INNOVATION & REGIONAL INCLUSIVENESS

Innovation and Inclusive Growth
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Outline

• The Issues

• The Facts
The debate on innovation and inclusiveness has mainly been a national debate so far.

This is missing a crucial point, as realities faced by firms and workers often differ substantially within a country.

- For example, 46% of households in Turkey have broadband internet access: 15% in the Eastern part of East Anatolia; 63% in Istanbul and Thrace.
Spatially concentrated activity has advantages, as large urban centers typically show high levels of productivity and innovation.

Reasons for that include:

- Knowledge spill-overs: the possibility of (informal) face-to-face interaction being a critical element
- Deeper labour markets: A larger pool of workers and jobs results in better matches, i.e. individuals working in positions where they can better make use of their potential
A big share of innovations is taking place in the (large) agglomerations

BUT

People, products and ideas flow from cities to rural areas, across regions and borders

⇒ Benefits can be shared if places are connected
  – Inclusiveness does not imply that each region needs to or can innovate at the technological frontier, but rather that the benefits from innovation are shared across space (e.g. through rural-urban linkages)
Innovation and Spatial Inclusiveness – The Facts

• Large differences in income and innovation both across and within countries
Income, inequality and capacity differ across and within countries

- Real GDP per capita in 2010 measured in USD$ compared to the country’s average value
- Shades of blue (from light to dark) indicate wealth is:
  - Less than 75% of the national average
  - Between 75% and the national average
  - Above national average

- Clear spatial pattern in many countries
  - North/South and East/West divides in many European countries.
  - Capital city areas in Northern Europe
  - Coastal cities in China, with two belts of low wealth regions.
Wealth, **inequality** and capacity differ across and within countries

- Inequality varies not only across OECD member countries
  - at least as much variation is present within countries
  - Country averages can mask high inequality in certain parts of a country
University graduates tend to concentrate in certain regions (darker shades of blue indicate larger shares of university graduates in the labour force).

Highly educated workers have a dual effect on regional economies:

- Education affects productivity directly
- Education supports the ability to innovate (though other factors, e.g. experience and creativity are important as well) and, crucially, the ability to adopt innovations to their needs.
Wealth, inequality and capacity differ across and within countries

Innovation is spatially concentrated:

- Both in OECD member countries and in key partner countries
- Richer regions are also more likely to be highly active in patenting activities
Innovation and Spatial Inclusiveness – The Facts

- Large differences in income and innovation both across and within countries
- **R&D spending helps regions grow**
  - thereby increasing interregional inequality
Helping Regions Grow: Direct Effects

• R&D expenditure helps regions outgrow their country average
  – this benefit was stronger in the 1990s than in the 2000s

• Share of university educated workers is important
  – direct effect on growth
  – additional effect of creating capacity for innovation and innovation adoption
• Large differences in income and innovation both across and within countries

• R&D spending helps regions grow
  – thereby increasing interregional inequality

• R&D spending benefits adjacent “non-urban” regions
  (defined as less than 50% of population living in cities above 50000)
Helping Regions Grow: Spill-Over Effects

R&D investment affects a region’s neighbours:

• Spill-over effect
  – More “non-urban” regions (regions with less than half the population living in cities) benefit from R&D investment in surrounding regions.

• Competition effect
  – For “urban” regions the opposite is the case: growth is hampered if R&D investment attracts scarce resources to surrounding areas.
Innovation and Spatial Inclusiveness – The Facts

• Large differences in income and innovation both across and within countries

• R&D spending helps regions grow
  – thereby increasing interregional inequality

• R&D spending benefits adjacent “rural” regions
  (defined as less than 50% of population living in cities above 50000)

• The impact of R&D spending on inequality is complex
  – inequality highest in regions with little or high R&D spending
Inequality today is highest in regions that either invested a low or a high share of their GDP in R&D.

Average level of income inequality in regions, as a function of their R&D intensity.
Thank you
Wealth, inequality and capacity differ across and within countries

- Real GDP per capita in 2010 measured in USD$
- The darker the blue, the higher the region’s wealth

- Clear pattern across countries, but within country variation visible.
Wealth, inequality and **capacity** differ across and within countries

Innovation is spatially concentrated:

- Both in OECD member countries and in partner countries
- Richer regions are also more likely to be active in patenting activities