

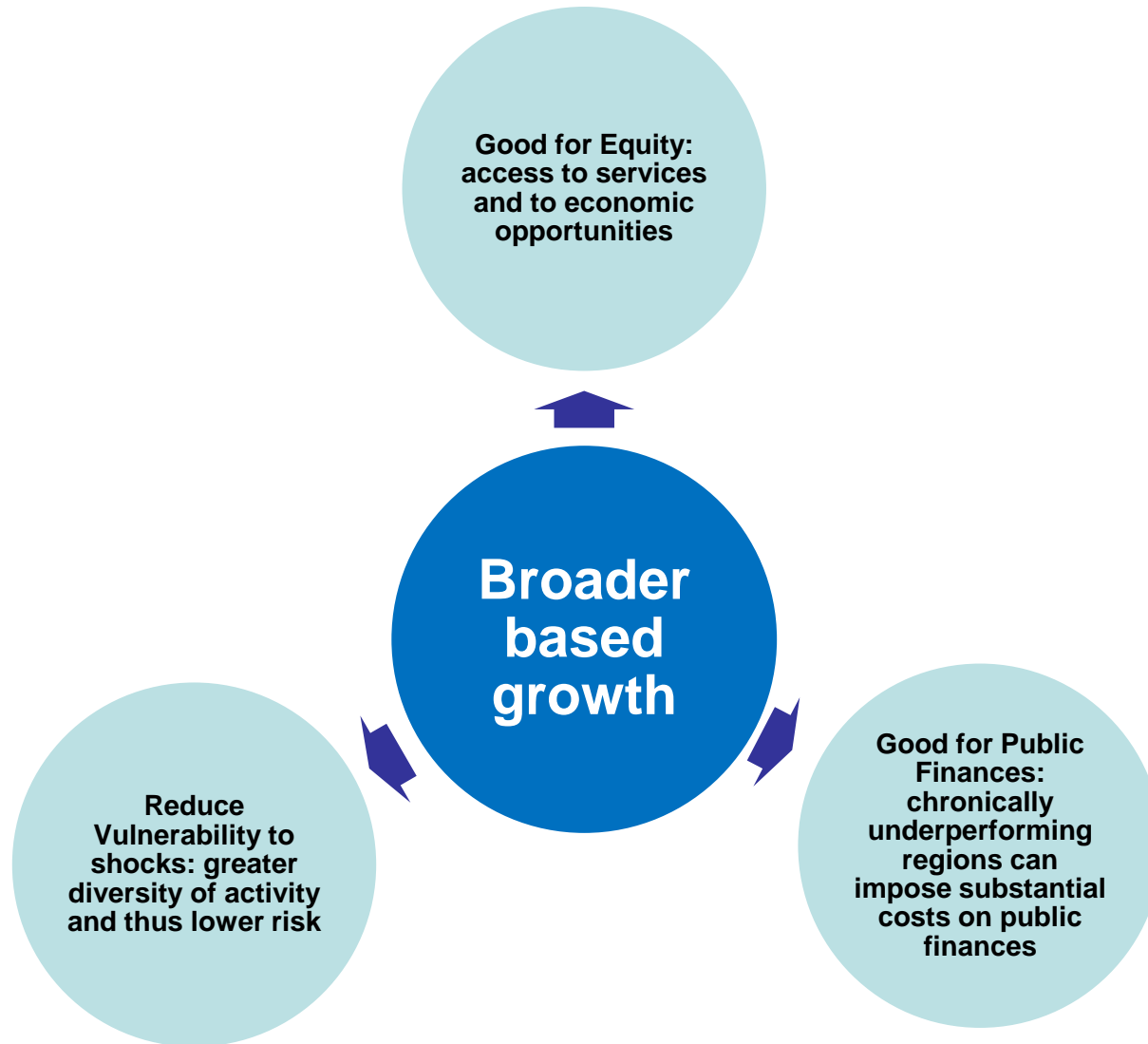
# Promoting Growth in All Regions

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# Promoting Growth in All Regions



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Is broader based growth economically viable?

Does growth potential exist in some regions?

Does it matter for national and aggregate growth?

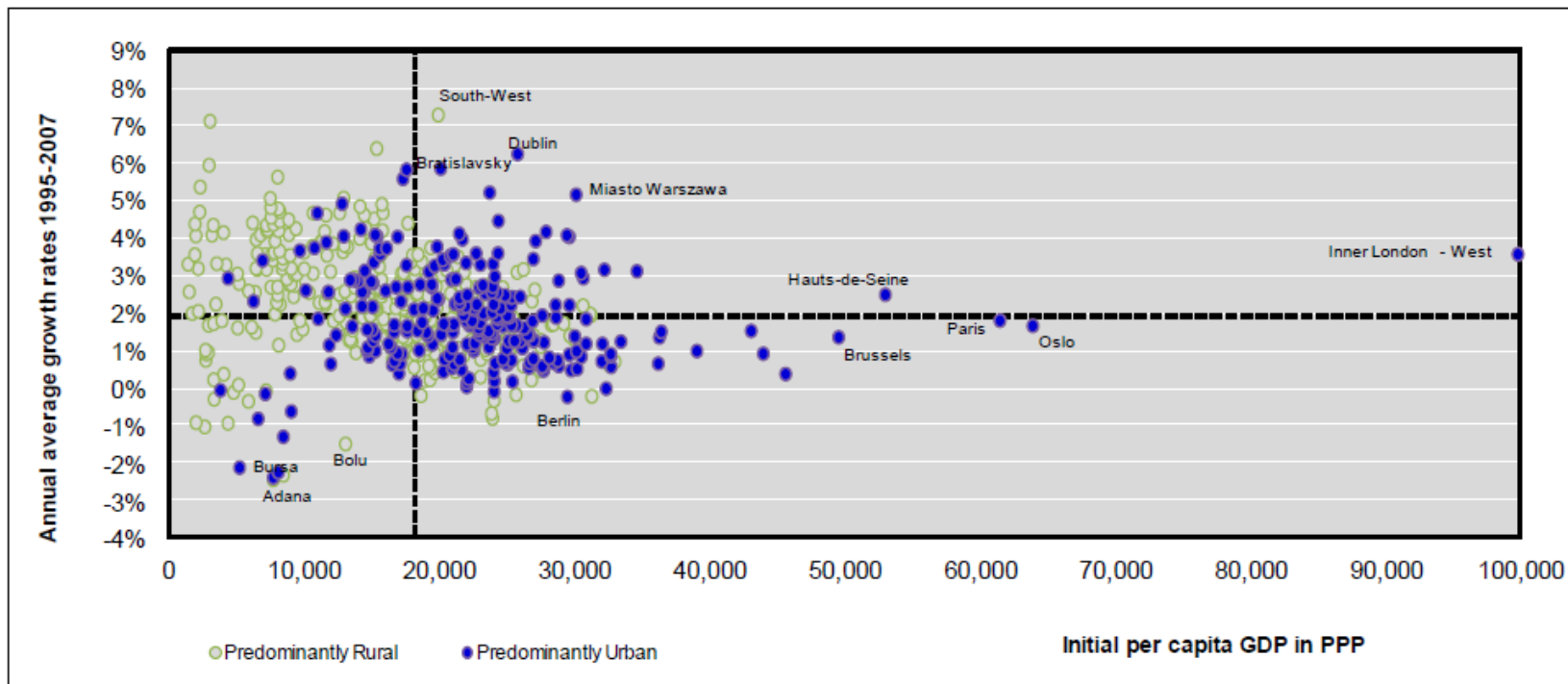
# Outline

- Trends in regional growth
- Regions and aggregate performance
- Factors of regional growth
- Case studies
- General findings

# There is no single/unique path to growth...

No marked convergence or divergence profiles by type of region

Predominantly urban and rural regions, 1995-2007

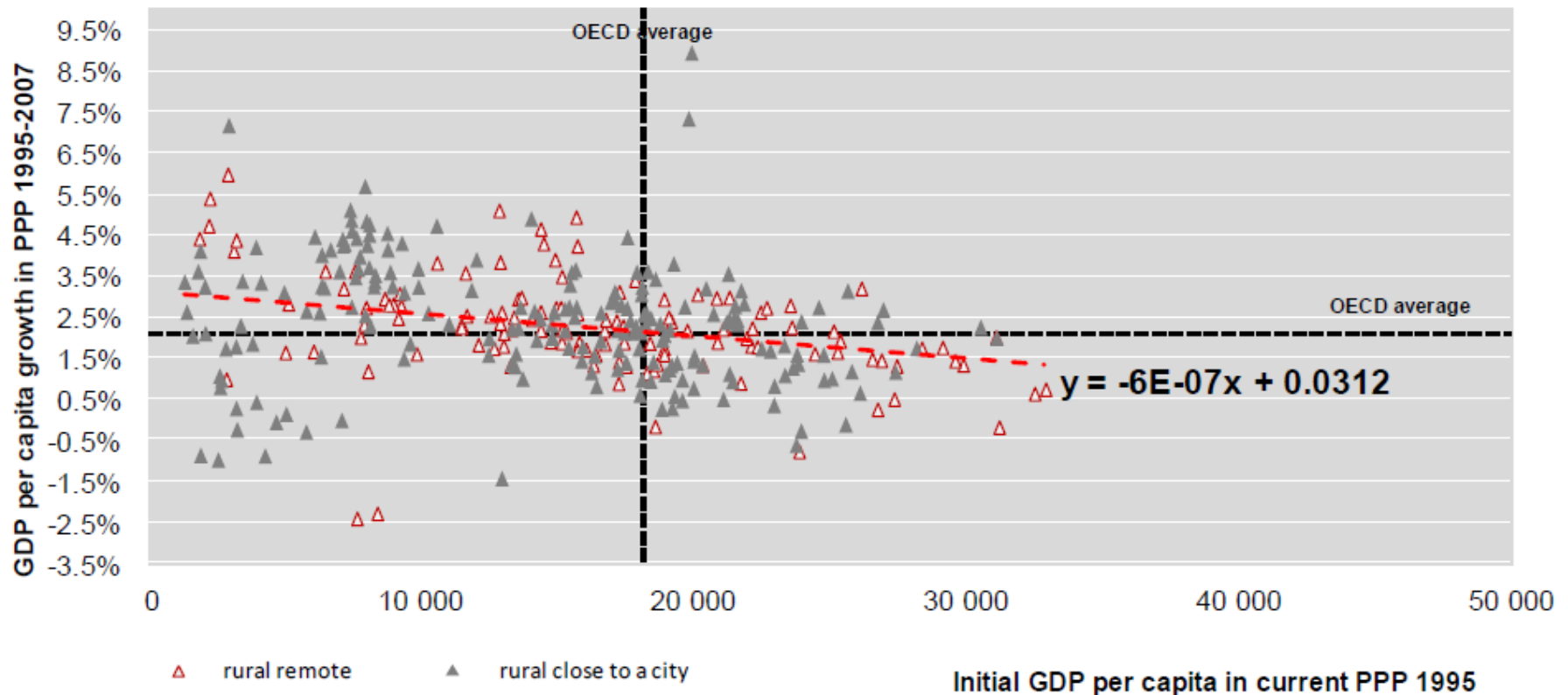


- Opportunities for growth exist in all types of regions.

