



INNOVATION IN LOW DENSITY ECONOMIES

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Structure de la présentation

- 1. What drives growth in low density economies?**
2. How can low density economies be innovative?
3. Policy strategies



“In rural places most innovation comes from entrepreneurs”





OECD Territorial Reviews: A series of case studies of regional policy

In OECD member countries :

- ❖ 20 National Territorial Reviews
- ❖ 8 Regional Territorial Reviews
- ❖ 5 Reviews on Regional Innovation Systems
- ❖ 23 Metropolitan Reviews
- ❖ 5 National Urban Policy Reviews
- ❖ 12 National Rural Policy Reviews



Linking Ind. Com. to
RD

Mining Regions
initiative

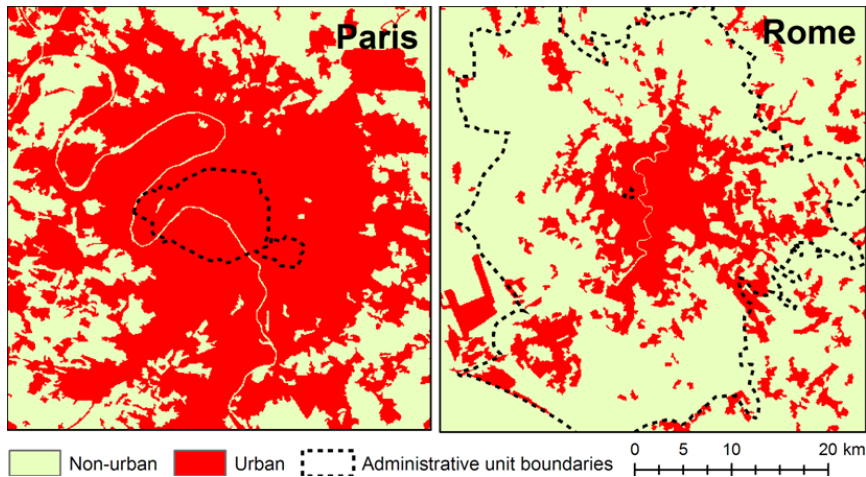
Innovation and RD

Demographic &
services



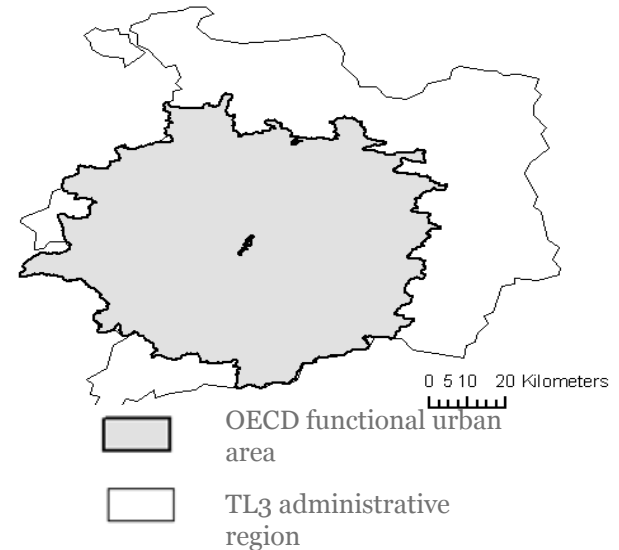
Matching Policies at the right scale

A functional approach makes it possible to highlight main discrepancies between the administrative structure and the actual organization of the territory



Core cities vs. administrative cities

Rennes, France



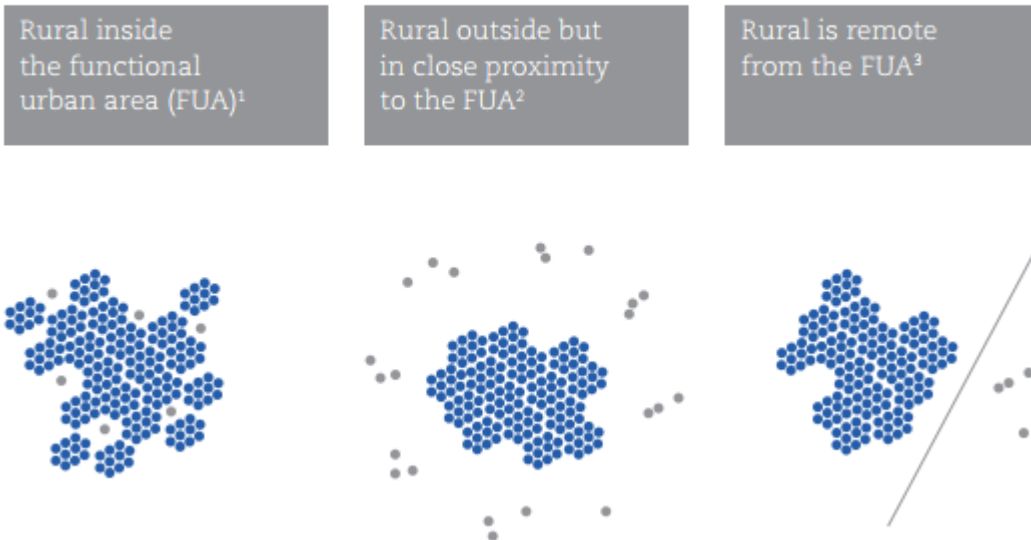
Functional vs. administrative regions

Policies need to reflect the reality of [where people live and work](#) (FUAs), as do the institutions that design and implement such policies (an example is the provision of public services).



