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Snapshot: Expressions of Urban – Peri-Urban – Rural Relationships

Knowledge networks in the Helsinki-Uusimaa Region

Helsinki, Finland

1. Brief Description

Contemporary knowledge-based economies increasingly rely on the innovative capacity of businesses. Since urban and regional structures influence the operational preconditions and business activities of firms, land use and the way it is managed is a crucial factor for developing the vitality and attractiveness of regions. It has been shown that economic productivity increases along with a varied industrial structure in regions, the geographic proximity of businesses in the same industry and a high job density (Loikkanen & Susiluoto 2011; Loikkanen 2013). The purpose of the study 'Geographical proximity and employee mobility in the Helsinki Metropolitan Area' (Lahdelma & Laakso 2016) is to look at organisation-level mechanisms underlying these advantages of agglomeration, and this is done by analysing how the urban structure affects the formation of networks between firms and thus economic productivity.

About one quarter of jobs in the Helsinki Metropolitan Area are in the knowledge-intensive industries that were the scope of the study (HSY 2016). These industries account for almost all of the exports of services in the metropolitan area and the majority in Finland as a whole. Through the technology industry, they also account for the majority of the exports of goods in the Helsinki Metropolitan Area. In a longer perspective, the growth of production and jobs has been significantly faster in the knowledge-intensive industries than in all industries on average. These industries also represent, in terms of both ownership and personnel, the most international part of the Finnish economy. Creating favorable conditions for knowledge-intensive industries to locate and function well is thus of great importance for economic development in both the metropolitan area and Finland in general.

2. Questions and/or Challenges

The issue of organisation-level mechanisms underlying agglomeration benefits is approached in the study through methods of network analysis focussing on how geographic proximity of knowledge-intensive businesses in the Helsinki Metropolitan Area influences workforce mobility and how this mobility is in turn linked to business success. In the study, employees'

professional mobility between business establishments¹ is used as an indicator of ties between organisations. The motive for this is that employee mobility between firms is seen in the research literature as an important factor for the development of regional and urban economies and innovation. Research suggests that job switches between businesses promote structural change in the local job market and enhance productivity (Maliranta et al. 2008; Böckerman & Maliranta 2012; Piekkola 2015). Transferring from one employer to another, employees not only move to a new workplace network, but they also create ties between the old network and the new one, thereby facilitating the spread of knowledge and ideas (Granovetter 1995). Although employees changing jobs can also have drawbacks for employers – such as losing a skilled employee to a rival firm – studies maintain that employee mobility promotes learning processes within firms as well as their business success (e.g. Combes & Duranton 2006). The study ‘Geographical proximity and employee mobility in the Helsinki Metropolitan Area’ does not address directly urban – peri-urban – rural relations as it focus strictly on network formation within the urban and densely built metropolitan area around Helsinki. However, by extending the study area, the setting of the research can be applied to study regional relations between urban, peri-urban and rural areas as evidenced by within-region labour flow networks.

3. Main Insights

3.1. Indications of the application of the new concept of 'New Localities'

Torre and Wallet (2014) note that the benefits of proximity are seldom explained convincingly and they are often mistaken for the spatial agglomeration process, to which proximity can contribute to without necessarily being associated to the process. Spatial proximity in itself does not increase business success or enable the interactive creation or exchange of knowledge, but economic agents can be located within close physical proximity of each other without direct connections. For example, in large cities, the accumulation of economic activity may be based on characteristics of the infrastructure supporting concentrated economic activity instead of direct relations between actors. The role of physical proximity is more complex than enabling benefiting from knowledge externalities.

When assessing the role of geographic proximity in this mechanism, it must be considered that organizations can also be close in other ways apart from geography. It is essential to make an analytical distinction between the geographic and organisational dimensions of proximity (Boschma 2005). Geographic proximity is not, *per se*, a sufficient condition for the transfer of knowledge, and active participation in networks of knowledge exchange is necessary. Hiring employees from rival businesses, cooperation partners or other firms can be an important way of accessing such networks (Breschi & Lissoni 2003).

