



# Territorial Scenarios for Central & Eastern Europe and their Impact on Regional and Local Development

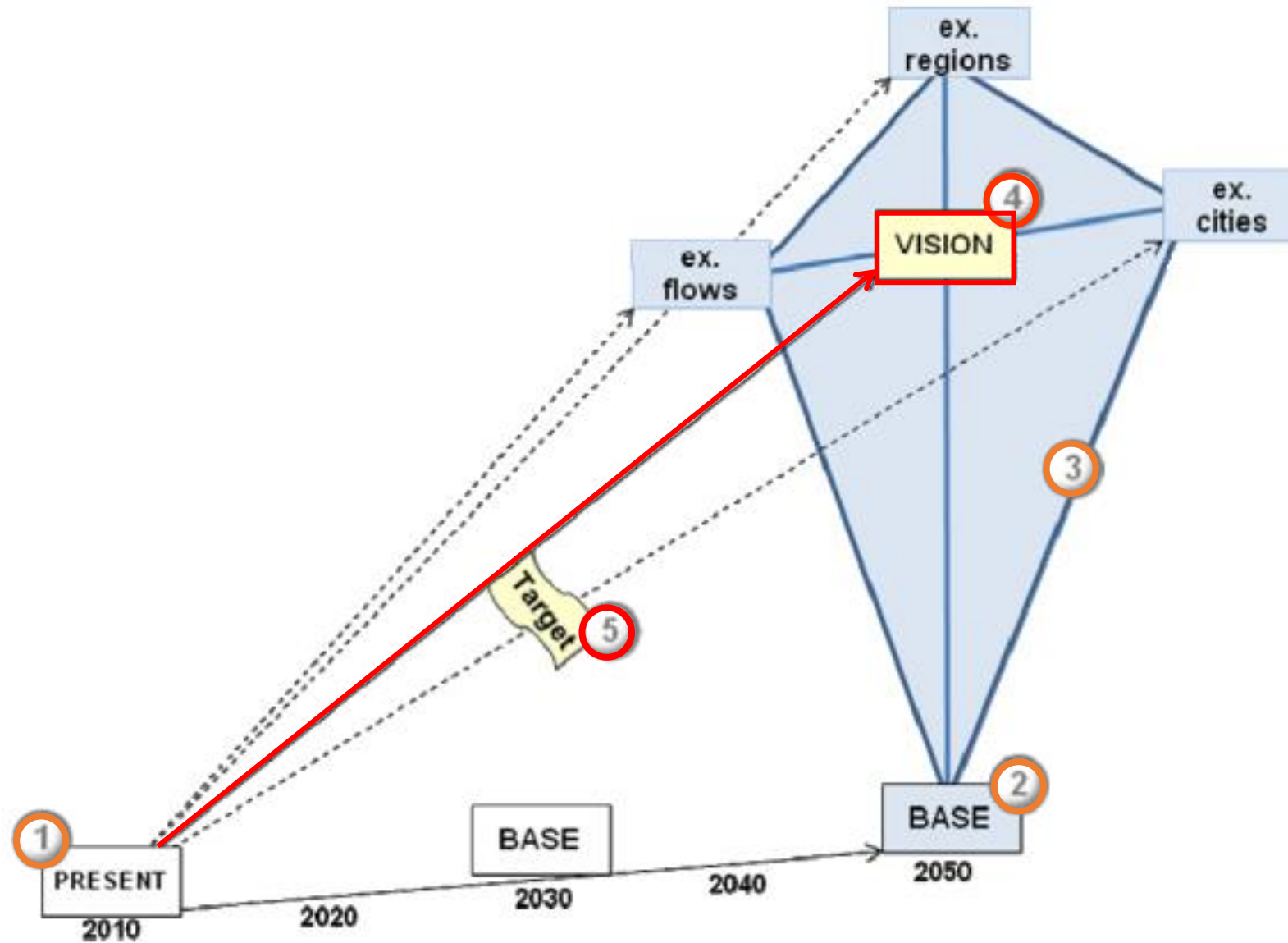
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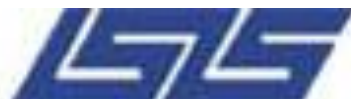


## Methodology: Scenarios, Vision & Political pathways



# EUROPEAN TERRITORIAL SCENARIOS AND VISION, 2050

ESPON ET2050 Consortium: 13 partners from 11 countries



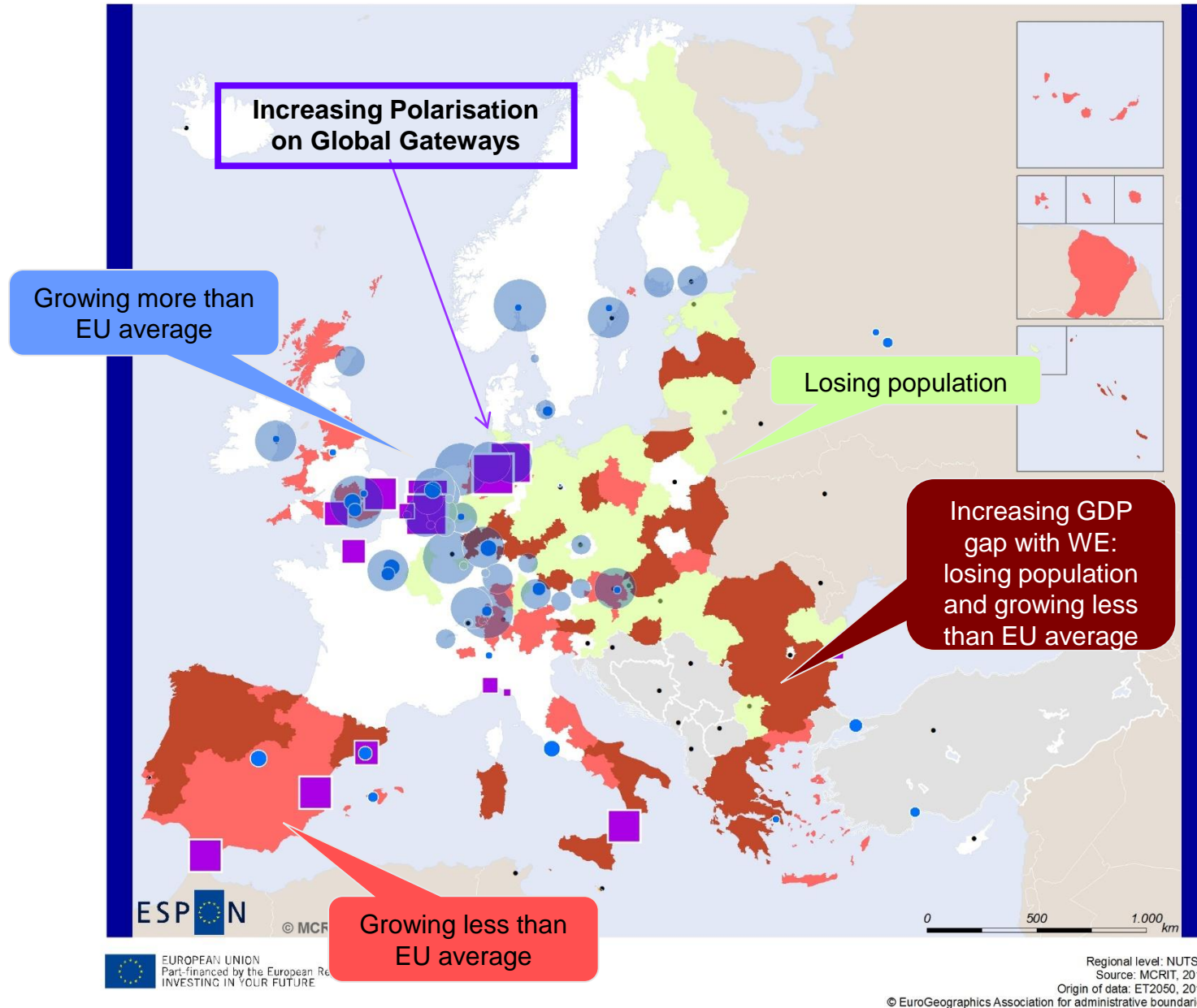
Demography	<b>MULTIPOLES (2010-2030)</b> Cohort-component, hierarchical, multiregional, supranational model of population dynamics (up to 2030)	ESPON at NUTS2	<b>IOM</b>
Economy	<b>MASST3 (2010-2030)</b> Econometric: social, macroeconomic and Territorial (up to 2030)	ESPON at NUTS2	<b>POLIMI</b>
Transport	<b>MOSAIC (2010-2030)</b> Integrated modal split and traffic assignment based on TRANSTOOLS OD trip matrices (up to 2030)	EU27 at NUTS2	<b>MCRIT</b>
Land-use	<b>METRONAMICA (2010-2050)</b> Spatial and dynamic land use model that Uses constrained cellular automata to allocate land-uses (up to 2050)	EU27 at Cells 1 km <sup>2</sup>	<b>RIKS</b>
Integrated	<b>SASI (2010-2050)</b> Dynamic System (up to 2050)	ESPON and Western Balkans at NUTS3	<b>S&amp;W</b>



