Guest editorial: Industrial Districts: towards the future

1. Introduction

The notion of Industrial District (ID) was introduced by Alfred Marshall in the Principles of Economics (1890) and reintroduced a hundred years later by Giacomo Becattini (1979) in the main body of scientific literature. Since the 1990s, the notion of the Marshallian Industrial District (MID) has diffused rapidly in the scientific economic literature in English (Figure 1).

What is extraordinary, however, is the variety and dynamism of the topics that the literature of the ID has produced over the past 40 years. When Giacomo Becattini published the seminal article "Dal settore industriale al distretto industriale. Alcune considerazioni sull'unità d'indagine dell'economia industriale" (the English version can be found in Becattini, 2004), in 1979, articles referring to ID were very scarce and came mainly from English economic historians analyzing IDs. From that moment on, the ID acquired its own entity, and a wide variety of topics on IDs began to be discussed; in the 1980s, typically those such as understanding sectors vs districts, local organization of production, the role of small firms, entrepreneurship, labor markets, technical change, among many more (Figure 1 [1]).

The year 1990 represents a milestone for the reintroduction of the ID with the publication by the *International Labor Organization* (ILO) of "Industrial districts and interfirm co-operation in Italy" (by Pyke *et al.*, 1990). During the 1990s, works on IDs in the English language began to grow rapidly. The topics of the most cited works on IDs cover the very notion of the ID and the theory of the district, pathways to industrialization, flexibility, decentralized industrial creativity, economic policy, regeneration, decline, trust, district-effect, cooperation and competition, socio-identity regulation, development, economic changes, innovation, leading and anchor firms, specialization, organizational inertia and district versus milieu *innovateur*.

During years 2000–2008, while papers on IDs grew rapidly, new social topics were consolidated: loyalty, dynamics of the community, social networks; economic: evolution of capitalism, exports, structure and behavior of the firms, differences between firms in the districts, *districtualization* processes, uncertainty, innovation, types of advantages, knowledge networks, tourism, and energy and emissions; also local institutions and governance. The year 2009 marks another milestone in the literature on the Marshallian ID with the publication of the *Handbook of Industrial Districts* (by Becattini *et al.*, 2009). The Handbook summarizes the state of the art on IDs from Marshall's Principles of Economics (Marshall, 1890) to the first decade of the 21st century (Sforzi, 2015). It would be a few years later, in 2012, that the number of new works written in English would reach its maximum, with 718 citations. After 2012, there was a slight decline in the number of articles each year in English, especially after 2020 (see Figure 1).

Since 2009, and during the Great Recession, the conversation introduces, as relevant topics in the most cited works, references to globalization, outsourcing, partner location, Chinese immigration in Prato and others. Starting during the 2019–2020 period, the notion of ID is reinvigorated through many different emerging sublines of inquiry that constitute

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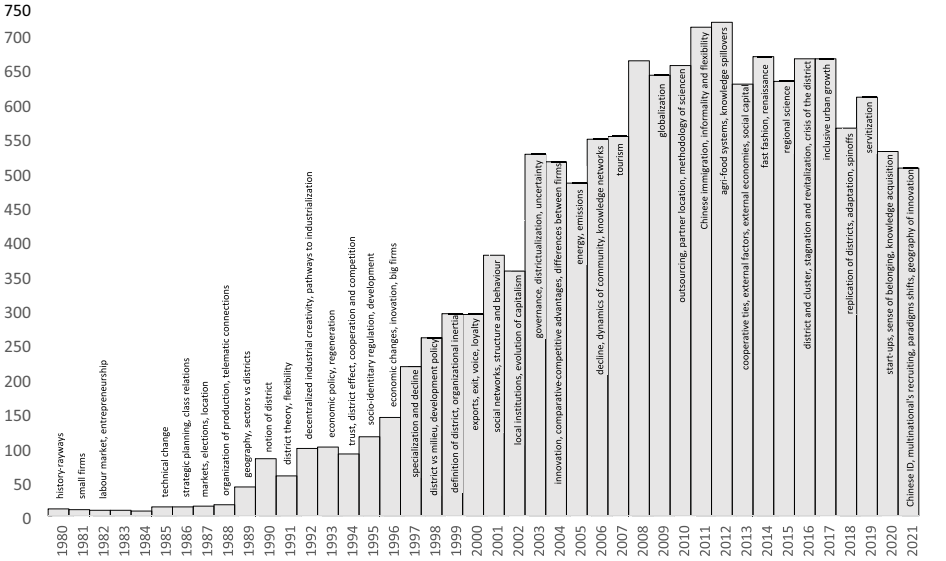

