

Success Factors for Effective Regional Innovation Policy

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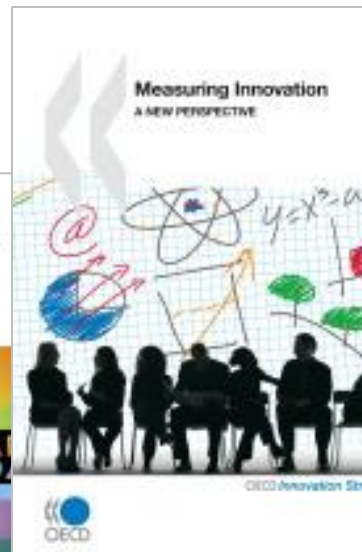
OECD

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OECD: Regions and Innovation

- Series ***OECD Reviews of Regional Innovation*** began 2007
 - **Thematic reports** on special topics such as clusters, globalisation, innovation policy
 - **Country/region** reviews at the request of governments
 - **Inputs** to territorial reviews, other OECD work (Innovation Strategy)
- **Different levels of government** seek policy advice:
 - **National governments** that must support a diversity of region types (regional development, S&T, enterprise and industry, higher ed)
 - **Regional authorities** that seek the right policy mix for their region
 - **Upcoming reviews:** Wallonia (Belgium), Southern and Central Denmark



What do we mean by innovation?

“...the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations.

By definition, all innovation must contain a degree of novelty...an innovation can be new to the firm, new to the market or new to the world.

...Innovation, thus defined, is clearly a much broader notion than R&D and is therefore influenced by a wide range of factors, some of which can be influenced by policy.

Innovation can occur in any sector of the economy, including government services such as health or education....Consideration is being given to extending the methodology [for innovation measurement] to public sector innovation and innovation for social goals.”

Why regions matter for innovation policy *even more today*

- **A double paradigm shift**
 - Rising relevance of regional dimension in national innovation strategies (systems approaches, critical mass in science, etc.)
 - New regional development policy (mobilising knowledge & assets for growth)
- **An evolving innovation scenario**
 - Increased globalisation (rise and fall of different regions)
 - Societal and environmental challenges (new growth model of 3 “E”s: efficiency, equity, environmental sustainability; sub-national role)
 - Increasing relevance of networks for innovation (in and across regions)
- **Empirical evidence**
 - World is not flat, it has hot spots (half of R&D in 13% of regions, half of patenting in 20% of regions)
 - Variety in regional innovation systems (within and across countries)
 - Innovation modes (spatial dimension relevant in different ways)

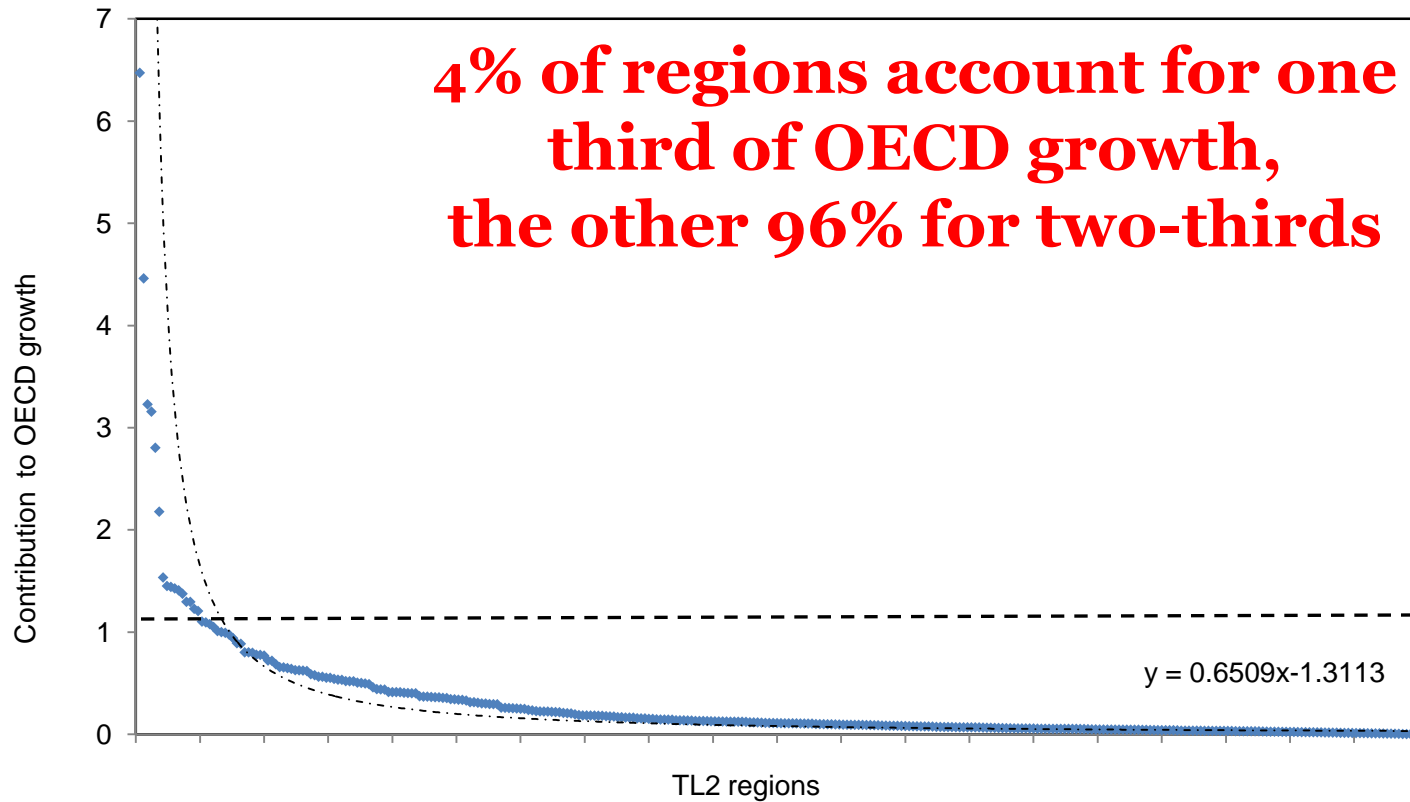
What factors should be considered?

