ESPON

Monitoring and evaluation of territorial development processes in the Baltic Sea Region

VASAB Stakeholder meeting

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ESPON BSR TeMo

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Purpose of TeMo

BSR TeMo sets the background for **identification of regional problems, territorial challenges and patterns of economic and social developments.**

Monitoring data assists decision makers in defining new objectives, specifying priorities in the area of potential intervention within the framework of cohesion policy and generally **helps to develop evidence-based policy**.

BSR TeMo provides relevant indicators for the entire BSR area necessary for **measuring progress and achievement of objectives** of territorial cohesion policy.

Information supplied by BSR TeMo offers decision makers an opportunity to carry out dynamic analysis of indicators and, thus, provides **framework for policy evaluation.**

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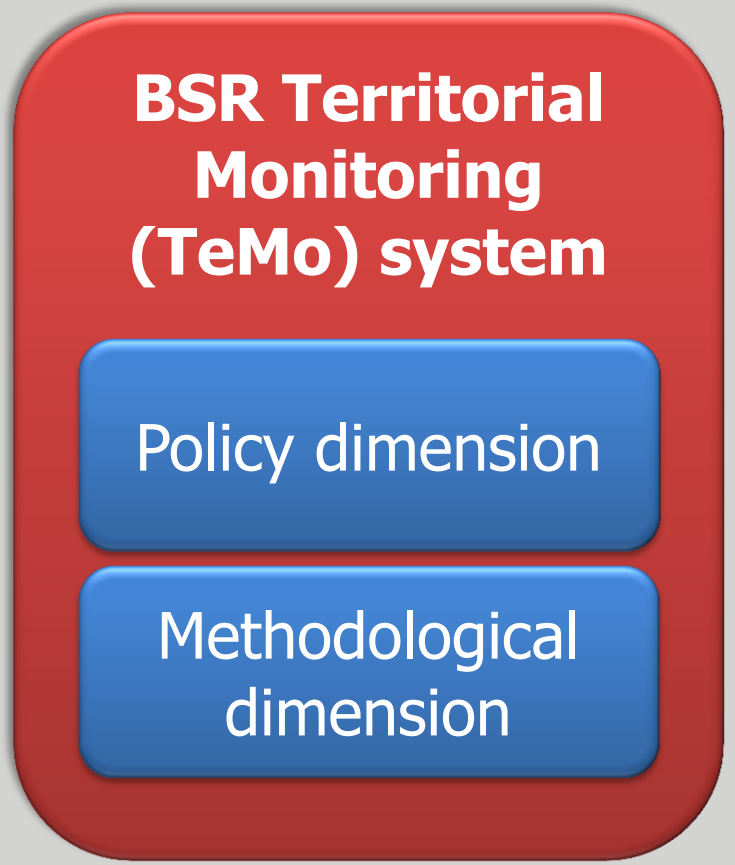
What we have built:



- An operational indicator-based territorial development monitoring system, comprehending a policy and a methodological dimension aimed at understanding territorial cohesion in the Baltic Sea Region.

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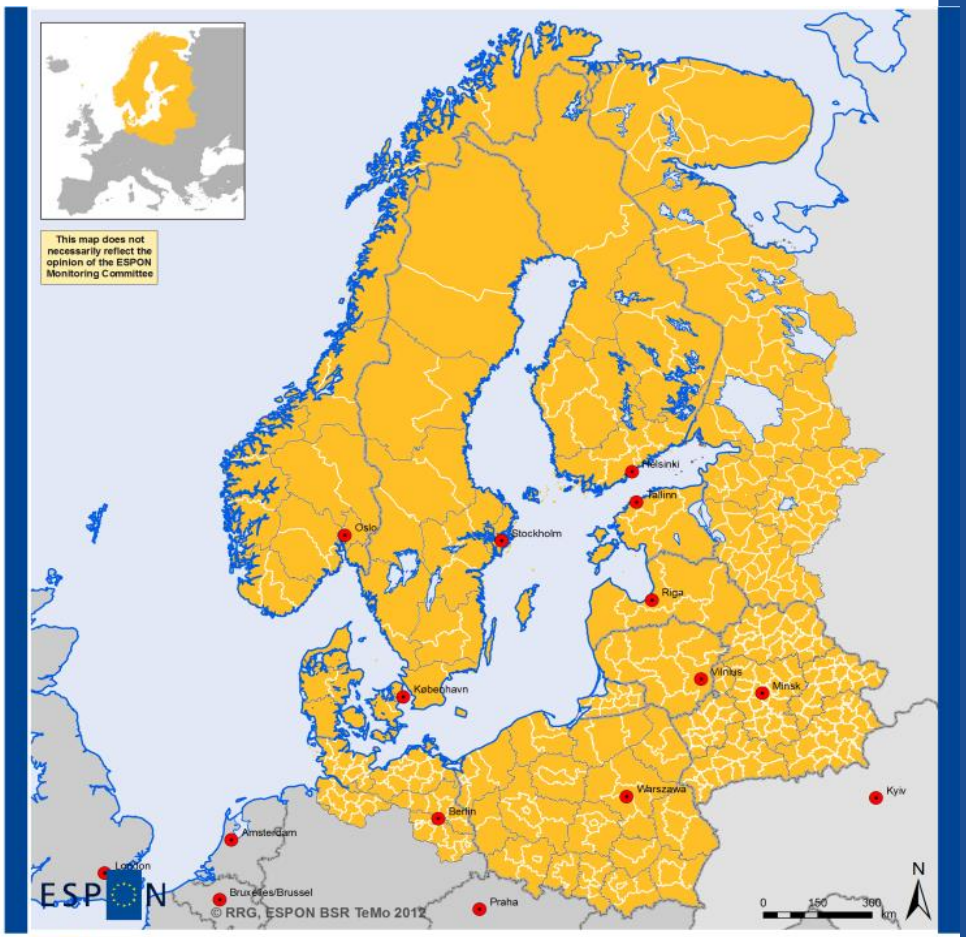
Geographical coverage

NUTS-3 and NUTS-2 levels are the main geographical scales in ESPON TeMo.

The task for BSR TeMo was to generate seamless layers of administrative boundaries (NUTS3, NUTS2 and NUTS0) for the study area including Belarus and Russia.

The project attempts to find additional data at the LAU-2 level.



Added value of TeMo

- Building on regional policy context
- Addressing the policy questions that are important in the region;
  - the context of the region and stakeholders is really strong.
- Using available data, and at NUTS 3.
- We have the data – and we show also how to measure territorial cohesion.
  - With 10 operational analytical indicators

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Target Group

- **Analysts and practitioners** working with policy makers responsible for cohesion, regional and spatial policy;
- **International organizations** (e.g. the VASAB-cooperation and the HELCOM organization), and local cross-border associations (i.e. Euroregions);
- **The ESPON community** (including stakeholders, researchers and planners);
- **Institutions** implementing, managing and evaluating actions taken within the framework of the EU's cohesion policy;
- **Researchers** dealing with territorial cohesion;
- **Other interested actors**, including students.

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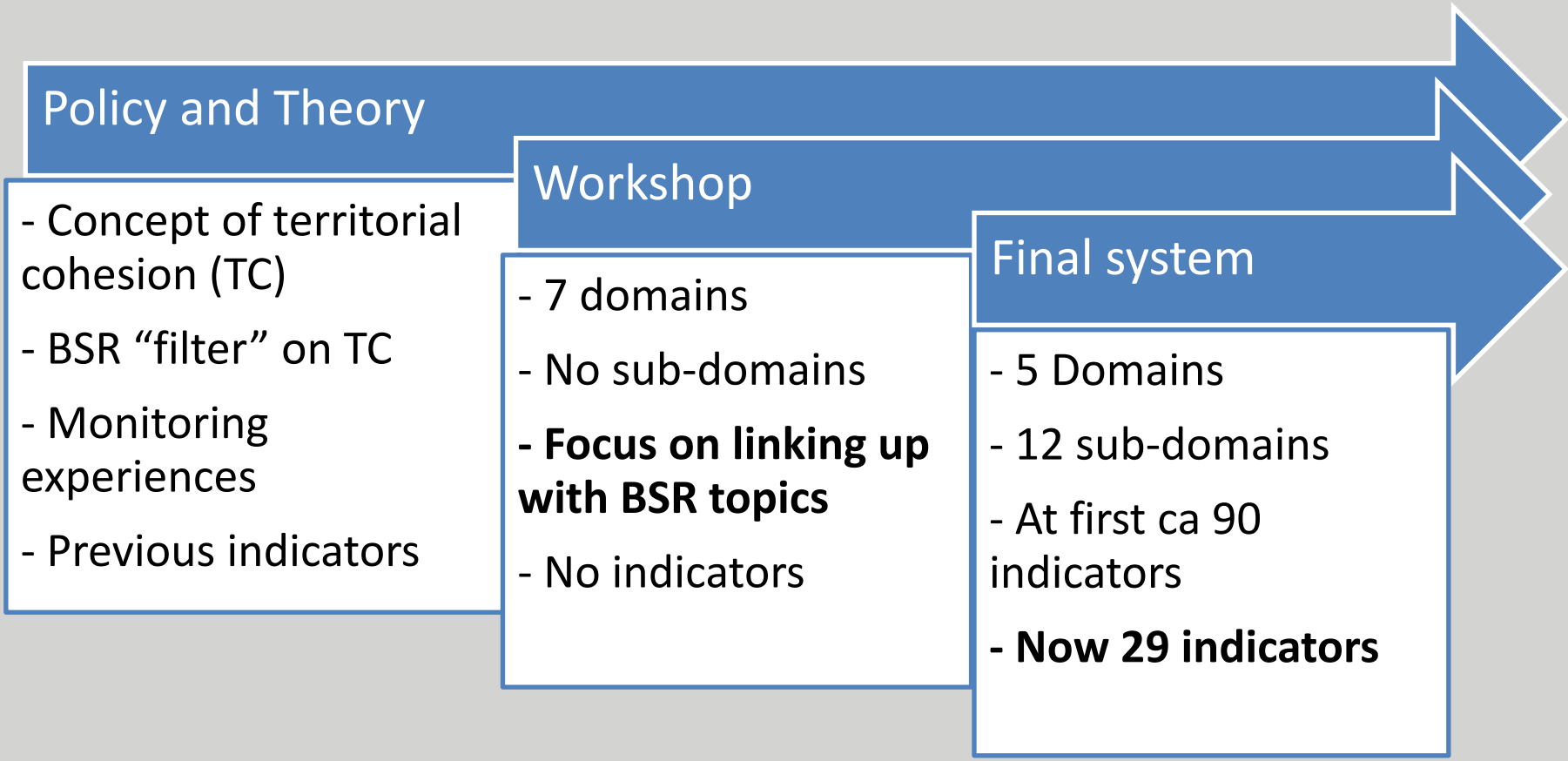
Thematic content and indicators



