

Smart specialization strategies and diversification opportunities of regions

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structure of lecture

1. smart specialization
2. diversification and relatedness
3. policy implications

1. smart specialization

- smart specialization concept: a policy concept that is still in **search for a theory and empirical evidence** (Foray)
- smart specialization is **not** about more specialization but about breaking out of old specializations (lock-in)
- smart specialization is about developing **new specializations** that have a growth potential due to the local presence of **related capabilities**
- smart specialization is about developing new specializations in regions which are unique (that is, non-ubiquitous) in the world: **more complex**, and which also **upgrade local economy** (Hausmann and Hidalgo 2009)
- smart specialization is about **diversifying** in new directions, and, above all, making **new recombinations**

1. smart specialization

- **entrepreneurial discovery process:** smart specialization is: “... largely about the policy process to select and prioritise fields or areas where a cluster of activities should be developed, and to let entrepreneurs discover the right domains of future specialization” (Foray et al. 2011, p. 7)
- **history** of regions defines available options and probable outcomes of policy action
- **bottom-up policy:** “entrepreneurs ... are in the best position to discover the domains of R&D and innovation in which a region is likely to excel given its existing capabilities and productive assets” (Foray et al. 2011, p. 7)
- but how to identify **capabilities of regions** to develop new specializations?

2. diversification and relatedness

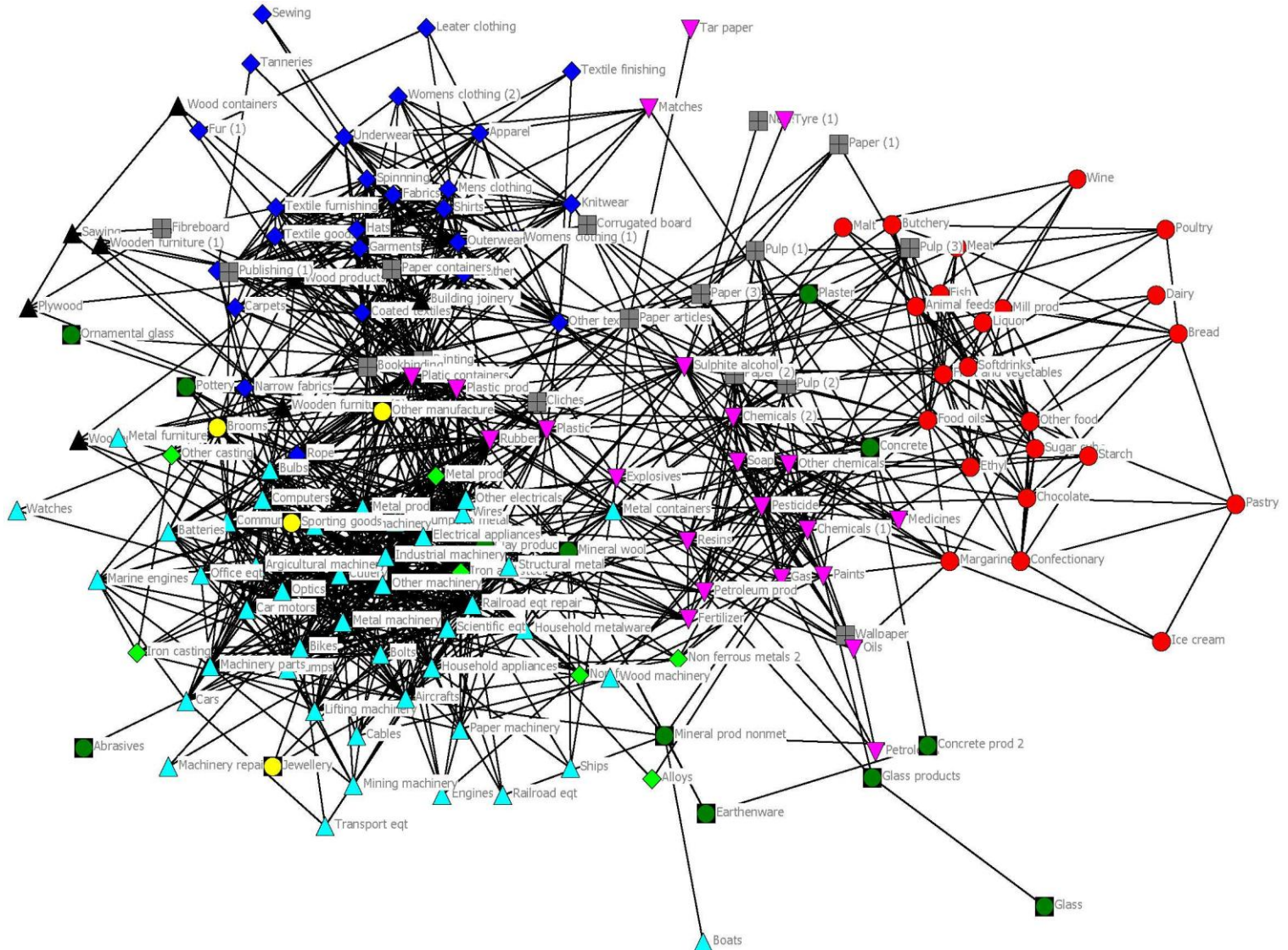
- one regional capability: a range of sectors/technologies in a region that are technologically related
- the higher the number of technologically related industries in a region, the more learning opportunities are locally available, and the more knowledge spillovers might take place
- the higher **related variety**, the more opportunities to make new recombinations (innovations), and the more opportunities to diversify into new and growing industries, and to develop new growth paths in regions
- **regional branching**: new industries branch out of technologically related local industries from which existing capabilities are exploited and recombined in new activities