# Convergence forces in rural regions

## Convergence patterns across rural regions

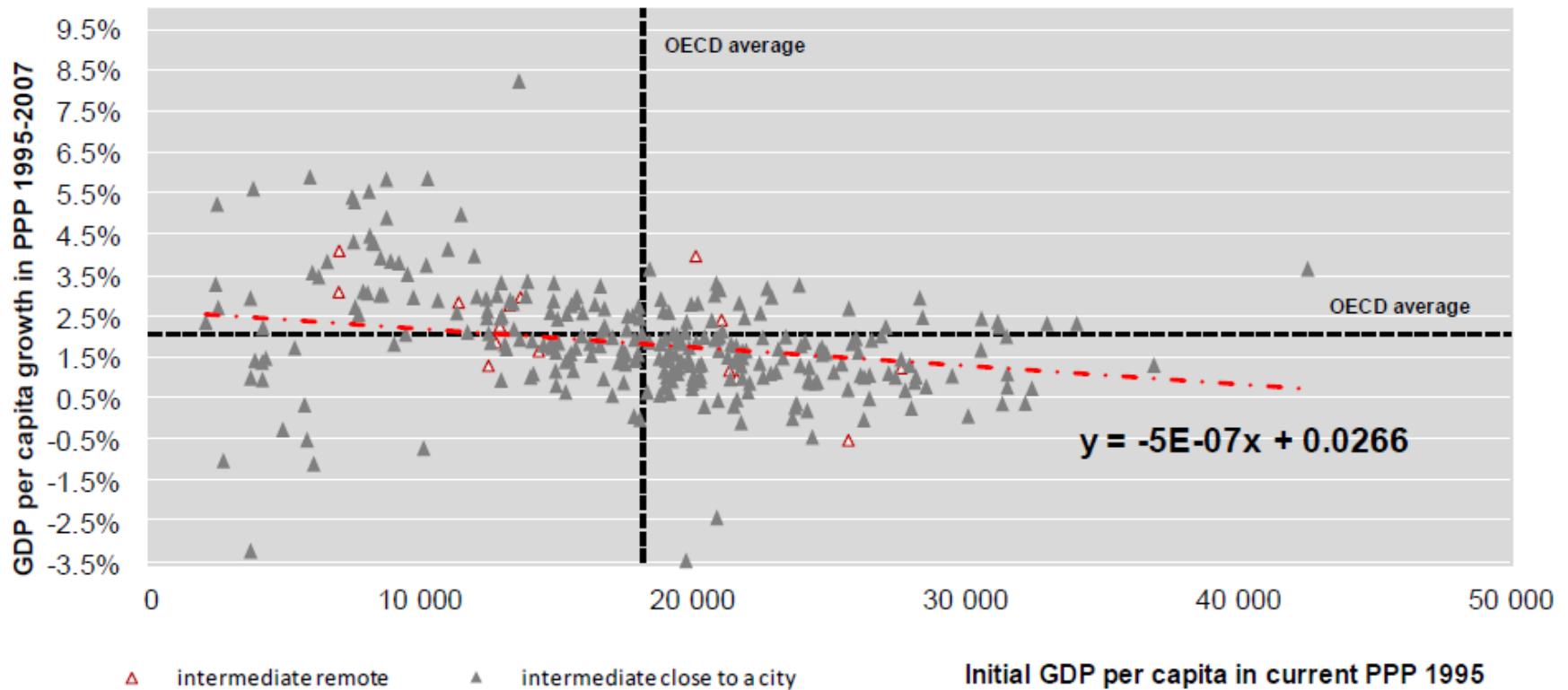
Remote and proximate rural TL3 regions, 1995-2007



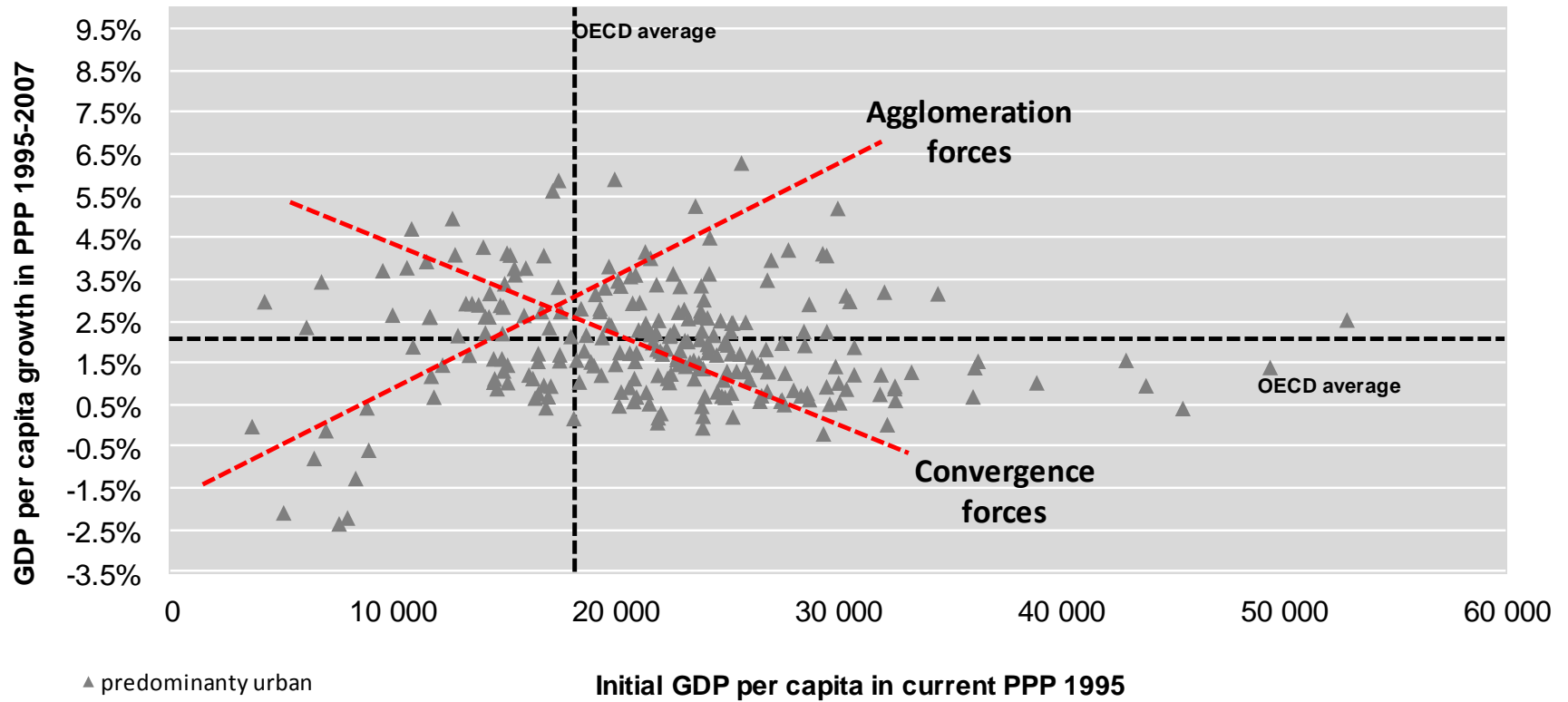
# Convergence forces in intermediate regions

## Convergence patterns across intermediate regions

Intermediate TL3 regions, 1995-2007



# Convergence and divergence forces in urban regions



Agglomerations and sustainable development?



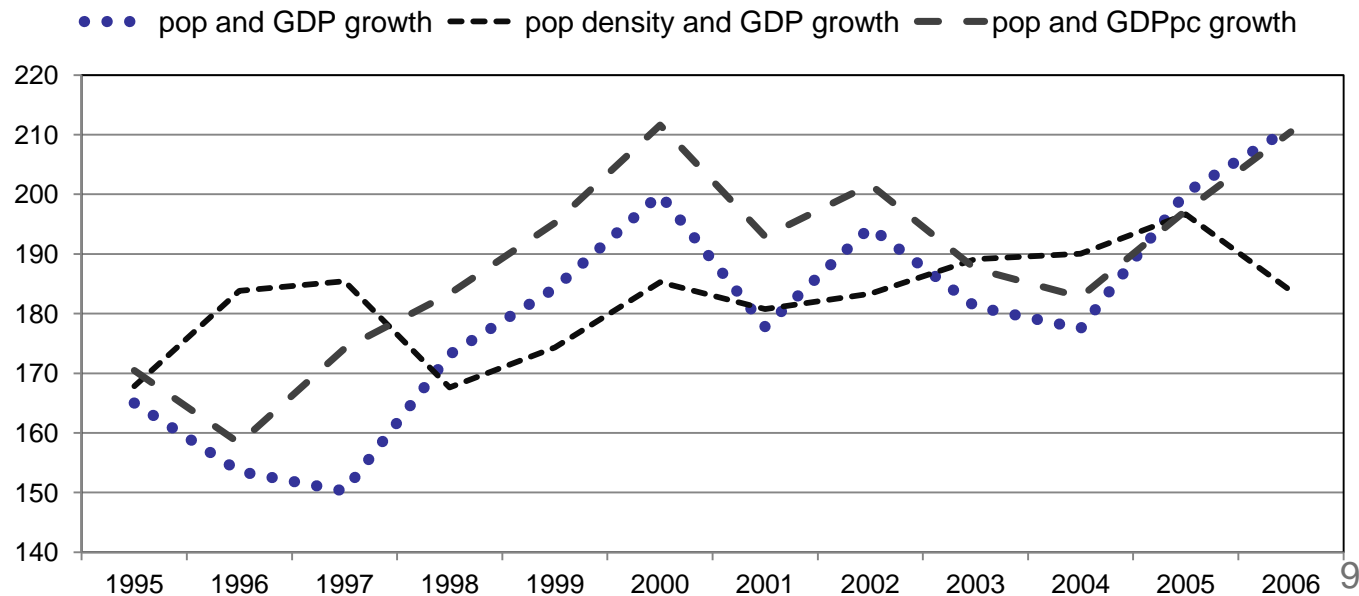
# The most dynamic OECD regions over 1995-2007..

