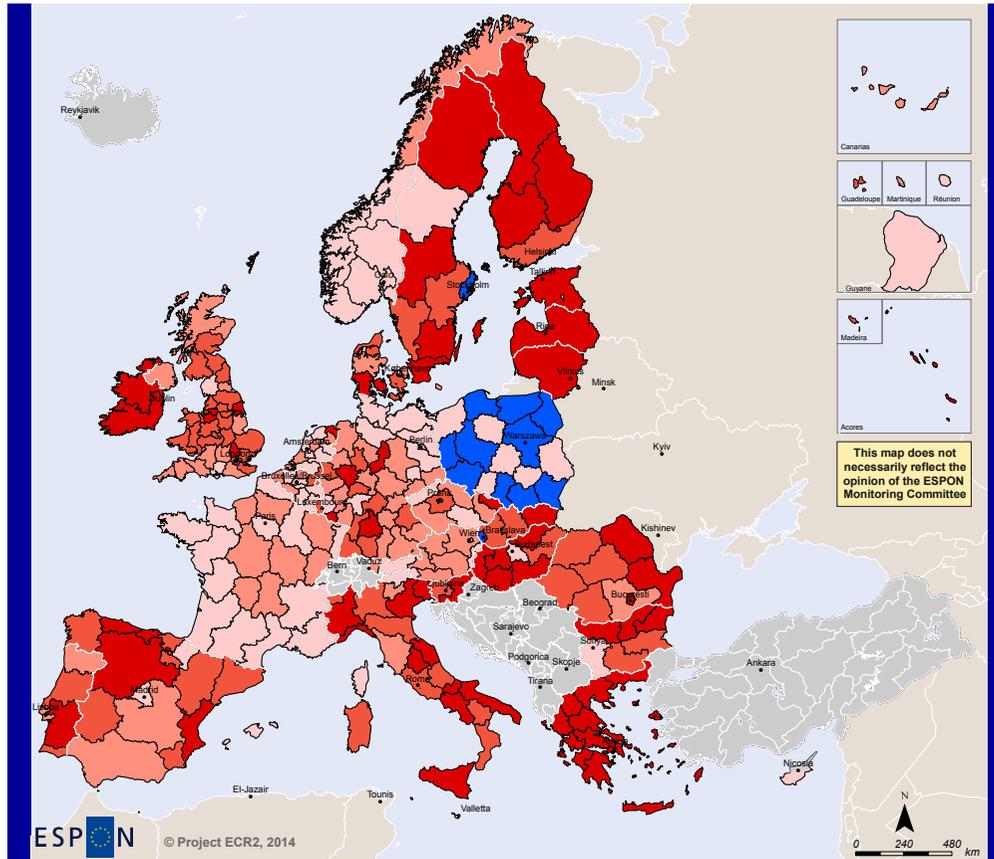
ESPON © Project ECR2, 2014
EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

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



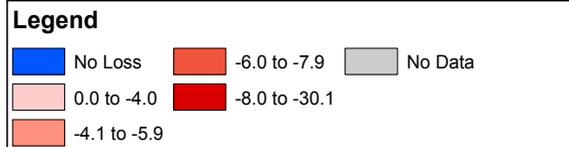
2 The Economic Resilience of Europe's Regions

Map 2. GDP Loss During the Crisis, 2004-2012



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

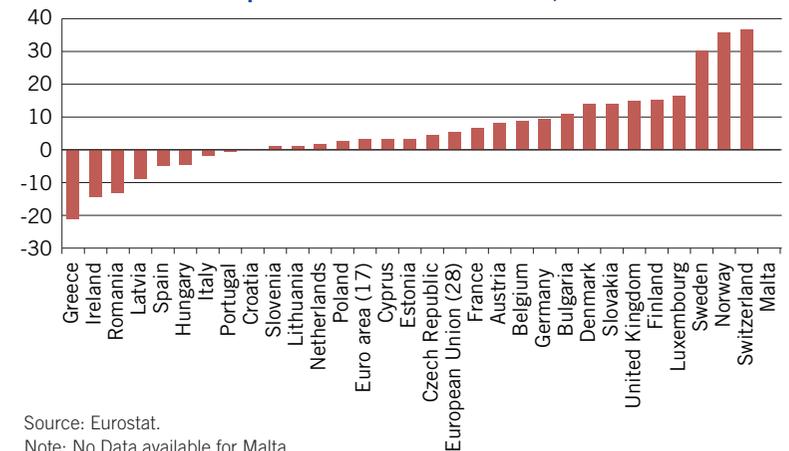
Regional level: NUTS2
 Source: ESPON Database, ESPON ECR2 Project, Cardiff University, UK
 Origin of data: Experian, Cambridge Econometrics, Eurostat
 © EuroGeographics Association for administrative boundaries



Despite the crisis, across Europe average disposable household incomes have actually risen by around 6% between 2008 and 2012. However, in a further sign of the uneven effects of the crisis, during this period household disposable incomes have fallen in eight countries, with significant falls recorded in Greece, Ireland, Romania, Latvia, Spain and Hungary (Figure 1). Also 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 average levels of inequality have worsened.

The gradual decline in household debt as a proportion of income during the economic boom also came to an abrupt halt as household debts rose. The general trend of increasing indebtedness during the crisis is also mirrored by a trend of rising general government debt. For example, 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.