Different types of rural areas

Three types of rural regions

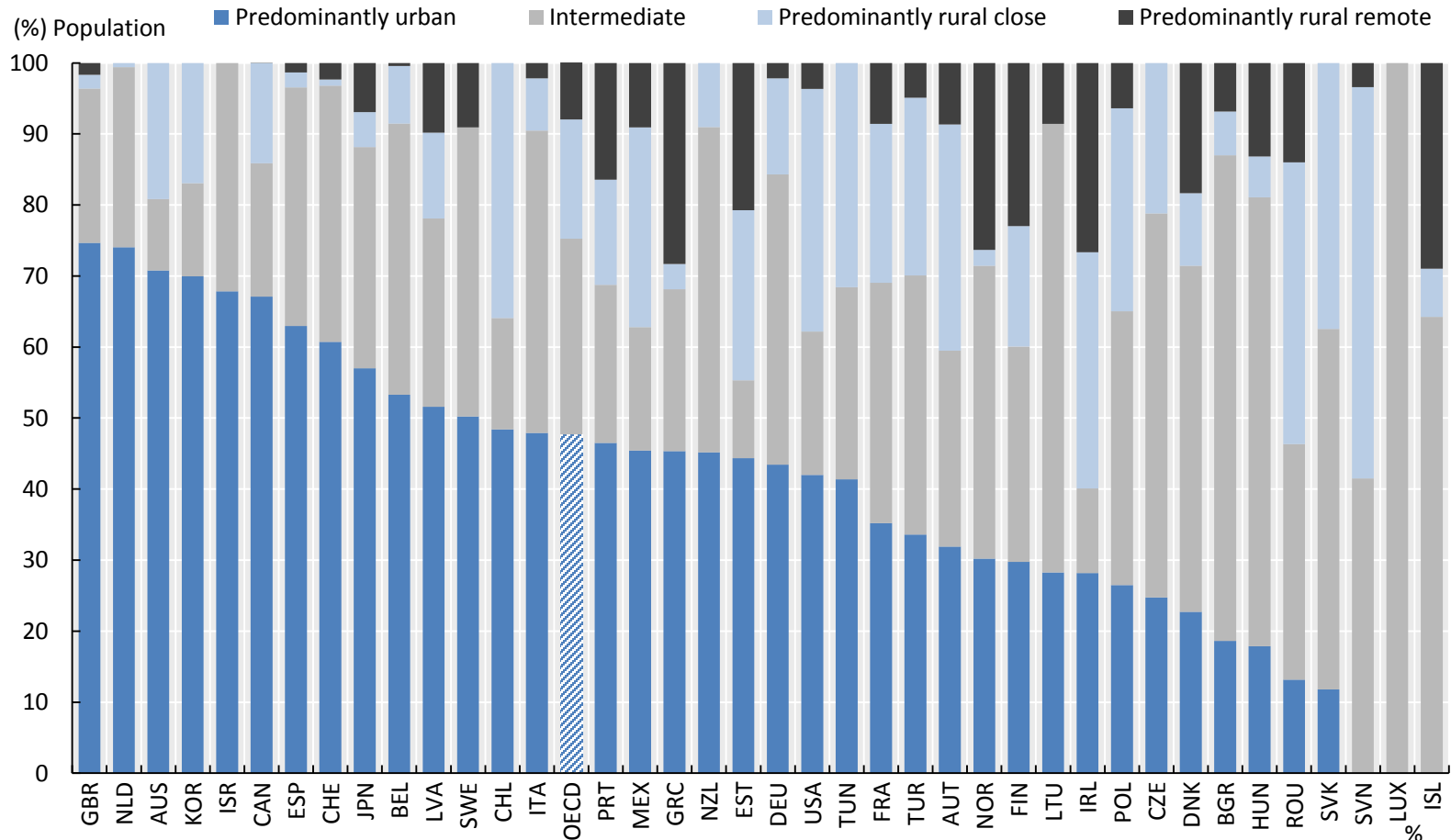


- ❖ **Rural within FUA** – part of the catchment area
 - Challenges with matching of skills, land use policies, environmental costs
- ❖ **Rural close to cities** – attract new residents, tend to have good industrial mix
 - Challenges to balance economic and social diversity and competition for land and landscape
- ❖ **Rural Remote** – primary activities play a relevant role in the regional economy
 - Challenges to mobilise areas of absolute advantage, improving provision of essential services