Initial GDP per capita and annual average growth rates in GDP per capita  
OECD TL3 regions, 1995-2007

Type of OECD region	n	GDP per capita in PPP		
		Growth (1995-2007)	Initial level (1995)	% of OECD average
Predominantly urban	233	1.93%	22,568	124%
Predominantly rural close to city	199	2.33%	14,324	79%
Predominantly rural remote	123	2.24%	16,234	89%
Intermediate	295	1.83%	17,855	98%
Total	850	2.06%	18,172	100%

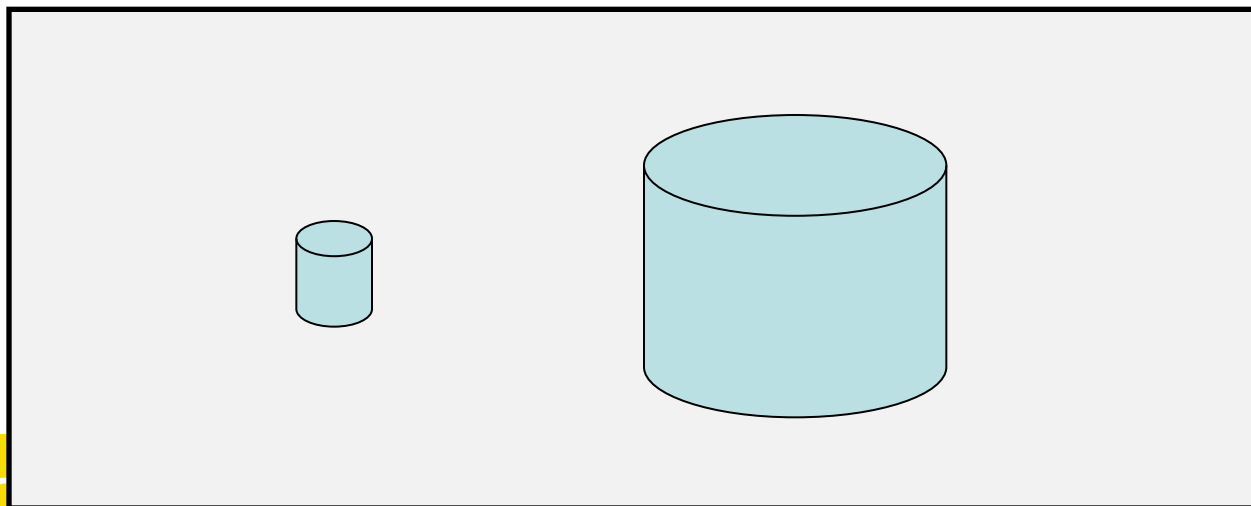
Source: OECD Regional Database.

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



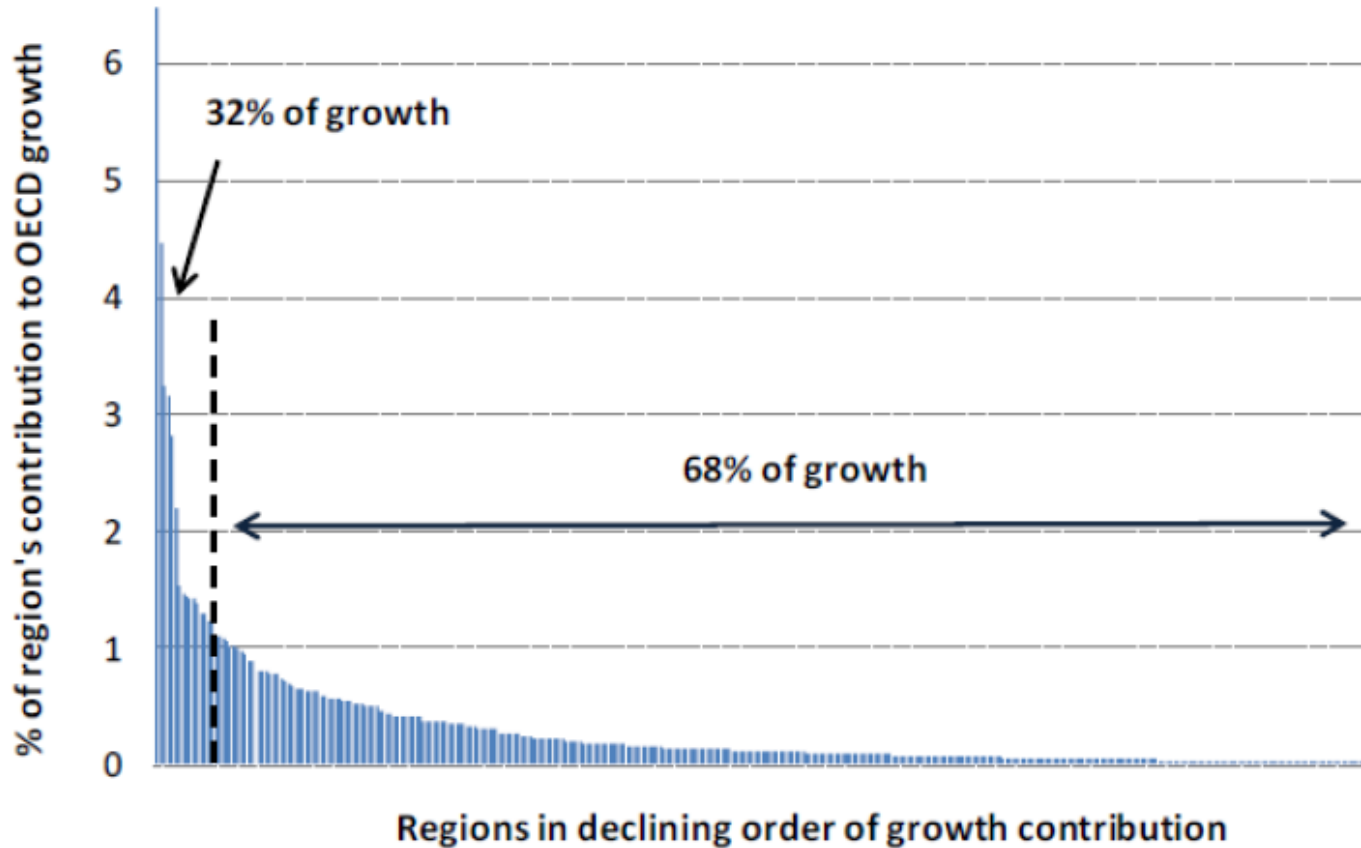
# Links between regional and aggregate

- ❖ Where growth actually occurs is also critical:
  - Contributions to growth
  - Implications for national policy makers
- ❖ Contribution to growth over the a given period (n, n+t):
  - Initial size of a given territory → GDP share (n)
  - Its growth rate between (n, n+t)



# Contributions to aggregate growth depend on few hub regions...

## Contributions to growth by OECD TL2 Region, 1995–2007



Source: OECD Regional Database (Territorial Level 2 regions).

...the fat tail is equally important -- if not more -- to aggregate growth...

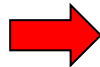
# Contributions to aggregate growth by less developed regions

	LCUP	CUP	LCUP &CUP advanced	
Australia	0%	29%	29%	71%
Austria	3%	50%	53%	47%
Belgium	19%	61%	80%	20%
Canada	2%	23%	26%	74%
Czech Republic	0%	62%	62%	38%
Denmark	0%	49%	49%	51%
Finland	0%	35%	35%	65%
France	1%	68%	68%	32%
Germany	14%	13%	27%	73%
Greece	0%	-16%	-16%	116%
Hungary	14%	20%	34%	66%
Ireland	0%	19%	19%	81%
Italy	20%	6%	26%	74%
Japan	1%	26%	27%	73%
Korea	0%	23%	23%	77%
Mexico	24%	20%	44%	56%
Netherlands	0%	49%	49%	51%
Norway	0%	61%	61%	39%
Poland	0%	44%	44%	56%
Portugal	0%	54%	54%	46%
Slovak Republic	0%	67%	67%	33%
Spain	17%	32%	48%	52%
Sweden	0%	58%	58%	42%
Turkey	36%	11%	47%	53%
United Kingdom	0%	57%	57%	43%
United States	1%	50%	51%	49%
<b>average unweighted</b>	<b>6%</b>	<b>37%</b>	<b>43%</b>	<b>57%</b>
<b>average weighted</b>	<b>5%</b>	<b>38%</b>	<b>43%</b>	<b>56%</b>

*Overall, they contributed to **44%** of aggregate OECD growth in 1995-2007.*

*In ten OECD countries lagging regions contributed more to national growth than leading regions. In the United Kingdom, their contribution was 57%.*

*Bottom line: support for lagging regions need not be merely a “social” policy. They contribute a large share of national growth.<sup>12</sup>*



# Stylized facts – growth

## ❖ Growth Patterns are very Heterogeneous

- Possibilities for growth exist in all types of regions
- Convergence and agglomeration forces at play

## ❖ Concentration and Growth

- Concentration not a sufficient nor necessary condition
- Benefits of concentration not linear nor infinite
- Diseconomies of scale and congestion costs can hinder growth in agglomerations



What are the main factors of growth at the regional level?

