

Competitiveness, Innovation and Regional Development

What do we know about it?

Annalisa Primi

Economist, OECD Development Centre

annalisa.primi@oecd.org



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Outline

1

WHY REGIONS MATTER FOR INNOVATION POLICY TODAY?

2

WHAT CAN WE LEARN FROM INTERNATIONAL EVIDENCE AND EXPERIENCES?

3

HOW TO IMPROVE THE DESIGN AND IMPACT OF POLICIES?

4

CONCLUSIONS AND POLICY ADVICE

WHAT WE KNOW FROM THE THEORY

1. Firms are nested in local systems characterized by given cultural, institutional and economic forms of interaction.
2. Firms behaviour is affected by the quality, density and frequency of those types of interaction
3. Firms shape and are shaped by the local system in which they are nested.

A long tradition in economic thinking:

Marshall: specialization, diversification and localization

Perroux: the “growth poles”

The “Italian school” : Beccatini, Brusco and the new economics of industrial districts

...

...

Local Production Systems and Regional Innovation Systems

1. WHY REGIONS MATTER FOR INNOVATION POLICY

An evolving innovation scenario

Increased globalisation

Societal and environmental challenges

Increasing relevance of networks for innovation

A double paradigm shift:

Rising relevance of regional dimension in national innovation strategies

The new regional policy: mobilising knowledge, assets and capabilities for development

2. WHAT CAN WE LEARN FROM INTERNATIONAL EVIDENCE?

Three common issues that are often underestimated in regional development analysis:

- a. HETEROGENEITY in countries' institutional arrangements and governance systems
- b. VARIETY in production development and innovation potential between regions (there is no “best” regional system...)
- c. DIVERSITY in regional development & innovation strategies

a. HETEROGENEITY IN INSTITUTIONAL ARRANGEMENTS

Regional role	Federal countries	Countries with elected regional authorities	Countries with non elected regional level / decentralised State agencies
Significant control of STI powers and/or resources	Austria, Belgium, Germany, Australia, Canada, Switzerland, United States, Brazil	Italy, Spain UK (Scotland, Wales, Northern Ireland)	
Some decentralisation of STI powers and/or resources	Mexico Russia	France, Netherlands, Poland, Sweden (pilot regions), Denmark (autonomous regions), Norway, Korea	UK (English regions), Sweden (except pilot regions)
No decentralisation of STI powers		Denmark, Portugal (autonomous regions), Slovak Republic, Turkey, Czech Republic, Chile, Japan	Hungary, Ireland, Portugal (mainland), Greece, Finland, Luxembourg, Iceland, New Zealand, Slovenia