Urban and rural regions are increasingly integrated

Distribution of population by type of region (2017)

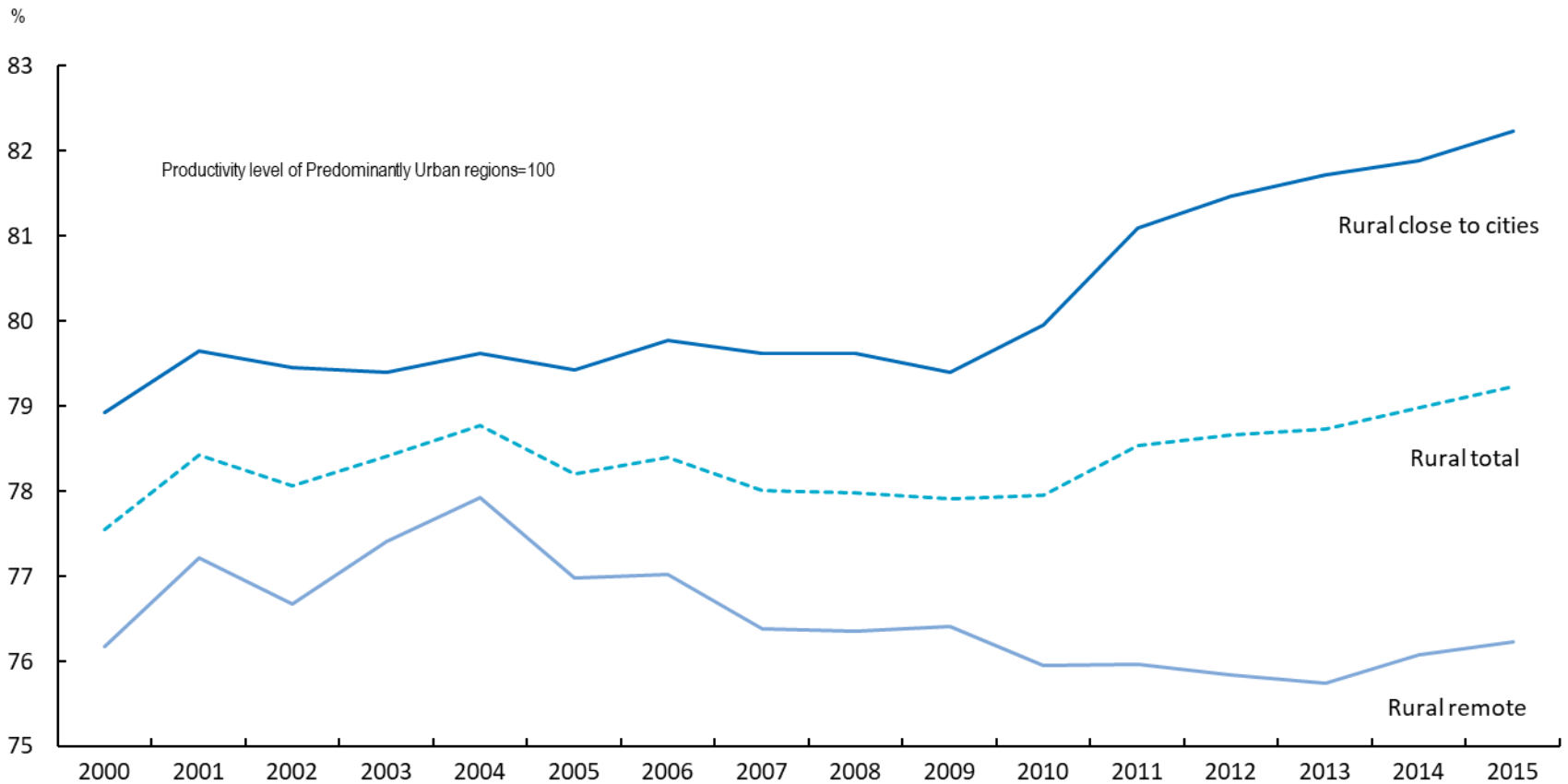


In OECD countries, on average, 25% of population live in rural areas. Mostly in rural areas close to cities (70%)



Convergence forces driven by rural areas close to cities...