### Cross-Sectional Model

$$\ln\left(\frac{GPD_{i,t}}{GDPI_{i,t-1}}\right) = \alpha + \beta_1 \ln(GDP_{i,t-1}) + \beta_2 \ln(Inf_{i,t-1}) + \beta_3 (\text{Pr\_Ed\_att}_{i,t-1}) + \beta_4 \ln(\text{Ti\_Ed\_att}_{i,t-1}) + \beta_5 ER_t - 1 + \beta_6 \ln(Pat_{i,t-1}) + \beta_7 \ln(GDExp\_Bi_{i,t-1}) + \beta_8 \ln(GDExp\_G_{i,t-1}) + \beta_9 \ln(\text{Spec\_Ag}_{i,t-1}) + \beta_{10} \ln(\text{Spec\_Man}_{i,t-1}) + \beta_{11} \ln(\text{Market\_Dist}_{i,t-1}) + \beta_{12} \ln(\text{Accesibility}_{i,t-1}) + \gamma_j CD_j + \varphi_t TD_t + u_i + e_{i,t}$$

### Panel and Pooled Model

$$\frac{1}{T} \ln\left(\frac{GPD_{i+T}}{GDP_i}\right) = \alpha + \beta_1 \ln(GDP_i) + \beta_2 \ln(Inf_i) + \beta_3 (\text{Pr\_Ed\_att}_i) + \beta_4 \ln(\text{Ti\_Ed\_att}_i) + \beta_5 ER_t + \beta_6 \ln(Pat_i) + \beta_7 \ln(GDExp\_B_i) + \beta_8 \ln(GDExp\_G_i) + \beta_9 \ln(\text{Spec\_Ag}_i) + \beta_{10} \ln(\text{Spec\_Man}_i) + \beta_{11} \ln(\text{Market\_Dist}_i) + \beta_{12} \ln(\text{Accesibility}_i)$$

### Error Correction Model

$$\Delta \ln y(t) = -\lambda \left( \ln y(t-1) - \frac{a}{1-a} \ln s_K(t) - \frac{b}{1-a} \ln h(t) + \frac{a}{1-a} \ln(g(t) + n(t) + d) - \sum_j z_j \ln X_t^j + gt \right) + a_0 + a_1 \Delta \ln s_K(t) + a_2 \Delta \ln h(t) + a_3 \Delta \ln(g(t) + n(t) + d) + \sum_j b_j \Delta \ln X_t^j + \varepsilon_t.$$

# How regions grow: model results

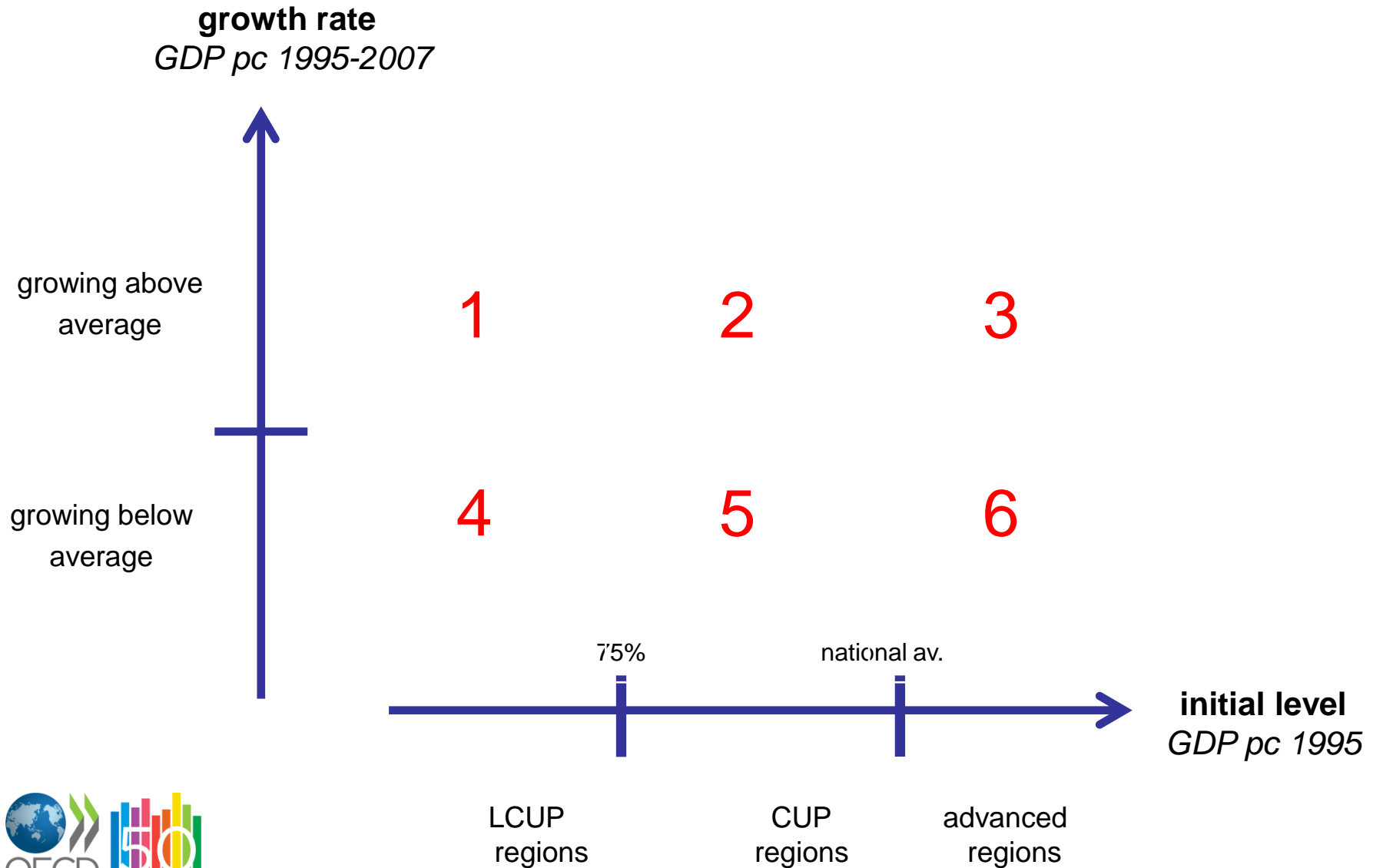
First key finding: The most important growth drivers are *endogenous* to the region.

- **Human capital** and **innovation** positively influence regional growth.
- **Infrastructure** influences growth only when human capital and innovation are present. *By itself it does not impact growth.*
- **Agglomeration** influences growth but is not necessary or sufficient.
- *Distance to markets* has a *positive* impact to growth. Regions in periphery growing faster. *Possible measurement bias? (i) No travel time and transportation networks and (ii) size of regions.*
- *Accessibility* influences growth, *conditional on innovation, infrastructure, human capital and agglomeration.*

Second key finding: the *relative weight* of different factors depends, *inter alia*, on the level of development of the region.

These findings, in turn, have implications for *governance*.

# Regional performance varies with development...





# Analysis

## Compare indicators relevant for regional growth b/w “growing” and “underperforming” group

<ul style="list-style-type: none"><li>•Population density</li><li>•GDP density</li></ul>	}	Economic mass/thickness of market economies of agglomeration
<ul style="list-style-type: none"><li>•Employment rate</li><li>•Unemployment rate</li><li>•Youth unemployment rate</li></ul>	}	Labour utilisation
<ul style="list-style-type: none"><li>•Patent applications</li><li>•Patent intensity</li><li>•Business R&amp;D to GDP</li><li>•Government R&amp;D to GDP</li><li>•Higher education R&amp;D to GDP</li></ul>	}	Innovation related indicators
<ul style="list-style-type: none"><li>•Primary attainment rate</li><li>•Tertiary attainment rate</li></ul>	}	Human capital
<ul style="list-style-type: none"><li>•Connectivity in global network</li></ul>	}	Geography/NEG
<ul style="list-style-type: none"><li>•Productivity</li></ul>		
<ul style="list-style-type: none"><li>•Infrastructure</li></ul>		

# Performance of all “growing” regions associated ...

Growth factor	Indicator	Regions with large catching up potential		Regions with catching up potential		Advanced regions	
		Growing above av.	Growing below av.	Growing above av.	Growing below av.	Growing above av.	Growing below av.
Productivity	Productivity (GDP per employee)	31,612	29,728	55,832	50,728	72,551	59,824
Infrastructure	Motorway density	0.15	0.13	0.26	0.18	0.19	0.24
Human capital	Primary educational attainment (% of LF)	42%	46%	26%	22%	25%	29%
	Tertiary attainment (% of LF)	21%	19%	26%	25%	31%	26%
	PISA score mathematics	443	405	476	487	484	478
	PISA score reading	459	436	482	485	490	465
Labour market	Employment rate	57%	55%	71%	68%	71%	66%
	Unemployment rate	9%	8%	5%	7%	5%	6%
	Long-term unemployment rate	4%	5%	2%	2%	2%	2%
	Youth unemployment rate	21%	22%	13%	16%	12%	15%
	Participation rate	62%	60%	73%	72%	74%	69%
Innovation	In (patent application)	1.7	1.8	4.4	4.1	5.0	4.0
	Patent applications per million	20	16	91	74	158	82
	In (patent application copatents)	1.1	1.6	4.0	3.6	4.6	3.6
	Co-invention within region	124	90	673	536	2932	1256
	Co-inventions within ctry	105	71	294	261	759	466
	Co-inventions foreign	16	53	126	112	314	206
	R&D expenditure total (as % of GDP)	1.06%	1.03%	1.50%	1.41%	2.21%	1.51%
	BERD % GDP	0.35%	0.42%	0.90%	0.86%	1.35%	1.00%
	GERD % GDP	0.33%	0.22%	0.23%	0.20%	0.42%	0.16%
	High and medium HTM % empl.	3.3%	4.8%	5.2%	6.1%	5.3%	6.4%
KIS (as % of total employment)	22.5%	28.2%	33.3%	32.8%	36.7%	32.2%	
Agglomeration and connectivity	Population density	17.51	18.38	19.40	18.63	29.47	23.41
	GDP density	1.10	0.99	4.29	3.38	29.14	24.19
	Degree of openness	14	15	40	40	65	44
	Clustering coefficient	0.034	0.038	0.089	0.093	0.123	0.084
	Centrality	0.001	0.001	0.002	0.002	0.007	0.005

# Performance of regions with low levels of development...

Growth factor	Indicator	Regions with large catching up potential		Regions with catching up potential		Advanced regions	
		Growing above av.	Growing below av.	Growing above av.	Growing below av.	Growing above av.	Growing below av.
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...infrastructure and innovation related activities (co-invention within regions and with other regions within countries) are critical, in addition to human capital .