Figure 1.
Number of references to MIDs in English in Google Scholar by year and new topics in the three most cited articles by year*

Note: *Keywords: Industrial District AND ("Marshall" OR "Becattini" OR "Brusco" OR "Trigilia")

promising new research avenues, such as *digitization* (Hervás-Oliver, 2021; Bettiol *et al.*, 2021; De Propris and Bailey, 2020), *place-based innovation policies* (Hervas-Oliver *et al.*, 2019; Boix-Domenech *et al.*, 2019; Bellandi *et al.*, 2021a), *multinationals* (Belussi, 2018; Hervás-Oliver *et al.*, 2021) and scholars start to pay more attention to *sustainability* (Chaminade and Randelli, 2020).

Since 2021, the debate has discussed new phenomena, such as agri-food systems and fast fashion. Overall, other topics of the most cited works are informality and flexibility, knowledge spillovers, external economies, spatial networking, social capital, sense of belonging, cooperative ties, stagnation and revitalization, crisis of the district, replication of districts, clusters vs districts, adaptation, spinoffs, start-ups, knowledge acquisition, geography of innovation, inclusive urban growth, Industry 4.0, *servitization* and circular economy, among many others. In parallel to these new research avenues, literature also re-elaborates and advances the most traditional topics, such as *learning* (Bellandi *et al.*, 2021b), or *networks* (Belso-Martínez *et al.*, 2020; Ruiz-Ortega *et al.*, 2020), among others.

The notion is also boosted by a series of new annual meetings named *Rethinking Clusters* [2], held initially at Firenze, Padova and Valencia and which moves to Japan in 2022, where the concept is at the forefront of discussions, reflections and a lively academic conversation. Thus, the conversation on IDs is continuously strengthened by incorporating new perspectives that established fine-sliced sublines of inquiry that entice a deep capillarity of the construct. In recent years, different works have started to discuss new ideas, such as circularity from a supply-chain perspective in IDs (Bressanelli *et al.*, 2022); new topics, such as the role of the family involvement in governance and firm performance in IDs (Pittino *et al.*, 2021); the role of radical innovation in IDs within large cities (see Ekaterina and Oreshkin, in this Special Issue) or how mergers and acquisitions reconfigure traditional IDs (Hervas-Oliver *et al.*, 2022).

2. Special issue: industrial districts into the future!

This Special Issue includes ten papers that address a diverse array of topics and lines of research within the construct of IDs but also of regional clusters or other types of local production systems, with the intention of maintaining a cross-dialogue between related yet different concepts that share some similar characteristics. Scholars from different countries such as Spain, Italy, Poland, Germany, UK, Brazil, Uruguay or Canada participated in this conversation aimed at providing a high-quality and up-to-date set of studies with which to understand much better the current state-of-the-art in IDs. Starting with 22 papers, the final selection shows a comprehensive and diverse combination of 11 thought-provoking contributions developed through empirical qualitative and quantitative lenses.

Contributions to the Special Issue include important themes that represent the live and vibrant open conversion on IDs. Focusing on Industry 4.0 adoption by SMEs and IDs, Dr Hervas-Oliver shows the contribution of research and transfer institutes (RTIs) digitizing IDs. The study evidences how RTIs introduce digital technologies in local innovation systems to foster change and avoiding inertia on Industry 4.0 adoption. Using qualitative evidence based on interviews and secondary data analysis on digitizing the *Vinalopo* Footwear district in Alicante, Spain, the article provides empirical insights about how RTIs perform R&D and non-R&D activities to digitize SMEs, an action leveraged by transferring knowledge to leading firms that frequently engage with RTIs. Subsequently, these leading firms interact and diffuse Industry 4.0 within their own networks of SMEs, achieving an indirect transfer of digital technologies from the RTI to SMEs.

