

RISE

Regional Integrated Strategies in Europe

Targeted Analysis 2013/2/11

ANNEX 2 Regional Profiles | 15/7/2012



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.

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List of authors

Nordregio

Ole Damsgaard

Aslı Tepecik Diş

Christian Fredricsson

Table of contents

Executive summary	6
Delimitations of case study regions and methodology	7
The region in the EU-system	10
Physical structure and Accessibility dynamics	23
Demographic dynamics	39
Economic dynamics	46
Innovation dynamics and business structure	54
RISE regions – inside-out perspective.....	63
Conclusions – challenges and potentials in RISE regions	65
References	67
Annex I – Administrative delimitation of case-study regions	70
Annex II – Corine land cover classes 2006.....	71
Annex III – Urban and Rural Typology	72

Maps

Map 1. RISE Case Study Region, including administrative delimitation and main cities and roads.....	9
Map 2. Structural funds 2000-2006, Convergence and Regional Competiveness and Employment Objective	12
Map 3. Structural funds 2007-2013, Convergence and Regional Competiveness and Employment Objective.	13
Map 4. RISE – Regions eligible for funding from the ERDF 2007-2013.....	14
Map 5. Trans-European transport network – priority axis and projects,.....	15
Map 6. Corine Land Cover in case-study regions in 2006	24
Map 7. Typology of Functional Urban Areas.....	27
Map 8: Dijkstra-Poelman Typology of Rurality - Urban-rural typology of NUTS 3 regions, including remoteness	29
Map 9: Multimodal potential accessibility	34
Map 10: Accessibility vs. economic performance	35
Map 11. Demographic trends in NSPA settlement (2000-2006) and time-distance to a town or city of more than 10 000 inhabitant.....	37
Map 12. Typology of the demographic status, 2005	40
Map 13. Net migration by components, 2000-2007	41
Map 14. Population change 2005-2009 in Rise – Case Study Regions.....	42
Map 15. GDP (PPS) per Capita in 2007	48
Map 16. Change in unemployment rate 2007-2010.....	50
Map 17. Unemployment rate, 2010.....	51
Map 18: Regional Innovations Performance 2006-2007.....	55
Map 19. Technologically-advanced regions.....	58

Tables

Table 1. Example of EU programmes in RISE regions	22
Table 2: Corine Land Cover 2006.....	23
Table 3: Multimodal potential accessibility and economic performance in RISE Regions.....	33
Table 4. GDP-PPS per Capita in 2007 per NUTS 2/3 region and national average.....	49
Table 5. Unemployment rate % by NUTS 2 region	52
Table 6. Unemployment rate in EU27 and the national average of RISE regions country between 2007-2010.....	52
Table 7. Overview of RISE regions seen in European typologies of innovation performance and business structure.....	62
Table 8. Rural-Urban Typology, including remoteness – Comparison of RISE regions.....	74

Executive summary

This overview is primarily from an outside-in perspective where regional dynamics and recent trends for four RISE case study regions are presented through the lenses of European indexes as defined and delimited by the national and European Union (EU)-levels. In order to complement the outside-in perspective with a view of regional actors and how these regions are perceived internally, an inside-out perspective was carried out in a concise manner. The report has aimed to provide the most recent information available on RISE case study regions in a comparative form through a selected number of indicators. The RISE case study regions are also compared and viewed through the European Cohesion Policy and European Regional Development Fund (ERDF), highlighting the different conditions for implementing the Lisbon and Gothenburg agenda.

In addition to the indicators, the assessment of factors included here such as population age composition, unemployment rate, investment in research and development will be important for integration of European regional strategies.

Demographics bring challenges associated with an ageing population to sparsely populated regions (i.e. Västerbotten). Given the issues such as increasing number of migration, aging population and the accompanying pressure on the current economic structure; a decline in overall resource efficiency is expected.

A stronger provision of services, refinement of existing businesses and developing creative industries are key factors in generating a globally competitive and diversified economy. Improved communications are essential not only to strengthen the competitiveness of goods and services in producing industries (i.e. Randstad) but also to enable eco-efficient transport and better accessibility (i.e. Region Zealand and Västerbotten).

The exact number and nature of the jobs and the skills required will depend on long-term structural factors such as research, innovation, technological change, globalization and demographic trends but also on the extent and pace of the recovery from the current economic downturn.

The review has shown that geographical and especially demographic features could intensify development problems. This is particularly true for the remote regions but also for northernmost regions with very low population density (i.e. Västerbotten) as well.

It will be necessary to develop targeted provision of services to respond to the regional specificities without further complicating instruments and programmes. Regional Integration strategies also require addressing issues such as urban-rural linkages in terms of access to affordable and quality infrastructures and services, and problems in regions with a high concentration of socially and demographically marginalized communities.

Delimitations of case study regions and methodology

Administrative delimitation (The outside-in perspective)

The first step is an outside-in perspective where the region, as defined and delimited by the national and European Union (EU)-level, is viewed from an outside standpoint. The region, as referred, is the formal or administrative region consisting of one NUTS¹ 2 or a number of NUTS 3 regions.

In this initial step, the regional profiles are based on quantitative data, relevant indicators from Eurostat data/GISCO, existing ESPON data and related NORDREGIO projects. Results from relevant ESPON projects such as FOCL, TEDI, DEMIFER and RERISK are used in the comparison of the four RISE regions in a European perspective. The existing data has been complimented by data from EUROSTAT and in some cases national statistics.

The format of existing data from e.g. ESPON and EUROSTAT is mainly based on NUTS 2 and NUTS 3 level which makes it possible to make comparison between the RISE regions and the European average as well. If available, administrative structures are used for the different NUTS levels.² Nevertheless, throughout the case studies of the RISE regions, we have to be aware of the fact that the administrative delimitation is mainly based on NUTS 3 level, or a combination of several NUTS 3 regions, and that the existing data and maps do not always cover the NUTS 3 level.

Data covering lower levels than NUTS 3 is limited and not updated annually. In cases where data do not exist on NUTS 3 level, we chose to use NUTS 2 as a basis for analysis. As stressed by the earlier ESPON projects such as TEDI Interim report, the diversity of scales enclosed in the case study regions makes it rather challenging to analyse and compare them within a single framework. It is difficult to create comparative analysis due to national differences in classifications, terminology, timeliness and comprehensiveness of data accounts.

In order to illustrate territorial dynamics and characteristics in the case study of regions, ranging from sparsely populated to densely populated areas, it is important to present a wider territorial context. Therefore the RISE regions will be presented from a European perspective.

¹ The NUTS (Nomenclature of Territorial Units for Statistics) system is used by the EU for drawing up geographic division of its territory. Here, regions are identified as a set level in a spatial hierarchy. NUTS is a classification system for dividing up the economic territory of the EU in order to collect, develop and harmonize the EU regional statistics. There are three levels of NUTS defined as follows:

NUTS 1: major socio-economic regions

NUTS 2: basic regions for the application of regional policies

NUTS 3: as small regions for specific diagnoses

(EUROSTAT; http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/introduction)

² EUROSTAT Regional yearbook 2010, p. 13

Concerning the NUTS 2 and 3 delimitation of the RISE regions West Midlands – Birmingham, Randstad, Zealand and Västerbotten, please see ANNEX I for complete overview of included NUTS-regions.

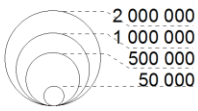
Concerning the section of *Access and physical structure*, it might also be possible to use the data from the Urban Audit (Eurostat) illustrating functional urban regions (FUR) and larger urban zones (LUZ). In this context, it will also be essential to discuss how to compare different urban and functional dynamics of the case study regions in relation to NUTS delineation.

In the next step of elaborating regional profiles of the RISE regions, the outside-in perspective will be complimented by an inside-out perspective. In this case, the region is delimited by bottom up approach of inter-territorial partnerships and collaborations, often linked to specific themes and functionalities and also often parallel to other territorial entities addressing other themes and functionalities. These kinds of constellations can be ad hoc, temporary or permanent and more or less formalised.

RISE - Case Study regions

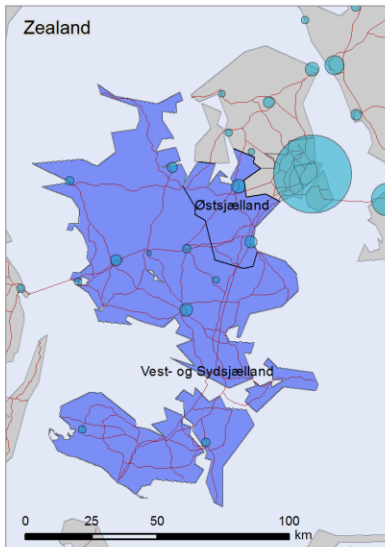
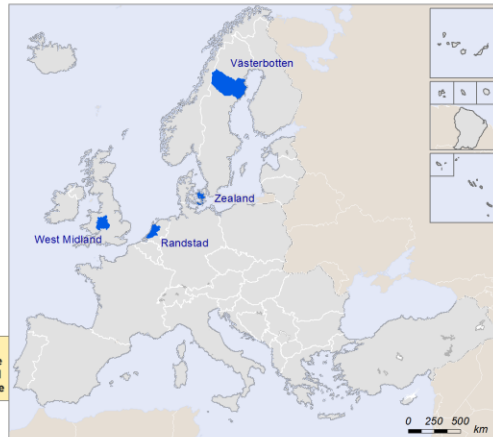
Main cities

Population in main city areas

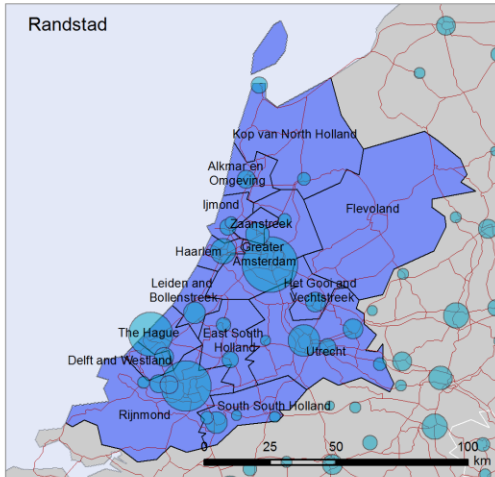
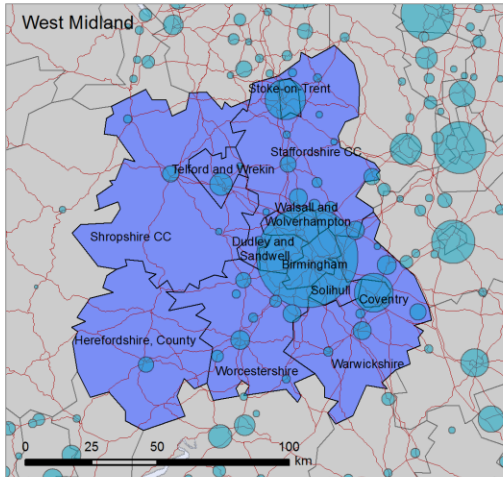
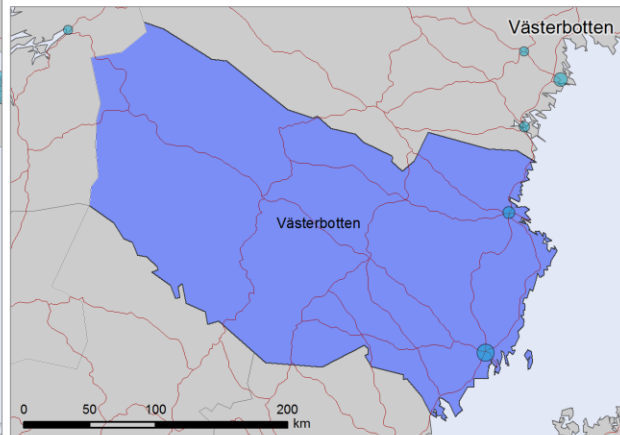


Main roads
NUTS3 region (with name)

Case study region	Administrative delimitation
West Midland	West Midland NUTS1
Randstad	Western Netherlands NUTS1; Flevoland NUTS2
Region Zealand	Zealand NUTS2
Västerbotten County	Västerbotten NUTS3



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



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© Nordregio, RISE, 2012
Regional level: NUTS2/NUTS3
Source: ESPON Database 2013
Origin of data: GISCO, NSIs
© EuroGeographics Association for administrative boundaries

Map 1. RISE Case Study Region, including administrative delimitation and main cities and roads.

The region in the EU-system

European Cohesion Policy and ERDF

In order to understand the RISE region in a European context, it is important to address how different European policies and territorial strategies influence regional strategies and development. For this reason it is essential to explore how regions are perceived in European policies and how the policies can highlight regional potential in the case-study regions.

The Cohesion policy has been the foundation of European policy since the adoption of the Single European in 1986, where the overarching goal of addressing the economic and social disparities between the richest and poorest regions in European was outlined. Since then four generations of cohesion policy have invested in the “least favourable regions” with the aim of reducing disparities between European regions.³ European Regional Development Fund (ERDF) is one important cornerstone of the cohesion policy and one of EU:s main instruments for pursuing harmonious development across the European Territory.⁴ The Lisbon and Gothenburg agenda are serving as an important framework for the implementation of the ERDF and should contribute to the fulfilling of the objectives. The main aims of the Lisbon agenda, adopted in 2001, are to create competitive knowledge economy stimulating economic growth. The Gothenburg agenda adopted in 2001 emphasises the three dimension of economic, social and environmental sustainability. Both agendas were re-launched in 2010 with some changes. The Lisbon agenda become to some extent more focused on actions for growth and employment, meanwhile the update of the Gothenburg agenda was focusing on better methods of integrated and balanced policymaking and on complimenting the Lisbon agenda.⁵

The maps 2 and 3 are illustrating the European spatial distribution of ERDF funding of the two latest programme periods, 2000-2006 and 2007-2013. The programme period 2000-2006 was primarily focusing on regions “lagging” behind and on regions in a structural change. The three objectives;

- Objective 1 - promoting the development and structural adjustment of regions whose development is lagging behind;
- Objective 2 – supporting the economic and social conversion of area facing structural difficulties; and
- Objective 3 – supporting the adaption and modernisation of policies and systems of education, training and employment.⁶

Since the presentation of the *Third Report on Economic and Social Cohesion* in 2004 a reform process was initiated of ERDF structure. As shown in the maps, the structure and objectives shifted profoundly in 2007, and the new programme is now strongly focusing on creating growth, jobs and innovation

³ Van Well et al. (2009)

⁴ Fifth report on economic, social and territorial cohesion (2010) p. XIX-XX

⁵ Van Well et al. (2009)

⁶ EU Cohesion Policy 1988-2008: Investing In Europe´s future, InfoRegio Panorama, No 26, June 2008 p. 19-20

covering the whole European Union territory. For example, nearly one third of funding is directed at research and innovation. In the current programme three priority objectives is defined; convergence (objective 1), regional competitiveness and employment (Objective 2), and European Territorial Cooperation (Objective 3).

The 2nd objective mainly aims at increasing the convergence of the least developed EU member states and regions defined by GDP per capita less than 75 % of the EU-average. In this sense, the objective 2 and 3 from 2000-2006 periods seem to have merged into one objective. Larger efforts and funding was instead put into the new objective Regional Competitiveness and Employment which covers all other EU regions with the purpose of strengthening regions' competitiveness as well as employment level. When looking into the structural funds in a European outlook, the convergence objective is covering 84 regions in 17 of the member states. Another 16 regions is defined as phasing-out regions within the convergence objective. Concerning the Regional Competitiveness and Employment objective, 168 regions are perceived as eligible for funding. 13 of these regions are defined as so called phasing-in areas which are subjected to special financial support, due to their former status as Objective 1 regions.⁷

The third objective European Territorial Cooperation is based on the earlier INTERREG initiative, to support cross-border programmes, transnational programmes and INTERREG IVC, as well as networks. The cross-border cooperation aims at stimulating cooperation along the European internal border and in total, there are 52 different programmes realized within the programme.⁸ Concerning the transnational cooperation, it covers all EU regions by at least one of the in total 13 transnational cooperation areas which are inhabited by 181,7 million people. The transnational cooperation programmes mainly covers larger geographical macro regions in Europe, including 13 geographical cooperation areas. Concerning INTERREG IV and networking programmes they provide a framework for exchanging experiences between local and regional stakeholders in the EU. The network programmes includes URBACT II, INTERACT II and ESPON programme.

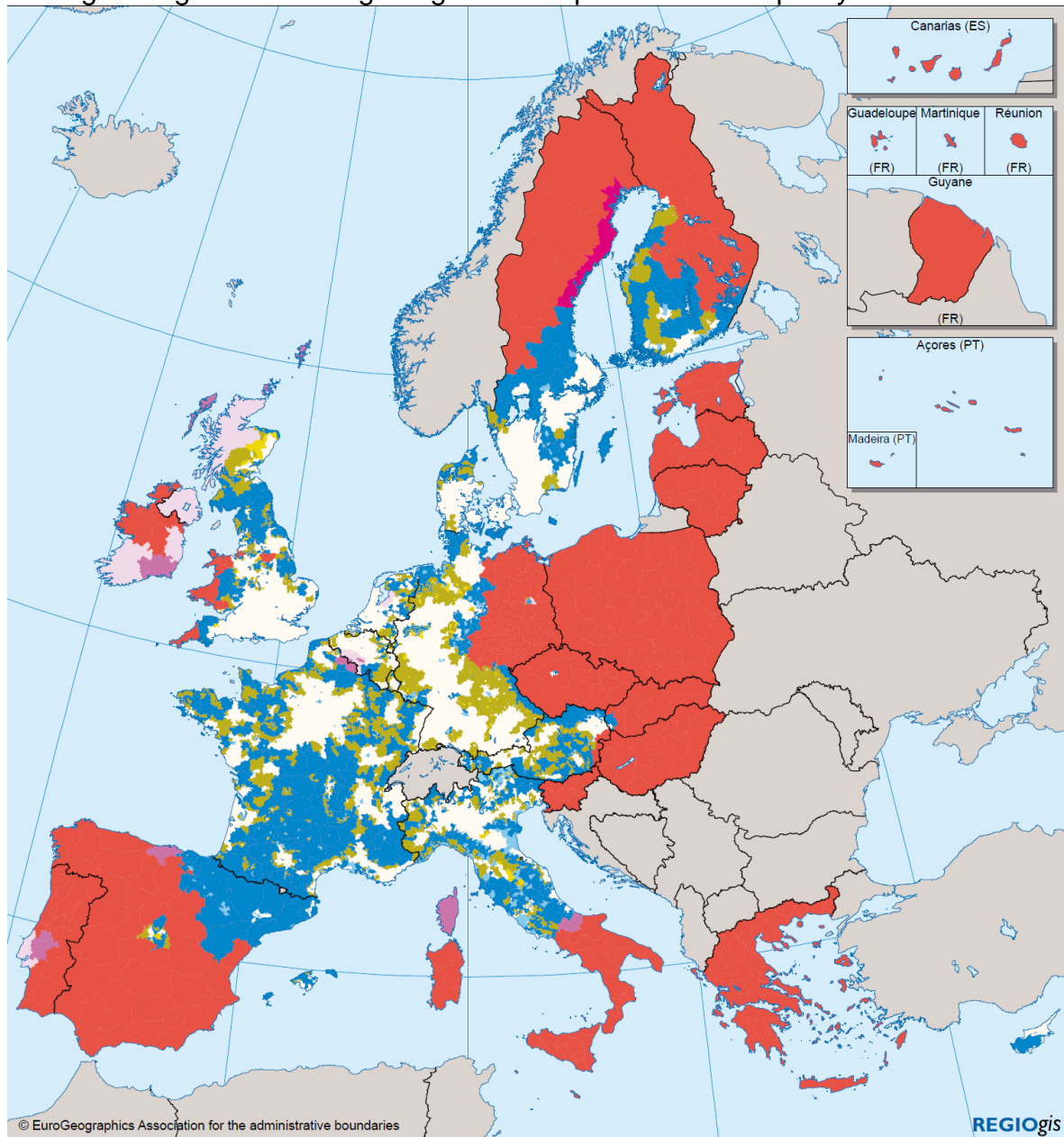
Furthermore, the ERDF supplemented by the National Strategic Framework (NSRF) and Operational programmes, which aims are to deliver the objectives of the Lisbon and Gothenburg agendas on national and regional scale. The NSRF are the main steering document for each member states concerning regional policy and outlines the main themes of operational programmes. In this context the operational programmes can be seen as tool for implementing the EU policies on a regional scale and are influencing regional policymaking across the European space.⁹ In the upcoming sections the RISE regions will be describe from the development of ERDF and related

⁷ EU Cohesion Policy 1988-2008: Investing In Europe's future, InfoRegio Panorama, No 26, June 2008 p. 23

⁸ EU Cohesion Policy 1988-2008: Investing In Europe's future, InfoRegio Panorama, No 26, June 2008 p. 22-23

⁹ Van Well et al. (2009)

Operational Programmes. It will provide a framework for understanding how the regions agenda are integrating with European Cohesion policy.