## Trends > Scenarios > Policies



# Baseline Scenario: Key Territorial Trends towards 2030

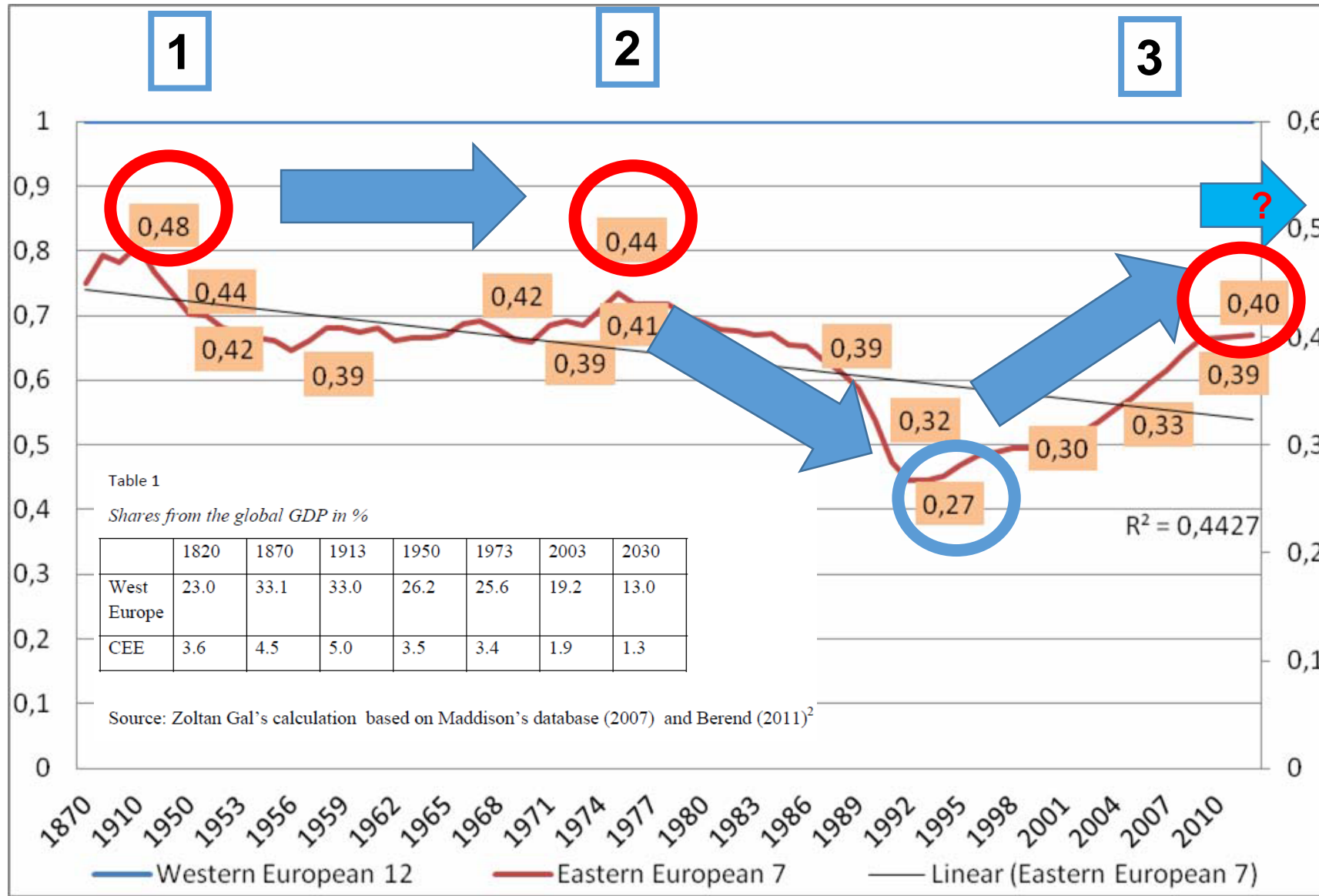




# Relative development gap between CEE & WE-12

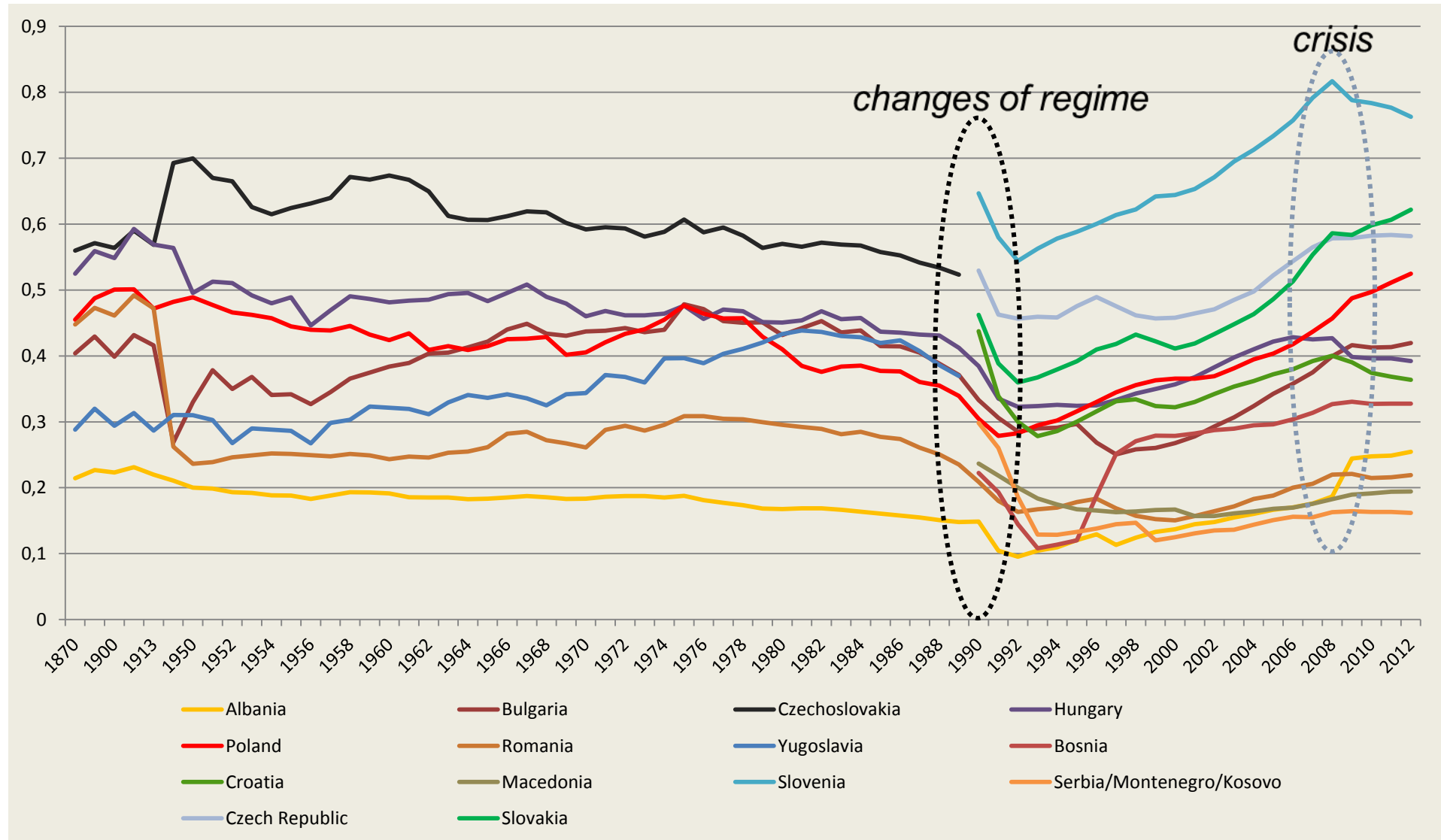
## Long-term problems of capital accumulation 1870-2012

(CEECs/SEECs-7+(12) vs. WE-12=100%=1, in GDP per capita, %)



# Changes in per capita GDP level in CEECs & SEECs in comparison with Western European Countries

(WE 12 =100%) between 1870 and 2012



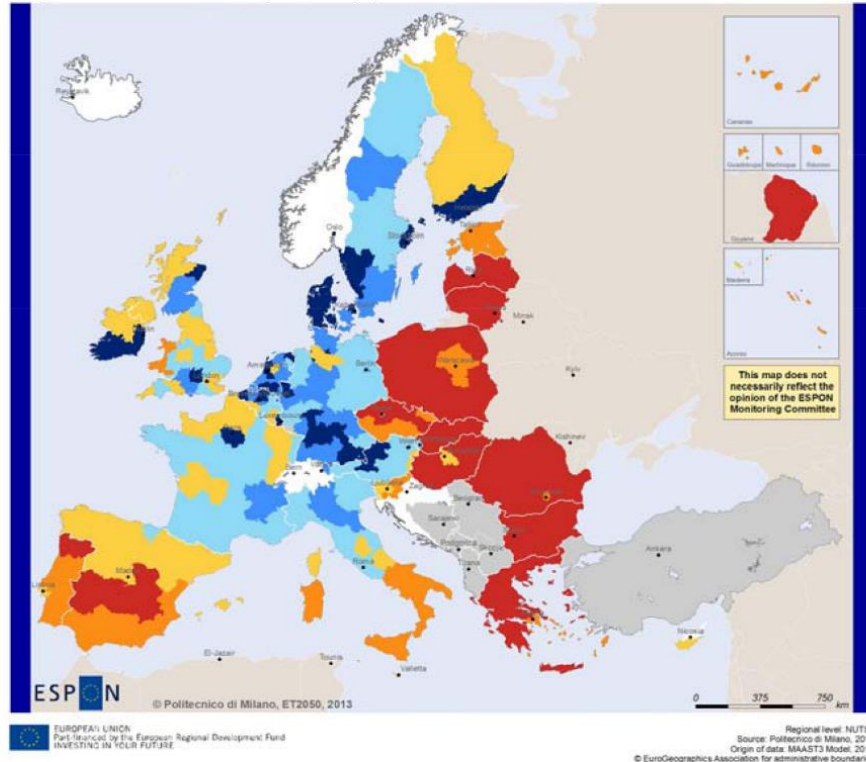
Source: Zoltan Gal's calculation based on Maddison database



# Regional Economic Gap between the old and the new EU

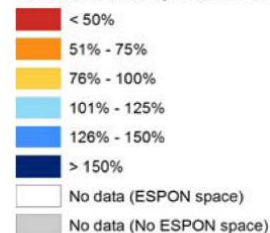
Illustration 12 Regional Economic GAP 2030 - 2050

Regional Economic Gap 2030 (B)

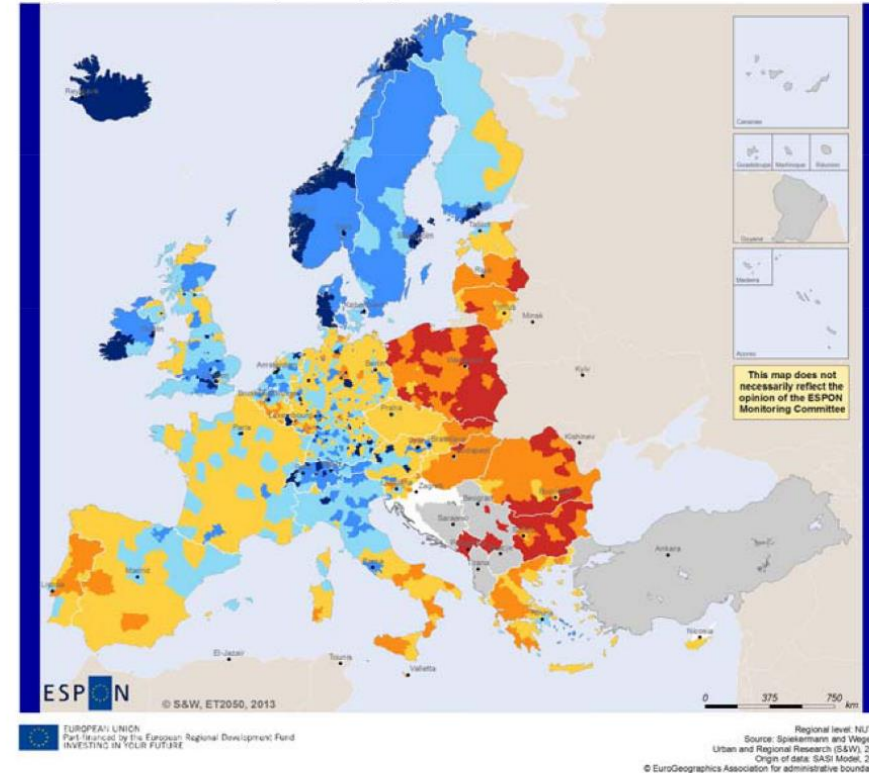


Dispersion from EU GDP per capita average 2030 (Units: %)

Results obtained by MASST3 forecast model

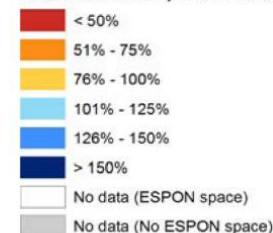


Regional Economic Gap 2050 (C2)



Dispersion from EU GDP per capita average 2050 (Units: %)