Productivity growth in rural regions, 2000-15 (TL3)

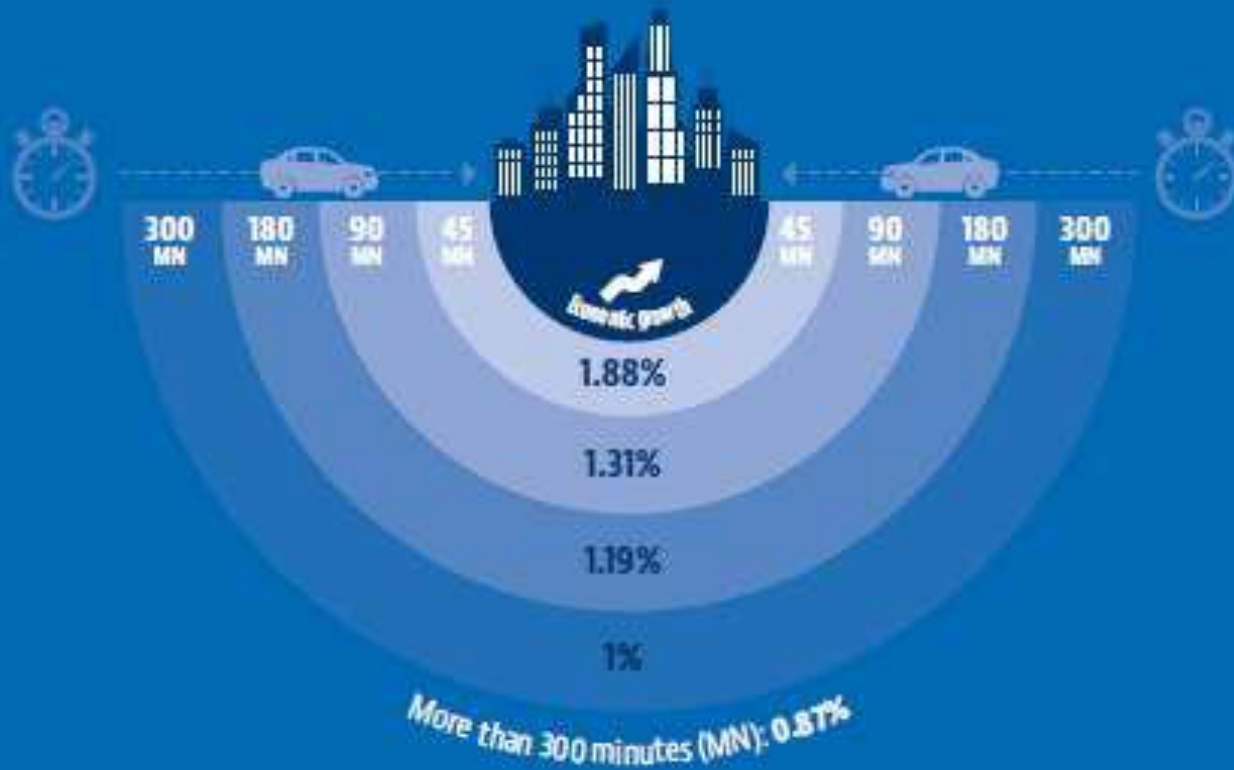




Connectedness to cities benefit surrounding regions

Economic growth increases with nearness to large cities

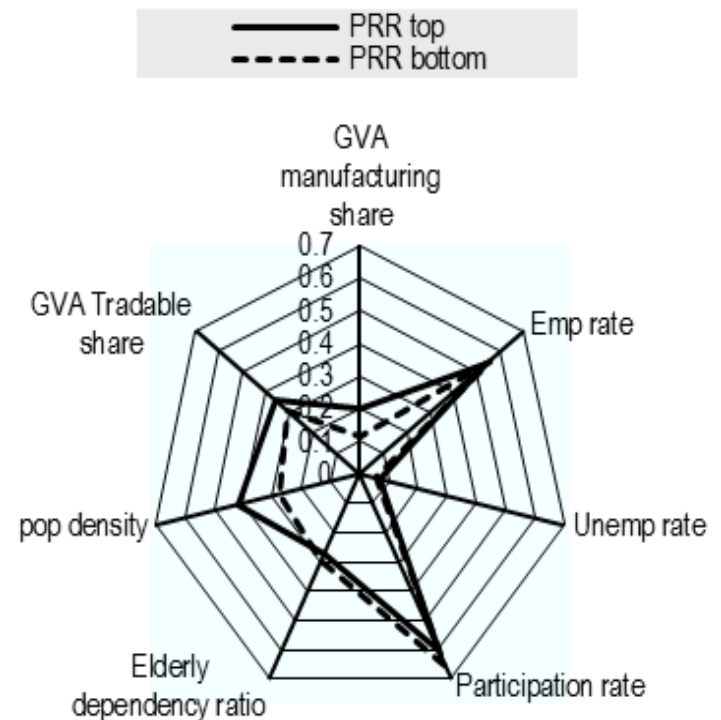
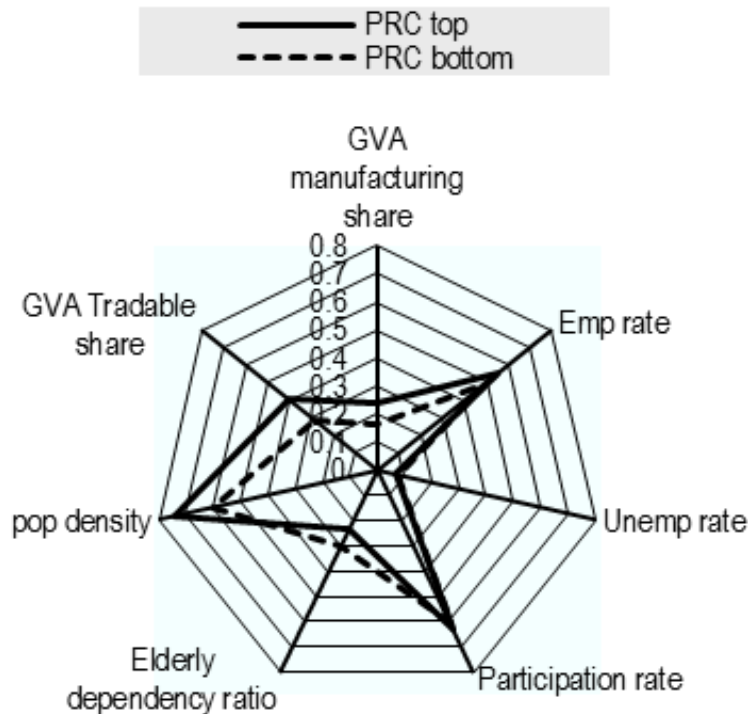
Yearly growth rates of GDP per head (1995-2010) and driving time to the closest large metropolitan area of 2 million or more inhabitants in OECD countries