# As regions move into higher levels of development...

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...human capital but in addition to adequate infrastructure, efficient labour markets and innovative activity are critical to enhance their performance .

# As regions approach the production possibility frontier...

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...in addition to human capital dynamism is mainly associated with innovation-related activities and their connectivity within the global network of regions and agglomeration forces.

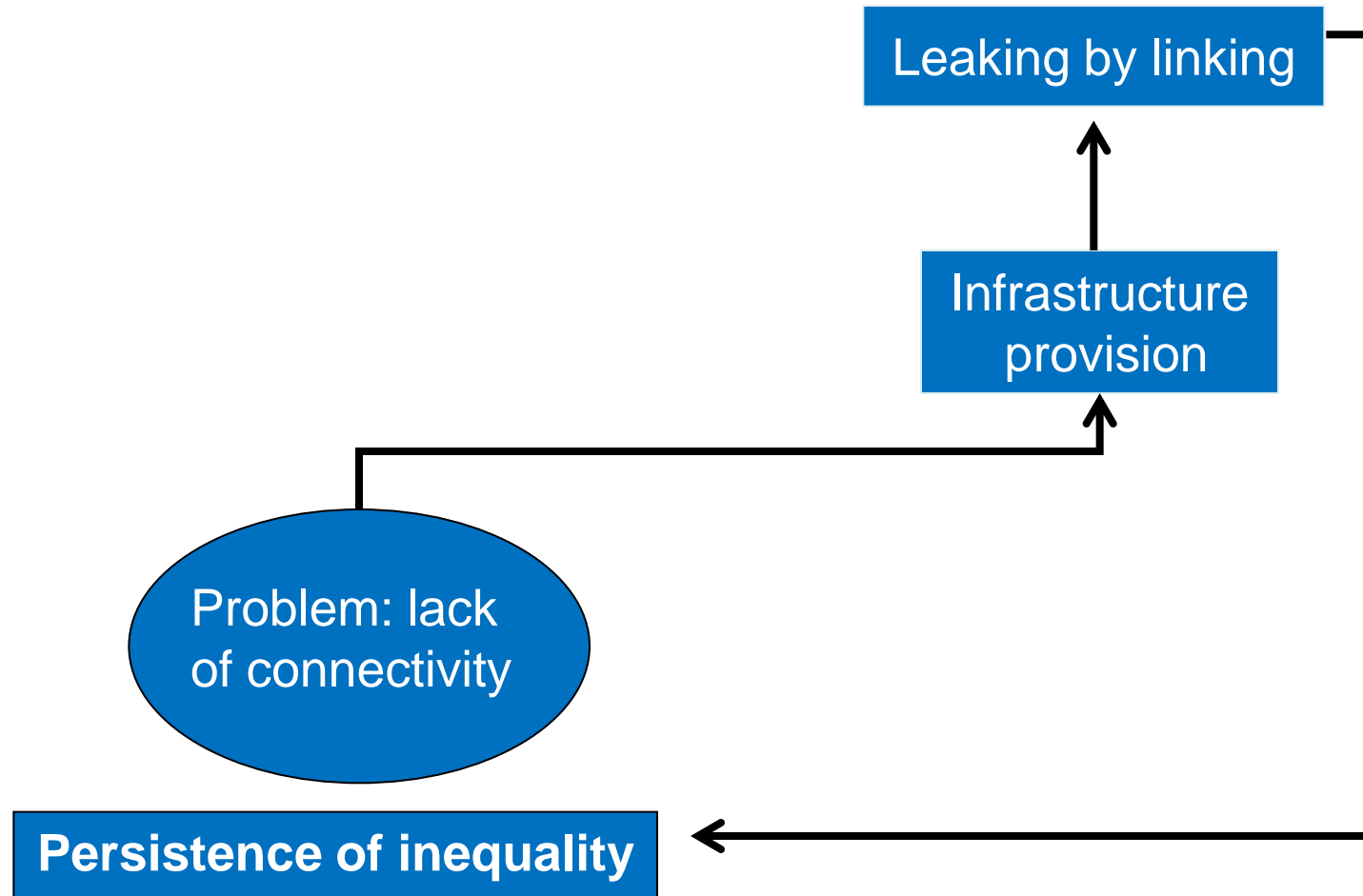
# Main Policy Messages

Not as clear as it seems (or as policy-makers might like!):

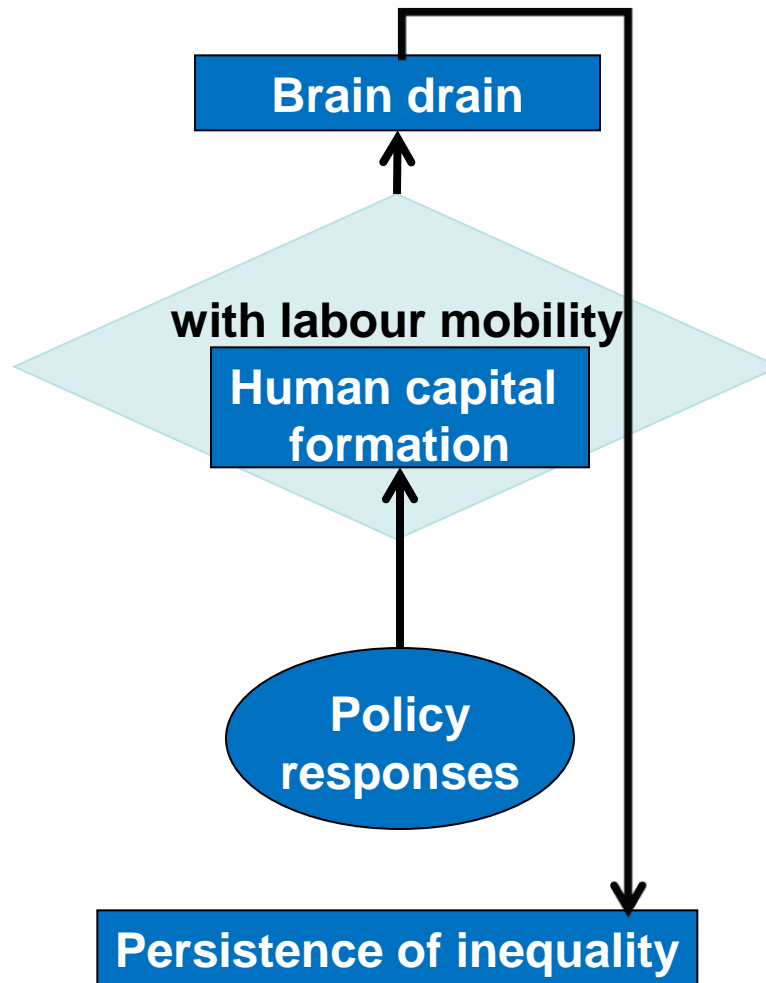
- The foregoing omits important interaction effects.
- Many policy interventions can have unintended effects if undertaken in isolation.
- However, if this implies a constraint in terms of policy *coherence*, it also points to opportunities arising from policy *complementarities*.

In short: no simple messages or solutions.

# The policy headache: isolated sectoral action may have unintended outcomes.



# The policy headache: isolated targeting of investments may have unintended outcomes.





# Towards a Multidimensional Response

Regional growth and convergence

Many countries are reforming in this direction, but implementation is still difficult.

At the regional scale

Innovation

Business environment

Human capital formation

Infrastructure provision

Policy responses

-Horizontal evidence?  
-Policies ?  
-Institutions ?

# The need for a differentiated approach

- Place based policies in the new regional paradigm are best suited for this task
  - ❖ Integrated approach – diagnosis is critical
  - ❖ No one size-fits all answer -- context matters
  - ❖ A match between bottom and top down information and initiative is critical
  - ❖ Policy making presents risks of gaps
  - ❖ Multilevel governance will be key for a successful implementation

# Paradigm shift in regional policies

	Traditional Regional Policies	New Paradigm
Objectives	Balancing economic performances by temporary compensating for disparities	Tapping under-utilised regional potential for competitiveness
Strategies	Sectoral approach	Integrated development projects
Tools	Subsidies and state aid	Soft and hard infrastructures
Actors	Central government	Different levels of government
Unit of analysis	Administrative regions	Functional regions
	Redistributing from leading to lagging regions	Building competitive regions to bring together actors and targeting key local assets

# Case Studies Methodology

## Sample of 23 case study regions

Case study number	Region	Category
<b>Dynamic regions</b>		
1	Aquitaine	CUP and growing above av.
2	Asturias	CUP and growing above av.
3	Brandenburg	LCUP and growing above av.
4	Central Transdanubia	CUP and growing above av.
5	Durango	CUP and growing above av.
6	Jalisco	CUP and growing above av.
7	Marche	CUP and growing above av.
8	Midi-Pyrénées	CUP and growing above av.
9	Sachsen-Anhalt	LCUP and growing above av.
10	San Luis Potosi	LCUP and growing above av.
11	Wielkopolskie	CUP and growing above av.
12	Zuid-Nederland	CUP and growing above av.
<b>Less dynamic regions</b>		
13	Chiapas	LCUP and growing below av.
14	Estado de Mexico	CUP and growing below av.
15	Lubelskie	CUP and growing below av.
16	Nord-Pas-de-Calais	CUP and growing below av.
17	Wear)	CUP and growing below av.
18	North West (CR Manchester)	CUP and growing below av.
19	Podlaskie	CUP and growing below av.
20	Sicilia	LCUP and growing below av.
21	Vychodne Slovensko	CUP and growing below av.
22	(CR Leeds)	CUP and growing below av.
23	Zacatecas	LCUP and growing below av.