Figure 1. Change in total household disposable income (2008-12, %)



Source: Eurostat.
 Note: No Data available for Malta

2.2 The Unfolding Geography of the Crisis

The first indications of the unfolding territorial impact of the economic crisis emerged in 2007, with declining employment numbers firstly recorded in peripheral regions of Romania, Germany, Austria, Bulgaria, Portugal and the UK (see Maps 3- 8).

By 2009, the effects of the economic crisis were widespread and apparent across most of Europe. At the national level only Poland, Switzerland, Germany, Luxembourg and Belgium managed to maintain pre-crisis employment levels. Poland was also the only EU Member State that had not experienced a fall in levels of GDP. At the regional level, by 2009 nearly all regions of Europe had experienced a downturn in GDP and most had experienced a decline in employment.

Since 2009, there has been a gradual increase in the number of regions recovering to their pre-crisis levels of employment particularly in the core countries of Germany, Belgium, Netherlands and Luxembourg. But there have also been long-lasting and deep-seated effects of the crisis across large parts of the European territory, particularly in peripheral regions of Southern Europe. Furthermore, some regions in Poland that initially withstood the crisis have more recently begun to experience employment decline.

Case Study: Puglia, Italy

Puglia was one of the economically weaker regions in Italy long before the onset of the economic crisis. The effect of the crisis has been deep but spatially uneven. Within the region, the greatest labour market effects of the crisis were felt in the traditional manufacturing sectors and in the more urbanised areas. Rural areas that specialised in high quality agri-food products and niche-based crafts, furniture and clothing, trends were less severely affected. 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.

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.

Some of the greatest challenges in the regional economy can also 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 20,000 employees directly and indirectly. The fate of the steelworks is universally agreed to be the single biggest threat to regional resilience in Puglia.

Case Study: Southwest Ireland

South West Ireland is comprised of the counties of Cork and Kerry. The City of Cork is the second city of Ireland and, together with its surrounding area, forms the main economic hub of the region. 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.

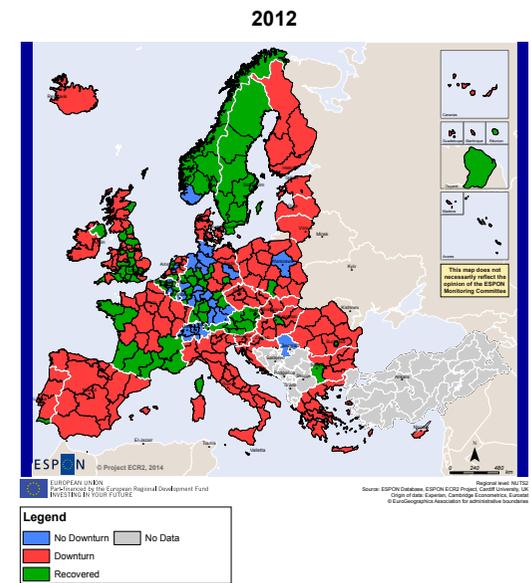
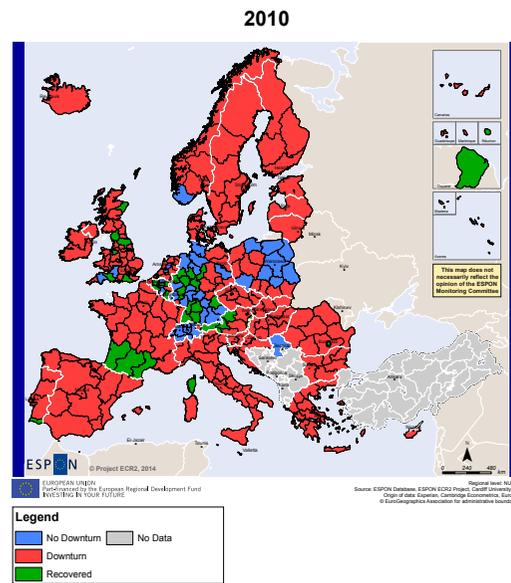
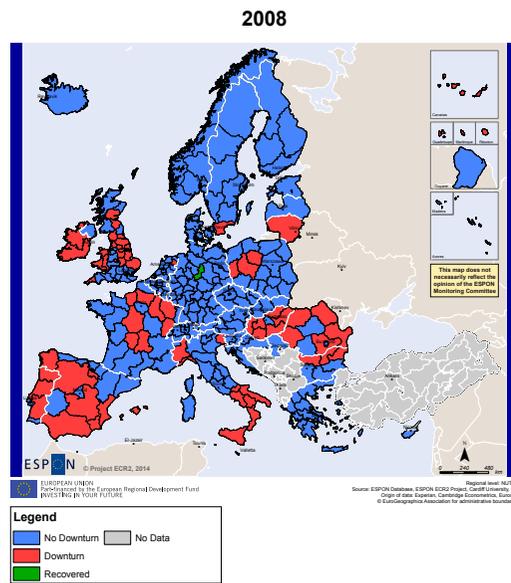
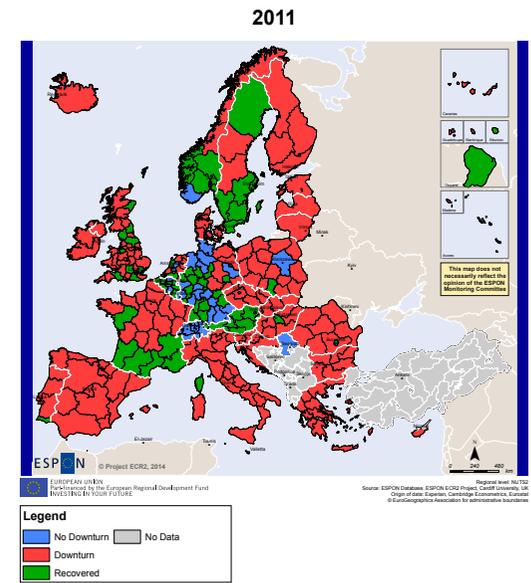
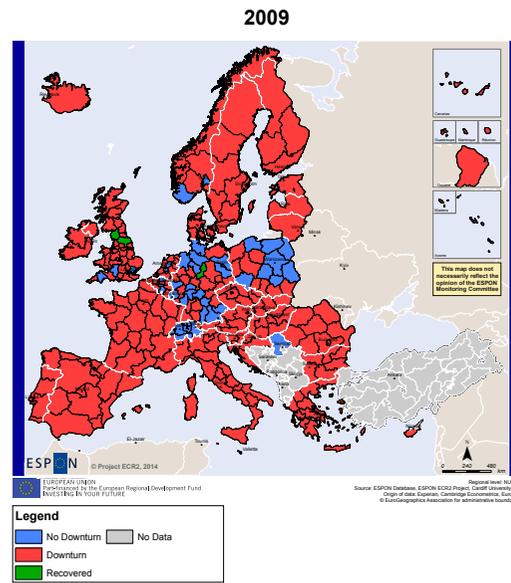
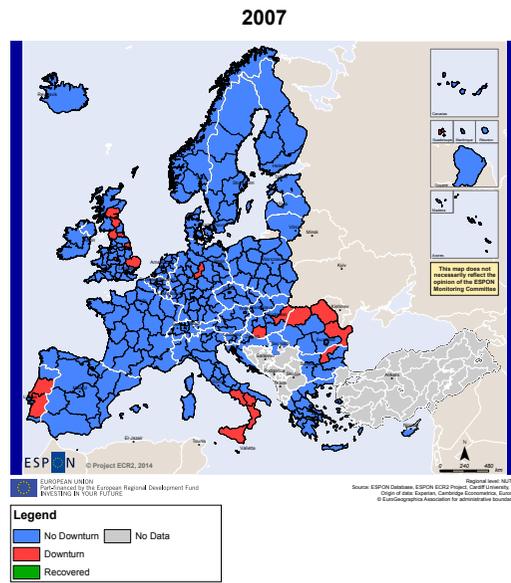
The economic crisis had a severe impact in Ireland. A property ‘bubble’ and an over-exposed banking sector required extensive financial support, leading to national austerity measures, a rising tax burden, falling incomes, the collapse of the construction sector and rising unemployment. The effects of 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 have been more exposed to the effects of the crisis.