¹ In the study, an organization is defined as a firm’s work establishment with a unique geographic location. A firm may have several work establishments.

3.2. Insights related to the broad area of 'Smart Development'

Although geographic proximity plays its role in parallel and in interaction with organisational forms of proximity, and the labour flow networks and the productivity of businesses are, in turn, connected through complex interrelations, the primary conclusion of the study from viewpoint of land use planning is that these phenomena correlate positively with one another. If proximity between organizations is associated with enhanced employee mobility, the local labour market can be made more functional by planning land use in a way that guarantees better conditions for businesses to be connected to each other.

This issue bears directly on the question of smart development and employment growth in different parts of the region. Knowledge-intensive industries account for nearly all of the export of services of the region and through technology industries for the main part of the area's export of goods. In this sector, production and job growth rates have been in the long term significantly higher than in the rest of the economy. The operating environment of knowledge intensive businesses are therefore of great importance to the region's growth prospects. Firms make their location decisions and form their ties to other firms and actors in according to their own economic criteria, but regional authorities can develop their operating conditions by means of land use planning and the planning of regional structure. Inter-municipal coordination of land use and transit as well as cross-sectoral cooperation of public agents and private builders and developers can be key issues in these development activities.

3.3. Other insights that could be relevant for further work

There is much evidence on the positive influence of both inter-firm networking and of networking between firms and research organizations on innovativeness, intellectual capital formation, competitiveness and growth. Networking leads to the diffusion of knowledge and innovations, which increases the productivity of firms and regions (e.g. Audretsch & Feldman, 2004). However, networking is discussed in the literature often as a general phenomenon, even if network analysis methods also allow for a more detailed study of regional networks (e.g. Ter Wal & Boschma 2009; Maggioni & Uberti 2011). A network analytic approach might give empirical insights also for the network governance idea addressed in the ROBUST project.

4. Data Sources and Indicators

Job switches were examined in the study on the basis of unit-level data from Statistics Finland's employment statistics. The assembled data covers job changes between business establishments in the knowledge-intensive industries in Helsinki Metropolitan Area between 2008 and 2012. During that period, a total of 52,500 job switches occurred in the selected industries. In the study, the following industries in the service and technology sectors are classified as knowledge-intensive:

- research and development

- data processing
- business services
- private and public education
- software industry
- information services
- electronics industry
- other metal industry

In 2012, these industries together accounted for around 18,400 workplaces in the Helsinki Metropolitan Area, with approximately 158,800 employees in total (HSY 2013). The labour flow networks identified in the study included 7,820 business establishments, which, during the period studied, had a total of 136,300 employees on average.

Using Statistics Finland’s codes for establishments and enterprises the unit-level employment data was combined with information on the location and business activities of establishments. The latter were obtained from Statistics Finland’s Business Register and Statistics Finland’s data on firms’ R&D and export activities and the educational level of the employees within the organisations. By merging the findings of the network analysis based on employment statistics with data on firms’ locations and business activities, it was possible to analyse the interrelations of different forms of proximity between workplaces and their position in the network, on one hand, and their network position and their business activities, on the other hand.

Table 1 Data / Indicators for Example 1

Name of Indicator / Data	Source (citation, website link, organization)
Matched employer-employee dataset	Statistics Finland
Location information of establishments and enterprises	Statistics Finland
Register of Enterprises and Establishments	Statistics Finland
Research and development statistics	Statistics Finland
Import and export statistics	Statistics Finland
Establishment/firm specific personnel features	Statistics Finland

5. Critical Appraisal of Data Use

The registers of Statistics Finland are of high quality and Statistics Finland’s unique codes for establishments and enterprises enables the merging of different datasets. Statistics Finland provides encrypted unit-level data, i.e. microdata, for scientific purposes.

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