Structural Funds 2000 - 2006 : Eligible Areas

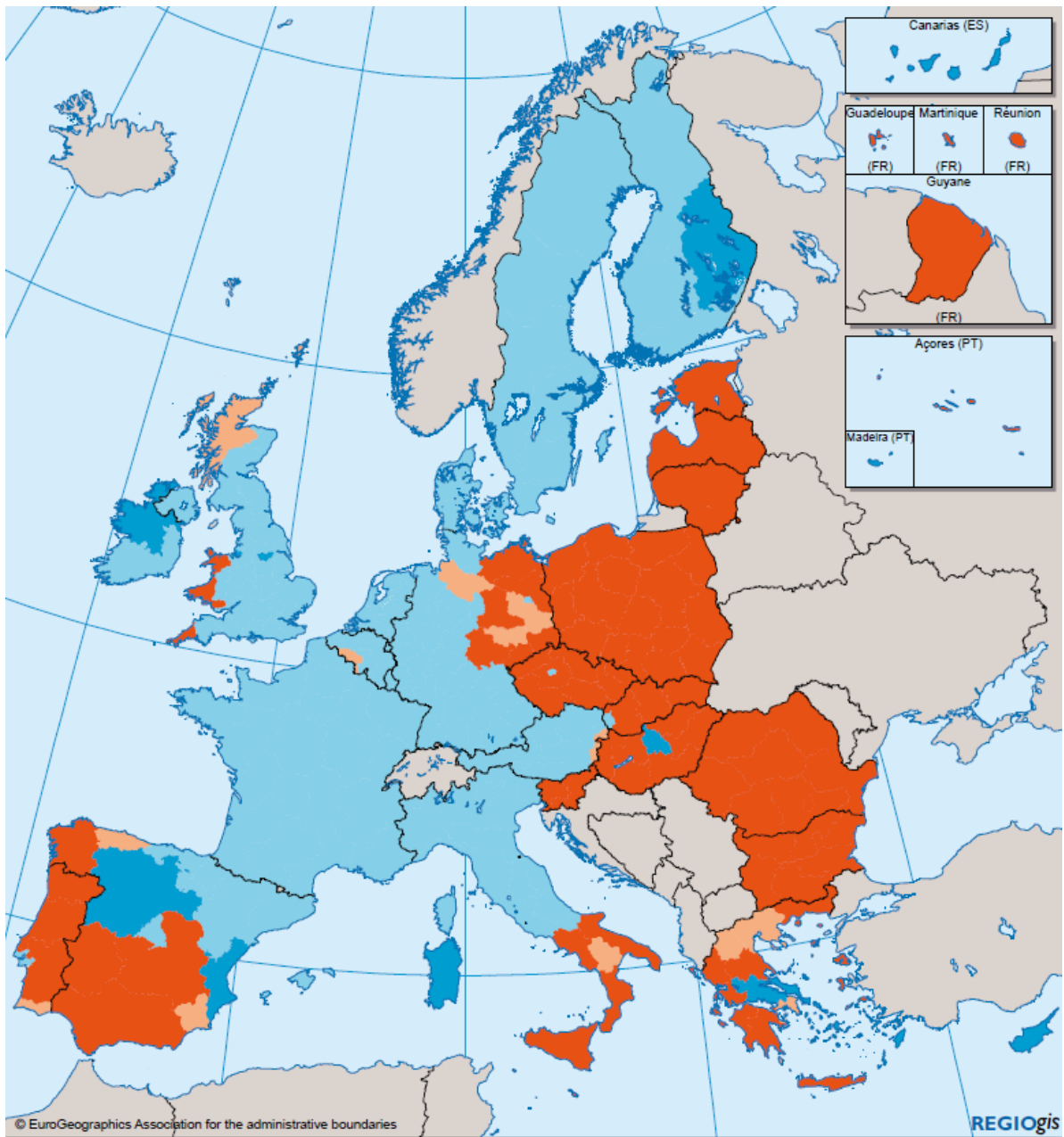
- | Objective 1 | Objective 2 |
|---|--|
| ■ Objective 1* | ■ Objective 2 |
| ■ Phasing-out (till 31/12/2005) | ■ Objective 2 (partly) |
| ■ Phasing-out (till 31/12/2006) | ■ Phasing-out (till 31/12/2005) |
| ■ Special programme | ■ Phasing-out (Partly) (till 31/12/2005) |

Areas in Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Hungary, Slovenia, Cyprus and Malta eligible from 01/05/2004 onwards.

* with a GDP/head below 75% of the EU average



Map 2. Structural funds 2000-2006, Convergence and Regional Competiveness and Employment Objective. (Source: EU Cohesion Policy 1988-2008: Investing In Europe's future, InfoRegio Panorama, No 26, June 2008)



Structural Funds 2007- 2013: Convergence and Regional Competitiveness and Employment Objectives

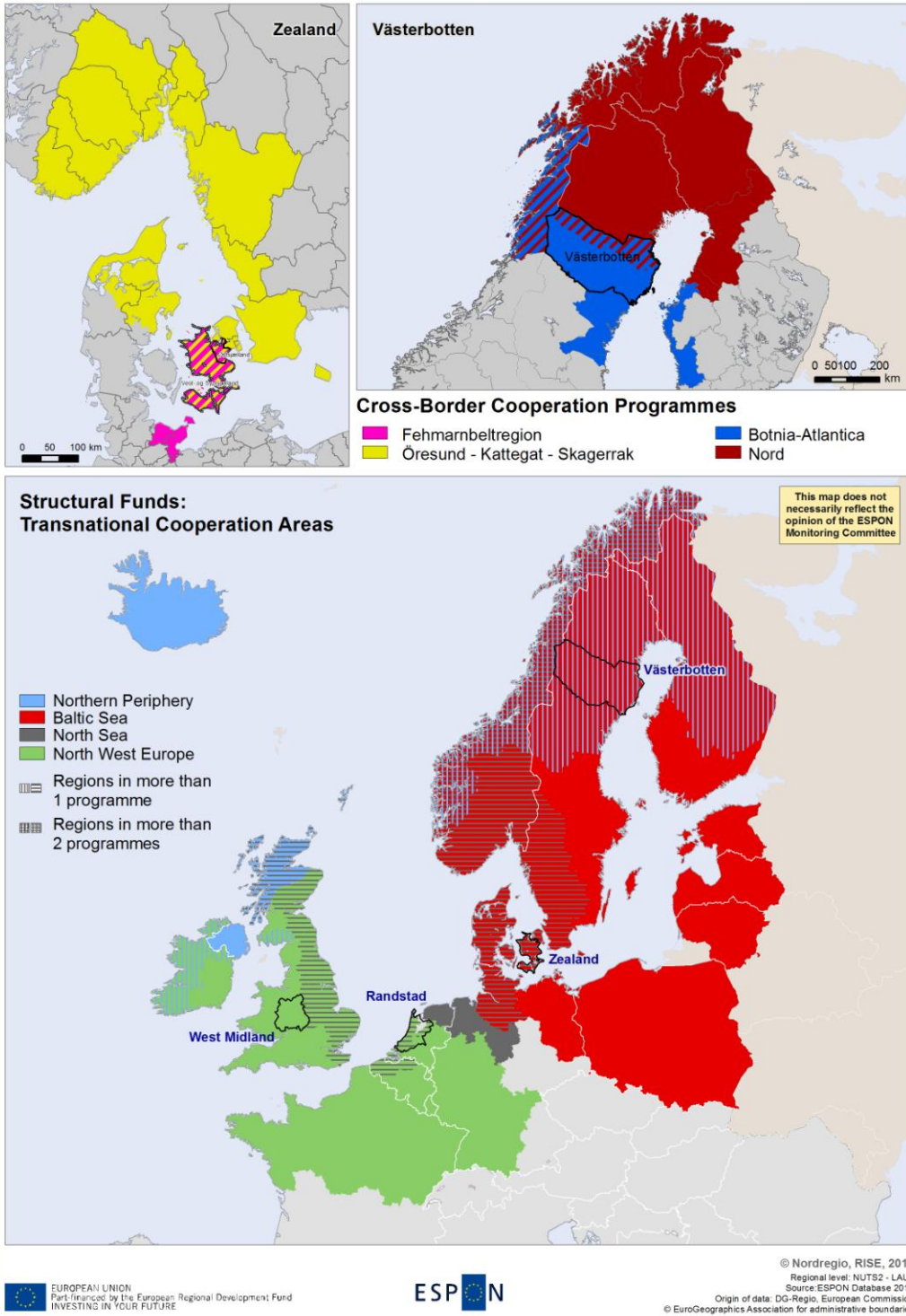
- Convergence Regions*
- Phasing-out Regions
- Phasing-in Regions
- Competitiveness and Employment Regions

* with a GDP/head below 75% of the EU average



Map 3. Structural funds 2007-2013, Convergence and Regional Competitiveness and Employment Objective. (Source: EU Cohesion Policy 1988-2008: Investing In Europe's future, InfoRegio Panorama, No 26, June 2008)

RISE - Regions eligible for funding from the ERDF 2007-2013



Map 4. RISE – Regions eligible for funding from the ERDF 2007-2013.

RISE Regions in the EU system

Birmingham – West Midlands

Regarding EU Cohesion policy and the programme period 2000-2006, West Midlands was mainly benefiting under objective 2 of ERDF. However, the structure was scattered throughout region, where different parts of the region was eligible for funding within the framework of objective 2, phasing-out objective 2 and phasing-out objective 2 (partly).¹¹ Since the restructuring of the cohesion fund and introduction of the new programme period 2007-13, all West Midlands regions (NUTS) falls under 2nd objective Regional Competiveness and Employment. In comparison with previous programme period, all regions are integrated under the same framework called as the Operational Programme of West Midlands.¹²

The overarching purpose of the Operational Programme is to increase the economic productivity of the West Midlands region, to reduce unemployment and inequalities while ensuring sustainable regional economic growth. The programme has in total five priority axis:

- Promoting innovation and research;
- Stimulating Enterprise Development;
- Achieving Sustainable Urban Development;
- Developing inter-regional activity; and
- Technical Assistance.

The total budget of the programme is €800 million, of which EU contributes with approximately €400 million.

Within the framework of the third objective, Transnational Territorial Cooperation Programme, West Midlands is only involved in the north “North West Europe”. North West Europe programme involves Community support for 93 NUTS II areas in the participating countries. The Programme affects a population of about 180 million people (2003) living in the eligible area of 845 000 km² and covers all regions within West Midlands region. The main objective of the Operational Programme is to capitalise on the cooperation between key actors and to address territorial issues across the North West Europe area. The Programme seeks to contribute to the economic competitiveness of the region, thereby equally promoting regionally balanced and sustainable development.¹³

In terms of the TEN-T policy, illustrated in map 5, West Midlands is involved in a number of strategic infrastructure development projects. Birmingham is involved priority project 13, “Road axis United Kingdom/Ireland/Benelux”,

¹¹ European Structural Fund in the United Kingdom (2000-2006), European Commission (2004)

¹² Operational Programme – West Midlands

¹³ Operational Programme – North West Europe

where the overall objective is to connect the northern and southern parts of the United Kingdom. The purpose of the project is to construct new roads and upgrade existing motorway, expressway as well as dual and single carriageway standards along the transport axis. Some stretches of the route are planned to be equipped with traffic management systems. Another project (project 26) was developed on the basis on project 13. One of the main aims of the project is to develop the connections between West Midlands and the port of Felixstowe. The goal is to facilitate the movement of international traffic by rail between the port and West Midlands region. All activities should complete by 2020.

Randstad

Traditionally ERDF funding has not been that significant for Randstad region and during the previous programme period, 2000-2006, West Netherlands was eligible for funding within the framework of the Objective 2 programme - "Urban Areas in Netherlands". The programme covered 11 zones in 9 cities, including the "big four" in the Randstad region. The province of Flevoland was the only region to be included under objective 1 in the previous programme period, with phasing-out support.¹⁴

Since the introduction of the latest programme in 2007 the Randstad region and West Netherlands are included under the second objective, Regional Competitiveness and Employment. The main steering document, The Operational Programme of West Netherlands, is structured according to four prioritised areas:¹⁵

- Priority 1: Knowledge and economy;
- Priority 2: Attractive Regions;
- Priority 3: The Urban Dimension; and
- Priority 4: Technical Assistance.

During the period 2007-2013, the European Union will be contributing with approximately 3 billion Euros, which will further be supplemented by national funds on a similar scale. About one third of the funding will be directed to the four big cities in region.

Within the framework of the Territorial Cooperation objective two programmes are operationalized in the territory of Randstad. The most southern part of Randstad Region is involved in the "INTERREG Grensregio Vlaanderen-Nederland 2007-2013". The programme is the fourth one in a consecutive series of cross-border co-operation programmes between the two countries within the framework of the INTERREG Community Initiatives for the periods 1990-93, 1994-99 and 2000-06. The overall objective of the Programme is to

¹⁴ European Structural Funds (2000-2006) Netherlands), European Commission (2004)

¹⁵ Operational Programme - West Netherlands

develop of a strong and sustainable region by supporting cross-border initiatives in a number of fields.¹⁶

The province of Zuid-Holland is to engage in the Cross-border Co-operation Operational Programme “Two Seas”, between Belgium, France, the Netherlands and United Kingdom for the period 2007-13. The programme's overall aim is to develop the competitiveness and the sustainable growth potential of maritime and non-maritime issues through the establishment and development of partnerships for cross-border co-operation.¹⁷

Randstad and West Midland have both been integrated into the Transnational Territorial Cooperation Programme “North West Europe”.¹⁸

When looking into the TEN-T policy, the Randstad region is obviously situated in the heart of European Transportation Network and is naturally involved with several EU funded projects. For example the so called Betuwe Line (pp5) was finished in 2008 within the framework of the TEN-T policy. It is a 160 km long double track rail line which connects the Port of Rotterdam to the Dutch-German border at the level of Zevenaar (Netherlands) and Emmerich (Germany). At the moment, an extension of this project of is realized through priority project (PP) 24 Railway axis Lyon/Genova-Basel-Duisburg-Rotterdam-Antwerpen, which aims to strengthen the freight and railway axis through the five of EU member states (the Netherlands, Belgium, Germany, France and Italy) and transits through Switzerland.

Waterborne transport cities in Randstad are situated along the important Waterway Axis Rhine/Meuse-Main-Danube (PP18) which crosses Europe transversally from the North Sea at Rotterdam to the Black Sea in Romania. The Meuse and the Rhine rivers are the entrance gates for the Belgian and Dutch inland waterways to this transport corridor, linking the northern ports of Rotterdam and Antwerp, but also offering a connection towards the Seine-Northern Europe Canal.

Zealand

Concerning the period of 2000-2006, only the most southern and rural parts of Zealand were eligible for funding the second objective, meanwhile the northern parts were not. Under the current ERDF programme, Region Zealand as a whole is eligible for EU funding under the second objective. In contrast to other RISE regions, Zealand do not have its own Operational Programme, due to that Denmark was one NUTS 2 region when the programme was drafted. Instead the national Operational Programme “Innovation and Knowledge” covers all five NUTS 2 regions in Denmark and therefore there will be five operational programmes in the upcoming

¹⁶ Operational Programme – Belgium-Netherlands

¹⁷ Operational Programme – Two Seas

¹⁸ Operational Programme – North West Europe

programme period, beyond 2013. The main objective of strategy is to promote growth by stimulating so called “growth drivers”:

- Human Resources;
- Innovation;
- Use of technology; and
- Entrepreneurship.

EU is contributing with approximately €250 million of the total budget which is 500 million. Peripheral areas will receive, as in previous programme period, one third of the total budget.¹⁹

Under the European Territorial Cooperation Objective Region Zealand is involved in the cross-border cooperation programme “Denmark-Germany” with the objective to turn the Baltic Sea Region space into a functional maritime region, thereby improving the attractiveness and the economic position of the Programme area along the Hamburg-Copenhagen/Malmö axis.²⁰ Another interrelated programme is the Øresund – Kattegat- Skagerrak with the aim to further strengthen the cross-border cooperation throughout the whole programme area. The Øresund region remains to be an important part of the cooperation area, but a broader geographical region is emphasized in the latest programme.

Seen from the perspective of Zealand integration in the Baltic Sea Region, the region is involved in number of INTTEREG projects, including South Baltic and Baltic Sea Region. Concerning the South Baltic programme, Zealand can only take part in the projects as adjacent areas, receiving a maximum 20% of the ERDF funding allocated to the Programme. In connection with West Midlands and Randstad, Zealand is involved in the transnational programme North Sea Region.

In terms of the TEN-T policy Region Zealand is involved in one important priority axis project, the Railway axis Femern-Belt. This axis, an extension of the Øresund fixed link (PP11) and the Nordic Triangle road and rail links (PP12), is a key component in the main north-south route between central Europe and the Nordic countries. It involves the construction of a bridge or a tunnel in order to form a fixed road and rail link, spanning the 19 km wide Fehmarn Strait between Germany and Denmark. It also includes improvements to related rail links in Denmark and Germany. After the completion of the project, the travel time between Copenhagen and Hamburg will be reduced by approximately one hour and travel times for freight transport will be reduced by two hours.²¹

¹⁹ Operational Programme – Denmark. Innovation and Knowledge

²⁰ Operational Programme – Denmark-Germany

²¹ TEN-T project – priority project 20

Västerbotten

The EU Structural Funds have been influential in shaping the current regional policy of Sweden. The regional categories established by the EC in 1995 (“Objective 6” for regions with extremely low population density) were utilized for regions in Sweden as well as Finland (OECD, 2010).²²

The focus of the regional development in Västerbotten is guided by the Regional Development Programme for the Västerbotten County, 2007-2013. Regional development strategy of Västerbotten has placed emphasis on the ERDF and its programmes and aims to stimulate sustainable growth. The strategy has been revised based on the communication between Region Västerbotten as coordinator body and local actors as well as other regional actors in Västerbotten County. The strategy sets out concrete proposals to develop sectoral programs together with infrastructure plans, cultural programs, public health care strategies as well as local development plans.

During the 2007–2013 period, North Sweden has been granted 242.6 million Euro by the ERDF to support long-term sustainable growth which is to be supplemented by national public co-financing. The growth areas that will be supported by programme funding are:

- Testing and training, security and vulnerability;
- Creative industries, experiences and tourism;
- Energy and environmental technology;
- Basic industry – technology and service development;
- Information, communication technology and services; and
- Biotechnology

In contrast to programme period 2000-2006, all Swedish regions, including Västerbotten region are eligible under Objective 2. As mentioned above, Region Västerbotten is defined as a region with geographical specifics and as a sparsely populated area which makes it eligible for specific funding in line with Objective 6.²³

Under the European Territorial Cooperation Objective, Region Västerbotten engaged in two cross-border cooperation programmes; “North” and Bothnia-Atlantica. In the Operational Programme “North”, Region Västerbotten cooperates with the regions of Lappi, Pohjois-Pohjanmaa and Keski-Pohjanmaa in Finland and Norrbottens län and participating regions in Norway such as Finnmarks fylke, Troms fylke and Nordlands fylke (Map 4). The main objective of the programme is to strengthen the competitiveness and cohesion of the region. The programme does not cover the whole territory of Västerbotten and the remaining part of the region of Västerbottens County in Sweden can participate in the projects as an adjacent area, receiving a maximum 20% of the ERDF funding. The total budget of the Programme is

²² OECD Territorial Reviews: Sweden (2010) Directorate for Public Governance and Territorial Development, OECD

²³ OECD Territorial Reviews: Sweden (2010) Directorate for Public Governance and Territorial Development, OECD

approximately €57 million and includes Community funding through the European Regional Development Fund (ERDF) of €34 million.²⁴

The Bothnica-Atlantica programme covers beside Region Västerbotten, Keski-Pohjanmaa, Pohjanmaa and Satakunta in Finland, and Västernorrlands län and a small part of Gävleborgs län in Sweden. The participating region in Norway is Nordland fylke. The total budget of the Programme is approximately €61 million and includes Community assistance through the European Regional Development Fund (ERDF) of €30.5 million. The main aim is to strengthen the east-west dimension and contribute to increased integration and cooperation for stronger economic growth and sustainable development throughout the programme area.²⁵

Comparison

When summarising the RISE regions in the EU system, it should be mentioned that there are relatively limited thematic differences between the Operational Programmes, due to the fact that all regions fall under the 2nd objective. The rather fragmented structure of ERDF between 2000-2006 changed into a more cohesive structure since 2007. Region Västerbotten, West Midlands and Zealand have seen some changes in the structure of the programme. For example Region Västerbotten has move from convergence region under objective 2, into the Competiveness and Employment Objective. Although, Region Västerbotten is still eligible for specific funding due to its definition as a sparsely populated area. Meanwhile Randstad region move from not be included under ERDF funding into to be eligible under the Competiveness and Employment objective.

Concerning the Operational programmes the main priorities in all RISE regions addresses the main objectives of Lisbon and Gothenburg agenda; employment, innovation and sustainable economic growth. However some differences can be seen due to the regions different prerequisites, such urban and rural characteristic. West Midlands and Randstad region address urban development as a priority area for development, meanwhile Zealand and Västerbotten are emphasizing on the use of technology and information.

Region -	Priority objective	European Territorial Cooperation	TEN-T Project
West Midlands	Competiveness' and Employment objective - OP West Midlands	North West Europe	Road axis United Kingdom/Ireland/Benelux, Rail/Road axis Ireland/United Kingdom/continental Europe
Randstad	Competiveness' and Employment objective – Operational Programme of	“Belgium-Netherlands”, “Two Seas”, North West Europe, North	Railway axis Femern-Belt. (PP11) Nordic Triangle road and rail links (PP12)

²⁴ Operational Programme North Sweden

²⁵ Operational Programme Bothnica-Atlantica

	West Netherlands	Sea Region	
Zealand	Competiveness' and Employment objective -	Danmark-Germany, South Baltic, "Öresund - Kattegatt - Skagerrak" North Sea Region,	Betuwe Line (pp5) (PP) 24 Railway axis Lyon/Genova-Basel-Duisburg-Rotterdam
Västerbotten	Competiveness' and Employment objective - Operational Programme North Sweden	North, Bothnia-Atlantica Northern Periphery, Baltic Sea Region Programme	No TEN-T project at the moment

Table 1. Example of EU programmes in RISE regions

Physical structure and Accessibility dynamics

Physical structure Corine Land Cover data

The Corine Land Cover data can be used to illustrate settlement morphological zones and the physical character of urban and rural areas in Europe.²⁶ In contrast with fixed typologies, the Corine Land Cover (CLC) data (2006) can provide more detailed physical and geographical characteristic of the European regions. CLC is mapping the European environmental landscape based on number of satellite images and can be used as an analytical tool for, supplying statistics about land use or the development of land use and management in a specific area.

