Local Clusters in Global Value Chains
Linking Actors and Territories Through Manufacturing and Innovation

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1 Industrial districts, clusters and global value chains

Toward an integrated framework

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Introduction

The location of economic activities in specific territories and the reorganization of industries into global value chains have reshaped analysis on the competitiveness of regions and countries in recent decades. Starting in the 1970s in several developed countries, especially in Europe, industrial districts or clusters' represented the backbone of manufacturing, primarily in low-technology sectors, which drove exceptional export growth in international markets. Beginning with the seminal contributions by Becattini (1986), Piore and Sabel (1984), and Porter (1998), a broad literature developed supporting and explaining the specific advantages related to local production systems and their role in the development of regions and nations. Indeed, the cluster concept has enjoyed enormous success over the years (Schmitz and Nadvi, 1999; Lazzarotti et al., 2014), and this perspective became central in the action programs of many international institutions to support the competitiveness of SMEs and to foster the growth of less-developed countries and regions (e.g. Eastern Europe and Latin America).

International trade and cross-border production networks, however, shape the ability of clusters to deliver competitive advantages in the global arena. After the 1980s, manufacturing activities swiftly shifted from advanced to developing countries, due to the global outsourcing strategies of firms from the European Union (EU) and the United States (USA). Due to the transfers of knowledge and technologies related to the offshoring of manufacturing activities (Pietrobelli and Rabelotti, 2011), developing countries became central players in global supply chains, thus challenging the role of clusters in developed countries.

The global value chain (GVC) framework, whose origins date back to the mid-1990s, is particularly useful to analyse these global transformations and how industries are organized at the global level (Gereffi and Korzeniewick, 1994; Gereffi et al., 2005; Gereffi and Fernandez-Stark, 2016). This approach has been increasingly adopted by international organizations such as the World Bank, the Organization for Economic Cooperation and Development (OECD), the International Labour Organization (ILO), and the United Nations Conference on Trade and Development (UNCTAD) to guide development programs in poorer countries (Cartano et al., 2010; Gereffi, 2014; Werner et al., 2014). With specific industries or countries as the empirical focus of analysis, the GVC framework has been widely adopted to understand how industries and places (including clusters) evolve and how value is captured and distributed across diverse economic actors. Main players in this process are large multinational enterprises (MNEs) — including global buyers and brands, as well as producers — governing the activities of the chain, which is fragmented at the international level, and affecting the opportunities for firms, regions and countries to compete in global markets (Gereffi et al., 2005; Gereffi and Fernandez-Stark, 2016).
Over the years, the industrial district and GVC literatures have evolved considerably, impacting the international development agenda as well as policy intervention programs, but in a fragmented way. There are varied perspectives and goals: one emphasizing “local factors for competing in global markets” (Schmitz and Nadvi, 1999, p. 1503), and the other the role of large global firms in shaping local development, especially in developing economies (Gereffi, 1994, 1999; Morrison et al., 2008). This book aims at advancing concepts and theories that merge these perspectives to meet the challenges firms, regions and countries must cope with, and question the way the global-local nexus is rendered (Bair, 2008; Pietrobelli and Rabello, 2011). On the one hand, emerging economies are no longer just the factories for Western companies but are increasingly performing more value-added activities; “emerging giants” are playing a critical role in an increasing number of sectors (Khanna and Palepu, 2006; Sinkovics et al., 2014; Azmez and Nadvi, 2014). On the other hand, recent discussions about backshoring and reshoring scrutinize the consolidated position of advanced and emerging countries in the “smile” curve – depicting value-added at each stage of the chain (Mudambi, 2008; Gray et al., 2013; Bailey and De Propris, 2014; Fratocchi et al., 2014).

Researchers need new theoretical synthesizes to integrate the global and local perspectives for a more comprehensive picture of how economic activities and economic systems are structured in the contemporary era. Indeed, complex interdependencies between the local and the global contexts – such as the access and use of technologies, knowledge creation and capture, product and process upgrading, stricter international regulations and standards, and management of social and environmental sustainability – call for an enrichment and synthesis of current theoretical frameworks. In this chapter, we outline a framework to enhance our understanding of the global/local nexus incorporating key elements from the GVC and industrial district/local cluster perspectives.