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. 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.

The impact of the crisis has been mitigated by the spatial 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.

2 The Economic Resilience of Europe's Regions

Maps 3 - 8. Unfolding Regional Geography of Europe's Economic Crisis - Employment



2.3 Measuring Resilience

With the increase in popularity of the concept of resilience amongst policy makers there has come a range of means by which it might be measured. The definition of resilience is not fixed making it difficult to operationalise and measure in practice. At its simplest, resilience refers to the ability of a system to 'bounce-back' or recover 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. One reason for this is that every crisis is different, and the dynamics of national and regional economies are complex with multiple feedback loops so that it is difficult to know which factors are likely to promote resilience and which might constrain it.

Within this Territorial Observation 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 measures, but overall they offer more strengths than weaknesses. For example, boosting employment levels is a core objective of all EU and national policies. 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:

- Regions that resisted the crisis (RS) and
- Regions that recovered from the crisis (RC).

Focussing on those regions which have recovered to their pre-crisis position, the average duration is inside 3 years. This provides a benchmark for resilience against which the two categories of regions that were not resilient to the crisis can be compared:

- Regions that have begun their recovery, but where employment (or GDP) has not yet returned to pre-shock levels (NR1) and
- Regions that remain in decline (NR2).

Table 1. Measuring Resilience

Status	Category	Abbreviation	Description
Resilient	Resistant	RS	Resisted an economic downturn i.e. 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