To open the black box, consider three elements
simultaneously

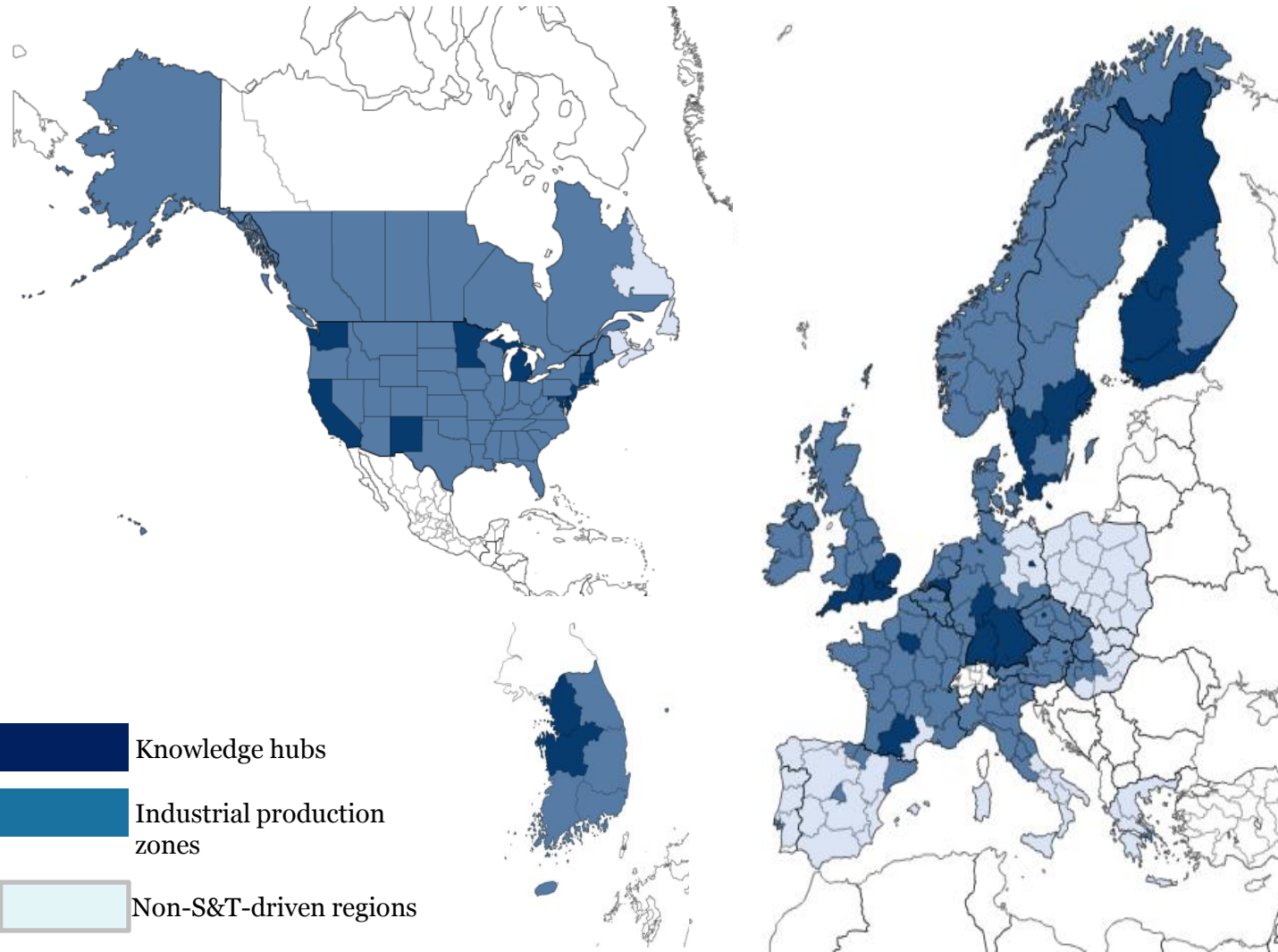
1. Institutional context
2. Innovation potential
3. Type of regional strategy

How do regions drive OECD growth?