**Industrial districts and clusters: a brief overview**

Research on clusters reflects multiple literatures and disciplines, including mainstream economics, business economics, regional science, and innovation studies (Lazzeretti et al., 2014). The goal is to understand how the local organization of economic activities based on SMEs in a specific socio-cultural context – compared to the production activities of large firms (Pyke et al., 1990) – could provide the same or better outcomes in terms of employment, value creation and innovation. In Europe, and in Italy in particular, the “industrial districts” literature highlights the role of social structure (the so-called “communitarian factor”) in supporting local externalities. In other settings, the cluster concept is more commonly used, including business economics starting with Porter (1998), who considered larger geographic areas and different combinations of firms and institutions beyond SMEs (Porter and Ketels, 2009), as well as economic geography (e.g. Bathelt et al., 2004) and development studies (e.g. Humphrey and Schmitz, 2002).

Based on the inspiring studies of Alfred Marshall, Giacomo Becattini and other Italian scholars, Piore and Sabel (1984) were among the first to popularize the ability of small-scale districts to successfully enter international markets (Schmitz and Nadvi, 1999). Flexible specialization emerged as a new paradigm, in contrast to the Fordist mass production model dominated by large corporations. Italy became an interesting case since it offered an extraordinary research setting to explore the characteristics of industry-specialized networks of SMEs embedded in particular locales (Brusco, 1982; Pyke et al., 1990). Because of the concentration of small and export-oriented firms in traditional manufacturing industries, the Italian experience was a useful reference point for the developing country agenda as well (Schmitz, 1989; Rabello, 1997; Saxenian, 2006; Long and Zhang, 2011; Bellandi and Lombardi, 2012).
A key element of the ID is the division of labour across a number of co-localized SMEs involved in the different manufacturing steps needed to make a final product. Several agglomeration effects benefit firms participating in such networks (Belussi, 2006). The concentration of a critical mass of firms in a given industry increases firm-level efficiency and productivity due to the availability at the local level of specialized suppliers within an intense division of labour among local actors, with positive impacts on economic performance and competitiveness (Porter, 1990; Molina-Morales, 2002). Moreover, the local labour market ensures easy access to skilled labour and market mobility of workers among local firms. Industrial districts also facilitate entrepreneurship and new firm start-ups (Garofoli, 1992; Delgado et al., 2010); existing firms often support spin-off processes or sustain new ventures through collaborative supply-chain management practices.

Due to physical and cognitive proximity, firms within clusters benefit from explicit and tacit processes of knowledge sharing, where specialized knowledge flows between the firm and its suppliers, and among the many other actors of the clusters (e.g., training and research centres, local institutions) (Pyke et al., 1990; Corno et al., 1999). The knowledge dimension (Camuffo and Grandinetti, 2011) has been utilized as an explanation of the competitiveness and innovation of firms located in clusters. Thanks to knowledge spillovers, rooted in agglomeration, firms gain key knowledge to nurture their activities and support positive economic outcomes, based on specializations within the cluster. Scholars have devoted particular attention to exploring innovation paths and the dynamics of learning in clusters. Innovation in clusters can be rooted in informal processes related to learning-by-doing and social interaction, as well as more structured activities of knowledge exchange where research and development (R&D) is important (see Camuffo and Grandinetti, 2011 for a review).

Industrial districts are viewed as systems made up of a number of small and medium-sized companies (SMEs). Whereas in the traditional Marshallian model the homogeneity across local companies was considered a constitutive element (Becattini, 1990) – even if some larger trees are admitted within the forest, to quote a famous metaphor of Marshall’s (1919) – different typologies of firms within clusters have been studied as well. Along with the canonical Marshallian district, Markusen (1996) proposed a classification including two additional configurations: the hub-and-spoke and the satellite-platform districts. The former is characterized by the presence of a large firm dominating the relationships locally (where small firms depend on it) and linking the local systems internationally, while the latter refers to an agglomeration generated by the branch facilities of external players (firms but also government) in a specific location.

Studies on clusters have emphasized the role of local institutions – training centres, local research and certification centres, industry associations, municipalities or other local associations – in sustaining their competitive advantage (see Brusco, 1982; Porter, 1990; Corno et al., 1999, Molina-Morales and Martínez-Cháfer, 2016). Through dedicated intervention policies, shared projects or other initiatives, such institutions have facilitated knowledge sharing and collaboration among cluster firms and nurtured local “industrial commons” (Pisano and Shih, 2012) useful for the competitiveness of clusters and their firms.

