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"Hybrid urbanization", labor market extensions and potentials for rural development: a research agenda

The trend of urbanization seems irreversible. What happened in the developed world in the 19th and 20th centuries is now happening even faster in the developing world (Farrell 2017). As most people in the developed world already are living in urban areas, the current urbanization there is rather a re-urbanization from small, peripheral urban settlements to larger city-regions (Westlund 2018). Traditionally, urbanization takes place through two different but interrelated processes: spatial densification and spatial expansion.

The focus on the two main forms of urbanization, spatial densification and expansion, has often hidden that there are hybrid forms of urbanization: guest workers that spend most of their time in cities but return to rural areas for certain periods; daily or weekly commuters that work in the city but have their main residence at the countryside, etc. This project is based on the assumption that ICT development increasingly is enabling an additional process of hybrid urbanization, viz. online urbanization through ICT networks, where individuals perform part time of their work on distance (from home or from coworking spaces). During this part of the working time, they participate in meetings, chat with colleagues, etc. online, and during the other part they work at the city office "as usual". During their leisure they are part of the "air" of the local social life.

Marshall's (1920, p. 271) famous expression that "the mysteries of trade (...) are as it were in the air" has inspired many current scholars to theorize on the importance of agglomeration economies (see e.g. Glaeser 2010). Duranton's & Puga's (2004) presentation of *sharing, matching and learning* as the main sources of agglomeration benefits, is one of the most influential. Their presentation has become a main explanation to the growth of big cities in the knowledge economy, in which innovation plays a major role. However, several issues following Duranton's & Puga's explanation have not become the subject of much discussion:

- 1. Agglomeration benefits exist at all levels in the spatial hierarchy, even if they decrease with the size of the agglomeration. Also small places have certain agglomeration benefits.
- 2. Agglomerations might not only refer to spots (i.e. places and regions) but also to networks of places and regions; networks that are held together not only by commuting but also by ICT solutions. Access to the agglomeration benefits of networks might be more important than being located in a spot of agglomeration without access to the networks.

3. Networks of agglomerations improve sharing, matching and learning as long as the benefits exceed the costs of the networks. Smaller places belonging to such networks will to a certain extent be able to "share" or "borrow" agglomeration benefits from the big agglomerations – *if the networking agents in these places not only interact with the main urban hub but also with each other and other local actors*.

This interpretation of Duranton & Puga might contribute to explaining why the biggest centers do not absorb everything. Besides the usual market equilibrium forces, agglomeration economies operate in places at different levels – and they can be strengthened at lower levels in the urban hierarchy by policy measures, like e.g. establishment of regional university colleges and other measures that increase these places' integration with the national networks and thereby increases the levels of sharing, matching and learning. In addition, rural areas may provide alternatives to the agglomeration logic "through less stressful environments, palpable social support, collaborative networks, and innovative twists on urban business models" (Hunt et al., in press: 9). Even peripheral and remote regions can develop by attracting mobile work forces (Gottlieb, 1994) and hosting "firms that are highly innovative and competitive" Dubois (2016:1)

However, in order for teleworking to positively influence rural development as much as possible, a number of conditions must be fulfilled:

- High-quality ICT infrastructure, and functioning transportation infrastructure and public transportation must be available at the networked workplace.
- Part-time teleworking should not only be accepted, but also supported by the employer. The employer needs a developed strategy for teleworking.
- The place of living must be attractive for the often highly educated work force in the hybrid agglomerative networks. Natural and cultural amenities as well as commercial leisure offers must correspond with the actors' living preferences and vice versa.
- The teleworkers must be "double embedded" in two different environments, both their professional urban, social working environment and their local, social living environment. In the best case, the teleworkers should form a critical mass that can function as mutual support and community. If these double embeddedness/social capital conditions are fulfilled, the actors might function as agents of spread of knowledge and information, and possible also as drivers of new initiatives, which would facilitate local innovation and entrepreneurship.

The four conditions are affected by different institutions and actors of which public policies at different levels play an important role. Transportation and communication infrastructure is mainly a national responsibility, but ICT in rural areas are often provided by local membership associations. Employers' acceptance and strategies for teleworking are decisive but so are also the employees' handling of the process. The attractiveness of places is to a certain extent a result of local policy, but also of the activities of local economic and social entrepreneurs. Regarding embedding of teleworkers in local, learning and innovative environments, local governments, together with the teleworkers themselves, are probably the main actors that can take action for initiating such processes.

This paper discusses and sets up a research agenda for further investigations of these issues.