In this case, the land cover is seen as physical cover, which is transformed into five land cover classes; (1) Artificial surfaces (2) Agricultural (3) Forest and semi-natural areas (4) Wetlands (5) Water Bodies. These five main classes also include several subclasses with more in-depth physical description. For full legend and overview of all the subclasses of CLC, please see annex II.

Concerning the land cover changes on a European scale, the overall land-change rate been slowed since 1990s, and the land-change rate has decreased between 2000 and 2006 in comparison 1990-2000. However, the trend of land-use specialisation (urbanisation, agricultural intensification and abandonment, natural afforestation) still is very strong. According to the latest land cover changes review from European Environmental Agency this trend is expected to continue in the future. Furthermore, there have been differences between land-use classes. The artificial surfaces have increased most between 2000-2006 (3,4 %). The creation of new artificial land was also higher than the creation agricultural land, and the share of water surfaces increased, mainly due to the creation of artificial lakes and water reservoirs.²⁷

In terms differences between the European countries there are some considerable variations. Portugal, Cyprus, Hungary, the Czech Republic, Ireland, Finland, Sweden (forest conversion) and Spain (agricultural transitions) have all seen the highest density of land-cover change between 2000-2006.

RISE Region	Artificial surface	Agricultural areas	Forest and semi-natural areas	Wetlands	Water bodies
EU27	3.5 %	42.1	49.5	2.3	2.6
West-Midlands	No data available	-	-	-	-
Randstad	18.6 %	50.4 %	7.8 %	4.4 %	18.6 %
Zealand	7.7 %	78,7 %	10.9 %	1.4 %	1.2 %
Västerbotten	0.3 %	1.7 %	77.3 %	8.4 %	12.2 %

Table 2: Corine Land Cover 2006 (Source: European Environmental Agency, Land accounts data viewer 2000-2006)

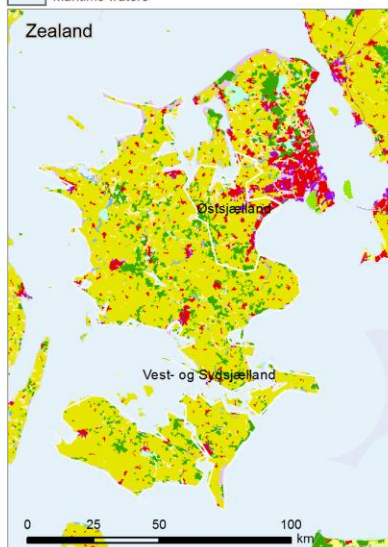
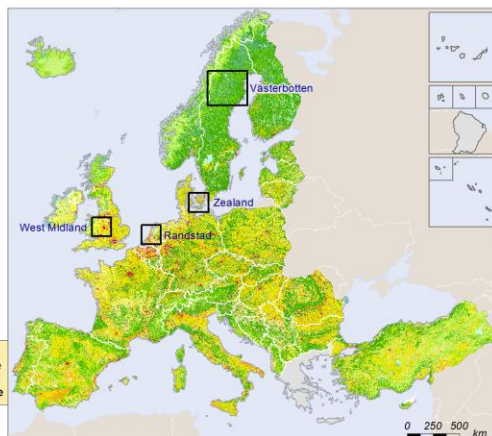
²⁶ Loibl, W. Köstle M & Steinnocher, K (2008) Quantitative classification of the major European rural-urban regions; theoretical background and typology, p.41

²⁷ The European Environment – State and outlook 2010 Land Use (SOER 2010), European Environment Agency,

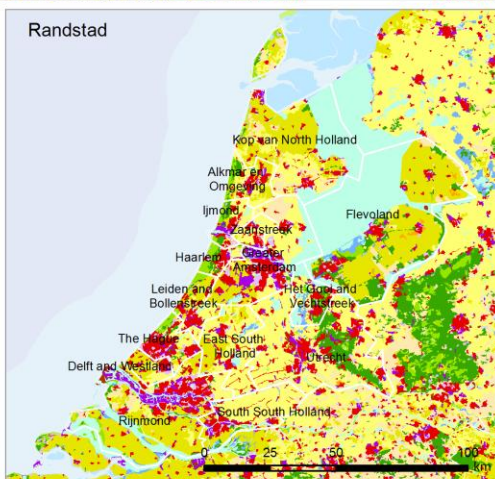
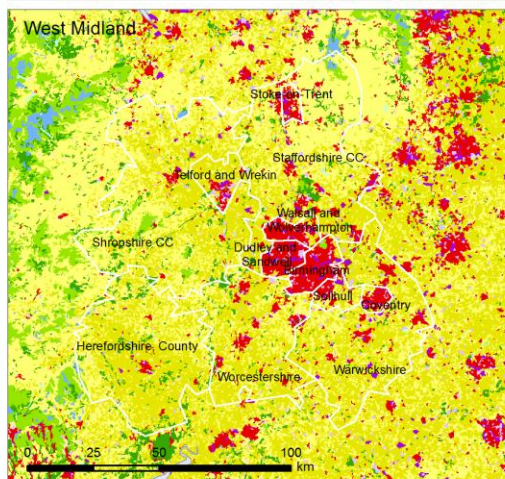
Land Use in the RISE Case Study Regions

Land Use after CORINE Land Cover

- Urban fabric
- Industrial, commercial and transport
- Mine, dump and construction
- Artificial, non-agricultural vegetated areas
- Arable land
- Permanent crops
- Pastures
- Heterogenous agricultural areas
- Forests
- Scrub and/or herbaceous
- Open spaces with little/no vegetation
- Inland wetland
- Maritime wetland
- Inland waters
- Maritime waters



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



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Regional level: NUTS2/NUTS3
Source: ESPON Database 2013
Origin of data: GISCO, NSIs
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Map 6. Corine Land Cover in case-study regions in 2006 .

Urban-rural dynamics and regional typologies

In order to understand the physical structure of the RISE regions, it is important to clarify how the concept of urban, peri-urban and rural are perceived. Three different approaches are used in the following chapter or that purpose, namely the concept of polycentricity based on the ESPON 1.1.1 and ESPON FOCI projects, the OECD and EuroStat's concept of Rural-Urban typologies and the FP7 project PLURELs periurban typologies.

Polycentricity is one of the key concepts coined by the European Spatial Development Perspective (ESDP) in 1999, and later on by the Territorial Agenda 2007 and the Territorial Agenda 2020, to frame strategic planning at the transnational level. It is defined as an established type of an operating governance regime with various governance modes and mechanisms that occur when the urban system is dominated by several cities operating on different scales. Conversely, a monocentric structure indicates a territorial structure which is oriented towards one single centre.

Polycentricity includes two basic perspectives; the morphological and the functional. The morphological can be related to the distribution of urban areas in a given territory, such as number of cities, hierarchy and distribution. The functional and more normative aspect relates to interconnections between the urban areas, in the forms of networks of flows and co-operation.²⁸ As stated in ESPON project 1.1.1, polycentricity involves “promoting the balanced and multiscale types of urban networks that are most beneficial from a social and economic point of view, both from the core areas and the peripheries”. Polycentricity is, in this sense, a key policy aim within the ESPD framework to reduce regional disparities and create a more balanced regional development in order to increase the competitiveness of European regions.²⁹

One important feature in polycentricity is the question of spatial scale and within the ESPON framework, the polycentric structure has mainly been analysed through four levels; European (macro level), interregional (meso level), intra-regional (micro) and finally intra-urban scale.³⁰

As emphasized in ESPON 1.1.1, polycentricity is closely interrelated with the concepts of *Functional Urban Areas* (FUAs) and *Metropolitan European Growth Areas* (MEGA). Functional Urban Area is normally based on the urban core and the area surrounding it that is economically integrated with the centre. Often this is defined according to labour market area. The definition across Europe varies and some countries are using different methodologies, such as commuter catchment area or travel to work area. However, the basis for FUAs typology in an ESPON framework is “Countries with more than 10 million inhabitants, is defined as having an urban core of at least 15,000 inhabitants and over 50,000 in total population. For smaller countries, a FUA

²⁸ ESPON 1.1.1 Potentials for polycentric development in Europe (2006) p. 3

²⁹ ESPON 1.1.1 Potentials for polycentric development in Europe (2006) p. 3

³⁰ ESPON Interim Report FOCI (2009) p. 169

should have an urban core of at least 15,000 inhabitants and more than 0.5% of the national population, as well as having functions of national or regional importance". Initially 1588 FUAs were identified with more than 20,000 inhabitants in ESPON 1.1.1. London, Paris and Madrid are among the largest with more than 5 million inhabitants. In addition to this, there are 44 FUAs with 1-5 million inhabitants.

MEGAs are often referred as the strongest FUAs, which are defined according to population size (min. 500 000 inhabitant), and a number of ranking functions, such as transportation, manufacturing, higher education and decision making.³¹

Morphological Urban Areas (MUAs) developed in ESPON 1.4.3. (*Urban Functions*) are in contrast to FUA by not being defined as cities or cluster of cities. Instead they are defined as continuously urbanised areas characterized by high population density, where the administrative delimitation is not taken into account.³²

Map 3 illustrates urban structure of Europe, including the densest parts of central Europe from United Kingdom, Netherlands, Belgium, Western Germany, Northern France, Czech Republic, Southern Poland, Slovakia and Hungary. It also shows that northern and southern parts of these areas have less dense urban systems, such as in the Nordic countries and Baltic countries as well as parts of Spain, Portugal, Greece, Bulgaria and Romania.

Rural-Urban typologies

In relation to concepts discussed above, a number of regional typologies have been developed in order to compare European regions on NUTS level. For example OECD and European Commission together with Eurostat have elaborated rather similar typologies by categorizing European regions according to Urban-Rural typology.³³ More lately, a revised version of Urban-Rural typology has been presented in the paper *Regional typologies: a compilation* (Dijkstra, I & Poelman, H, 2011). This typology combines the new Urban-Rural Typology presented by European Commission and Eurostat in the recent 5th report on social, economic and territorial cohesion with the extended OECD regional typology.³⁴ The Urban-Rural typology, including the OECD regional typology of remoteness, classifies the European regions by population density and population distribution. This generates in total five categories for European regions (See map 4):

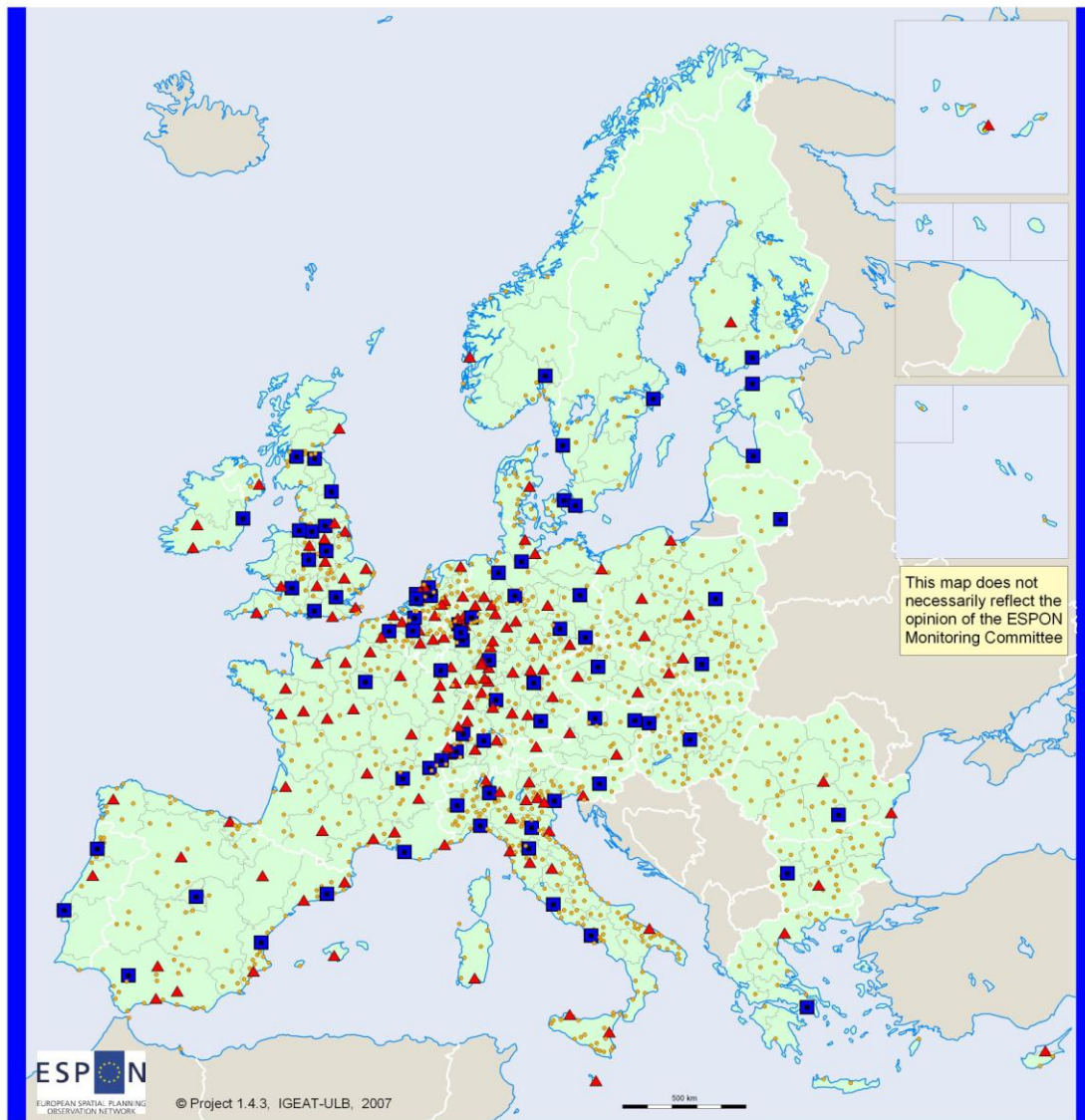
³¹ ESPON 1.1.1 Potentials for polycentric development in Europe (2006), p. 24

³² ESPON project 1.4.3 - Study on Urban Functions, Final Report (2007) p. 17

³³ Eurostat Regional Yearbook (2010) p. 240, 5th report on social, economic and territorial cohesion, European Commission (2010) p. 96;

³⁴ Dijkstra, L & Ruiz, V (2010) Refinement of the OECD regional typology: Economic Performance of Remote Rural Regions, DG Regio, European Commission - OECD

Typology of Functional Urban Areas (FUAs)



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Origin of data: EU 27, CC's and CH, NO : Eurostat,
National Statistical Offices.

- Metropolitan European Growth Areas (MEGAs)
- ▲ Transnational / national FUAs
- Regional / local FUAs

Map 7. Typology of Functional Urban Areas (Source: ESPON 1.1.1 Potentials for polycentric development in Europe)

- 1) Predominantly urban regions;
- 2) Intermediate regions, close to city;
- 3) Intermediate, remote regions;
- 4) Predominantly rural regions, close to city;
- 5) Predominantly rural regions, remote regions.

The revised Urban-Rural typology is mainly based on three steps; first step is to identify rural area population, classify the NUTS region and finally adjust these in line with the presence of cities. The second step of regional classification of NUTS 3 regions is based on share of population in rural areas. See ANNEX III for extended descriptions of Urban-Rural methodology.

However, one regional typology that can be seen as an extension of FUA is the concept of “Rural-Urban Region” (RUR). This regional typology was developed in WP6 project PLUREL³⁵, with the main focus to address the problems of urban expansion and highlight one of the most important challenges, namely urban sprawl. In this context urban areas are constantly extending their influence into rural areas and creating a continuous urban space. The process of metropolisation and deindustrialisation profoundly changes the condition and relations between urban and rural areas. The rural and urban are no longer separated territories.³⁶

In this sense, RUR typology is trying to capture the condition between urban and rural by introducing the concept of peri-urban areas. The peri-urban area in PLUREL is defined as “dynamic transition zone between the denser urban core and the rural hinterland, including lower density discontinuous urban fabric and a mix of residential, commercial, and leisure-related land uses”.³⁷

In this context, the RUR typology strives to integrate spatial cluster of three regional subsystems including the urban core, the peri-urban and the rural hinterland. In other words, urban area including a peri-urban area can be seen as a *Functional Urban Area* while peri-urban area and rural hinterland can be seen as *Rural Urban Region*.³⁸

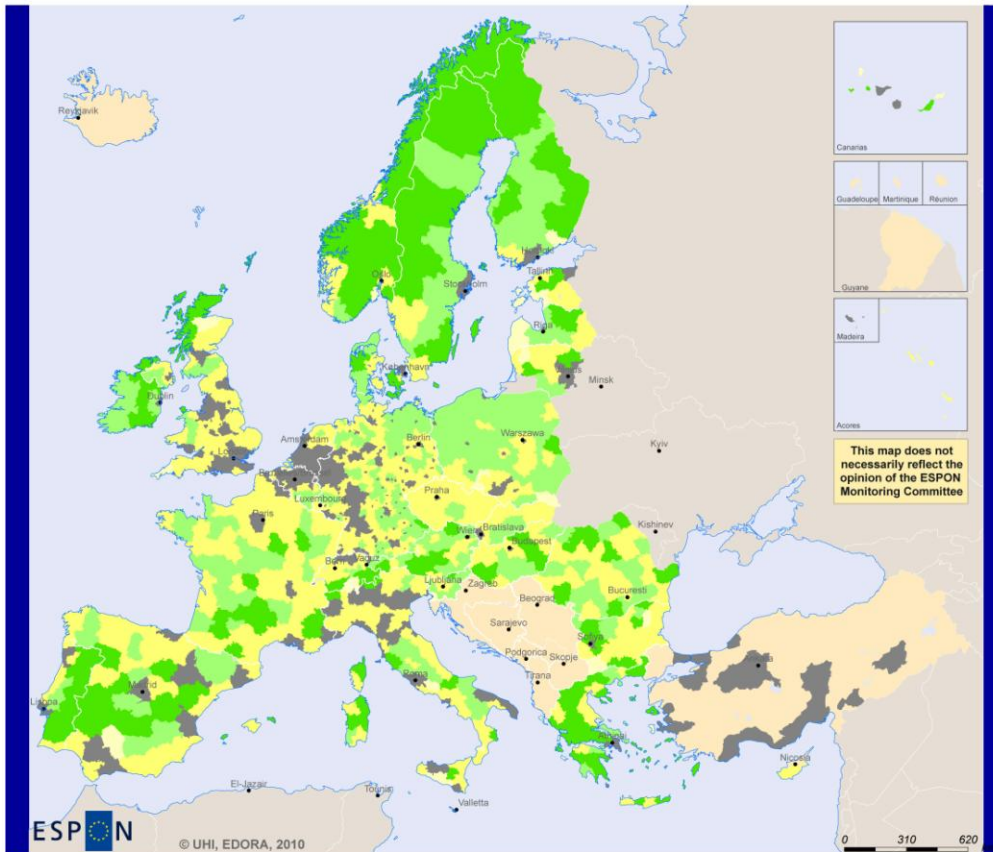
³⁵ PLUREL: Peri-urban Land Use Relationships – Strategies and Sustainability Assessment Tools for Urban – Rural Linkages Plurel is a large research project funded within the 7th Research Framework Programme of the European Union. 31 partner organisations from 14 European countries and China participate in the project. It is led by the University of Copenhagen. The project started in 2007 and terminated in 2010.

³⁶ Piorr, A. Ravetz, J & Tosics, I (ED) (2011) Peri-Urbanisation in Europe – Towards European Policies to Sustain Urban-Rural Futures, PLUREL synthesis report. 44

³⁷ Piorr, A. Ravetz, J & Tosics, I (ED) (2011) Peri-Urbanisation in Europe – Towards European Policies to Sustain Urban-Rural Futures, PLUREL synthesis report p.25

³⁸ Piorr, A. Ravetz, J & Tosics, I (ED) (2011) Peri-Urbanisation in Europe – Towards European Policies to Sustain Urban-Rural Futures, PLUREL synthesis report p.25

Dijkstra-Poelman Typology of Rurality



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Regional level: NUTS 3
Source: EDORA Database, 2010
Origin of data: Eurostat REGIO Database, and other sources, various years (centred on 2006).
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Urban-Rural Types (NUTS 3 Regions)

- No Data
- Predominantly Urban
- Intermediate Close to a City
- Intermediate Remote
- Predominantly Rural Close to a City
- Predominantly Remote

Map 8: Dijkstra-Poelman Typology of Rurality - Urban-rural typology of NUTS 3 regions, including remoteness (Source: ESPON)

Birmingham – West Midlands

Concerning Land Cover patterns, there is unfortunately not any data in 2006 and the data from 2000 is not compiled at NUTS 2/3 level. However the basic land coverage pattern in 2000 can be seen in Map 4. It is visualizing the urban-rural structure, relatively strong artificial land use in Birmingham metropolitan area and its peri-urban development and more rural parts to West of Birmingham. This is as well confirmed by relatively high share of peri-urbanised areas (30-50 %).

Birmingham West Midlands is in the RUR typology defined as urban polycentric region (+metropolitan), indicating that the region is primarily characterized by urban settlements with polycentric structure. When comparing and analysing this typology with the ESPON 1.1.1 framework of FUAs, the main dominant centre is the Metropolitan region of Birmingham. The city is defined as MEGA region has approximately 3.6 million inhabitants. In addition to this, West-Midlands can be divided into seven different FUAs, including FUAs of Birmingham, Wolverhampton, Coventry, Warwick, Dudley, Cannock, and Kidderminster. As indicated by the population's figures Wolverhampton, Dudley and Coventry can be seen as FUAs of national and regional importance.