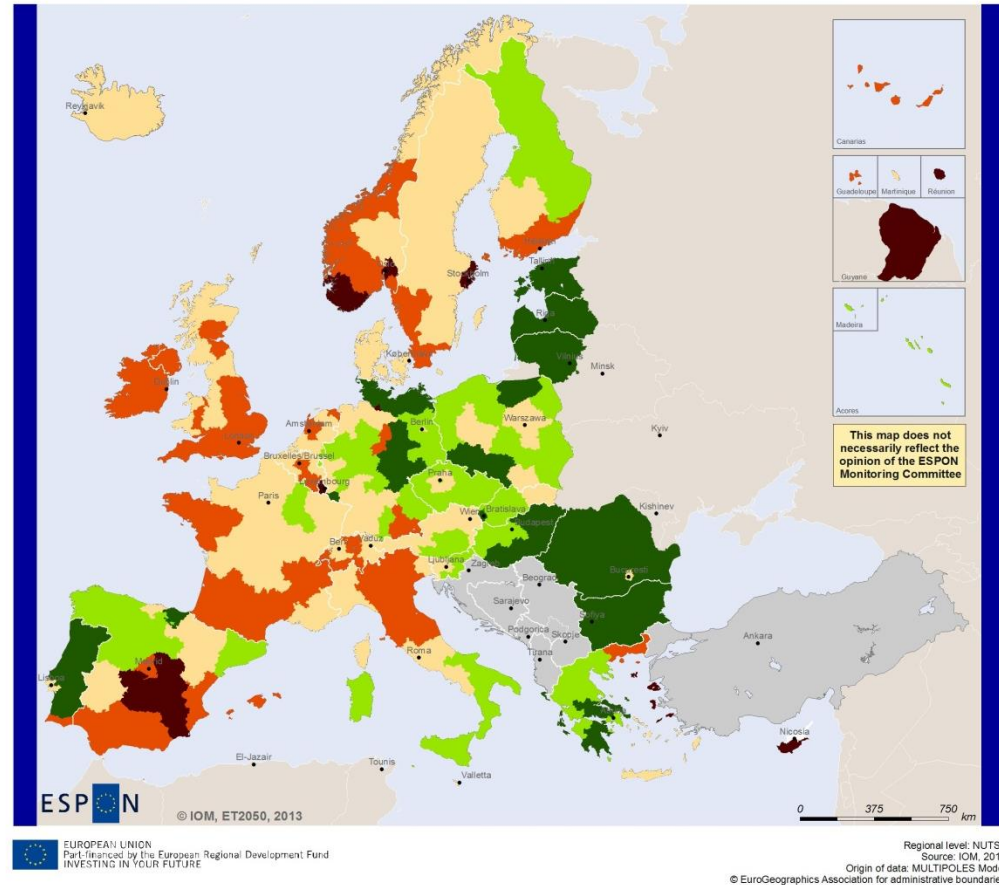
Results obtained by SASI forecast model



# Stable, ageing and more mobile population towards 2030

## Total Population 2010 - 2030 (Baseline)

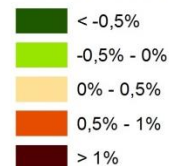
Measured as annual population change



CEE is the only EU macroregion where the population is decreasing!

### Annual population change (Units: %)

Results obtained by MULTIPOLES forecast model



White box: No data (ESPON space)  
Grey box: No data (No ESPON space)

From 514 to 530 inh.,  
Aging: >64 years 26% to 39%

European population growth will tend towards stabilisation. Total population (ESPON Space) will grow from 514 million in 2010 to 530 million in 2030. MULTIPOLES is a cohort-component population dynamics model. It is used for the simulations of complex hierarchical multiregional, multi-country population systems; for analysing impact of various scenarios concerning migration, fertility, and mortality.

# BASELINE TRENDS for CEE and SEE

„Eastern European countries **will hardly be able to sustain the strategy of growth of the previous decade**, when many industries were attracted... While large cities and capitals may have agglomeration economies, rural areas will tend to be depopulated. Migrations from East to West will continue.

Social Welfare may grow slowly, and the gap with Northern and EU Core regions may also grow.”

(ET2050 Final report)

## Aggregate results of the Baseline scenario

	Average annual GDP growth rate	Average annual population growth rate	Average annual employment growth rate	Average annual manufacturing employment growth rate	Average annual service employment growth rate
EU27	1.89	0.31	1.58	1.38	1.63
Old 15	1.88	0.47	1.53	1.48	1.54
New 12	1.93	-0.38	1.90	0.98	2.33

### Two/ Three speed Europe;

Southern peripheral countries grow less than Northern countries.

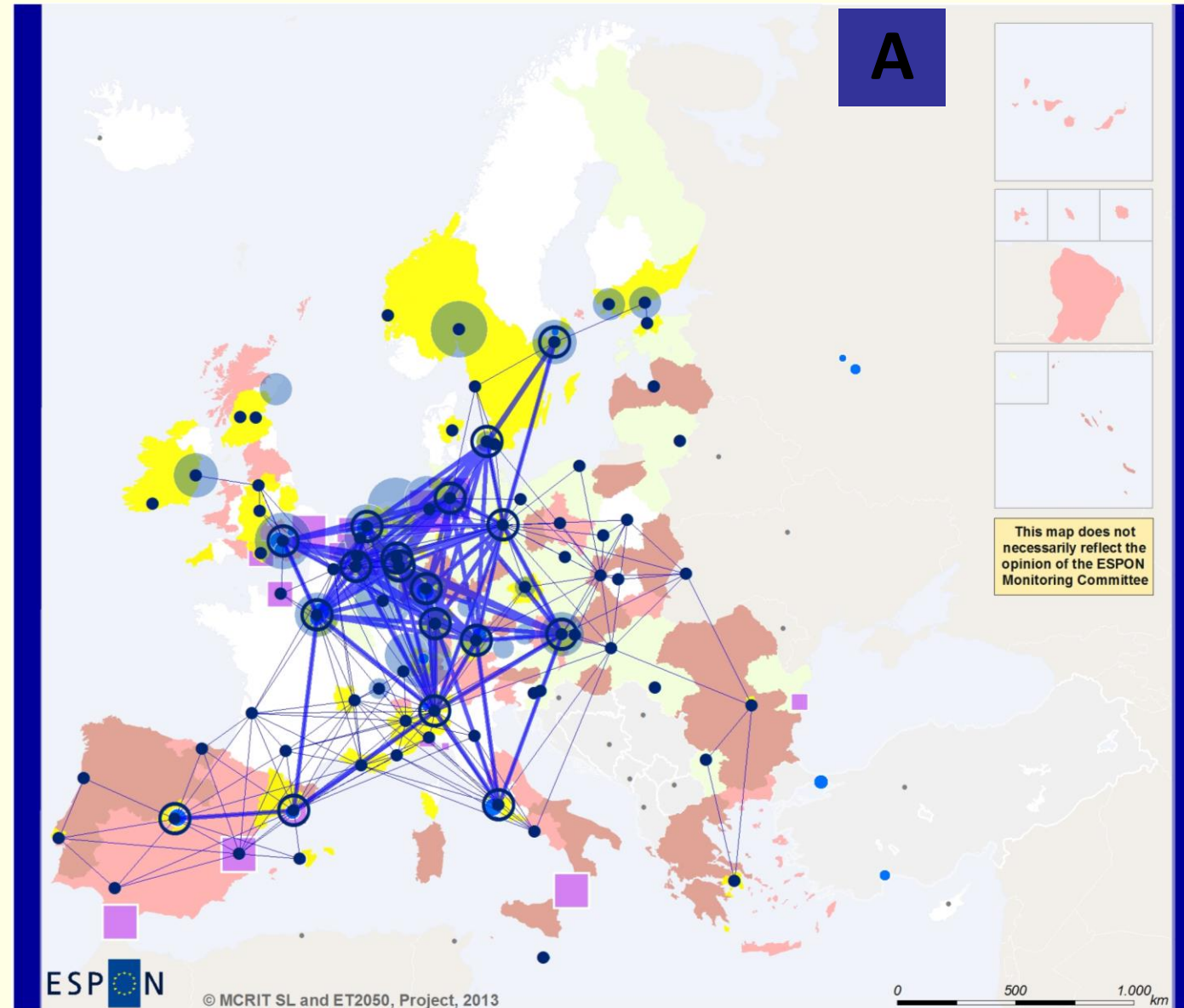
**Eastern European countries will grow a little more than the EU 15, but this is not enough to catch up with the GDP per capita levels of the Western countries by 2030.**



Trends > **Scenarios** > Policies







ESPON

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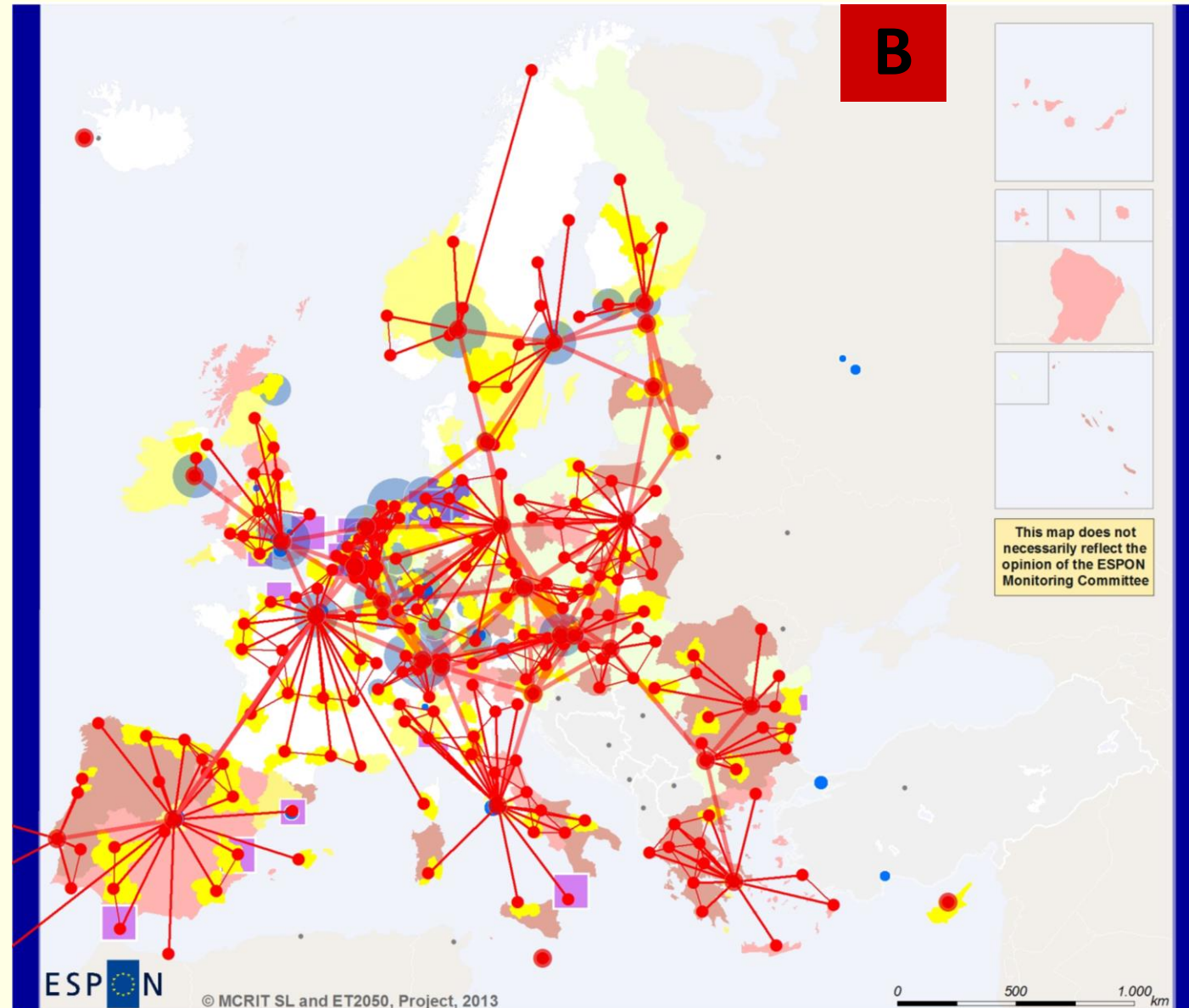
Regional level: NUTS 3  
Source: MCRIT, 2013  
Origin of data: ET2050, 2013  
© EuroGeographics Association for administrative boundaries