What are the key drivers of productivity growth?

Determinants of productivity growth before the crisis (2000-2008)

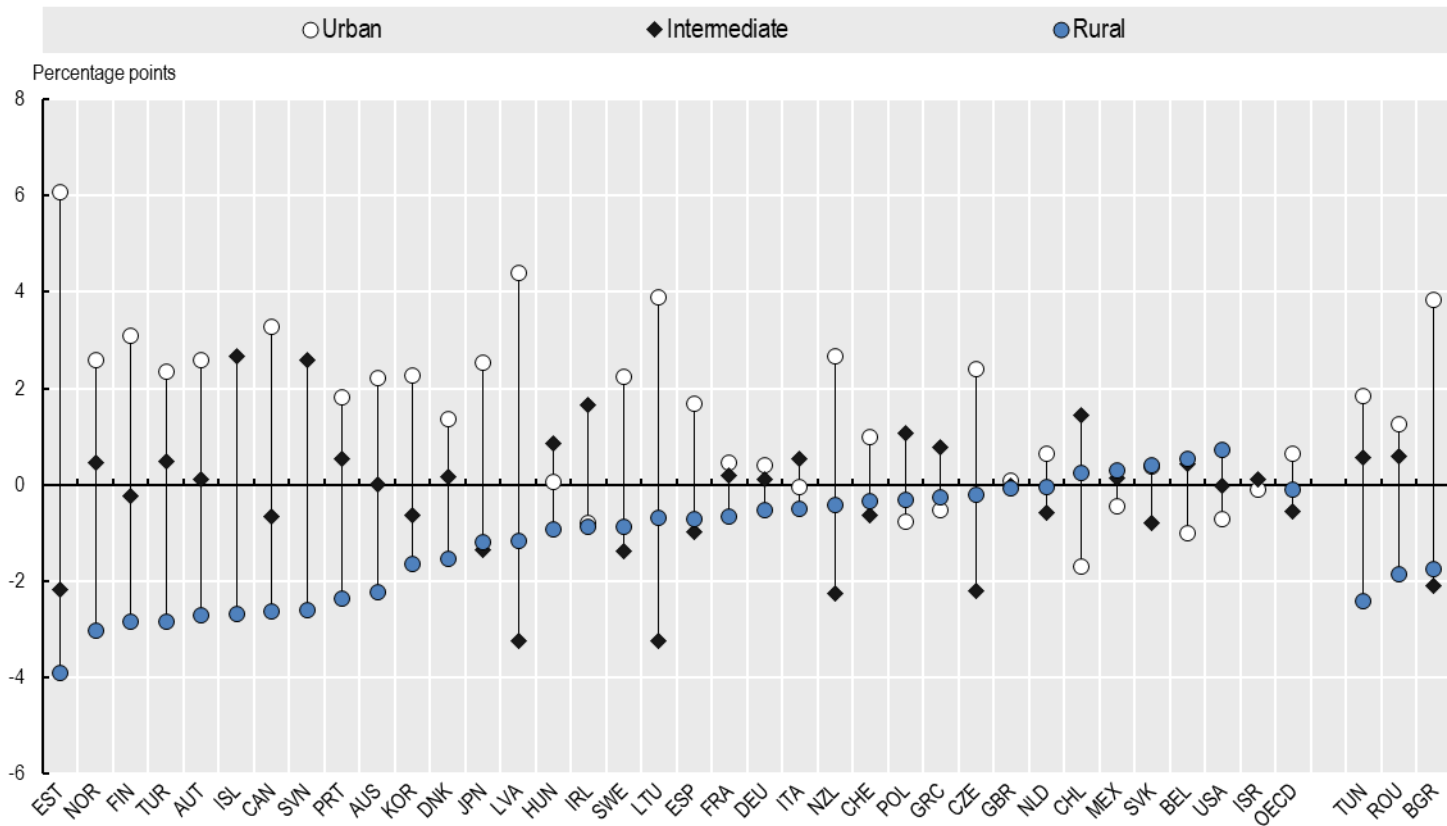


- **Tradable activities** are key for rural close to cities and remote rural
- A minimum level of **density** is key for economies of scale/scope and delivery of goods and services.