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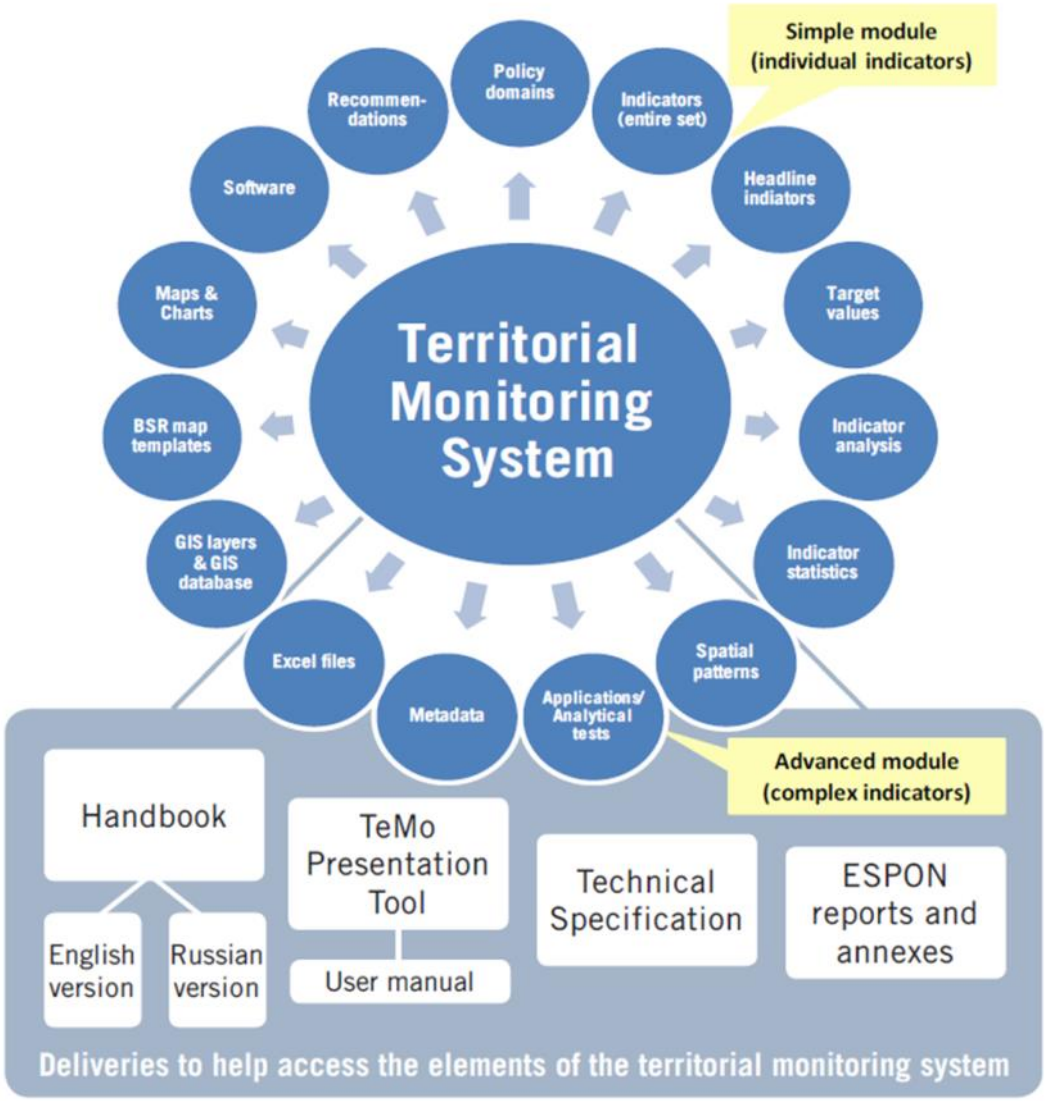
Monitoring system: not just a database!



Domains	1. Economic perfomance and competitivness
Subdomains and indicators	**1.1. Macroeconomic development**
	GDP per capita
	GDP per person employed
	1.2. Labour market
	Unemployement rate, total
	Unemployement rate (20 - 64 years)
	1.3. Demography
	Net migration rate
	Total population chamge
	Economic dependency ratio

Domains	2. Access to services, markets and jobs
Subdomains and indicators	**2.1. Potential accessibility**
	Accessibility potential by road
	Accessibility potential by rail
	Accessibility potential by air
	Multimodal accessibility potential
	2.2. Spatial structure
	Functional areas: access to cities
	Population potential within 50 km
	Border crossings
	2.3. Internet
	Households with internet access at home

Domains	3. Innovative territories
Subdomains and indicators	**3.1. Human capital**
	Population with tertiary education (25 - 64 years)
	Employement in technology & knowledge sectors
	3.2. Financing and institutions
	Gross-domestic expenditures on R&D, business
	Gross-domestic expenditures on R&D, total

Domains	4. Social inclusion and quality of life
Subdomains and indicators	**4.1. Social inclusion**
	A-risk-of-poverty rate
	Severe material deprivation rate
	Youth unemployement rate (15-24 years)
	Gender imbalances
	4.2. Health
	Life expectancy at birth, in years
	Self-assessed general health status

Domains	5. Enviromental qualities
Subdomains and indicators	**5.1. Consumption and production**
	New soil sealing per capita
	Air polution (PM10)
	Eutrophication
	5.2. Natural recourses
	Fragmentation index

10 Analytical / Complex indicators

(1.) The Gini Concentration Ratio	Distribution
(2.) The Atkinson index	
(3.) The 80/20 ratio	
(4.) Sigma-convergence	Convergence
(5.) Beta-convergence	
(6.) The east/west ratio	Targeted/Territorial
(7.) The south/north ratio	
(8.) The urban/rural ratio	
(9.) The non-border/border ratio	
(10.) The coast/inland ratio	

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Data

Data needed for the project has b
rather than indicators.

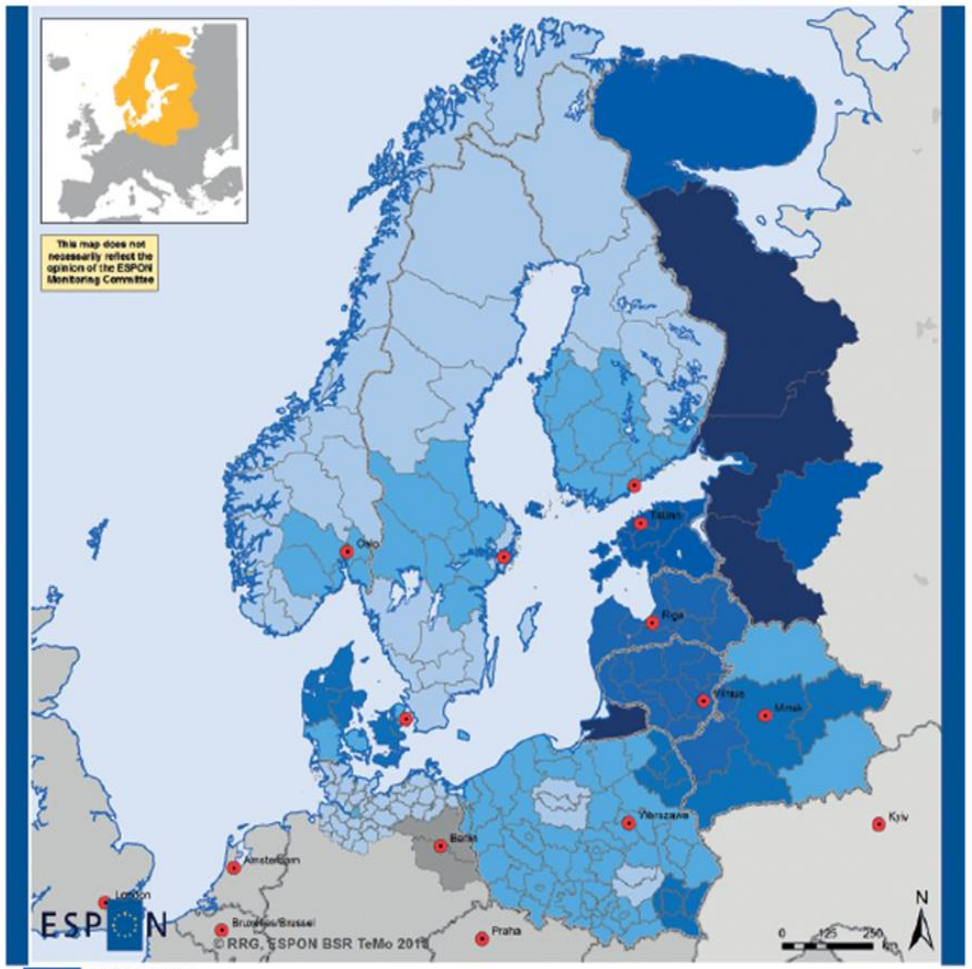
The time frame for data to be colle
latest available data.

Ease of updating the monitoring s

Three main sources, which provid
certain extent – data on a yearly b
and Norway), ROSSTAT (Russia)

Coherence regarding methodolog
BSR countries has been consider

Example of good availability and comparability:
Life expectancy at birth



Application of the System

Testing of the monitoring system: allowed to establish the functionality of the system by pushing its analytical capacity in a selection of "real life situations".

Investigative areas (topics):

- ability to handle cross-cutting issues (**territorial cohesion**);
- functionality within a pronounced thematic focus (**migration**);
- functionality to depict a particular geographic scope (**border regions**);
- overall benchmarking ability (**BSR benchmarked against the Alpine Space and the North Sea transnational regions**).

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SYSTEM TESTING

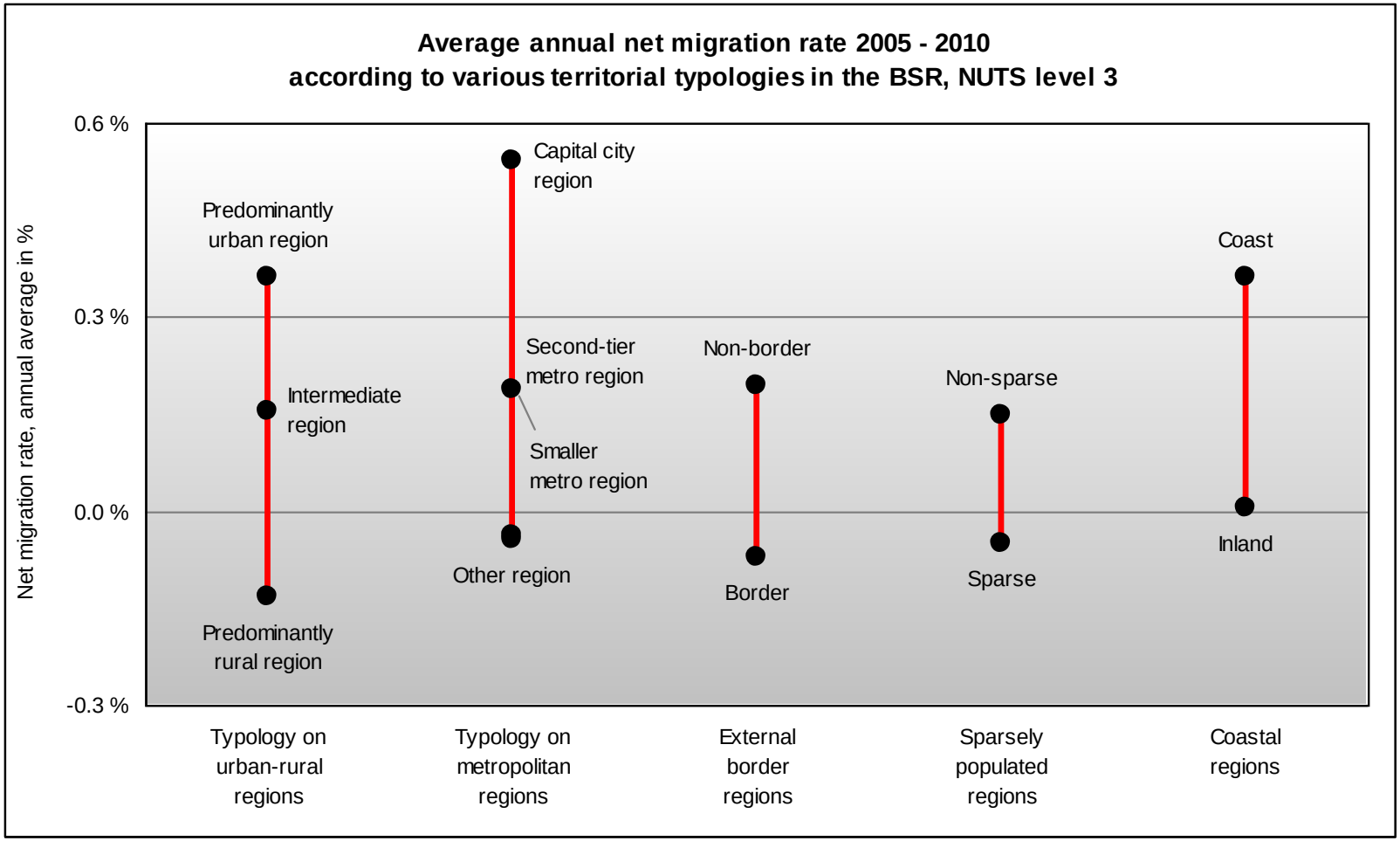
– MAIN FINDINGS IN SHORT

Main findings in short 1(5)