## Questionnaire (21 questions)

**OECD**  
PUBLIC GOVERNANCE AND TERRITORIAL DEVELOPMENT DIRECTORATE  
REGIONAL, GOVERNANCE AND COHESION DIVISION

**GROWING LAGGING REGIONS**  
**PHASE 3 CASE STUDIES - EXAMPLES OF BEST PRACTICES**  
**QUESTIONNAIRE**

This questionnaire concerns a number of case studies selected for phase 3 of the project "Growing Lagging Regions". Prior to the actual questionnaire, this document provides basic information on the project "Growing Lagging Regions" and the process of reviewing the case studies.

Please provide answers to the questions in the questionnaire, and add any background documents that you may consider useful for OECD work.

**Background information on Growing Lagging Regions Project**

The OECD is currently undertaking a project "Growing Lagging Regions" aiming at investigating why some lagging regions manage to catch up vis-à-vis other lagging regions. The goal is to pinpoint those factors have been successful for lagging regions in catching up to national standards and in particular the role regional policies play in this process. The project combines both quantitative (i.e. analytical) and qualitative (i.e. a series of case studies) methods three phases. The three phases are summarised below. The questionnaire applies to phase 3 of the project.

**Phase 1** develops a taxonomy based on the performance of OECD TL2 regions comparing initial levels and growth rates of GDP per capita in their respective countries over 1995-2005. This taxonomy defines 6 categories of regions: (1) lagging-growing, (2) lagging-underperforming, (3) quasi-lagging growing, (4) quasi-lagging under-performing, (5) leading growing and (6) leading underperforming. Data are obtained from the OECD Regional Database and regions are classified according to OECD Territorial Level 2 to ensure consistency in comparing regions.

**Phase 2** conducts analytical work investigating the main factors responsible for growth among lagging growing regions using econometric models and descriptive methods.

**Phase 3** carries out a number of case studies among OECD regions. The aim is to deepen the analysis and improve our understanding of the role policies play in the catching-up process. The selection of case studies is made in regions from the categories (1)-(4) in the taxonomy. The case studies will play special attention to the key factors relevant for growth in lagging regions, the role of institutions, governance mechanisms and regional policies. The selection of the case studies will be decided by countries participating in phase 3 of the project in conjunction with the OECD Secretariat.

1

## Field study

## Drafting of case study

# Structure of Case Studies

- Ex-ante: is the region dynamic yes or no
- Questionnaire and key objectives of case study
  1. Snapshot of the region and historical context:
    - Population, density, area, cities, monocentric, rurality, terrain
    - Historical context
    - Institutional and policy
  2. Economic assessment
    - GDP pc, population, GDP
    - Productivity
    - Labour markets
    - Infrastructure
    - Human capital
    - Structure of growth factors
  3. Key factors for growth
  4. Main bottlenecks for growth and development
  5. Statistical annex





themes	factors and bottlenecks	Region
1. agriculture	Agriculture activity remains an important economic activity	Zacatecas
	Inability to restructure an existing low productive agriculture sector	Lubelskie
	The modernisation of agriculture has been moderate	Zacatecas
2. availability of financing	Limited investment resources available to enterprises	Wielkopolskie
	Lack of public funding is a challenge to strengthen the knowledge infrastructure	Zuid Nederland
	Weak access to credit and venture financing	Marche
3. business environment public sector activity and industry	Attractive business environment	Wielkopolskie
	Strong presence of industry and industrial related activities	Sachsen-Anhalt
	Strong involvement of the private sector in manufacturing tradition	Marche
	Strong involvement of the business sector combined good work ethic culture	Central Trandania
	Limited local business capacities	San Luis Potosi
	Favourable regulatory environment and policies supporting private sector activities	San Luis Potosi
	Strong presence of the private sector driving the diversification of the economy	Yorkshire and Humberside (Leeds)
	Important concentration of clusters and poles of competitiveness	Nord Pas de Calais
	Presence of a significant number of larger firms driving the manufacturing cluster	Estado de Mexico
	Insufficient involvement of the private sector in R&D	Asturias
	Red tape and regulatory burden	Central Trandania
4. demographic factors	Insufficient integration of value chains in mining and wood sectors to produce higher value added goods	Durango
	Low competitiveness in the private sector and lack of dynamism driving brain-drain of young, productive talent	Sicily
	Low involvement of the private sector leading to excessive reliance on public sector activities	North East (Tyne and Wear)
	Low industrial activities focusing mainly on low-value added activities.	Zacatecas
	Challenges brought by population declines and an excessive elderly population	Asturias
	Population decline has been a long-term reality in Brandenburg.	Brandenburg
	Population declines in the region bring important challenges	Sachsen-Anhalt
5. density cohesion internal fragmentation labour market mismatch	Demographic trends bring challenges to public investments and represent a loss of human capital potential	Durango
	Ageing population bring important challenges to the region	Sicily
	Demographics effects -- high population growth in the region.	Estado de Mexico
	Demographic effect in the region with high levels of outmigration	Zacatecas
	Fragmentation in labour markets reduces its growth potential and brings important challenges to governance	Midi Pyrenees
	Lack of internal cohesion due to strong internal fragmentation.	Podlaskie
	Mismatch in skills between demand and supply	North West (Manchester)
6. diversified differentiated and market awareness economy	A fragmented labour market area due to poor connectivity within the functional city region	North West (Manchester)
	Improving internal connectivity critical for polycentric settlement	Yorkshire and Humberside (Leeds)
	Low critical mass due to fragmented internal markets and weak internal connections	North East (Tyne and Wear)
	Economic activities in Chiapas are highly fragmented with low links impeding spillover and scale-effects	Chiapas
	Low participation of females into the workforce	Zacatecas
	Differentiated base for economic development.	Wielkopolskie
	Internal demand for goods and services by small firms	Lubelskie
7. environmental constraint	A relative diversified economic structure	Yorkshire and Humberside (Leeds)
	Diversification of traditional sectors	North East (Tyne and Wear)
	Growth of the service sector during on ongoing period of restructuring	Nord Pas de Calais
	Small proportion of large scale companies in the region	Brandenburg
	Insufficient size and death of industrial enterprises.	Aquitaine
	Low diversification and reliance on agriculture and natural resource brings vulnerable to external fluctuations	Durango
	The region lacks market awareness despite the economy having size and scale	Yorkshire and Humberside (Leeds)

8. FDI	<p>Largest recipient of FDI in eastern Germany bringing an important influx of funds            Strong influx of FDI to the region and strong presence of foreign investors            FDI investment in the region have been quite significant</p>	<p>Sachsen-Anhalt            Central Trandania            Estado de Mexico</p>
9. geography	<p>Favourable geographic location to EU markets and central location in the country            Favourable geographic location and proximity to core European markets            A favourable geographic position            The region has taken advantage of good geographic location            Proximity to the Eastern border            Central geographic location with proximity to London            Proximity to the main production consumer hub in Mexico            Unfavourable geographic location on the periphery of the EU border            Unfavourable geographic location -- to a large extent the impermeable EU external border            Geographic location peripheral to Western markets, separated by mountainous terrain to capital region            Privileged geographic location close to Brussels, Paris and London still have not fully translated into economic growth            The region's geographic terrain, not prone to productivity gains hampers development efforts</p>	<p>Wielkopolskie            Sachsen-Anhalt            Central Trandania            San Luis Potosi            Lubelskie            Yorkshire and Humberside (Leeds)            Estado de Mexico            Podlaskie            Lubelskie            Vychodne Slovenko            Nord Pas de Calais            Chiapas</p>
10. human capital	<p>Reduction of low skilled workers improved stock of technical students and more response to the demands of market            Adequate and continued supply of skilled workers in the region and better matching the market needs            The tertiary education brings a very high research potential to the region            Abundant labour force with human capital technical skills in the surging sectors            Ability to transform its economy to higher value-added goods through human capital gains            Gains in human capital improving adult skills and vocational training adding to the region's capacity            Adequate higher educational facilities have brought an important human capital potential to the region            Adequate levels of human capital in higher education            Higher education institutions supply a diversified pool of highly skilled workers            Critical mass in human capital due to a notable concentration of higher education institutions            Strong higher educational programmes and institutions            Higher education institutions attracting students and improving supply of high skilled workers            Low flexibility of the education system which is not adjusted to real needs,            Availability of talent is lacking to the growing demands of the region            Brain drain in high-skilled workers represents a loss of human capital potential            High proportion of low-skilled workers and weak links between educational and business sector            Gaps between human capital supplied and the needs of the region.            Brain drain due to insufficient industrial production            Labour market capacity and skills in selected areas would add to the regions economic capacity            Loss of human capital potential for future generations with high dropout rates and low secondary attainments            There is an important lack of human capital and loss of human capital potential            Deficit in high-skilled labour measured by the proportion of the labour force with tertiary educational attainments            Inadequacy of educational level and low availability of jobs-skill in the region</p>	<p>Asturias            Brandenburg            Midi Pyrenees            San Luis Potosi            Jalisco            Durango            Podlaskie            Lubelskie            North West (Manchester)            Yorkshire and Humberside (Leeds)            North East (Tyne and Wear)            Nord Pas de Calais            Wielkopolskie            Zuid Nederland            Sachsen-Anhalt            Central Trandania            Jalisco            Vychodne Slovenko            Yorkshire and Humberside (Leeds)            Nord Pas de Calais            Chiapas            Estado de Mexico            Zacatecas</p>
11. infrastructure connectivity	<p>Infrastructure improvements connecting a relatively closed region to external markets            Adequate infrastructure facilities providing good external connections to the east and west            Adequate infrastructure investments improved attracting and connectivity to European and international markets            Important improvements in infrastructure have lifted attracting logistic companies to the region            Fairly advanced infrastructure network have strengthened connections to Budapest and to European markets            Adequate infrastructure have helped consolidation of an important logistics hub around the metropolitan zone of            Adequate transport infrastructure capitalising on the region's privileged geographic position            The presence of road and rail infrastructure and adequate geographic location            Important improvements in the transport infrastructure networks            Capital deepening brought by investments in physical capital in the city centre            Infrastructure gains modernising the port, railways and airport have benefited the region over the past decades            Uneven development of transportation infrastructure with accessibility lacking in some parts of the region            Gaps in ICT infrastructure limits the capacity of disseminating innovation around industrial clusters            Connectivity gaps between the metropolitan area San Luis Potosi and the ports of Tampico Altimira            Inadequate logistics infrastructure could give greater impetus to the region            Inadequate infrastructure in the region lacking an airport and adequate road and rail infrastructure            Limited transport network lacking motorways ring roads and the railways and local roads are inefficient            Inadequate infrastructure with low motorway density limited connection between cities and with external markets            Inadequate infrastructure still represents an important bottleneck for development</p>	<p>Asturias            Wielkopolskie            Brandenburg            Sachsen-Anhalt            Central Trandania            San Luis Potosi            Jalisco            Durango            Sicily            North West (Manchester)            Chiapas            Wielkopolskie            Marche            San Luis Potosi            Durango            Podlaskie            Lubelskie            Vychodne Slovenko            Chiapas</p>