b. VARIETY IN DEVELOPMENT AND INNOVATION POTENTIAL BETWEEN REGIONS

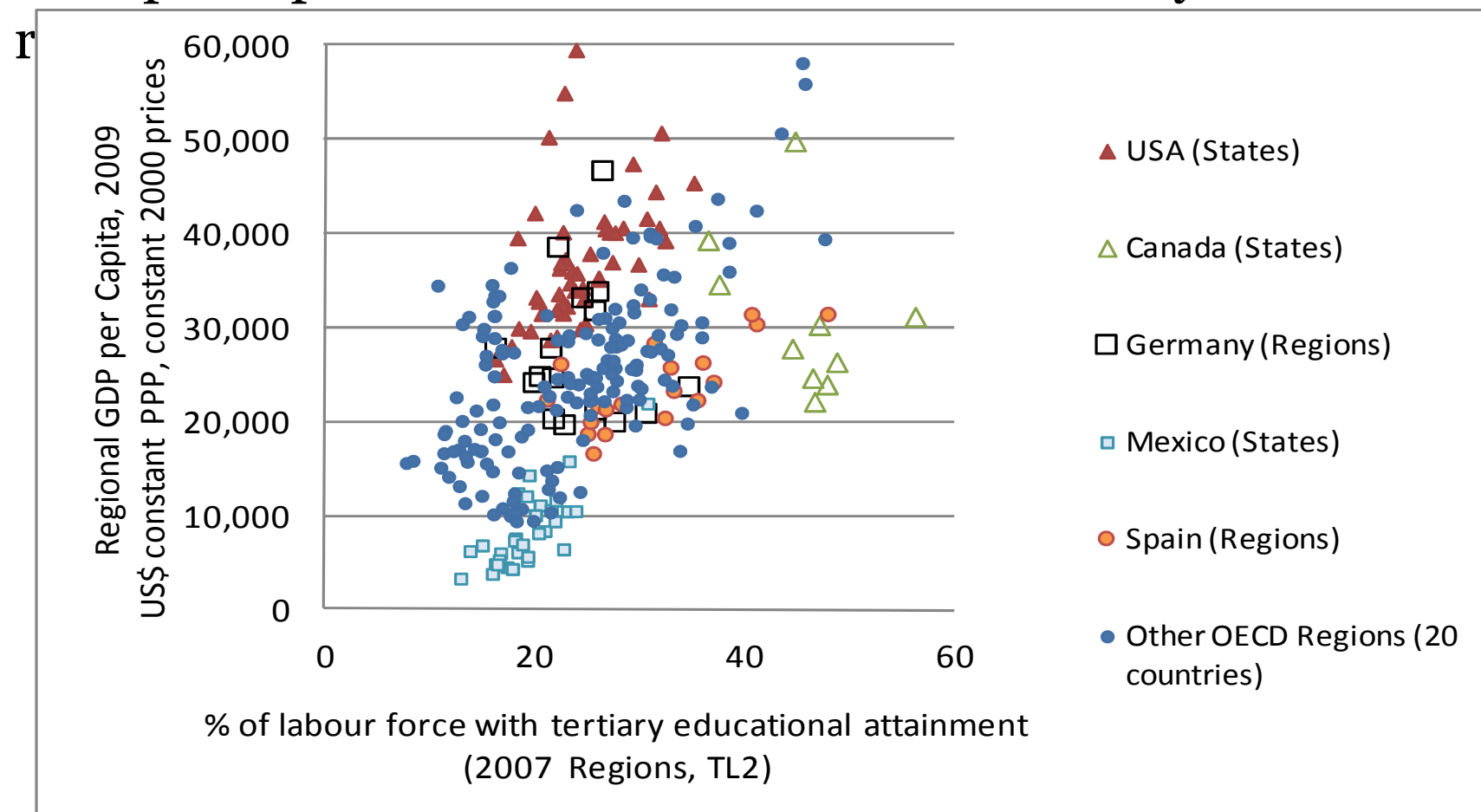
Still few cross-country comparable evidence at the regional level.

Some available evidence include:

1. Human capital
2. Industrial specialization
3. R&D investment
4. Patenting
5. Collaborative behaviour (co-inventorship)