Population decline in rural areas

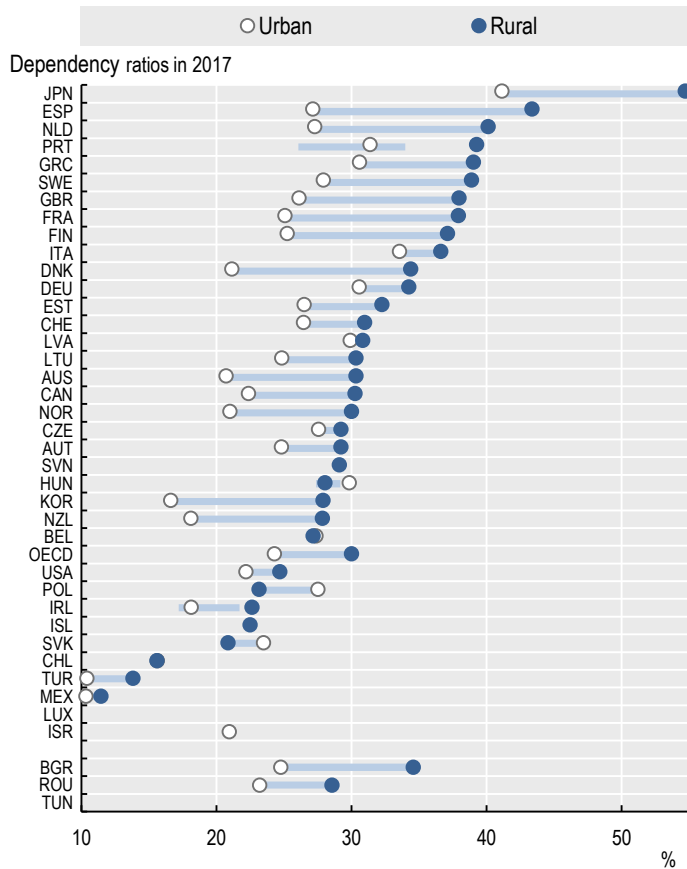
Change in the share of population by type of region (TL3) from 2000 to 2017





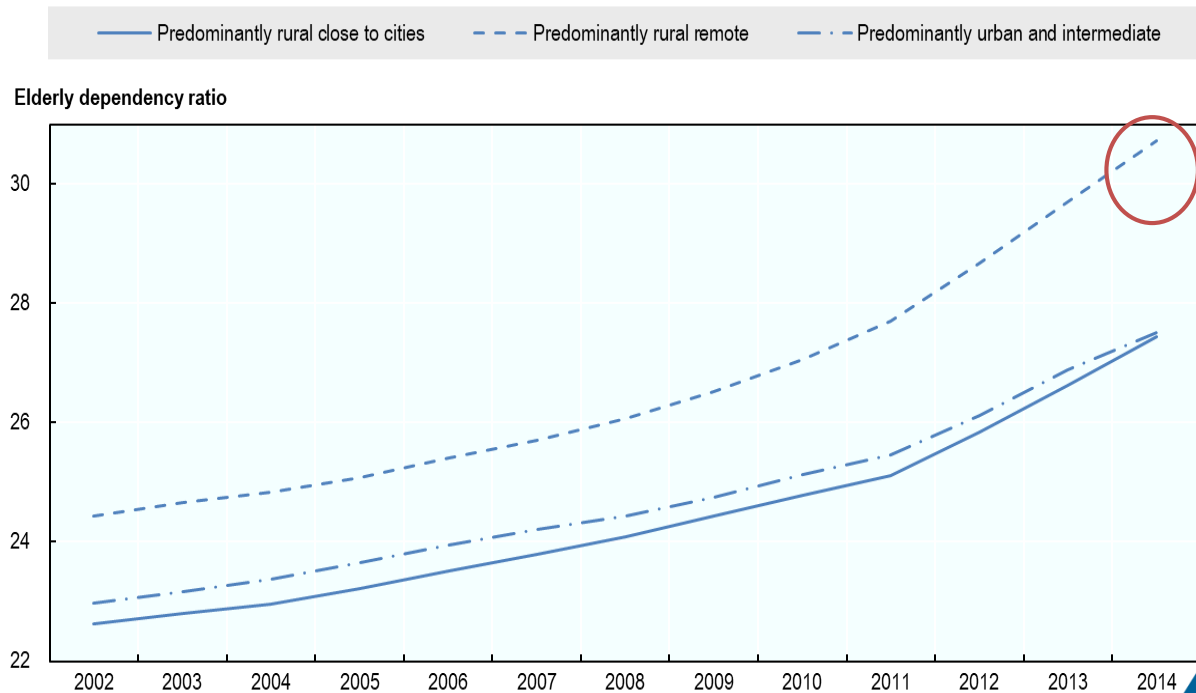
Remote rural areas have a higher proportion of elderly population