When comparing RUR typology with Urban-Rural Typology developed by OECD/European Commission, the different NUTS 3 region within West Midlands is covering all three levels; rural, intermediate and predominantly urban. The only NUTS 3 region within West Midlands which is defined as predominantly rural is Herefordshire. The region extends into more rural areas in the south west wing of West Midlands. The NUTS 3 regions defined as intermediate are more explicitly Worcestershire, Warwickshire, Shropshire, Telford and Wrekin.

Randstad

When looking into the Corine land cover data, 18.6 % is artificial land use which is relatively low in comparison with the extended urban development. CLC is also indicating that the region has relatively high share of agricultural land (50.4 %). As illustrated in Map 6, the red colour indicates the larger urban development areas and the main settlements. Map 6 also illustrates the four metropolises; Amsterdam, Den Haag, Rotterdam and Utrecht.

The Randstad region is classified as urban polycentric (+metropolitan) according to the RUR-typology, which is in line with the definition ESPON 1.4.3 (Urban Function). The metropolitan region of Amsterdam stands out as a key node in the regional, national and European urban system³⁹ and four different polycentric sub-systems of importance can be identified within the Randstad, including the four metropolises of Randstad Holland North (Amsterdam), Randstad Holland South (Rotterdam), Randstad Holland West (Den Haag) and Randstad Holland East (Utrecht). In this case the Randstad

³⁹ ESPON 1.4.2 - Study on Urban Functions, Final report (2007), p.84

Region is one of Europe's most urbanised and most densely populated regions which hold around 44 % the Netherlands population.

As Urban-Rural typology, most of the NUTS 3 regions of the Randstad are defined as predominantly urban. The only sub-region that stands out is Flevoland which is situated to North East wing of the Randstad North and the Randstad East and is defined as an intermediate region, yet close to a city. However, as shown in data from the PLUREL project, Flevoland is one of most peri-urbanized regions in Europe, where almost 74 % of the land is defined as peri-urban. Similar patterns are as well seen in Utrecht (72 %).⁴⁰

Zealand

Zealand is defined as “deep rural” according to RUR-typology, indicating a physical structure characterised by small and medium sized towns and a relatively disperse settlement pattern. The Corine Land Cover map illustrates the dominant rural landscape, covering almost 80 % of the regions territory. Meanwhile, only 7.7 % is defined as artificial landscape confirming the moderately low level of urban development within the Region. The map also shows that the southern parts of Zealand are dominated by a more rural landscape and less urban development compared with northern parts. The Urban-Rural typology classifies East Zealand as predominantly rural, but close to a city while South Zealand is defined as predominantly rural.

Referring to ESPON 1.1.1, Region Zealand has a rather dispersed settlement structure and the region lacks larger FUAs. However, two of the larger centres, Roskilde and Koge are integrated in the FUA of Copenhagen. Otherwise, the regions' urban structure is characterized by a number of medium sized FUAs, including Holbaekpop, Slagelse, Neastved and one smaller FUA region, Nykøping Falster located in the South Zealand.⁴¹ In this context it is important to highlight the proximity and the functional integration of Region Zealand's cities into the FUA of Copenhagen (1 881 000 pop).

Västerbotten

In terms of Corine Land Cover, the dominant rural landscape is visible. Forest and semi-natural land is almost covering 80 % of the regional territory. In contrast, only 0.3 % is defined as artificial land. The larger urban areas are located in the coastal areas, where Umeå and Skellefteå are the major settlements areas. Due to relatively low level of artificial land, the share of peri-urbanised areas is defined as 0-5 %. However we have to keep in mind that the size of NUTS 3 area is among the largest in Europe, which extends almost 60 000 km² which is almost six times larger than Randstad region (12 000 km²).

⁴⁰ Piorr, A. Ravetz, J & Tosics, I (ED) (2011) Peri-Urbanisation in Europe – Towards European Policies to Sustain Urban-Rural Futures, PLUREL synthesis report 40

⁴¹ ESPON 1.4.3 Final Report (2007) p. 39-40

Västerbotten region is in a European context situated in the peripheral parts of Europe and within the framework of Green Paper of Territorial Cohesion. Västerbotten is defined as sparsely populated NUTS 3 region, with less than 12.5 inhabitants per km².⁴² Not surprisingly, the region is defined as “deep rural” in RUR typology with dispersed settlement structures while larger urban settlements areas are few which are mainly located along the Bothnian Sea coast. This includes the largest urban areas, Umeå and Skellefteå which are defined as FUAs in the ESPON 1.1.1 framework. Umeå is considered as a medium-sized FUA with population of approximately 137 000 inhabitants. Skellefteå is in smaller FUAs and hold a population of 77 000 inhabitants.⁴³

Accessibility in RISE regions

Accessibility is an essential indicator when it comes to the comparison of European regions and their development possibilities. Particularly, transport infrastructure and transport patterns are key elements while assessing the attractiveness of the regions. Transport infrastructure constitutes an important policy issue at the EU-level.⁴⁴

However, the standardised accessibility model of ESPON measures the minimum travel time between NUTS 3 regions for rail, road and air separately. These three means of transport are integrated into one indicator measuring the multimodal accessibility, illustrating the combined effects of these modes of transport for each NUTS 3 region in Europe.⁴⁵ The potential accessibility of a NUTS 3 region is calculated by summing up the population in all other European regions, weighted by travel time to arrive there.⁴⁶ Multimodal accessibility is presented in Map 9.

An overall trend is that the regions in the EU is getting more accessible and in EU27 the multimodal accessibility increased by 8,7 % in the period 2001-2006. During the same period, different modes of transportation; rail, air and road accessibility increased with 13,1%, 7,8% and 7,4% respectively as well.⁴⁷

Normally, regions situated in central Europe shows higher values of multimodal accessibility than semi-peripheral and peripheral regions.⁴⁸ This could be related to the fact that the main transportation hubs and hotspots are located within them. This includes leading European regions, such as Frankfurt, Dusseldorf, Brussels, London, Paris and Amsterdam situated in Randstad Region. The highest index can be found in German regions, such as Frankfurt (211) and in Dutch regions such as Zaanstreek and Agglomeratie Haarlem. The lowest values are shown from Eastern Europe including Romanian regions Harghita (22,7) and Neamt (23,16). Other less accessible region can also be found in regions in Greece and Estonia (Map 9).

⁴² Green Paper on Territorial Cohesion

⁴³ ESPON 1.4.3 Final report (2007)

⁴⁴ White Paper Transport – Roadmap to a single European transport area (2011) p. 1

⁴⁵ Trends in Dynamics in Europe – Trends in Accessibility (2009) p. 7

⁴⁶ First ESPON synthesis report – New evidence on Smart, Sustainable, and Inclusive Territories (2010) p. 40

⁴⁷ Trends in Dynamics in Europe – Trends in Accessibility (2009) Territorial Observation No. 2, November 2009, p. 5

⁴⁸ ESPON ATLAS – Mapping the structure of the European Territory (2006) p. 36-37

The concept of multimodal accessibility maps does not illustrate the territorial dynamics and in order to illustrate the regions' challenges and potentials, it is fruitful to compare accessibility with economic performance. This indicator can be an interesting element in revealing whether the regions have exploited their geographical potential or not. In this case, the economic performance is measured by GDP per Capita which is compared with the previously presented indicator; Multimodal Accessibility.

Naturally, there is no coherent picture and high multimodal accessibility is not always corresponding with strong economic performance. As shown in map 9, the index values are not homogenous in Europe. The yellow and red colours indicate that GDP index is higher than accessibility index. In total, about one third of the ESPON space (EU27 + 4) is above the EU27 + 4 average in both GDP and multimodal accessibility. These regions are mainly located within the European Pentagon and larger urban agglomerations. Several German regions, London and Paris are among top. Other regions that underperform according to this index are regions in central Spain and Eastern European regions.⁴⁹

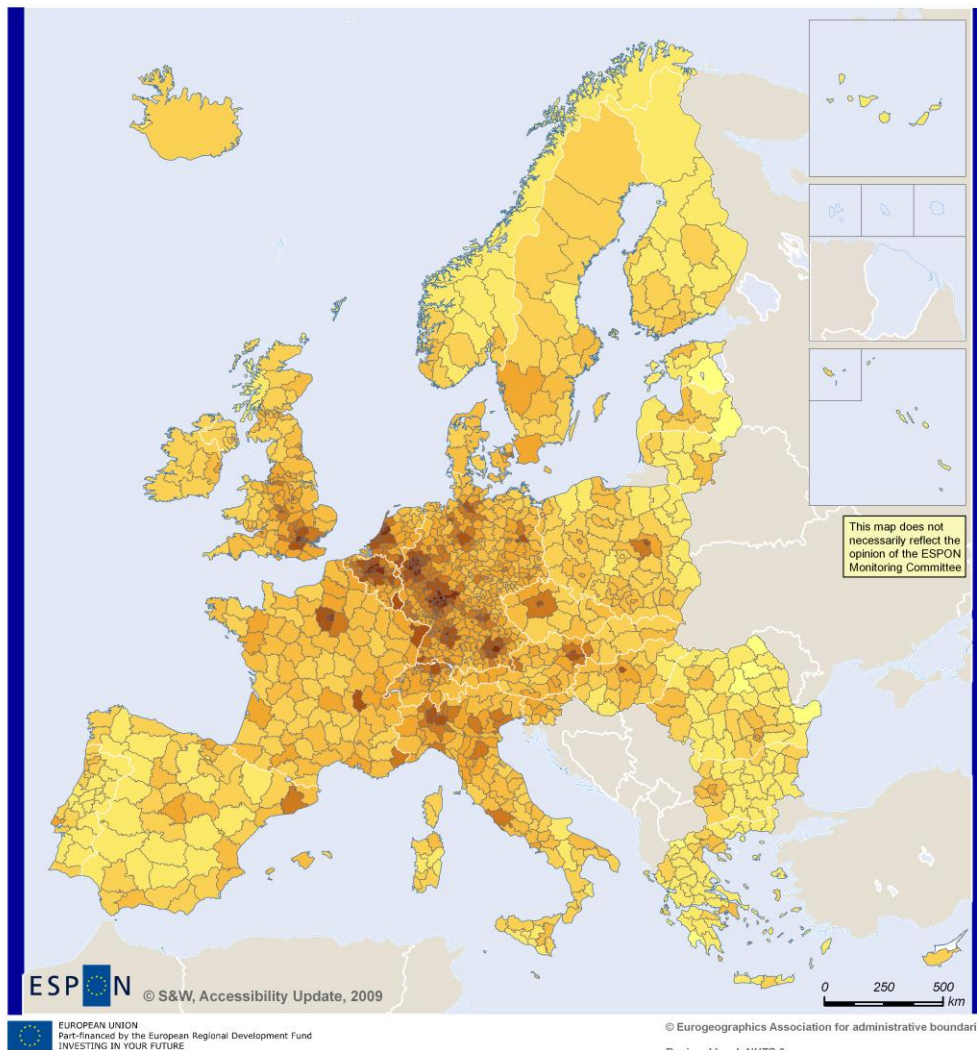
The Nordic countries together with several regions in Switzerland perform well over the EU27 +4 index (EU27 +4 index =100), which reveals that location is not a crucial factor for strong economic development.⁵⁰

Case-study regions	Multimodal potential accessibility, 2006 (EU +4 average = 100)	Multimodal potential accessibility, relative change 2001-2006	GDP-PPS per Capita, 2006 (EU + 4 average =100)
Birmingham West Midlands	122,7 (mean value, NUTS 3 combined)	4,85	108,4 (Mean value)
Randstad	159, 6 (mean value, NUTS 3 combined)	3,9	130,3 (Mean value)
Zealand	100,6 (mean value, NUTS 3 combined)	4,2	98,1 (Mean value)
Västerbotten	58,1	6,6	113,7

Table 3: Multimodal potential accessibility and economic performance in RISE Regions (Source: ©ESPON 2006 – Accessibility data)

⁴⁹ First ESPON synthesis report – New evidence on Smart, Sustainable, and Inclusive Territories (2010) p. 40

⁵⁰ ESPON project 1.2.1 Transport services and networks – territorial trends and supply– Final report (2004) p. 397, and ESPON ATLAS – Mapping the structure of the European Territory (2006) p. 37

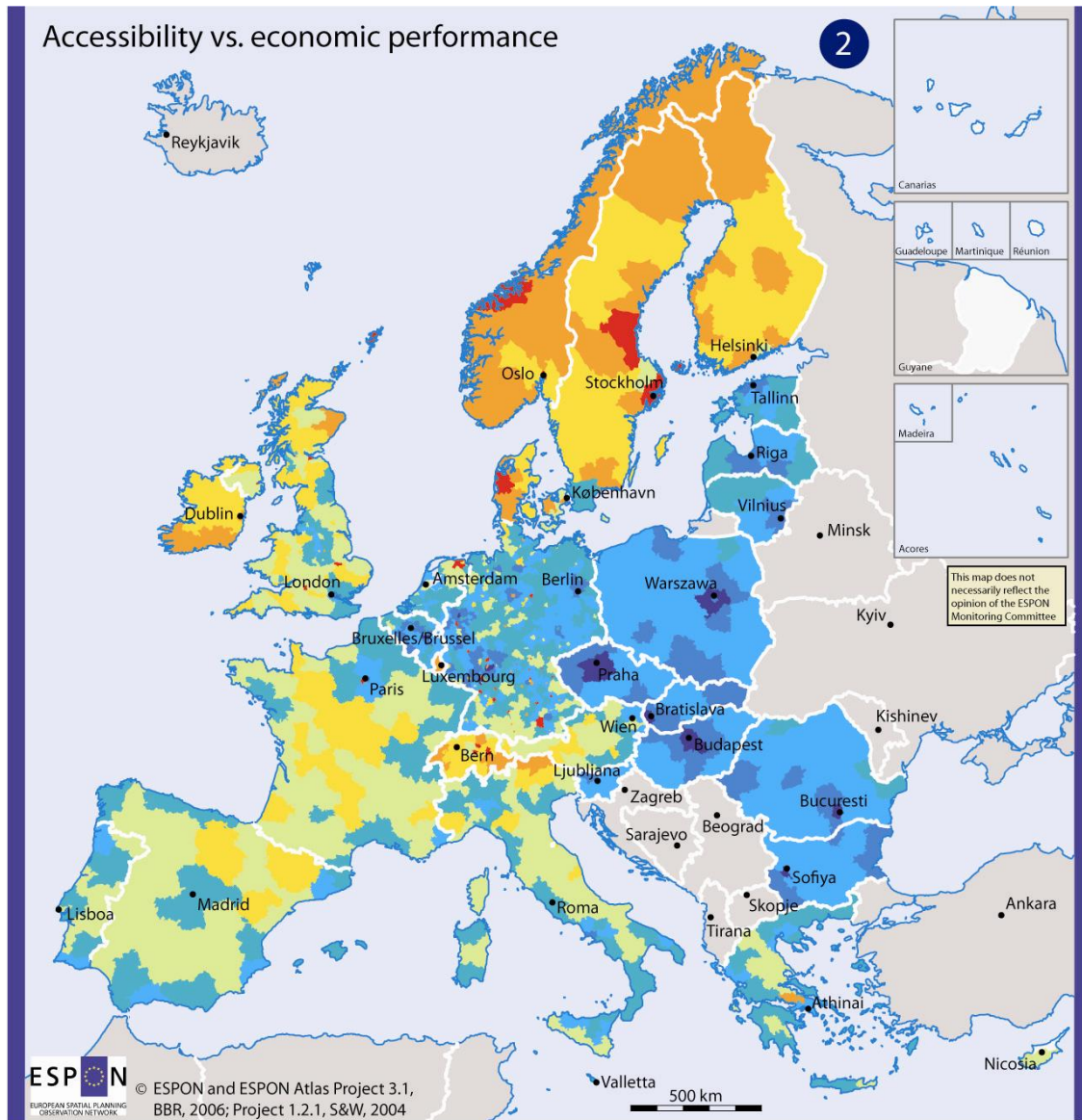


Potential accessibility, multimodal

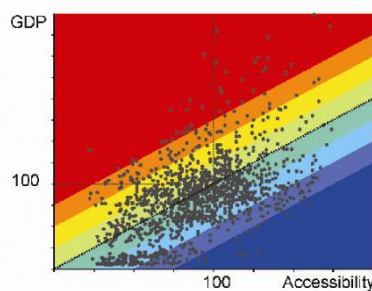
2006, ESPON = 100

- ... - 25,0
- 25,1 - 50,0
- 50,1 - 75,0
- 75,1 - 100,0
- 100,1 - 121,9
- 122,0 - 141,4
- 141,5 - 166,1
- 166,2 - 200,0
- 200,1 - ...

Map 9: Multimodal potential accessibility, 2006. (Source: Trends in Dynamics in Europe – Trends in Accessibility, Territorial Observation No. 2, November 2009)



Relation of economic performance and location



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Regional level: NUTS 3
Origin of data: ESPON Project 1.2.1
Source: ESPON database

Map 10: Accessibility vs. economic performance (Source: ESPON Atlas project 3.1 BBR2006)

This map shows Multimodal accessibility in relation to economic performance (The EU27 + 4 average = 100)

Birmingham – West Midlands

Birmingham West Midlands region performs slightly over EU27 +4 average in multimodal accessibility. The accessibility has increased between 2001 and 2006, but below European average (8,7 % - EU27 + 4).

Regarding economic development in relation to accessibility, the region is performing below the EU27 + 4 average (= 100). The economic development is relatively weak in relation to the moderate level of accessibility. Birmingham West-Midlands is also showing differences within the region, where the core of Birmingham region naturally shows the highest level multimodal accessibility as well as economic performance.

Randstad

The Randstad Region has one of the highest values in multimodal accessibility in Europe. Due to its location, the region scores far above EU27 +4 average (= 100). However some differences can be seen within the Randstad Region and a breakdown into NUTS 3 regions illustrates a more heterogeneous picture. The lowest value is shown in the administrative unit of Flevoland (126,4) and highest in North Holland (172,7), including cities such as Amsterdam and Haarlem. In the latter case, the accessibility to Schiphol international airport and other multimodal transport nodes have a significant effect on the high index value.

When it comes to Economic performance in relation to multimodal accessibility, the Randstad region belongs to that third of the EU27 +4 that scores above the average both in GDP per capita and multimodal accessibility.⁵¹ However, when breaking down the Randstad into sub regions it shows a more diverse pattern where Kop van Noord-Holland has the lowest score and Amsterdam has the highest.

Zealand

Region Zealand performs at the European average in relation to multimodal accessibility and has had a moderate increase in multimodal accessibility, relative change of 4.2% between 2001-2006. Concerning Economic performance in relation to multimodal accessibility, the region performs slightly over the European index (=100). West and South Zealand show lower values both in multimodal accessibility and economic performance in comparison with East Zealand. In this context, East Zealand's proximity to important transport nodes, such as the Copenhagen International Airport and Malmö Airport, has a positive effect on the higher economic performance.

Västerbotten

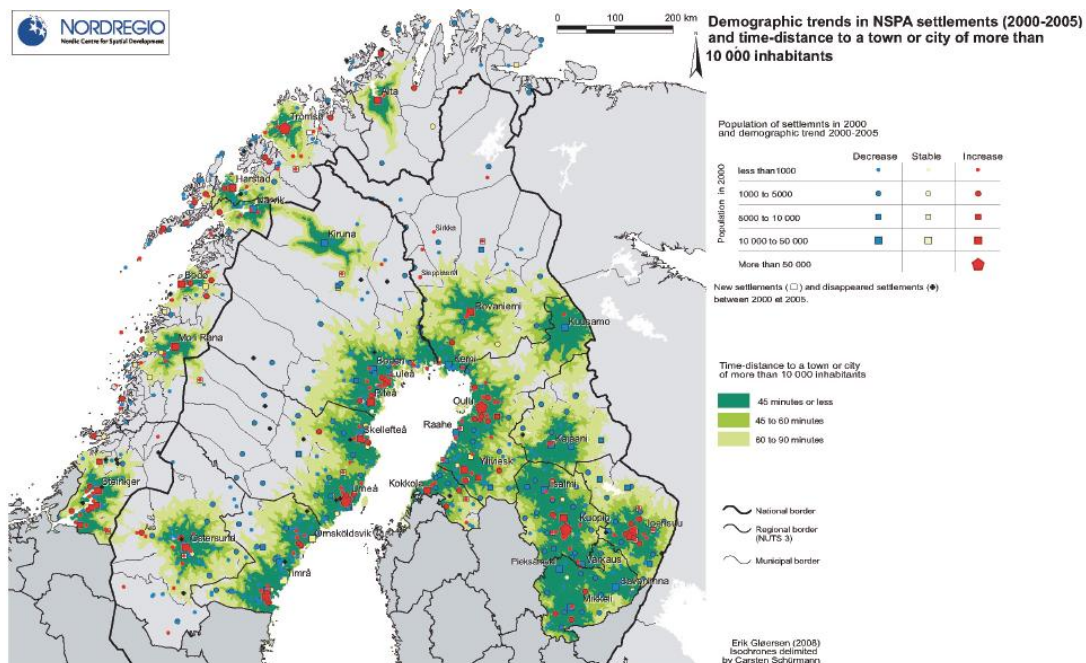
In a European perspective, Västerbotten region performs under the European average (EU27 +4) in multimodal accessibility. The low value is quite obviously connected to the lack of international airports and the peripheral location in the land based European transportation network. Umeå city is an

⁵¹ First ESPON 2013 Syntheses Report (2010) p. 40

important hub in a regional context and the city holds an airport of national importance, but it is only offering a limited number of international flights. However the region has, in comparison to RISE regions, the highest increase in multimodal accessibility, relative change of 6.6% between 2001-2006. In the recent years, there have been railway investments (E.g. Bothnian line) and investments in logistical functions including development of more main ports in Västerbotten.⁵²

As illustrated in map 9, Västerbotten region also performs high in the typology of economic performance vs. accessibility. Despite its location in the peripheral and the northern sparsely populated areas of Europe, the region performs well in economic growth and development. Peripheral and sparsely populated regions, such as Region Västerbotten, overcome their peripheral limitations by exploiting their potentials in ICT, research, education and environmental development, rather than on improving their accessibility to European core and other important global nodes.⁵³

However the multimodal accessibility indicator may not show the regional potential and dynamics in Region Västerbotten. Illustrated in the map below, the shifting of scale illustrates a better dynamics in the Västerbotten region than European indexes. Here, the map has been developed within Northern Sparsely Populated Areas (NSPA), which shows the combination of accessibility by road to population centres over 10 000 inhabitants in relation to demographic trends at the regional scale.⁵⁴



Map 11. Demographic trends in NSPA settlement (2000-2006) and time-distance to a town or city of more than 10 000 inhabitant (Source: Nordregio EWP 2009:3).

