

The Economic Geography of Growth: Patterns, Challenges and Policy Implications

Philip McCann

University of Groningen

I would like to thank the European Commission (DGREGIO) and the OECD Department for Regional Development Policies for permission to use their diagrams in this presentation.

1. Structure of Talk

- 1. Globalization and Changing Economic Geography
- 2. OECD Urban Context
- 3. The OECD Regional Context
- 4. The EU Regional Context
- 5. The EU Urban Context
- 6. Space-Blind or Place-Based Policy?

1. Globalization and Changing Economic Geography

- Institutional Changes - the EU Single Market; BRIICS countries; DTTs and BITs; NAFTA
- ICT technological advances; commercial aircraft; RO-RO; phones; The Internet;
- Growth in multinationals; out-sourcing and off-shoring
- Slow *inter*-national convergence, increasing *intra*-national *inter*-regional divergence
- Formation of global regionalism: EU; NAFTA: South and East Asia

1. Globalization and Changing Economic Geography

- 1990s increasing role of *cities* – global cities
- Productivity – scale relationship
- 1990s cities and growth
 - higher productivity
 - more knowledge outcomes: patents, innovations, copyrights, licenses
 - higher human capital – both stocks and inflows
 - ‘creativity’
 - entrepreneurship

1. Globalization and Changing Economic Geography

- Premium for face-to-face contact – but why if *The World is Flat* (Friedman, Cairncross, O'Brien)
- Spatial transactions costs for standardised non-knowledge-intensive activities have ***fallen***
- Spatial transactions costs for non-standardised knowledge-intensive activities have ***risen***