Contribution to OECD growth (TL2 regions, 1995-2005)



Different regional profiles across OECD regions



Knowledge Hubs

- ✓ Knowledge-intensive city/ capital districts
- ✓ Knowledge and technology hubs

Industrial Production Zones

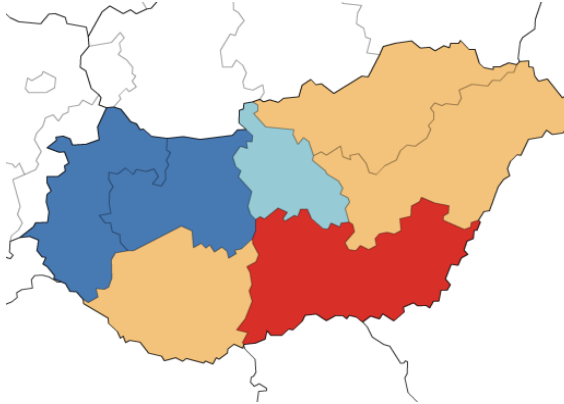
- ✓ US states with average S&T performance
- ✓ Service and natural resource regions in knowledge-intensive countries
- ✓ Medium-tech manufacturing and service providers
- ✓ Traditional manufacturing regions

Non-S&T driven regions

- ✓ Structural inertia or de-industrialising regions
- ✓ Primary-sector-intensive regions

Some countries have greater in-country diversity

Hungary



✓ **Medium-tech manufacturing and service providers:**

Central Hungary

✓ **Traditional manufacturing regions:**

Central Transdanubia, Western Transdanubia

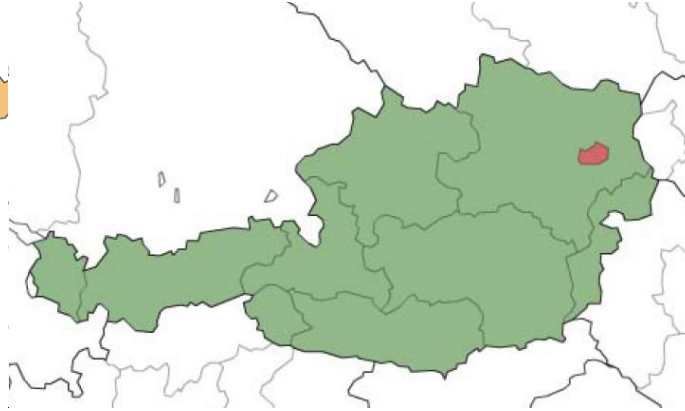
✓ **Structural inertia or de-industrialising regions:**

Southern Transdanubia, Northern Hungary, Northern Great Plain

✓ **Primary-sector-intensive regions:**

Southern Great Plain

Austria



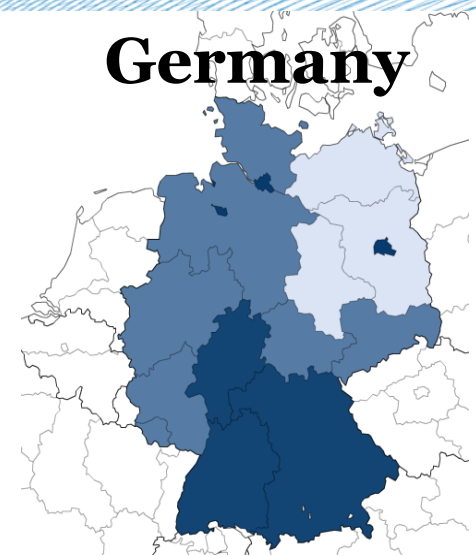
✓ **Knowledge intensive city/capital districts:**

Vienna,

✓ **Traditional manufacturing regions:**

Burgenland, Lower Austria, Carinthia, Styria, Upper Austria, Salzburg, Tyrol, Vorarlberg

Germany



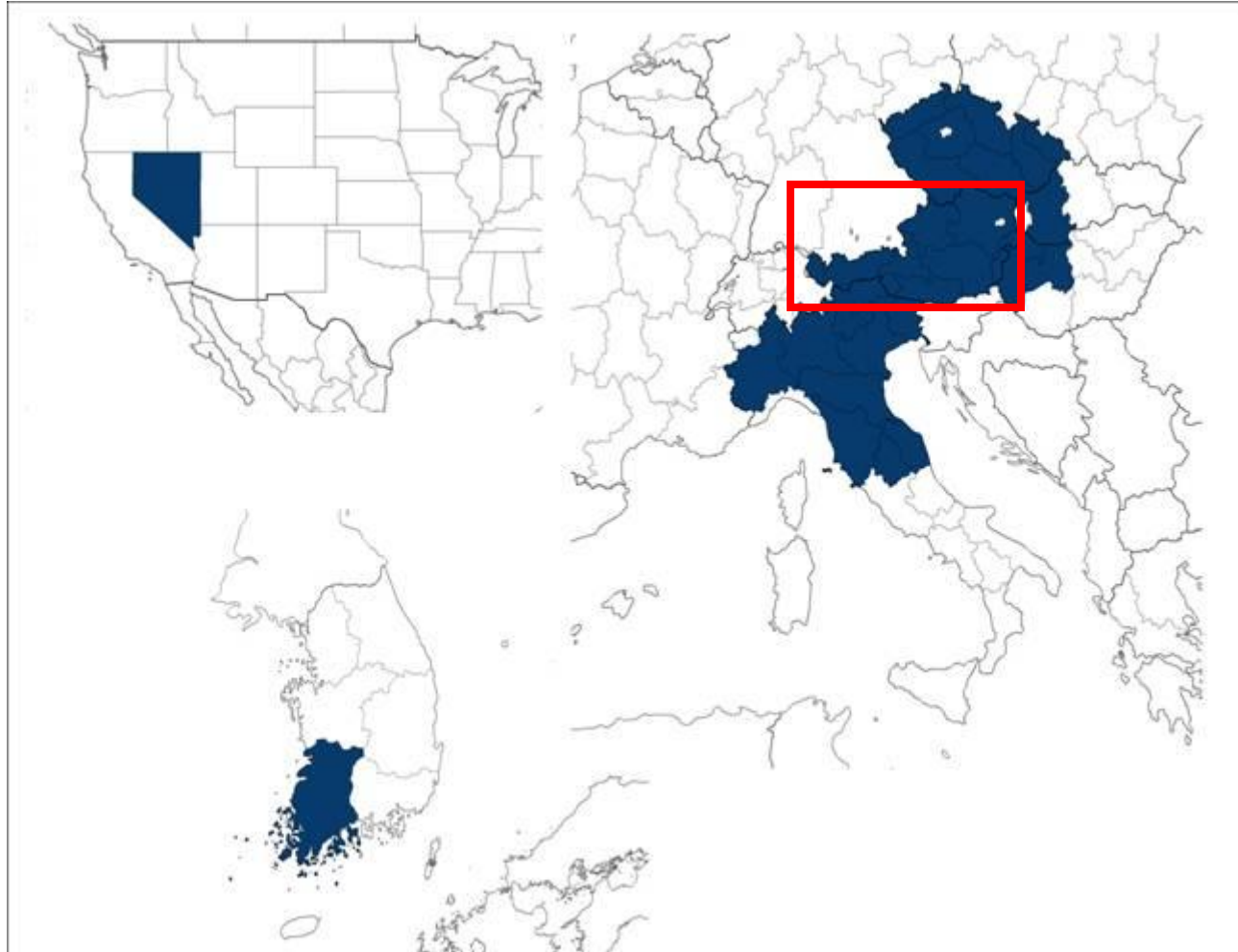
✓ **Knowledge intensive city/capital districts:** Berlin, Bremen, Hamburg