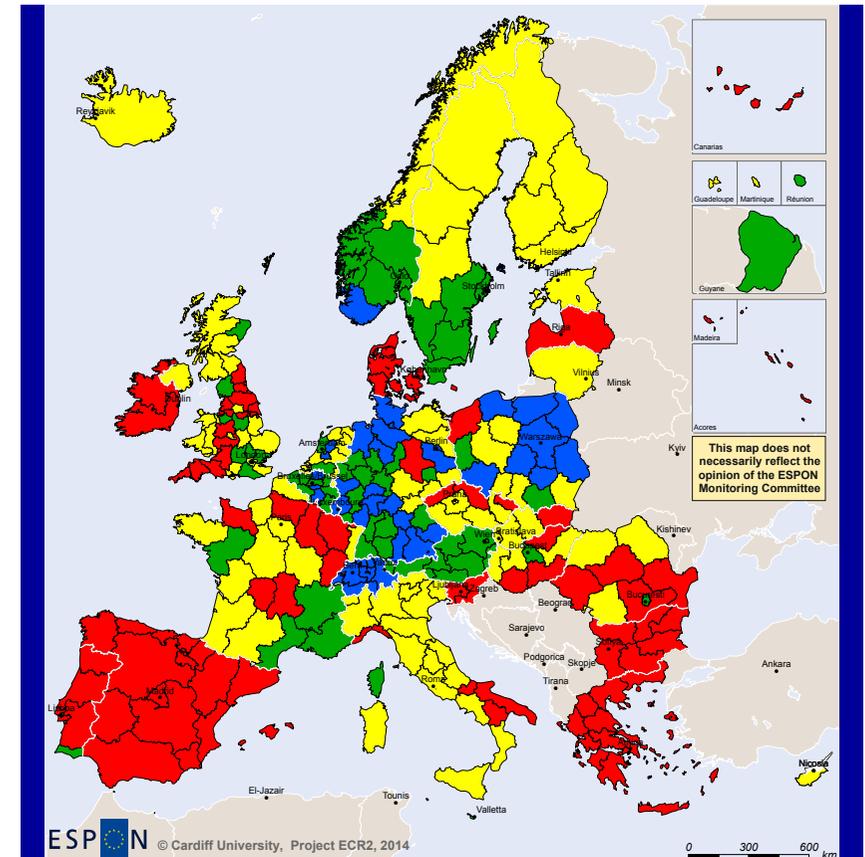
2.4 Territorial Patterns of Resilience

The severity of the crisis has varied across Europe with some regions affected more strongly than others. The spatial distribution of employment and GDP resilience is illustrated in Map 9 and Map 10 respectively, highlighting the strongly uneven and peripheral geography of the crisis.

Whilst unemployment rates have generally risen, actual rates of unemployment have on average remained low (below 4%) in 48 of European regions, even at the height of the crisis. The most extreme case of employment loss was in Latvia, which recorded a total fall in the number of persons employed approaching a quarter of the numbers employed at the peak.

The regional geography of resilience is clearly influenced by national patterns. Most regions exhibit a similar level of resilience to their national average. However, the effects of the crisis have not necessarily been evenly distributed within countries. There are also examples of where the experience of individual regions runs counter to national trends, or where there is strong internal variability (Map 11). For example, the Algarve region in southern Portugal displayed a much higher level of resilience than the national average, largely due to the impact of the tourism industry. Countries like Austria, Belgium, Denmark, Finland and Sweden all exhibit a relatively small range in terms of the recorded employment impact of the crisis. However, a much wider range of experience is visible in countries such as Spain, Bulgaria and Poland.

Map 9. Distribution of Regional Employment Resilience (Peak Year to 2011)



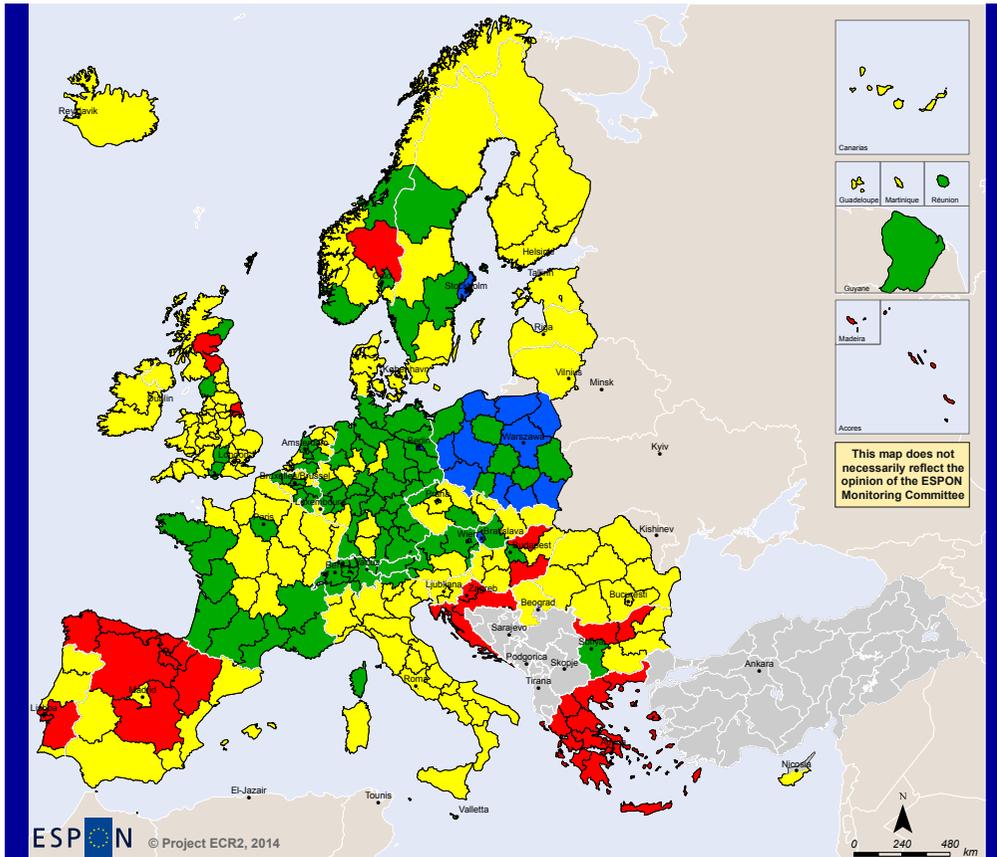
EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

Source: ESPON Database, ESPON ECR2 project, Cardiff University, 2014
Regional level: NUTS2
Origin of data: Experian, Eurostat, Various dates
© EuroGeographics Association for administrative boundaries

Legend

■ Resistant	■ Not Recovered: Upturn	 No data
■ Recovered	■ Not Recovered: No Upturn	

Map 10. Distribution of Regional GDP Resilience (Peak Year to 2011)



Canaries
Guadeloupe Martinique Reunion
Guyana
Madeira
Azores

This map does not necessarily reflect the opinion of the ESPON Monitoring Committee