# Territorial Scenarios 2050 (A)

## Promotion and networking of European Metropolises

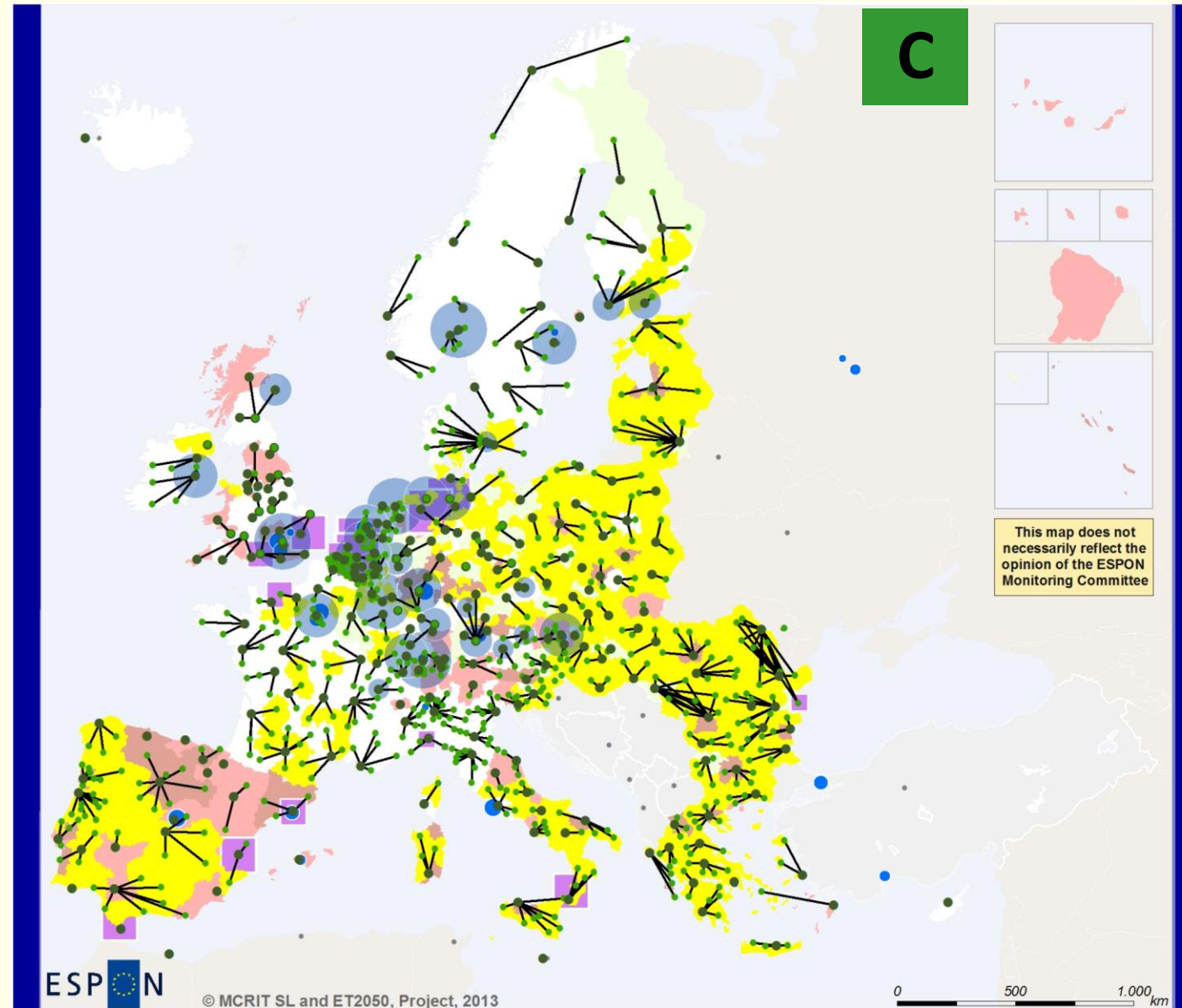
- Development of capital and global metropolises as well as existing global gateways.
- Based on ***“Europe 2020” strategy.***
- European global competitiveness is crucial to take full advantage of the connectivity to international networks and the agglomeration economies of larger European metropolises.



# Territorial Scenarios 2050 (B)

## Promotion and networking of Second Tier Cities:

- **Making Europe *open and polycentric*** is the most suitable territorial strategy supporting competitiveness, social cohesion and sustainability goals.
- Development of networks of Second Tier Cities (capitals, regional centres). ***Inspired by ESDP.***
- Cohesion and Structural funds would be mostly targeted to such cities.
- It supports the balanced polycentric urban systems (261 second-tier cities) by urban renewal and re-urbanisation, R&D investments, and promotion of regional & inter-regional transport networks.



# Territorial Scenarios 2050 (c)

## Promotion of smaller cities in less developed regions

- Responds to the challenges of energy scarcity, unsustainable mobility patterns and climate change expressed in the ***Territorial Agenda 2020***.
- Local production and local markets gain much importance, while migration of skilled people from large cities to rural areas accelerates localism.
- Cohesion policies are focused on reinforcing the social and economic balance of Europe at the regional level, promoting decentralization, endogenous development and empowering regional institutions.

## Summary of assumptions in the scenarios

- **“Baseline scenario:** No change in economic fundamentals and structure; no change in policies
- **A: “Megas” scenario:** Market driven scenario; budget reduced for cohesion policies; concentration of investments in European large cities.
- **B: “Cities” scenario:** Present welfare system reinforced; budget maintained for cohesion policies; concentration of investments in second rank cities.
- **C: “Regions” scenario:** Strong public welfare system; budget significantly increased for cohesion policies; concentration of investments in rural and cohesion area



# European Funds Allocation across NUTS3

**Legend:**

- A (MEGAs) - Blue circle
- B (Cities) - Red circle
- C (Regions) - Green circle

**Percentage of total EU Structural Funds:**

- 1.0 % (Largest circle)
- 0.5 % (Medium circle)
- 0.25% (Smallest circle)

**Map Labels:** Helsinki, Tallinn, Stockholm, Riga, Vilnius, Minsk, Oslo, Copenhagen, Warsaw, Berlin, Prague, Amsterdam, Brussels, Luxembourg, Paris, Madrid, Rome, Athens, Nicosia, Ankara, Sofia, Podgorica, Sarajevo, Beograd, Bratislava, Budapest, Kishinev, Zagreb, Ljubljana, Vaduz, Bern, Luxembourg, Dublin, London, Lisbon, Valletta, Tounis, El-Jazair.

**Scale:** 0 250 500 km

**ESPON**

**© S&W, ET2050, 2013**



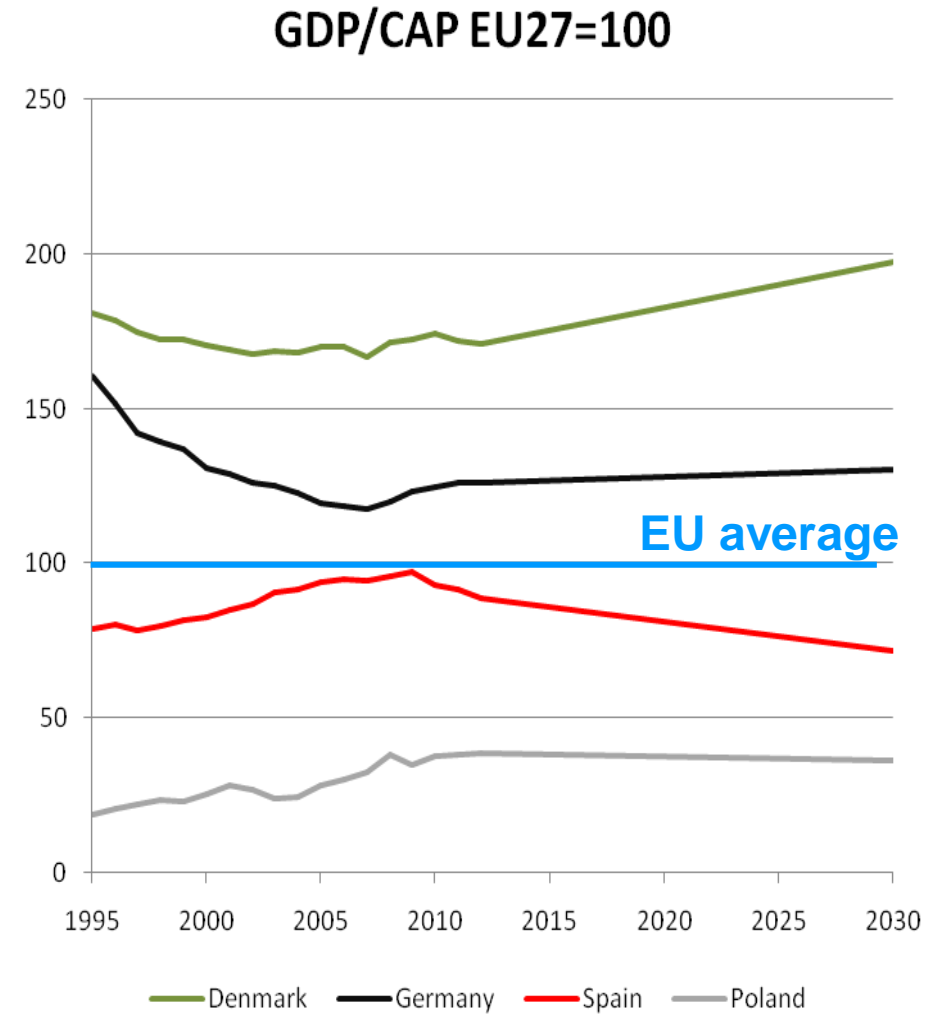
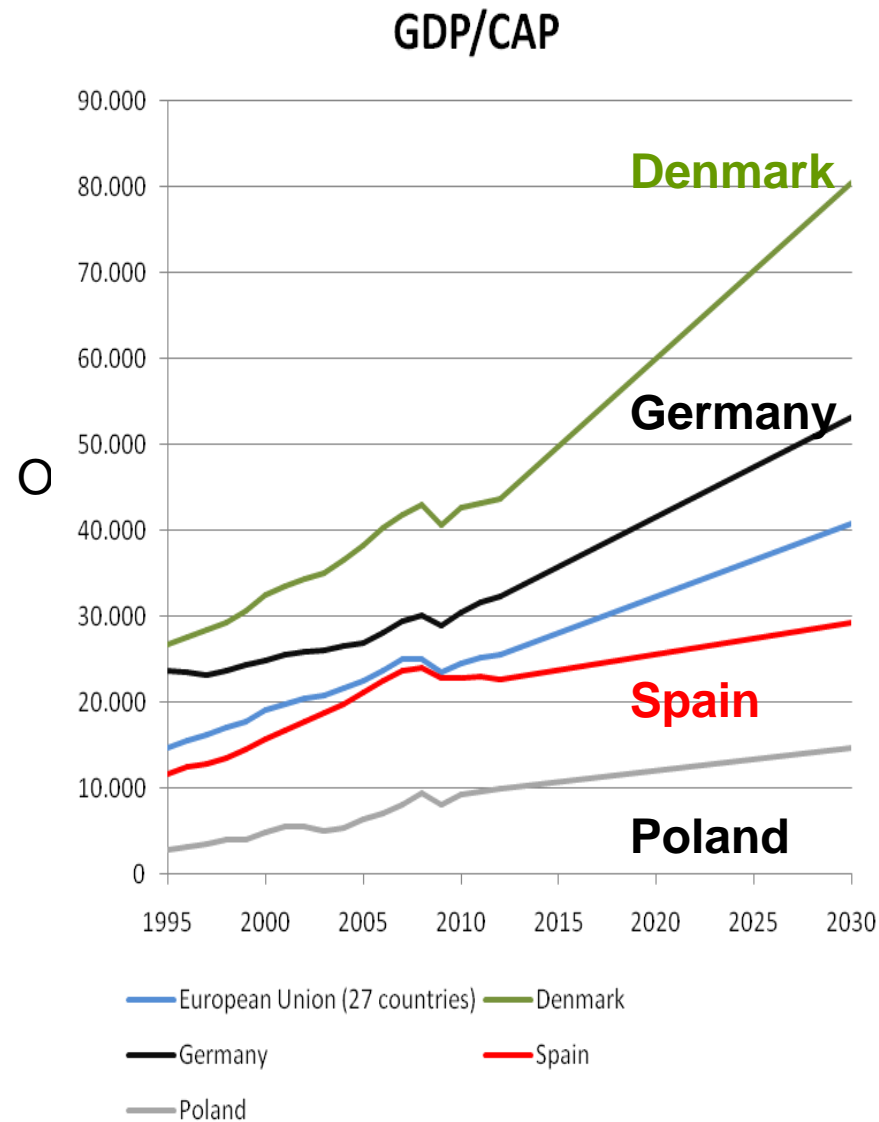