A KEY REGIONAL ASSET: HUMAN CAPITAL

GDP per capita and skilled labour force intensity: a virtuous

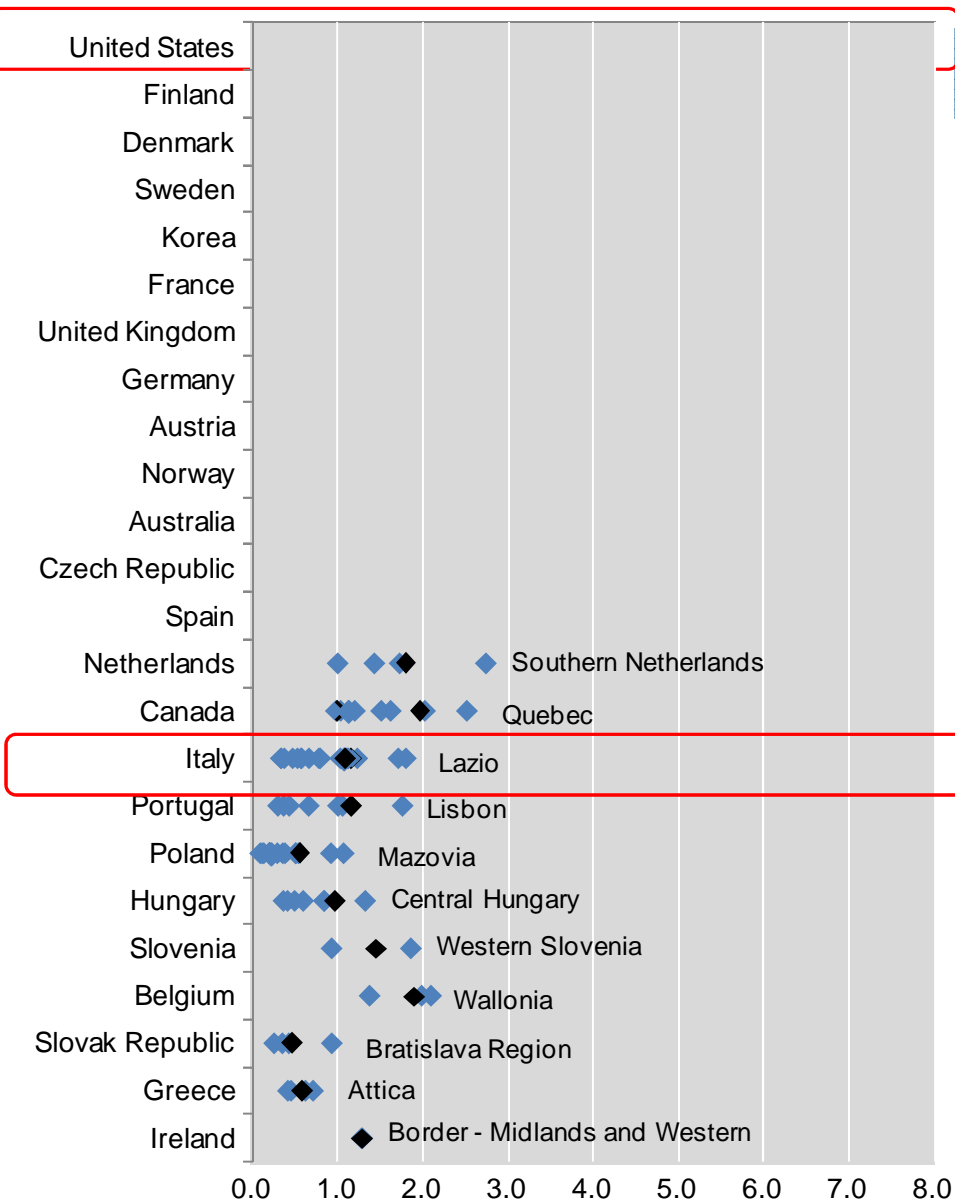


Note: The District of Columbia (US) does not appear in the chart for ease of display. Its GDP per capita (over USD 130 000) is more than double the value of top OECD regions.

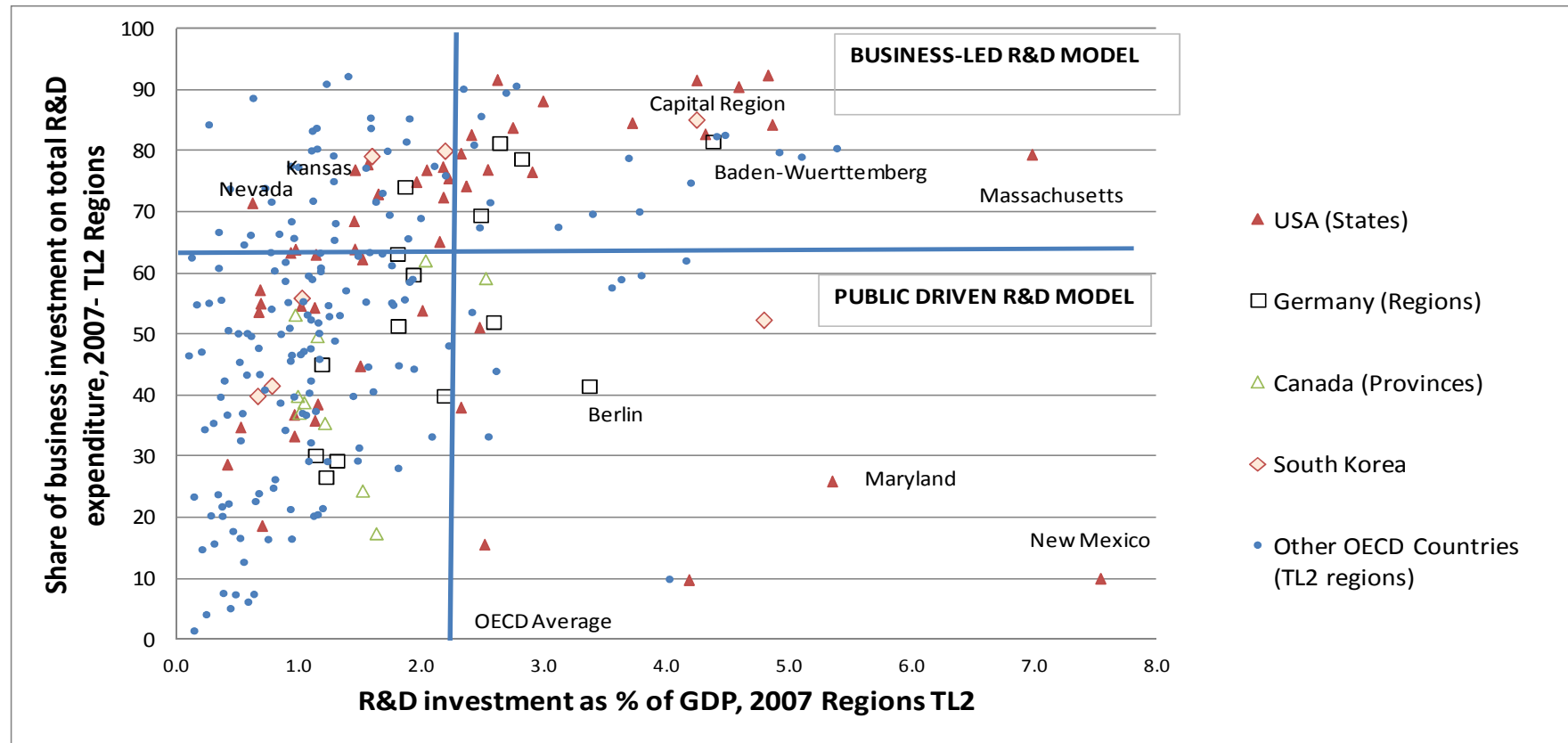
Source: OECD (2011) Regions and Innovation Policy, Calculations using data from the OECD Regional Database.