As regards radical innovation in innovation systems, Dr Turkina and colleagues, from HEC Montréal, investigate the evolution of the phenomenon of the ID and explores broader regional innovation systems that consist of multiple IDs. Using network analysis and patent analysis techniques concurrently, the social structure of Montreal tech agglomeration and its innovation is analyzed, discovering that the cores of modern regional innovation systems are composed of densely collaborating organizations belonging to different industrial clusters. The study also shows how these organizations are responsible for the most radical innovations.

Dr Burlina and colleagues, positioned in the Global Value Chains (GVCs), revisit theoretical and empirically the topic of the regionalization of GVCs, challenging internationalization of SMEs in IDs. By analyzing 210 ID SMEs in the furniture, mechanics and fashion industries located in the Veneto and Friuli Venezia-Giulia regions, the article shows how to sustain the economic development of district firms and territories in front of this new phenomenon of the regionalization of GVCs.

Focusing on ethnicity and migration in clusters, Dr Mario Biggeri and colleagues investigate the distinctive economic and social dynamics of ethnic industrial subclusters. In particular, they analyze the main factors affecting the economic performance of Chinese-migrant microentrepreneurs with a specific focus on social capital. Based on the case study of *Wenzhounese* migrant socioeconomic leather industrial subcluster in the area of Florence, Italy, and using mix-methods, the study researches social capital and its effects in this particular setting. Findings show the relevance of social networks in the context analyzed and reveal the importance of ethnic and nonethnic business social capital as one of the main factors affecting local firms' economic performance.

Focusing on the fundamentals of IDs, Dr Boix-Doménech and colleagues provide fine-grained insights on the iMID effect to show that firms located in MIDs tend to exhibit higher innovative intensity than other local production systems in Spain and Italy. The district effect on innovation (iMID effect) had been previously measured for Spain, but never for Italy. This paper contributes by providing for the first time a measurement of the iMID effect in both

countries, remarking that, on average, the innovative intensity of Italian MIDs is not only higher than that of the average for the Italian economy, but also that of the MIDs in Spain.

Intersecting KIBS and districts, Dr De Propris and colleagues analyze territorial *servitization* in Italian Marshallian districts by separating the role of *technological* and *professional* KIBS. Despite being traditionally represented by overspecialization of manufacturing activities and relatively low presence of KIBS, IDs show a higher growth rate in KIBS than the national average, discussing interesting implications for the district literature.

As regards clusters in Poland, Dr Wojciech and colleagues explore three clusters qualitatively through interviews, focusing on the role of business support organization facilitating adoption of Industry 4.0. Findings suggest that support organizations act as gatekeepers, brokers and facilitators of Industry 4.0 knowledge, helping local SMEs to overcome barriers to adopt Industry 4.0.

This Special Issue also presents a little-known case study, that of the milk production cluster in Uruguay. It is an agro-industrial cluster of large geographic dimensions in a low-density area. Dr Galaso and colleagues apply a social network analysis approach to identify and analyze different subgroups of firms within the cluster. Their results suggest a complex internal structure of the cluster, where there coexist different local productive systems and other forms of productive organization. This study highlights cluster heterogeneity and diverse knowledge networks within.

By incorporating absorptive capacity and knowledge access in clusters at the firm level, Dr da Cunha and colleagues study a low-technology intensity cluster in Brazil. Using 109 questionnaires from a Brazilian footwear manufacturing cluster, findings indicate that small companies have access to novelties and knowledge that influence their products and production through the frequency and stability of the network relational ties with their suppliers. Also, the quality of relations with clients provides access to products, materials, technology and market knowledge learning. According to their results, accessing knowledge in clusters is determined by the quality and stability of inter-firm ties and firms' organizational capabilities, capturing absorptive capacity in the case of clustered SMEs in low-tech settings.