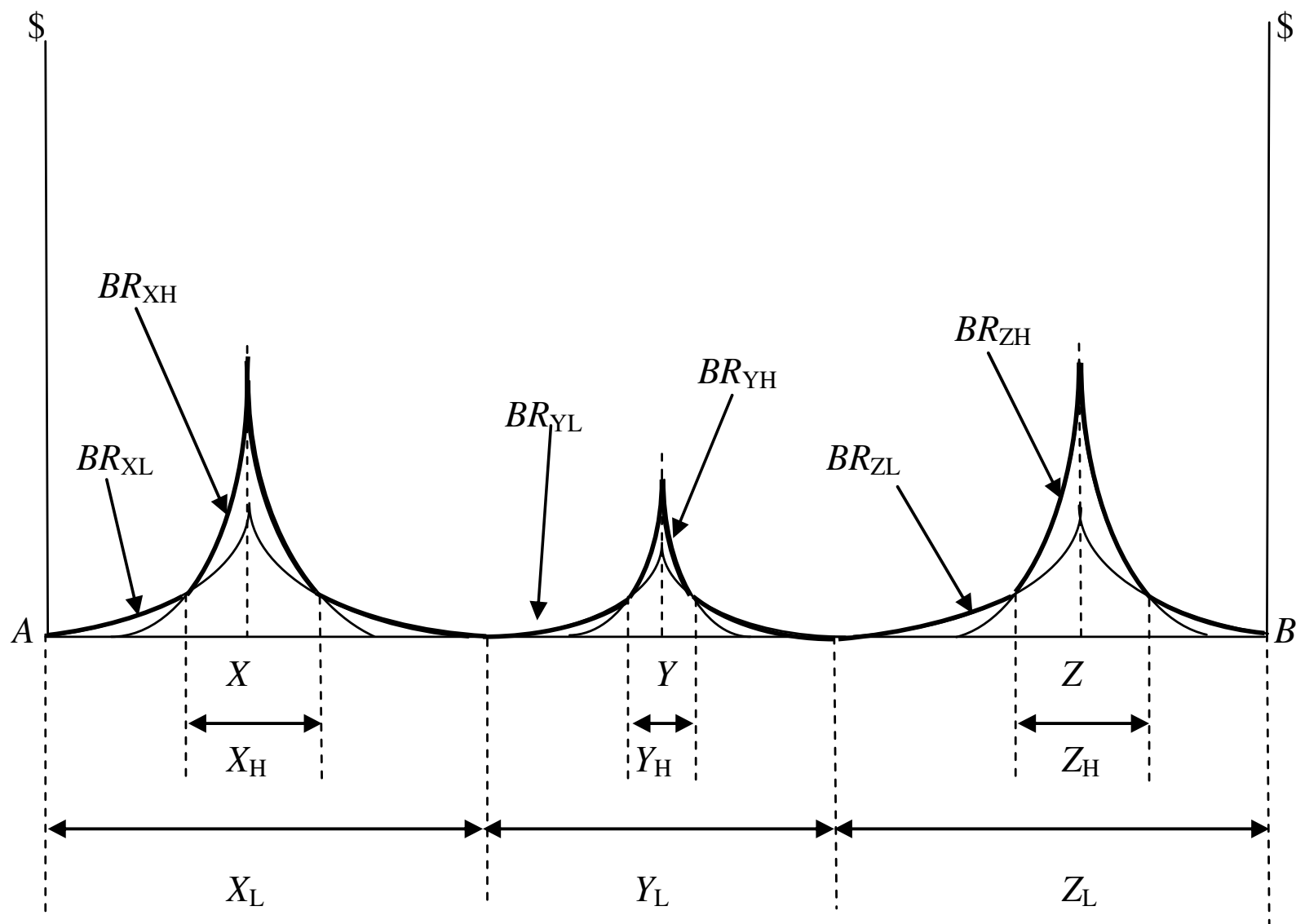


Fig. 1 A Three City One-Dimensional Economic Geography

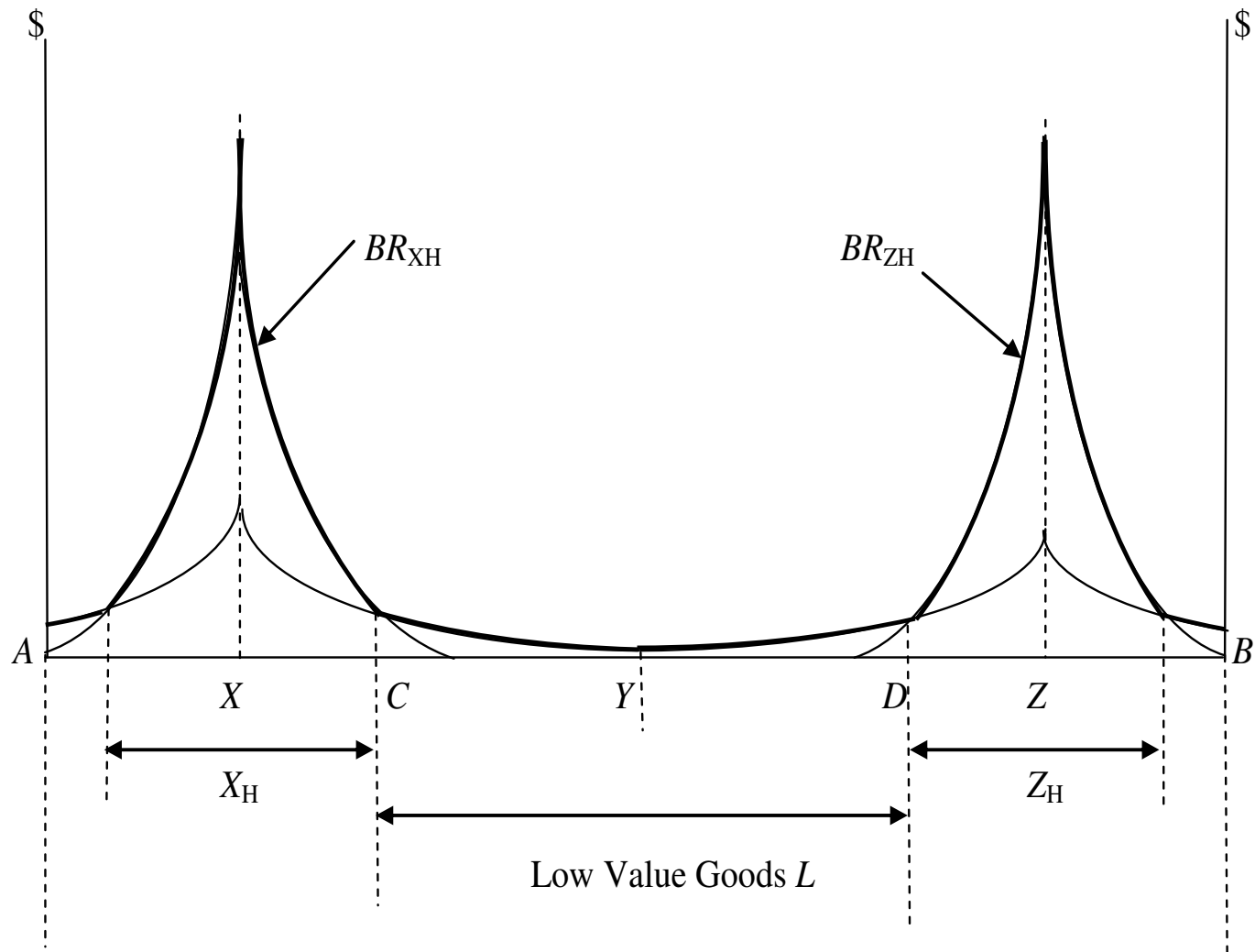
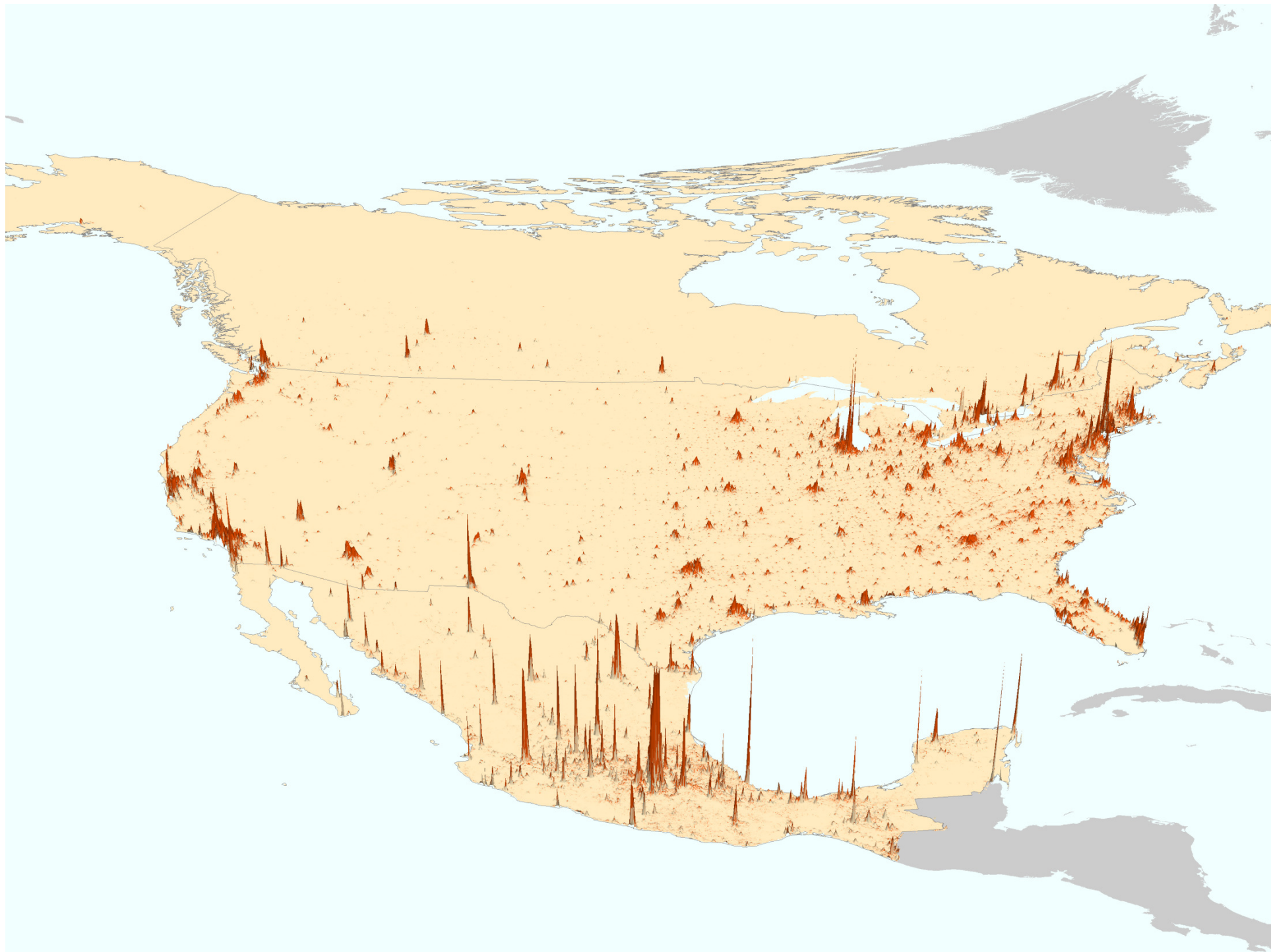
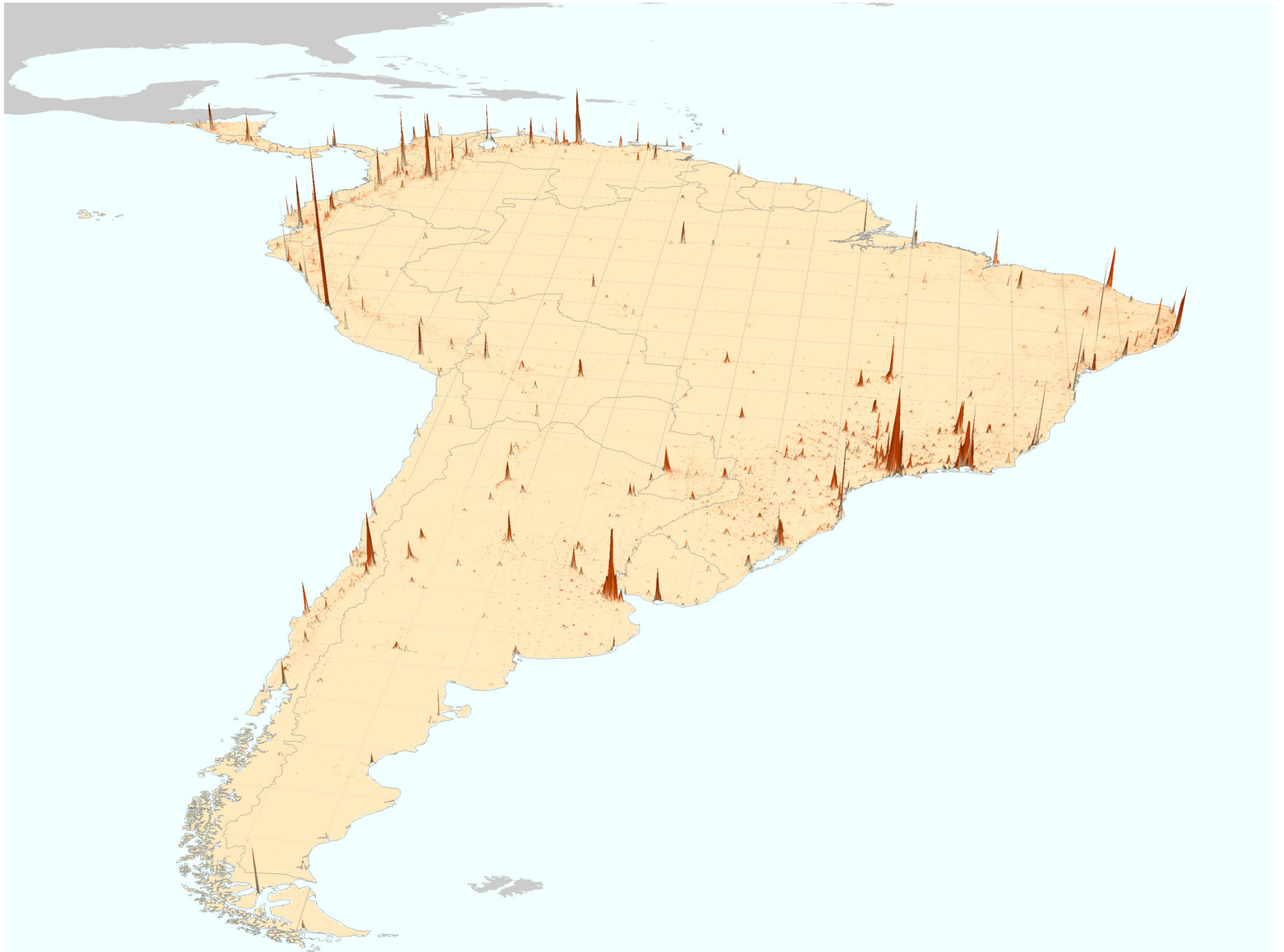
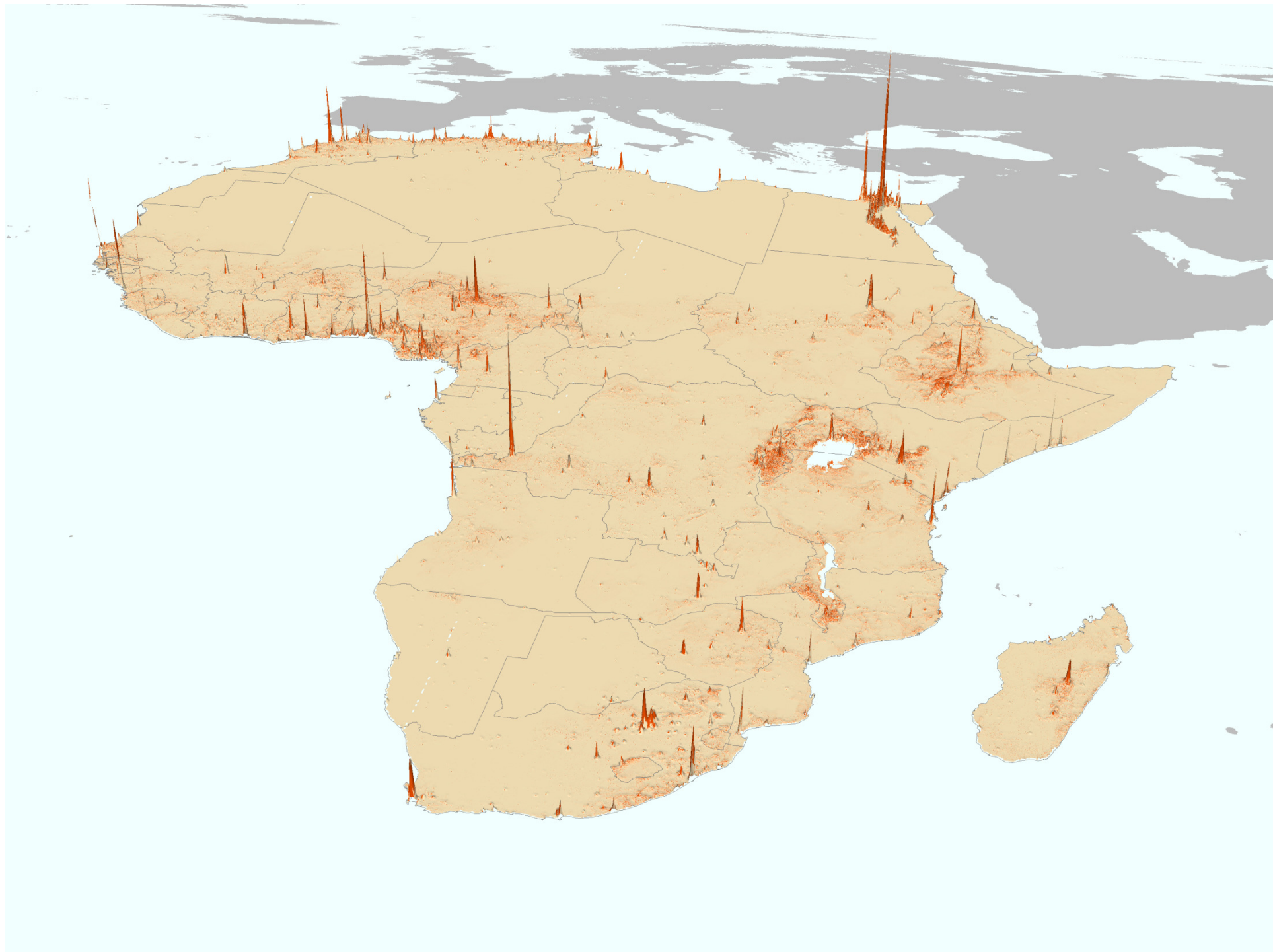
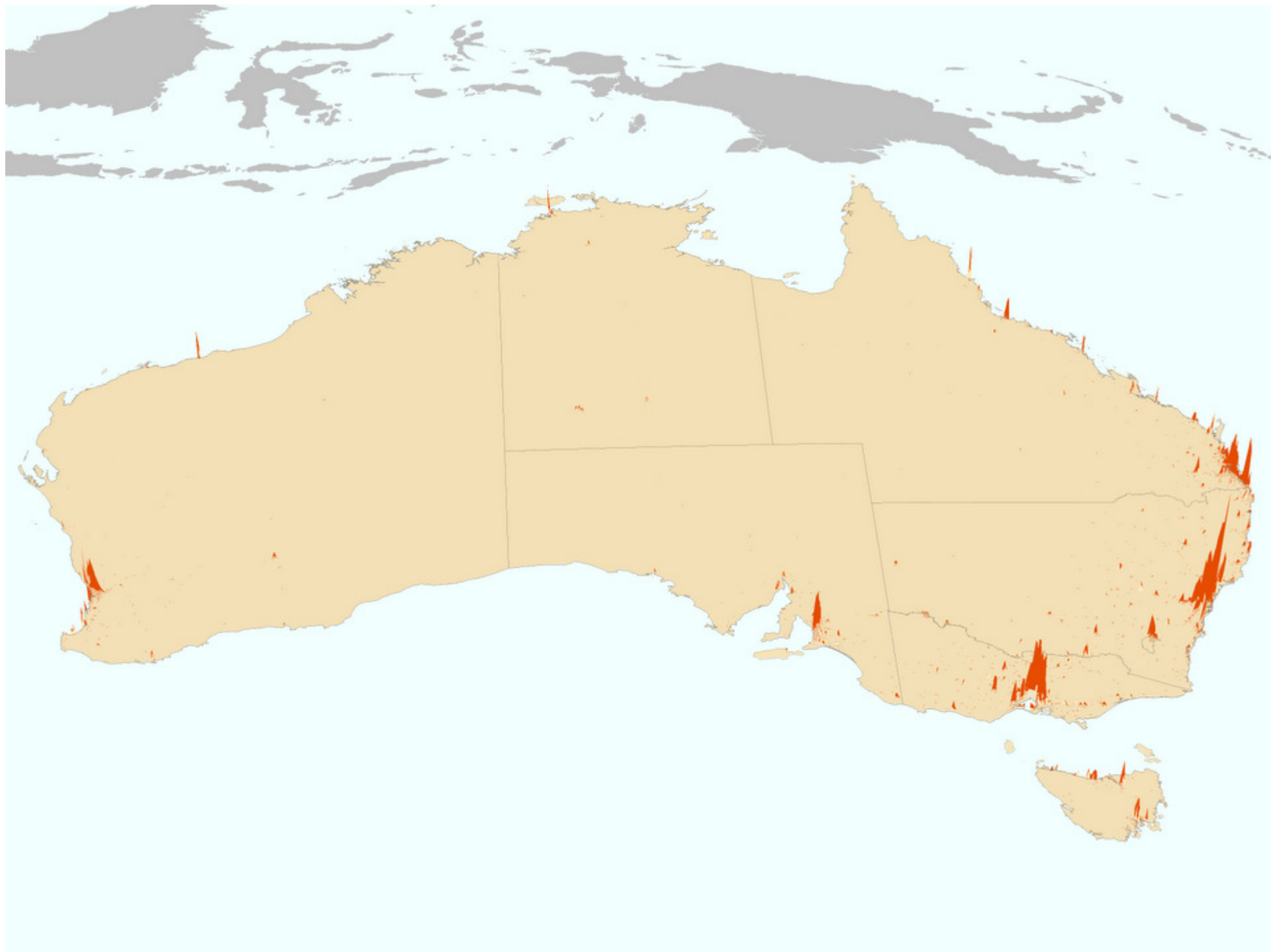


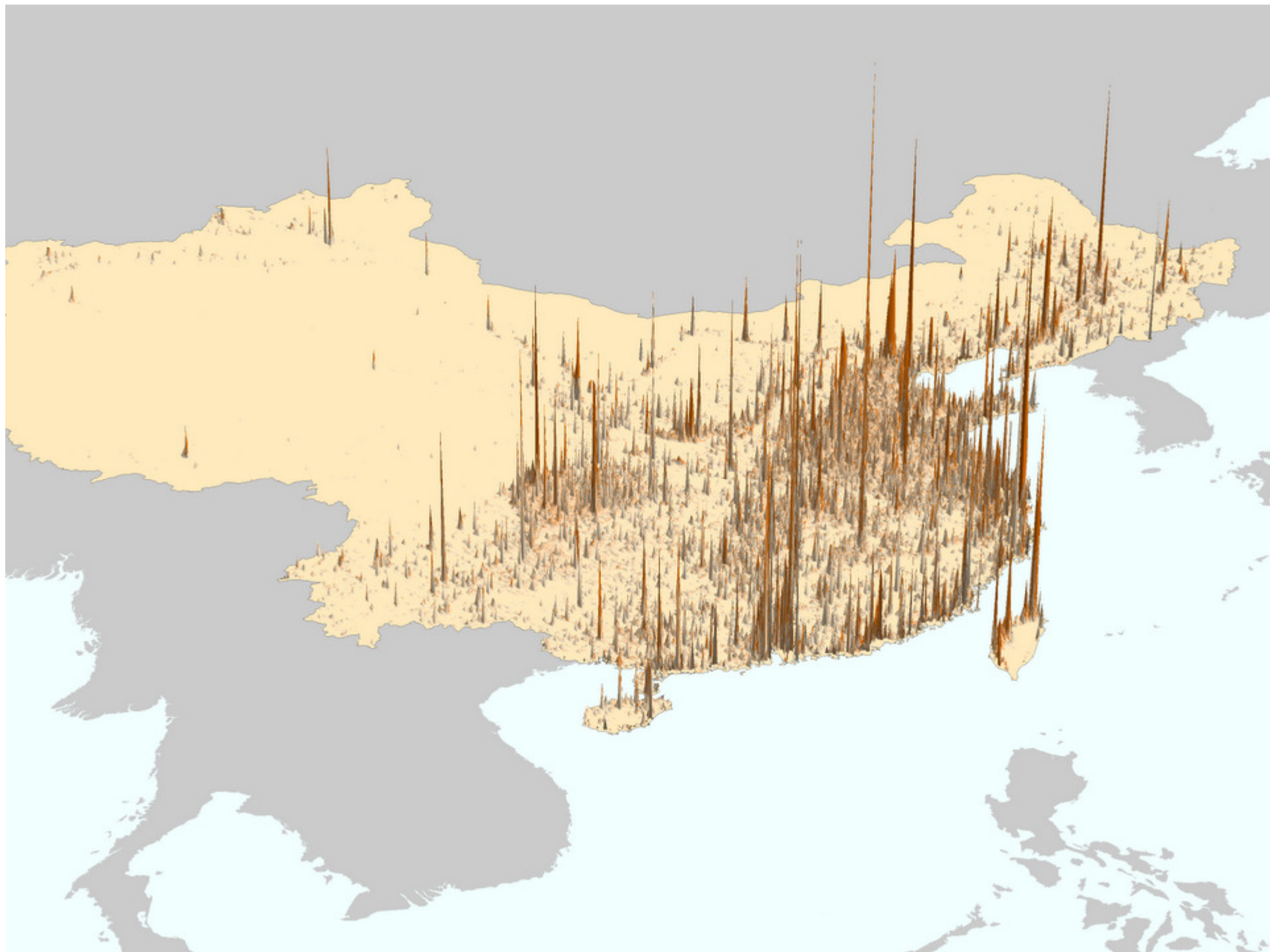
Fig. 2 Globalization, Localization and Economic Geography