Trends > Scenarios > **Territorial disparities**

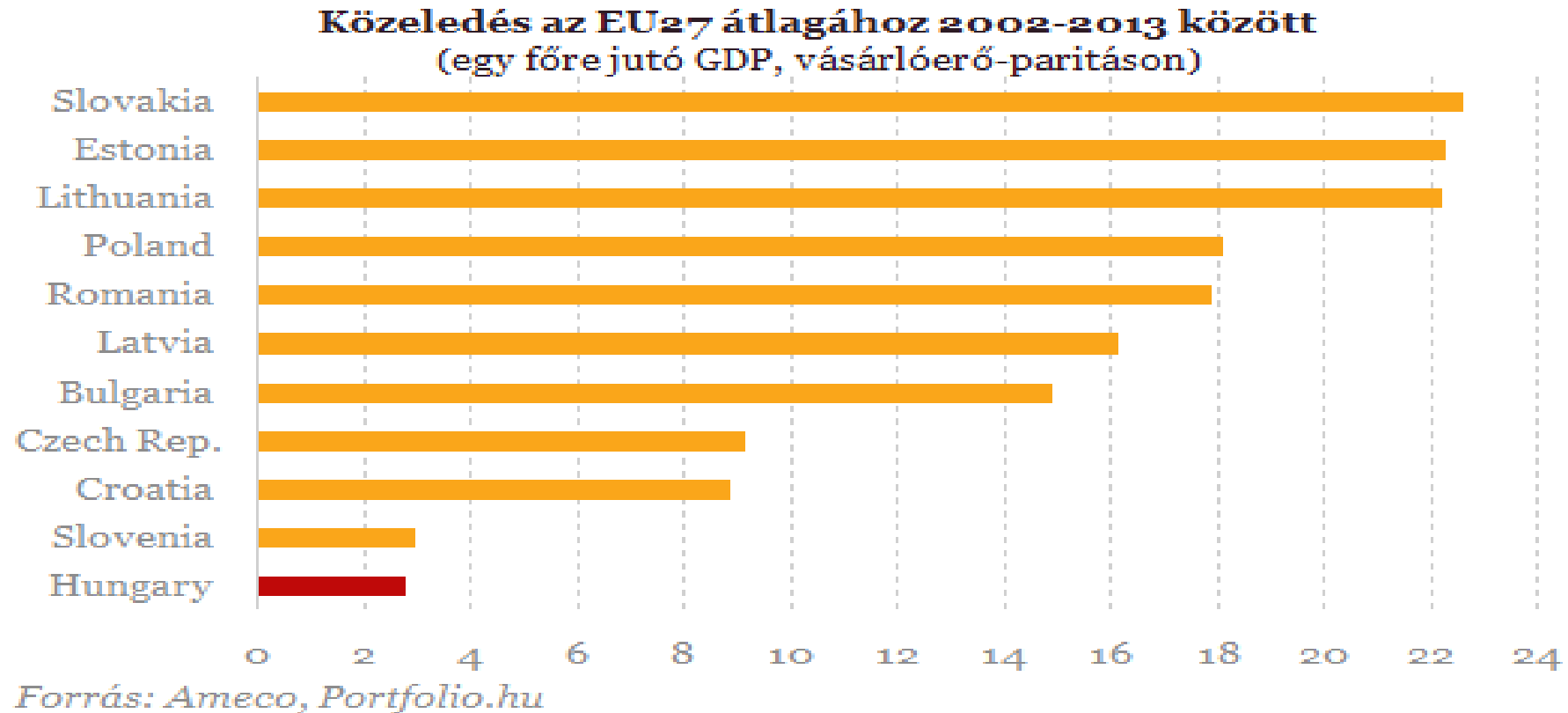


# More rapidly increasing national disparities in Central and Eastern Europe

- Sustainable catching up process is jeopardised by the **dualistic** feature of the transition economies unveiled the weakness of domestic sectors.
- **Low-income-based competitiveness represents a development trap** that counteracts the accumulation of financial and social capital, hinders upgrading to high value-added production, and encourages migration to higher-wage regions.
- Despite European catching-up processes, the **large economic and territorial inequalities** can not be eliminated in dependent economies **due to constant capital scarcities**.



## Convergence to EU27 between 2002-2013 (GDP per capita, PPP)



## Aggregate GDP growth results for the exploratory scenarios

Aggregates	Baseline	Megas	Cities	Regions	Megas vs. baseline	Cities vs. Baseline	Regions vs. Baseline
EU27	1.89	2.22	2.31	1.82	0.33	0.42	-0.06
old15	1.88	2.22	2.32	1.81	0.34	0.44	-0.07
new12	1.93	2.22	2.23	1.98	0.29	0.30	0.05

1. The “Cities scenario” is the most expansionary: territorial capital is better exploited than in the other scenarios.
2. This holds also for New Member countries, but they gain less.
3. New 12 countries are those that gain in the “Regions” scenario with respect to the baseline.
4. New 12 countries gain in a “Megas scenario, but less than Old 15.



## Growing regional disparities

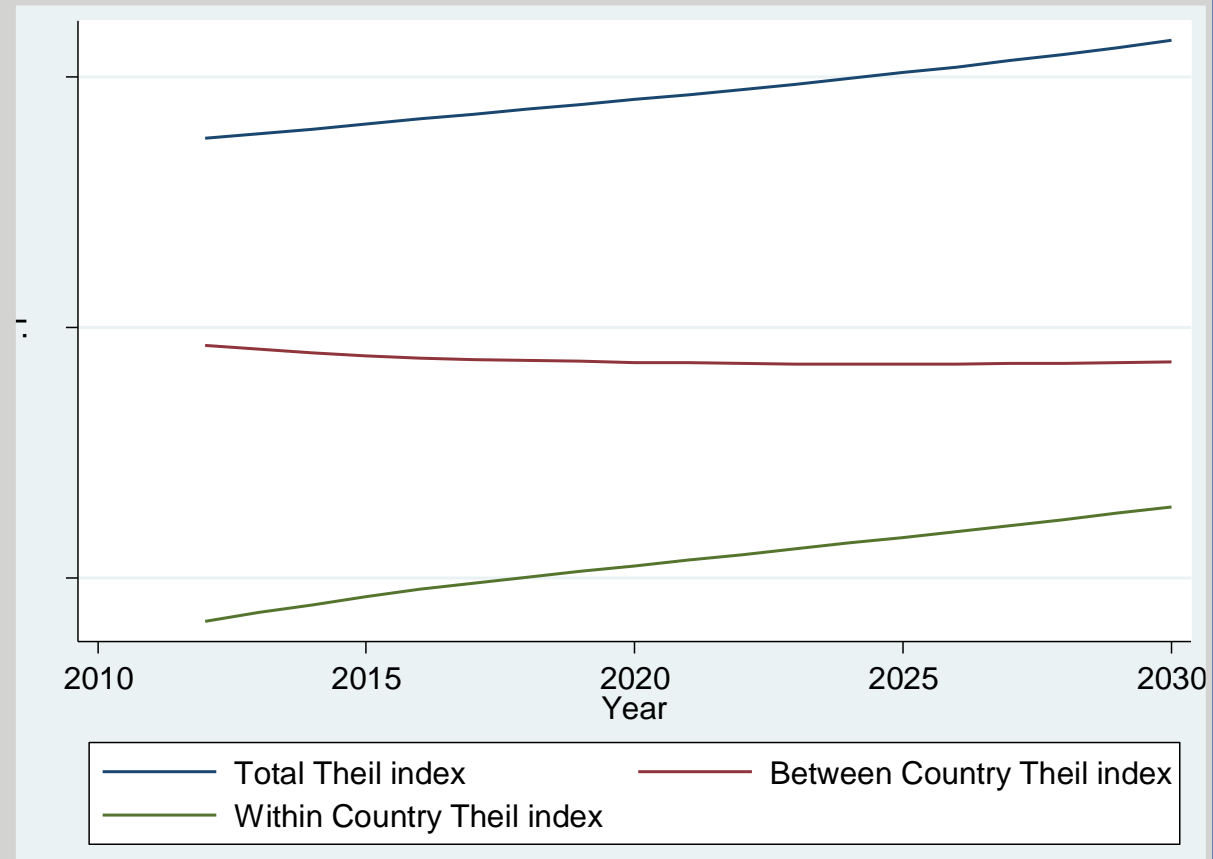
- At regional level, we may see disparities growing more than before. In the new member states (NM13) capital regions are the winners, while rural and eastern border regions may likely be the losers.
- Clashes between growth- and sustainability-oriented policies are to be expected.
- A continuation of the present situation towards 2030 years is a likely outcome, if there are no significant political or technologic changes.

## Regional Disparities In CEE NMS: Their index in the Baseline scenario

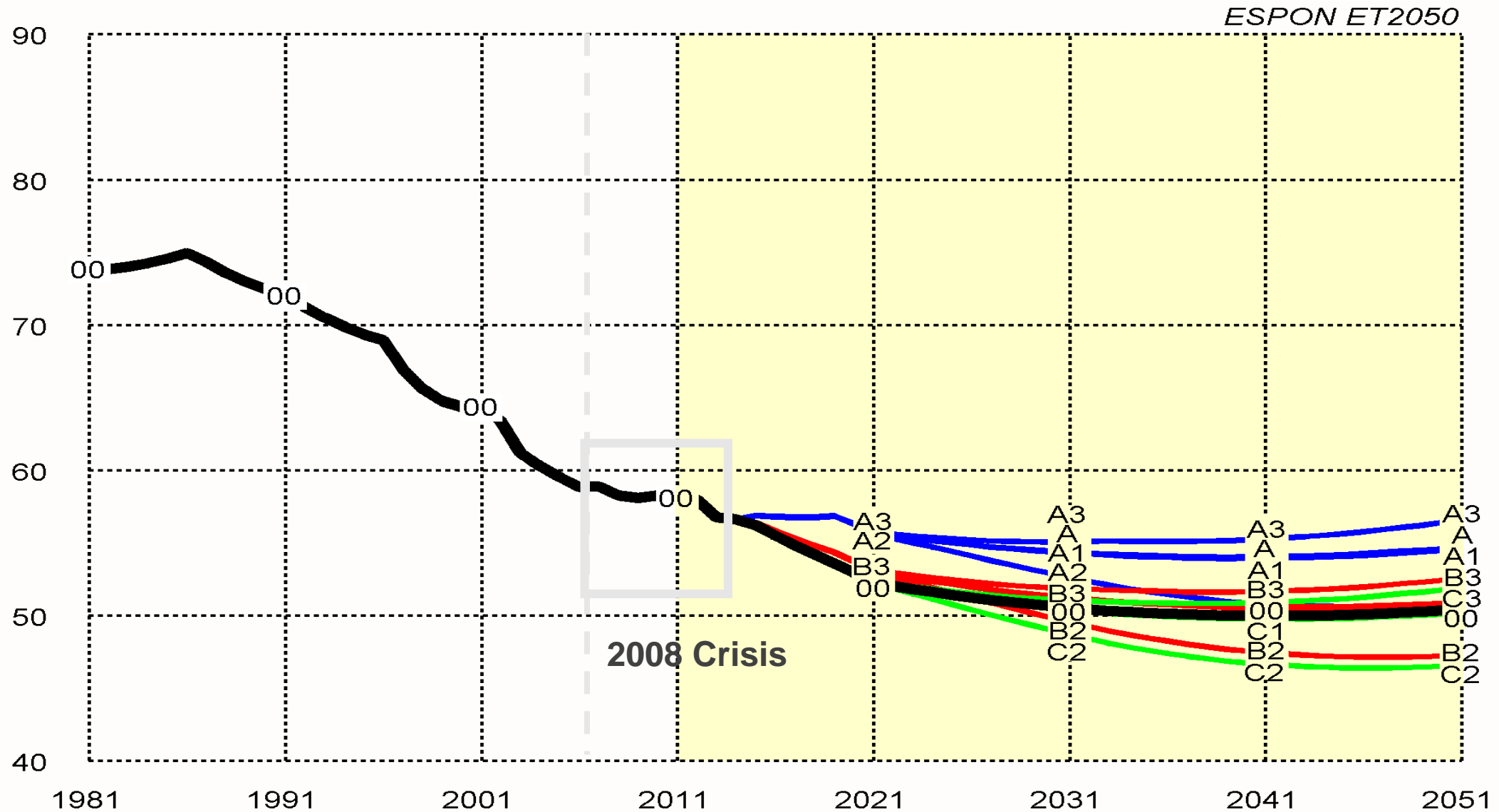
Total regional  
disparities will  
increase