✓ **Knowledge and technology hubs:** Baden-Württemberg, Bavaria, Hesse,

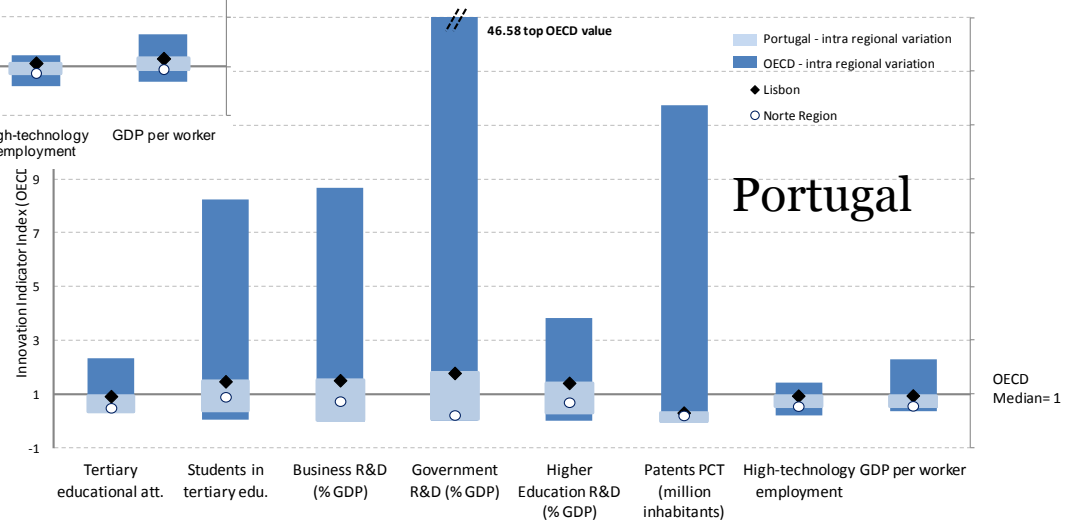
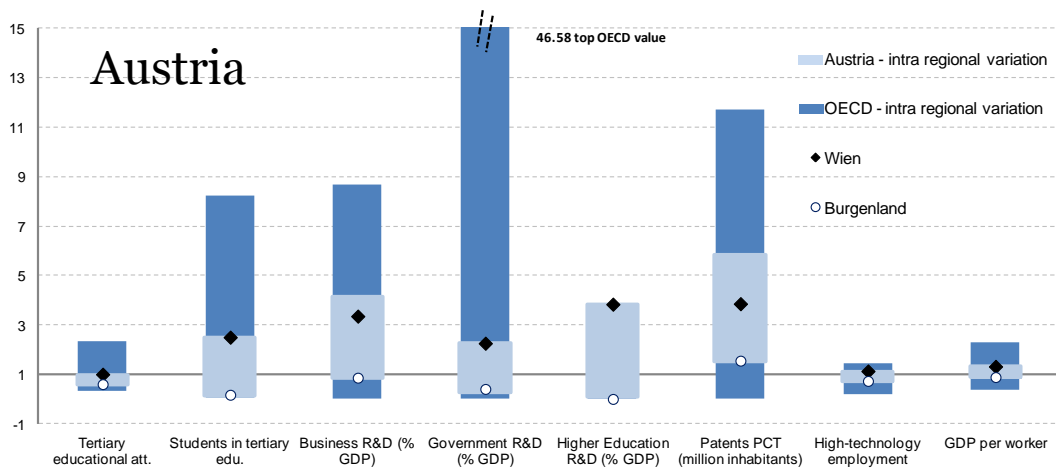
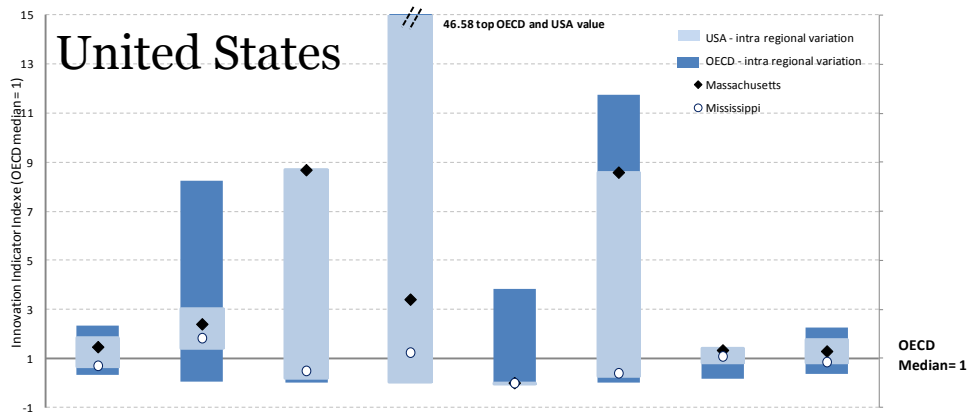
✓ **Medium-tech manufacturing and service providers:** Lower Saxony, North Rhine-Westphalia, Saarland, Schleswig-Holstein, Rhineland-Palatinate, Saxony, Thuringia