Elderly dependency ratios by type of region (2017)



Elderly dependency ratio greatest in rural remote regions

Elderly dependency ratio by OECD rural typology, 2002-2015





Low density/ remote economies

Low density/ remote economies face a number of challenges:

- Relative **smaller population** and labour force (**narrow range of skills**)
- Small local markets that offer a **limited set of goods and services**
- **Weak connections** to external markets
- High **dependence on primary sectors** and first stage processing
- Difficulties in **attracting in-migrants** (domestic or foreign)
- **Demographic decline**
- High cost of **public service delivery**

However, these challenges can be overcome:

- Vertical integration in natural resource based sectors
- Exporting goods and services (to overcome small local market)
- Finding niche areas (e.g. arctic know-how and climate) to achieve minimum efficient scale
- Reducing transport and communication costs (e.g. ICT and broadband)
- Quality of institutions – investment facilitation, labour-market matching, supporting entrepreneurial discovery and innovation



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Innovation is not just an urban phenomenon

- **Innovation: new and improved** products, processes, marketing and organisational methods that **increase productivity** and address economic, social and environmental challenges
- **Conventional perspective on innovation:** large scale experimentation (led by R&D) that strategically identify new solutions to major problems – *the linear model*.
- Innovation stems from formal experimentation/innovation systems (R&D, research facilities/ urban) and **combination of tacit and formal knowledge** and creativity (Baumol).
- Successful rural areas have strong ties locally and a number of “weak” ties externally (Diffusion and scaling-up local innovations)
- Growth process is not endogenous -- innovation depends upon the actions of **individuals/entrepreneurs** have a great bearing on outcomes



Key Innovations in Rural Areas?

❖ *Wal-Mart:*

- Started by Sam Walton in **Bentonville Arkansas** in 1950 – remains the headquarter. Bentonville from 2,900 to 35,000 people largely because of Wal-Mart's presence
- Wal-Mart's main innovation (no patent, trade secret) -the creation of a sophisticated logistics system that lowered its costs

❖ *Bombardier*

- Third largest global producer of commercial aircraft
- Started in 1942 in **Valcourt, Quebec** to manufacture **tracked snow machines**
- In 60's Bombardier popularized recreational snowmobiles and later jet-skis
- In 70's Bombardier family began to purchase a number of failing aircraft

❖ *Lego*

- Fourth largest manufacturer of toys in the world; Started in 1916 in a wood working shop in the village of **Billund, Denmark**
- Christensen started making furniture but switched to making wooden toys
- Firm purchased a plastic injection machine (1937) and began making plastic blocks



Kemi technology park (Lapland, Finland)



- Established as a science park in 1986 to connect ICT capability at the local university, to the significant number of industrial firms in the vicinity
- Now hosts SMEs in the areas of: industrial services, electronics, information technology, environmental technology, corporate and training services and low temperature and winter technology
- Expanded beyond its original role to support networking amongst SMEs, connections to large firms, provision of services, and access to external markets
- Provides an integrated package for SME support because of its remoteness



Umeå Institute of Design (Västerbotten, Sweden)



- Historical strengths in industrial design (linked to forestry and mining)
- Umeå University established in 1965 and Institute of Design established in 1989
- Teaching and research focused on working with local firms to design equipment for working with wood, metals, plastics, fibres and other materials
- Ranked the worlds best design school in 2016



Forward looking and embrace innovation



THE 10 KEY DRIVERS OF RURAL CHANGE



Death of distance?

-Self-driving cars: increase attractiveness of rural areas- threshold of 60 mins.

-Additive manufacturing : small production cheaper than mass-production/ reduce market dependence

-Drones: openly tested in rural areas/ access wider supply of products

Uptake requires:

- Reliable and fast broadband connection
- Training and capacity building.