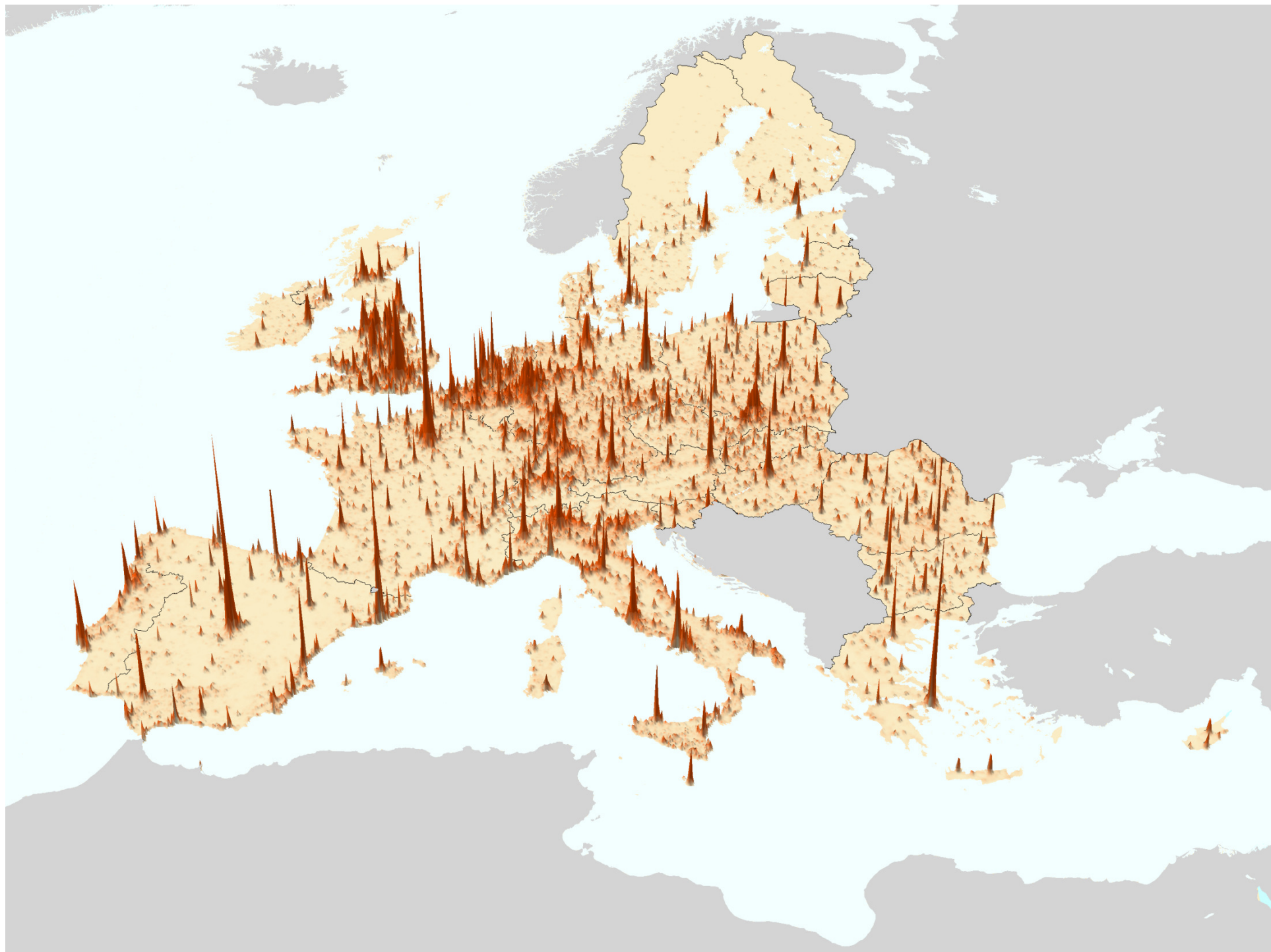












2. OECD Urban Context

- >50% of global population live in cities (2008) accounting for 80% of global GDP (MGI data)
- 600 largest cities account for 22% of global population and 60% of global GDP
- 100 largest cities account for 38% of global GDP
- 23 mega-cities (>10m) account for 14% global GDP
- 388 out of top 600 cities which are in the rich countries account for 50% global GDP
- 190 US cities account for 20% of global GDP

Table 1 The World's Largest Cities in 1925

1925	City Population 000s (% change 1900-1925)	Country Population 000s (% change 1900-1925)	GDP \$000s (% change 1900- 1925)	GDP per Capita \$ (% change 1900- 1925)
New York	7774 (83.2)	116,284 (52.2)	730,545 (233)	6282 (53.5)
London	7742 (19.5)	45,059 (9.48)	231,806 (25.4)	5144 (14.5)
Tokyo	5300 (354)	59,522 (86.0)	112,209 (216)	1885 (59.7)
Paris	4800 (44.1)	40,610 (11.7)	169,197 (44.9)	4166 (44.8)
Berlin	4013 (48.2)	63,166 (87.2)	223,082 (37.4)	3532 (18.3)
Chicago	3564 (208)	116,284 (52.2)	730,545 (233)	6282 (53.5)
Ruhr	3400 (443)	63,166 (87.2)	223,082 (37.4)	3532 (18.3)
Buenos Aires	2410 (299)	10,358 (221)	40,597 (233)	3919 (53.5)
Osaka	2219 (228)	59,522 (86.0)	112,209 (314)	1885 (18.3)
Philadelphia	2085 (47)	116,284 (52.2)	730,545 (216)	6282 (53.5)
Vienna	1865 (9.8)	6582 (10.2)	22,161 (233)	3367 (204)
Boston	1764 (64.1)	116,284 (52.2)	730,545 (28.7)	6282 (53.5)
Moscow	1764 (57.5)	158,983 (27.2)(USSR)	231,886 [1928] (50.5)	1370 [1928] (10.)
Manchester	1725 (20.2)	45,05 (9.48)9	231,806 (25.4)	5144 (14.5)
Birmingham	1700 (36.2)	45,059 (9.48)	231,806 (25.4)	5144 (14.5)

**Sources: City Population Data (Chandler 1987); Country Population,
GDP and GDP per Capita Data (Maddison 2006); McCann and Acs (2011)**

Table 2 The World's Largest Cities in 2000

2000	City Population^[1] 000s (% change 1975-2000)	Country Population 000s (% change 1975-2000)	GDP \$000s (% change 1975- 2000)	GDP per Capita \$ (% change 1975- 2000)
Tokyo	29,896 (30.0)	126,737 (13.6)	2,589,320 (204)	20,431 (80.0)
New York	24,719 (44.1)	270,561 (25.2)	7,394,598 (210)	27,331 (67.8)
Seoul	20,674 (275)	46,898 (30.7)	624,582 (559)	13,317 (421)
Mexico City	19,081 (68.3)	98,553 (62.0)	655,910 (209)	6665 (29.5)
Sao Paulo	17,396 (73.2)	169,897 (56.0)	926,918 (203)	5459 (30.2)
Manila	16,740 (310)	79,376 (78.5)	181,886 (201)	2291 (12.9)
Los Angeles	15,807 (76.4)	270,561 (25.2)	7,394,598 (210)	27,331 (67.8)
Mumbai	15,769 (223)	991,691 (63.3)	1,803,172 (3.31)	1818 (202)
Djakarta	15,086 (284)	207,429 (58.9)	628,753 (3.2)	3031 (201)
Osaka	15,039 (-3.0)	126,737 (13.6)	2,589,320 (204)	20,431 (80.0)
Delhi	13,592 (309)	991,691 (63.3)	1,803,172 (3.31)	1818 (202)
Kolkata	12,619 (60.2)	991,691 (63.3)	1,803,172 (3.31)	1818 (202)
Buenos Aires	12,297 (44.7)	36,235 (39.2)	334,314 (57.8)	9219 (13.2)
Shanghai	11,960 (49.5)	1,252,704 (36.6)	4,082,513 (509)	3259 (372)
Cairo	11,633 (38.4)	66,050 (78.7)	140,546 (339)	2128 (89.8)
World [1998]		5,907,680 (45.3)	33,725,631 (202)	5709 (39.4)

Sources: City Population Data (Chandler 1987; Le Gales 2002); Country Population, GDP and GDP per Capita Data (Maddison 2006); McCann and Acs (2011)

Table 3 The World's Most Productive Cities in 2002-2004

US Cities	City Pop^[1] Millions	City Per Capita Productivity (US \$000 PPP)	Non US OECD Cities	City Pop Millions	City Per Capita Productivity (US \$ PPP)
San Francisco	4.2	62.3	London	7.4	46.2
Washington DC	5.1	61.6	Paris	11.2	42.7
Boston	4.4	58.0	Dublin	1.6	38.9
Seattle	3.2	54.4	Vienna	2.2	37.6
Minneapolis	3.1	53.0	Stockholm	2.2	36.7
New York	18.7	52.8	Stuttgart	2.7	36.4
Denver	2.3	50.8	Milan	7.4	35.6
Philadelphia	5.8	50.5	Lyon	1.6	35.2
Dallas	5.7	50.1	Munich	6.1	35.2
Atlanta	4.7	47.8	Oslo	1.7	35.0
Houston	5.2	47.4	Sydney	4.2	35.0
San Diego	2.9	46.8	Brussels	3.8	35.0
Chicago	9.4	45.6	Toronto	4.7	34.9
Los Angeles	12.9	45.3	Helsinki	1.8	34.0
Detroit	4.5	44.0	Frankfurt	5.6	33.6

Sources: OECD (2007, pp. 38-40); World Bank (2008)^[2]; McCann and Acs (2011)

Table 4 The Highest Non-US Relative Productivity Cities in the OECD

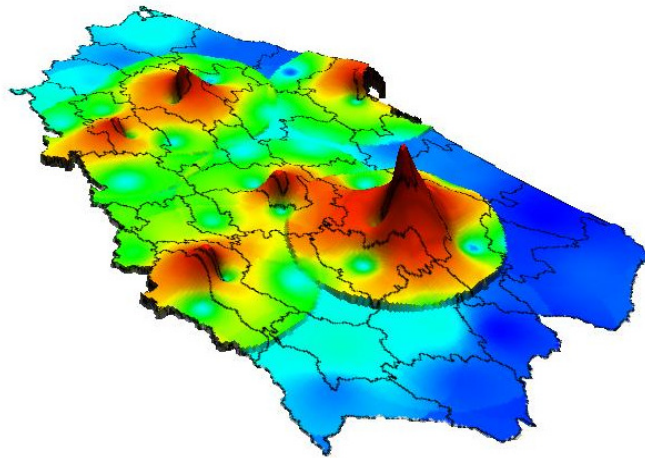
Non US OECD Cities Excluding Former Transition Economies, Mexico and Turkey	City Population Millions	Relative Productivity	Non US OECD Cities (All OECD countries)	City Population Millions	Relative Productivity
London	7.4	1.59	Warsaw	3.0	1.99
Paris	11.2	1.53	Monterrey	3.2	1.98
Lisbon	2.7	1.39	Istanbul	11.4	1.60
Auckland	1.2	1.34	London	7.4	1.59
Stuttgart	2.7	1.34	Budapest	2.8	1.59
Milan	7.4	1.31	Paris	11.2	1.53
Munich	6.1	1.30	Prague	2.3	1.51
Stockholm	2.2	1.29	Mexico City	18.4	1.49
Vienna	2.2	1.27	Izmir	3.4	1.46
Lyon	1.6	1.26	Ankara	4.0	1.41
Frankfurt	5.6	1.24	Guadalajara	3.5	1.39
Madrid	5.6	1.24	Lisbon	2.7	1.39
Rome	3.7	1.21	Puebla	2.1	1.36
Brussels	3.8	1.19	Auckland	1.2	1.34
Helsinki	1.8	1.19	Stuttgart	2.7	1.34

Sources: Calculations based on OECD (2007 pp. 38-40); OECD (2008);
World Bank (2008); McCann and Acs (2011)

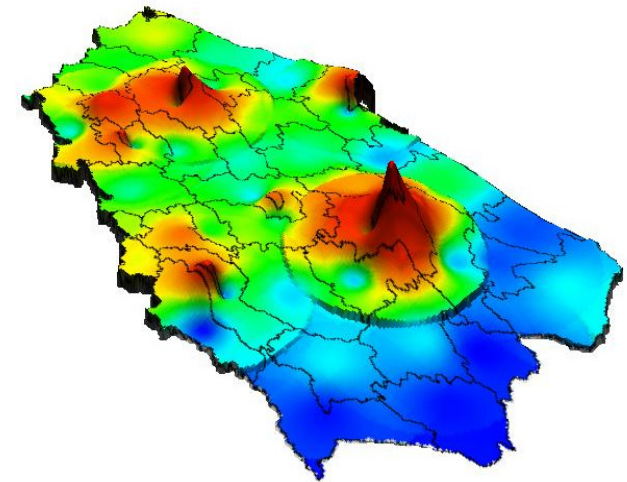
2. OECD Urban Context

- Upper end of city-size distribution the scale-productivity relationship → inverted U shape
- USA, Korea + Japan; Canada, Australia and NZ → larger relative city size and wage premium
- By 2025 the share of global GDP of 100 largest cities will fall from 38% to 35%
- Composition effect - growth of second and third tier cities – China, India, Brazil, Indonesia
- Scale effect - declining growth of major cities
- Connectivity, not just scale (Bel and Fageda 2008; McCann and Acs 2011)

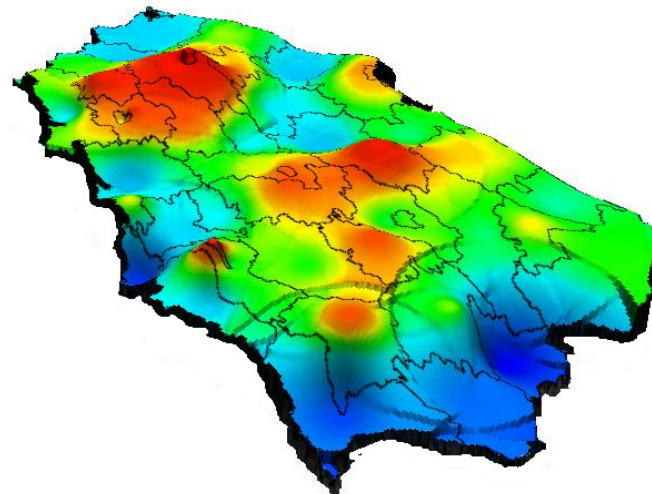
“Concentration = growth”
...in practice, many other paths to growth emerge...