✓ **Structural inertia or de-industrialising regions:** Brandenburg, Mecklenburg-West Pomerania, Saxony-Anhalt

OECD peers in traditional manufacturing regions



Range of performance varies by country



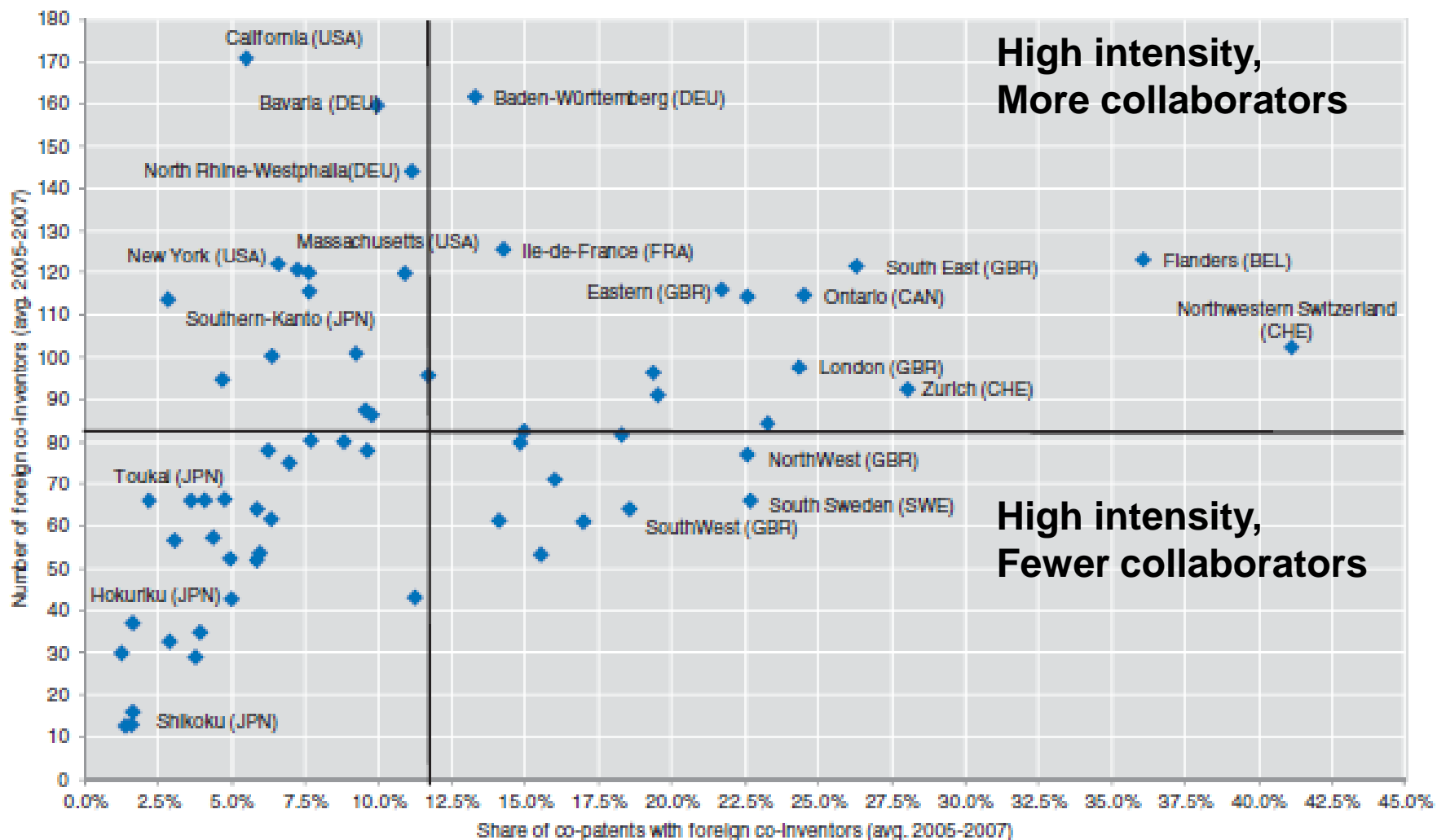
Diversity in innovation potential also related to internal and external system linkages

