Do regions make a difference? Exploring the role of regional innovation systems and institutions in GINs

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Outline

1. Background
2. Research questions
3. Method
4. Importance of regions for GINs
   - 4.1. Overview
   - 4.2. RIS and different forms of GINs
   - 4.3. Illustrative cases
5. Conclusions & policy implications

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1. Background

- Innovation is a highly localized phenomenon
- Globalization of innovation has not diminished role of regions
- Global processes are pinned down in certain regions around the globe
- …..but HOW?

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1. Background

- Objective of this WP: link different forms of GINs to the institutional thickness of the region (strong, dinamic regions vs. marginal regions)
- Global Innovation Networks (Archibugi&Mitchie, 1995)
  - Global exploitation of innovations
  - Global research collaboration
  - Global generation of innovation
  - *Global sourcing of innovation (Plechero&Chaminade, 2010)*
- Regions: strong (institutionally thick regions) and marginal (institutionally thin) regions

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2. Research questions

1. Do we observe different patterns of globalization of innovation in different regions across the globe?
2. What is the role of institutional frameworks in explaining those differences?

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3. Method

- All cases in the survey were codified as belonging to regions Tier 1, Tier 2 and Tier 3 (national statistics and local expertise)
  - Tier 1 = Institutionally thick regions, metropolitan and strong specialization in industry (e.g. Bangalore in India for ICT, Sao Paulo in Brazil for Auto)
  - Tier 2 = significant number of firms specialized in that industry, presence of support institutions, not so well networked, not so many MNCs
  - Tier 3 = institutionally thin regions, marginal, not specialized.

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3. Method

Resulting classification:

- Tier 1 (471), Tier 2 (459) and Tier 3 (253)
- Well distributed across industries
- Tier 1: more HQ of MNCs, but also highest proportion of SMEs
- Tier 2: highest proportion of large companies and highest proportion of subsidiaries
- Tier 3: dominated by standalone and SMEs

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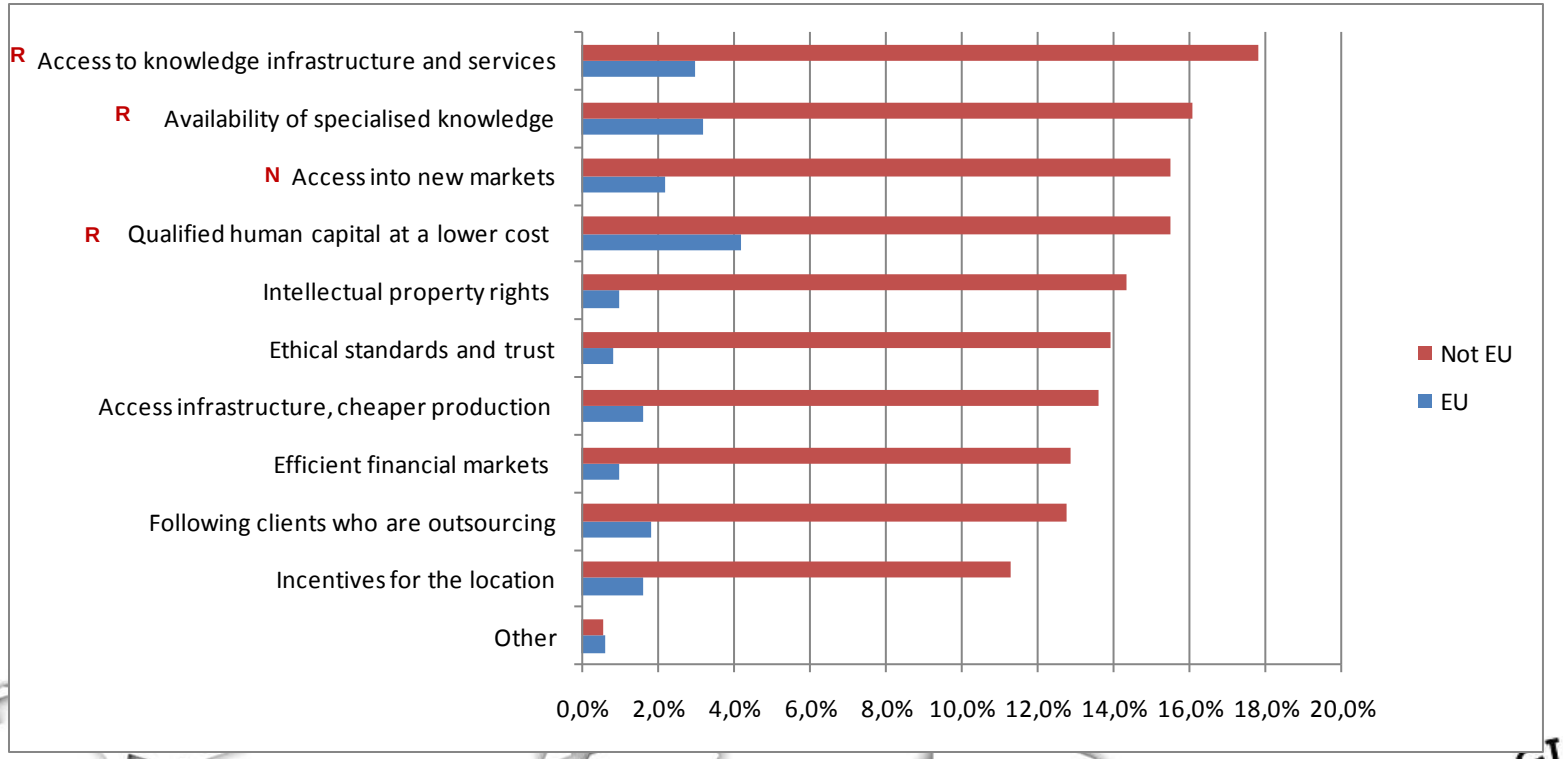
4. Regions and GINs