- Increasing spatial polarisation, further aggravating already existing unbalanced regional structures

- Selected opposite trends indicate more balanced development and increasing convergence (e.g. rapidly decreasing east-west economic divide)

Example: migration 2005-2010



Only ten urban regions swallow 47 % of all migration surplus in the BSR

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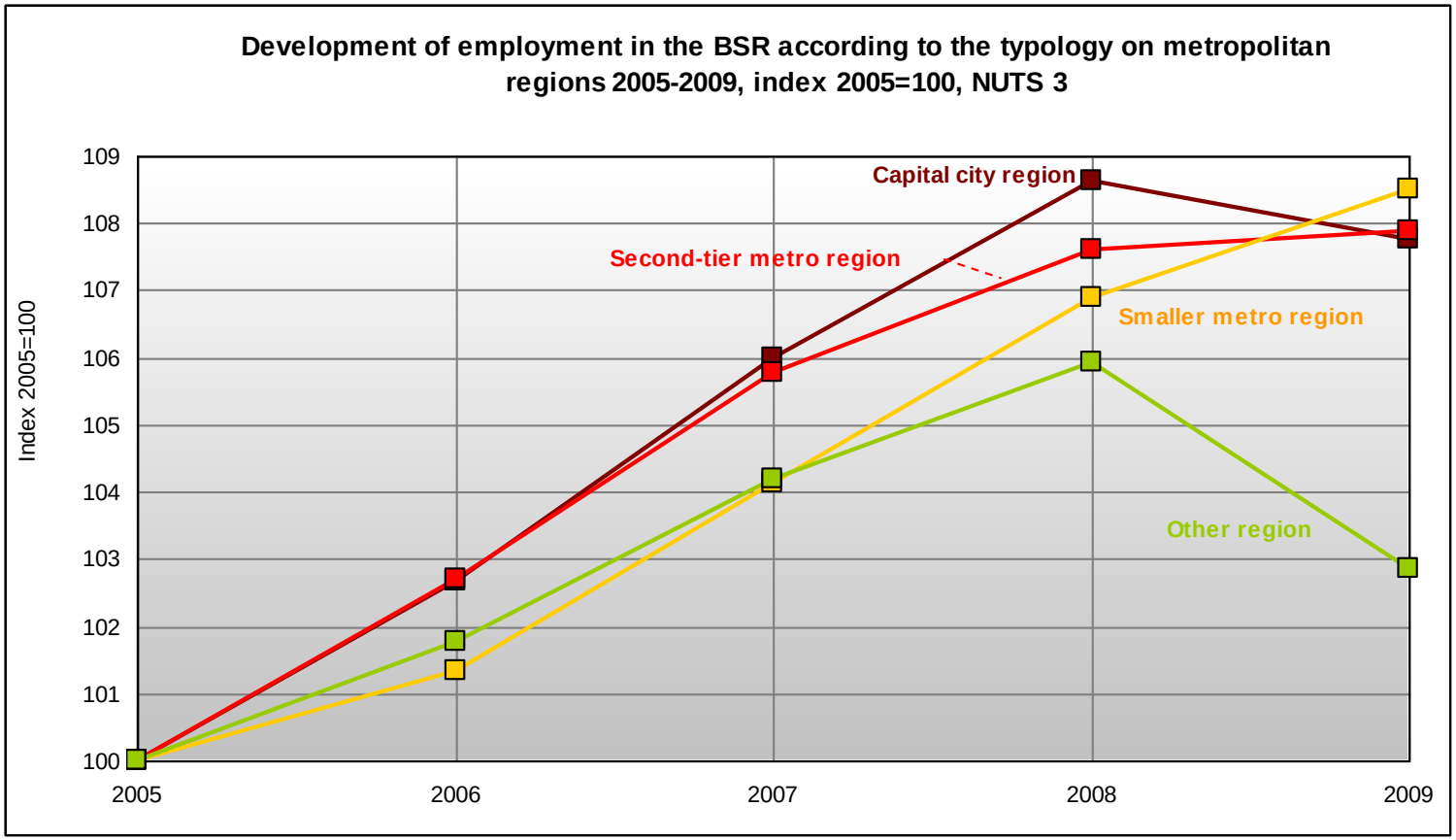
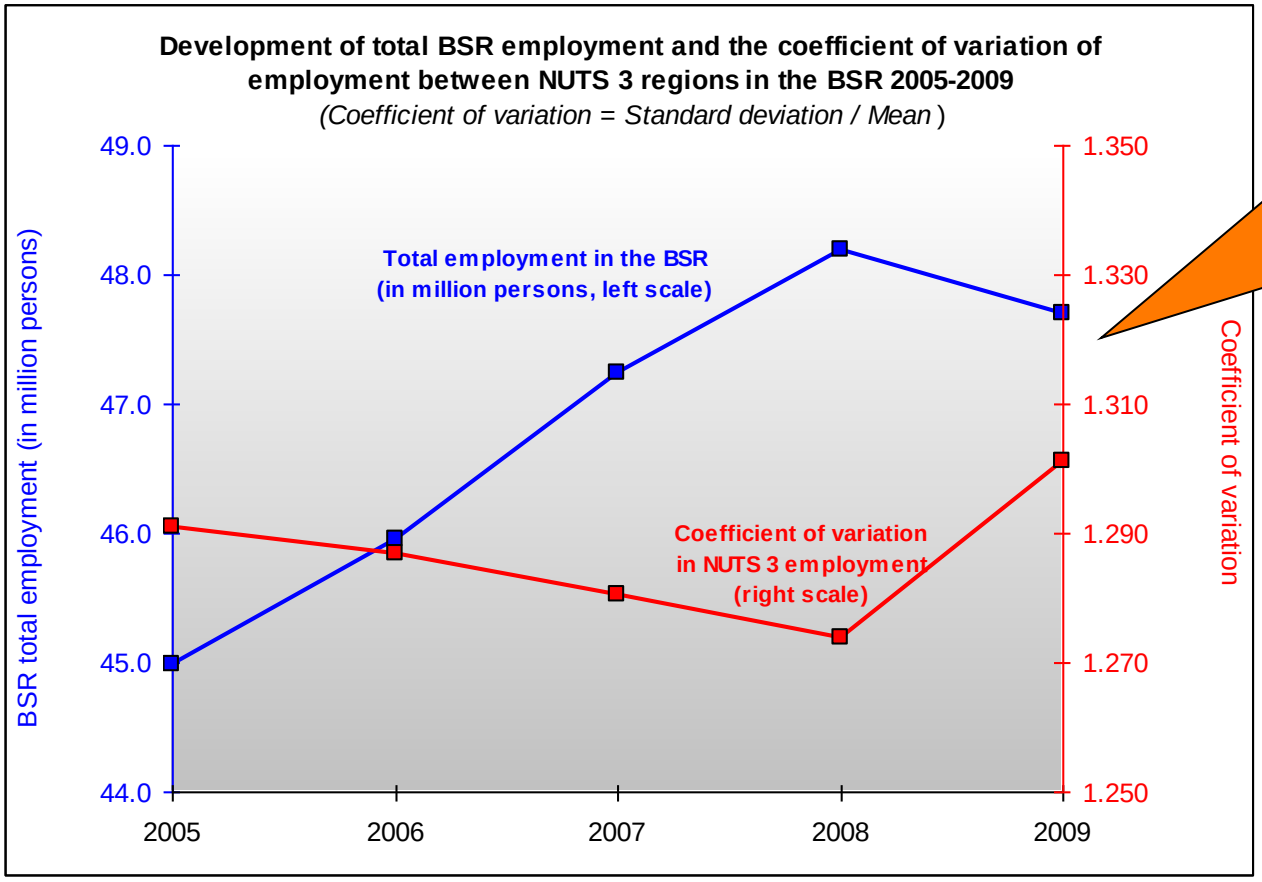
Example: jobs gained and lost in the BSR – territorially specific spatial patterns



Example: jobs gained and lost in the BSR – macroregional spatial patterns



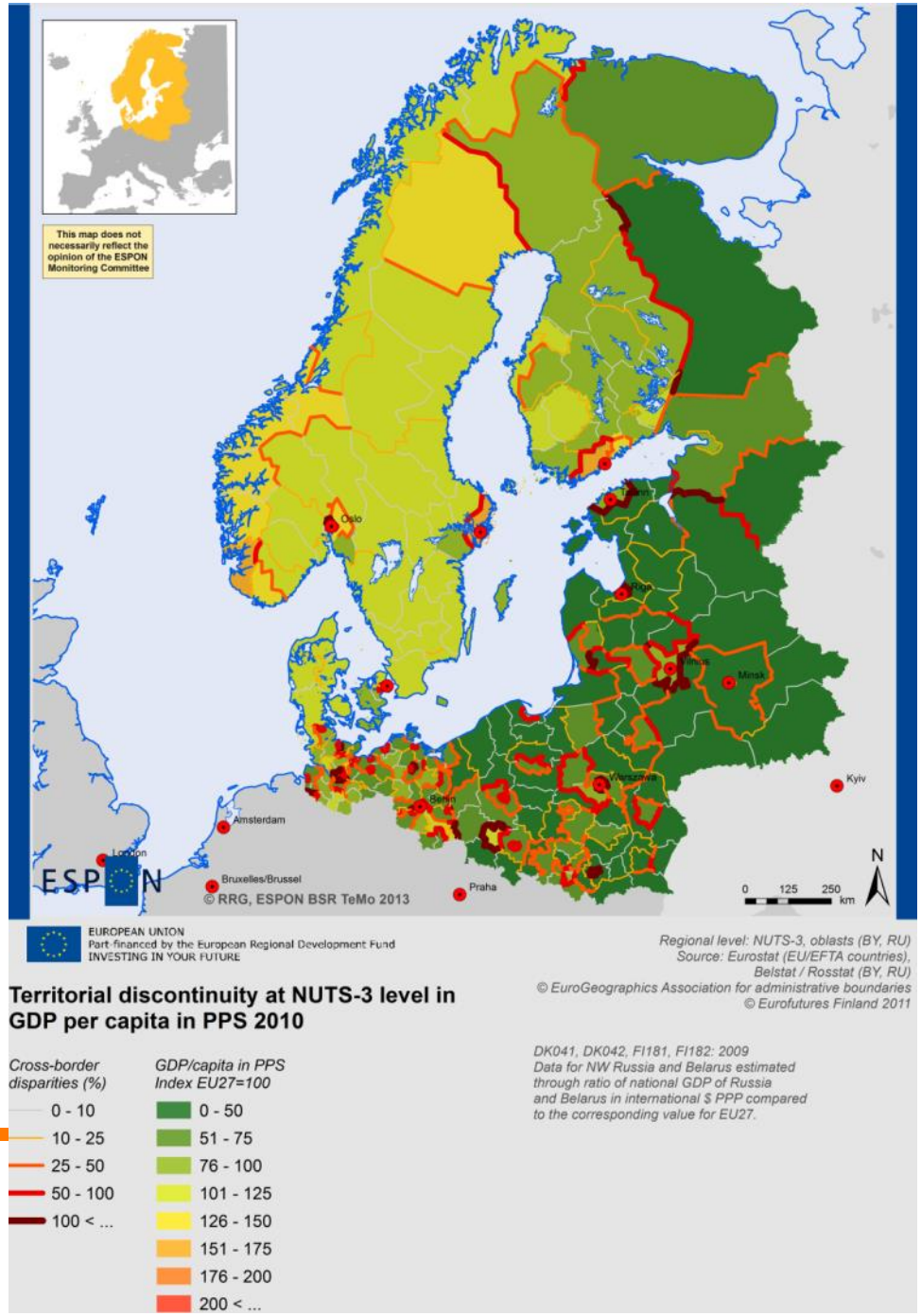
When the nr of jobs in the BSR increased, that increase was beneficial to most regions