International linkages

	Centralised RIS	Decentralised Dense RIS	Decentralised Sparse RIS
No hinges			
Single hinge			
Diverses hinges			

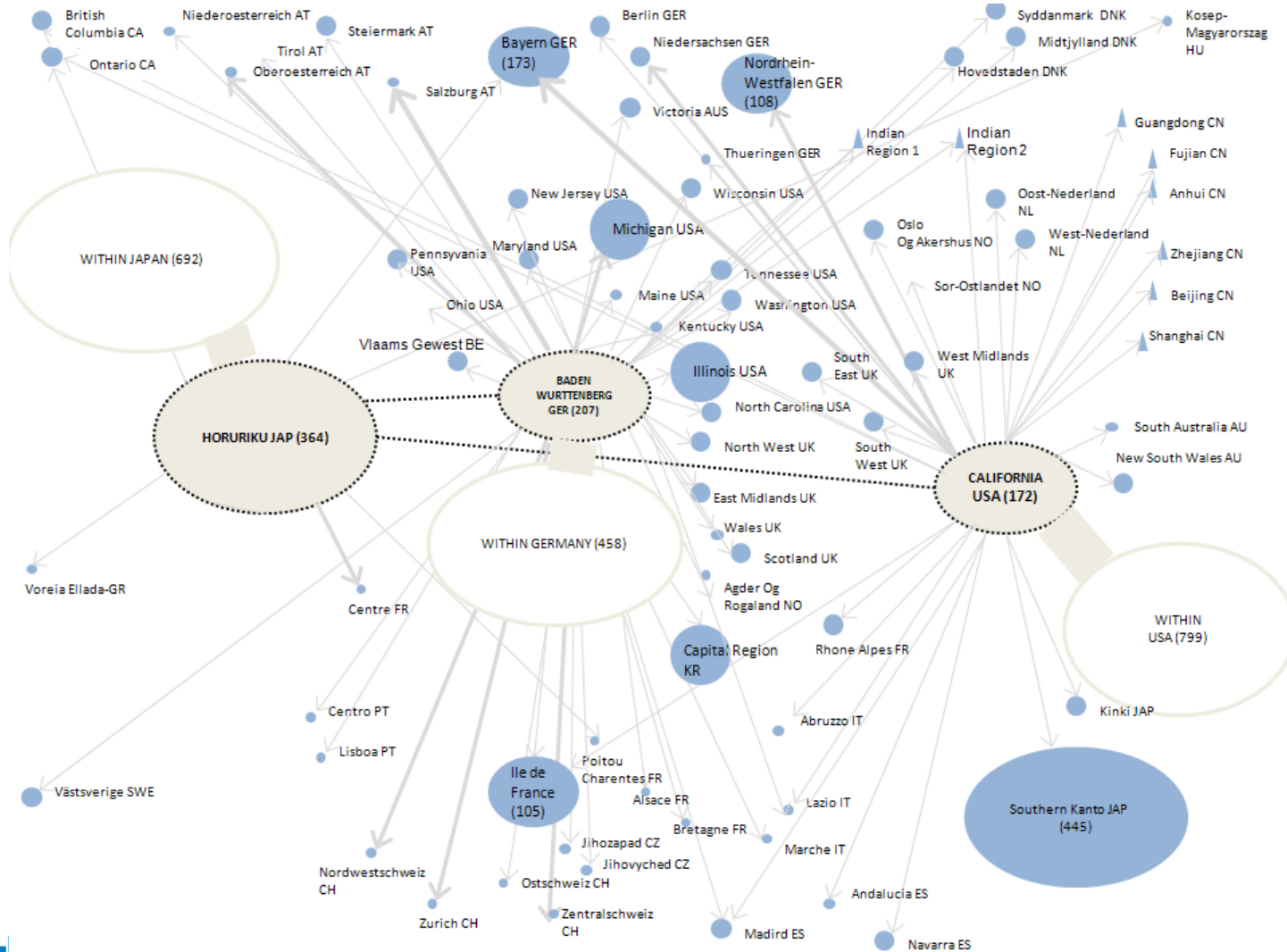
An illustration of collaboration patterns-all sectors

Diversity and intensity of co-invention among top 20% of OECD TL2 regions
(by number of total PCT applications), 2005-2007



An illustration of collaboration patterns-green patents

Hokuriku (Japan), Baden-Wurtemberg (Germany) and California (US), 2005-2007



Institutional context: regions have different STI competences

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	France, Netherlands, Poland, Sweden (pilot regions), Denmark (autonomous regions), Norway	UK (English regions), Sweden (except pilot regions), Korea
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

Type of regional strategy

Strategic direction for regions

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

There is no one recipe, but there is a menu for regional strategic choices

● main priority; ◎ strategic choice; ○ low priority

Type of region	Building on current advantages	Supporting socio-economic transformation	Catching up
Knowledge hubs			
Knowledge and technology hubs	●	◎	○
Knowledge-intensive city/capital districts	●	◎	○
Industrial production zones			
US states with average S&T performance	●	◎	○
Service and natural resource regions in knowledge-intensive countries	◎	◎	●
Medium-tech manufacturing and service providers	◎	●	○
Traditional manufacturing regions	○	◎	●
Non-S&T-driven regions			
Structural inertia or de-industrialising regions	◎	●	◎
Primary-sector-intensive regions	○	◎	●

