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Guest Editorial

Special Issue "The effects of clusters on innovation, entrepreneurship and global value chains"

Introduction

This Special Issue (SI) moves from the successful international workshop "Rethinking Clusters" held at the University of Padova, Italy, in May 2019. With the aim of extending the plethora of participants involved in cluster-related issues, we collected six original contributions that, combining different approaches and methodologies, try to answer the following research question: what are the effects of firms' clustering on innovation, entrepreneurship and global value chains? In providing a possible answer, the authors offer new insights about the effects of industrial clusters on the competitiveness and evolution of regions, nations and single firms (Ketels, 2013; Belussi and Hervàs-Oliver, 2016). In fact, the analysis of cluster-related phenomena requires an interdisciplinary approach that spans across economics, management, international business, and economic geography (Lazzeretti *et al.,* 2013).

It is worth noting that clusters and competitiveness are closely related. The concept of cluster competitiveness is not merely a matter of costs (or static) efficiency, but also of dynamic efficiency and capability to (re)produce new ideas, (ri)generate business activities and activate international linkages within global value chains (Porter, 2000; Belussi and Sedita, 2012; Bathelt *et al.*, 2004). Clusters can be conceived not only as specialized industrial districts (OECD, 2009; Claver-Cortez *et al.*, 2019), but also as broader territorial entities where different typologies of actors (small firms, multinationals, public organizations, institutions, universities, banks, cultural initiatives and traits) interact and compete.

Among the cluster-related topics discussed at the workshop, the SI focuses on innovation (OECD, 2009; Hervás-Oliver *et al.*, 2017; Asheim and Coenen, 2005), entrepreneurship (Glaeser *et al.*, 2010; Antonietti and Gambarotto, 2020), and firms' internationalization (Chiarvesio *et al.,* 2010). Some lines about the core topics follow.

Cluster and innovation

Innovation in clusters has been deeply studied. Firms located in clusters seem to be more likely to innovate because they benefit of the effects of location externalities, particularly of technological knowledge externalities or spillovers (Baptista and Swann, 1998). Furthermore, in cluster, innovation is fostered by reciprocity and trust, since this latter is a catalyst of knowledge and information exchanges (Porter, 1998). Also, cluster firms' physical proximity reduces the transaction costs to access to human capital, specialized suppliers and knowledge spillover (Tallman *et al.*, 2004). Therefore, the cluster offers potential partners and sources of knowledge to undertake innovative processes. Consistently, the creation of networks turns to be greatly effective in spurring innovation processes (Powell *et al.*, 1996).

However, if clustering alone does not necessarily imply benefits for innovation (Beaudry and Breschi, 2003), some scholars analyze the decline of innovative performance of cluster firms. Over time, the vibrant environment may evolve into a non-hot-spot because of the convergence of cluster firms towards a homogeneous macro-culture that suppresses innovation (Pouder and John, 1996).

The SI addresses the issue of the decrease in innovation processes effectiveness. Under certain conditions – we argue – relational costs become overwhelming, creative "buzz" become unproductive confusion. Similar risks may partially explain the results of the SI contribution that offers robust empirical insights into open innovation processes (Capone and Innocenti, 2020, this issue).

Moreover, knowledge flows analysis allows to discriminate among cluster firms. Giuliani (2011) explains how some firms, "technological gatekeepers", are more externally exposed and technologically oriented than the others. They contrast the risk of lock-in, feeding the knowledge network. The Basque Machine Tool Cluster study (Zubiaurre *et al.*, this issue) will outline the emergence of different roles as well.

Clusters and entrepreneurship

There is no complete consensus about the relationship between entrepreneurship and clusters. How are new firms affected by locating in a cluster? Some researches show a positive relationship between new firms' survival or growth and being in a cluster (among others, Rosenthal and Strange, 2005; Gilbert *et al.*, 2008; Antonietti and Gambarotto, 2020). Conversely, some studies suggest that locating in a cluster affects new firms in a negative manner, or at least not always in a positive one, according to some cluster characteristics (Sorenson and Audia, 2000; Folta *et al.*, 2006).