Overview

Motivation for offshoring innovation abroad- EU and non-EU



% of responses

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4. Regions and GINs

Regions and different forms of GINs

- Regions and Global exploitation of innovations
  - Significant differences between Tiers
  - Although majority of firms target domestic market
  - **Tier 2** shows larger proportion of firms targeting international markets
- Regions and Global sourcing
  - Significant differences between tiers
  - Majority of firms in all 3 tiers produce own technological inputs in-house but
  - Tier 1: higher concentration of firms sourcing from other branches of own MNCs (inter-firm networks)-> Tier 1 higher concentration of HQ

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4. Regions and GINs

Regions and different forms of GINs

- Regions and global collaboration for innovation
  - Significant differences between Tiers
  - Firms in Tier 2 collaborate with more partners (breadth of network) and at all geographical levels (extent of network)!
  - They are more engaged in GINs
  - Only exception, Tier 3 highest collaboration with international clients
- Regions and global generation
  - Results not significant!
  - Tier 1 and 2 show similar proportion of firms offshoring production and innovation

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4. Regions and GINs

Illustrative cases

Beijing – Tier 1 in ICT in China (Lv and Liu, 2011)

- Institutionally thick region: 280 R&D labs of MNCs located in Beijing, 20000 high tech enterprises, 39 Universities …ICT hub in China
- VOICE:
  - high tech company, global leader in speech recognition, targeting domestic market
  - Spin-off of Chinese Academy of Sciences
  - Main partner for innovation: regional/domestic customers -> Chinese IT company and Ministry of defense
  - Main supplier: regional – Chinese Academy of Sciences
  - gIn: not global, highly innovative, limited networks

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4. Regions and GINs

Illustrative cases

Cape Town- Tier 2 region (Lorentzen and Muller, 2010)

- Tier 2: mainly SMEs, 4 universities, emerging ICT cluster, some government initiatives, some associations
- DCM:
  - CT based firm, digital signal processing technologies for radar and sonar applications
  - Main client is firm in Gauteng (domestic link)
  - Two large European defense companies as shareholders
  - Sourcing internationally as local and domestic suppliers do not have quality
  - Only strong domestic linkage is recruitment of staff
  - Gin

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5. Conclusions

- Significant differences across regions with regards to 3 of 4 forms of GINs
  - Tier 1: more intra-firm and domestic: gIn. Strong regions facilitate innovation, but not necessarily the engagement in GINs
  - Tier 2: more networked, broader networks and at all geographical levels -> more prone to participate in GINs -> GIN and GiN.

    Firms in Tier 2 do not find resources regionally, they need to go internationally
  - Tier 3: value chain networks -> narrower Gin

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4. Conclusion

- European regions are not homogeneous
- Different regions engage differently in GINs
- Different regions demand different policy approaches

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5. Conclusions

Implications for EU policy

Challenge 1: Retain knowledge intensive activities

- Tier 1 regions are the most innovative ones…and the ones that engage less in GINs
- EU firms re-locate innovation activities to BICS due to:
  - **Scarcity** of skilled workers!!! – global search for **competences**
  - Closeness to emerging markets
  - Rising **costs** of research
- Stimulate inward and outward **mobility of highly skilled workers**, particularly in specific knowledge areas – attract and retain knowledge: tackling cost and scarcity of skills

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5. Conclusions
Implications for EU policy

Challenge 2: Attract knowledge intensive activities

- BICS firms locate innovation activities in European regions to access knowledge infrastructure and services and specialized knowledge
- Strong regions!
- Firms from Tier 2 regions are more likely to be "mobile"
- Impact still to be researched

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5. Conclusions
Implications for EU policy

Challenge 3: Tap into new pools of knowledge

- Important for regions Tier 2 and Tier 3- more dependent on international linkages
- Improve knowledge capabilities in regions in Europe – increase companies' absorptive capacity (**knowledge organizations beyond R&D**)
- **Global standards**- continue active participation of EU in negotiations of global standards

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THANKS!!!

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