Range of tools to implement goals

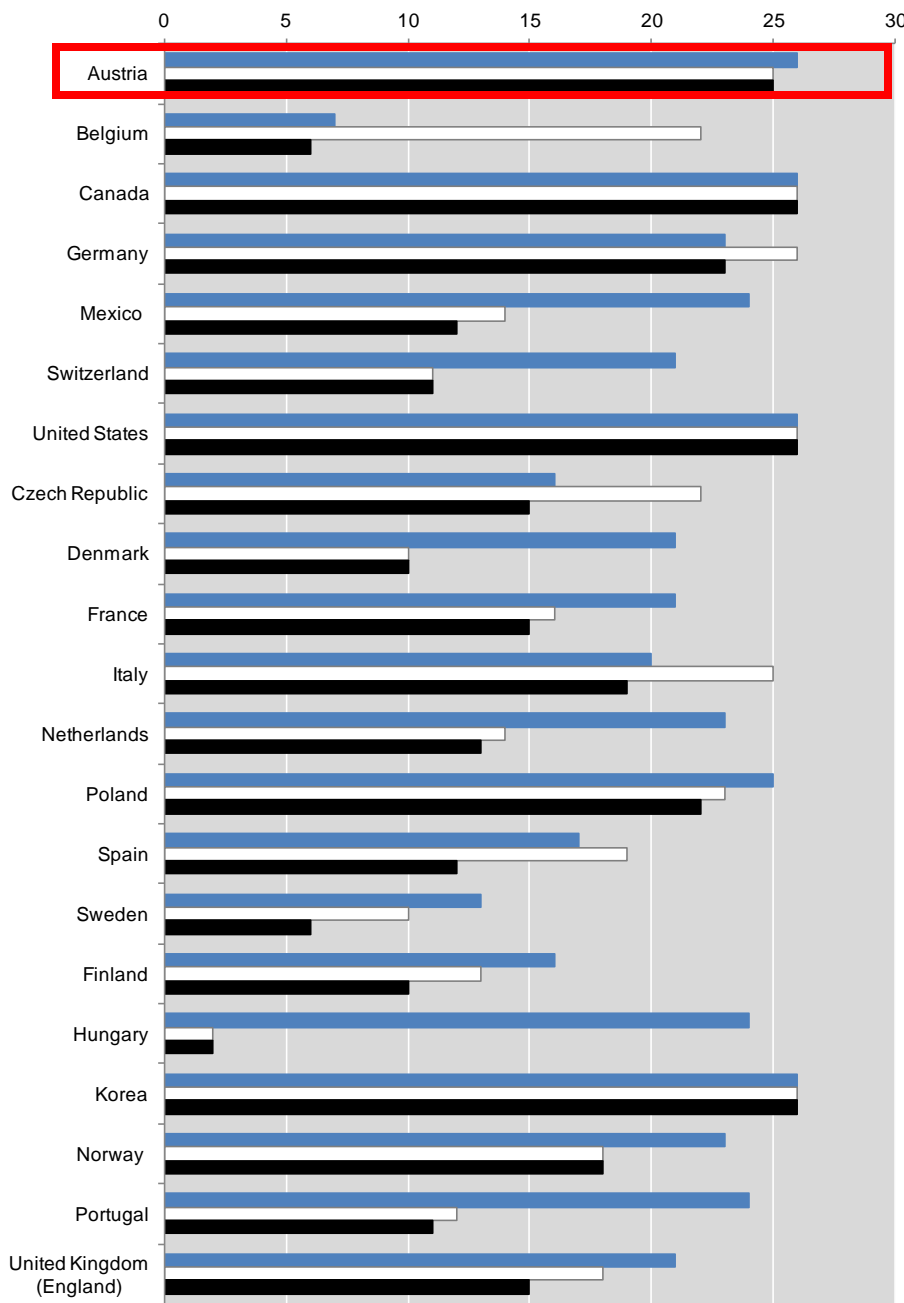
	Knowledge Generation	Knowledge Diffusion	Knowledge Exploitation
Traditional instruments	Technology funds R&D incentives/supports/grants Support to scientific research and technology centres Support to infrastructure development Human capital for S&T	Science parks Technology Transfer Offices and schemes Technology brokers Mobility schemes Talent attraction schemes Innovation awards	Incubators Start ups support innovation services (business support and coaching) Training and awareness-raising for innovation
Emerging Instruments	Public private partnerships for innovation Research networks/poles	Innovation vouchers Certifications/accreditations	Industrial PhDs Support to creativity Innovation benchmarking
Experimental instruments		Competitiveness poles Competence centres New generation of scientific and technological parks and clusters Venture and seed capital Guarantee schemes for financing for innovation	Regional Industrial Policy Innovation-oriented public procurement
	Cross-border research centres	Open source-Open science markets for knowledge	

Multi-level governance of STI policy: OECD Survey results

- 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

Number of instruments used by level of government

■ National □ Regional ■ Common instruments



Some instruments are more frequent at regional level, some at national level, and many at both levels.