Indeed, a key focus of the cluster literature has been the relationships across local actors. Within clusters, collaboration and competition among firms usually coexist, creating a fascinating mix that pushes forward innovation and even different forms of imitation, considered in positive terms (see Shenkar, 2010). Collaboration between the firm and its suppliers enables knowledge transfer, but also knowledge co-creation to achieve shared goals. Collaboration activities are particularly frequent in clusters formed by a large number of SMEs, where social and cultural proximity favours these dynamics and gives birth to communitarian structures among local economic actors (Lazerson, 1995; Dei Ottati, 1996).
Recent research directions in the ID literature

Considering the deep changes occurring at the local and global levels during the last 15 years, the research on IDs has developed along several trajectories, including: 1) the evolutionary processes of clusters; and 2) the opening up of the geographical boundaries of clusters.

An important stream of work focuses on the evolutionary processes of particular types of clusters (Whitford, 2001; De Marchi and Grandinetti, 2014; Tomas-Miquel et al., 2012; Hervas-Oliver et al., 2015). One topic is the evolving relationships among cluster firms due to different internal and external factors (Belso-Martínez, 2008). Clusters are classified in terms of their variety (Paniccia, 1998), suggesting it is no longer possible to talk about a single model for IDs (see also De Marchi and Grandinetti, 2014). Despite homogeneity in the size of firms as SMEs, many scholars note an increasing within-ID heterogeneity in terms of firm strategies, especially as far as internationalization is concerned (Chiarvesio et al., 2010; Rabellotti et al., 2009), and they highlight the rise of leading firms within clusters (Lorenzoni and Lipparini, 1999; Lazerson and Lorenzoni, 1999; Camuffo, 2003). Leading firms are generally larger, more vertically integrated, and able to develop advanced strategies in terms of innovation, marketing, and internationalization.

A second topic related to the cluster model is the opening up of cluster boundaries. Scholars described the cluster by emphasizing internal dynamics that facilitated local agglomeration. However, globalization and stiff international competition, shifting geographic markets and the rise of new technologies have heavily impacted local systems (Belussi et al., 2003; Chiarvesio et al., 2004; Iannarino and McCann, 2006). On the one hand, many scholars focused their attention on the entrance of MNEs in the cluster, which acquired specialized knowledge through local direct investments and relationships with cluster firms. The presence of MNEs at the cluster level also activates knowledge transfers related to markets or technology towards cluster firms (Belussi et al., 2003; Hervas-Oliver and Albors-Garrigos, 2008).

On the other hand, the emergence of leading firms has changed the cluster landscape due to the internationalization strategies of those firms. MNE lead firms may play the role of gatekeepers (Morrison, 2008), acquiring knowledge from outside the cluster that is transferred to local suppliers and local actors in general (Nachum and Keeble, 2003). At the same time, those firms also transfer knowledge outside the cluster through global sourcing, foreign direct investment, or commercial internationalization (Belussi et al., 2008; Chiarvesio et al., 2010). In this perspective, the cluster becomes an open learning system, where internationalization and innovation processes are intertwined. Through inward and outward internationalization processes, the cluster becomes more connected with activities in the GVCs of which it is a part. Internationalization of specialized suppliers and subcontractors (Bocconcelli and Tunisini, 2001; Furlan et al., 2009) further enhances this trend, where production activities are no longer self-contained within the cluster boundaries, but are linked to the productive and knowledge networks in GVCs.

Global value chains: a brief overview

Globalization has given rise to a new era of international competition that is reshaping global production and trade, and altering the organization of industries (Gereffi and Lee, 2012). In the 1970s and 1980s, US retailers and brand-name companies joined manufacturers in the search for low-cost and capable offshore suppliers of consumer goods, which led to a fundamental shift from “producer-driven” to “buyer-driven” commodity chains (Gereffi, 1994).
The geography of these chains expanded from regional production-sharing arrangements to full-fledged global production networks, with a main emphasis on East Asia (Gereffi, 1999). In the 1990s and 2000s, the activities and industries encompassed by global supply chains grew exponentially, covering not only finished goods but also components and subassemblies. While perhaps most visible in manufacturing industries, they also encompass energy, food production and all kinds of services, from call centres and accounting, to medical procedures and core R&D activities of the world’s leading MNEs (Dicken, 2011; Staritz et al., 2011; Cattaneo et al., 2013).