In the past 20 years  
convergence among EU  
countries could more  
than offset increases in  
intra-national  
disparities

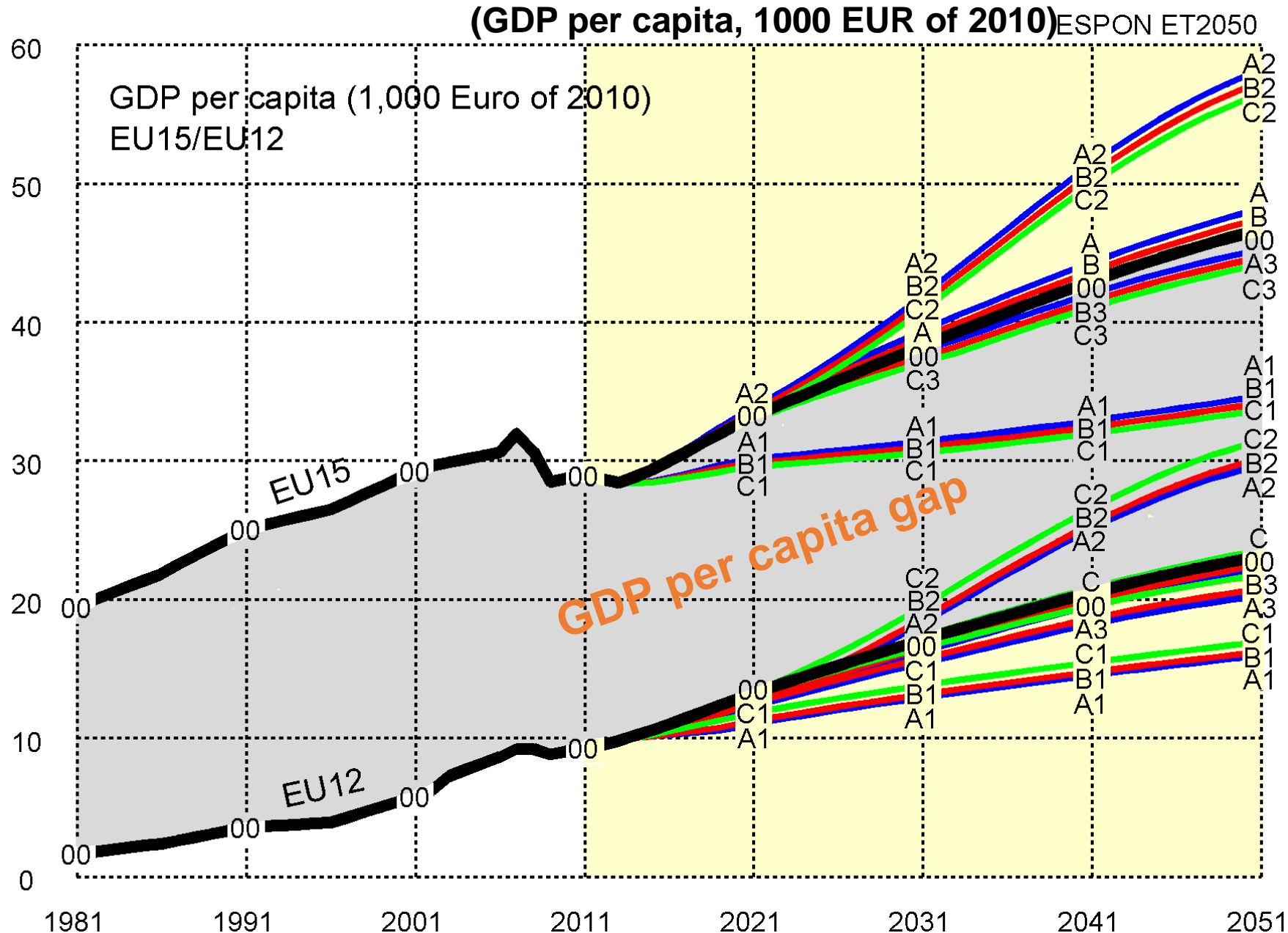
**This fast convergence  
will not happen in the  
future (and is already  
visible during the  
present crisis)**



### Cohesion: Reduction of disparities in CoV of GDP/capita 1981-2051



# Absolute regional disparities will likely remain...



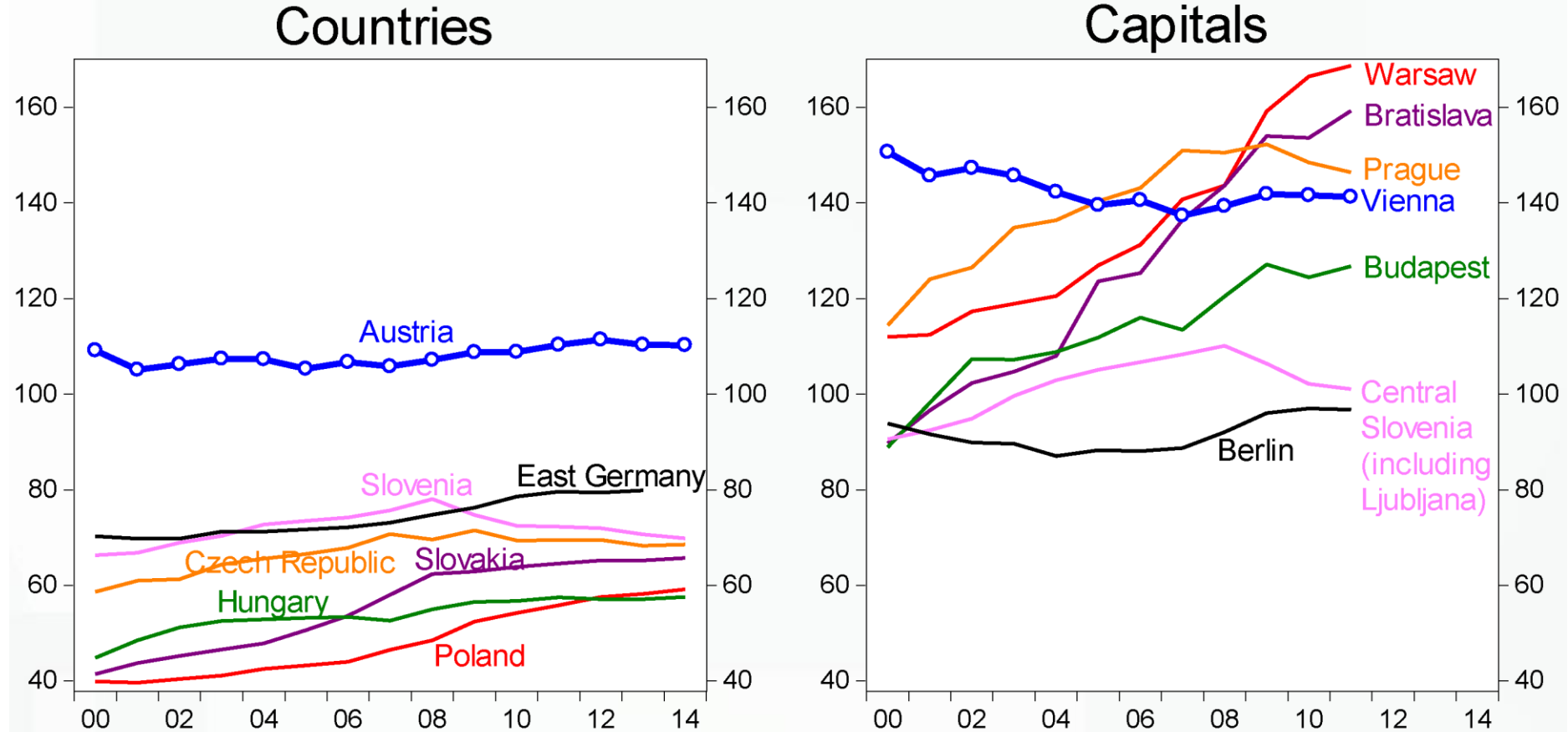
Project objectives:

- territorial development scenarios: 2030 and 2050
- SASI simulation model (production + population)
- „00” baseline scenario („continuing trends”) vs. exploratory scenarios
  - „MEGAs”
  - „Cities”
  - „Regions”
- NUTS3 level data
- Persistent GDP gap** in the current development model

# Winners: Capital city regions

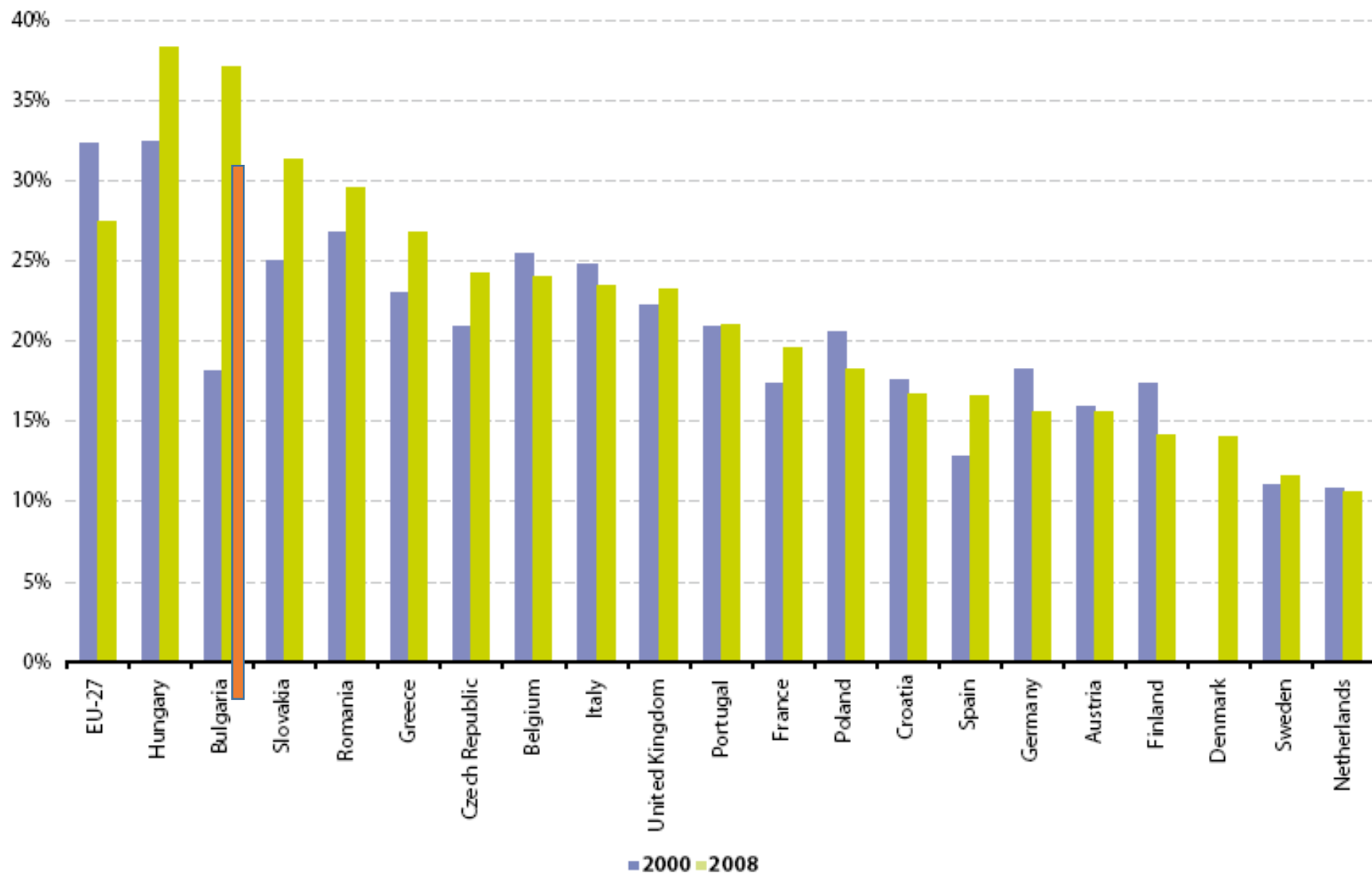
(GDP per capita to the EU10 average, %)