Dr Belussi and colleagues present an empirical research on clusters belonging to 262 European regions and 25 patenting industries, finding empirical evidence on how cross-border acquisitions (CBAs) have an effect, in terms of technological *spillover* and collaboration, on European regional clusters. Findings suggest that CBAs have a positive and significant impact on the number of patents as well as the number of internal and external technological collaborations and that this effect is persistent over time. Furthermore, CBAs in a regional cluster are inclined to produce technological *spillovers* within the cluster but no significant effects in the other industries of the region.

Last but not least, Dr Ruffoni and colleagues analyze cluster evolution, focusing on the less studied decline phase of a footwear cluster in the state of *Rio Grande do Sul*, in Southern Brazil. Once considered the world's largest footwear cluster, this study shows its transformation since the beginning of the 2000s by using sectoral statistics. The main results of this case study indicate a significant reduction in production, export and employment, in addition to a new situation of precarious labor. This decline occurred due to two central factors:

(1) an external shock related to China entering the international and Brazilian domestic markets, accompanied by a slowdown in the Brazilian economy since 2015; and

(2) the difficulty of local firms to respond to new challenges.

The paper contributes to explain a cluster decline trajectory, extending our knowledge on this specific stage of the cluster life cycle.

As avenues for future research, we would like to point out a potential research agenda that suggests promising new insights to keep building a solid knowledge base on our construct of IDs. First, it is obvious that beyond the research on Industry 4.0, a subline that is still scarce, we need to incorporate new digital-based (Artificial Intelligence, Machine Learning, Big Data, etc.) methods to our traditional research. Second, the IDs are being transformed, observing new types of social agglomerations where traditional and nontraditional sets of actors coexist (local firms, migrant entrepreneurs, financial investment funds, multinationals, GVCs, etc.) that might require further research on them and also on their intersection with traditional district topics. Third, sustainability and other environmental and social perspectives (gender gap, green innovations, etc.) need to be placed on the research agenda. Lastly, the usual topics (radical innovation, network analysis, multinationals, etc.) also require more efforts to include clusters from the new emergent world, thus testing whether our knowledge is applicable to those new realities.

To conclude, we want to open this research avenue and gather researchers and scholars from all different disciplines (economics, business, regional science, technology management, strategy, etc.) to tackle the phenomenon of IDs through different approaches, as it is a promising research agenda for understanding the role of SMEs in territories, the local development of regions and industries and the organization of that socioeconomic phenomenon that IDs represent.

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Notes

1. The analysis in the following paragraphs is based on a search by year since 1980, in which the term "industrial district" is identified in *Google Scholar* accompanied by the reference to one of the best known original authors: Marshall or Becattini or Brusco or Trigilia. This analysis has no more pretensions than to highlight the variety of topics introduced in the literature of the ID and how new topics have acquired relevance over time.
2. Led and organized since 2018 by Dr Lazzeretti, Dr Sedita, Dr Hervas-Oliver, Dr Capone, Dr Boix and Dr Caloffi. These meetings are held with the usual collaborators and friends, such as Dr Asheim, Dr Rodríguez-Pose, Dr Boschma, Dr Iammarino, Dr Belussi, Dr Di María, Dr Grandinetti, Dr Bellandi, Dr Bettiol, Dr De Propris, Dr Belso, Dr Trippl, Dr Grillitsch and many more that are very engaged in the topic and related ones.

References

Becattini, G. (1979), "Dal settore industriale al distretto industriale. Alcune considerazioni sull'unità d'indagine dell'economia industrial", *Rivista di Economia e Politica Industriale*, Vol. 1, pp. 7-21.

Becattini, G. (2004), "From the industrial 'sector' to the industrial 'district': some remarks of the conceptual foundations of industrial economics", in Becattini, G. (Ed.), *Industrial Districts: A New Approach to Industrial Change*, Edward Elgar, Cheltenham, pp. 7-17.

Becattini, G., Bellandi, M. and De Propris, L. (2009), *A Handbook of Industrial Districts*, Edward Elgar, Cheltenham.