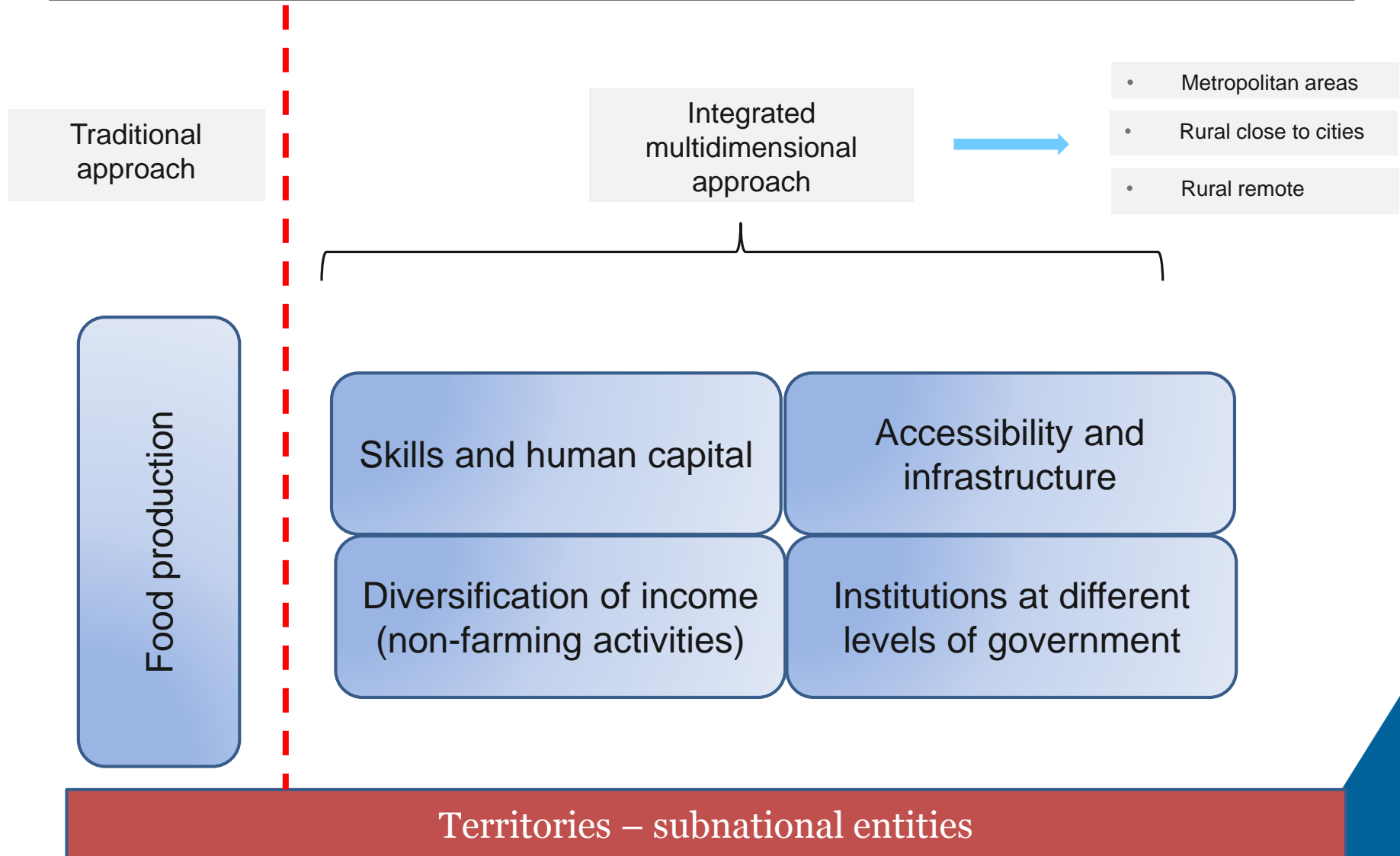


Structure de la présentation

1. Background
2. Can rural regions innovate?
3. **Policy strategies**



Integrating national rural policies: isolated sectoral action may have unintended outcomes.





An Evolving OECD Rural Paradigm

	Old Paradigm	New Rural Policy (2006)	Revisited Rural Policy (2015-2016)
Objectives	Equalization. Focus on farm income	Competitiveness of rural areas	Wellbeing of rural areas based on the economic, social and environmental pillar. Requires the elaboration of complementarities.
Key target sector	Sector based (resource sector)	Holistic approach to include various sectors of rural economies	Low density economies and differentiating types of rural areas. Borrowed density are key for rural areas close to cities. Convergence forces are key.
Main tools	Subsidies	Investments	Complementarities are key tools. Governance structures to construct the design of policies.
Key actors	National governments, farmers	Multilevel-governance	Rural urban partnerships across levels of government, private sector and citizen participation



Summary

- Innovation is important because it increases the competitiveness of firms and helps societies solve problems and take advantage of opportunities
- The **tradeable sector and linkages to external markets** are important for the long-term growth of low density/ remote economies.
- Better manage **local labor markets**: attract workers /deliver high quality public services
- **Complementarities and synergies** are critical: Simultaneous improvement in policies, infrastructure and human capital, suggesting strong synergies and avoidance of brain-drain effects.
- Focus on absolute advantages and adding-value to them (**specialisation**) by providing integrated **support for SMEs and start-ups** (enabling environment)
- Remote rural areas can be a source of innovation because of its particular climate, unique talents and technologies, and energy and resource endowments (many examples of local innovation that takes advantage of these assets)



THANK YOU