Given that clusters are particularly dense in relationships (e.g., Zhu *et al.*, 2019), it is highly relevant to investigate whether a juridical formalization of the relationships between firms influences network members' growth. Exporters and importers relationships have already been studied under the formalization perspective (Aulakh and Gençtürk, 2008). The SI offers an original study about network formalization in a cluster context (Milanesi *et al.*, 2020, this issue) as well as a quasi-urbanistic picture of how deindustrialization, space, entrepreneurship can be interweaved (Bonello *et al.*, 2020, this issue).

Clusters and firm internationalization

Although Friedman (2005) suggests that globalization "flattened" the world, international transactions, cross-border investment and trade seem to become more geographically localized (Iammarino and McCann, 2013). The unequal distribution of knowledge-related resources across space, together with the costs of controlling and coordinating activities across-borders locations (spatial transaction costs), contribute to make the world "spikier" (McCann, 2008). In fact, locating choices of MNEs are influenced by clusters' and regions' characteristics of knowledge, innovation and transaction costs: "[G]lobal networks and local agglomeration act as complementary forces strengthening each other in determining the 'spikes' of the world economy" (Iammarino and McCann, 2013, p. 318). Even if "[w]e are, without doubt, in an age of outsourcing, offshoring, alliances, partnerships, networks, core capabilities and competencies, and clusters" (Iammarino and McCann,

2013, p. 12), MNEs continue to exist and to capture the attentions of several invisible colleges, as an interesting contribution of the SI suggests (Hervàs-Oliver *et al.*, 2020, this issue).

Therefore, in a globalized scenario, industrial clusters turn out to be both relevant and vulnerable. This is due to the global level of competition and to the international division of labor (Giuliani, 2011). Not only opportunities (Giuliani *et al.*, 2005; Elola *et al.*, 2013) but also threats derive from internationalization and participation into global value chains (eg. Gereffi, 1999; Humphrey and Schmitz, 2002; Gereffi *et al.*, 2005). Burlina and Di Maria (2020, this issue) analyze these issues adopting an innovative approach that leads to interesting results.

Hoping that the reader will find the papers interesting and stimulating for new inquiries, we thank all the editorial team, the authors and the anonymous reviewers. We particularly appreciate the extra-efforts that the current pandemic unexpectedly may have required.

The articles of the special issue

The first paper, "Open innovation and network dynamics. An analysis of openness of co-patenting collaborations in Florence, Italy", by Capone and Innocenti, concerns the relational dynamics of innovation. More specifically, the authors aim to investigate the impact of the openness of innovation processes on organizations' innovation capacity, considering organizations in restricted geographical contexts. Focusing on the metropolitan area of Florence, Italy, the authors create an original database that includes 3.189 patents in the period 2004-2016. Applying social network analysis tools and a negative binomial regression, they analyze how some characteristics of the openness of the organization's innovation process influence the firm's patent productivity. More specifically, they consider the external search breadth (i.e., the number of external partners involved) and the depth of collaboration with the external partners. The results show that both the breadth and the depth of the openness have positive influence on the innovative performance. However, after a tipping point, the patent productivity tends to decrease: open innovation is not costless.

The previous paper stresses the importance of network for innovating; the next one deals with the intriguing issue of whether the formalization of a network influences the qualitative growth of its members. "Exploring SMEs' qualitative growth and networking through formalization" by Milanesi, Guercini and Tunisini, is focused on the effects of the formalization of business relationships on SMEs' growth. The authors aim to understand if using contractual forms to formalize a network of business relationships triggers small and medium firms' size, relationship and capability growth. The study is based on two cases of networks of SMEs within the Florentine leather industrial district, in Italy: a horizontal application of the "network contract" juridical form and a vertical one. The study shows that the effect of network contracts on firms' growth is positive. Nonetheless, the improvements (among others, higher relational capabilities, cost-effectiveness) are obtained even thanks to entrepreneurs' and managers' individual traits and to the industrial district specificities, i.e. the context in which firms are embedded. Interestingly, the authors suggest that SMEs have a personal imprint and their growth could be weakened by the requests for autonomy by individualist entrepreneurs ("liability of individualism"). We argue that clusters may represent a fertile field where this form of "liability" can be effectively smoothed.