When the nr of jobs declined (following the credit crunch), the decline hit mostly weaker regions, resulting in increased concentration

Main findings in short 2(5)

Territorial disparities between contiguous regions

- Territorial disparities between adjacent regions have in the past 15 years “exploded”
- The urban hierarchy is a decisive factor in dictating the magnitude these disparities
- Corresponding analysis with unemployment rates depicts a more pronounced social context



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Main findings in short 3(5)

The specific types of BSR territories

- are generally lagging behind in most aspects of socioeconomic development
- but at the same time harnessing the potential in such territories does pose considerable possibilities

Example:
GDP per inhabitant in the BSR subdivided by various territorial typologies

Specific types of BSR territories are generally lagging behind

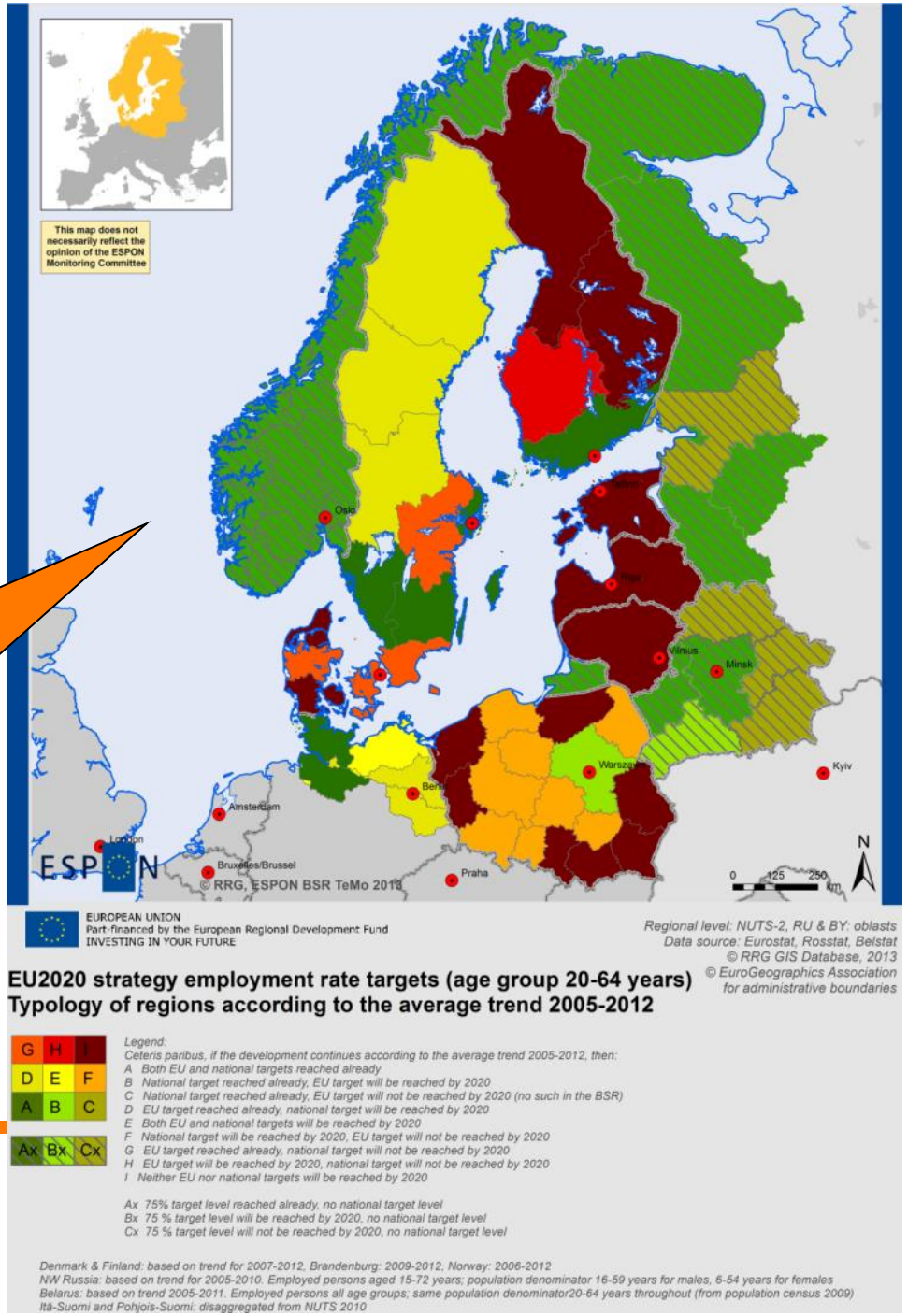
Most development trends are not cohesive

	GDP per capita in PPS, index: EU27=100		
	ca. 2005	ca. 2009	Development ca. 2005-2009: points change to EU27 average
The Baltic Sea Region (BSR)	**75**	**81**	**+6**
of which:			
- western BSR	124	122	-2
- eastern BSR	50	60	+10
Typology on urban-rural regions			
Predominantly urban regions	98	109	+11
Intermediate regions	66	71	+5
of which:			
- close to a city	*66*	*71*	+5
- remote	*71*	*74*	+2
Predominantly rural regions	62	65	+3
of which			
- close to a city	*53*	*57*	+4
- remote	*86*	*85*	-1
Typology on metropolitan regions			
Capital city regions	101	112	+11
Second-tier metro regions	84	89	+5
Smaller metro regions	58	64	+5
Other regions	61	65	+4
Typology on regions in external border programmes			
Border regions	46	53	+8
Non-border regions	82	88	+6
Typology on sparsely populated regions			
Sparsely populated regions	90	91	+1
Not sparsely populated regions	74	80	+7
Typology on coastal regions			
Coastal regions	95	101	+6
Non-coastal regions	62	68	+6

Example:
EU 2020 strategy employment targets in the BSR

14 regions in the EU parts of the BSR are projected to reach neither their national target rates, nor the corresponding EU one

Reaching EU 2020 employment targets would bring two million additional jobs to the BSR



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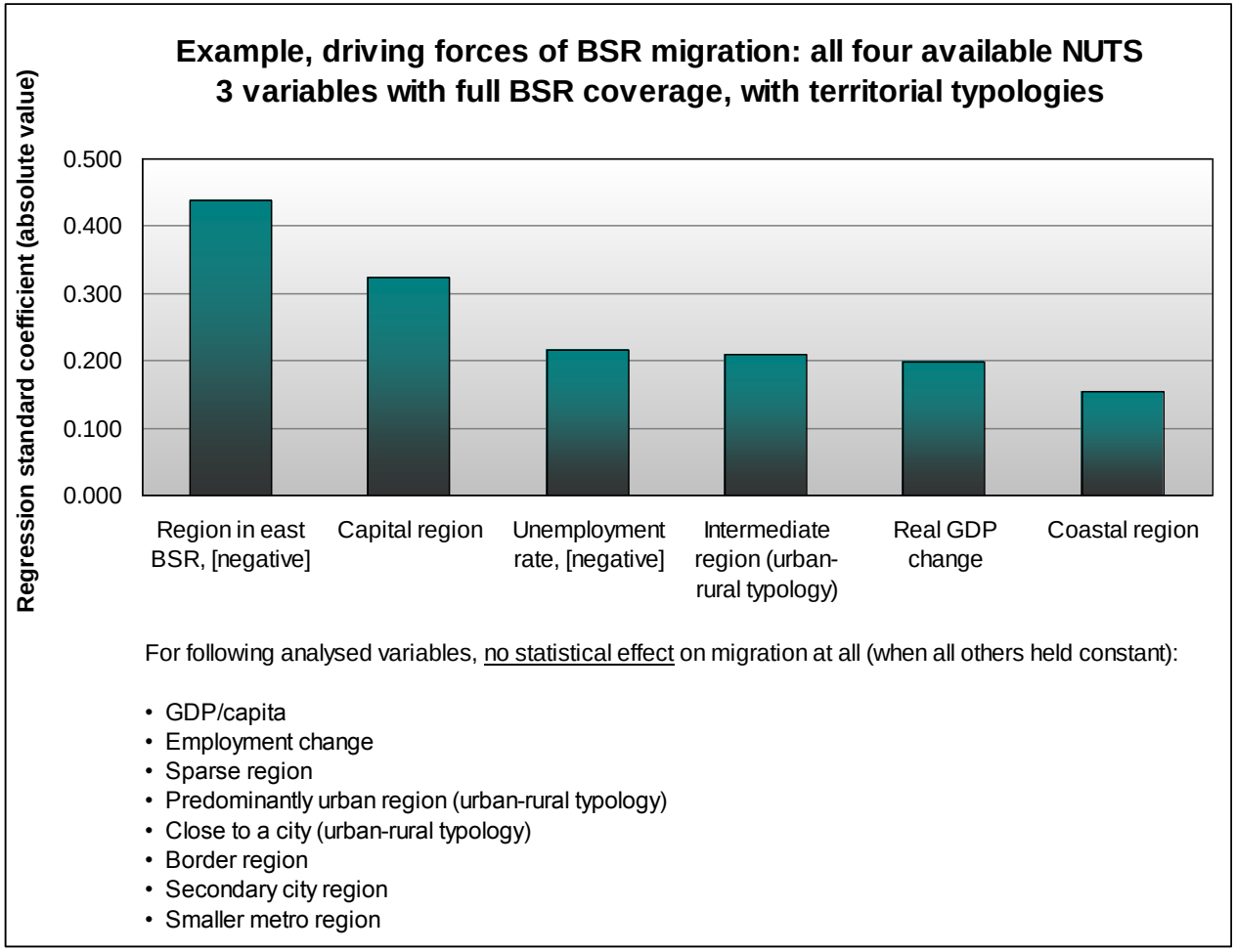
Main findings in short 4(5)

Multivariate analysis of driving forces behind migration

- The handicapping socio-economic and locational characteristics of challenged types of areas is imminent
- E.g. the status as the national capital or a secondary city, being a predominantly urban or an intermediate region, as well as lying by the coast, all have stronger effect on net migration than does e.g. GDP/capita

- **Overall conclusion: territory matters!**

Example, multivariate analysis, driving forces of BSR migration: all four available NUTS 3 variables with full BSR coverage and *with* territorial typologies



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Above 14 variables are (statistically significantly) able to explain 56 % of the variation in net migration rates in the BSR

Main findings in short 5(5)