R&D intensity

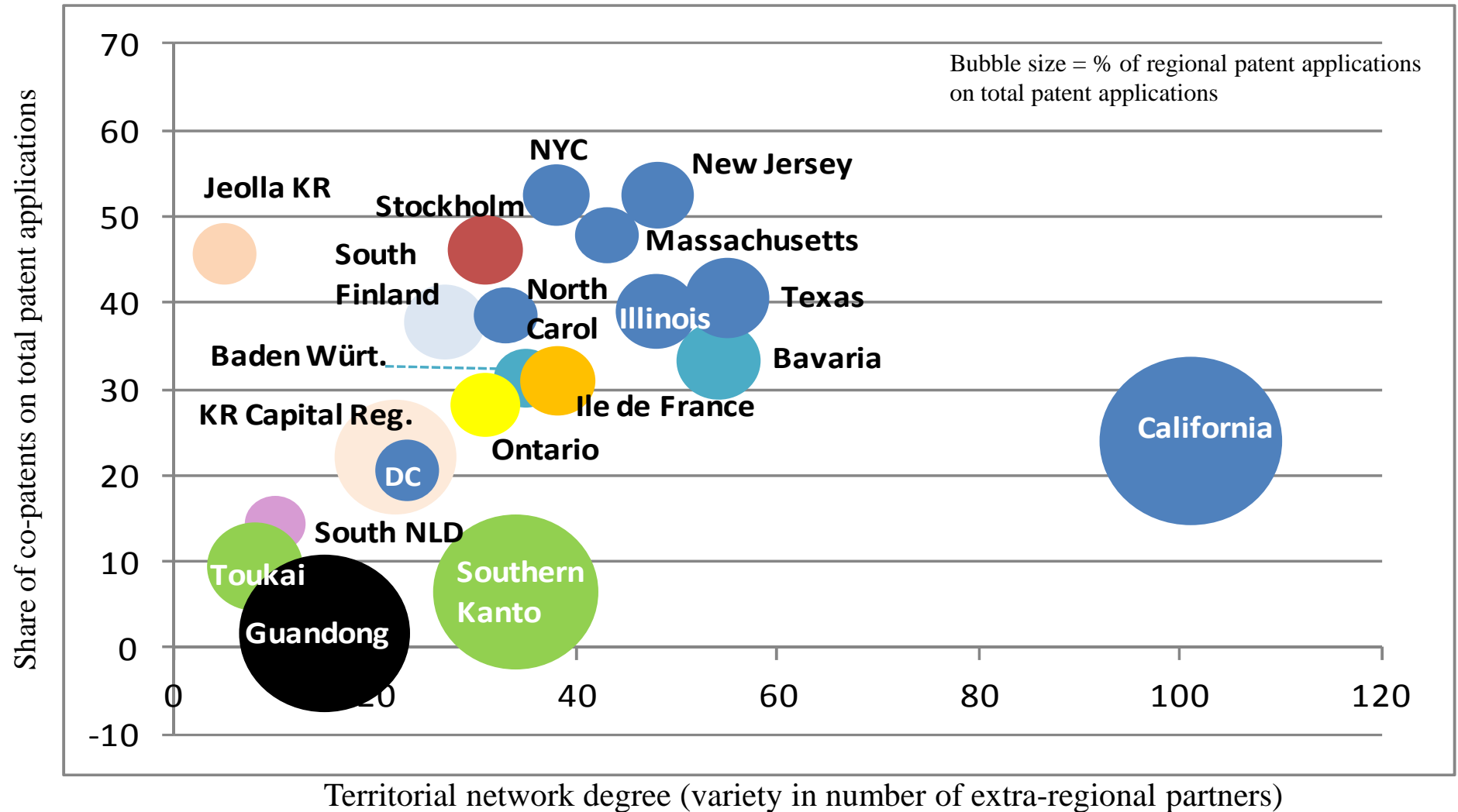
R&D expenditure as % of GDP; TL2,
2008 or last available year