Bellandi, M., Plechero, M. and Santini, E. (2021a), "The supporting and hampering role of place leadership in Italian industrial districts", *Handbook on City and Regional Leadership*, Edward Elgar Publishing, Cheltenham.

Bellandi, M., Propris, L.D. and Vecciolini, C. (2021b), "Effects of learning, unlearning and forgetting on path development: the case of the Macerata-Fermo footwear industrial districts", *European Planning Studies*, Vol. 29 No. 2, pp. 259-276.

Belso-Martínez, J.A., Mas-Verdu, F. and Chinchilla-Mira, L. (2020), "How do interorganizational networks and firm group structures matter for innovation in clusters: different networks, different results", *Journal of Small Business Management*, Vol. 58 No. 1, pp. 73-105.

Belussi, F. (2018), "New perspectives on the evolution of clusters", *European Planning Studies*, Vol. 26 No. 9, pp. 1796-1814.

Boix-Domenech, R., Galletto, V. and Sforzi, F. (2019), "Place-based innovation in industrial districts: the long-term evolution of the iMID effect in Spain (1991–2014)", *European Planning Studies*, Vol. 27 No. 10, pp. 1940-1958.

Bressanelli, G., Visintin, F. and Saccani, N. (2022), "Circular economy and the evolution of industrial districts: a supply chain perspective", *International Journal of Production Economics*, Vol. 243, p. 108348.

Chaminade, C. and Randelli, F. (2020), "The role of territorially embedded innovation ecosystems accelerating sustainability transformations: a case study of the transformation to organic wine production in Tuscany (Italy)", *Sustainability*, Vol. 12 No. 11, p. 4621.

De Propris, L. and Bailey, D. (2020), *Industry 4.0 and Regional Transformations*, Taylor and Francis, p. 276.

Hervás-Oliver, J.L. (2021), "Industry 4.0 in industrial districts: regional innovation policy for the toy valley district in Spain", *Regional Studies*, Vol. 55 Nos 10/11, pp. 1775-1786.

Hervás-Oliver, J.L., Belso-Martínez, J.A. and Díez-Vial, I. (2021), "Multinationals' recruiting in industrial districts", *Regional Studies*, Vol. 56 No. 8, pp. 1320-1332.

Hervas-Oliver, J., Boronat-Moll, L.C., Peris-Ortiz, M. and Rojas-Alvarado, R. (2022), "Understanding spatial networking and industrial district evolution from firms' strategies", *European Planning Studies*, doi: 10.1080/09654313.2022.2078659.

Hervas-Oliver, J.L., Estelles-Miguel, S., Mallol-Gasch, G. and Boix-Palomero, J. (2019), "A place-based policy for promoting industry 4.0: the case of the Castellon ceramic tile district", *European Planning Studies*, Vol. 27 No. 9, pp. 1838-1856.

Pittino, D., Visintin, F., Minichilli, A. and Compagno, C. (2021), "Family involvement in governance and firm performance in industrial districts. The moderating role of the industry's technological paradigm", *Entrepreneurship and Regional Development*, Vol. 33 Nos 7/8, pp. 514-531.

Ruiz-Ortega, M.J., Molina-Morales, F.X., Parra-Requena, G. and García-Villaverde, P.M. (2020), "Strength of ties and pioneering orientation: the moderating role of scanning capabilities", *BRQ Business Research Quarterly*, Vol. 25 No. 4, pp. 296-311.

Sforzi, F. (2015), "Rethinking the industrial district: 35 years later", *Investigaciones Regionales*, Vol. 32, pp. 11-29.

Further reading

Rocha, H. and Audretsch, D.B. (2022), "Entrepreneurial ecosystems, regional clusters, and industrial districts: historical transformations or rhetorical devices?", *The Journal of Technology Transfer*, pp. 1-24.

Sforzi, F. and Boix, R. (2019), "Territorial servitization in Marshallian industrial districts: the industrial district as a place-based form of servitization", *Regional Studies*, Vol. 53 No. 3, pp. 398-409.

Turkina, E. and Oreshkin, B. (2022), "Evolving industrial districts and changing innovation patterns: the case of Montreal", *Competitiveness Review: An International Business Journal*.