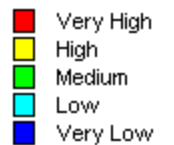
Economic Density
GDP per square kilometre



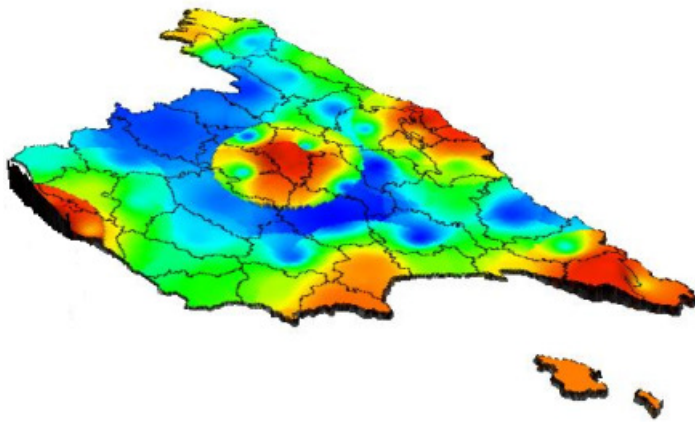
Labour Productivity
GDP per worker



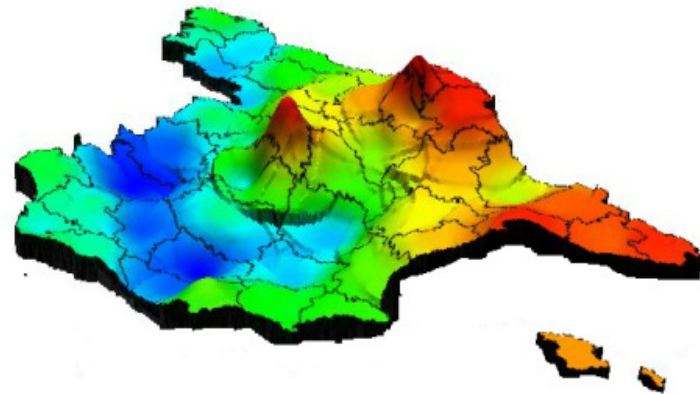
Economic Growth
Real GDP per capita growth



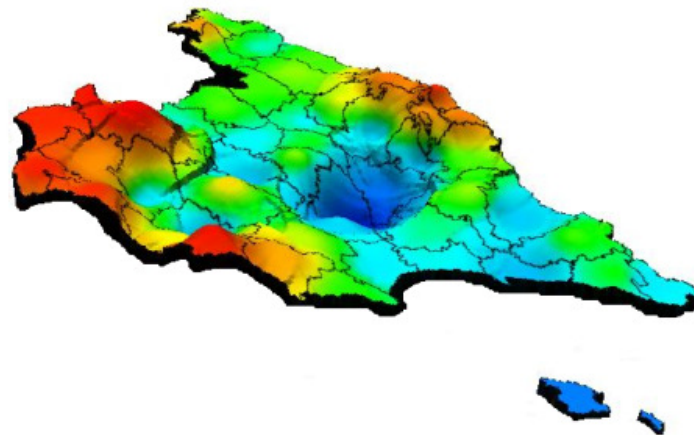
Spain



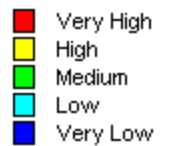
Economic Density
GDP per square kilometre



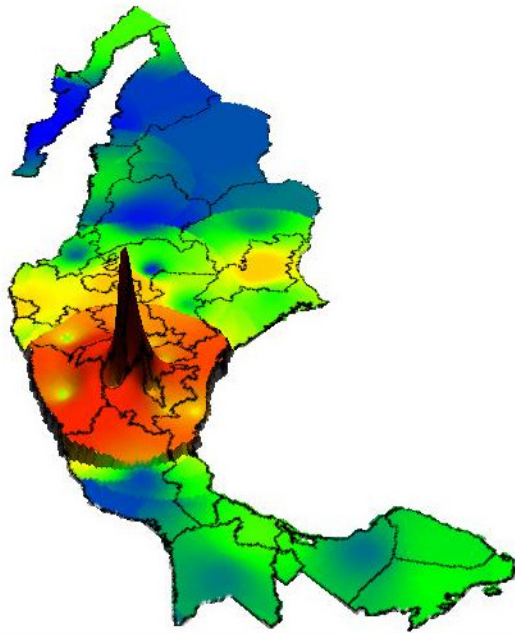
Labour Productivity
GDP per worker



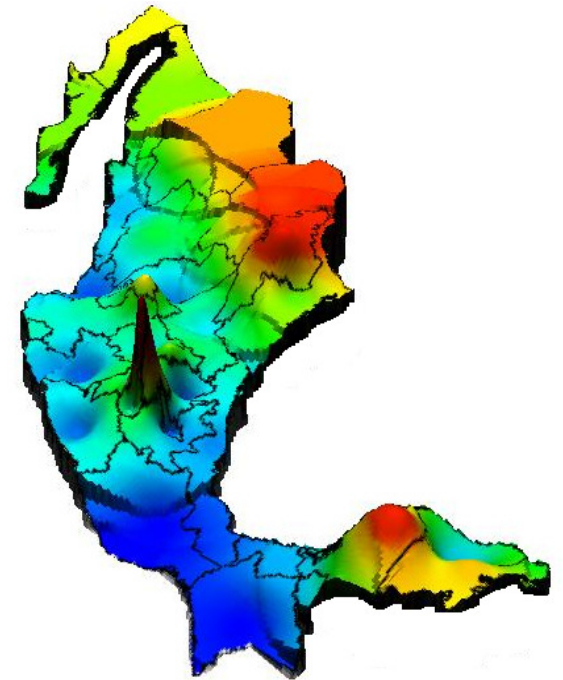
Economic Growth
Real GDP per capita growth



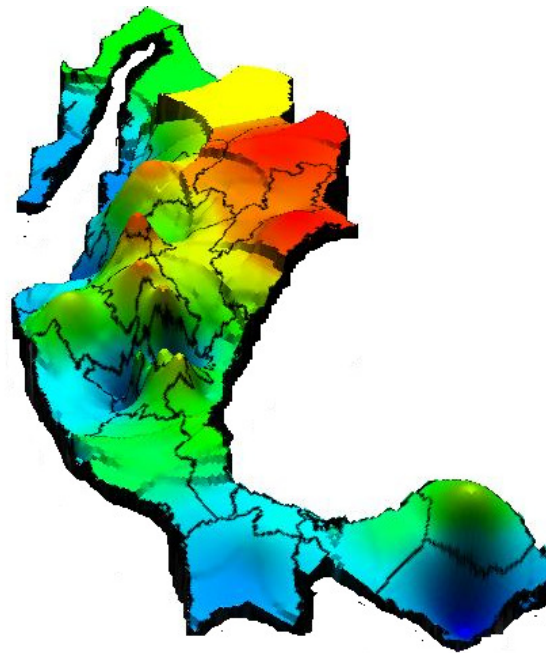
Mexico



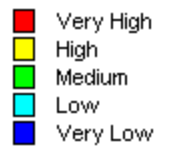
Economic Density
GDP per square kilometre



Labour Productivity
GDP per worker



Economic Growth
Real GDP per capita growth

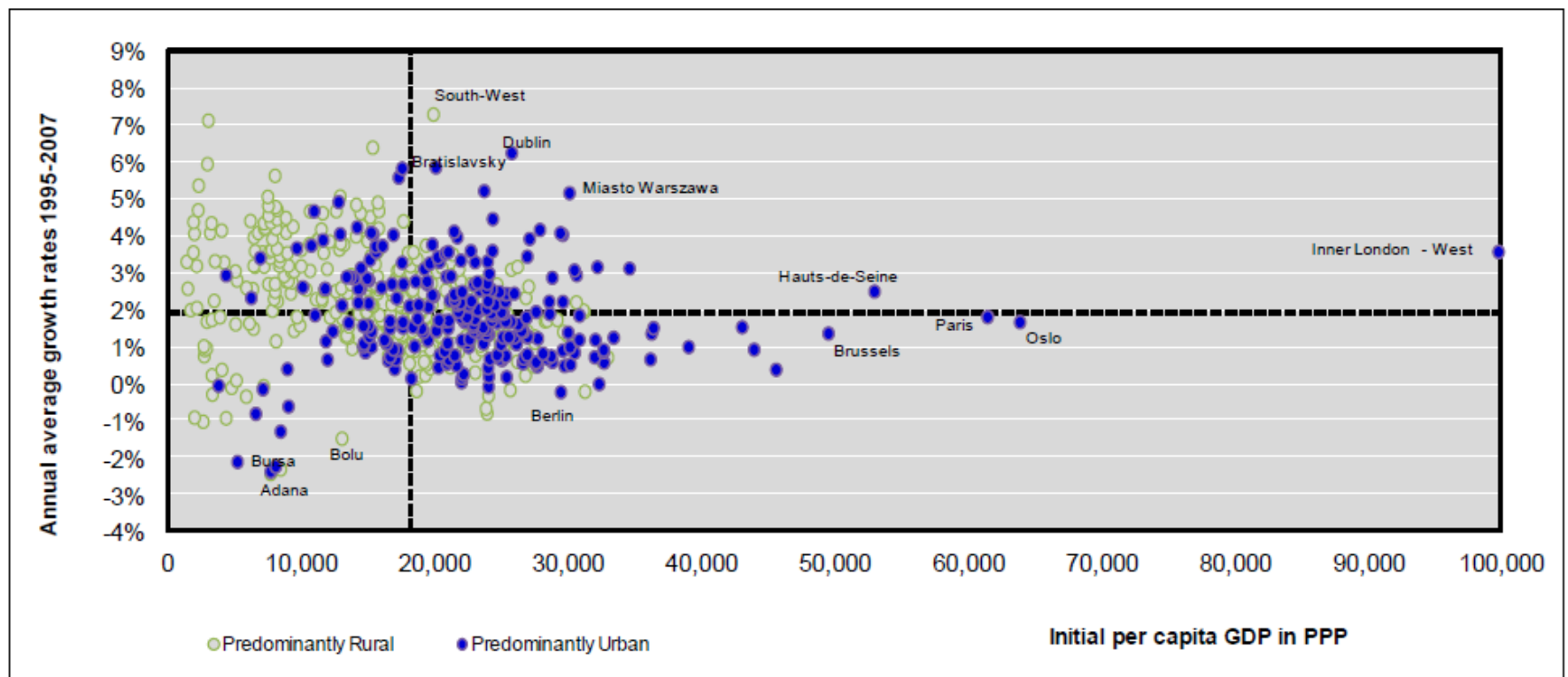


3. OECD Regional Context

- OECD patterns of growth (urban intermediate rural etc) are very heterogeneous across countries
- Similar probabilities of above average growth – but higher dispersion higher for rural regions
- Benefits of urban concentration and agglomeration are neither linear nor infinite-limited in many OECD countries
- OECD (2009a,b, 2011, 2012) evidence that endogenous factors are critical for regional growth

No marked convergence or divergence profiles by type of region

Predominantly urban and rural regions, 1995-2007

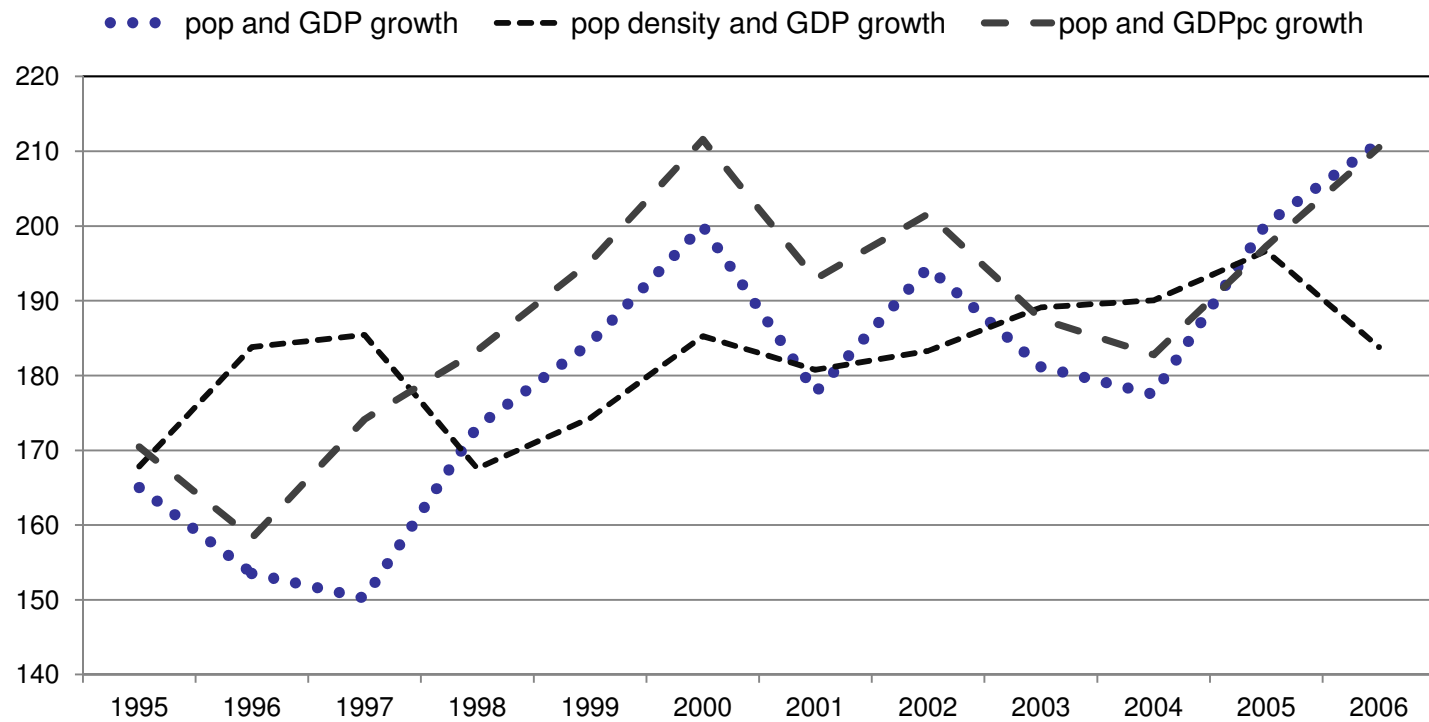


3. OECD Regional Context

- Post-2000 Productivity *levels* are dominated by global cities
- ‘Major Hubs’ account for less than one-third of economic growth – and the share is *falling*
- Productivity *growth* is dominated by intermediate areas and many rural areas
- Growth role of non-core regions across OECD is increasing
- Distance-related effect in US (Partridge et al. 2011)
- Not particularly distance-related in Europe

The most dynamic OECD regions over 1995-2007..

average rank
(1== highest)
■ population
■ pop density



3. OECD Regional Context

- Two-thirds of growth is driven by non-core areas
- Regions with less than 75% GDP per capita account for approximately 40-50% of growth
- 45-60% of growth is accounted for by regions with below national average GDP per capita
- Smaller non-core areas are now growing faster across the OECD than core and larger regions
- OECD average interregional migration – 0.4% per annum and *falling* for ten years prior to the 2008 Global Financial Crisis
- Long term falls in the rates of entrepreneurship

4. The EU Regional Context

- 1990-2002 primacy of urban areas across EU: urban > intermediate > rural
- Post 2002 shift in favour of non-core locations in many EU countries in terms of population growth and productivity growth
- EU-15: intermediate areas and rural areas growing faster than urban areas
- EU-17 urban growth still dominates
- Different patterns in different countries – no simple story
- Dutch reversal Broersma and van Dijk (2008)
JEG

4. The EU Regional Context

- EU is different from the WDR 2009 scenarios, in terms of both institutional issues and economic geography
- *Institutional* variation; legacy effects of land markets; legal systems; technical issues; governance issues
- Differences in language and culture inhibit migration
- Many excellent institutional environments
- Reform of varying and good institutions is complex – problem of EU legitimacy