⁵² Transport Trends ESPON project 1.2.1 (2004), p. 397

⁵³ First ESPON 2013 Syntheses Report (2010) p. 40

⁵⁴ Damsgaard et al (2009) p. 45-46

Comparability – Physical Structure and accessibility

If we want to summarize and conclude the physical structure and accessibility of the RISE regions, it could easily be expressed that they show great territorial diversity. As previously stated, it is important to be aware of the different sizes of the regions and also that the delimitation of NUTS raises some implications when comparing the regions. However, it is fruitful to synthesize and describe similarities and differences in order to understand the geographical context of each case-study region and explore territorial diversity in this context.

RISE regions illustrate the diversity of European regions concerning physical conditions, ranging from polycentric urban regions to “deep rural” regions with less urban settlements structures, as in the case of Västerbotten. In contrast, on the other end of the scale we have one of the densest and most accessible regions in Europe, Randstad Region which includes four large polycentric metropolises. Additionally, we have Region Zeeland, showing another type of rural morphological pattern where the northern parts are characterized by small and medium sized cities in closer interaction with the metropolitan region of Copenhagen. Meanwhile, the southern part of Zeeland is more rural and less accessible. When it comes to Birmingham-West Midlands, the region demonstrates all levels in the rural-urban scale, ranging from metropolitan polycentric structures to more rural areas with dispersed settlement structures.

As exemplified in the discussion concerning urban sprawl and peri-urbanised areas, the problems with urban extension is located around central Europe and the already highly urbanised areas which can in this context be related to the cases of Birmingham and Randstad Region. However, it is also important to address the urban extension and its related problems in less urbanised areas, such as Region Västerbotten and Zeeland.

In terms of accessibility, the overall trend indicates that highest accessibility values can be seen in the core of Europe. In this case the Randstad region is among the top ranked in Multimodal accessibility, while on the other hand Region Västerbotten has relatively low accessibility values in a European comparison. However, there are obviously internal differences within the regions’ multimodal accessibility depending on accessibility to important functions and transportation hotspots. Naturally the highest accessibility is seen in metropolitan areas where main transport hubs are located.

To sum up, this section has demonstrated some initial comparison and conclusions concerning the physical structure in Europe and RISE regions. These four regions represent different characteristics with specific geographical conditions and they face different kinds of challenges.

Demographic dynamics

Demographic dynamics take place either through natural population change (the difference between live births and deaths) or change in migration flows (net migration and statistical adjustment); both of which are imperative to the EU policy agenda especially in the face of globalization. While globalization brings new opportunities and challenges, migration flows both from countries outside and within the EU have raised questions about sustainable integration. These flows have also increased the pressure on infrastructure for services in destination countries while the homelands are left behind with loss of skilled and educated labor force.

An important fact in demographic dynamics can be mentioned as the decline in working-age population and increase in the number of people beyond retirement age which will eventually bring many challenges for the economy as well as for the provision of social services. Demographic dynamics help us to understand the implications of age structure and why unemployment is high in certain regions inducing people to emigrate.

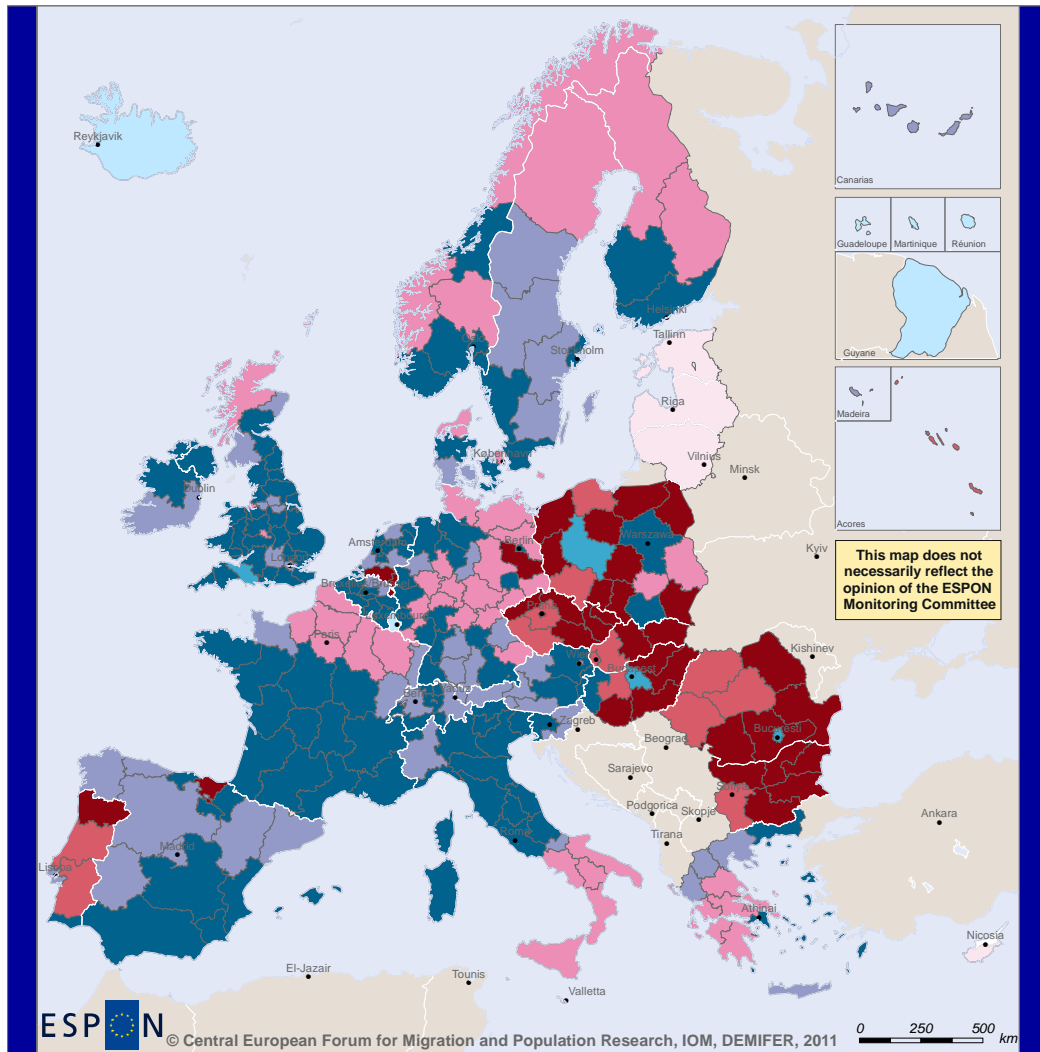
According to the results from DEMIFER project, more than one quarter of the NUTS2 regions have faced decline in the size of the working age population during the last decade. Among the countries where relatively many regions experience a decline in the working age population are the United Kingdom, Denmark and Sweden.

DEMIFER project builds on a fact that natural population development (the difference between births and deaths) has limited impact on population change. The main driver of the European population change is international *migration*.

On the other hand, all the Nordic countries gained on natural increase in 2007; whereas Netherlands and France were the only countries where the population increase was only a result of natural increase. In 2007, the Netherlands was the only Western European country with a negative international migration balance. In seven of the eight (mostly Eastern European) countries that reported a population decrease, the deficit was mainly caused by negative natural growth.

In this connection, the main demographic challenges can be mentioned as decreasing population growth and increasing proportions of the elderly. Ageing and declining populations influence regional labor markets, healthcare expenses and social security systems. Taking into account the proximity of Europe to some of the world's poorest and fastest growing populations, the demographic developments will continue to put a migration pressure on European territory.

Eurostat regional yearbook 2011 describes the regional pattern of demographic dynamics in 2008, at NUTS 3 level across the EU 27. However, due to data availability constraints, several demographic indicators were analyzed at NUTS 2 regional level.








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Regional level: NUTS 2
 Source: ESPON 2013 Database 2010
 Origin of data: Eurostat, NSIs, University of Leeds 2009, MIMOSA
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Internal and international migration balance in the NUTS2 Regions in 2005-2010





Positive Net Migration


-  Positive Internal and International Migration (121)
-  Positive Internal and Negative International Migration (4)
-  Negative Internal and Positive International Migration (54)
-  No Differentiation (6)

No differentiation between internal and international migration (Countries with only one NUTS2 region & French overseas regions)

(x) - number of regions per category

Negative Net Migration

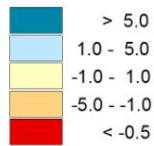
-  Positive Internal and Negative International Migration (14)
-  Negative Internal and Positive International Migration (46)
-  Negative Internal and International Migration (36)
-  No Differentiation (6)

 No data

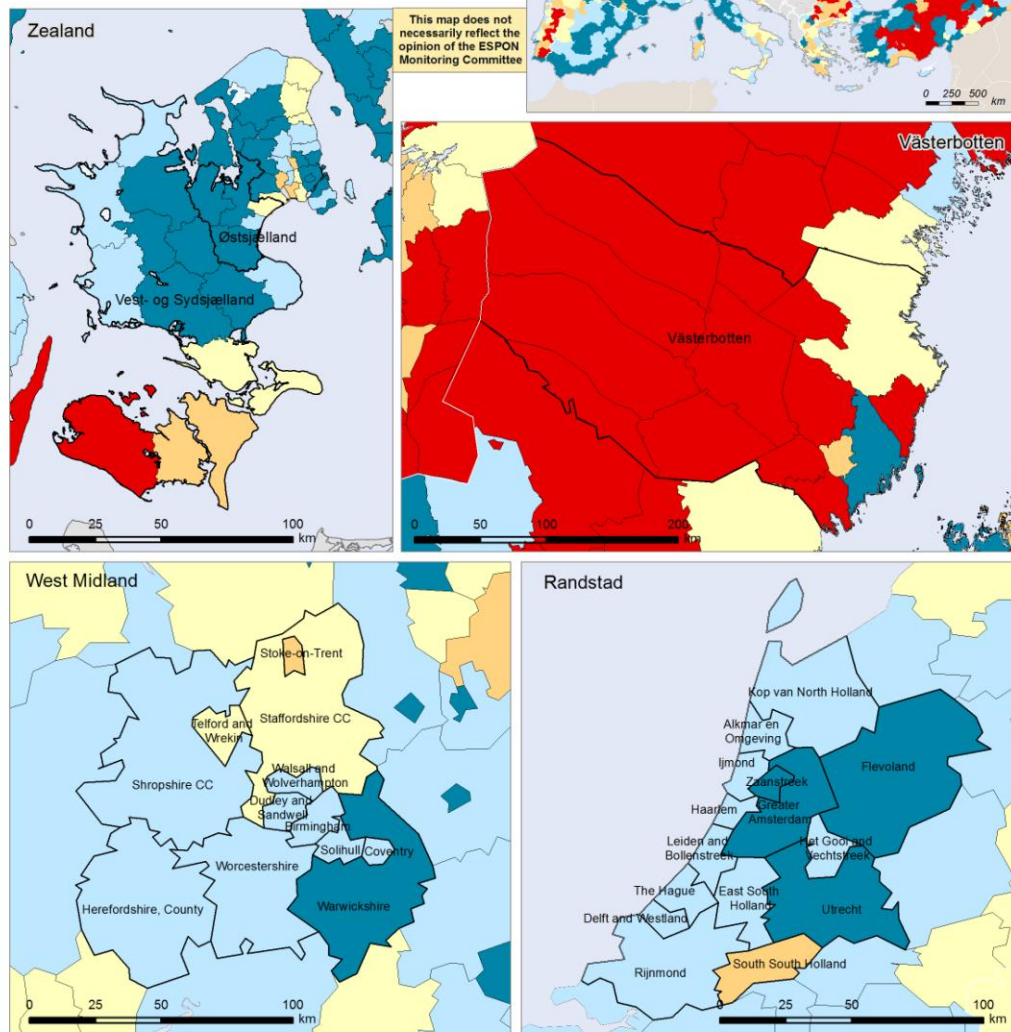
Map 1. Net migration by components, 2000-2007 (Source: DEMIFER)

Population Change in RISE - Case Study regions

Annual average population change, in %, in 2005-2010



Case study regions: Västerbotten and Zeeland on LAU2 level; Randstad and West Midland on NUTS3 level



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ESPON

© Nordregio, RISE, 2012
Regional level: NUTS3/LAU2
Source: ESPON Database 2013
Origin of data: GISCO, NSIs
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Map 14. Population change 2005-2009 in Rise – Case Study Regions.

Birmingham – West Midlands

The population of the West Midlands had a lower annual rate than England in 2009, according to the Office for National Statistics. With a population of 5.431 million, the region's population grew by 0.4 % (approx. 23,000) compared to 2008. Natural change was the most significant with growth of

20,000, whereas net migration accounted for 3.000 which were the lowest of any nation or region in the UK.

Within the West Midlands region, the most significant increases in population were recorded in Birmingham with 10,000 to 1.029 million. With an increase in population of 0.9% when compared to the figures in 2008, Birmingham recorded the highest rate of increase in the recent years (West Midlands Regional Observatory).

According to the results provided by the Office of National Statistics for the UK in 2008, the West Midlands population has been projected to grow by 5.2% between 2008 and 2018, compared to the projected growth of 7.4% for England in the same period. This indicates that the population growth rate in the West Midlands would remain below the growth rate for England in the current decade.

The UK's fertility rate is above the EU average and it is assumed that this will remain. Life expectancy is close to the EU average. These trends, combined with a significant level of immigration, will lead to a growing population and a much more favourable evolution of the old-age dependency ratio than for the EU as a whole. The UK population is projected to grow by 20% by 2050. Many children younger than 17 (17%), especially those with single parents, live in jobless households.

Randstad

The Netherlands is one of the most densely populated countries in the world and the Randstad has a 41.8% share of its national population. According to the OECD report⁵⁵, around 6.7 million people were living in the Randstad in 2005. The four large cities of the Randstad have the following share of its population as of 2007: Amsterdam (739 000 inhabitants), Rotterdam (596 000), The Hague (469 000) and Utrecht (275 000). The population of the Randstad is slightly younger than the rest of the Netherlands and also highly skilled and richer than that of the Netherlands as a whole.

Fertility in the Netherlands is at a relatively high level after having recovered from a much lower level in the 1980s. Life expectancy is above the EU average. Projections are based on the assumption that fertility will remain high and that life expectancy will grow slower than for the EU as a whole. These trends combined with significant immigration will result in a below-EU average old-age dependency ratio by 2050. The Dutch population is projected to grow by only a few percent until 2050.

Zealand

Denmark has currently one of the highest fertility rates in the EU while life expectancy for both men and women are below the EU average. The projected increase in the old-age dependency ratio is much smaller than for

⁵⁵ OECD Territorial reviews: Randstad Holland, Netherlands (2007), Directorate for Public Governance and Territorial Development, OECD, p. 30

the EU as a whole. Mainly due to the assumed immigration the Danish population is projected to grow by over 6% by 2050. The employment rate of older workers is also far above the EU average, but could still rise in the over-60 age group if health and disability issues as causes for early labour market exit can be tackled. There also appears to be scope for a better integration of third country nationals into labour markets and education systems.

The region of Zealand has a population of 818,000 which is approximately 14% of the total Danish population. ESPON DEMIFER report states the impact of the opening of the Öresund Bridge on working age population in the Öresund region. Early in 2010, approx. 2/3 of the population in the Öresund region was composed of working age people aged between 16-64 years; the share was a little less in Zealand.

Natural change is positive in the Danish regions including the capital Copenhagen where less than 1/7 of the residents is 65 years or older, but the change is negative in Region Zealand, where the population is older and foreigners are fewer. However, domestic immigration seems to have invested in the Zealand region, while the Hovedstaden region may have registered some population outflows towards Zealand (DEMIFER).

The Danish regions of the Öresund region appear to have benefited from the construction of the bridge, although at a smaller rate of population increase. There have not been substantial differences between the region of the capital city and Region Zealand, which is much less urbanized and registers a negative net migration.

Västerbotten

Sweden's population is approximately 9 million and almost more than half of this population is concentrated in the three major urban regions of Stockholm, Västra Götaland and Skåne. Population increase is limited, while the age structure development shows characteristics with a high percentage of older persons. Expected population increases is marked, and the share of the 65+ population group in particular is expected to become a major part of the population, leading to some of the questions related to the population ageing which has already been experienced in Denmark, as well as in Finland.

The total population in Västerbotten is close to 260 000 inhabitants; almost 3 % of the Swedish population. When looking to the spatial distribution of the population more than 80 % (205 000) of the total population lives in the coastal municipalities of Umeå (125 351) and Skellefteå (80 629). Sweden's fertility rate is above the EU average and this is expected to continue. Life expectancy is well above the EU average. This situation is assumed to prevail over the projection period. Combined with significant immigration, these trends will result in further population growth by near 8% in 2050. The increase in the old-age dependency ratio will be modest to a level below the EU average. In the crisis, many migrants in Sweden found themselves unemployed.

Comparability – Demographic dynamics

Demographic trends show common characteristics across the EU, but individual regions are affected in different ways. For instance, ageing and migration flows have stronger effects in some parts as in the case of Västerbotten and Region Zealand than others. Both regions are affected by an array of negative demographic phenomena: very low fertility rates, massive outward migration of young people (especially in Västerbotten), and the marked ageing of the remaining population. This trend will eventually increase the dependency ratio and thus health care will underpin economic pressure in Västerbotten and also other Northern regions in sparsely populated areas. On the other hand, UK is experiencing a constant population growth due to natural population increase and high figures of immigration whereas West Midlands is experiencing a growth only due to natural population increase with a negative migration rate. However it appears that unemployment will be an important consideration in the young households in West Midlands.

Many countries have a marked north-south divide whereas northern regions of Sweden and the UK tend to be better off in relation to the other regions respectively. The geographical location and the development of urban structures have great influences on the demographic dynamics.

All in all, the EU has one of the highest life expectancies in the world. The average age and the share of population of 65 and over are also among the highest in the world as a result. This has consequences for both health services and the labour force. An increase in the share of older people implies an increased demand for health and related social services. As the average age of the labor force increases and people continue in employment until later in life, the demand for re-training will increase as may the demand for more flexible working arrangements.

Economic dynamics

Introduction

Since the global economic downturn in 2008, most of the European Union countries, regions and cities have been struggling with major challenges in recovering and stabilizing their economies.⁵⁶ At European level, two strategy and policy documents have been adopted in order to handle the consequences of the economic downturn in 2008. The 5th report on economic, social and territorial cohesion, and the Europe 2020 strategy – A European strategy for smart, sustainable and inclusive growth, both launched in 2010, intend to outline the new European agenda where the Union aims to find a new path to recover the economic development. This is addressed in the First ESPON 2013 Synthesis Report; *New Evidence on Smart, Sustainable and Inclusive Territories* as well which highlights the importance of handling the territorial diversity across the European space. These documents and the relating data has been the source for analysing the RISE regions in economic development.

In order to understand the economic status of the RISE regions, a number of indicators have been used. GDP PPS per capita is a common indicator for comparing European regions and regional economic development. The regional unemployment is an important indicator for economic well-being and gives a good indication about the efficiency of the regional labour market and the regional competitiveness. It illustrates a mismatch between the skills available at and the actual needs of the labour market.⁵⁷

The data concerning economic development is rather fragmented. The most recent GDP PPS per capita does not cover the crisis in 2008 and the latest data available is from 2007 (NUTS3). Concerning the unemployment rates, more recent data are available from March 2010.