12. innovation includes entrepreneurial	Strong open innovation value chains with a strong involvement of the private sector	Zuid Nederland
	Entrepreneurial tradition in the region	Marche
	Ability to turnaround traditional sectors through innovation-intensive initiatives	Marche
	Strong research capacity in the regions mainly centred in Gironde	Aquitaine
	Innovation intensity driven by steady growth of the aerospace cluster and active innovation-driven policy	Midi Pyrenees
	Small-scale examples of innovative policy	Sicily
	Low appliance of the research and scientific potential, and relatively low funding of R&D, especially in enterprises	Wielkopolskie
	The application of technologies in the region's natural amenities has brought important gains	Chiapas
	A low entrepreneurial spirit	Asturias
	Slow pace of further modernisation of regional economy	Wielkopolskie
	Bottlenecks in further unleashing innovation potential and creating more economic value of existing innovations	Zuid Nederland
	Low level of overall R&D investment especially by the business sector	Brandenburg
	Low innovation capacity due to lack of headquarters and obstacles to enhance links between university and business	Sachsen-Anhalt
	Low innovation due to few connections between large firms and SME's and weak links between HED and business	Central Transdanubia
	Insufficient integration of the region's regional innovation system	Aquitaine
	Low entrepreneurial culture along with sentiments against manufacturing	Aquitaine
	The decline of low tech-activities (textiles, leather, wood processing) in a number of rural areas	Midi Pyrenees
A lack of regional entrepreneurial culture especially in traditional sectors and smaller firms	Jalisco	
Persistent weakness of R&D investments and low involvement of the private sector in R&D activities	Nord Pas de Calais	
Limited entrepreneurial culture and low private initiative	Nord Pas de Calais	
13. institutions governance leadership capacity continuity mobilisation	Mobilising key actors by reaching agreements in a region with a strong legacy of conflict	Asturias
	Institutional arrangements supporting economic development	Wielkopolskie
	A successful turnaround driven by mobilising key actors and stakeholders in the region	Zuid Nederland
	The common voice and strong position	Zuid Nederland
	Active role by key local public and private actors focusing on innovation and workforce development/retention	Marche
	Mobilising stakeholders in the regions through enhanced dialogue and interactions among key stakeholders	Jalisco
	Institutional arrangements supporting economic development	Podlaskie
	Coherence and continuity in governance	North West (Manchester)
	Important gaps in of multi-level governance	Podlaskie
	Lack of political vision to change traditional, entrenched interests vested in the status quo in the region	Sicily
	Institutional capacity building should be improved in terms of organisational efficiency and use of human capital	Sicily
	Inability to define and apply performance-based indicators	Sicily
	An excess of programmes too thinly spread	North West (Manchester)
	Lack of effective mobilisation of all key stakeholders in the region	Yorkshire and Humberside (Leeds)
Inability to fully mobilise key actors in the region and accelerate a shift towards growth potential	North East (Tyne and Wear)	
Lack continuity in governance and in policy design brought by institutional stability	North East (Tyne and Wear)	
14. interationalisation international competition brandname attractiveness	Internationalisation of regional economy	Wielkopolskie
	High international exposition	Midi Pyrenees
	Adequate brand name of Guadalajara	Jalisco
	Mobilising the region's natural environment and resources changing image from typically rural to relatively attract	Podlaskie
	Improvements of the Sicily brand	Sicily
	Low wage cost attracting foreign investments	Vychodne Slovenko
	The region's brand name has brought positive gains	Chiapas
	International appeal and brand name of the region	Zuid Nederland
	Vulnerability to global competition especially in traditional sectors with low levels of innovation	Marche
Enhanced competition by Asian importers in wood and wood-related activities in the internal markets	Durango	
15. other	Favourable social determinants for economic development	Wielkopolskie
	The flows of remittances, from migrants living outside of the region	Zacatecas
	Balancing traditional culture, social policies with development efforts.	Chiapas



16. policies -- shift mentality, silos fragmentation, adjusting policies to assets, linkages, cross border, urban and spatial	Transitioning from being less reliance on external subsidies and more on growth potential	Asturias	
	Continuity in policy programs and goals resulting in a shift from exogenous based programs to internal ones	Zuid Nederland	
	Mentality and policy shift from a focused on subsidies to towards growth potential	Brandenburg	
	Gradual change of mentality making region less dependent on external interventions and more on internal ones	Sachsen-Anhalt	
	The regeneration of the city-centre of Bordeaux through urban and spatial planning	Aquitaine	
	Linkages between firms and universities have been improved in recent years	San Luis Potosi	
	Urban development in the metropolitan area of Guadalajara has been an important driver in the region	Jalisco	
	Cross-regional linkages with its neighbouring region of Coahuila	Durango	
	Adjusting of economic activities to the region's assets and its environmental constraints.	Podlaskie	
	Enhancing links with Belarus and Lithuania brought benefits to the region's proximity to eastern borders	Podlaskie	
	Good border cooperation	Vychodne Slovenko	
	The regeneration in the City Region has brought important economic benefits	North East (Tyne and Wear)	
	Urban dynamism mainly in the capital city of Lille	Nord Pas de Calais	
	Inefficiency of selected policies supporting development undertakings	Wielkopolskie	
	Further enhance cross-border cooperation with regions in Germany and Belgium	Zuid Nederland	
	Spatial planning and in particular urban planning remains underdeveloped	Midi Pyrenees	
	A culture of low cooperation due to initiatives lacking yield low inter-firm co-operation	San Luis Potosi	
	Problem of urban development with an efficient urban system lacking	San Luis Potosi	
	17. presence of natural assets and amenities	Lack of effective territorial coordination due to high sectorialisation of national policies and lack of leadership	Jalisco
		Inadequate integration of the region into spatial and functional structures at supra-regional and national level	Podlaskie
Increased commuting and congestion costs represent important bottlenecks to the Guadalajara metropolitan area		Jalisco	
Insufficient links between educational institutions and local and regional business activities		Podlaskie	
Inefficiency of selected policies supporting development undertakings		Podlaskie	
Inadequate integration of the region into spatial and functional structures at the supra-regional and national level		Lubelskie	
Difficulty in creating a paradigm shift toward growth potential		Sicily	
Unfavourable policy environment		Vychodne Slovenko	
Slow reaction by the region to external shocks and slow implementation of structural transformation		Estado de Mexico	
18. Tourism		The presence of natural resources and improvements in infrastructure and proximity to northern markets	Durango
	The establishment of the nation's largest dairy clusters in the north of Mexico	Durango	
	Natural tourism has been an important driver of the region's value-added	Chiapas	
	The presence of mineral and mineral activities	Zacatecas	
	Tourism development has been an important driver in the region	Aquitaine	
	Tourism development	Vychodne Slovenko	

# Analysis of thematic areas

We carried analysis on:

1. Frequency
2. Factors for growth in dynamic regions
3. Bottlenecks in less dynamic regions
4. Systemic effects

	Thematic areas	Growth factors ranked	Bottlenecks ranked	Sum
→	1 Policies	13	13	26
	2 Human capital	12	11	23
	3 Innovation	7	13	20
	4 Infrastructure connectivity	11	8	19
→	5 Institutions	8	9	17
	6 Business	8	7	15
	7 Geography	7	5	12
	8 Internationalisation	7	3	10
	9 Diversified economy	5	4	9
	10 Density and cohesion	0	8	8
	11 Demographic factors	0	7	7
	12 Natural assets and amenities	4	0	4
	13 FDI	3	0	3
	14 Financing	0	3	3
	15 Agriculture	1	2	3
	16 Tourism	2	0	2
	17 Environmental constraints	0	1	1
	18 Other	2	1	3
	<b>Total</b>	<b>90</b>	<b>95</b>	<b>185</b>

# Factors for Growth Among Regions Growing Above Average “Growing” Regions

<b>Factors for growth in regions growing above average</b>	<b>Frequency</b>	<b>%</b>
Policies (shift mentality, silos, fragmentation, adjusting policies to assets, linkages, cross border, urban spatial)	8	15%
Infrastructure connectivity	8	15%
Institutions (governance, leadership capacity, continuity, mobilisation)	6	12%
Human capital	6	12%
Innovation, includes entrepreneurial	5	10%
Business environment, public sector activity and industry	5	10%
Geography	4	8%
Internationalisation: international competition and brandname attractiveness	3	6%
Presence of natural assets and amenities	2	4%
FDI	2	4%
Economy (diversified, differentiated and market aware)	1	2%
Other	1	2%
Tourism	1	2%
Density (cohesion, internal fragmentation, labour market mismatch)	0	0%
Demographic factors	0	0%
Agriculture	0	0%
Environmental constraints	0	0%
Availability of financing	0	0%
<b>Total</b>	<b>52</b>	<b>100%</b>

# Growth Factors in Dynamic Regions

- **Policies**

- *Adopting the new paradigm for regional policy*

Asturias, Brandenburg, Sachsen-Anhalt and Zuid Nederland – have benefitted from a **shift in mentality and policies** away from propping them up through subsidies and towards growing them based on nurturing their **existing potential**.

- *Policies that improving linkages among firms and universities, and cross-border*

San Luis Potosi improved **linkages** between **firms** and **universities** while Durango benefited from **cross-regional linkages** with a neighbouring region Coahuila one of the most dynamic regions in the entire country, bringing important growth to its core sectors.