VARIETY IN R&D FINANCING MODELS ACROSS OECD REGIONS



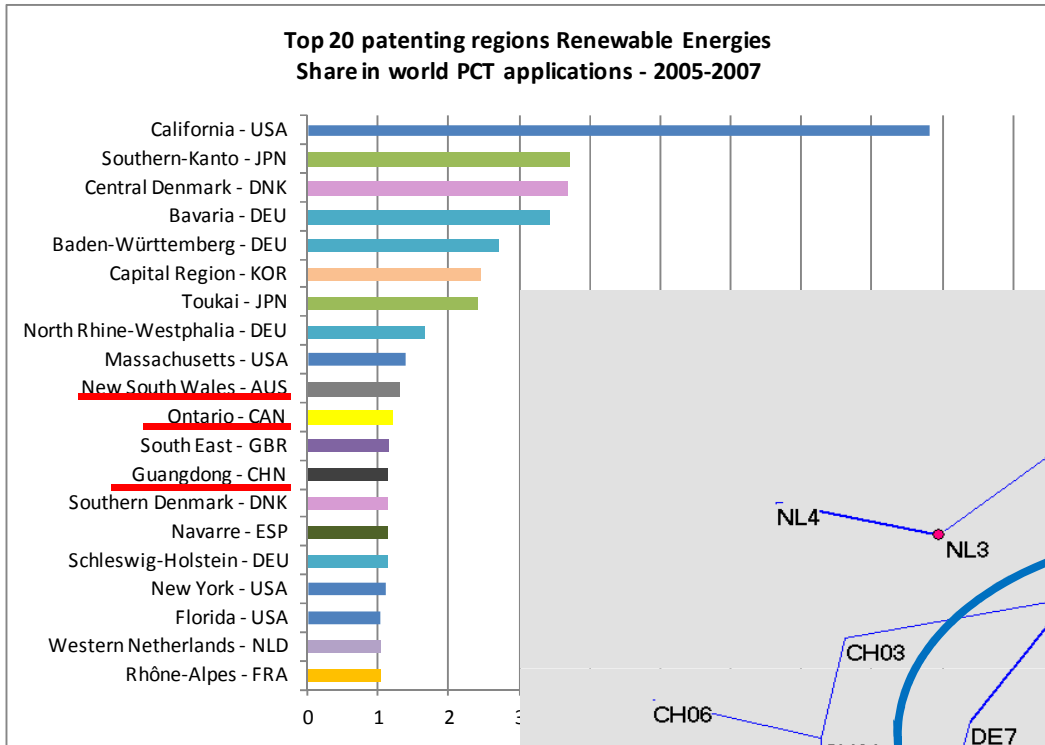
Variety in collaboration models: TELECOM 2005-2007



Source: Primi, A. and Ajmone Marsan, G. (2011), Collaborate to innovate? Variety in regional co-inventorship networks: stylized facts from the OECD REGPAT database