New stimuli for entrepreneurs can arise from formal contracts, but also by sizable deindustrialization processes. This apparently paradoxical phenomenon is treated in the third paper. **"**Clusters in

formation in a deindustrialized area: urban regeneration and structural change in Porto Marghera (Venice)", by Bonello, Faraone, Gambarotto, Nicoletto and Pedrini, explains how deindustrialization may turn into a possible creative destruction process. The research site is Porto Marghera, the inland industrial harbor of Venice. Begun in the 1980s, the deindustrialization process of the area has fostered tertiary-based intra-metropolitan clustering. The paper aims at understanding the specific sources of location advantages in deindustrialized and fringe areas. Combining different disciplinary approaches, the authors conduct a spatial examination of the agglomeration paths and analyze interviews with local entrepreneurs. The results show that Marghera experienced a sizable transition from the manufacturing to the tertiary sector, especially towards the KIBS industries. The emergence of the creative cluster and the KIBS one (mainly computer programming) was stimulated by a unique combination of factors: availability of work places at affordable price, proximity to primary logistics and to Venice city center, absence of a manufacturing-oriented rhetoric.

Deindustrialization has consequences on global value chains, along which activities and resources can be reallocated. The fourth paper offers a valuable and complete introduction to the empirical papers about internationalization and clusters. In the fourth paper, entitled "Approaching multinationals in clusters from different perspectives: an integration of literatures", Hervás-Oliver, Belussi, Caloffi, Sedita and Gonzalez-Alcaide focus on multinationals in clusters (districts, regions, and agglomerations), underlining that this topic is addressed by different strands of literature. Regional studies and international business and management literature offer different but related perspective on the topic. With the aim of facilitating a richer dialogue between these literature strands, the authors provide clear understanding and conceptualization of the current knowledge about the topic. A longitudinal bibliometric analysis (1992-2018) supports a valuable qualitative critical review. This shows that each literature exhibits subconversations about the topic, which is still divided into quite isolated silos of knowledge. However, some commonalities do exist and foster cross-fertilization.

The next two papers conclude the issue and directly investigate, at different level of analysis, the co-evolution of the Italian and Basque manufacturing clusters and global value chains.

The fifth paper, "Manufacturing and value-added dynamics in global value chains: The case of Italy", by Burlina and Di Maria, concerns the contributions to value produced by different countries along global value chains. Devoting specific attention to production activities and Italy, the study explores the transformations in the geography of global value chains. The authors investigate whether Italian industries' specializations (fashion, furniture, automotive and machinery), traditionally organized into clusters, remain a source of competitive advantage within global value chains. To test that, the authors compute the Revealed Comparative Advantage (RCA) index, employing a database recently released by the OECD within the TiVA initiative. Moreover, the authors conduct different original analyses on the data to understand how gross import–export and imported–exported value added evolved over time. Their analyses confirm that the geography of value added is changing over time. Namely, countries close to Italy are growing in importance with a different pace according to each global value chain.

The sixth paper, "The integration of the Basque Machine Tool Cluster into GVCs", by Zubiaurre, Sisti and Retegi, concerns the relationship between cluster firms and Global Value Chains. The authors aim to analyze how the machine tool cluster in the Basque country (Spain) coevolved together with the global value chains it was integrated into in the 1990s. Adopting both a qualitative and a quantitative approach, the authors highlight that the cluster significantly evolved: although still committed to the territory, some leaders – "homegrown multinationals" – emerged. A snapshot of the cluster appears dichotomic: on the one side, participants in GVCs are experiencing a new maturity phase, on the other one, decline afflicts firms that pursue only an export-oriented strategy. Currently, the participation in

GVCs is a crucial way to "import" knowledge from global sources, link the cluster to strategic clients or partners, and to stimulate business model innovation.

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