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: Experian, Cambridge Econometrics, Eurostat
© EuroGeographics Association for administrative boundaries

Legend

■ Resistant	■ Not Recovered: Upturn	■ No Data
■ Recovered	■ Not Recovered: No Upturn	

Second-Tier Cities and Resilience

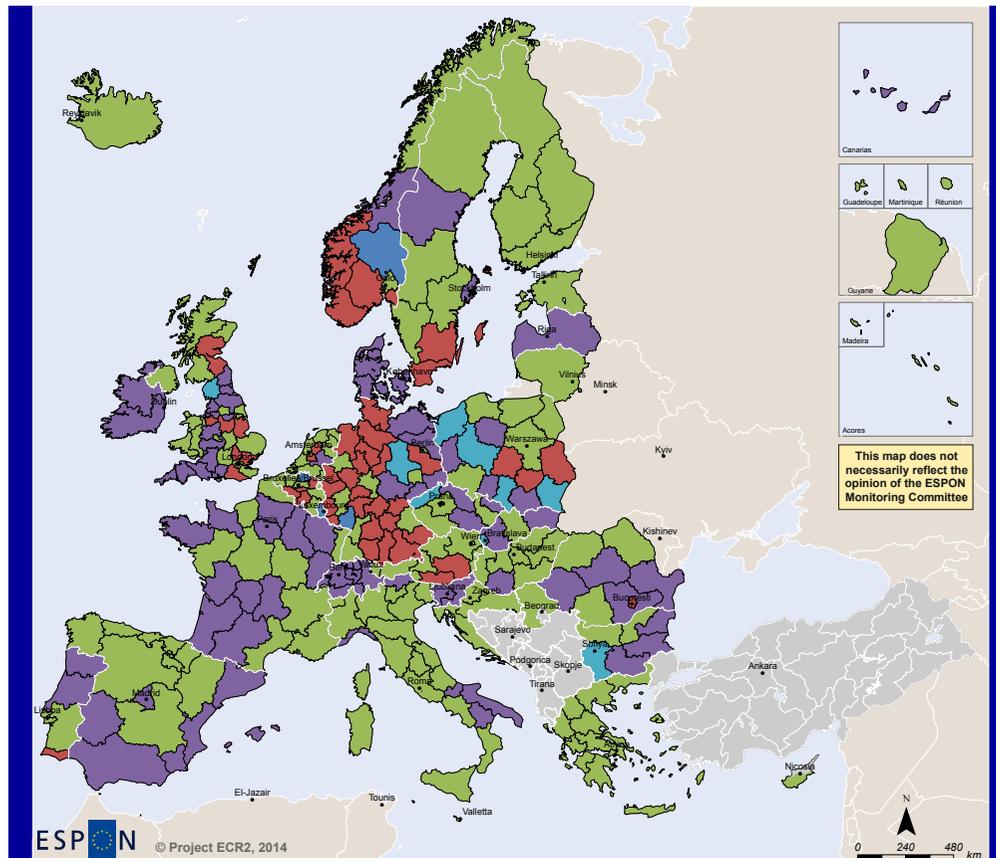
Major urban centres, particularly second-tier cities, are significant in promoting the resilience of the surrounding economy. The ESPON Applied Research project 'Secondary Growth Poles and Territorial Development in Europe; Performance, Policies and Prospects' found that Europe's second tier cities are important growth poles and have in many cases great development potentials. They play a vital role within the national urban system and often even perform better than their capital cities. In fact, secondary cities contribute substantially to the economic development in Europe and are decisive for achieving the Europe 2020 objectives on smart, sustainable and inclusive growth.

The economic development during the decade before the crisis showed that second tier cities can further strengthen their performance and contribute even more to national economic development as well as play an independent role in the increasing globalisation of markets. Investments in second tier cities are more likely to maximise the economic potential of a national economy than a concentration of all resources in the capital. However this will require policy support, strategic investments and tools.

The success of second tier cities depends on a number of key drivers such as innovation, economic diversity, skills and human capital, connectivity, place quality and strategic governance capacity. Policies related to these drivers have proven to strengthen the performance of second tier cities. The drivers that can be most directly influenced at city level are place quality and strategic governance capacity. The other drivers are to a larger extent influenced by European, national and regional policies. Influencing these drivers demands successful multilevel governance.

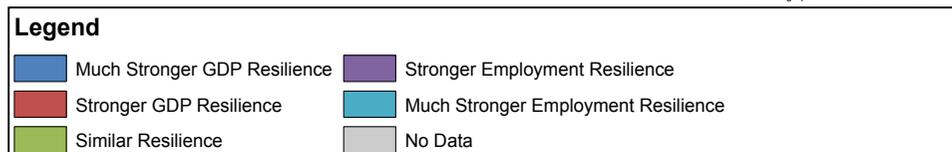
2 The Economic Resilience of Europe's Regions

Map 11. Geographies of Internal Comparative Resilience (Peak Year to 2011)



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: Experian, Cambridge Econometrics, Eurostat
© EuroGeographics Association for administrative boundaries



Resilience can also be a more localised phenomenon with neighbouring areas experiencing different patterns of resilience, depending upon specific local particularities (Map 12). At NUTS 2 scale, a more heterogeneous pattern of resilience can be observed. For example, in Ireland, there is a strong contrast between the experience of metropolitan Dublin and the remainder of the country. In Puglia, Italy, however, it is the rural parts that appear to have a stronger degree of resilience to the economic crisis than the urban centres.