2. diversification and relatedness

- Neffke, Henning and Boschma (2011): **industrial diversification** in 70 Swedish regions 1969-2002
- **regional capabilities** condition which new industries will be feasible to develop
- concept of **product relatedness**: specifies technological relatedness between products based on the frequency of co-occurrence of products in the product portfolios of plants
- industries that are technologically **related** to pre-existing sectors in a region had a higher probability to enter the region: 2,766 events of an industry entering a region
- this finding on industrial diversification has been replicated in many follow-up studies (Boschma et al. 2013; Essletzbichler 2013; Muneeppeerakul et al. 2013; He and Rigby 2015)



2. diversification and relatedness









2. diversification and relatedness

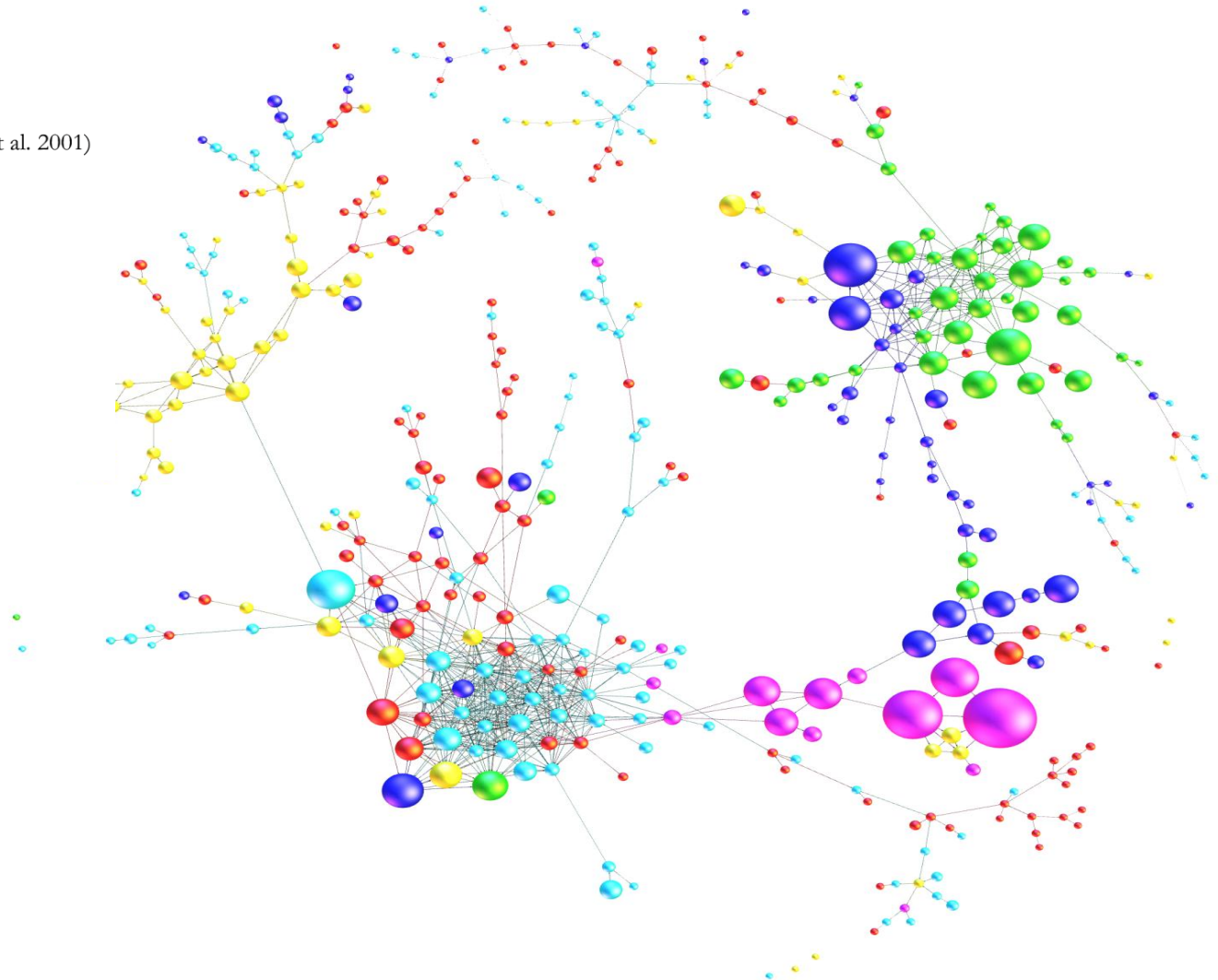
- Rigby (2013): **technological diversification** in US metropolitan areas 1975-2005
- **regional capabilities** condition which new technologies will be feasible to develop
- concept of **technological relatedness**: specifies relatedness between knowledge domains based on the frequency of co-occurrence of technology classes on patent documents
- technologies that are **related** to pre-existing technologies in a region had a higher probability to enter the region
- this finding on technological diversification has been replicated for all technologies (Kogler et al. 2013; Boschma et al. 2015), for specific new technologies (Colombelli et al. 2014; Heimeriks et al. 2014; Boschma et al. 2015; Feldman et al. 2015), including clean technologies (Tanner 2014, 2015; Van den Berge and Weterings 2014)