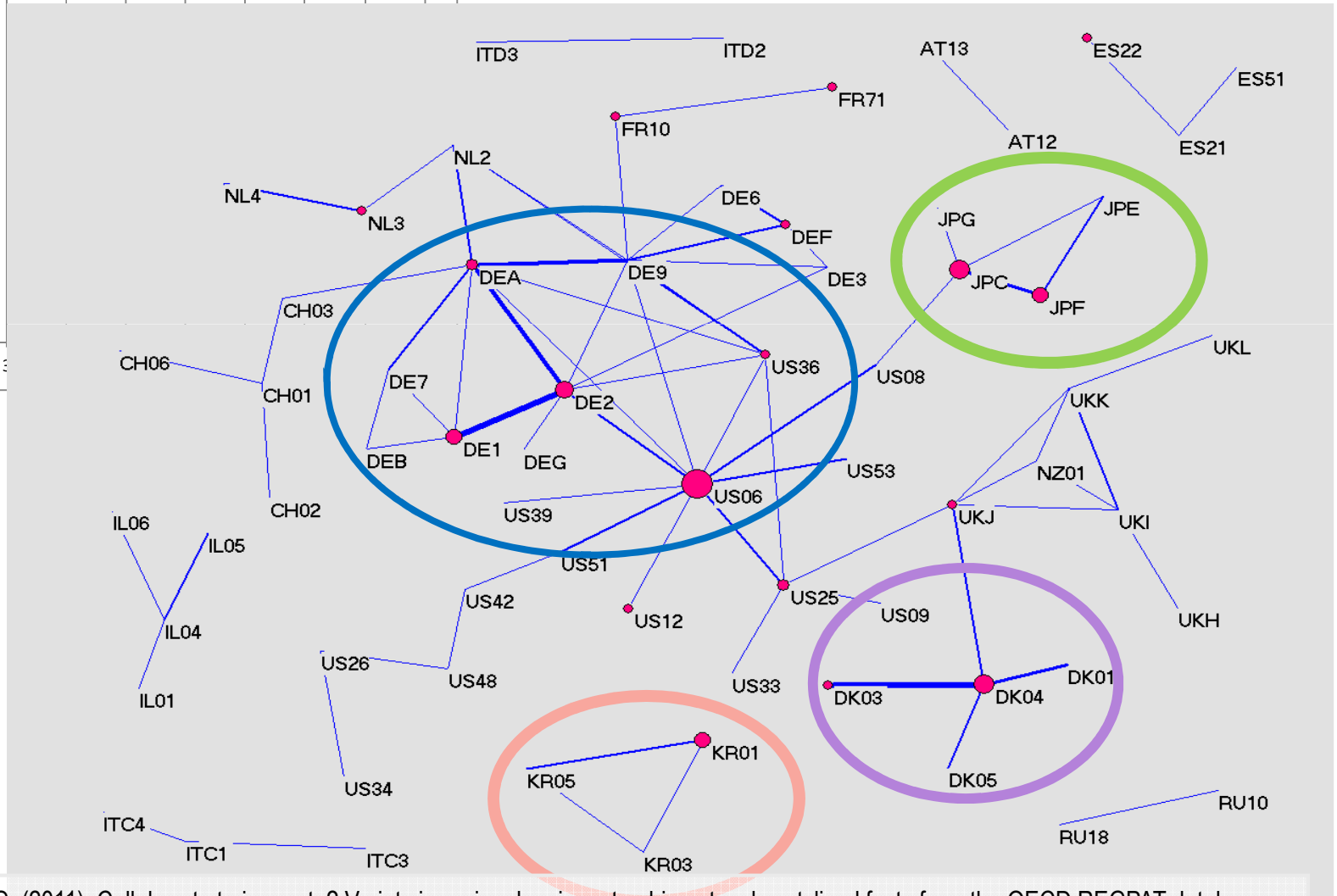
Co-patenting network Renewable energies 2005-2007

14% of patent applications have a co-inventor located in another region



Top 20 patenting regions account for 50% of total patenting

Link intensity >3



Source: Primi, A. and Ajmone Marsan, G. (2011), Collaborate to innovate? Variety in regional co-inventorship networks: stylized facts from the OECD REGPAT database