The regional economic consequences across Europe shows huge differences, where some regions have been struck very hard by economic downturn, others have managed to cope with the negative impacts. The most dynamic countries and regions such as Western Sweden, the south and parts of North-West of Germany and Styria, Upper Austria managed the economic crisis relatively well. Similar patterns are seen in North-east France which is characterized by an older industrial structure with narrow sectorial basis. Meanwhile, the regions with high proportion of economic activity in industrial and construction sectors like some industrial regions in Spain were hard hit by the economic downturn. However, other regions in Spain that are specialized in services were able to manage the economic decline in a better way. Other countries, such as Norwegian and Finnish regions specialized in mono-industry also faced economic problems. In UK, the financial service sector,

⁵⁶ Summary - Investing in Europe's future - 5th report on economic, social and territorial cohesion p. 7-8

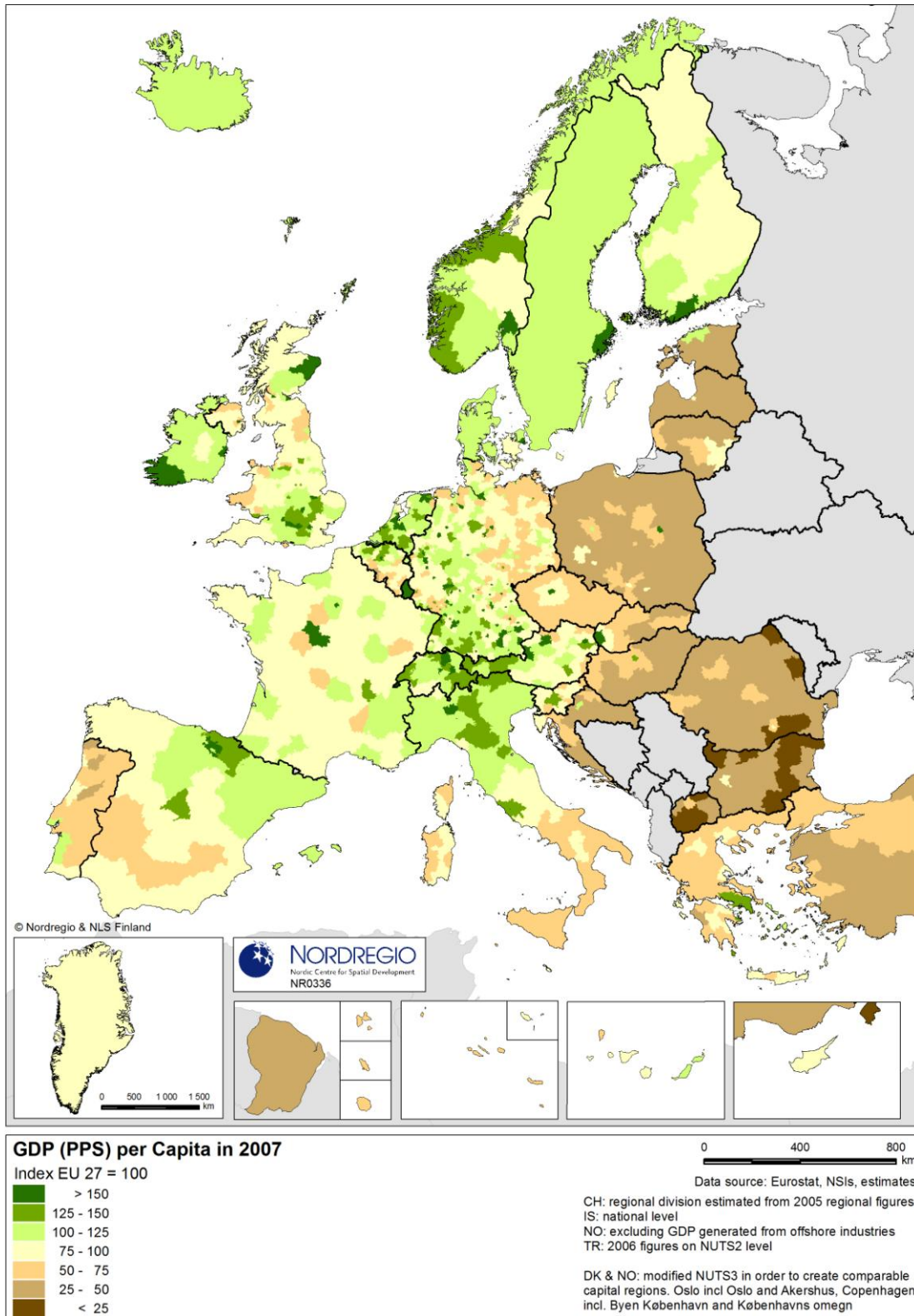
⁵⁷ ESPON ATLAS – Mapping the structure of the European Territory (2006) p. 18-19

located especially in London and South East, was strongly affected while West Midlands had problems related to the manufacturing industry.⁵⁸

The global and European economies are still facing a number of challenges and uncertainties about future economic development and the financial markets. So far during 2011, several European countries have had difficulties refinancing their debts and stabilising their economies, making the recovery process far more complicated.⁵⁹ For this reason the European regions still have grand challenges managing the world of uncertainties.

⁵⁸ Yuill, D. McMaster, I & Mirwaldt K (2010) Regional Policy under Crisis Conditions: Recent Regional Policy Developments in the EU and Norway, European Policy Research Paper , No 71, p.22

⁵⁹ Summary - Investing in Europe's future - 5th report on economic, social and territorial cohesion p. 7



Map 15. GDP (PPS) per Capita in 2007, (Source: Lindqvist, m, 2010, Regional Development in the Nordic Countries 2010, NORDREGIO report 2010:2)

RISE Region	GDP-PPS per Capita 2007, Nuts 1/2, European Average = 100	Disparities in RISE region Nuts 2/3	National Average
Birmingham – West Midlands	100	Herefordshire (101) Shropshire and Staffordshire (89) West Midlands (105)	United Kingdom 117
Zealand	91	No data 2007	Denmark 121
Randstad	143	Utrechts (155) Noord-Holland (150) Zuid-Holland (137) Flevoland (107)	Netherlands 132
Upper Norrland (Västerbotten, Norrbotten)	115	No data 2007	Sweden 123

Table 4. GDP-PPS per Capita in 2007 per NUTS 2/3 region and national average (Source: 5th report on social, economic and territorial cohesion, background data)

When looking into GDP per Capita data in 2007, the lowest performing regions are in countries like Romania, Bulgaria, Hungary and Poland. Top performing regions are London, Hamburg, Prag, Brussels as well as regions in Netherlands and the capital regions in the Nordic countries.

The latest data available on Nuts 3 level shows the situation before 2007 and does not reflect the situation and effects after the recent global economic downturn. Take also notice of the fact that the map 15 illustrates GDP PPS – on Nuts 2 level, which means that values for Region Västerbotten are not displayed.

Concerning the unemployment rate, it is partly affected by the global economic situation and partly by the structural changes at regional level. However, due to the economic crisis in 2008, the European unemployment rates increased quite rapidly from 7.3 % in 2008 to 8.2 % in 2009. In June 2010, the European average (EU27) reached 9.6 % and the latest figures indicate that rates are continuing to increase.⁶⁰

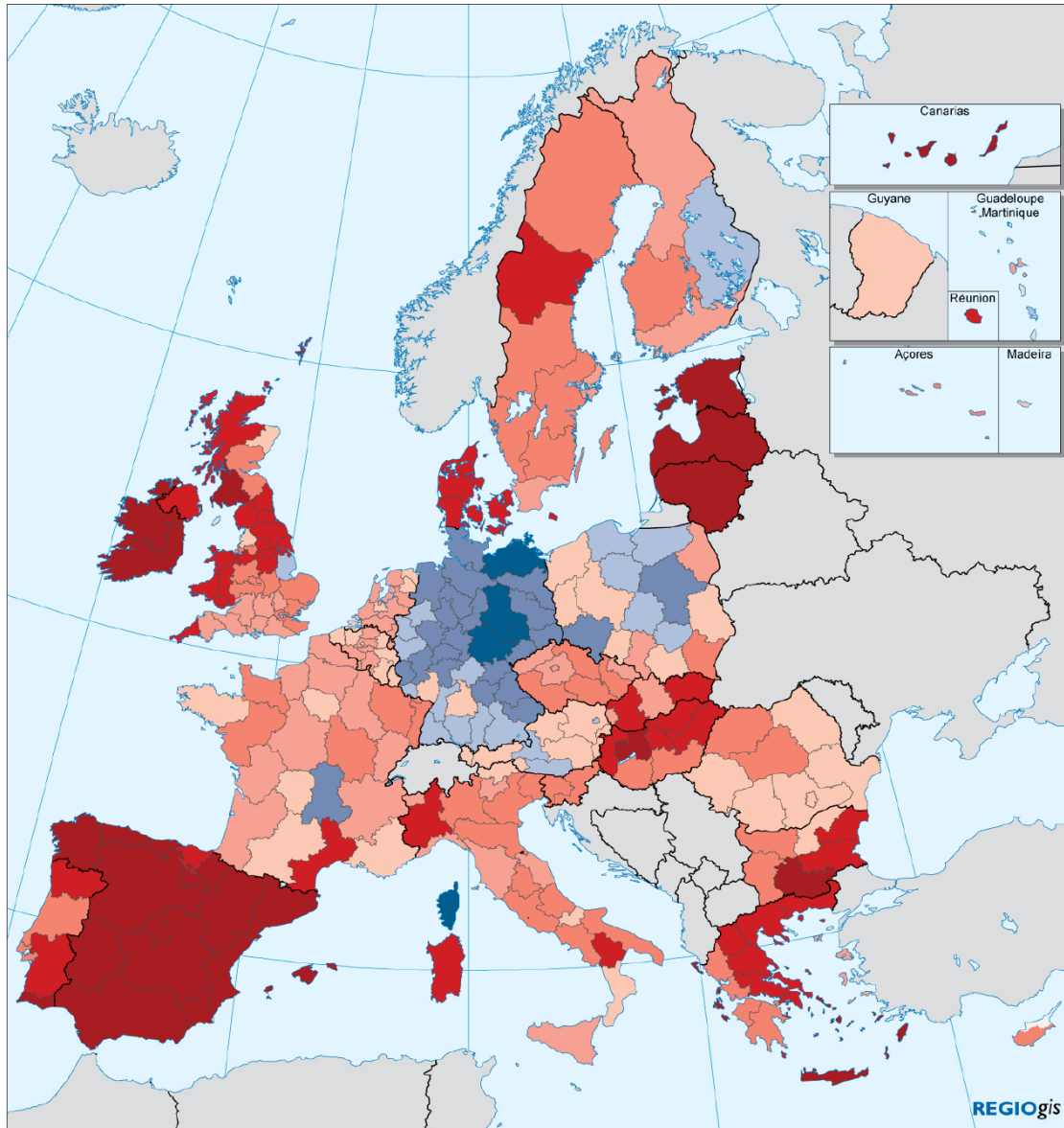
However in European perspective, the economic downturn in 2008 has had an uneven impact on the unemployment's rates across Europe. Higher unemployment rates are seen in eastern, southern and western parts of the European space. Moreover, one third of European regions (EU27) have an unemployment rate over 10 % and the unemployment rate has increased in 215 out of 271 nuts 2 regions between 2007-2010. The regions where the unemployment rate dropped down are mainly in regions in Germany, and as well some regions in France, Poland, Austria and United Kingdom.⁶¹

The rates have especially increased in the Baltic States and the Nordic countries as well as in Ireland, Iceland and Spain. Concerning the latter three, the strong growth and breakdown of the property markets had major impact. Eastern Europe has relatively high unemployment rate but there are some variation within countries and sub regions.⁶²

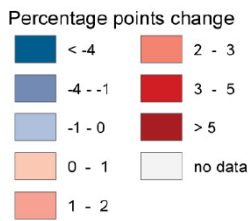
⁶⁰ Lindqvist, m (ED) (2010) Regional Development in the Nordic Countries 2010, NORDREGIO report 2010:2, p. 74

⁶¹ Bubbico, R-L & Dijkstra, Lewis (2011) Unemployment rates in Europe, 2010, Short note DG Regio

⁶² First ESPON synthesis report – New evidence on Smart, Sustainable, and Inclusive Territories (2010) p. 19-21



Change in unemployment rate, 2007-2010

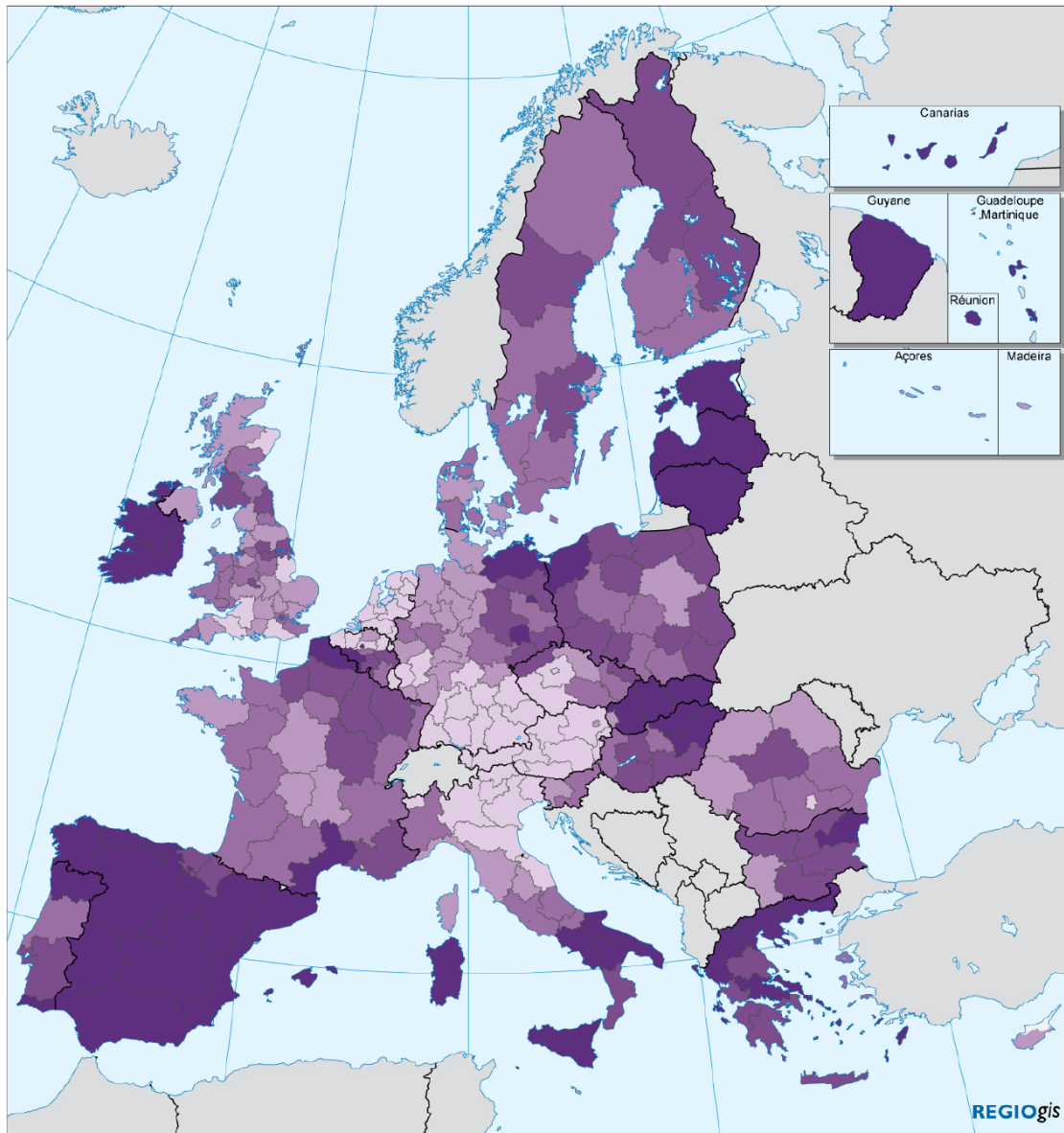


EU27 = 2.4
Source: Eurostat

0 500 Km

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Map 16. Change in unemployment rate 2007-2010 (Source: Bubbico, R-L & Dijkstra, Lewis (2011) Unemployment rate in European Regions, 2010, Short note, Regio.c.3)



Unemployment rate, 2010

% of labour force

- < 5.8
- 5.8 - 7.4
- 7.4 - 9.3
- 9.3 - 12.3
- >= 12.3

EU27 = 9.6
Source: Eurostat

0 500 Km

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Map 17. Unemployment rate, 2010, Source: Bubbico, R-L & Dijkstra, Lewis (2011) Unemployment rate in European Regions, 2010, Short note, Regio.c.3 (2011)

RISE Region - Unemployment rate % by NUTS 2 region	2007	2008	2009	2010
Birmingham – West Midlands:				
Herefordshire	3.9	4.2	6.4	6.4
Shropshire and Staffordshire	5.3	4.4	7.1	8.0
West Midlands	8.1	9.4	13.1	10.9
Zealand	3.5	3.2	5.5	6.7
Randstad:				
Utrecht	2.7	2.1	2.9	3.7
North Holland	2.9	2.6	3.1	4.2
South Holland	3.5	3.0	3.6	5.0
Flevoland	4.2	3.4	3.6	5.2
Upper Norrland (Västerbotten, Norrbotten)	6.8	6.6	8.9	9.2

Table 5. Unemployment rate % by NUTS 2 region (Source: EUROSTAT LFS Adjusted series – Database)

RISE Region in Unemployment rate % , in relation European average and national average	2007 (march)	2008	2009	2010, June
EU27	7.3	7.3	8.2	9.6
United Kingdom	5.5	5.2	6.6	7.9
Denmark	4.1	3.0	5.7	7.6
Netherlands	3.4	2.8	2.8	4.1
Sweden	6.6	5.8	8.0	8.7

Table 6. Unemployment rate in EU27 and the national average of RISE regions country between 2007-2010 (Source: ©EUROSTAT LFS Adjusted series – Database)

Birmingham – West Midlands

Concerning economic performance, West Midlands (Nuts 1) is just at level with the European average, but in comparison to UK average (115), the region is underperforming. When breaking down to NUTS 2 level, some internal disparities are seen, ranging from regions below the European average like Shropshire and Staffordshire (89) to regions slightly over European index like Birmingham (105).

The West Midlands region has a relatively higher level of unemployment compared with the other RISE regions. There are some differences within the NUTS 2 regions, with some being over the European average and some under. The consequences of the economic crisis are quite clearly reflected in the case of Birmingham region (Nuts 2), indicating a significant increase in unemployment rate, from 8.1 % in 2007 and up to 13.1% in 2009. However during 2010 the region rebounded slightly and the unemployment dropped down to 10.9 %. Concerning the other two NUTS 2 regions, both have unemployment rate below the European average.

Economic performance and unemployment rates are to some extent affected by the innovation performance and business structure of the Region. This is further address in Business and innovation chapter.

Randstad

The Randstad region is performing well over European average when it comes to GDP per Capita. In the breakdown to NUTS 2 level, it is indicated that almost all regions perform relatively well and over national average (132). The only region that stands out is Flevoland (107), which is performing slightly over European index (EU 27), but under national average.

In terms of unemployment rate all NUTS 2 regions show relatively low levels of unemployment rate both in a European context and in comparison with RISE regions. As in the case of Birmingham, the region's unemployment rate increased after the economic downturn. Although the substantial effect on the labour market doesn't seem to be as significant as is in Birmingham. There are some regional disparities within the Randstad region, where Utrecht shows lowest rate (3.7 %) and Flevoland the highest (5.2 %).

Zealand

Zealand is the only RISE region which performs both under the European average and the national average. When compared with other Danish regions, it has lowest index of all (91). The relatively weak economic performance is also shown in the development of the unemployment rate which was almost doubled between 2006 and 2010. In comparison with the other RISE regions, the data available on NUTS2 level does not show regional dynamics in the labour market between East, West and South Zealand.

Västerbotten

As described in the chapter physical structures and accessibility, Västerbotten performs over the European average in economic development, but when comparing data on national level, the region performs under the average. The unemployment rate increased during the latest years as in other regions. In a Swedish context, the rate is over national average, but in a European wide comparison it is positioned just under the average. In this case, we have to be aware of the fact that the available data only covers NUTS 2 level which means that the unemployment rate covers two counties.

Comparability - Economic dynamics

When comparing economic dynamics of RISE regions we have to be aware of the limited number of indicators (e.g. GDP per Capita and Unemployment). For deeper understanding of economics dynamics we need further input from partners and compliment it with other relevant indicators.

However, based on the data available, Randstad region is the strongest performing region among the RISE regions. It has one of the highest GDP-PPS per Capita and as well as one of Europe's lowest unemployment rates. Meanwhile, Zealand is performing at lowest level and is under the EU27 average, and far below the national average. Concerning West Midlands it is on European average, but has seen some problems of high rates in unemployment during the latest years. Similar unemployment patterns have been seen in Västerbotten as well where unemployment rates have increased. However, Västerbotten performs relatively well when it comes to economic performance and is slightly over the EU27 average.

Innovation dynamics and business structure

In the last decade, innovation has been pinpointed as a prioritised policy agenda within the European Union and the “Innovative Union” has been outlined as a “flagship initiative”.⁶³ This is widely addressed in the 5th cohesion report as well as the Europe 2020 strategy where it is highly prioritised to develop an economy based on knowledge and innovation in order to create a competitive EU. One of the targets in Europe 2020 strategy is that every region should invest 3 % of GDP in research and development and increase the employment rate among the population aged 20-65.⁶⁴

Consequently, in this section, we will explore how RISE regions are perceived through European indexes and typologies which include the Regional Innovation Performance and the recently presented typologies within ESPON KIT project.

In order to compare European countries’ development, a number of indicators can be used to measure their respective innovation performance (EU27+Norway). Regional Innovation Performance is one index that is widely used for these types of comparison and is based on seven different indicators.⁶⁵ In addition to Regional Innovation Performance, the Regional Innovation Scoreboard (RIS)⁶⁶ offers a comparative analysis of innovation performance in European regions. RIS methodology can be compared with European Innovation Scoreboard (EIS) which is used for measuring innovation performance at national level. In RIS, 16 of the 29 indicators from EIS are used to compare 201 regions in EU27 + Norway. The indicators are divided into three categories, *enablers*, *firm activities* and *output*.⁶⁷

If we start with the map 18 of Regional Innovation Performance within the European Union in 2006-2007, it is demonstrated that high performing regions are mainly located in the Nordic countries and within the European Pentagon area. Meanwhile, the low performing regions can be found in the southern parts of Europe, including Spain, Italy and Greece and Eastern Europe.