Instruments reported in common are not necessarily a duplication. They may be complementary:

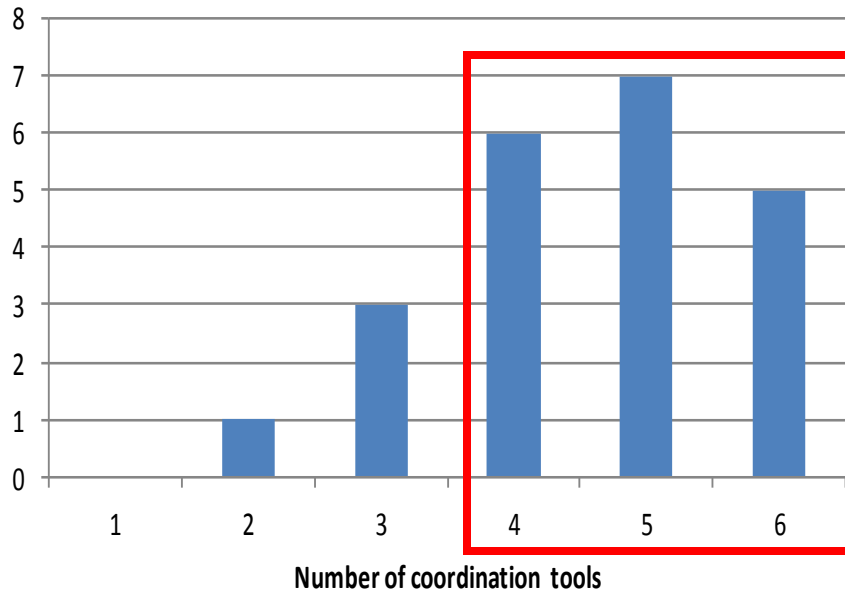
- Shared financing
- Different target groups and purposes

Notes: National refers to the number of instruments used at national level. Regional refers to instruments reported at regional level. Common instruments refers to the number of instruments reported at both national and regional level, which includes those instruments reported in the count of national and regional instruments.

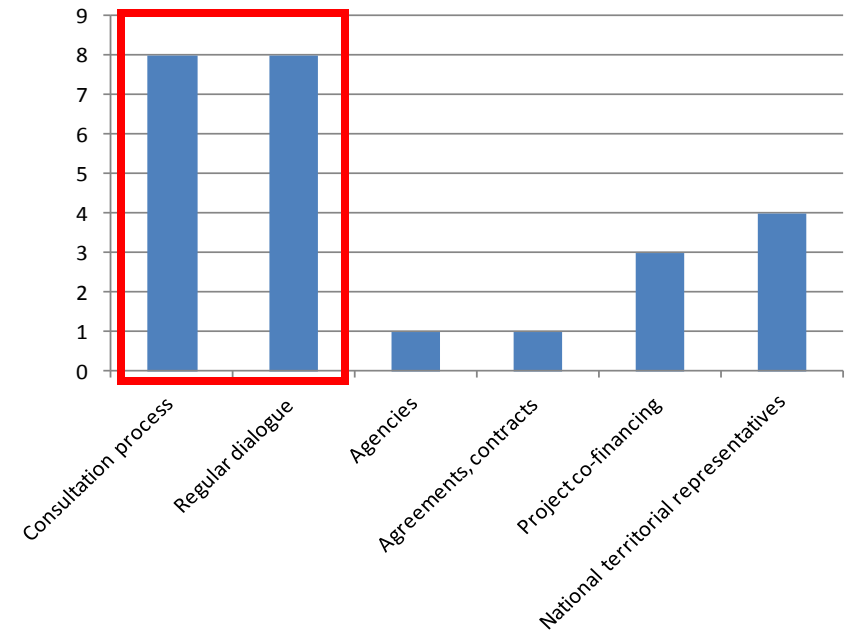
Source: OECD (2011) *Regions and Innovation Policy*, OECD Publishing, Paris based on an OECD-GOV Survey.

A menu of tools to work with other levels of government, and the private sector

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



Regular dialogue and consultation rated most important among tools



Note: 22 reporting countries (20 OECD, 2 non-OECD countries).

Source: OECD (2011) *Regions and Innovation Policy*, OECD Publishing, Paris based on OECD-GOV Survey on the Multi-level Governance of Science, Technology and Innovation Policy.

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

Source: OECD (2011) *Regions and Innovation Policy*, OECD Publishing, Paris based on OECD-GOV Survey on the Multi-level Governance of Science, Technology and Innovation Policy.

Regions as agents of change

Regions can, and should, be agents of change

- Develop a vision and a strategic road map to encourage innovation
- Design a smart policy mix (asset-based and multi-sector)
- Establish multi-level, open and networked governance structures:
 - Vertical and horizontal co-ordination
 - Functional regions
 - Stakeholders & private sector involvement
- Foster policy learning through better metrics, evaluation and experimentation

Example: regional innovation agencies

	Traditional focus	New approaches
Place of agency	Outside the system	Actor in the system
Role	Top-down provider of resources	Facilitator, node in the system
Rationale for intervention	Market failures	Systems failures, learning failures
Mission	Redistributing funds	Identifying and reinforcing strengths in the system: a change agent
Instruments	Isolated	Policy mix
Accountability and control mechanisms	Administrative and financial	Strategic, goal-oriented, additionality
Autonomy	Focused on execution	Expanded to strategic decisions

Common pitfalls in regional strategies

- One-size-fits-all approach (regions can't all be Silicon Valley or a leading biotech hub)
- High-tech bias (ignoring broader approach to innovation)
- Lack of sufficient private sector involvement
- Administrative boundary focus and not functional areas
- Lack of measurement and evaluation of progress