Today the organization of the global economy is entering a new phase — what some have referred to as a “major inflection point” (Fung, 2011). By the mid-2000s, the Washington Consensus development model was already beginning to unravel (Gereffi, 2014). US hegemony was eroding, and the large emerging economies, led by China and India, were transforming the organization of production; consolidation was growing at both the country and supply chain levels in a number of global industries. When the global economic recession hit in 2008-09, this ended all prospects of a return to the old order. As the consumption of advanced industrial economies was cut back, developing countries around the world looked for alternatives to declining or stagnant Northern markets. Large emerging economies turned inward and redirected production to their domestic markets and regional neighbours, and the role of GVC-oriented industrial policies in these economies grew rapidly (Gereffi and Sturgeon, 2013).

The GVC framework focuses on globally expanding supply chains and how value is created and captured therein. By analyzing the sequences of activities that firms and workers perform to bring a specific product from its conception to its end use and beyond (Gereffi and Fernandez-Stark, 2016), the GVC approach provides a holistic view of global industries from two contrasting vantage points: top-down and bottom-up. The key concept for the top-down view is the “governance” of global value chains, which focuses mainly on lead firms and the organization of global industries; the main concept for the bottom-up perspective is “upgrading”, which focuses on the strategies used by countries, regions and other economic stakeholders to maintain or improve their positions in the global economy.

The concept of governance is the centre-piece of GVC analysis. It examines the ways in which corporate power can actively shape the distribution of profits and risk in an industry. Power in GVCs is exercised by lead firms. The distinction between producer-driven and buyer-driven chains was an early contribution to the governance literature (Gereffi, 1994). Later, a more elaborate typology was introduced that highlighted multiple ways in which the relationship between firms in global supply chains could be coordinated (Gereffi et al., 2005). At the market and hierarchy poles of the GVC governance continuum, inter-firm relations are driven by price and ownership within vertically integrated firms, respectively. The remaining three categories are stable forms of network governance (modular, relational and captive), in which different kinds of GVC lead firms control to a large degree how global supply chains operate and the main winners and losers within these chains.

While governance issues have attracted a good deal of attention among GVC scholars, the research on economic upgrading has been at least as important because many of the people who use the GVC framework have a very strong development focus. “Economic upgrading” is defined as the process by which economic actors — firms and workers — move from low-value to relatively high-value activities in GVCs (Gereffi, 2005, p. 171). The challenge of economic upgrading in GVCs is to identify the conditions under which developing and developed countries and firms can “climb the value chain” from basic assembly activities using low-cost and unskilled labour to more advanced forms of “full package” supply and integrated manufacturing.
In the past two decades, profound changes in the structure of the global economy have reshaped cross-border production and trade and have altered the organization of industries and national economies (Gereffi, 2014). As supply chains became global in scope, more intermediate goods were traded across borders, and more imported parts and components were integrated into exports (Krugman, 1995; Feenstra, 1998). In 2009, world exports of intermediate goods exceeded the combined export values of final and capital goods for the first time, representing 51% of non-fuel merchandise exports (WTO and IDE-JETRO, 2011, p. 81). Because of the unique ability of the GVC framework to show how international supply chains link economic activities at global, regional, national, and local levels within particular industries, international organizations such as UNCTAD, OECD, the World Bank, and the World Economic Forum are utilizing the GVC approach to structure new donor initiatives and data collection programs on global trade and development.

Recent research directions in the GVC literature

Several new trends in GVC research are relevant to understanding the connections between global chains, national development and local clusters: 1) the growing prominence of emerging economies as key actors in GVCs; 2) shifting end markets and the regionalization of value chains; and 3) efforts to examine the conditions under which social and economic upgrading can be combined.