Although some seven years have elapsed since the onset of the crisis, evidence from past shocks demonstrates that most regions do recover to pre-shock activity levels, eventually. On one level, Europe's regions appear to be more resilient now than they were in the past as they have generally recovered more quickly in the current crisis. 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. For example, a fifth of European regions have never regained their peak employment levels following the economic shock of the early 1990s. This highlights the need for the correct policy responses to economic crises to promote resilience and cautions against any assumption that peak levels of employment should form a natural objective following an economic shock.

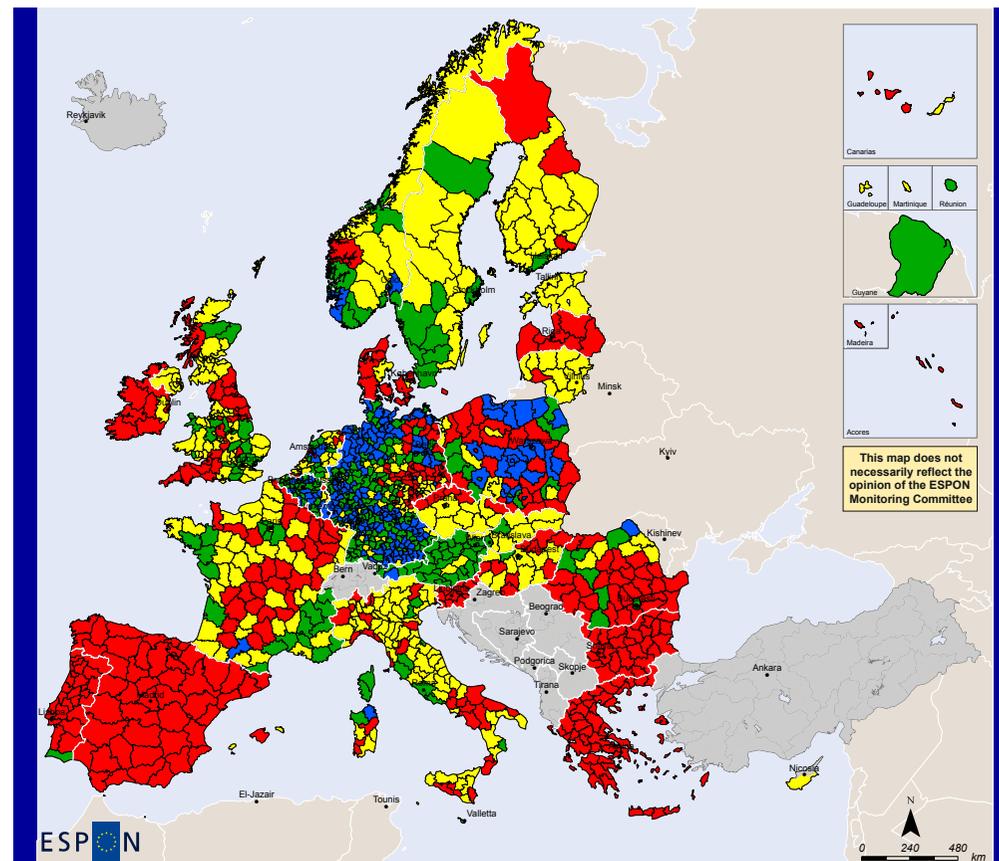
Case Study: Wales

Wales is currently the poorest region of the UK in terms of GVA per capita, but is characterised by considerable inter-regional diversity. The crisis hit Wales hard with output falling and unemployment rising, leading to ongoing austerity measures. The distinctive feature of this crisis is that across the UK, and particularly in Wales, overall employment fell less significantly than GVA. Youth unemployment remains a particular problem, however, and by March 2011 was higher in Wales than any other part of the UK.

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. 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.

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.

Map 12. Localised Patterns of Employment Resilience



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

Regional level: NUTS3
Source: ESPON Database, ESPON ECR2 Project, Cardiff University, UK
Origin of data: Experian, Cambridge Econometrics, Eurostat
© EuroGeographics Association for administrative boundaries

Legend

■ Resistant	■ Not Recovered: Upturn	■ No Data
■ Recovered	■ Not Recovered: No Upturn	

3 What Helps Build Resilience?

Every region is different. The prevailing characteristics of regions set the context for their resilience to economic shocks. These underpinning structures can be divided into four broad categories:

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

Figure 2. The Foundations for Resilience



3.1 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. Broadly, dependence on single sectors, or a small number of employers is detrimental to the resilience of an economy. A more diverse economic structure provides greater regional resistance to shocks. For example, 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.

There are also exceptions. Dependence on some sectors promoted resilience during the crisis, with concentrations of activity in financial services or a stronger exposure to high-tech, knowledge intensive industries, as well as niche production sectors promoting resilience.

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 there has been widespread implementation of austerity policies resulting in significant public sector retrenchment.

There is a strong positive relationship between higher levels of innovation and entrepreneurial culture and observed resilience outcomes. Similarly, stable growth patterns and lower unemployment prior to an economic shock appear to promote resilience. This suggests that resilience is a longer-term phenomenon based on stable growth rates over longer periods of time.

Case Study: Harju County, North Estonia

As a country with a small domestic market and a very open economy, the crisis had a severe impact in Estonia. In addition, Estonia had its own domestic crisis that was induced by a real estate 'bubble'. The impact of the crisis was a sharp increase in the unemployment rate, especially among youth, ethnic non-Estonians, and poorly qualified workers.