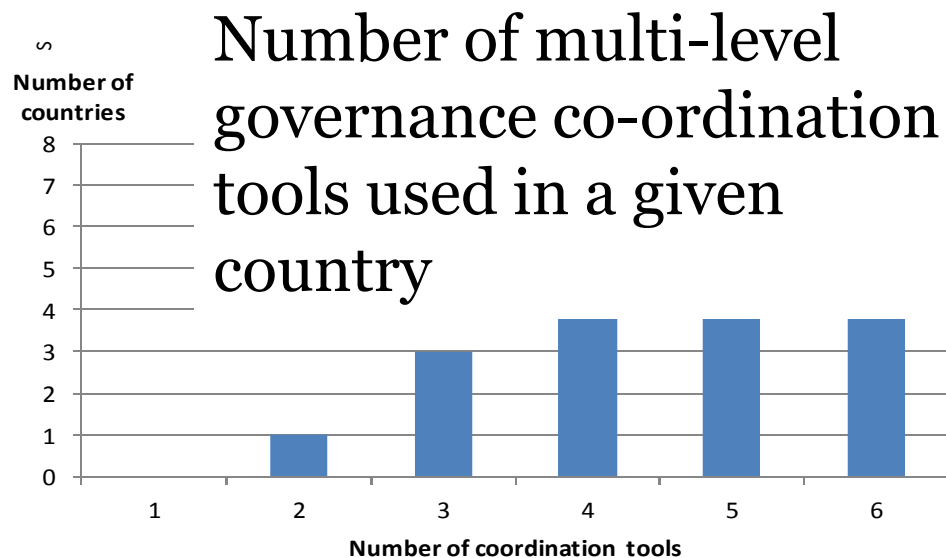
3. HOW TO IMPROVE POLICIES?

- Diagnostics matter! (getting the right questions)
- Assessment of policy spaces and options

A RECENT OECD SURVEY REVEALS THAT:

- Regions play different roles in a multi-level governance context
- Formal and informal roles are both important
- Many regions and national governments are using the “same” policy instruments
- Proliferation of public support programmes (high transactions costs, difficulties for target groups)
- Insufficient levels of incentives for co-ordination in STI policy across and within levels of government
- Use of multiple multi-level governance tools, importance of dialogue and consultation

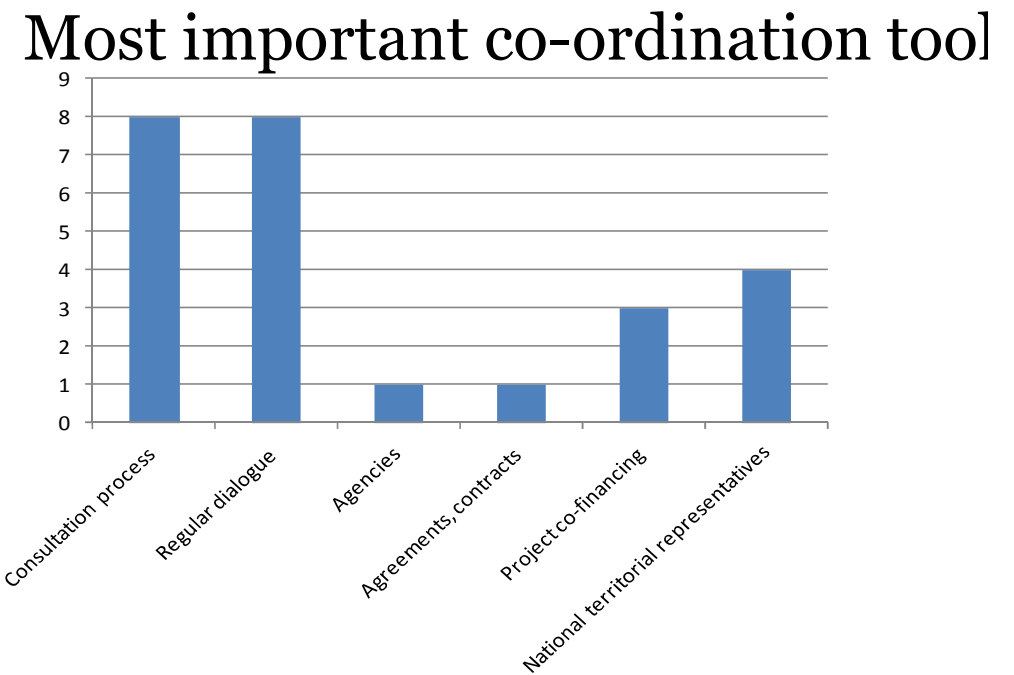
Multiple tools are used in any given country (generally 4 or more)



Note: Responses available for 22 countries.