4. The EU Regional Context

- In the EU major performance differences are between *places*, not sectors
- Small and medium sized cities are most productive EU areas rather than very large cities
- Complex polycentric EU-wide network structure
- Within EU *connectivity* is critical, rather than urban scale, national scale, regional specialisation or diversity (Bel and Fageda 2008; Ni and Kresl 2010)

4. The EU Regional Context

- Role of major cities is significant in UK, France, Poland, Czech Republic
- Polycentric systems in The Netherlands, Northern Italy, Germany
- Urban-urban migration in rich EU countries
- Rural-urban migration in Mediterranean and CEECs
- Overall urban share of EU GDP has hardly changed

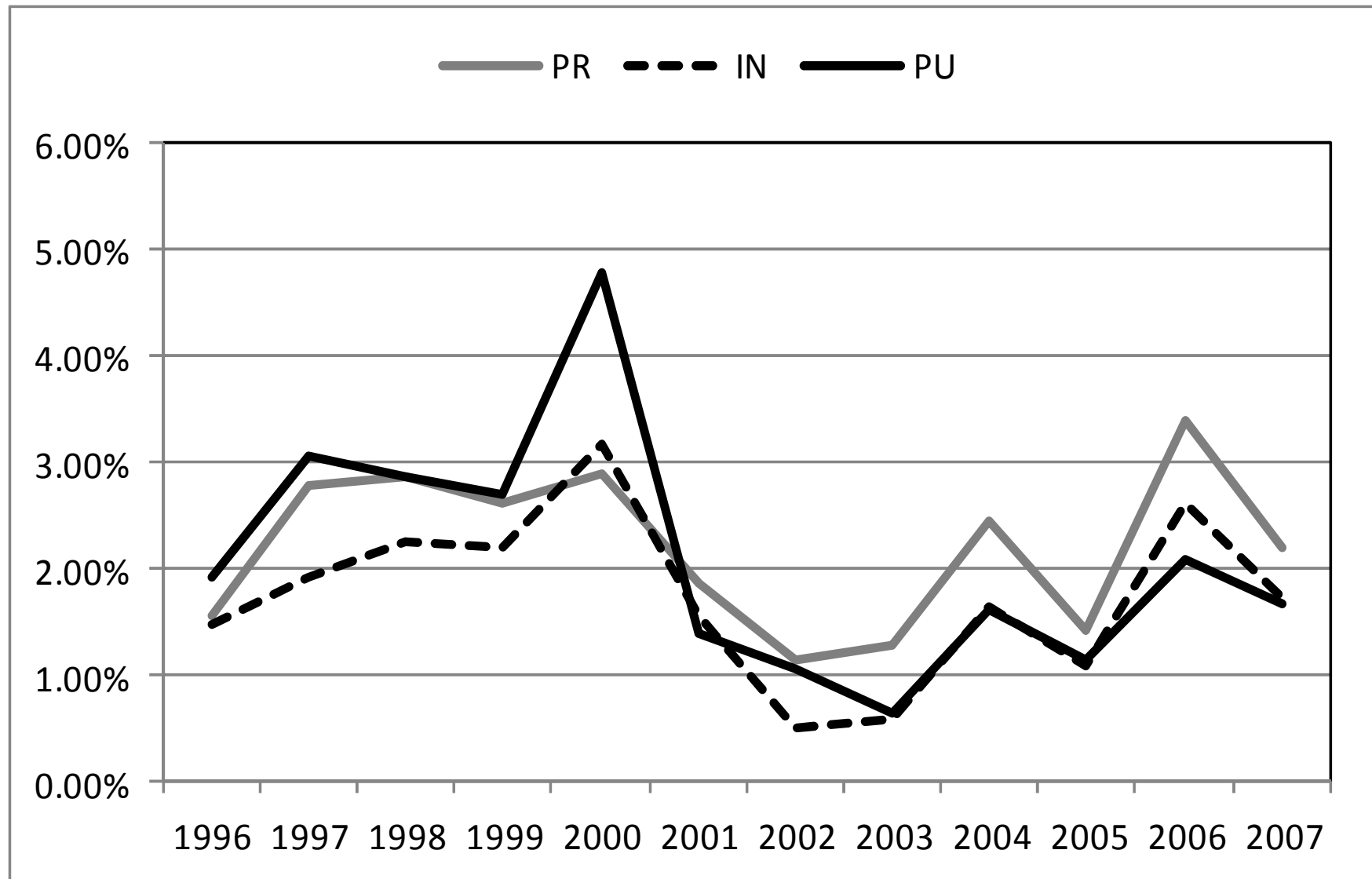
4. The EU Regional Context

- OECD classification: ***PU*** primarily urban, ***PI*** primarily intermediate, ***PR*** primarily rural
- EC (DGRegio) classification: metro, non-metro, degree of urban, close and remote intermediate and rural
- Productivity levels - urban vs remote rural Ratio in EU15: 1.53 Ratio in EU17: 2.8

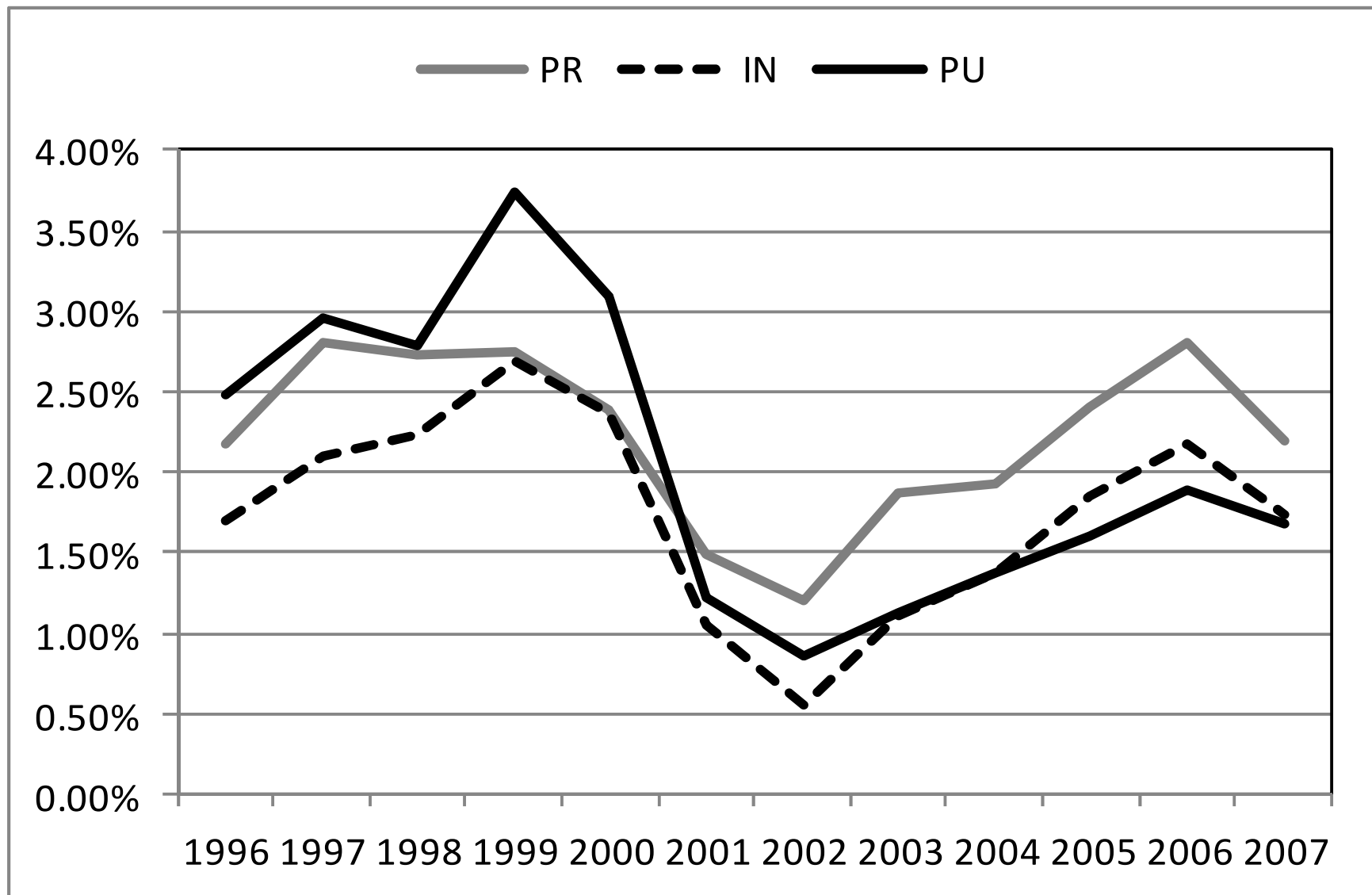
4. The EU Regional Context

- 335 OECD TL2 regions and aggregate growth
 - 2% of regions → 22% of growth
 - 26% regions → 58% of growth
 - 53% of regions → 19% of growth
 - 19% of regions → 1%
- 718 OECD EU TL3 regions and aggregate growth:
 - 2% of regions → 21% growth
 - 34% of regions → 58%
 - 49% of regions → 20.5%
 - 15% of regions → 0.5%