Social inclusion and QoL

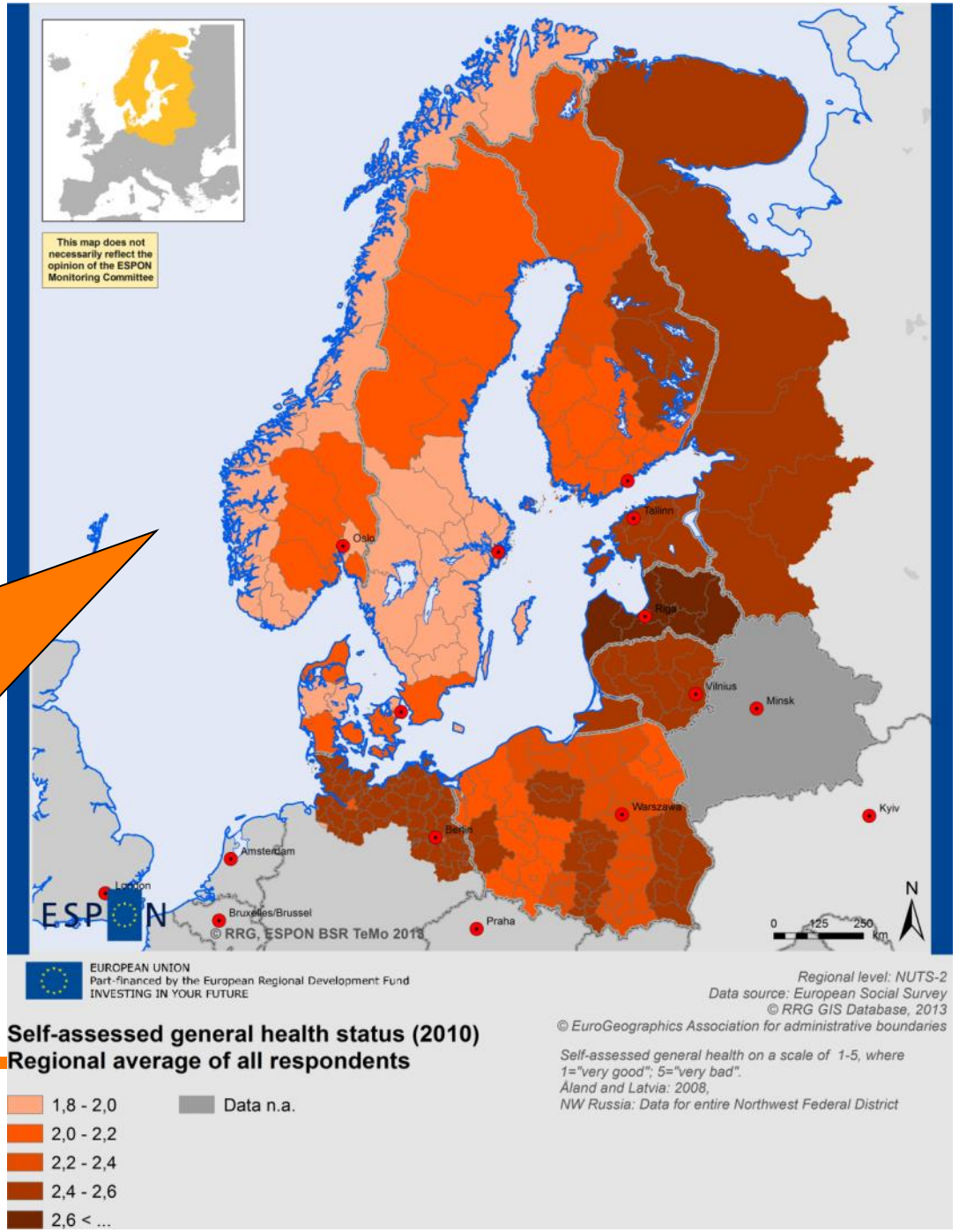
- The eastern BSR displays huge internal variations in life expectancy and the gap to western BSR is substantial. The development trends are however cohesive
- In terms of general health, the east-west divide is not clear-cut
- Economic welfare only partly explains existing patterns in health
- East-west differences in particularly absolute poverty are very large within the BSR, but no straightforward territorial pattern is discernible

Example: self-assessed general health status 2010

Light colours: better health, dark colours: worse health

Self-assessed health good measurement of effectiveness of health care system, life style, awareness, etc.

No clear-cut territorial patterns or trends, but east-west gap is somewhat apparent



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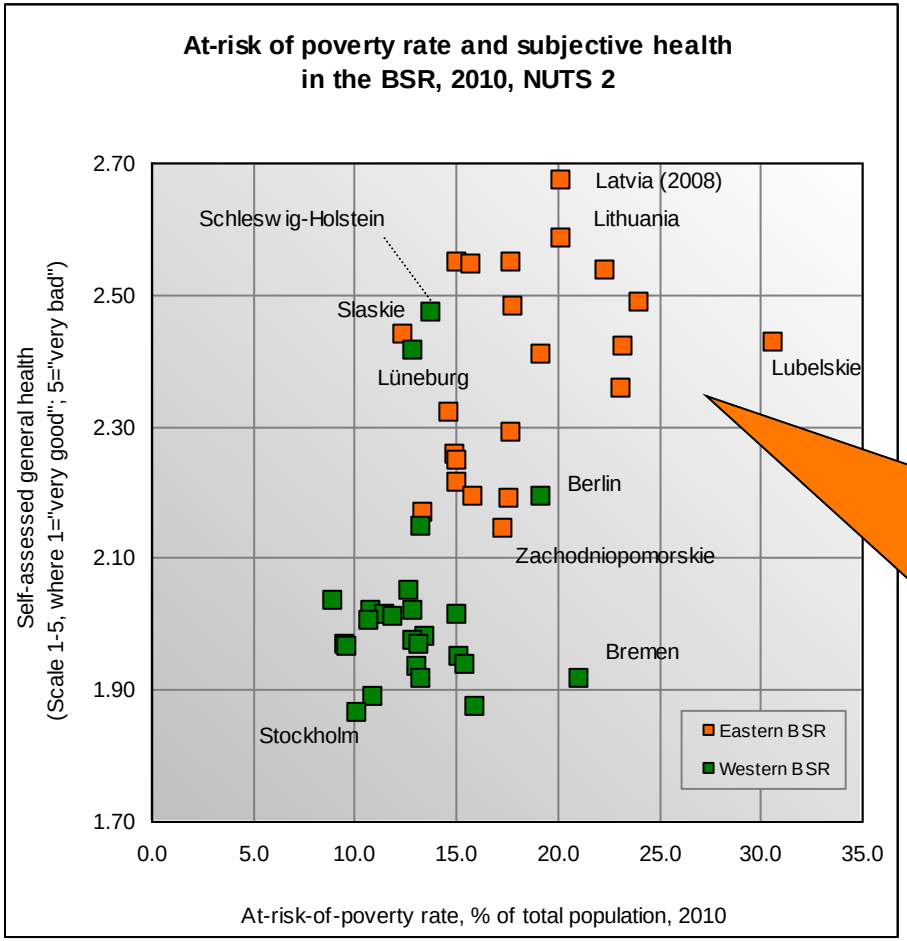
Example on bivariate analysis: poverty and health



Weak overall BSR wide connection between health and relative poverty, but …

… relationship more evident in eastern BSR

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INDICATORS FOR TERRITORIAL COHESION

Ten indicators for measuring overall Territorial Cohesion in the BSR

- Target general Territorial Cohesion objectives as well as specific BSR challenges
- Can be applied on *any variable* in order to highlight general mega trends in territorial cohesion in the region
- Ensure a multidimensional approach in applying these, which enables coherent interpretation of mixed, often confusing, signals

Example:
10 indicators of TC applied on GDP

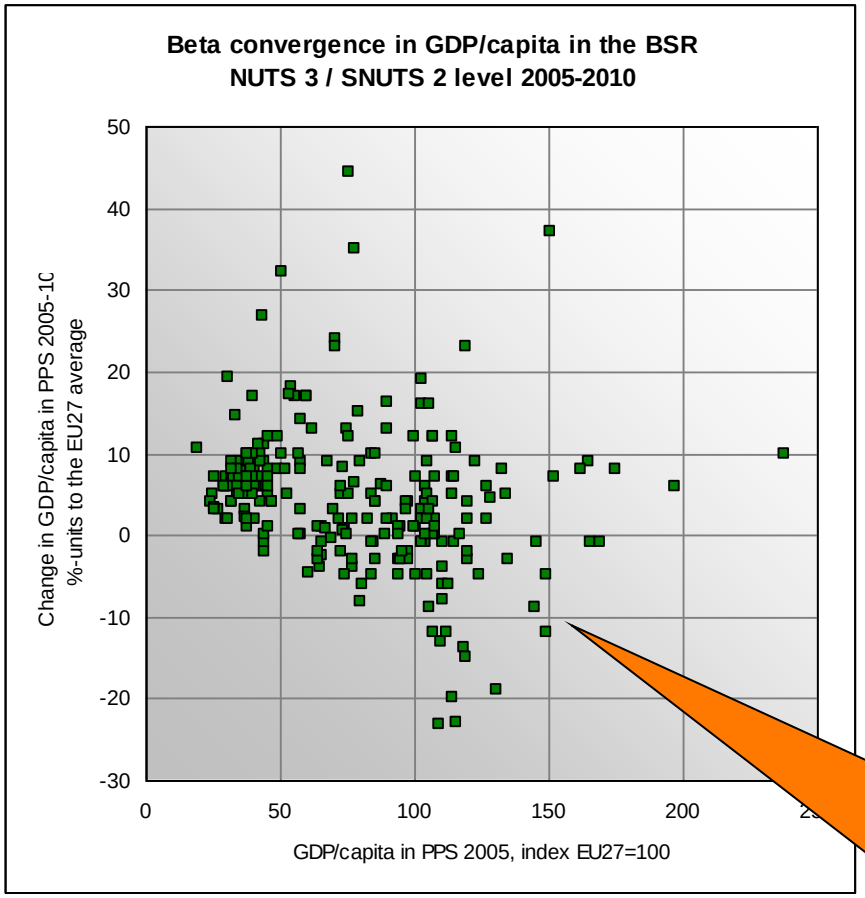
Ten indicators for territorial cohesion in GDP in the BSR 2005-2010
Based on total GDP in PPS at NUTS level 3 (Belarus and NW Russia: SNUTS2)
(n=238)