- Visegrád 4 capitals: marvellous development; not in Berlin



\* 10 core EU countries: Austria, Belgium, Denmark, Finland, France, Germany, Luxembourg, Netherlands, Sweden, UK

# Spread of regional dispersion of GDP (2000 – 2008)



(\*) Regional dispersion is not applicable for Estonia, Ireland, Cyprus, Latvia, Lithuania, Luxembourg, Malta and Slovenia; Croatia, 2001 and 2008.

Forrás: EUROSTAT



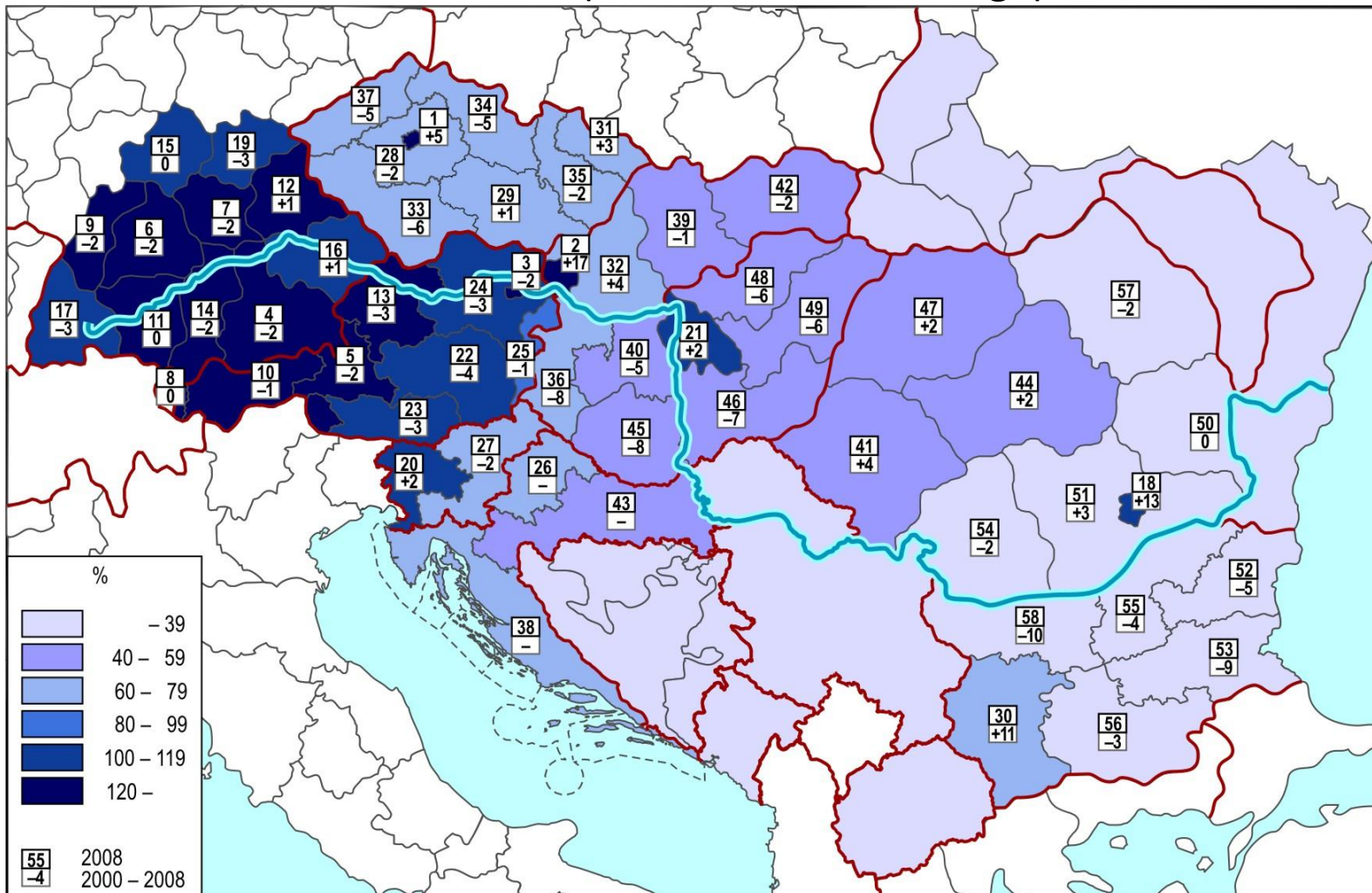
# Intermission



# Economic trends in CEE

- Catching-up in the region will take place, but with internal **disparities** on the increase, particularly **between metropolitan centres and peripheral regions**
- Beyond heavily path-dependent development processes, FDI is expected to remain the main differentiating force
- Despite the dominance of FDI, **the role of domestic capital and markets will receive more emphasis**
  - ➔ to mitigate the dual economy problem
  - ➔ to counteract the decline in FDI flows

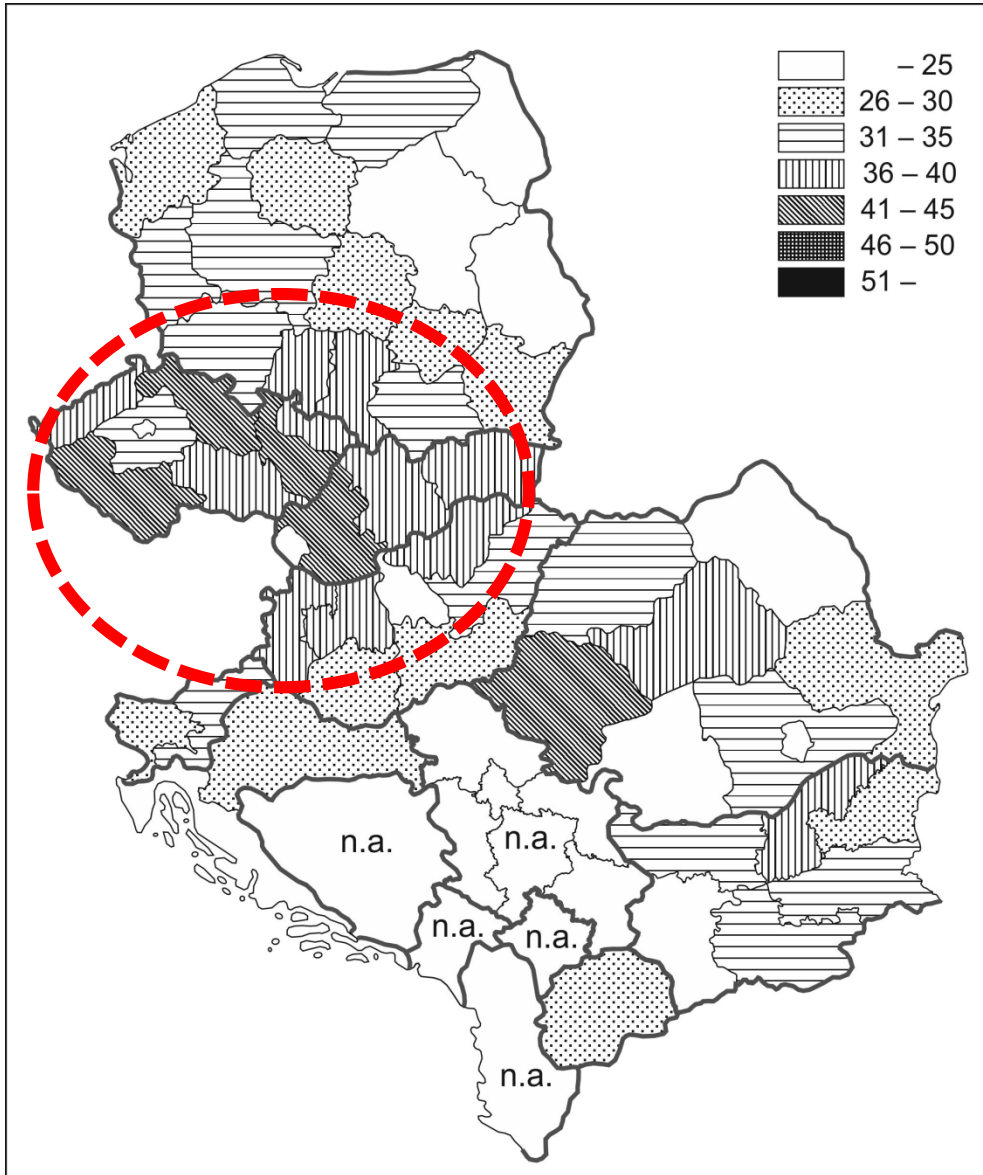
## Development level by per capita GDP in the Danube region (PPP, % of EU27 average)



- Zoltán Gál, Gábor Lux, Iván Illés (eds.): [Danube Region – Analysis and Long-Term Development Trends of the Macro-Region. Discussion Papers 2013. No. 90.](http://discussionpapers.rkk.hu/index.php/DP/issue/view/411) : <http://discussionpapers.rkk.hu/index.php/DP/issue/view/411>