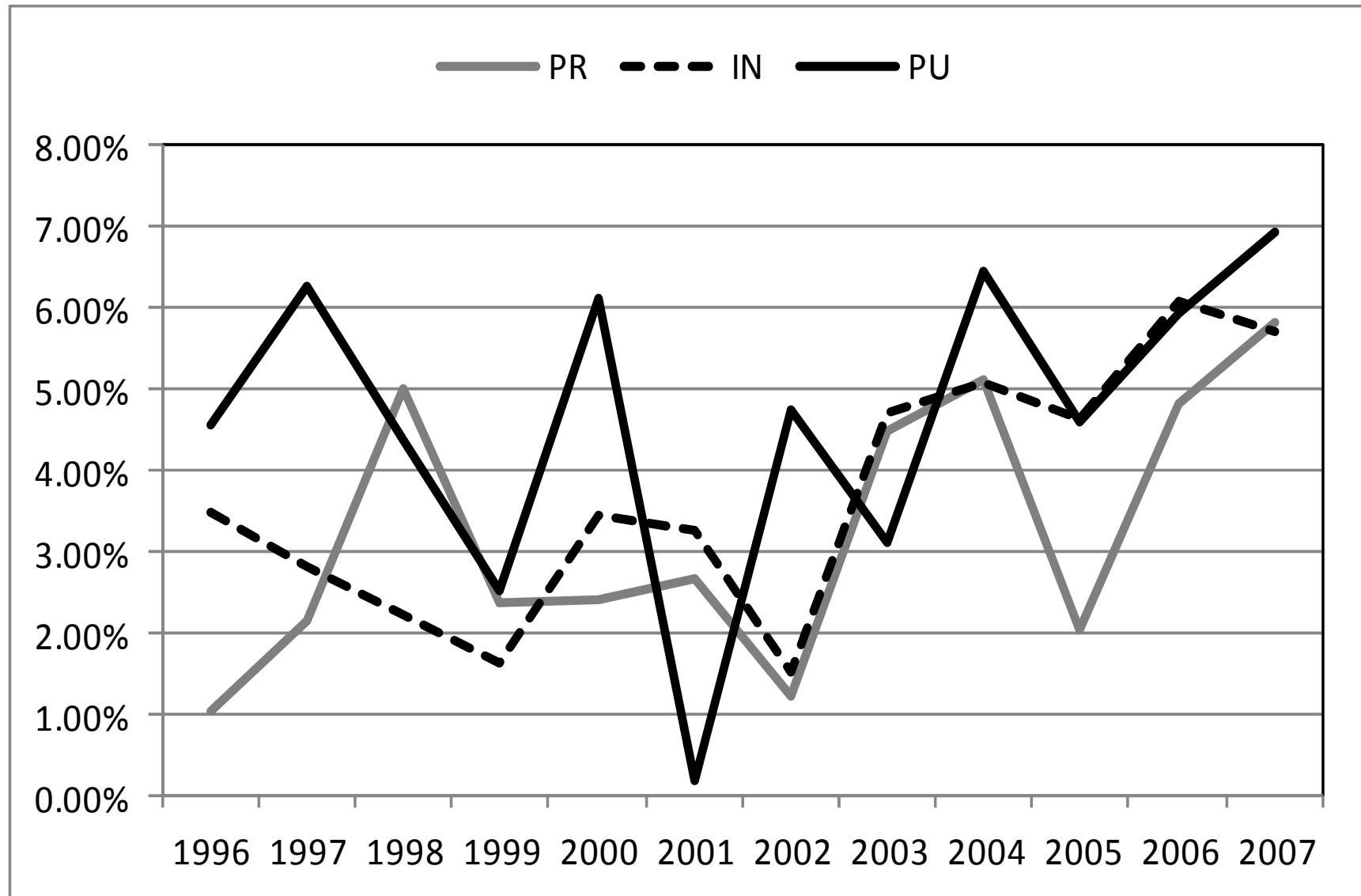
EU-15 Yearly



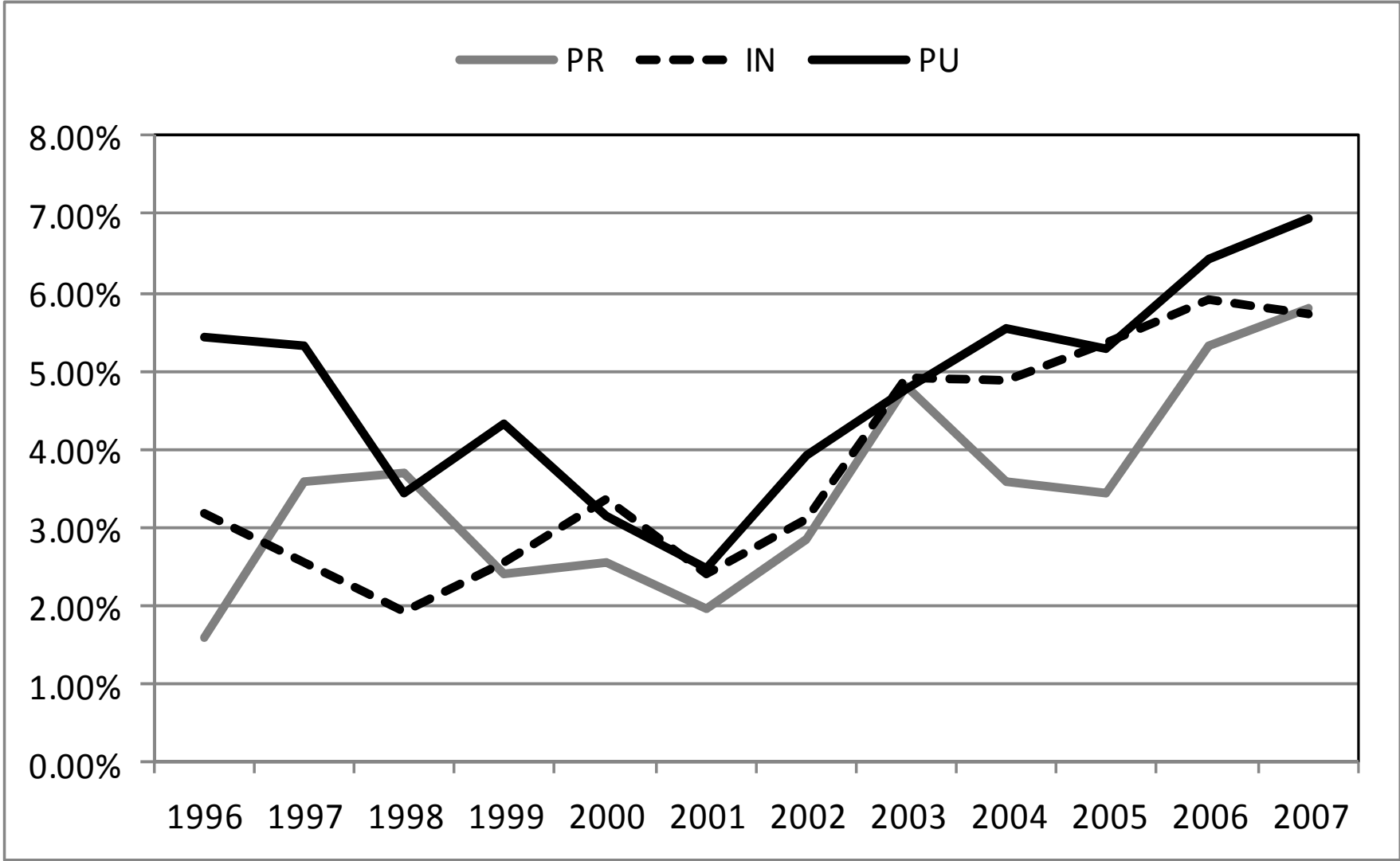
EU-15 2 yr MA

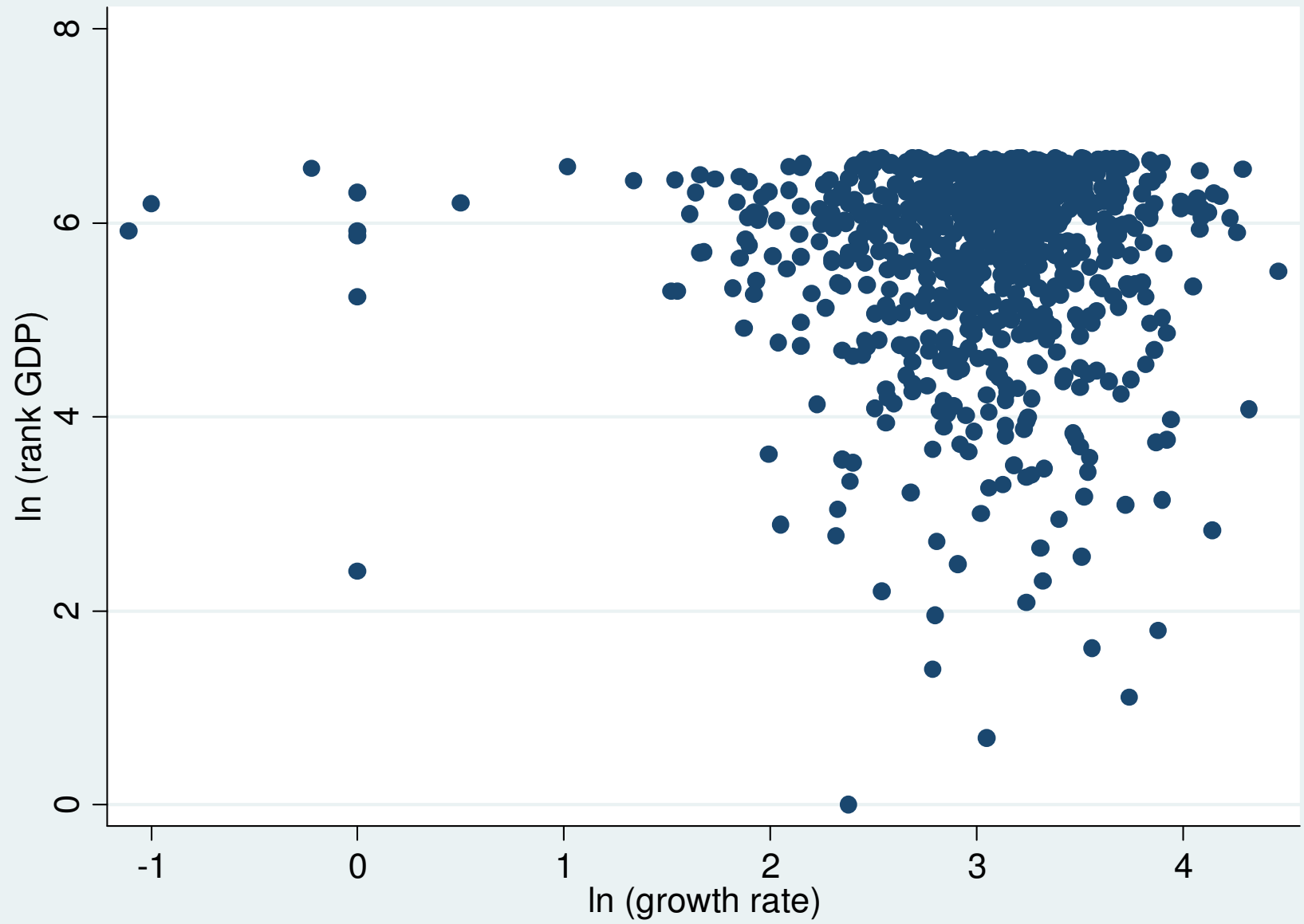


CEECs Yearly

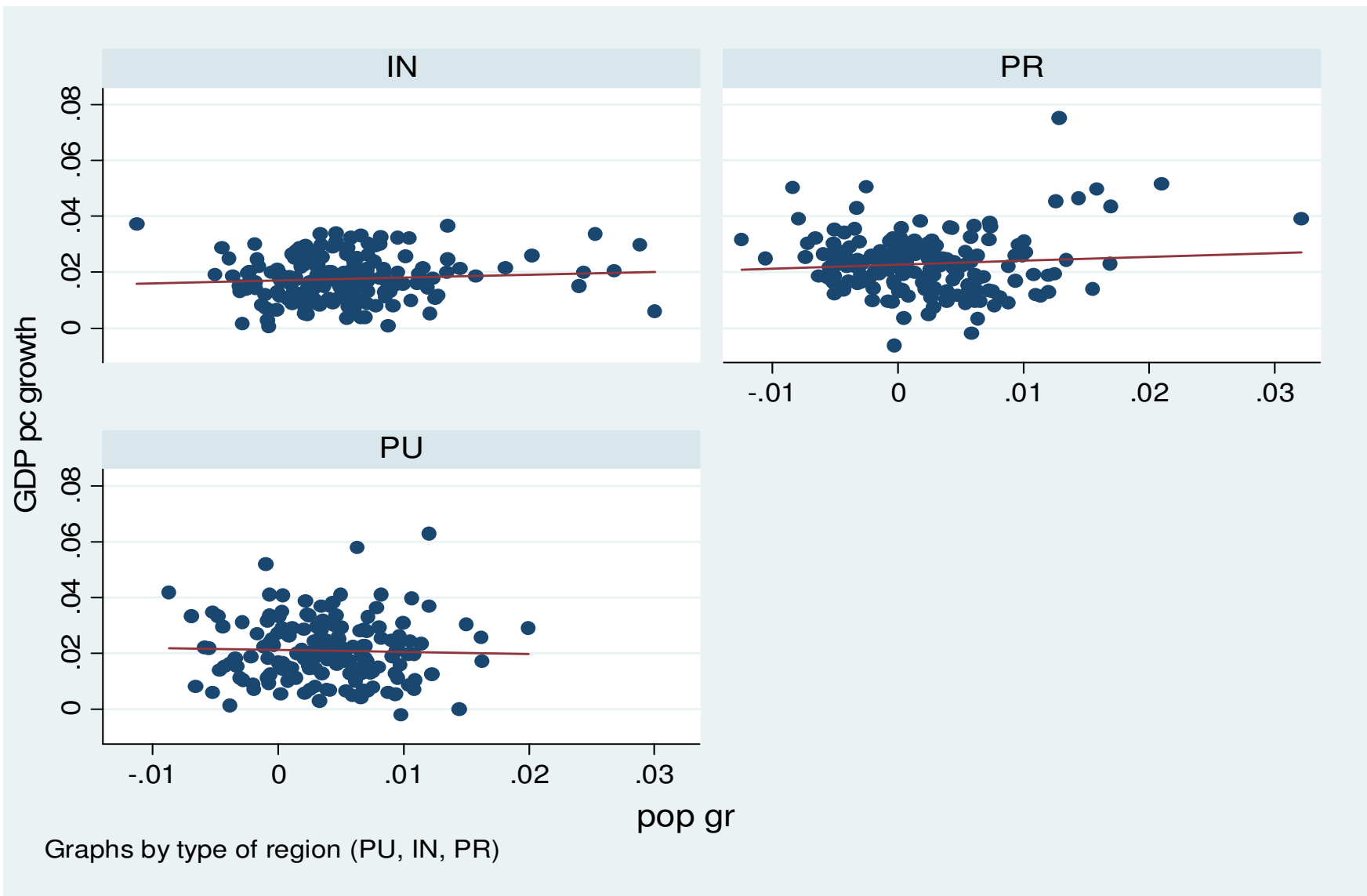


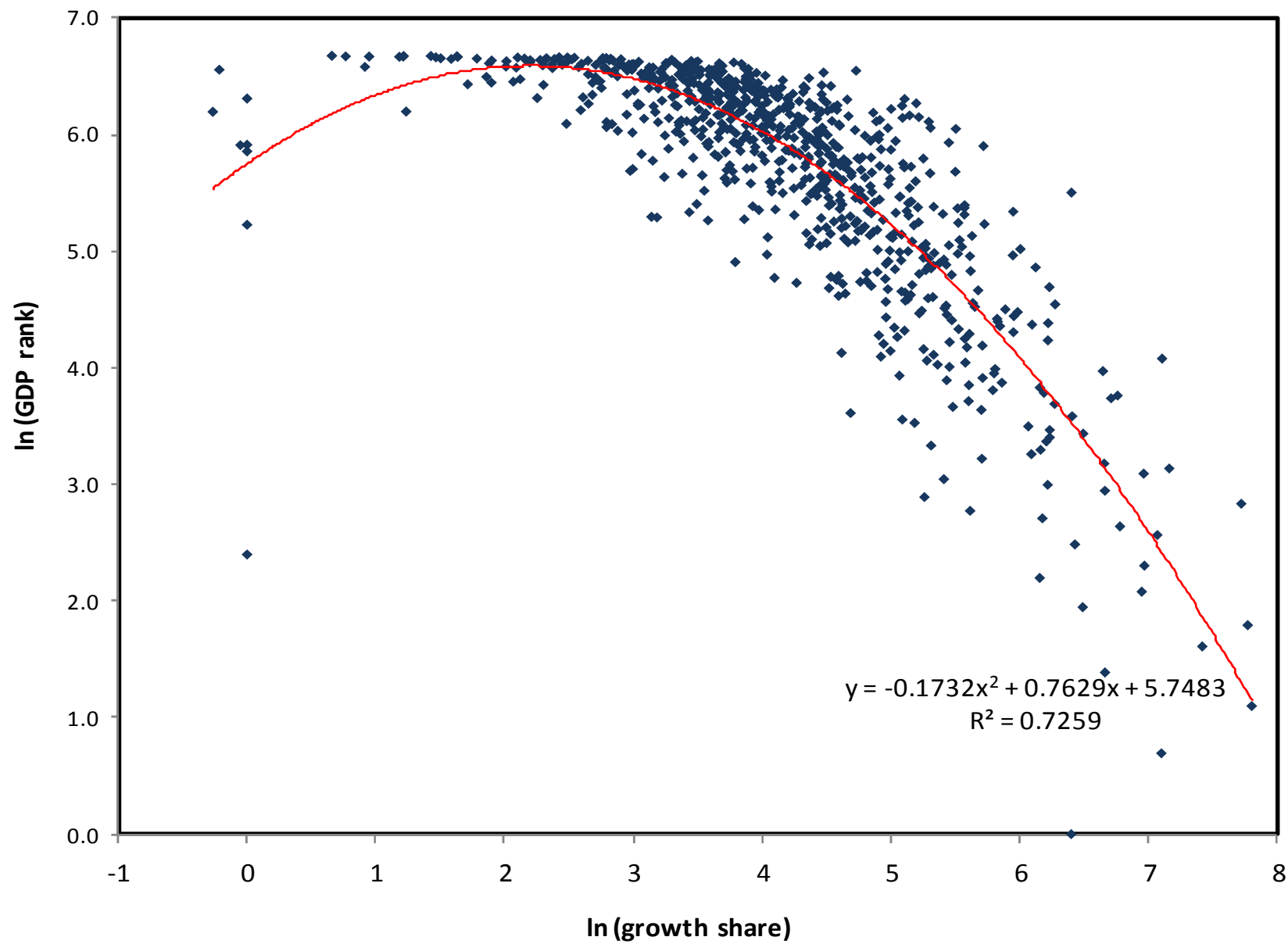
CEECs 2 yr MA





EU 15:

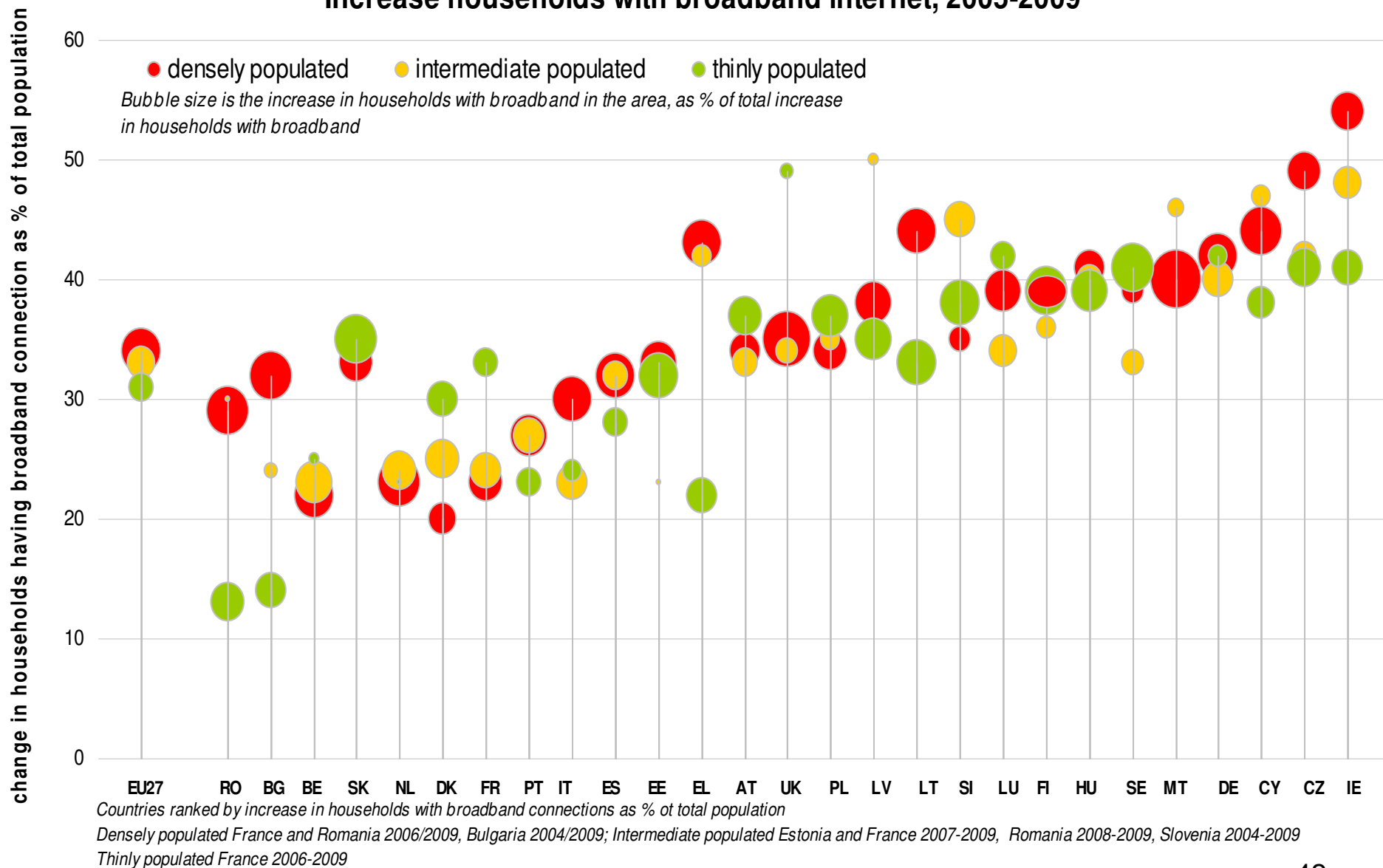




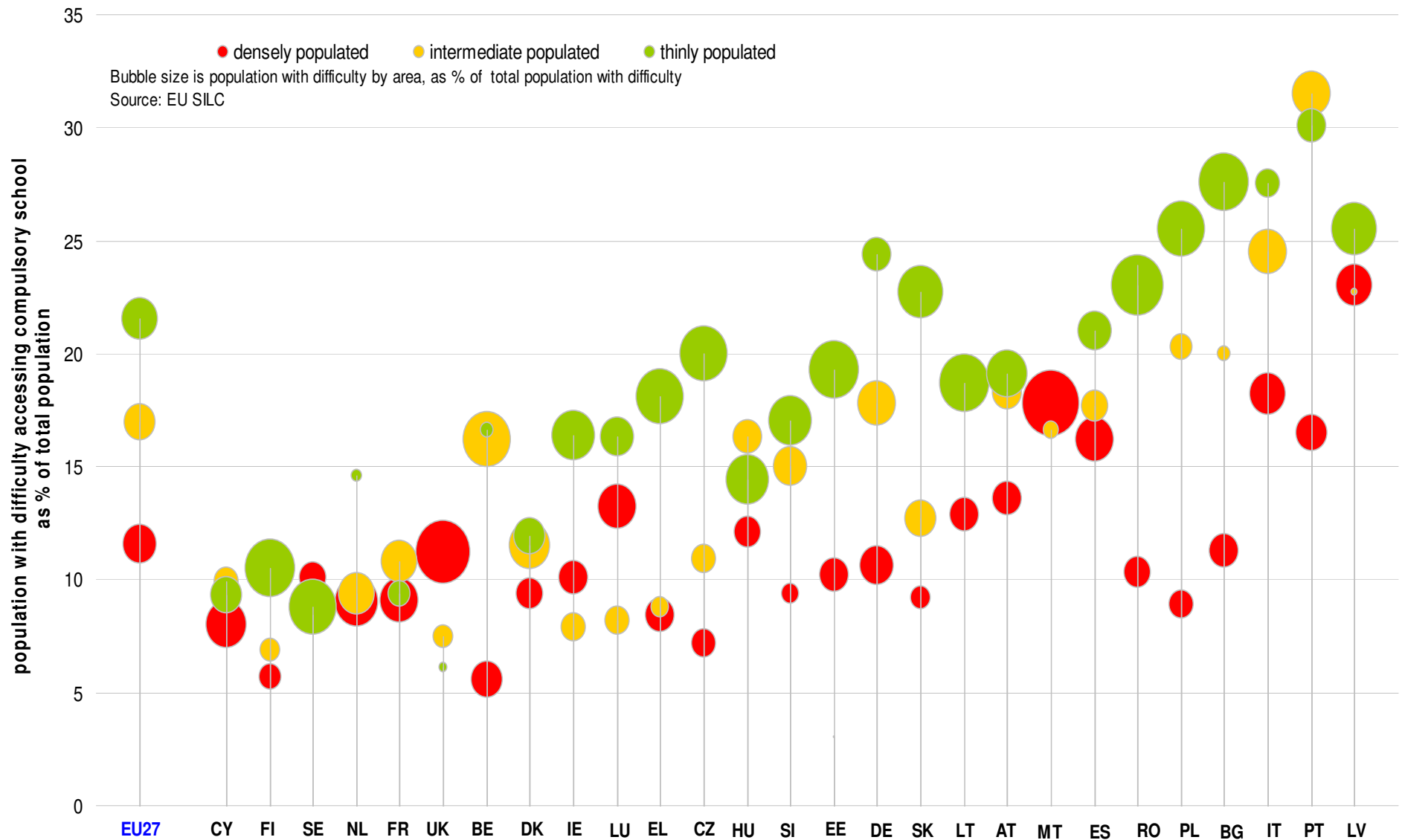
4. The EU Regional Context

- Reasons for the post 2000 regime change?
- New technologies tend to originate – or concentrate in densely populated areas first – but spread effects narrow the urban advantages
- Spiky world in terms of productivity – but evidence of flattening or catch up?
- A more general picture in terms of the impacts and evolution of globalisation?

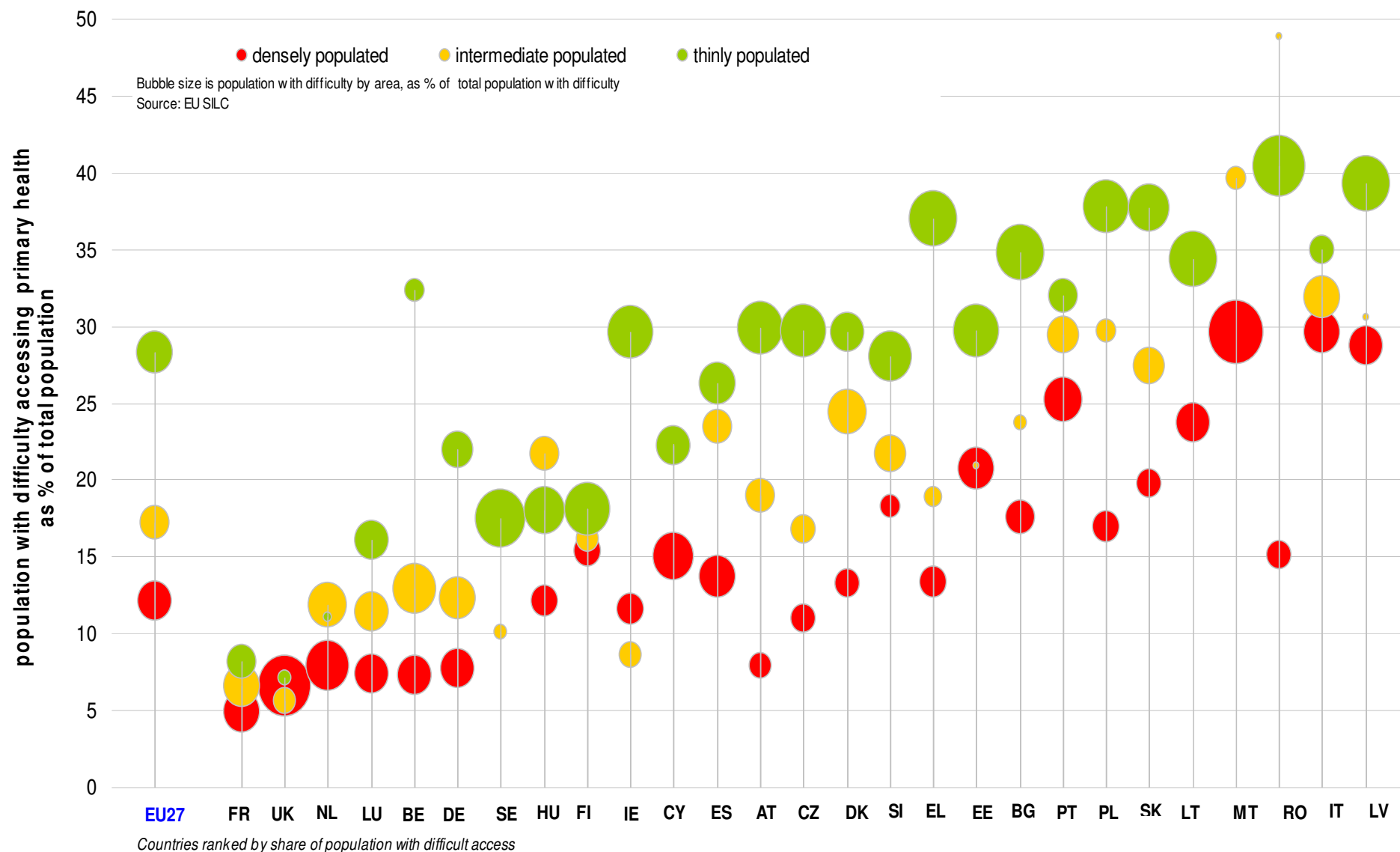
Increase households with broadband internet, 2005-2009



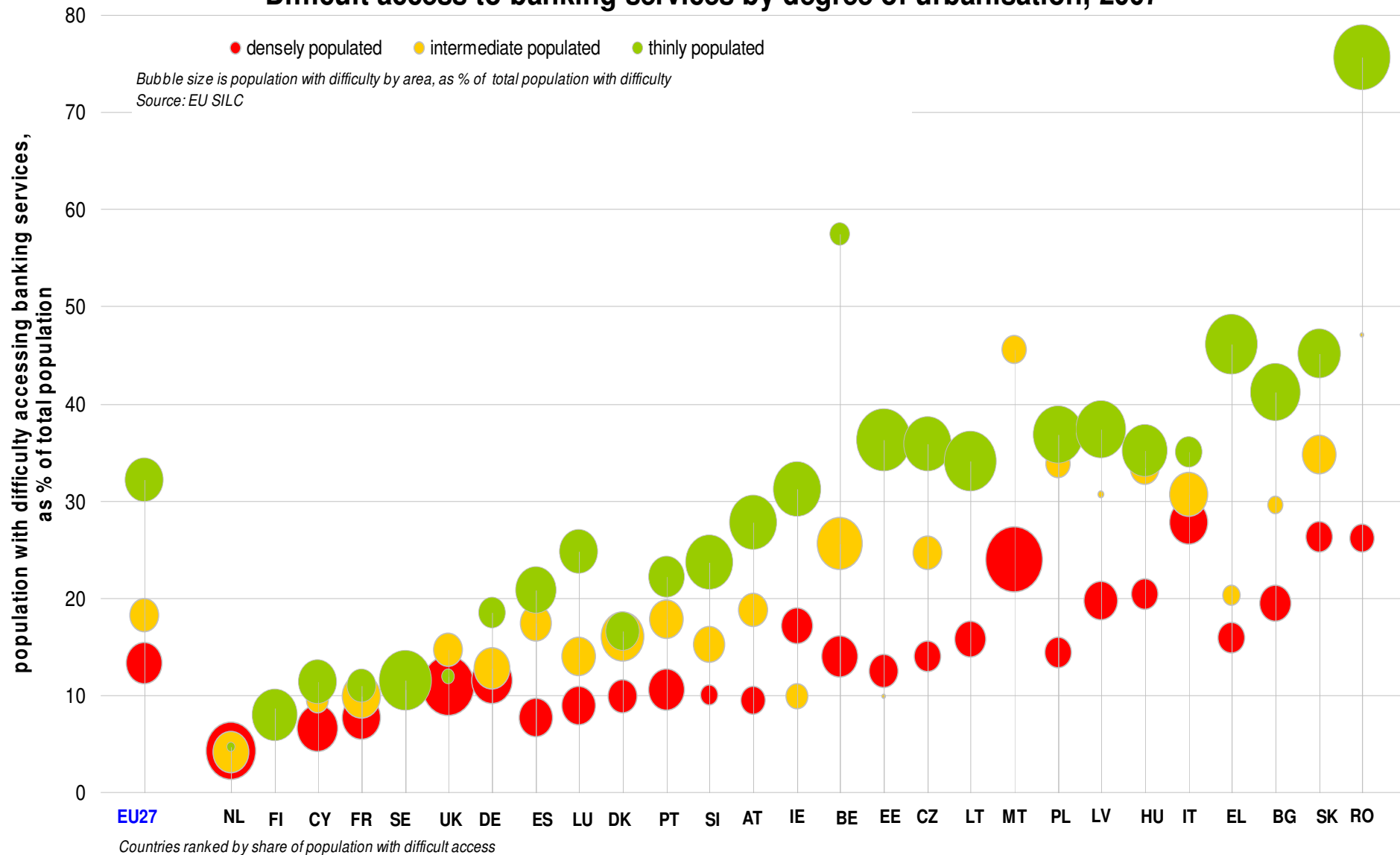
Difficult access to compulsory schools by degree of urbanisation, 2007



