

RETHINKING CLUSTERS

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Rethinking clusters in the sense of innovation, inclusion and green growth: some preliminary remarks

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1. Introduction

This text intends to make a contribution to the industrial cluster approach focusing on the role of inclusion in processes of innovation and, consequently, in economic development. Thus, although in recent years there has been a critical view of the significance of the cluster perspective in the global economy, more specifically, of the importance of proximity (Friedman, 2007; Cairncross, 2001; O'Brien and Keith, 2009; Quah, 1999), many researchers emphasize the importance of location, which is demonstrating the persistence of regional economic specificities (Storper, 1997; Scott and Storper, 2003; Rodriguez-Pose and Crescenzi, 2008; Fujita et al., 2002). These geographic concentrations of economic activities have as its main advantage the possibility of economic savings through the reductions in the costs of production due to proximity among the agents (firms, customers, institutions, etc.), what is known as external economies of scale (Aoyama et al., 2011).

Another aspect to be considered is one of the most important concerns of the disciplines related to development (regional science, economic geography and urban economics): the geography of uneven economic development (Storper, 2013). This uneven development occurs in different scales – inter-regions and intra-region – and has a common characteristic of the poverty (low-wage, low-skill and unemployment) into which it is based. At the same time, this situation could bring interesting possibilities of a kind of emerging entrepreneurship, what is showed by some authors (Glaeser, 2011; Saunders, 2010), relating creative ('poor') people and innovative activities.

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Additionally, we are now into an important technological change based on a ‘green’ growth (Schot and Kanger, 2016; Mazzucato and Perez, 2014) that can cope with this emerging entrepreneurship.

In this brief text we seek to carry out three goals. The first is to show next technological revolution and its relation with environmental (‘green’) dimension. The second is to establish the relationships between clusters, inclusion and innovation. And the third is to propose some remarks for innovation policies.

2. Technological change: smart and green

For some researchers, we are into a ‘technological revolution’, or change, not only technical but also economic and societal, that is, new products, new jobs and new lifestyles (see Perez, 2004). For others, more profound shifts will happen in the same way, which is known as ‘deep transition’ (see Schot and Kanger, 2016). The former follows the five revolutions, since the first ‘industrial revolution’ till last one was the Age of Informatics and Telecommunications, which is driven by a new and dynamic industries and infrastructures, mainly, by finances, fostering a new techno-economic paradigm (Perez, 2004). The latter proposes a model more radical than the first that combines the first five revolutions in one (first ‘deep transition’) and the next, which unites information and communication technologies and green growth (Schot and Kanger, 2016). And both kinds of change present a framework based on profound lifestyles shifts, which must occur previously.

The last huge surge of technical development had the ‘American Way of Life’ as baseline; a lifestyle relied on cars, oil, electricity and mass production/consumption. The next surge should be ‘green’, for example, such as renewable energies, waste management, environmental technologies and transports (Mazzucato and Perez, 2014; Perez and Leach, 2018). Some researchers at present say about a smart green ‘European Way of Life’ (Perez and Leach, 2018), because of the socio-political character of this continent, which can be fostered by interplay of government policies and markets.

In the age of climate change, this ecological turn is increasingly perceived to matter to the regional dimension, in both normative and analytical terms. Thus, the sustainable development will be central in the regional development agenda, creating new opportunities for ‘eco-innovation’ (a new concept, innovations in ecological

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contexts) and, consequently, for ‘systems of eco-innovation’ (another new concept), which is related to clusters (Healy and Morgan, K., 2009).

In this context, all regions face new opportunities and threats, which are especially important to less favoured regions (Healy and Morgan, K., 2009). In the same way a technological change brings some relevant problems for less favoured people in general, like unemployment due to necessity of new skills for new kinds of production (Mazzucato and Perez, 2014). Because of this problematic situation we need to highlight the key role played by inclusion. In sum, more attention should be considered for inclusiveness in industrial clusters.

3. Relevance of inclusive innovation in clusters

The approach of agglomerations of specialized industries is not new. In effect, the economist Alfred Marshall had already been investigated clusters at the end of the nineteenth century, as is well known. After Marshall’s works, clusters have been studied through several perspectives, all concerned with innovation processes: innovative milieu, industrial district, regional innovation systems, new industrial spaces, local production systems, learning region, and Porter’s clusters of innovation (see Moulaert and Sekia, 2003, for an overview).

A further key topic is the extent to which clusters are preoccupied with inclusiveness in the related development. Some researchers have emphasized the relevance of this issue for innovation studies and experiences and have used a new concept: inclusive innovation (Heeks et al., 2013; Heeks et al., 2014; Cozzens and Sutz, 2012, Tartaruga, 2016). And inclusive innovation is defined as:

In simple terms, this is the means by which new goods and services are developed for and/or by those who have been excluded from the development mainstream; particularly the billions living on lowest incomes. (Heeks et al., 2013, p. 1)

Therefore, there are two aspects that characterize inclusive innovation by the direction of interaction between people and innovation (Cozzens and Sutz, 2012). First, ‘inclusivity of output’ means that the goods and services (innovations) are developed for the needs of the poor community. Second, ‘inclusivity of process’ can be explained by the implication of poor people in the emergence of innovation (design and development), that is, they participate in the creation of innovation. Not only because its

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importance in terms of social justice, but also the current historic moment related to the next technological revolution/transition, already mentioned, increasing attention is given to inclusive innovation by different institutions (Heeks et al., 2013; Heeks et al., 2014): international organizations (World Bank, OECD); national governments (China, India, Thailand); multinationals (Unilever, Tata); and academic institutions from United States, South Africa, UK, etc.

However, there seems to be little debate in the research agenda about the relationship between cluster, inclusion and innovation. This situation is extremely costly in terms of lost innovative and relational assets. For instance, Glaeser (2011) and Saunders (2010) found several worldwide experiences that we call emerging entrepreneurship in cities and rural areas, which presents many poor people's processes of innovation with an important social, economic and cognitive strength. On the one hand, cities like London, Paris, Los Angeles (in developed countries), or Mumbai, Rio de Janeiro and Nairobi (in less developed countries) are examples of urban spaces –they are frequently metropolises –, which can show innovations (goods and services). And these examples can be found in modern business and/or technological centres, but also in unlikely places like slums (*bidonvilles*, *chabolas*, *favelas*, etc.) with its emergent entrepreneurs on gastronomy, fashion wear, goods textiles, furniture, etc.; or agro-food in the countryside. A key factor for urban emergent entrepreneurship is the impact of migration – countryside-city and international – that allegedly lead to new knowledge from different places.

4. Conclusions

Our aim in this article has been to establish the initial elements to discuss the relationship between clusters, inclusion and innovation in the sense that it shows opportunities for social, economic and technical development. Additionally, we are facing a crucial moment of change – a technological revolution and/or a deep transition –, which will define the next techno-economic paradigm and should be influenced by a lifestyle change and a (smart) government support. Therefore, one interesting industrial policy direction needs to follow processes of innovation, which should be smart (innovative), inclusive and green (Mazzucato and Perez, 2014).

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Likewise, these issues are important for clusters perspective like possibilities for regional development. As we have seen, in the local/regional scales are these opportunities when they involve inclusion and, consequently, use social interaction to produce new knowledge, in other words, do it by processes of inclusive innovation in the regions. Our task is to improve these components (cluster, inclusion, innovation) to construct a defensible framework for innovation policies.

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