Emerging economies are playing significant and diverse roles in GVCs (Gereffi and Sturgeon, 2013). During the 2000s, they became major exporters of intermediate and final manufactured goods (China, South Korea and Mexico) and primary products (Brazil, Russia and South Africa). However, growth in emerging economies has also led to shifting end markets in GVCs, as more trade has occurred between developing economies (often referred to as South-South trade in the literature), especially since the 2008–09 economic recession (Staritz et al., 2011, pp. 1–12). China has been the focal point of both trends: it is the world’s leading exporter of manufactured goods and the world’s largest importer of many raw materials, thereby contributing to the primary product export boom.

As world trade bounced back from the 2008–09 economic crisis, developing economies became a main engine of world economic recovery. Stagnant growth in demand in the global North since the mid-1980s was exacerbated by the crisis, whereas demand grew in the global South, particularly in large emerging economies like China, India and Brazil (Staritz et al., 2011). Over the period of 2005–10, the merchandise imports of the European Union and the United States increased by 27% and 14%, respectively, while emerging economies expanded their merchandise imports much faster: Brazil (147%), India (129%), China (111%) and South Africa (51%). In 2010, 52% of Asia’s manufactured exports were destined to developing countries (WTO, 2011), signalling shifting end markets in the global economy.

The GVC literature shows that value chains oriented to different end markets often entail distinct upgrading opportunities (Palpacuer et al., 2005; Gibbon, 2008). For example, the demand in lower-income countries for less sophisticated products with regard to quality and variety can have major upgrading implications (Kaplinsky et al., 2011). On the one hand, lower entry barriers and less stringent product and process standards in emerging markets can facilitate the participation of developing country firms in global supply chains. They can engage in higher value-added activities, such as product development and design, which they would have little chance to do in chains oriented to advanced economies. On the other hand, solely focusing on low-income markets could lock suppliers into slimmer margins and
cutthroat competition. Their knowledge advantage in local markets often quickly evaporates when MNEs catch up in learning the markets, as found in the Chinese mobile phone industry (Brandt and Thun, 2011).

A final GVC research trend stems from the growing concern in both developed and developing countries that the economic gains of participating in global supply chains do not necessarily translate into good jobs or stable employment, and in the worst case, economic upgrading may be linked to a significant deterioration of labour conditions, or social and environmental downgrading (Barrientos et al., 2011). Studies are being carried out to determine under what conditions participation in global value chains can contribute to both economic and social upgrading in developing countries (Lee et al., 2011). This kind of research requires us to develop precise indicators of “upgrading” (economic, social or environmental) (see Bernhardt and Pollak, 2016; De Marchi et al., 2013), and it also raises the question of the extent to which GVCs are “inclusive” or “exclusive” in terms of facilitating the upgrading of lower-level firms or less-skilled workers, as well as supporting local communities connected to the industry.

A joint framework for the analysis of GVCs and clusters

As discussed in the previous paragraphs, the cluster and GVC frameworks reflect opposite premises—the first stemming from the need to understand local dynamics spurring competitiveness in export markets, and the second from the interest in explaining the organization of industries at the global level considering the role of lead firms and their impact on the development of countries and regions. Driven by the integration of activities at the global level and by the evidence of the enduring role of some regions and clusters in global supply chains, the two literatures are converging in certain aspects.

Indeed, even if the GVC framework developed mostly to describe the growth of international subcontracting by large multinationals, whether global buyers or producers (Gereffi, 2005), it has not denied the role of local areas (clusters) as key production nodes within global industries. Indeed, a large part of the literature on GVCs has focused on clusters, especially in developing countries (e.g. Bair and Gereffi, 2001; Nadvi and Halder, 2005; Giuliani et al., 2005). As discussed in Sturgeon et al. (2008) in the context of the automotive industry, GVCs are conceived as nested structures, and their production activities tend to be organized within clusters contained within national production systems, which collectively constitute the global industry. At the macro level, however, the nested structure of GVCs also includes globe-spanning business relationships between MNE lead firms and their global suppliers, which simultaneously operate in multiple countries and regions. Thus, Italy, China and Mexico compete with each other in real time in the GVC world, which is why the strategies and activities of lead firms in global chains must be integrated to the study of national economies and local clusters.