2. diversification and relatedness

Node size: # of patents

Node color: USPTO classification (Hall et al. 2001)

-  Mechanical
-  Chemical
-  Drugs and Medical
-  Electrical and Electronic
-  Computers and Communications
-  Others



2. diversification and relatedness

- smart specialization is also about **general purpose technologies**: can also provide potential for the development of new specializations
- the link between General Purpose Technologies and regional diversification still needs to be made
- in that context, report that will be presented by Valentina Meliciani is very interesting

2. diversification and relatedness

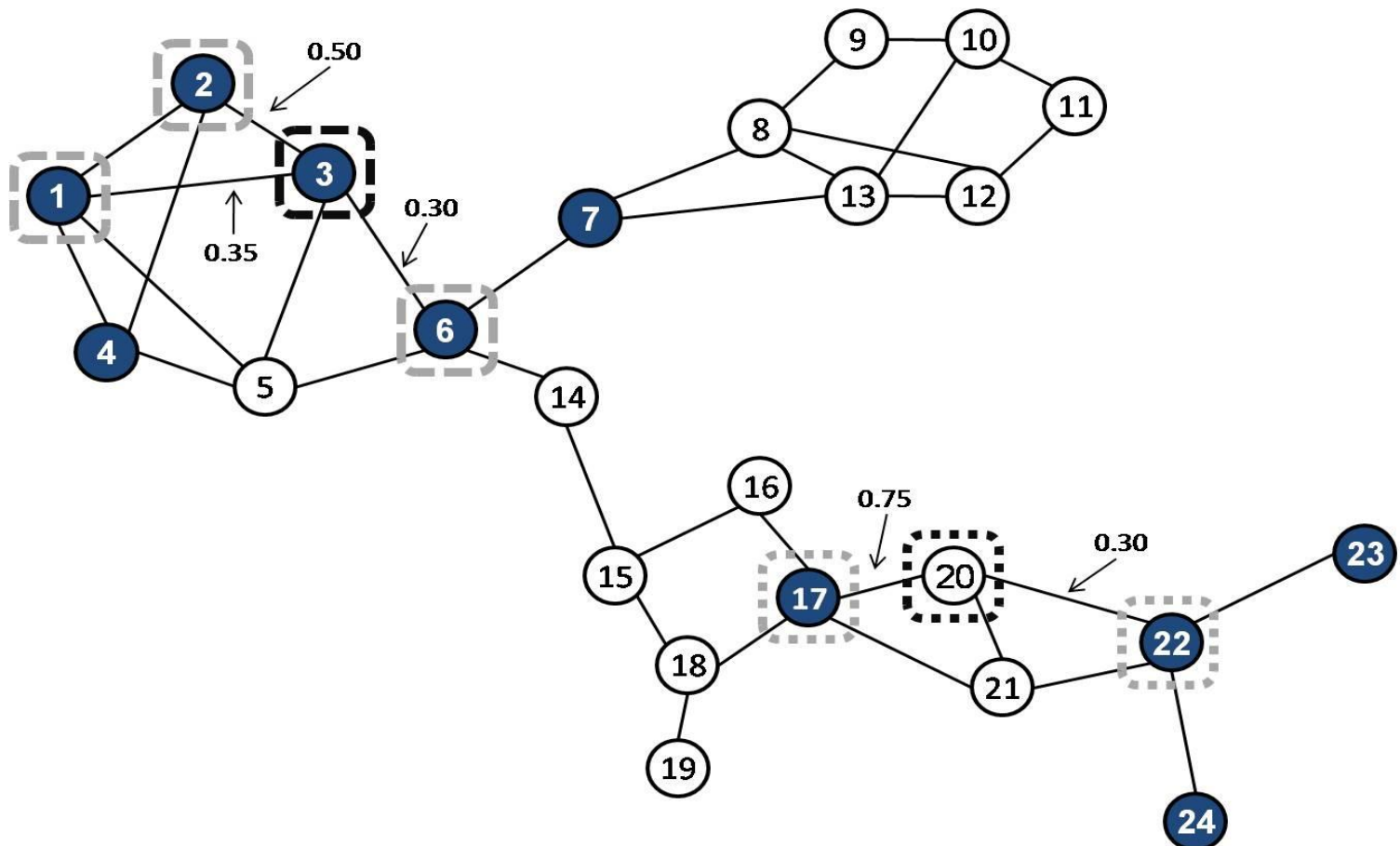
- **institutional context** (labor relations, corporate governance relations, inter-firm collaboration) might also have an impact on the intensity and **direction of regional diversification**: based on Varieties of Capitalism literature (Hall and Soskice)
- Boschma and Capone (2014): whether countries gain comparative advantage in new sectors that are far or close from their current industrial structure depends on the type of **national institutions**
- **liberal market economies** have institutions that favor diversification in more **unrelated** activities: weaker effect of relatedness due to more mobile and switchable assets that can be more easily deployed to alternative uses
- **coordinated market economies** have institutions that favor diversification in more **related** activities: stronger effect of relatedness due to more specific and committed assets
- another way to look at the effect of institutions on regional diversification: distinction between **bonding and bridging social capital** (Putnam et al.)
- we expect binding social capital to favour related diversification, and bridging social capital to encourage unrelated diversification (Boschma et al. 2015)

