



**The effects of clusters on innovation, entrepreneurship and  
global value chains**

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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; Hervàs-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).

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3 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  
4 vibrant environment may evolve into a non-hot-spot because of the convergence of cluster firms  
5 towards a homogeneous macro-culture that suppresses innovation (Pouder and John, 1996).  
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8 The SI addresses the issue of the decrease in innovation processes effectiveness. Under certain  
9 conditions – we argue – relational costs become overwhelming, creative “buzz” become unproductive  
10 confusion. Similar risks may partially explain the results of the SI contribution that offers robust  
11 empirical insights into open innovation processes (Capone and Innocenti, 2020, this issue).  
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14 Moreover, knowledge flows analysis allows to discriminate among cluster firms. Giuliani (2011)  
15 explains how some firms, “technological gatekeepers”, are more externally exposed and  
16 technologically oriented than the others. They contrast the risk of lock-in, feeding the knowledge  
17 network. The Basque Machine Tool Cluster study (Zubiaurre *et al.*, this issue) will outline the  
18 emergence of different roles as well.  
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### 23 *Clusters and entrepreneurship*

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26 There is no complete consensus about the relationship between entrepreneurship and clusters. How  
27 are new firms affected by locating in a cluster? Some researches show a positive relationship between  
28 new firms’ survival or growth and being in a cluster (among others, Rosenthal and Strange, 2005;  
29 Gilbert *et al.*, 2008; Antonietti and Gambarotto, 2020). Conversely, some studies suggest that locating  
30 in a cluster affects new firms in a negative manner, or at least not always in a positive one, according  
31 to some cluster characteristics (Sorenson and Audia, 2000; Folta *et al.*, 2006).  
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34 Given that clusters are particularly dense in relationships (e.g., Zhu *et al.*, 2019), it is highly relevant to  
35 investigate whether a juridical formalization of the relationships between firms influences network  
36 members’ growth. Exporters and importers relationships have already been studied under the  
37 formalization perspective (Aulakh and Gençtürk, 2008). The SI offers an original study about network  
38 formalization in a cluster context (Milanesi *et al.*, 2020, this issue) as well as a quasi-urbanistic picture  
39 of how deindustrialization, space, entrepreneurship can be interweaved (Bonello *et al.*, 2020, this  
40 issue).  
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### 45 *Clusters and firm internationalization*

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48 Although Friedman (2005) suggests that globalization “flattened” the world, international  
49 transactions, cross-border investment and trade seem to become more geographically localized  
50 (Iammarino and McCann, 2013). The unequal distribution of knowledge-related resources across  
51 space, together with the costs of controlling and coordinating activities across-borders locations  
52 (spatial transaction costs), contribute to make the world “spikier” (McCann, 2008). In fact, locating  
53 choices of MNEs are influenced by clusters’ and regions’ characteristics of knowledge, innovation and  
54 transaction costs: “[G]lobal networks and local agglomeration act as complementary forces  
55 strengthening each other in determining the ‘spikes’ of the world economy” (Iammarino and McCann,  
56 2013, p. 318). Even if “[w]e are, without doubt, in an age of outsourcing, offshoring, alliances,  
57 partnerships, networks, core capabilities and competencies, and clusters” (Iammarino and McCann,  
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3 2013, p. 12), MNEs continue to exist and to capture the attentions of several invisible colleges, as an  
4 interesting contribution of the SI suggests (Hervàs-Oliver *et al.*, 2020, this issue).

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

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

### 21 22 **The articles of the special issue**

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

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

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58 New stimuli for entrepreneurs can arise from formal contracts, but also by sizable deindustrialization  
59 processes. This apparently paradoxical phenomenon is treated in the third paper. "Clusters in  
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3 formation in a deindustrialized area: urban regeneration and structural change in Porto Marghera  
4 (Venice)", by Bonello, Faraone, Gambarotto, Nicoletto and Pedrini, explains how deindustrialization  
5 may turn into a possible creative destruction process. The research site is Porto Marghera, the inland  
6 industrial harbor of Venice. Begun in the 1980s, the deindustrialization process of the area has  
7 fostered tertiary-based intra-metropolitan clustering. The paper aims at understanding the specific  
8 sources of location advantages in deindustrialized and fringe areas. Combining different disciplinary  
9 approaches, the authors conduct a spatial examination of the agglomeration paths and analyze  
10 interviews with local entrepreneurs. The results show that Marghera experienced a sizable transition  
11 from the manufacturing to the tertiary sector, especially towards the KIBS industries. The emergence  
12 of the creative cluster and the KIBS one (mainly computer programming) was stimulated by a unique  
13 combination of factors: availability of work places at affordable price, proximity to primary logistics  
14 and to Venice city center, absence of a manufacturing-oriented rhetoric.

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

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

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

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51 The sixth paper, "The integration of the Basque Machine Tool Cluster into GVCs", by Zubiaurre, Sisti  
52 and Retegi, concerns the relationship between cluster firms and Global Value Chains. The authors aim  
53 to analyze how the machine tool cluster in the Basque country (Spain) coevolved together with the  
54 global value chains it was integrated into in the 1990s. Adopting both a qualitative and a quantitative  
55 approach, the authors highlight that the cluster significantly evolved: although still committed to the  
56 territory, some leaders – "homegrown multinationals" – emerged. A snapshot of the cluster appears  
57 dichotomic: on the one side, participants in GVCs are experiencing a new maturity phase, on the other  
58 one, decline afflicts firms that pursue only an export-oriented strategy. Currently, the participation in  
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3 GVCs is a crucial way to “import” knowledge from global sources, link the cluster to strategic clients  
4 or partners, and to stimulate business model innovation.  
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