- *Policies targeting urban regeneration*

**Urban development/regeneration** and spatial planning have been important drivers in Aquitaine and Jalisco

# Growth Factors in Dynamic Regions

- **Infrastructure and connectivity:**

- *Infrastructure investments which improve internal transport infrastructure*

**Modernising transportation networks** in Brandenburg, Sachsen-Anhalt and Central Transdanubia has improved **internal transport** and **external connectivity**

- *Connect relatively closed and isolated regions to external markets:*

Infrastructure improvements have **connected** relatively remote regions to external markets in Asturias and to EU markets in Wielkopolskie

- *Ensures transport infrastructure capitalises on privileged geographic positions.*

Transport infrastructure **capitalised** on the **privileged geographic positions** of Jalisco, Durango and Central Transdanubia and investments in infrastructure helped consolidate an important **logistics hub** in San Luis Potosi.

# Growth Factors in Dynamic Regions

- **Institutions** (governance, leadership, capacity, continuity and mobilisation)

- *Negotiation and dialogue*

**Negotiation** and **dialogue** were important for **mobilising key actors** in Asturias and Jalisco and Zuid Nederland

- *Institutional arrangements supporting economic development,*

Building local institutional capacity and guiding the regional development processes was important in Wielkopolskie.

- *Enhancing regional actors a common voice and strong position,*

A common voice and strong position is an asset for **communicating** with the **central government** and can be created by close links between the private, public and education sectors (e.g. Zuid Nederland).

- *Active role*

Active role by key local **public** and **private** actors focusing on innovation and workforce development/retention in March

# Growth Factors in Dynamic Regions

- **Innovation** can be successfully promoted by
  - ***Strong open innovation supply chains,***

Zuid Nederland benefitted from **strong open innovation value chains** and a strong involvement of the private sector.

- ***Encouraging entrepreneurial activities***

The region's **entrepreneurial tradition** was a growth factor in Marche, combined with its ability to turn around traditional sectors through innovation-intensive initiatives

- ***Innovation clusters***

Aquitaine has benefitted from the **strong research capacity** amongst its great diversity of labs involved in advanced and leading edge technologies, as well as the presence of **higher educational institutions**.

Innovation intensity driven by steady growth of the **aerospace cluster** and active innovation policy has helped to stimulate growth in the Midi Pyrénées

# Growth Factors in Dynamic Regions

- **Human capital**

- ***Strengthening tertiary education and technical skills,***

Adequate and continued **supply of skilled workers** was a critical element for development in Brandenburg; in Asturias a key for success has been reducing the share of **low skilled workers** by training programmes targeting for young kids in schools and ensuring they continue with education, technical students and vocational training programmes

**Tertiary education improvements** brought a very high research potential to the Midi-Pyrénées region.

- ***Matching human capital to market needs***

Asturias improved **communication** between the private sector and education centres allowing human capital to gradually respond more to the **demands** of the market. Establishing a number of higher education and research institutions with **close links** to the main clusters in the region allowed Jalisco to transform its economy to one based on higher value-added goods.

- ***Offering vocational training***

The San Luis Potosi region enjoys an abundant labour force with sufficient technical skills in the surging sectors, Durango benefited from building the capacity of human capital and vocational training.



# Growth Factors in Dynamic Regions

- Finally, **business and industry** are also of key importance,

- ***Presence of a business- friendly environment,***

A strong presence by **industry** and related activities was a factor in Sachsen-Anhalt,

A favourable regulatory environment and policies supporting private sector activities were beneficial in San Luis Potosi and Wielkopolskie.

- ***Presence and involvement by the business sector in the development strategy***

Strong involvement of the **private sector** in manufacturing helped grow Marche.

Strong involvement by the business sector, combined with a strong work ethic, have been important in Central Transdanubia.

# Bottlenecks in Regions Growing Below Average

## “Underperforming Regions”

<b>bottlenecks in regions growing below average</b>	<b>frequency</b>	<b>in %</b>
Institutions (governance, leadership capacity, continuity, mobilisation)	8	15%
Policies (shift mentality, silos, fragmentation, adjusting policies to assets, linkages, cross border, urban spatial)	7	13%
Density (cohesion, internal fragmentation, labour market mismatch)	7	13%
Human capital	6	12%
Geography	5	10%
Infrastructure connectivity	4	8%
Business environment, public sector activity and industry	3	6%
Demographic factors	3	6%
Innovation, includes entrepreneurial	2	4%
Agriculture	2	4%
Economy (diversified, differentiated and market aware)	1	2%
Other	1	2%
Environmental constraints	1	2%
Internationalisation: international competition and brandname attractiveness	0	0%
Presence of natural assets and amenities	0	0%
FDI	0	0%
Tourism	0	0%
Availability of financing	0	0%
<b>total</b>	<b>50</b>	<b>100%</b>

# Bottlenecks in Less Dynamic Regions

- The most common **institutional** bottlenecks include

- ***Poor mobilisation of stakeholders,***

Poor **mobilisation** of all **key stakeholders** towards pro-growth policies is a problem in Yorkshire and Humberside, Leeds and the North East Tyne and Wear.

- ***Lack of continuity and coherence in policy implementation by institution, instability***

Poor **continuity** in governance and in policy design, caused by institutional instability, has also affected the North East Tyne and Wear.

- ***Lack of a common and strategic vision low capacity and gaps in multilevel***

Sicilia suffers from a lack of **political vision** to change traditional, **entrenched interests** vested in the status quo, **weak institutional capacity**, organisational efficiency and use of human capital and an inability to define and apply performance-based indicators.

Too many **programmes** that are too **thinly spread** affect North West Manchester.

# Bottlenecks in Less Dynamic Regions

- **Policies** are also a very important bottleneck, especially the

- *Inability to shift policies towards the new regional paradigm,*

The difficulty of creating a policy paradigm shift on the part of both regional and national government towards realising Sicilia's growth potential is holding back its growth.

- *Inefficiencies in selected policies and insufficient links between different institutions*

**Inefficient policies** supporting development, and **insufficient links** between educational institutions and local and regional business activities, representing a loss of human capital potential, are all problems for Podlaskie.

The lack of **constructive dialogue** between the national and the regional level, inadequate mechanisms to ensure a bottom-up approach, a **lack of capacity** for analysis and objectivity for **strategic planning** and **identifying priorities**, a lack of evaluation methods and the need for a more transparent and objective policy process are all issues for Vychodne Slovenkso.

Inadequate **integration** of the region into the supra-regional and national level affects both Podlaskie and Lubelskie. This was caused by limited development potential and the inability to attract sufficient investment and business activities.

- *Unfavourable policy environment and slow reactions to external shocks:*

**Slow reaction** by the region to external shocks and slow implementation of much needed structural transformation in the region's productive structure are hindering growth in the Estado de Mexico.

# Bottlenecks in Less Dynamic Regions

- **Internal fragmentation and labour market mismatch**

- *Low participation of women in the workforce,*

There is **low participation** of women in the workforce in Zacatecas.

- *Mismatch of skills between demand and supply,*

North West/Manchester has a **mismatch** in skills between demand and supply.

- *Fragmented labour market*

A **fragmented labour market** due to poor connectivity within the functional city region is a stumbling block for North West/Manchester and Yorkshire and Humberside/Leeds.

- *Insufficient critical mass to generate agglomeration and spillover effects*

**Insufficient critical mass** to generate agglomeration and spillover effects due to **fragmented internal markets** and insufficient strong internal connections affect North East/Tyne and Wear, Chiapas and Podlaskie.

# Complementarities and Synergies

Common growth factors in regions with above-average growth

	Policies (shift mentality, silos, fragmentation, adjusting policies to assets, linkages, cross-border, urban spatial)	Human capital	Infrastructure, connectivity	Business environment, public sector activity and industry	Geography	Institutions (governance, leadership capacity, continuity, mobilisation)	Innovation and entrepreneurship	Other	International competition and brand-name attractiveness	Presence of natural assets and amenities	FDI	Economy (diversified, differentiated, market awareness)	Tourism
Jalisco	x	x	x			x			x				
Asturias	x	x	x			x							
Brandenburg	x	x	x										
Durango	x	x	x							xx			
San Luis Potosi	x	x	x	x	x								
Sachsen-Anhalt	x	x	x	x	x						x		
Wielkopolskie			x	x	x	x		x	x			x	
Central Transdanubia			x	x	x						x		
Zuid Nederland	x					xx	x						
Marche				x		x	xx						
Midi Pyrénées		x					x		x				
Aquitaine	x						x						x

- Simultaneous improvement in **policies**, **infrastructure** and **human capital**, suggesting strong synergies and avoidance of brain-drain effects.
- Simultaneous improvement in **infrastructure**, **the business environment** and **geographic factors** , thus avoiding leaking-by-linking effects.
- Simultaneous improvement in institutions and in innovation related activities.

# Commonly-Linked Bottlenecks

Common bottlenecks in regions with below-average growth

	Policies (shift mentality, silos, fragmentation, adjusting policies to assets, linkages, cross-border, urban spatial)	Infrastructure, connectivity	Human capital	Institutions (governance, leadership, capacity, continuity, mobilisation)	Density (cohesion, internal fragmentation, labour-market mismatch)	Business environment, public sector activity and industry	Innovation and entrepreneurship	Geography	Other	Economy (diversified, differentiated, market awareness)	Demographic factors	Agriculture	Environmental constraints
Lubelskie	X	X						X				X	
Podlaskie	XXX	X		X	X			X					X
Vychodné Slovensko	X	X	X					X					
North East (Tyne and Wear)				XX	X	X							
North West (Manchester)				X	XX								
Yorkshire and Humberside (Leeds)			X	X	X					X			
Estado de Mexico	X		X								X		
Nord Pas de Calais			X				XX	X					
Chiapas		X	X		X			X	X				
Zacatecas			X		X	X					X	X	
Sicily	X			XXX		X					X		

- Inadequate policies and lack of infrastructure and connectivity.
- Inadequate institutions and labour market fragmentation

# Conclusion

- Policies to foster growth in less developed regions makes good economic sense
  - Benefits national performance, strengthens resilience and equity
- Mix of top down and bottom up approach is needed
  - Importance of strengthening bottom up element
  - Different regions have different needs – exploratory bottom up learning process
- Integrated approach is critical
  - Avoids unintended consequences of sectoral approach
  - Institutional factors and policies are key with endogenous elements
- Factors for growth vary by type of regions
  - Infrastructure gains are critical for regions with a catching up potential
  - Innovation is key for advanced regions



thank you

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