As the capital region, the recovery of North-Estonia has been speedier compared to the other regions. The strong presence of Nordic firms in various branches of economic activity had a significant mitigating impact. This swift recovery was also partly as a result of several large-scale stimulus packages and led to an increase in demand for exports from enterprises. Another related key factor was relatively well capitalised foreign banks with good access to central bank's liquidity assistance.

Policy responses to the crisis have been predominantly national. The first signs of economic downturn were ignored, but, when the national policy response did come it was implemented quickly. Estonia introduced austerity measures, together with increased taxation. As the taxation decisions were executed quickly, there was a significant positive impact on the tax revenues.

The national policy response was accelerated through allocation of finances from the EU structural funds; resources initially scheduled for 2010-2011 were used in 2009. On a regional level, larger municipalities responded to the crisis with measures like the creation of social jobs (bus attendants and other similar type of jobs).

The crisis provoked companies to rethink business models, implement productivity enhancing adjustments, and provided motivation to learn and consider their international competitiveness.

3 What Helps Build Resilience?

3.2 People and the Population

A region's population can also influence its ability to withstand – or recover from – an economic shock. The clearest relationship is in the area of skills. Areas with more highly qualified populations tend to have more positive resilience outcomes.

Labour market flexibility is also an important feature shaping the ability of many regions to respond to economic crisis. The reduction of working hours in order to retain 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. This labour-led strategy is one reason that employment resilience has proved typically stronger than GDP resilience.

3.3 Place-Based Characteristics

The evidence suggests that the presence of an urban centre, particularly second-tier centres, is positively associated with resilience. In contrast, regions that are more remote from major urban centres have tended to prove less resilient.

Equally, regions with higher levels of accessibility to help overcome peripheral geographic locations tend to be associated with more resilient outcomes. Higher levels of broadband availability are also positively related to resilience.

Planning regimes and the property market, which act to shape places over the longer-term, can influence resilience. 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.

Case Study: Uusimaa

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.

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 to GDP decline was weak, the national economy has demonstrated strong employment and income resistance at the same time. Yet, the pre-crisis low unemployment rates have not returned to the Uusimaa region, and in 2012 the unemployment rate started to grow again.

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 an excellent workforce and good intellectual capital could be seen as an important source of renewal.

Status under the EU's Cohesion Policy, which influences the levels of external assistance provided through the EU's Structural Funds, can also impact resilience outcomes. Using eligibility status under the 2007-13 programming period, regions that were eligible under the 'Competitiveness and Employment' strand of the Structural Funds proved to be disproportionately more likely to have resisted or recovered from the crisis. In

Case Study: West Macedonia

West Macedonia is a peripheral mountainous, border and landlocked region located in northern Greece. 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. More than 70% of the country's total electric power is being produced in West Macedonia which employs around 6,000 people. 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.

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. 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. Rather than the public sector providing a long-term role of shielding the region, it has, in fact, contributed to further vulnerabilities. The dominance of the energy sector hampered the creation of conditions for the diversification of the region's productive base and magnified the extent and the intensity of the crisis.

There is relatively limited experience and lack of capacity within regional authorities in the design of appropriate strategies to respond to the crisis leading to poor coordination and ad hoc measures. Outside the formal arena, the regional society retains many characteristics of a traditional society with a patriarchal family structure, which was able to absorb some of the consequences of the current economic crisis through, for example, the creation of new tourism enterprises.

contrast, regions eligible under the 'Convergence' strand have proven less able to resist or recover from the crisis.

3.4 Community and Societal Characteristics

Whilst rarely strong enough to impact directly on the ability of an economy to withstand the effects of an economic crisis, community and societal characteristics are able to play a role in shaping the way in which a region responds and the opportunities which are available to regions.

Business networks, and inter-firm capital, can have a significant impact in shaping responses to the economic crisis. Social capital networks have also affected the ability of places to respond to the effects of the crisis.

An emphasis on collective bargaining, the social compact between firms, states and workers, can also impact on observed levels of resilience. At the very local scale the development of strong localist agendas, epitomised by 'buy-local' campaigns formed one response to the crisis in a number of regions. Equally, a strong entrepreneurial culture can make an observable difference to resilience experiences.

Fragmented governance structures impede resilience. Resilience is enhanced where public authorities work together with neighbouring authorities; where different levels of government work together to share risks, and where there is a collaborative approach to working with economic and social partners. In this context, the principles and practices of European territorial cohesion and cooperation can offer a positive contribution in developing integrated approaches.

Case Study: Baden-Württemberg

Baden-Württemberg is the third largest State of the Federal Republic of Germany. It has the best performance in almost all innovation indicators among German and EU regions and the highest level of manufacturing employment and value added among all German states; with a dominant share of automotive and machinery industry.

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).

Experiences from past crises were successful in mitigating the impact of the current crisis. During a recession in 1992/93, firms reacted to the crisis with a high number of lay-offs, but faced severe human capital scarcity during the ensuing recovery. 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 adaptability during the crisis and increased the acceleration of recovery.