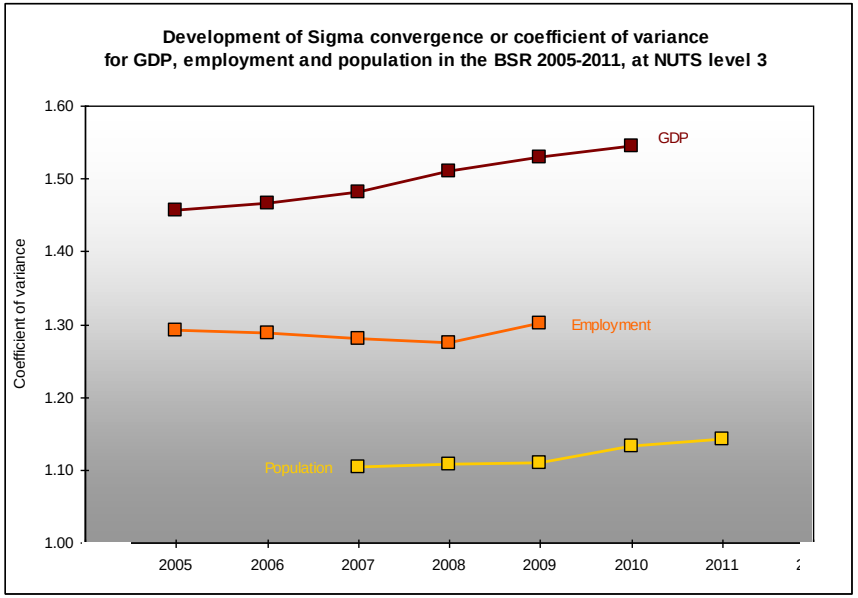
Type	Indicator	Note	2005	2006	2007	2008	2009	2010	*Short interpretation of trend*
Distribution indicators	Gini Concentration Ratio	[1]	0.509	0.511	0.513	0.516	0.520	0.527	*Gradually increasing concentration throughout the period with a large leap after 2009.*
	Atkinson index (ε =0.8)	[2]	0.311	0.313	0.315	0.319	0.324	0.332	*Inequality increasing gradually throughout the period. Largest leap after 2009.*
	80/20 (or Kuznets) ratio	[3]	12.8	12.9	12.9	13.2	13.6	14.2	*Rather balanced development up till 2007, then a big leap after the 2008 financial crisis in favor of the largest regions.*
Convergence indicators	Sigma-convergence	[4]	1.46	1.46	1.48	1.51	1.53	1.54	*Gradually increasing polarisation throughout the period.*
	Beta-convergence	[5]	:	-1.358	-4.330	-0.753	-1.585	-0.660 (*)	*Regions with low GDP/capita catch up till 2009, after which no statistically significant correlation between level of GDP/capita and its relative growth rate [(*) p-value = 0.248].*
Targeted BSR territorial cohesion indicators	East/west ratio	[6]	0.96	0.99	1.03	1.07	1.13	1.13	*Eastern BSR strengthening its position up till 2009, after which a balanced development*
	South/north ratio	[7]	16.47	16.61	17.09	17.18	18.41	17.92	*Northern regions loosing to southern ones up till 2009, after which position strengthened.*
	Urban/rural ratio	[8]	1.78	1.81	1.83	1.87	1.92	1.94	*Urban regions gaining throughout the period, with a slight ease-off after 2009.*
	Non-border/border ratio	[9]	7.05	6.87	6.80	6.69	6.72	6.62	*Border regions gradually gaining throughout the period; a small backslash in 2009.*
	Coast/inland ratio	[10]	0.934	0.947	0.943	0.950	0.923	0.921	*Coastal dominance increasing till 2008, after which inland regions have grown faster.*

Notes on method

[1] Standard measure for overall inequality within the range 0-1, where a value of 0 would indicate perfect equality and a value of 1 in turn maximum inequality.
[2] Inequality measure within the range 0-1 that enables greater emphasis to low (or high) performers. A value of 0 would indicate perfect equality and a value of 1 in turn maximum inequality. Sensitivity parameter (ε value) is here set at 0.8, which gives greater weight to changes in regions with a small GDP.
[3] Inequality measure for top and bottom extremes. Ratio of GDP in PPS in the 20 % of the largest to the 20% of the smallest regions in terms of GDP.
[4] Standard convergence indicator utilising the coefficient of variation (calculated as standard deviation divided by the mean). The higher the value, the larger all the overall differences between all regions.
[5] Standard convergence indicator measuring a catch-up process. Measured with the unstandardised "b" regression coefficient from a linear model where the dependent variable is GDP/capita in PPS at beginning of period, and the independent variable the %-unit change to the EU average. A negative value equals convergence, i.e. regions with a low level grow faster than those with a higher one, and a positive the opposite.
[6] Ratio of GDP in PPS in eastern BSR to that in Western BSR
[7] Ratio of GDP in PPS in non-sparsely populated regions to that in sparsely populated ones.
[8] Ratio of GDP in PPS in predominantly urban regions to that in predominantly rural ones. Disregards the "Intermediate" class.
[9] Ratio of GDP in PPS in non-border areas to that in external border regions. No external border regions in Denmark and BSR Germany.
[10] Ratio of GDP in PPS in coastal regions to that in non-coastal ones. Coastal regions include all levels of "coastality".

Example: convergence measurements





"Poorer" regions in the BSR catch up on the "richer" ones

… but simultaneously …

economic output gets increasingly concentrated (right graph)

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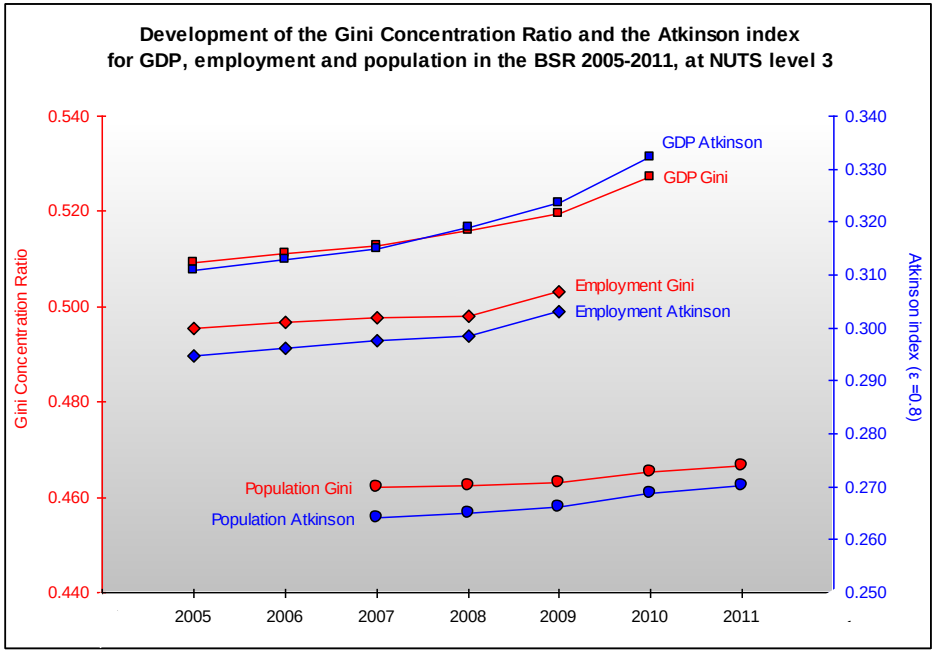
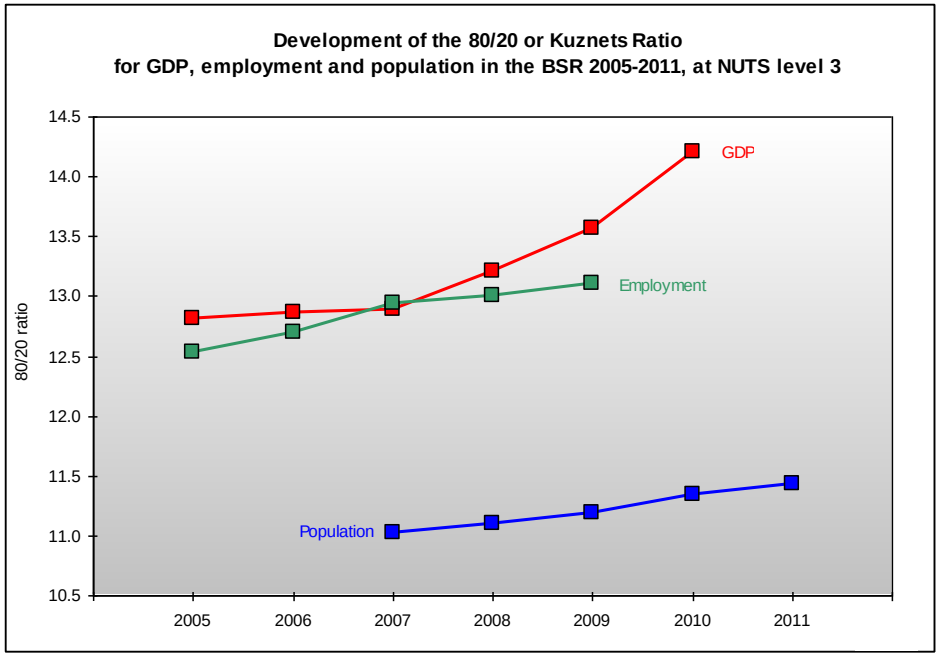
Example: distribution measurements





Overall trend: increasing segregation among regions

Economic output more concentrated that jobs, which are more concentrated than people

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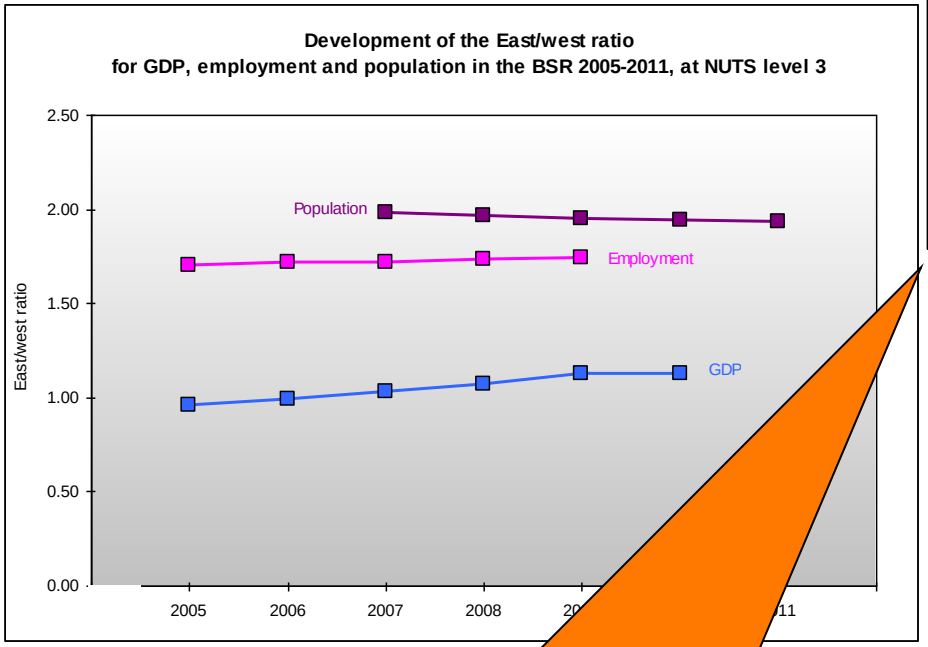
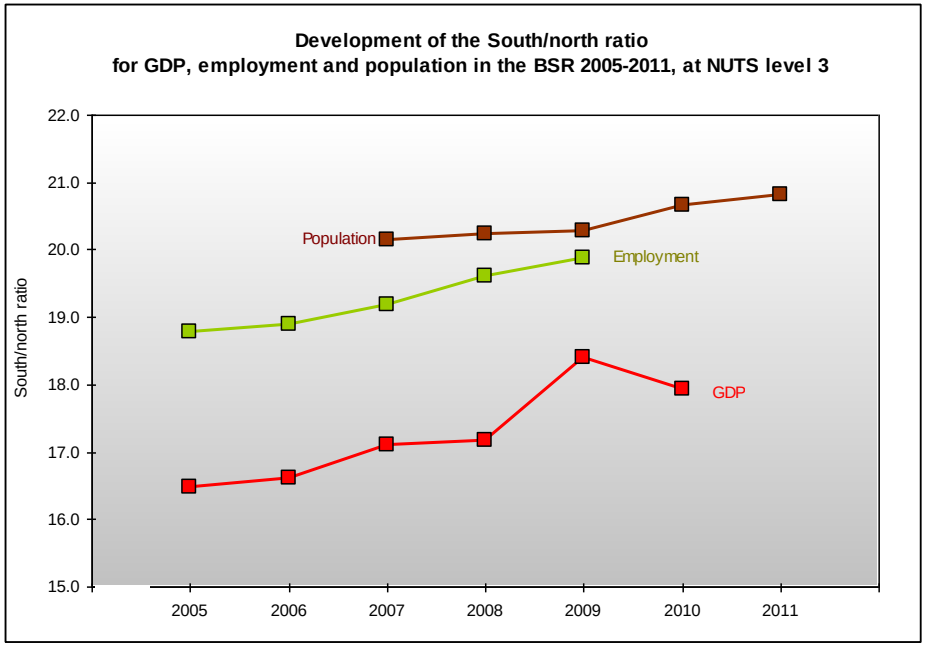
PRINCIPAL BSR DIVIDES