3. policy implications

- **no ‘one-size-fits-all’ policy**: need for bottom-up, tailor-made policy: local capabilities as point of departure
- tools to **identify regional potentials** to diversify, based on the existing local structure, although we have to be cautious here
- some regions have more capabilities and (related) variety, and thus more opportunities to diversify into new specializations: but can we tell policy makers more than this right now?
- should policy avoid supporting **unrelated recombinations** that come out of the self-discovery process: risk of anything goes?
- some but not all regions have **institutional and governance structures** that facilitate industries to connect, interact and make new recombinations: peripheral regions face institutional challenges

3. policy implications

where to intervene in the regional industrial structure?



3. policy implications

- there is a serious risk that SmartSpec strategies are captured by specific interest groups, powerful lobbies and major local payers: risk of rent-seeking behaviour and lock-in: how to avoid **vested interests** take over the design and implementation of SmartSpec strategies
- this is a major challenge, especially in **peripheral regions** which may suffer from: (1) traditional approach to governance (no experimentation); (2) strong connections with local vested players: newcomers have little to no access; (3) low quality of government; (4) lack of culture of collaboration
- SmartSpec strategy may not be sufficient to develop new specializations in peripheral regions, as its main focus is on identifying and exploiting opportunities, but it does not tackle **structural weaknesses**: challenge is to make SmartSpec policies smart by integrating these structural weaknesses (Rodriguez Pose 2014)



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Thank you for your attention!