Source: OECD Survey on the Multi-level Governance of Science, Technology and Innovation Policy.

Regular dialogue and consultation rated most important among tools



Notes: 24 reporting countries (20 OECD, 4 non-OECD countries), one country reported two top tools.

Source: OECD Survey on the Multi-level Governance of Science, Technology and Innovation Policy.

THE IMPORTANCE OF STRATEGY SETTING: INNOVATING FOR WHAT?

1. Building on current advantages
science push, technology-led, or a mix
2. Supporting socio-economic transformation
reconversion or identification of a new frontier
3. Catching up
towards the creation of knowledge-based capabilities

IMPLEMENTING TARGETED POLICY MIXES

	Knowledge Generation	Knowledge Diffusion	Knowledge Exploitation
Traditional instruments	<p>Technology funds, R&D incentives/supports/grants Support to scientific research and technology centres, Support to infrastructure development Human capital for S&T</p>	<p>Science Parks Technology Transfer Offices and schemes, Technology brokers Mobility schemes, talent attraction schemes Innovation awards</p>	<p>Incubators Start ups support innovation services (business support and coaching) Training and awareness-raising for innovation</p>
Emerging Instruments	<p>Public private partnerships for innovation Research networks/poles</p>	<p>Innovation Voucher Certifications/accreditations</p>	<p>Industrial PhDs Support to creativity Innovation benchmarking</p>
Experimental instruments	<p>Cross-border research centres</p>	<p>Open source-Open science Markets for knowledge</p>	<p>Regional Industrial Policy; Innovation oriented public procurement</p>

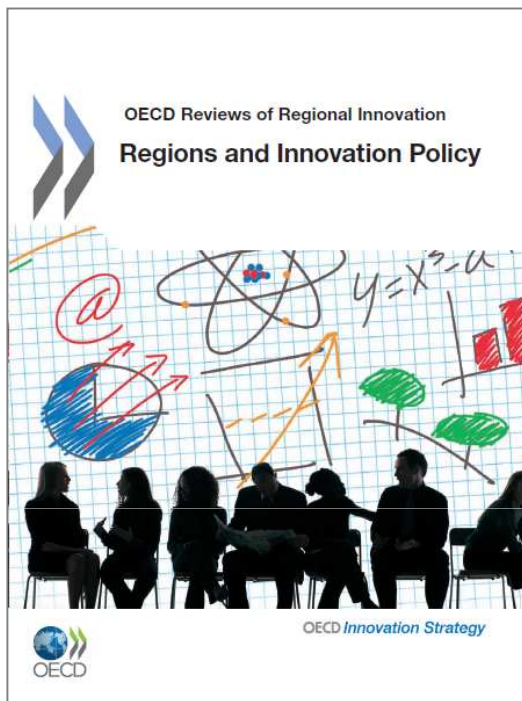
Competitiveness poles
 Competence centres
New generation of scientific and technological parks and clusters
 Venture and seed capital
 Guarantee schemes for financing for innovation

4. CONCLUSIONS & POLICY ADVICE

1. Support strategy setting exercises (diagnostics + vision)
2. Support dialogue across levels of government
3. Implement targeted policy mix
4. Develop mechanisms to target functional regions
5. Foster policy learning through better metrics, evaluation and experimentation.

OPEN QUESTIONS and FUTURE CHALLENGES

- i. Reshaping of boundaries for production and innovation & for policy action (Shifting wealth)
- ii. Dual nature of knowledge (public and private good) & global/local linkages in open knowledge economies
- iii. Relationship between location & innovation dynamics (fixed and mobile factors)
- iv. Agglomeration and diffusion patterns & the “social cohesion” agenda (ex. Regional impacts of excellence targeting in research)



Who we are: the OECD Development Centre: an open forum for policy assessment and dialogue

Some forthcoming works:

- OECD Development Strategy
- Perspective on Global Development Report focus on shifting manufacturing and knowledge capacities
- Review of global practices in public support to technology based start-ups with a focus on Latin America
- Review of Korean development strategy in the long term and the evolution of industrial policy
- Knowledge Sharing between OECD member and non member countries

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