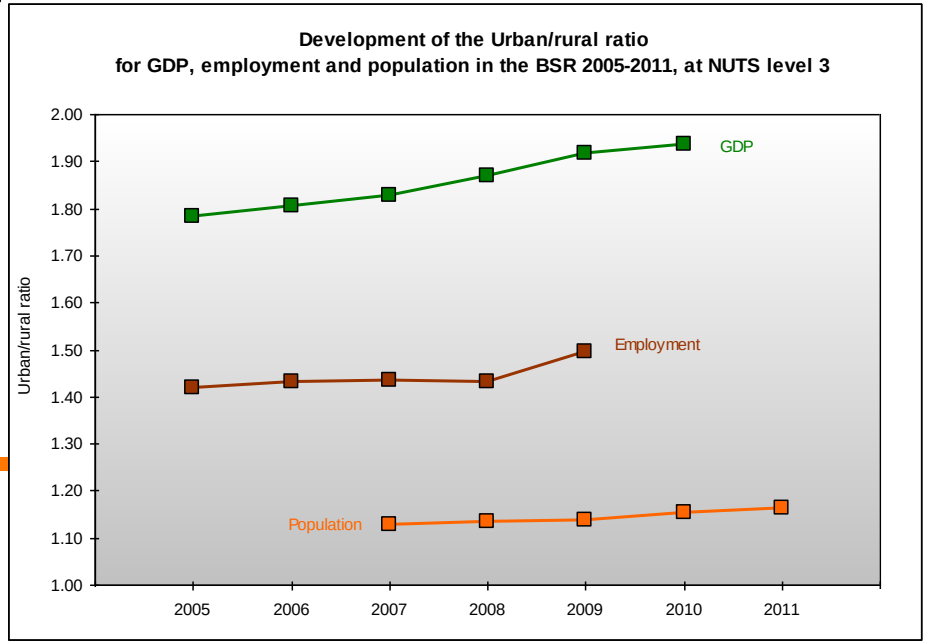
Three principal territorial divides of the BSR assessed

- Both the North-South gap as well as the Urban-Rural gap of the BSR is growing further still
- The East-West gap also exists, but it is changing form …
- … from having been a primarily economic gap sharpest along the former iron curtain, it has now changed into a far more multifaceted divide, where social differences today are possibly the most pronounced ones

Example: measurements addressing the three principal BSR divides



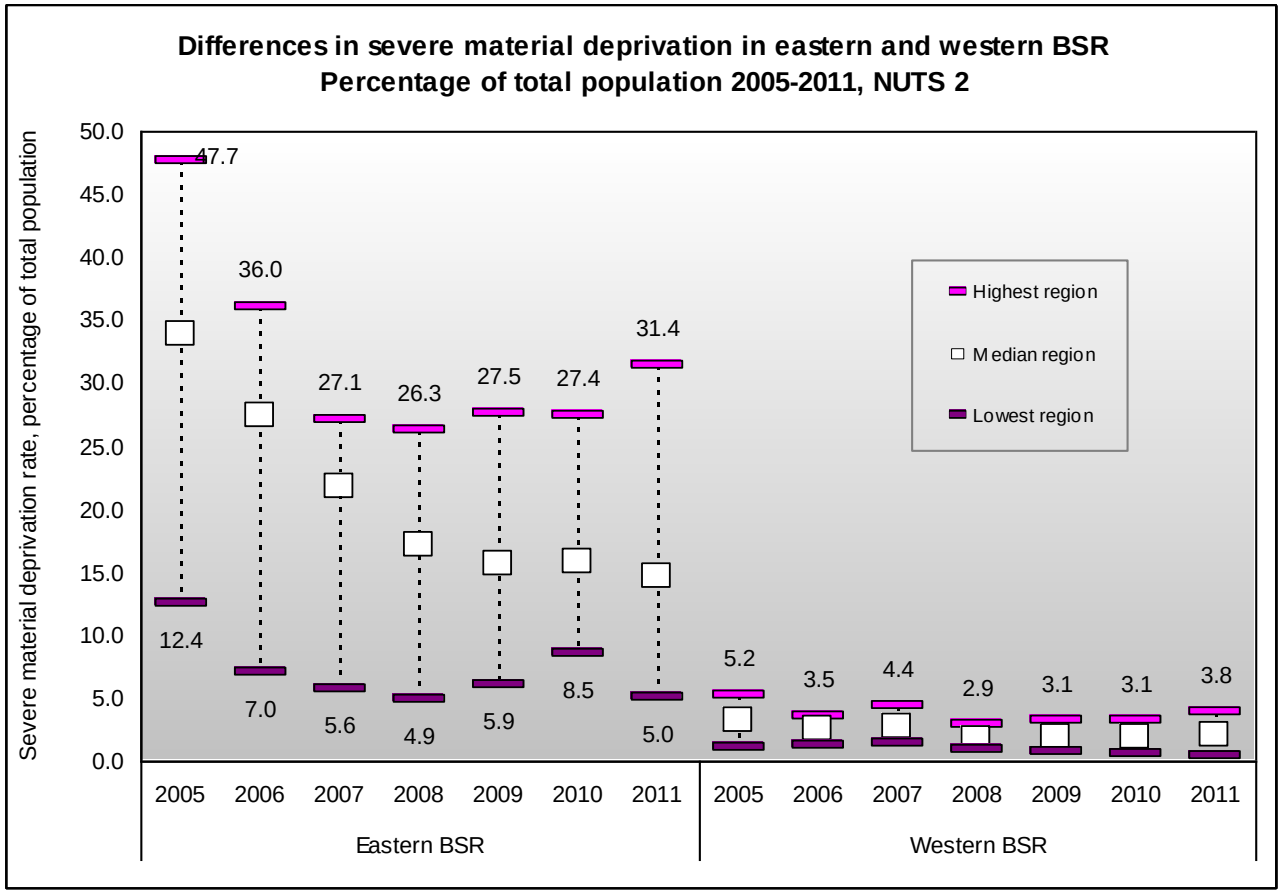




The north-south and the urban-rural gaps are growing further

The east-west gap is partially closing

Example on QoL trends: (relative) poverty and (absolute) deprivation



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Visualisation

- Have taken into consideration the wishes of stakeholders w.r.t.

  - Methods of analysis
  - Concepts for visualization (types of maps etc.)

- Tries to reflect on **what is missing in previous monitoring systems** when it comes to visualization and final use of results (e.g. INTERCO).

- One idea was to develop a simple tool which could simplify the access to the indicators and the analysis.

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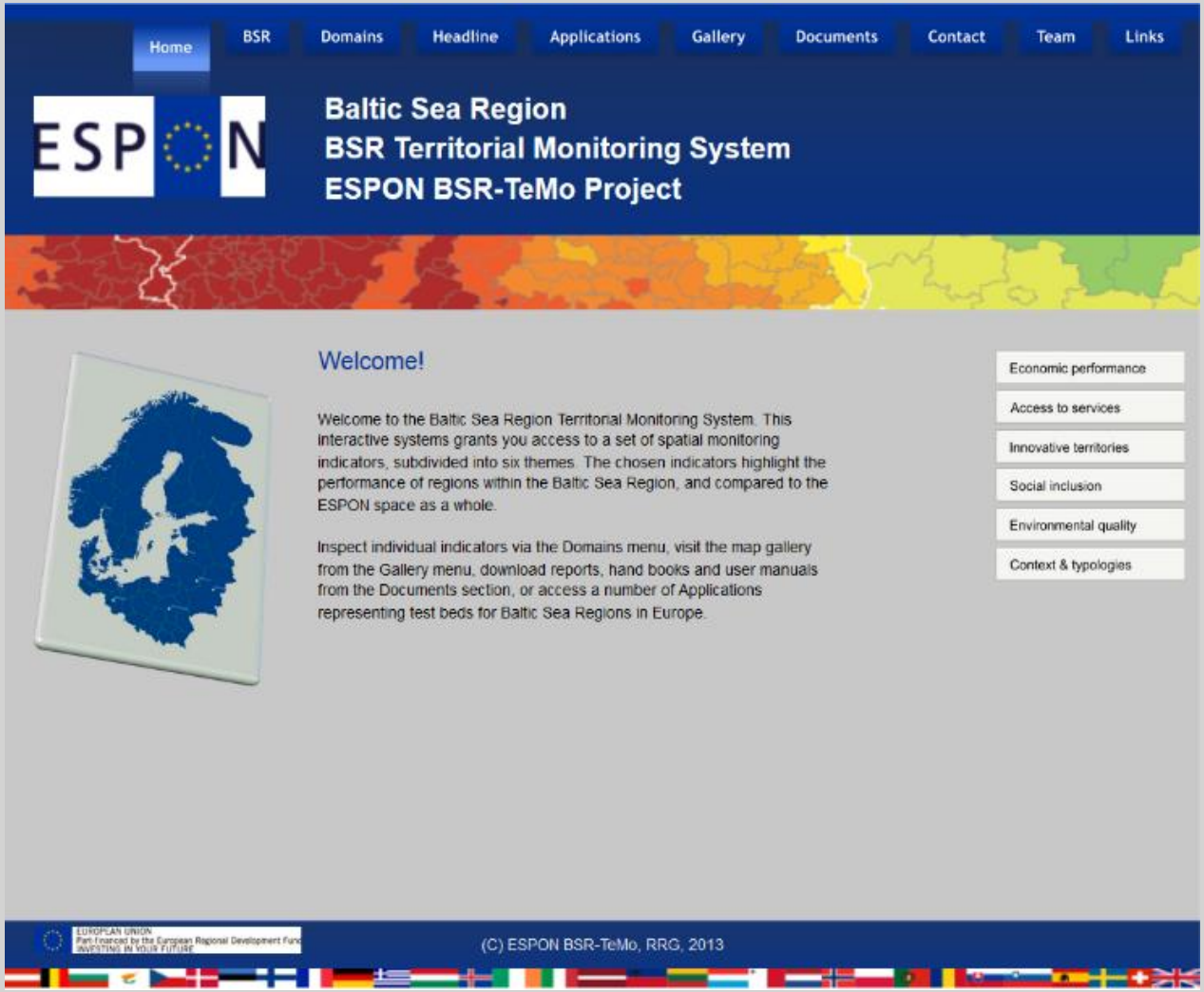
Presentation Tool: http://bsr.espon.eu



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Economic performance and competitiveness

Macroeconomic development

- GDP per capita
- GDP per person employed

This subdomain looks into the performance and structure of the economy as a whole, in terms of GDP and labour productivity.

Labour market

- Unemployment rate, total
- Employment rate (20-64 years)

This subdomain looks into two major components of labour markets, which are unemployment and employment rates.

Demography

- Net migration rate
- Total population change
- Economic dependency ratio

What are the demographic driving forces for the economy? This subdomain looks into migration as indicator for the attractiveness of a region, the overall population development as well as the economic dependency ratio.