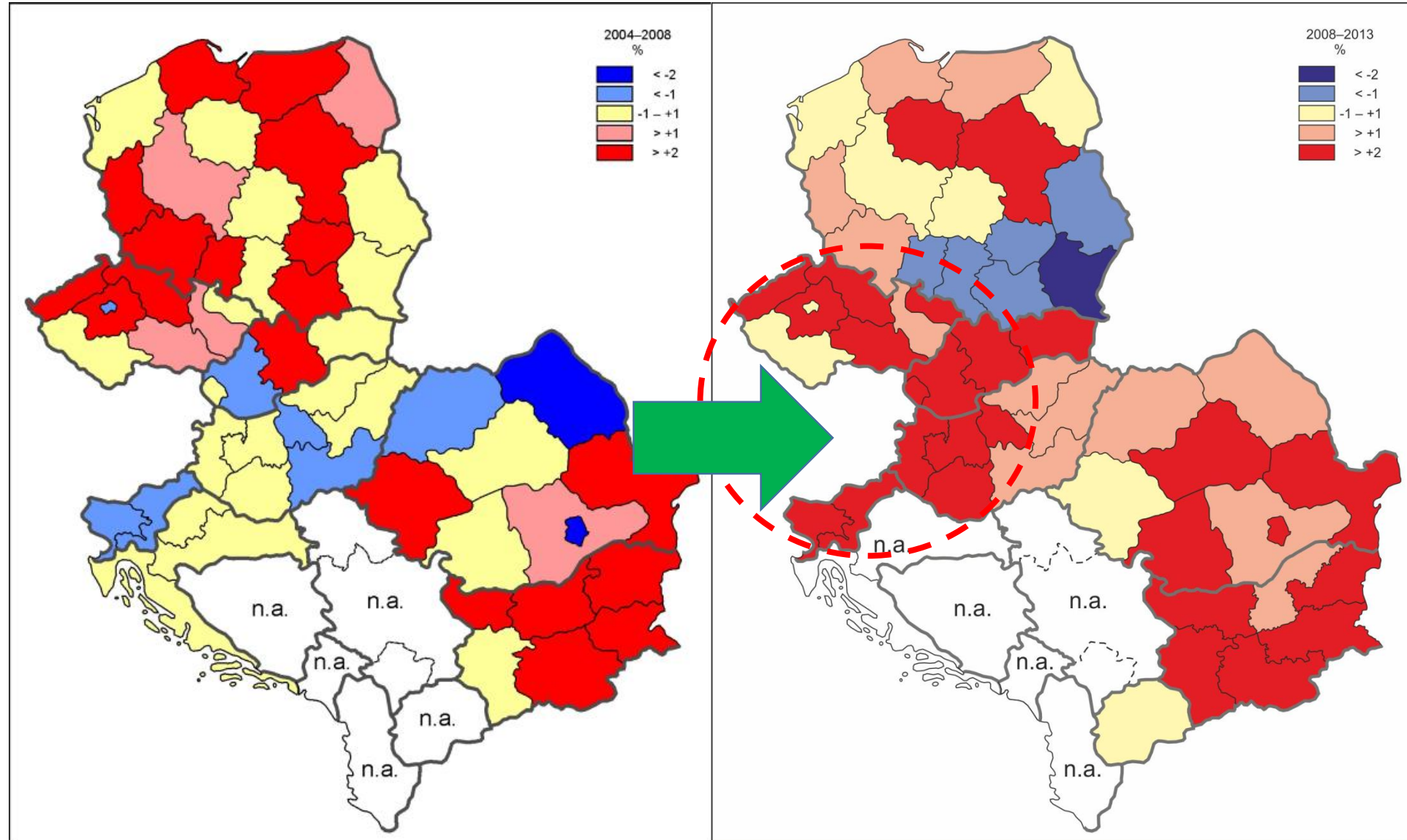


# FDI-based industrial development



- **Integration into EU-wide transnational corporate networks**
- **Visegrad countries:** tertiary/industrial split
- **South-Eastern Europe:** slower structural change, weaker capitalisation, role of traditional industries
- Implications → **threefold regional typology of development**
  - central (service-based)
  - intermediate (industrial)
  - peripheral („hollowed-out”)
- **Industrial legacies matter, while**
- **FDI is the main differentiating force**
- **Strong sectoral and regional duality**

# Reindustrialisation patterns: Accession vs. crisis period



# FDI-based industrial development II.

- Division of labour beyond the Centre – Periphery model
  - medium-skilled jobs and activities
  - upgrading in competitive branches, increasing factor intensity
  - slowly emerging supplier networks
  - knowledge and innovation transfer
- Neglect of domestic capital accumulation & medium-sized companies
- Unequal distribution of positive and negative outcomes



# Capital dependence

- Despite European catching-up processes, the large economic and territorial inequalities can not be eliminated in **dependent economies** due to **constant capital scarcities**
  - low degree of capital accumulation (financial / human)
  - different firm behaviour on home markets and abroad
  - profit repatriation / capital mobility risks
  - geographically uneven distribution of benefits
  - crowding-out and congestion effects → product and labour markets, development niches
  - weak endogenous innovation (particularly business-funded)
  - sustainability concerns → „**middle income trap**” or „**disappearing middle**”?

# Scenario relevance

## “Megas” scenario

- Emphasis on metropolitan growth → limited integration possibilities for non-metropolitan CEE
- Reinforced capital cities, increase in regional disparities.

## “Cities” scenario

- **Highest degree of economic growth** + balance between concentration/deconc.
- CEE: weakness of secondary cities → need for integrated, multifund development

## “Regions” scenario

- Strongest vision of **spatial justice**, implies a break with unlimited global competition
- Institutional incentives for broad reindustrialisation & knowledge networks
- ICT, flexible production systems, CAD-based mass customisation

# Further trends in the Danube region driving the 2010-2050 evolution

- **Demographics**
- **Polarised network development**
  - Energy scarcity (Eastern dependencies)
  - Transport: subverted proximities
  - Land use: limited suburbanization, rural poverty, lack of proper planning, management, reforestation, water-river management (flood risks)
- Environment (less exposed to CO<sub>2</sub> emissions)
- Governance (increasing centralization, EU fund management)



# Demographic trends

- CEE the only macroregion in the EU where the population is decreasing.
  - natural decrease
  - internal migration
  - East - West migration → asymmetrical effect, shrinking labour pool, de-skilling
- Burden on national budgets:
  - informal economy
  - limited savings + retirement of minimum-waged/informal workers
  - labour market exclusion
- Specific features:
  - high number and proportion of Roma
  - rural poverty

# Polarised network development

(urban, transport & energy)

- **External peripherisation:** traditional Western European orientation  $\leftarrow \rightarrow$  cyclical disintegration, increased peripherisation within Europe
- **Internal peripherisation:** polycentric macroregional urban system constituted by monocentric national urban systems + fragmented rural network,
  - Danube: urbanisation axis (high concentration of population & MNCs)
  - Clear divide between capital cities and secondary centres
  - Balkans: complex fragmentation on a national (ethnic) basis.

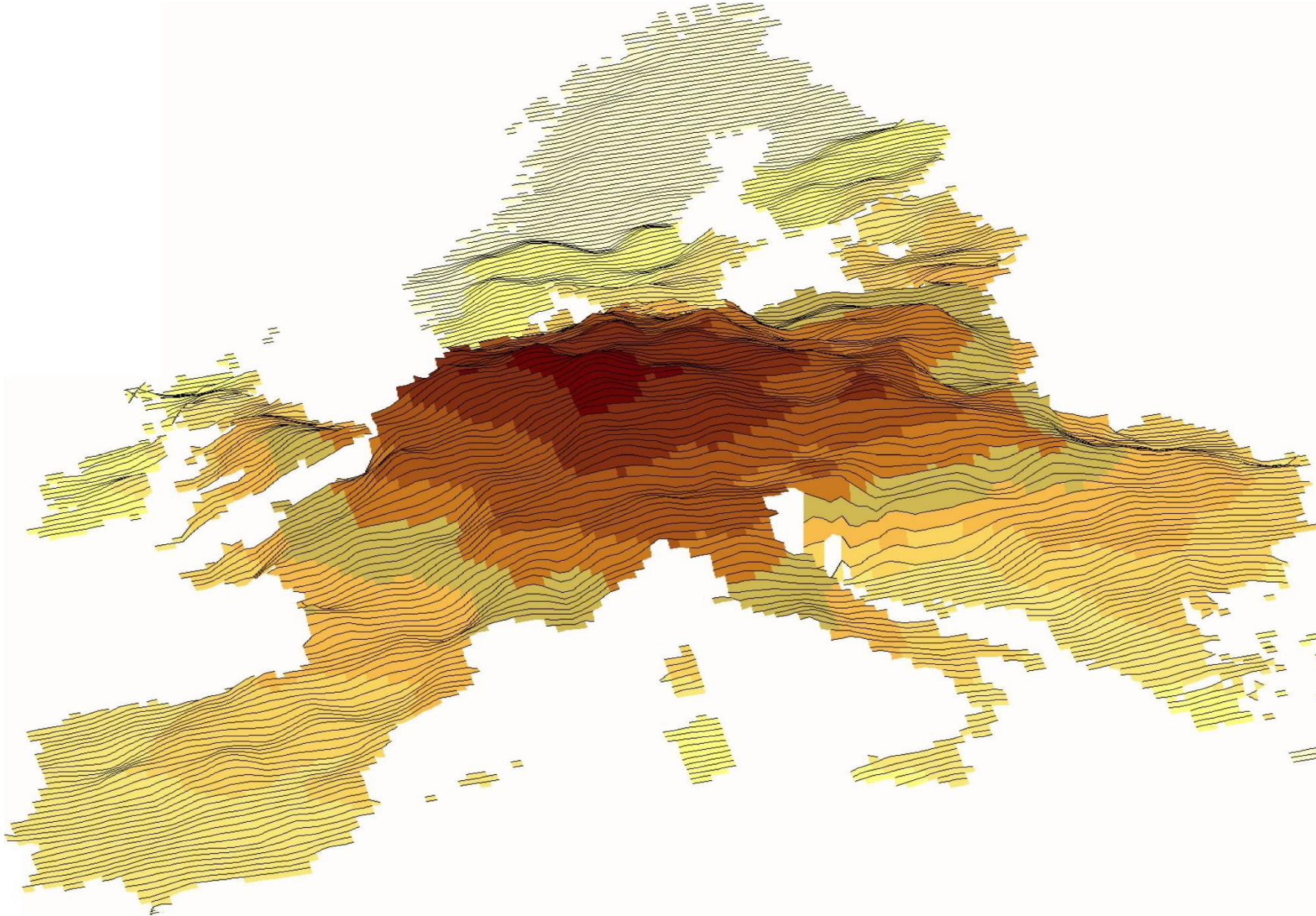
# Polarised network development II.

(urban, transport & energy)

- **Proximity/distance still matters:** delayed network development, historically influenced redundancies (changing national boundaries )
- **Political centralism:** capital city-based monocentric national networks, limited border permeability
- Subverted proximities: **local distance** vs. **encroaching global networks**
- Budapest-centric **TENs**, high share of highway investment, hollowing-out of peripheries
- **EU energy policy** with inherent contradictions + rival networks
- Increased energy consumption → reliance on nuclear and fossil-based generation
- Renewable energy deployment motivated by EU targets



# Multi-modal accessibility in EU



# TEN corridors



Source: Erdősi 1998

# Land use

- **Stronger urbanisation:**

- sprawl in Western Balkans
- limited metropolisation
- lagging, but accelerating suburbanisation

} weak urban planning

- **Rural transformation:**

- population loss (depopulation of distant areas?)
- reduced land use intensity, new land uses
- threat of rural marginalisation (“rural ghettos”)

- **River management & flood control:**

- cross-border management challenges
- the role of the Danube in EU and national policies?

# Scenario relevance

- no radical differences from baseline

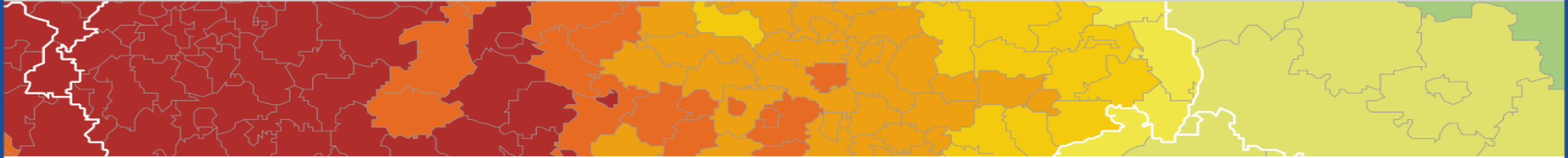
## ***“MEGAs” scenario***

- highest internal differentiation in the EU13, increasing C-P contrast
- peripheries: less intensive forms of land use (e.g. second homes, extensive agriculture or reforestation)
- high social costs

## ***The “Cities” and “Regions” scenarios***

- polycentric development.
- integration of less dense areas via transport connections, ICT access and mobility.
- lower internal differentiation, “spatial justice”
- advantage: the preservation in Europe’s unique settlement network heritage  
→ territorial capital, socio-economic development potential.





# Thank you for your attention!