Similar innovation patterns can be seen in the RIS 2009 report where one of the main conclusions is that all countries show different levels of innovation performance. The largest national disparities in the innovation performance can be seen between regions in Spain, Italy, and Czech Republic. When it comes to strong innovative regions, they are mainly located in the Nordic

⁶³ Europe 2020 Flagship Initiative Innovative Union (2010), Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee, and Committee of the Regions, European Commission

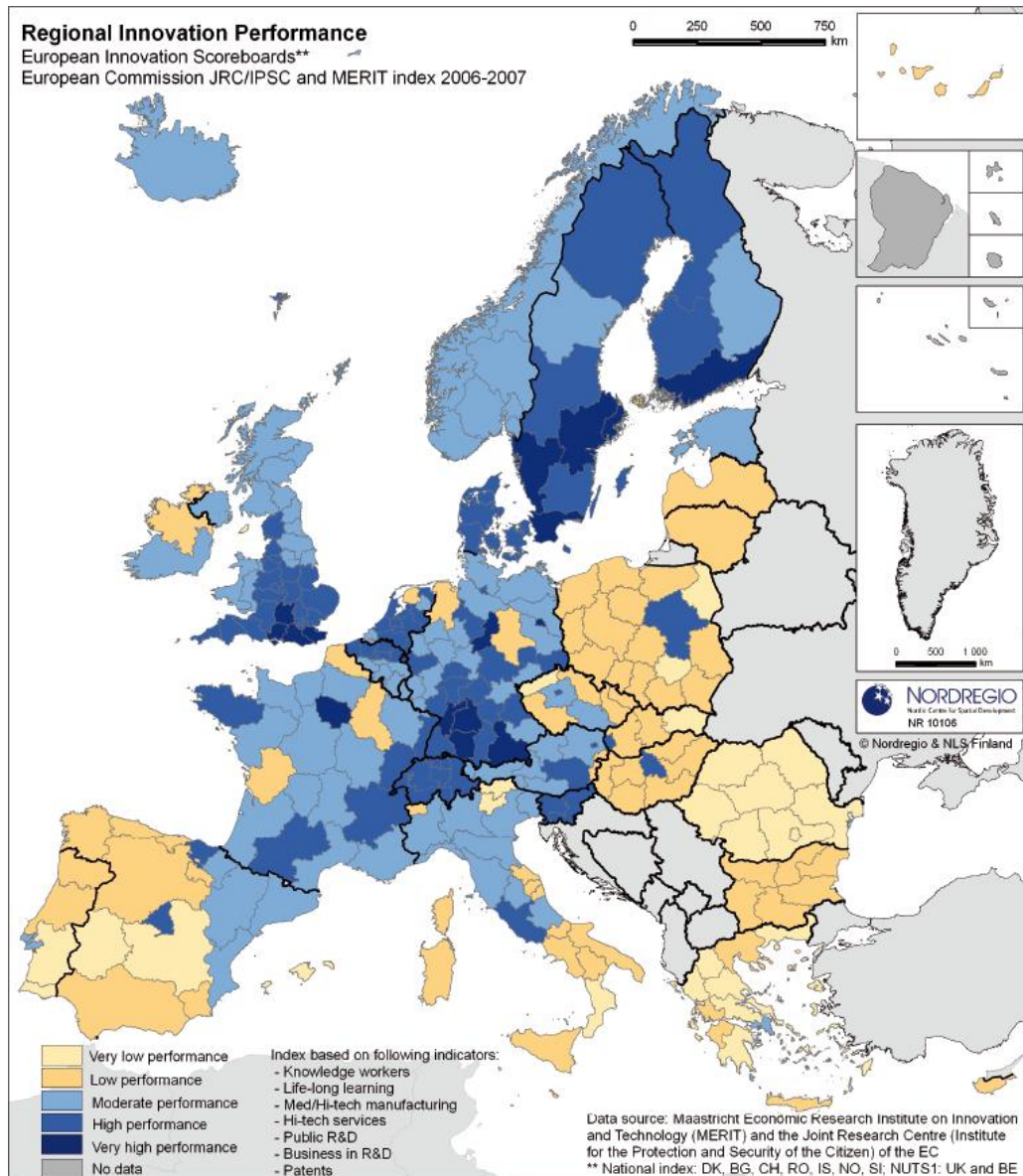
⁶⁴ EU2020 – A European strategy for smart, sustainable and inclusive growth (2010), European Commission 12-13

⁶⁵ Knowledge workers; Life-long learning, Med/Hi-tech manufacturing, Hi-tech services manufacturing; Hi-tech services; Public R & D, Business in R & D; and Patents.

⁶⁶ Initiative of Directorate General Enterprise and Industry, which aims to become the focal point for innovation policy analysis and policy in the European Union.

⁶⁷ *Enablers*: Tertiary education, Life-long learning, Public R&D expenditure, Broadband access by firms. *Firm activities*: Business R & D expenditure, Non-R & D expenditures, SMEs Innovating in-house, Innovative SMEs collaborating with others, EPO patents. *Outputs*: Product and/or process innovators, Marketing and/or organisational innovators, Resource efficiency innovators, Employment in medium-high & high tech manufacturing, Employment in knowledge-intensive services, New-to-market sales, New-to-firm sales.

countries, southern regions of UK and German regions. The Nordic regions stand out, especially regions in Sweden (e.g. Stockholm, West Sweden, South Sweden) and Finland (e.g. Etelä-Soumi) which have one the highest innovation capacity in Europe. In Germany, regions such as Oberbayern, Karlsruhe and Stuttgart are among the top performing regions.⁶⁸ Underperforming regions are situated in Eastern European (e.g. Romania, Bulgaria) and the Mediterranean countries (e.g. Spain, Malta, and Greece). Often high innovation performance is connected to metropolitan regions, due to the higher density and access to critical mass of various resources.⁶⁹



Map 18: Regional Innovations Performance 2006-2007, source: Damsgaard et al. 2009: Territorial Potential in the European Union, Nordregio Working Paper 2009:6.

⁶⁸ Investing in Europe's futures - Fifth Report on economic, social and territorial cohesion, Report from the Commission, November 2010, p. 39. Damsgaard et al (2009) Territorial Potential in the European Union, p. 40

⁶⁹ Damsgaard et al. (2009) Territorial Potential in the European Union, p.40

Another conclusion is that most innovative regions are located in the most innovative countries as most of high performing regions are in the group of “Innovation leaders”. The low performing regions are typically located in countries below EU average (EU27 +1), yet there are a number of regions that over perform compared to national context, e.g. Praha in Czech Republic and Emilia-Romagna in Italy.⁷⁰

The latest RIS report also indicates the stable innovation patterns across Europe since 2004. There have been few changes between typologies in the innovation in regions. However a moderate increase can be seen in a number of regions in Spain (e.g. Catalonia, Valencia), France (Bassin Parisien, Est-Ouest), Germany (Unterfranken), Hungary (Köcepe-Dunantul), Portugal (Algarve) and Norway (Hedmark, Oppland).⁷¹

In terms of analysing RISE regions’ innovation structure, one problem is that existing innovation indicators only cover NUTS 2 level which makes it less usable for comparison on NUTS 3 level. This is explicitly illustrated in the case of Denmark where innovation data is only available at national level and does not show the regional differences. Therefore it is still a complex issue to analyse regional innovation performance and compare European regions on the basis of national data.⁷²

A recently developed tool is the Regional Innovation Monitor (RIM) with the aim to contribute to the Innovation agenda defined in Europe 2020 strategy. The database includes knowledge base information about regional innovation policies and on-line interregional comparison of innovation performance. The RIM analysis is based on a set of indicators such as Gross Expenditure per GDP (GERD) and share of business expenditure in relation to R&D. GERD is one of the listed Economic Lisbon Indicators measuring the competitiveness in the EU. It also rates the degree of R&D intensity and the possibility for innovation in a country or region. However, there are some missing data and an online comparison tool is still under development. RIM only covers 20 of European Union member states⁷³ as of the moment.

Within the framework of ESPON research, the ESPON KIT explores the innovation patterns and the knowledge economy in a territorial perspective. The project takes its starting point from the concept knowledge economy with the objective to illustrate on-going spatial trends of the knowledge economy and explain territorial elements behind these spatial trends. The empirical results of the projects exploring the spatial trends of the knowledge economy across the European territory are presented preliminarily in ESPON KIT

⁷⁰ Hollanders, H., Tarantola, S. & Loschky, A (2009) Regional Innovation Scoreboard (RIS) 2009, PRO INNO EUROPE – INNO METRICS Thematic Paper, Brussels: European Commission, DG Enterprise.

⁷¹ Regional Innovation Scoreboard (2009), PRO INNO EUROPE – INNO METRICS

⁷² Hedin, S et al. (2008) Regionally Differentiated Innovation Policy in the Nordic Countries – Applying the Lisbon Strategy, Nordregio Report 2008: p. 32

⁷³ Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden and the United Kingdom.

Interim report. A typology is presented which identifies location of *technology advanced regions*, *scientific regions* and *knowledge networking regions*.⁷⁴

Technology-Advance Regions (TAR) refers to regions with high specialisation both in medium-tech manufacturing and knowledge intensive sectors. In a European context, 62 of the European regions are defined as TAR-regions most of which are situated in Western Europe, including 21 in Germany, 17 in United Kingdom and several others in Belgium, France, Switzerland, Finland, Denmark and Sweden (Map 19).

The “Scientific regions” are identified as regions that show higher values in research activities and in high level human capital than the average. As in the case of “TAR–region”, the scientific regions are mainly allocated in Western Europe, especially in central and northern parts.

In terms of Knowledge Networking Regions, the regions that are referred are the ones highly dependent on external resources of knowledge, facilitating interactive learning and interaction in innovation. The explicit result from ESPON KIT indicates that most of the Knowledge Networking regions are concentrated in central Europe and Scandinavian countries while the less interconnected regions are located in the new member states and Southern European countries.

Besides the typology presented above, some preliminary results indicate that the knowledge economy shows a fragmented spatial pattern in Europe, ranging from highly specialized in advanced technology to other important knowledge regions. One interesting finding is that scientific regions possess higher innovation that is slightly over all other knowledge economy regions in Europe as well.

RISE Regions innovation and business structure

Birmingham – West Midlands

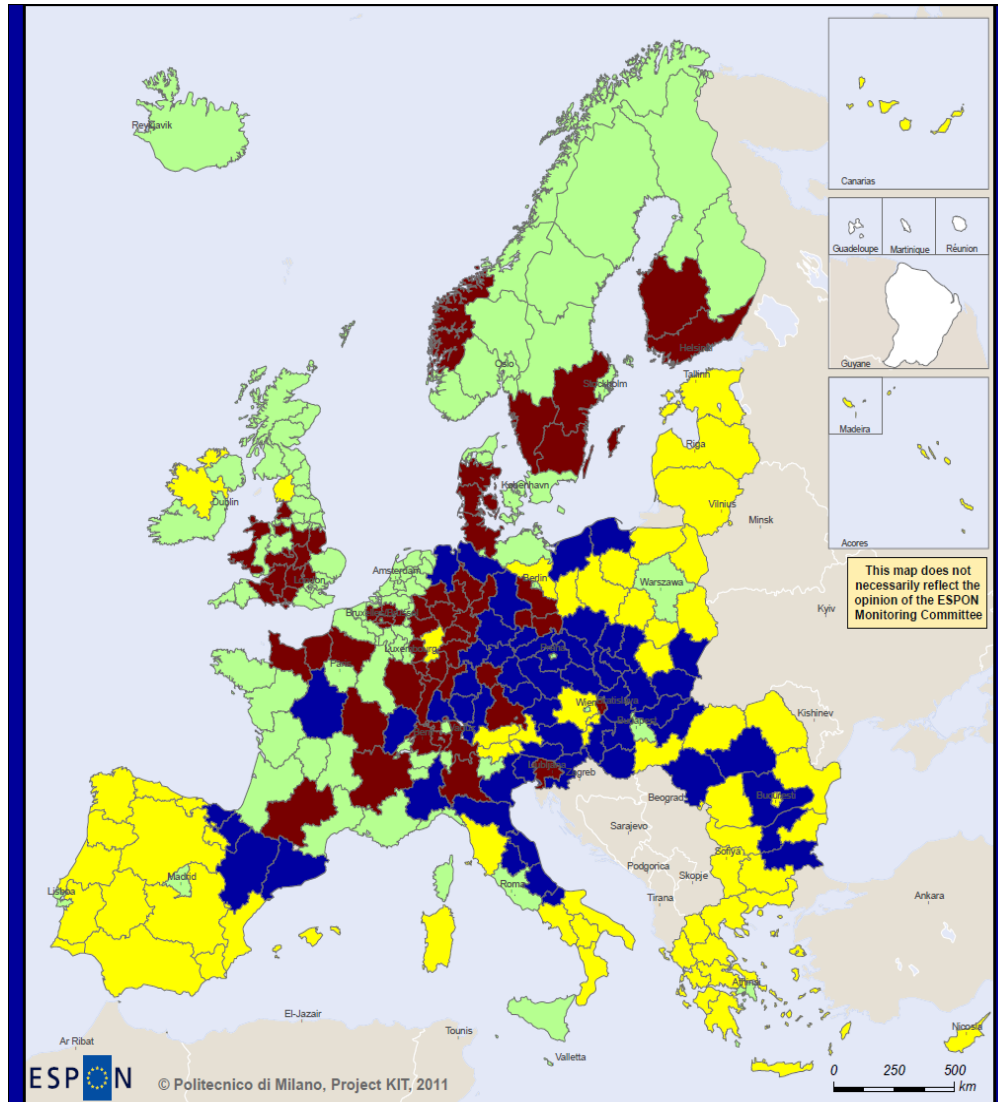
Seen from the typology developed in ESPON KIT, West Midlands is the only RISE Region defined as a TAR-region. The NUTS 3 regions of Shropshire and Staffordshire deviate from southern regions indicating that technology advanced activities is spatially located to the Birmingham region and to the counties of Herefordshire, Worcestershire and Warwickshire.

According to the Regional Innovation Performance, West Midlands performs well in innovation which is confirmed by the RIM analysis as well. However, it is argued that most businesses are not R&D driven and that the region has one of the lowest share of “innovative active” firms in comparison with other

⁷⁴ KIT – Interim Report, applied research 2013/1/13 Version 24/02/2011 p. 6

regions in UK. West Midlands performs better when it comes to innovation outputs, such as quite high numbers of new products and processes.⁷⁵

The region has relatively low investments in Gross Expenditure in R&D (1.2%) in comparison with the UK national average (1.8%) and EU27 average (1.9%). Business Expenditure on Research and Development is 0.9 % and is below the national average of 1.1%.⁷⁶



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

Regional level: NUTS2
Source: Politecnico di Milano, 2011
Origin of data: EUROSTAT employment in high-tech sectors
© EuroGeographics Association for administrative boundaries

Technologically-advanced regions

2007

- NA
- Low tech regions
- Advanced manufacturing regions
- Advanced services regions
- Technologically-advanced regions

Map 19. Technologically-advanced regions (source: KIT – Interim Report, applied research 2013/1/13 Version 24/02/2011.)

⁷⁵ Regional Innovation Monitor (1) West Midlands

⁷⁶ Regional Innovation Monitor (1) West Midlands

In terms of ESPON KIT typology of “Scientific regions”, West Midlands is showing higher values than the European average. The spatial concentration of scientific institutions is especially high in the Birmingham area and in total, the region is home to 13 universities including two research intensive institutions with recognition in science and technology fields; The Universities of Warwick and Birmingham which were ranked 9 and 10 respectively in the UK in the 2009 Times Higher Education/QS University ranking system and 58 & 66, respectively in the worldwide rankings. These two universities are the focus of significant regional funds for the development of research infrastructure under the 'Birmingham Science City' initiative. The region is also home to two public-sector research establishments and a number of former (now privatised) public research bodies in fields such as forensic science, materials and automotive technologies. The region also holds ten science and innovation parks.⁷⁷

Randstad

In contrast to West Midlands, Randstad Region is located in group of “advanced service” region in the ESPON KIT typology. This indicates that the region’s business structure is more specialized in Knowledge Intensive Services (KIS), than manufacturing and high-tech industries. In connection to this, the NUTS 3 region Utrecht is among the top ranked regions in Europe concerning KIS index outlined in ESPON KIT framework.⁷⁸

This is evident in terms of Regional Innovation Performance as well where the region is listed as high performer. The Gross Domestic Expenditure in R & D in Randstad Region is around 1.6 % which is slightly below national average (1.8 %) and EU27 average (1.9 %). The public spending is lower in comparison to private expenditure.⁷⁹

Concerning the research institutions and universities, Randstad is counted as a “Scientific region” according to ESPON KIT typology and has a number of important Universities. Noord-Holland has two universities: the University of Amsterdam and The Free University. Region South Holland includes three Universities, including Leiden, Delft and Rotterdam. Meanwhile, Utrecht has two universities: Utrecht University (the largest in The Netherlands, including an academic hospital) and the University for Humanistic and one bachelor University: University of Applied Sciences Utrecht. In contrast, the sub-region of Flevoland does not have any universities but there are 4 institutes for higher education of which the largest one is an agricultural school with 1250 students.⁸⁰

Zealand

As Randstad, Zealand is an “advanced service” region in relation to ESPON KIT and the share of high tech industries is below European average. In terms

⁷⁷ Regional Innovation Monitor (1) West midlands

⁷⁸ KIT – Interim Report, applied research 2013/1/13 Version 24/02/2011 p. 14

⁷⁹ Regional Innovation Monitor (3) West Netherlands

⁸⁰ Regional Innovation Monitor (4) Utrecht

of Regional Innovation Performance, there is no data specifically covering the region of Zealand. The data present only shows the national index where Denmark is defined as a high performing country in Europe. However, according to the RIM online comparison tool, the innovation performance in Zealand is limited.⁸¹

The conclusion in RIM analysis states that the region faces a number of challenges to develop the regional innovation capacity. One challenge that is highlighted is the low level of highly educated people which is far below national average. Only 4 % of population aged between 25-34 has completed higher education. This can be related to relatively few numbers of universities and research bodies established in the region. This is shown in the ESPON KIT typology as well where Zealand is outlined as “human capital intensive” region, which indicates that the region performs under European Average in the field of research activities. The largest university is University of Roskilde, but higher education bodies are also located in Køge (Zealand Institute Business and Technology) and in Søro (University College of Zealand).

The regions Gross Expenditure as well the share of Business Expenditure on R&D is below EU27 average. The Gross Expenditure is estimated to be 1.4 % of GDP while the national average is 2.5 %. Meanwhile, it is also highlighted in RIM analysis that the region also has opportunities to attract educated and skilled workers as they already live in the region but have their jobs in the metropolitan.

Västerbotten

In the typology of ESPON KIT, Region Västerbotten is grouped along with Randstad and Zealand as an “advanced service region”. Västerbotten is included in the medium high performing innovative regions in Europe. As discussed in the chapter on economics, the region performs well and is over European average (EU27+1) in terms of its performance, despite its peripheral location. However, Regional Performance Index and the Regional Innovation Monitor do not include data based on NUTS 3 level. In the case of Regional Innovation Monitor, Västerbotten is included in the NUTS 2 region of Övre Norrland.

The average annual business expenditure on research and development (R&D) as a percentage of GDP in Övre Norrland (NUTS 2) during the period 2000-2008 was 0.8% which is below the national average and the EU27 average. In contrast, the annual gross expenditure on R&D per GDP is slightly over EU27 average.⁸²

Concerning academic structure and research environment, the most important institution is the Umeå University which includes a campus in Skellefteå. There is also a university hospital and a division of the Swedish University of

⁸¹ Regional Innovation Monitor (5) Zealand

⁸² Regional Innovation Monitor (6), Upper Norrland

Agricultural Science present in Umeå. AkademiNorr is a joint initiative between 12 rural municipalities in order to coordinate and fulfil the need for higher education with innovative growth. The spatial concentration of research bodies is naturally located in the coastal areas, however distance tuition is provided in cooperation with 13 Swedish universities including Luleå, Umeå and Mid Sweden universities. In this context and despite its peripheral location Västerbotten is among the top ranked region in the typology of “Scientific” regions.⁸³

According to the RIM analysis, there are limited numbers of large companies and many have their headquarters in the metropolitan areas of Sweden. Key sectors of the region are forestry, mining, ICT and biotechnology. Other competence areas have been identified in the region, e.g. winter test driving, safety and security, creative industries/tourism, environmental technology and e-health.⁸⁴ The services sector is still less developed, yet it is among the top ranked region in Europe when it comes to Knowledge Intensive Service in 2007 (ESPON KIT).⁸⁵

Comparability – Innovation and Business structure

To sum up and compare the innovation structure, it should be noted that all RISE regions are among the high performing innovative regions in Europe. Regions of West Midlands, Randstad and Västerbotten all score in line with their countries innovations performance. Regarding Zealand, the region is situated in one of the high performing countries in Europe, but when downscaled to NUTS 3 level, it is noticed that region faces a number of challenges concerning its innovation capacity. None of the regions are among the very high performing regions, such as London, Stockholm or Copenhagen.

Seen from the typologies developed in ESPON KIT, the RISE regions show an interesting and relatively coherent pattern. The only region that is classified as TAR-region is the West Midlands (excluding the Nuts3 Shropshire & Staffordshire). Meanwhile other three regions are defined as advanced service regions.

West Midlands, Randstad and Västerbotten are all strong in the field of research and scientific activities. Zealand on the other hand does not have that solid research infrastructure, which is especially evident in the most southern parts of the region. However, we cannot neglect Northern Zealand’s proximity to the Capital Region of Copenhagen which is among top ranked region in terms of research activities. It could as well be highlighted that most of research activity in Region Västerbotten is spatially concentrated in the coastal city Umeå, and to some extent, also to Skellefteå.