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Unemployment rate, total

Indicator
Map gallery
Statistics
Tables & Maps
Implementation
Metadata

Indicator definition

The unemployment rate represents the ratio between unemployed workers in relation to the total labour force. This indicator gives the overall unemployment rate

Indicator importance

This indicator measures the quality and performance of regional labour markets. it constitues a contextual indicator important to assess regional flexibility as well as sustainability of local economic activities.

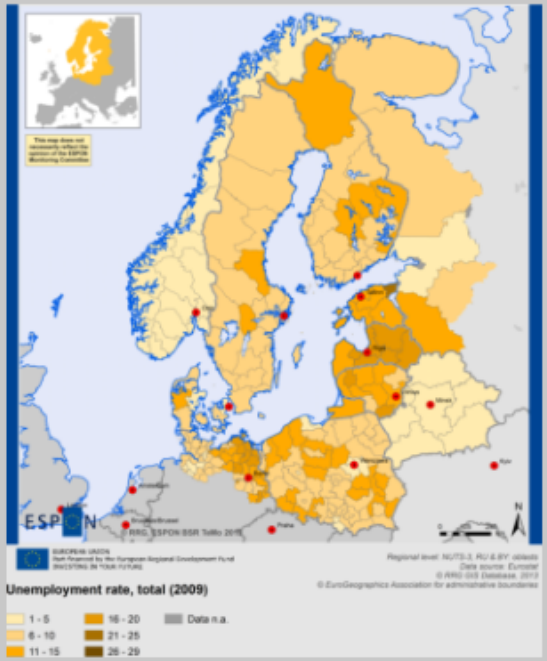
Findings

In 2005, serious unemployment could be found first of all in Poland, Slovakia and East-Germany. Over 10% unemployment was also in Southern Spain, southern Italy, Finnish periphery, Bulgaria and Greece. 2006-2007 the employment situation improved all over the ESPON area, except East Germany and Spain. Especially the situation in Poland improved. High unemployment started to spread to the north in Spain from 2008. In 2009, Spain, Ireland, the Baltic States were hit severely, the situation worsened in Turkey, too.

In BSR, the biggest change in unemployment pattern has been improving in Poland and worsening in the Baltic States. Finnish periphery and East Germany have remained areas of remarkable unemployment through all the period.

Discontinuities:

A difference of 100% and more existed along the Norwegian and Belarus external borders, but also in a few sections around prosperous metropolitan regions of Warszawa and Copenhagen. Elsewhere the differences have been less. However, unemployment was spread more evenly in the Nordic countries, but the situation was more mosaic in the Baltic States, Poland and Germany



Baltic Sea Region
BSR Territorial Monitoring System
ESPON BSR-TeMo Project

Unemployment rate, total

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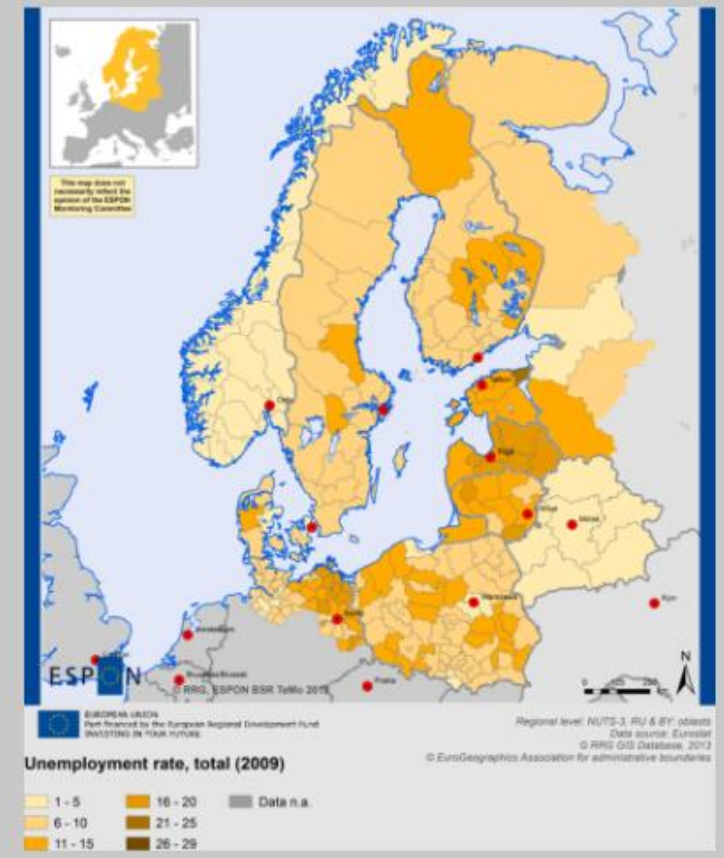
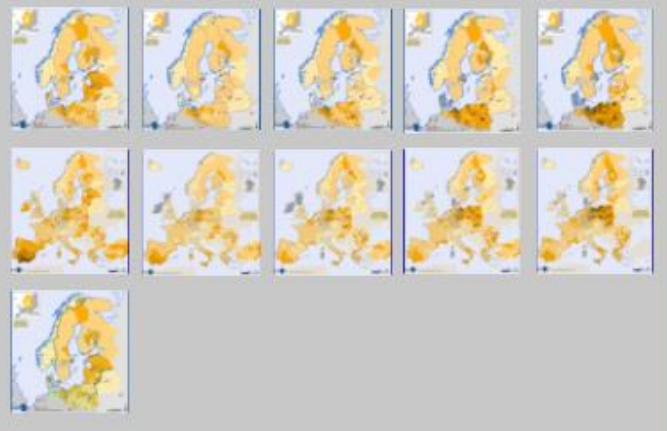
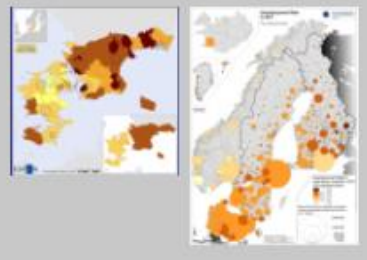
Indicator maps



Monitoring maps (BSR, ESPON space, Change)



Alternative maps (LAU-2)



Click to enlarge maps

ESPON

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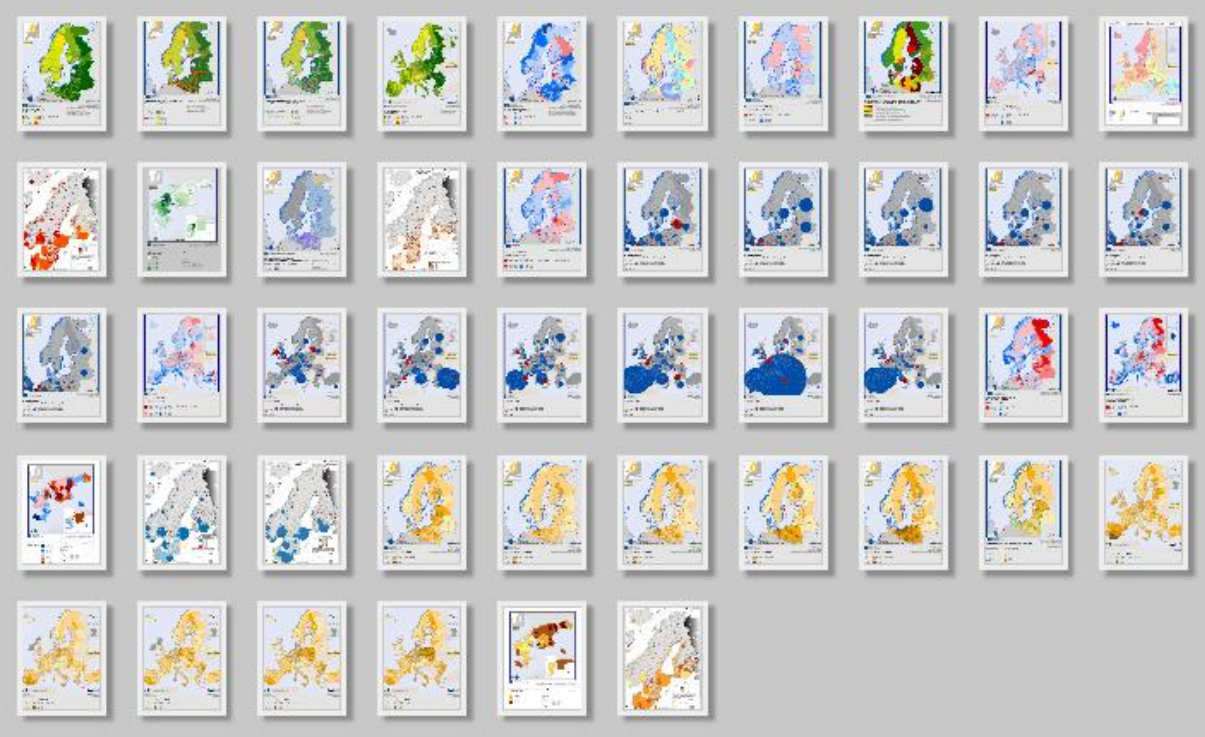
Map gallery: Economic performance and competitiveness



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Unemployment rate, total

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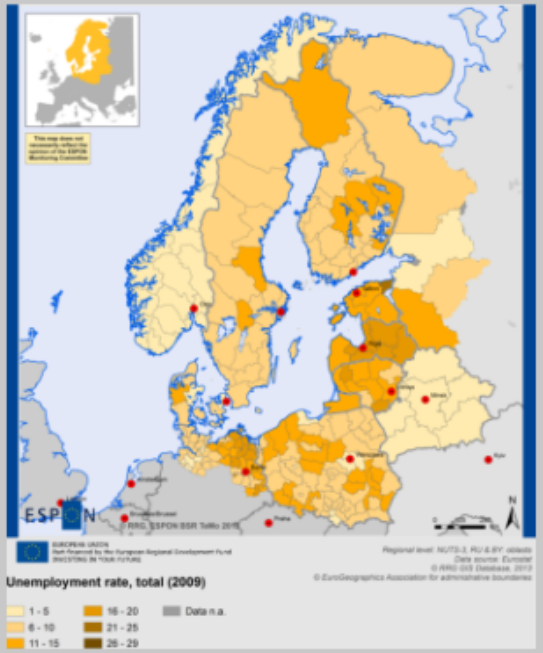
Data table

Click here to open the Excel file with the indicator numbers in ESPON standard Excel file format.

Maps download

Click on map format names to download maps in PNG, AI or SVG file format.
Unemployment rate, total, 2009, BSR (png) (ai) (svg)
Unemployment rate, total, 2008, BSR (png) (ai) (svg)
Unemployment rate, total, 2007, BSR (png) (ai) (svg)
Unemployment rate, total, 2006, BSR (png) (ai) (svg)
Unemployment rate, total, 2005, BSR (png) (ai) (svg)
Unemployment rate, total, 2009, ESPON (png) (ai) (svg)
Unemployment rate, total, 2008, ESPON (png) (ai) (svg)
Unemployment rate, total, 2007, ESPON (png) (ai) (svg)
Unemployment rate, total, 2006, ESPON (png) (ai) (svg)
Unemployment rate, total, 2005, ESPON (png) (ai) (svg)
Territorial discontinuity in unemployment rate, BSR (png) (ai) (svg)

Further related maps can be download from here as well:
Unemplyoment rate in Copenhagen/Skane region, ESPON INTERCO (png)
Unemployment rate, LAU-2, Nordic countries, Nordregio (png)



Final Report

Click here to open the TeMo Final Report as PDF file with indicator results.

Thank you!

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