4 Promoting Resilience: Messages for Policy Makers

4.1 Principles for Resilient Places

Whilst many governments are tempted to focus on short-term policy responses in the aftermath of a shock, it is policy decisions taken years, and even decades, in advance that shape the capacity of a region to withstand and recover from an external 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:

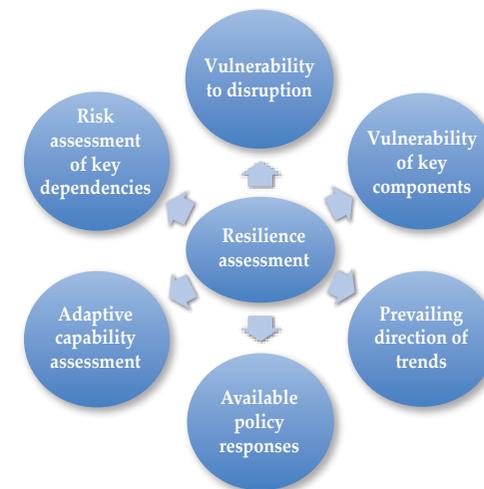
- **Diversity** – More diverse economies tend to be more resilient over time as they prove more able to adapt to changing circumstances. Policies that avoid establishing a dependence upon particular firms or market segments tend to develop more resilient economies. Equally, policies that promote a diversification 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.

Alongside these principles, the role of agency and choice are also formative influences on the nature of responses to a crisis. 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. 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.

Developing a Resilience Dashboard

An important role for policy-makers is 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 a future-orientated perspective and the shared knowledge that is developed of an economy in a more qualitative sense.

Figure 3. Resilience Dashboard



4.2 Territoriality Matters

The significance of territorial policies stems from an appreciation of the importance of local conditions in shaping resilience responses. In line with this thinking, policy strategies across Europe are placing an increasing emphasis on encouraging the development of integrated, place-based policy actions.

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. This is seen as critical in strengthening local responses and reducing vulnerability to external factors.

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 EU Cohesion Policy 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 best placed to be able to integrate diverse funding sources to better meet local needs, priorities and agendas.

It is worth considering policies that act to share risk across regions, and those which recognise the interdependencies between regions and 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.

The Green Economy 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 discernible 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, particularly those where greening strategies were already in place. However, this has not made a discernible impact on 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, there is 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.

Promoting Firebreaks and Risk-Sharing

In developing strategic approaches towards resilient economies, policy officials should give consideration to two concepts:

- **Firebreaks** – the ability to insulate the wider economy from the spill-over 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 local currencies – or other mechanisms to insulate communities from market downturns, such as community energy schemes, bartering systems or food-growing initiatives.
- **Risk-sharing** – this may be achieved through public policy initiatives, such as automatic stabilisers or policies that span wider territorial areas 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. 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.

4.3 Who Should Act?

Resilience is a shared responsibility

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. 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 provide a further stimulus to the value of place-based actions.

However, there are also limits to local action. 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. Equally, where national policies withdraw from localities, so resilience can be weakened, as the ability to respond to the crisis reduces. This suggests that there are new roles for sub-national authorities, to act as signposts to alternative sources of support at EU and national level.

Whilst local is important, national responses are predominant

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. However, overall local and regional policy responses to the economic crisis have been relatively modest. The very scale of the crisis itself may also have acted to limit the ability and scope of local or regional authorities to intervene.

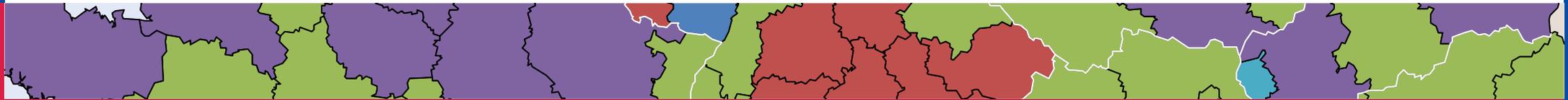
Where the scope for local and regional action is limited, then national level actions take on a greater significance. The composition of the local area may influence the extent to which it benefits, or does not, from such policies. In these circumstances a key role for local and regional authorities can be to ensure that their area reaps maximum benefits from the opportunities available.

Cohesion Policy and Resilience

As noted in the Sixth Report on Economic Social and Territorial Cohesion, Cohesion Policy will continue to be one of the main sources of finance for public investment, particularly for those countries most affected by the crisis and which have introduced austerity policies to reduce budget deficits. Cohesion Policy and European Structural and Investment Funds can form part of successful policy responses to promote more resilient economies. They can do so through sharing risks and mobilising external fiscal support; through actions that help to stabilise adverse economic pressures, and by serving to build absorptive, adaptive and transformational capacities. In the best cases they epitomise 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 the current programming period, in many cases Structural and Investment Fund programmes found it difficult to swiftly react and respond to the unfolding consequences of the economic crisis. Many programmes were demanded and focused on securing the absorption of available funds. In doing so they were reactive rather than seeking to develop more proactive responses, which was a key weakness in their capacity to act as an efficient response mechanism.

The potential exists for Cohesion Policy to act as a key lever for building adaptive capacity and resilience in the forthcoming programming period. However, for these effects to be realised, highlights the importance of local and regional actors in incorporating the principles of resilience in developing Cooperation Programmes. The objective should be to develop robust strategies underpinned by more effective governance mechanisms and orientated towards the Europe 2020 targets and thematic objectives, but which can also facilitate positive resilience responses to changing circumstances or external shocks.



www.espon.eu

Interested in ESPON?

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.

ESPON shall support Cohesion Policy development with European-wide comparable information, evidence, analyses and scenarios on framework conditions for the development of regions, cities and larger territories. In doing so, it shall facilitate the mobilisation of territorial capital and development opportunities, contributing to improving European

competitiveness, to the widening and deepening of European territorial cooperation and to a sustainable and balanced development.

The Managing Authority responsible for the ESPON 2013 Programme is the Ministry of Sustainable Development and Infrastructures of Luxembourg.

ISBN: 978-2-919777-82-2