⁸³ Regional Innovation Monitor (6) Upper Norrland

⁸⁴ Regional Innovation Monitor (6) Upper Norrland

⁸⁵ KIT – Interim Report, applied research 2013/1/13 Version 24/02/2011 p. 15

All RISE regions are seen as “Knowledge Networking”, which means that they all have high level of spatial interlinkages, in form of external R&D, external patent applications and external framework programme budgets.⁸⁶

	Regional Innovation Performance	TAR	Scientific	Networking
West Midlands	High Performance	TAR (Excluding Advanced service Shropshire and Staffordshire)	Scientific (excluding Human Capital Intensive Shropshire and Staffordshire)	Networking (Excluding Clustering, Shropshire and Staffordshire)
Randstad	High Performance	Advanced service	Scientific	Networking
Zealand	High Performance	Advanced service	Human Capital Intensive	Networking
Västerbotten	High Performance	Advanced service	Scientific	Networking

Table 7. Overview of RISE regions seen in European typologies of innovation performance and business structure

⁸⁶ KIT – Interim Report, applied research 2013/1/13 Version 24/02/2011 p. 27-28

RISE regions – inside-out perspective

All the indicators presented in previous chapters are mainly illustrating the regional dynamics through the lenses of European indexes and indicators. As previously discussed the basic NUTS delimitation does not always capture the regions' internal dynamics and relations.

To supplement the outside in perspective, the studied documents from the case regions have been utilized to understand how the regional actors perceive the regions themselves as territorial entities, how do they delimitate the region and how do they view internal territorial structure and also how do they define the regions' relations to the surrounding regions.

Birmingham West Midlands

Due to the latest changes introduced by the UK government concerning the introduction of the Localism Act in November 2011, the concept of regional strategy making has been abolished. Instead the regional development planning have been decentralised and shifted to the local authorities while establishing new form of joint local authority-business bodies which are tasked to promote local economic development. In the new concept of Local Enterprise Partnerships (LEPs), West Midlands consists of six different LEPs; Greater Birmingham and Solihull, Greater Birmingham; the Black Country (Dudley, Sandwell, Walsall, Wolverhampton); Coventry & Warwickshire; Herefordshire, Shropshire and Telford & Wrekin; Staffordshire with Stoke on Trent; and Worcestershire. These LEPs are supposed to be organised in functional economic territories that reflect an economic geography.

In this context, the region is currently structured mainly around a number of functional economic areas, based on travel to work areas or in other words; commuter catchment areas determined by main commuting patterns.

The LEPs primarily focus on internal economic dynamics in order to stimulate growth within the LEPs boundary. In this context the LEPs strategies are to a large extent focus on stimulating growth and job creation. For example the LEPs programme of Greater Birmingham & Solihull is mainly highlighting thematic areas, such as business support, stimulation for innovations, and development of the labour force. The LEP of Greater Birmingham and Solihull also addresses "global connectivity" as a key factor for stimulating the LEPs economy. Therefore investments and developments in infrastructure are prioritised within the region and as well as extension across other LEPs.⁸⁷

Randstad

The Randstad is considered as a spatial concept and not defined as a concise geographical entity. In the Structure Vision Randstad 2040 (here based on the summary report Blik op de Randstad) it is mentioned that the Randstad is

⁸⁷ <http://centreofenterprise.com/programme-highlights/>

seldom seen as an independent entity itself but in relation to the big and medium sized cities situated in the Randstad region and in relation to the Green Heart. However it is mentioned that the cities of the Randstad do not function as one big urban agglomeration because the individual cities are rather spread out. Randstad is seen as a part of the bigger urban concentration in North West Europe together with London, Paris, Brussels and the Ruhrgebiet. The port of Rotterdam and the airport of Amsterdam are mentioned as among the most important transport hubs in Europe.

The visions for the three sub-regions, the North Wing, the South Wing and the Utrecht area emphasise the international position of the Randstad on the one hand and the specific function or strength of the specific sub-region on the other hand. Furthermore, the visions characterise specific areas inside the sub-regions, cities or agglomerations and their potentials. In relation to neighbouring areas two of the sub-regional visions describe the relations of areas outside the Randstad.

Even though the Randstad is not defined as a precise geographical area, the strategy papers express high level of awareness of the internal spatial structures and its relations to the surrounding world.

Zealand

In the new proposal (2011) for regional development strategy, Region Zealand defines the region only in relation to other regions. Region Zealand is neighbouring the capital region from which it has to benefit even more efficiently in the future. The region is furthermore seen as the link (and not a transit area) between Scandinavia, the Baltic Sea and the rest of Europe.

The region is seen as a homogeneous area without any distinction between urban and rural or between centre and periphery. The peripheral southern part of the region with the typical problems (high level of unemployment, low level of competences, ageing and shrinking population etc) is not addressed directly, but indirectly through the objective to lift the competences at all levels.

The overall approach of the plan is to build on the existing strengths and to utilise the possibilities of the challenges.

Västerbotten

The latest version of Regional Development Strategy 2007-2013 (Revised RDP for 2011-2013) in Region Västerbotten is based on the framework of the Europe 2020 strategy. The revised version is especially developed to be in line with current EU strategies and the upcoming EU programming period after 2014. The RDP also outlines how the EU objectives of smart, sustainable, and inclusive growth can be adapted to a regional context in Västerbotten.

Concerning, the region's internal development needs the region's geographical conditions are especially addressed. This includes demographic challenge, where almost 80 % of the population is living in the three coastal

municipalities, and the rest (20 %) in the sparsely populated inland areas in the region.

This is a major challenge for the region affecting the strategies and how the region defines its upcoming priorities.

In this context “coordination” within the region, as well as with international actors, is seen as a key issue for realising the strategy. For example the functional coordination between urban and rural areas needs to be strengthened, as well as the coordination between different sectors, such as labour market, business world and educational institutions.

Conclusions – challenges and potentials in RISE regions

The RISE Case study regions are primarily viewed from an outside-in perspective where the region is, referred as the formal or administrative region consisting of one NUTS 2 or a number of NUTS 3 regions, defined and delimited by the national and European Union (EU)-level.

From an outside-in standpoint, the data that is used to describe the regional profiles are originating from what is available at Eurostat/GISCO, existing ESPON (i.e. FOCI, TEDI, DEMIFER and RERISK) and related NORDREGIO projects. As mentioned previously, data that cover lower levels than NUTS 3 is limited and not updated annually. In cases where data do not exist on NUTS 3 level, NUTS 2 level was used as a basis for analysis. The diversity of scales enclosed in the case study regions has made it difficult to analyse and compare them within a single framework. It has also been challenging to create comparative analysis due to national differences in classifications, terminology, timeliness and comprehensiveness of data accounts.

The selected indicators have provided some initial results and understanding of the RISE regions in the EU setting. It is clear that results show different trends and structures in the case study regions as they face different challenges in relation to their physical, economic and social conditions as well as the population dynamics which provide certain input as to how the EU structural funds are shaped.

From an inside-out perspective; West Midlands, similar to Västerbotten, has been considered as a functional region and is delimited as a narrow commuter catchment area. Whereas, Randstad and Zealand regions do not in fact define themselves as a territorial entity but rather defining their regions in relation to other territories and according to how they fit into a bigger European territorial context. In terms of Randstad four main metropolitan areas but they are part of a bigger European metropolitan area/ centers. On the other hand, Zealand is defining itself as a link between other regions, but does not address its own internal differences.

All the RISE regions fall under the 2nd objective in the Operational Programmes prioritizing employment, innovation and regional sustainable economic growth.

Regarding the physical structure, RISE regions illustrate the diversity of European regions well; ranging from polycentric urban regions to “deep rural” regions with less urban settlement structures, as in the case of Västerbotten. In contrast, on the other end of the scale we have one of the densest and most accessible regions in Europe; Randstad which includes four large polycentric metropolises. Additionally, we also notice that Region Zeeland hosts a different type of rural morphological pattern where the northern part is characterized by small and medium sized cities in close interaction with the metropolitan region of Copenhagen while the southern part is more rural and less accessible. When it comes to Birmingham-West Midlands, the region demonstrates all levels in the rural-urban scale, ranging from metropolitan polycentric structures to more rural areas with more dispersed settlement structures.

As exemplified in the discussion concerning urban sprawl and peri-urbanised areas, the problems with urban extension take place in central Europe’s highly urbanized areas. West Midlands-Birmingham and Randstad Regions can be mentioned here as illustrative cases. On the other hand, it is also important to address the urban extension and related problems in less urbanized areas, such as Region Västerbotten and Zeeland.

In terms of accessibility the overall trend indicates that highest accessibility values can be seen in the core of Europe. In this case, the Randstad region is among the top ranked in Multimodal accessibility while Region Västerbotten is on the other end of the scale with low accessibility values.

With regard to socio-economic challenges, some regions appear to be favorably placed to benefit from globalization, but face the risk of demographic decline as in the case of Sweden (Region Västerbotten). Many regions situated in the North-West periphery of the EU, largely in Sweden, Denmark, and the UK; seem to be in a rather favorable position based on their economic profile, which is affected by innovation performance. These regions are expected to benefit from a workforce with higher levels of educational attainment, share of employment in advanced sectors and labour productivity. Having a population with diverse skills and talents located in close proximity to each other should enable the area to generate greater innovation in the future, thus provide new high value added activities.

References

Loibl, W. Köstle M & Steinnocher, K (2008) Quantitative classification of the major European rural-urban regions; theoretical background and typology,

Regional Innovation Scoreboard (RIS) 2009 p.26, PRO INNO EUROPE PAPER No 14

Damsgaard et al. (2009) Territorial Potential in the European Union, Nordregio Working Paper 2009:6

Dijkstra, L & Ruiz, V (2010) Refinement of the OECD regional typology: Economic Performance of Remote Rural Regions, DG Regio, European Commission – OECD

Dijkstra, I & Poelman, H (2011) Regional typologies: a compilation, No 01/2011, Regional focus, Directorate General for Regional Policy.

Eurostat Regional Yearbook (2010), Eurostat Statistical Books, Eurostat/European Commission.

Europe 2020 – A strategy for smart, sustainable and inclusive growth, COM (2010) Communication from the Commission.

European Structural Funds (2000-2006) Netherlands, European Commission (2004)
http://ec.europa.eu/regional_policy/atlas/netherlands/factsheets/pdf/fact_nl_en.pdf

European Structural Fund in the United Kingdom (2000-2006), European Commission, (2004)
http://ec.europa.eu/regional_policy/atlas/united_kingdom/factsheets/pdf/fact_uk_en.pdf

ESPON ATLAS – Mapping the structure of the European territory, October 2010, ESPON project 3.1 – ESPON Atlas

ESPON 1.1.1- Potentials for polycentric development in Europe (2006), Project report

ESPON FOCI – Interim report (2009), Applied Research Project 2013/1/1, ESPON 2013 Programme.

ESPON 1.4.2 - Study on Urban Functions, Final report (2007)

EU Cohesion Policy 1988-2008: Investing in Europe's future, InfoRegio Panorama, No 26, June 2008

Eurostat regional yearbook 2010, 2008 edition, European Commission and Eurostat (Available at http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-HA-10-001/EN/KS-HA-10-001-EN.PDF)

Green Paper TEN-T Policy Review – towards a better integrated trans European transport and network at service of the common transport policy, 4.2.2009 COM(2009) European Commission

Hedin, S et al (2008) Regionally Differentiated Innovation Policy in the Nordic Countries – Applying the Lisbon Strategy, Nordregio Report 2008:2

Hollanders, H., Tarantola, S. & Loschky, A (2009) Regional Innovation Scoreboard (RIS) 2009, PRO INNO EUROPE – INNO METRICS Thematic Paper, Brussels: European Commission, DG Enterprise.

Investing in Europe's future – Fifth report on economic, social, and territorial cohesion, report from the Commission, November 2010, European Commission

Pierr, A, Ravets, J and Tosics, I Peri-Urbanisation in Europe – Towards European Policies to Sustain Urban-Rural Futures, (ED) (Synthesis report) (Available at <http://www.plurel.net/Default.aspx?id=113>)

KIT – Interim Report, applied research 2013/1/13 Version 24/02/2011

Lindqvist, m (ED) (2010) Regional Development in the Nordic Countries 2010, NORDREGIO report 2010:2, p. 74

OECD Territorial Reviews: Sweden (2010), Directorate for Public Governance and Territorial Development, OECD

OECD Territorial reviews: Randstad Holland, Netherlands (2007), Directorate for Public Governance and Territorial Development, OECD

Operational Programme – North Sweden, Regional Policy, European Union

Operational Programme – Denmark-Germany, Regional Policy, European Union

Operational Programme – Denmark, Innovation and knowledge , Regional Policy, European Union

Operational Programme – Bothnia-Atlantica, Regional Policy, European Union

Operational Programme – West Netherlands, Regional Policy, European Union

Operational Programme – Belgium-Netherlands, Regional Policy, European Union

Operational Programme – Two-seas, Regional Policy, European Union

Operational Programme – North West Europe, Regional Policy, European Union

Operational Programme – West Midlands, Regional Policy, European Union

Scientific dialogue on Cities, Rural Areas and Rising Energy Prices, First ESPON 2013 – Scientific Report, December 2010

Science, technology and innovation in Europe, Eurostat Statistical books, 2008 edition, European Commission and Eurostat , (available at http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-EM-08-001/EN/KS-EM-08-001-EN.PDF)

TEN-T project – priority project 20 http://tentea.ec.europa.eu/en/ten-t_projects/30_priority_projects/priority_project_20/priority_project_20.htm

Territorial dynamics in Europe - Trends in Population development, Territorial Observation No.1, November 2008

The European Environment – State and outlook 2010 Land Use (SOER 2010), European Environment Agency,

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

Trends in Economic performance of European Regions 2000-2006, Territorial Observation No. 3, September 2010

Regional Innovation Monitor;

- (1) <http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=UKG#rnd-innovation>
- (2) <http://www.rim-europa.eu/index.cfm?q=p.baseline&r=UKG>
- (3) <http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=NL32#rnd-innovation>
- (4) <http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=NL31#rnd-innovation>
- (5) <http://www.rim-europa.eu/index.cfm?q=p.baseline&r=DK02>
- (6) <http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=SE33#rnd-innovation>

Roadmap to a single European transport area – towards a competitive and resource efficient transport system (2011)

Yuill, D. McMaster, I & Mirwaldt K (2010) Regional Policy under Crisis Conditions: Recent Regional Policy Developments in the EU and Norway, European Policy Research Paper, No 71, European Policies Research Centre / University of Strathclyde.

Van Well et al. (2009) The Potential for regional policy instruments 2007-2013, to contribute to the Lisbon and Göteborg Objectives for growth, jobs and sustainable development, Final Report to the European Commission, Directorate-General for Regional Policy, Evaluation Unit.

Annex I – Administrative delimitation of case-study regions

Nuts1	Code	Nuts 2	Code	Nuts 3	Code	LAU
West Midland						
West Midland	UKG	Herefordshire, Worcestershire and Warwickshire	UKG1	Herefordshire, County of Worcestershire Warwickshire	UKG11 UKG12 UKG13	
		Shropshire and Staffordshire	UKG2	Telford and Wrekin Shropshire CC Stoke-on-Trent Staffordshire CC	UKG21 UKG22 UKG23 UKG24	
		West Midlands	UKG3	Birmingham Solihull Coventry Dudley and Sandwell Walsall and Wolverhampton	UKG31 UKG32 UKG33 UKG34 UKG35	
Randstad						
Westerns Netherlands	NL3	Utrecht	NL31	Utrecht	NL310	
		North Holland	NL32	Kop van North Holland Alkmar en omgeving IJmond Haarlem Zaanstreek Greater Amsterdam Het Gooi and Vechtstreek	NL321 NL322 NL323 NL324 NL325 NL326 NL327	
		South Holland	NL33	Leiden and Bollenstreek The Hague Delft and Westland East South Holland Rijnmond South South Holland	NL331 NL332 NL333 NL334 NL335 NL336	
Eastern Netherlands	NL2	Flevoland	NL230	Flevoland	NL230	
Region Zealand						
Danmark	DK0	Zealand	DK02	Østsjælland	DK021	17
				Vest- og Sydsjælland	DK022	
Region Västerbotten						
Sweden		Upper Norrland	SE33	Västerbotten County	SE081	15

Annex II – Corine land cover classes 2006



Annex III – Urban and Rural Typology

A number of typologies have been used to compare and categorize the European cities and regions in a European perspective. To understand and explore the overall physical structure of RISE regions, we have chosen to use the revised Urban-Rural typology presented in Regional typologies: a compilation (Dijkstra, I & Poelman, H, 2011). This typology combines the new Urban-Rural Typology presented by European Commission/Eurostat in the recent 5th report on social, economic and territorial cohesion with the extended OECD regional typology.⁸⁸

The Eurostat typology of Urban-Rural regions is based on the OECD methodology and has been further developed jointly by four Directorates-General within the European Commission, including Eurostat, Directorate-General for Agriculture and Rural Development, the Joint Research Centre (JRC) and the Directorate General for Regional Policy.

The Urban-Rural typology, including the OECD regional typology of remoteness, classifies the European regions by population density and population distribution. This generates in total five categories European regions (See map 8):

1. Predominantly urban regions;
2. Intermediate regions, close to city;
3. Intermediate, remote regions;
4. Predominantly rural regions, close to city;
5. Predominantly rural regions, remote regions.

The revised Urban-Rural typology is mainly based on three steps; first step is to identify rural area population followed by classification of the NUTS region and finally adjust these in line with the presence of cities. The second step of regional classification of NUTS 3 regions is based on share of population in rural areas:

- Predominantly Rural if the share of population living in rural areas is higher than 50 %;
- Intermediate, if the share of population living in rural areas is between 20 % and 50 %;
- Predominantly Urban, if the share of population living in rural areas is below 20 %.⁸⁹

⁸⁸ 5th report on social, economic and territorial cohesion, European Commission (2010) p. 96; Dijkstra, L & Ruiz, V (2010) Refinement of the OECD regional typology: Economic Performance of Remote Rural Regions, DG Regio, European Commission - OECD

⁸⁹ Dijkstra, I & Poelman, H (2011) Regional typologies: a compilation, No 01/2011, Regional focus, Directorate General for Regional Policy.

In order to get better dynamics indicating the proximity to urban centres is added on to previous steps. In this context, the size of urban centre is taken into account.

- A predominantly rural region which contains an urban centre of more than 200 000 inhabitants representing at least 25 % of the regional population becomes intermediate;
- An intermediate region which contains an urban centre of more than 500 000 inhabitants representing at least 25 % of the regional population becomes predominantly urban.⁹⁰

The third dimension of remoteness is mainly based on following criteria's;

- All predominantly urban regions are considered close to a city;
- Predominantly urban regions or intermediate regions are considered remote if less than half of its residents can drive to the centre of city of at least 50 000 inhabitants within 45 minutes. Otherwise, it is considered close to a city.⁹¹

Concerning the third combined indicator, metropolitan regions are defined as “*NUTS 3 regions or a combination of NUTS 3 regions which represent all agglomeration of at least 250 000 inhabitants*”.⁹² Original data was compiled within Urban Audit data collection and the development of the concept of Larger Urban Zones (LUZ) which is based on the concept of Functional Urban Regions (FUR).

⁹⁰ Eurostat Regional Yearbook (2010) p. 240

⁹¹ Dijkstra, I & Poelman, H (2011) Regional typologies: a compilation, No 01/2011, Regional focus, Directorate General for Regional Policy.

⁹² Dijkstra, L (2009) Metropolitan Regions in the EU, Regional Focus No 1/2009, The European Commission, DG Regio

RISE regions in a Urban-Rural typology – Metropolitan

RISE Region	Rural-Urban Typology, including remoteness	Metropolitan regions in Europe⁹³
Birmingham –West Midlands		
Herefordshire, County of	Predominantly rural region, close to city	Other region
Worcestershire	Intermediate region, close to city	Smaller metro region
Warwickshire	Intermediate region, close to city	Smaller metro region
Telford and Wrekin	Intermediate region, close to city	Other region
Shropshire CC	Intermediate region, close to city	Other region
Stoke-on-Trent	Predominantly urban region	Smaller metro region
Staffordshire CC	Predominantly urban region	Smaller metro region
Birmingham	Predominantly urban region	Second tier metro region
Solihull	Predominantly urban region	Second tier metro region
Coventry	Predominantly urban region	Smaller metro region
Dudley and Sandwell	Predominantly urban region	Second tier metro region
Walsall and Wolverhampton	Predominantly urban region	Second tier metro region
Randstad Region		
Flevoland	Predominantly urban region	Capital city region
Utrecht	Predominantly urban region	Capital city region
Kop van Noord-Holland	Intermediate region, close to a city	Other region
Alkmaar en omgeving	Predominantly urban region	Other region
IJmond	Predominantly urban region	Capital city region
Agglomeratie Haarlem	Predominantly urban region	Capital city region
Zaanstreek	Predominantly urban region	Capital city region
Groot-Amsterdam	Predominantly urban region	Capital city region
Het Gooi en Vechtstreek	Predominantly urban region	Capital city region
Agglomeratie Leiden en Bollenstreek	Predominantly urban region	Smaller metro region
Agglomeratie 's-Gravenhage	Predominantly urban region	Second tier metro region
Delft en Westland	Predominantly urban region	Second tier metro region
Oost-Zuid-Holland	Predominantly urban region	Other region
Groot-Rijnmond	Predominantly urban region	Second tier city region
Zuidoost-Zuid-Holland	Predominantly urban region	Second tier city region
Zealand		
Østsjælland	Intermediate region, close to a city	Second tier metro region
Vest- og Sydsjælland	Predominantly rural region, remote region	Other region
Västerbotten Region		
Västerbotten	Predominantly rural region, close to city	Other regions (less than 12.5 inhabitant per km, defined as sparsely populated region according to 5 th Cohesion Report)

Table 8. Rural-Urban Typology, including remoteness – Comparison of RISE regions (Source: European Commission, DG REGIO and DG AGRI, background data)

⁹³ Dijkstra, L (2009) Metropolitan Regions in the EU, Regional Focus No 1/2009, The European Commission, DG Regio

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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.

ISBN 978-2-919777-16-7