Difficult access to primary health care by degree of urbanisation, 2007



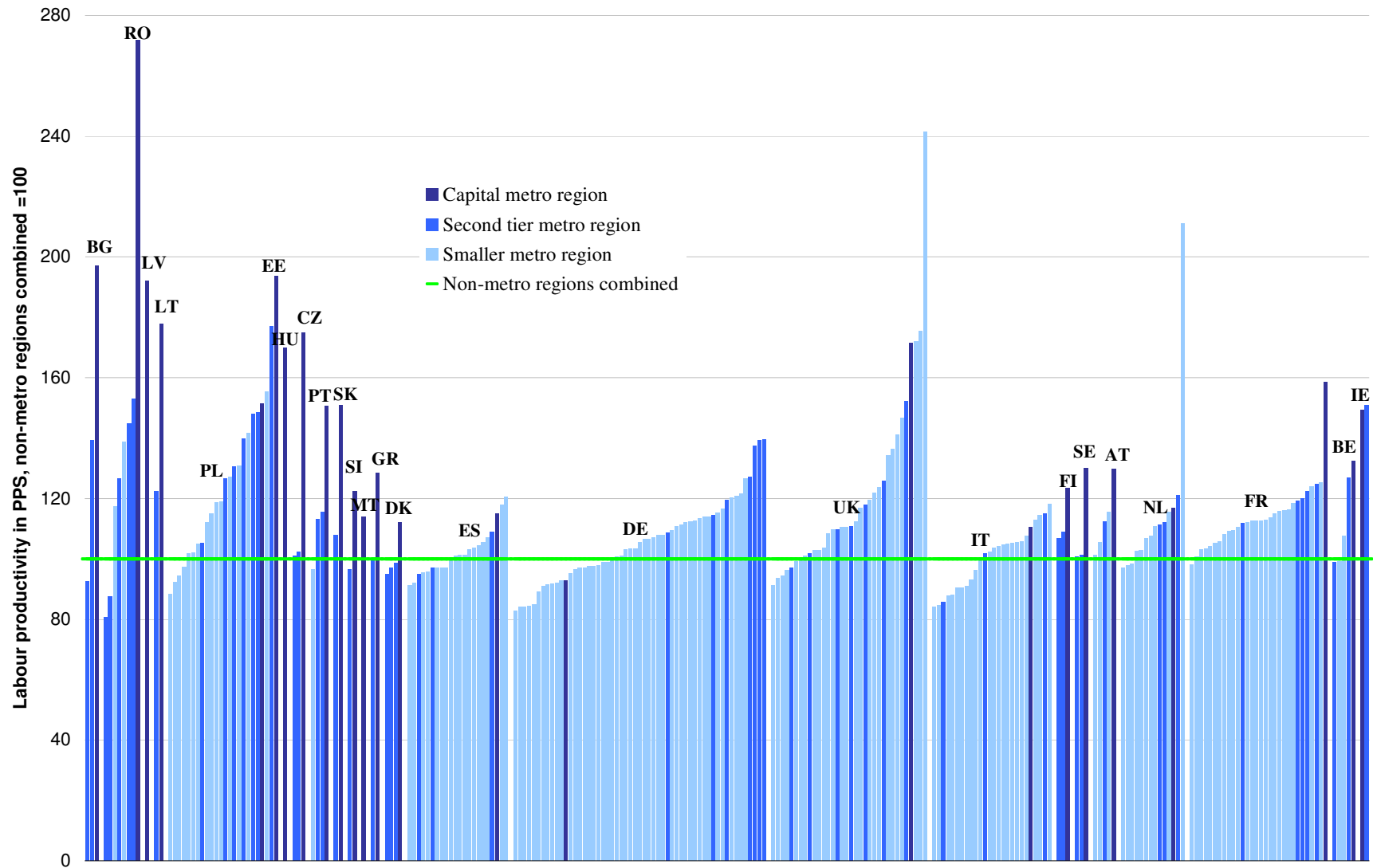
Difficult access to banking services by degree of urbanisation, 2007



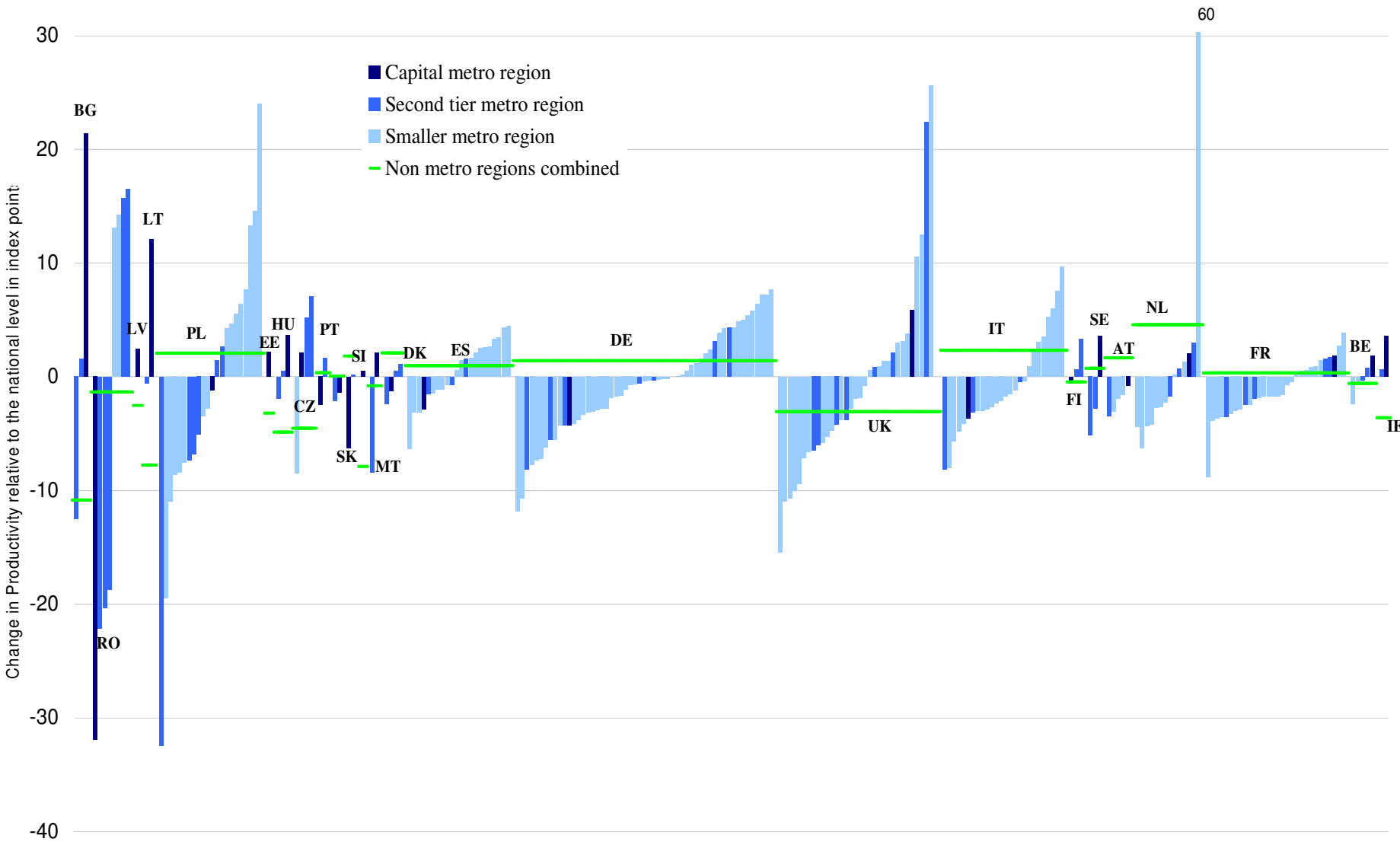
5. The EU Urban Context

- 2000-2008 UK, France, Netherlands, Spain – population of metro regions grows at a lower rate than national population
- GDP per capita share of primarily urban areas in EU15 has remained almost constant over the last decade
- Cities offer most possibilities and provide greatest challenges
- Middle-skills as well as low skills problems
- Reasons for slower growth - anti-urban bias and planning restrictions?
- Concentration followed by spread effects?
- Shifts in the spatial structure of the economy?

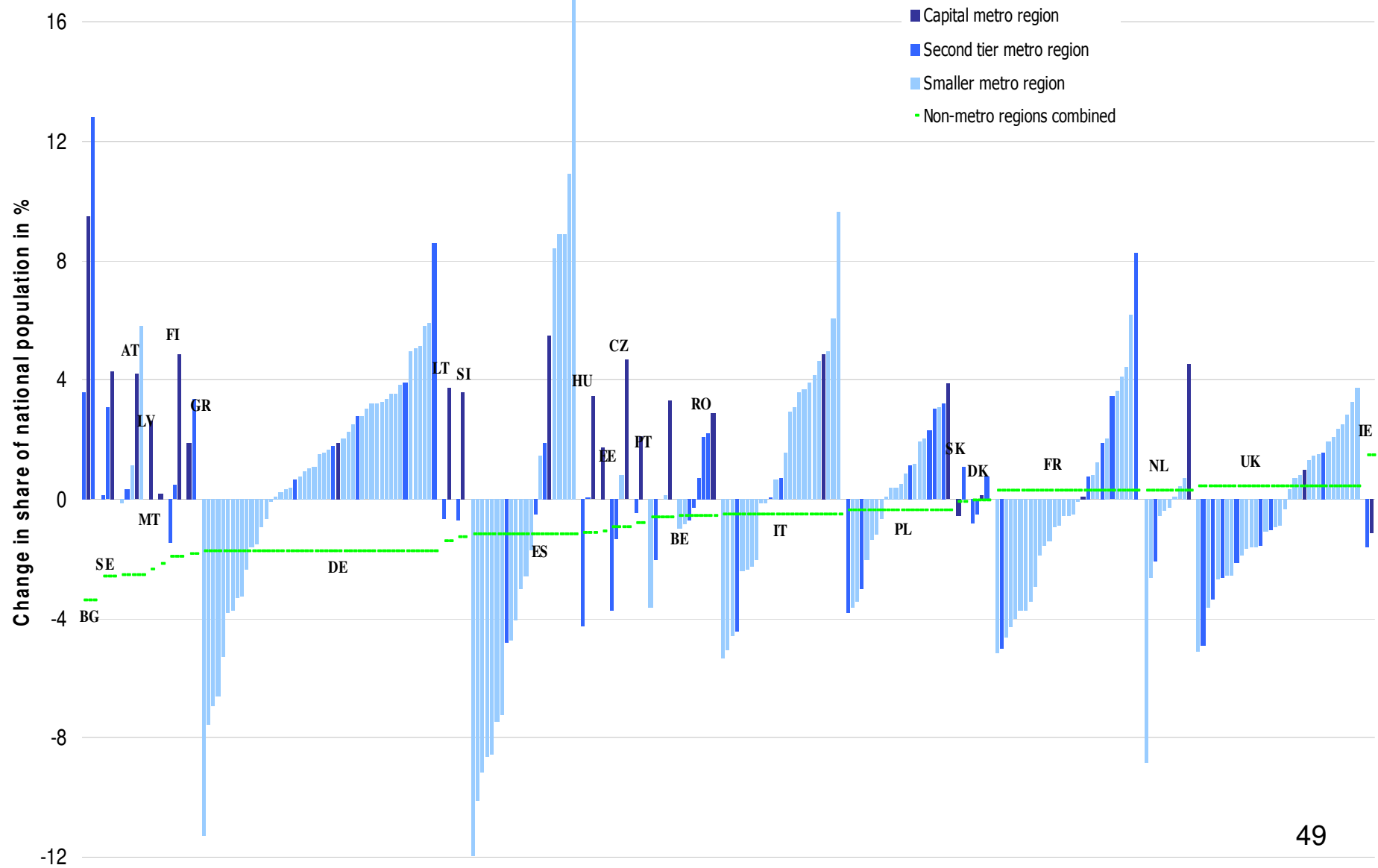
Labour productivity in PPS in metro regions compared to the rest of their country, 2008



Change in labour productivity in pps, 2000-2008



Population change in metro regions, 2000-2008



6. Space Blind or Place-Based Policy?

- World Development Report 2009 *Reshaping Economic Geography*
- ‘Space blind’ approach underpinned by role of agglomeration in developing economies
- Growth in BRIICS countries dominated by urban expansion and rural-urban migration
- Focus on efficiency but not distribution
- Mixture of *NEG* New Economic Geography and Urban Economics

6. Space Blind or Place-Based Policy?

- WDR 2009 – geography matters as well as institutions
- ‘Home market’ effects and agglomeration are critical for growth - counterpoint to small country arguments
- ‘Correct’ geography is required - the right factor inputs are in the right places for the right sectors
- To achieve the ‘correct’ geography the major policy emphasis is to encourage factor mobility in response to market signals – *space neutral* policy

6. Space Blind or Place-Based Policy?

- Emphasis on agglomeration – failure of orthodox (minimalist) WB institutions arguments?
- Policy ‘neutrality’ – is it a question of *intent* or *outcomes*?
- Who decides on what and where? Capital city elites - reduces to a capital city argument – and preferences of multinationals (WDR 2003; Henderson 2010; Kim 2011)
- Institutions – decision-making does matter – but where, when, why and how?

6. Space Blind or Place-Based Policy?

- Sector policies – innovation policies; R&D targeting in medical, aerospace, biosciences, etc
 - Intention is on increasing innovation and technology
- Outcomes depend on behavioural responses of actors; knowledge acquisition, spillovers, and dissemination...most of which are geographical in nature
- A genuinely space neutral + sector neutral policy is therefore *not* sufficient for growth
- Counterfactual case of no policy
- *Place-based* policy - local context matters

6. Space Blind or Place-Based Policy?

- Space neutral sector policies in terms of intent are almost *never* space neutral in terms of outcomes
- Role of interdependencies is critical
- A place-based approach systematically incorporates two types of sectoral issues – both *inter*-sectoral and *intra*-sectoral issues - but this is not possible for sector-only or space neutral policies

Table 1. Old and new paradigms of regional policy

	Old paradigm	New paradigm
Objectives	Compensating temporarily for location disadvantages of lagging regions	Tapping underutilised potential in all regions for enhancing regional competitiveness
Unit of intervention	Administrative units	Functional economic areas
Strategies	Sectoral approach	Integrated development projects
Tools	Subsidies and state aids	Mix of soft and hard capital (capital stock, labour market, business environment, social capital and networks)
Actors	Central government	Different levels of government

Source: OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*.

6. Space Blind or Place-Based Policy?

- Modern place-based thinking builds on institutional and social capital arguments
- Not geography versus institutions but interactions between geography and institutions
- We function in places – all aspects of the economy – including policy and governance
- People policies and place policies overlap, interact, complement
- Local perceptions really do matter for engagement

6. Space Blind or Place-Based Policy?

- Barca Report 2009 *An Agenda for a Reformed Cohesion Policy*, European Commission, Brussels
- *How Regions Grow*, 2009a, OECD
- *Regions Matter: Economic Recovery, Innovation and Economic Growth*, 2009b, OECD
- CAF 2010 Report
- OECD *Regional Outlook 2011*
- *OECD 2012, Promoting Growth in All Regions*