Conversely, while Marshallian industrial districts—the most studied cluster variant in the context of developed countries—highlighted the relationships between the actors located within the district (Dei Ottati, 2003), other typologies of clusters (such as those proposed by Markusen, 1996) base their competitive advantage on linkages with external firms. Furthermore “downstream” internationalization (mostly exports) has generally been considered a key channel for growth in all clusters.

On this basis, we propose a joint framework to advance our understanding of clusters and GVCs by leveraging the existing literature to build a common vocabulary using analytical dimensions present in both literatures, as summarized in Table 1.1.
Table 1.1 Comparing the cluster and GVC literatures on key analytical dimensions

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<th>Cluster literature</th>
<th>GVC literature</th>
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<tr>
<td>Economic activities</td>
<td>Local division of labor (focus on local “complete” chain)</td>
<td>Value-chain mapping (smile curve and geography of related international activities)</td>
</tr>
<tr>
<td>Key actors</td>
<td>Key local firms</td>
<td>Global lead firms (buyer/producer)</td>
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<td></td>
<td>Local institutions</td>
<td>Global institutions (standards)</td>
</tr>
<tr>
<td>Relationships</td>
<td>(Local) buyer-supplier relationships, “industrial atmosphere” or collective efficiency (horizontal governance)</td>
<td>Governance (vertical inter-firm ties)</td>
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Source: Authors.

The cluster and GVC literatures are based on three key analytical dimensions: economic activities, key actors and relationships. With respect to economic activities, the cluster literature focuses on the local division of labour. For example, all the activities needed to produce a shoe or a ski boot are realized by different actors within the same restricted area as enabling factors for the cluster’s productivity and agglomeration effects (Belussi, 2006). A similar dimension is found in the GVC framework, which is based on the division of activities at the global level. In this context, value chain mapping and the smile curve are two key tools used for understanding how industries are organized globally and the dynamics of GVC upgrading, respectively.

The focus on key actors is another common element of both frameworks, even if applied in a very different way. The cluster literature examines the role played by key actors in supporting the birth and evolution of clusters, thanks to their strategic approach and distinctive capabilities. Often smaller companies are relevant for the local system but not necessarily for the industry as a whole (see De Marchi et al., 2013), since the homogeneity of cluster firms helps external economies to take place. Local institutions are another actor supporting cluster development. As highlighted in Table 1.1, a central element of the GVC framework is global lead firms, either buyers or producers, that shape the governance structure of GVCs (Gereffi, 1994; Gereffi et al., 2005). In more recent contributions, the role of global standards is also acknowledged, which might be set by actors such as international agencies or non-governmental organizations (Gibbon et al., 2008; Ponte and Sturgeon, 2014; Gereffi and Lee, 2016).

Third, relationships are a major dimension in explaining developmental outcomes in both literatures, again with a different accent. Cluster studies have looked at the structure of supplier-buyer and horizontal relationships among SMEs, especially in terms of innovation (Molina-Morales and Martínez-Fernández, 2010), as well as the role of local mechanisms to support collective efficiency (Schmitz, 1995). In the GVC context, both vertical and horizontal relationships give rise to private, public and social forms of governance that can facilitate social and economic upgrading (Gereffi and Lee, 2016), in addition to knowledge transfers and upgrading opportunities derived from purposeful connections with lead firms (Pietrobelli and Rabello, 2011).

Emerging research questions

By adopting the joint GVC/ID framework, we seek to enrich the debate on the evolution of the cluster model and the linkages between SMEs and GVCs. Starting in the 2000s, scholars noted that profound changes are taking place within clusters in the countries where such
systems have spurred the local economy, namely Italy and Spain, and these shifts were connected to globalization and the consolidation of GVCs (e.g. Rabello-tti et al., 2009; De Marchi and Grandinetti, 2014). Considerable heterogeneity is reported but still largely unexplored, both across clusters – in terms of resilience and ability to reproduce the local roots of their competitive advantage – and within them – with highly diversified competitiveness and innovation outcomes across firms, especially large companies vs. SMEs (e.g. Belso-Martinez, 2008; De Marchi et al., 2014). We are interested in how the GVC framework can help us better understanding these trends and, at the same time, how it can be extended to include them. Leveraging the joint framework outlined in Table 1.1, we propose three emerging questions that are going to be addressed in this book.

Co-evolution of clusters and GVCs

A first research question deals with the evolutionary trends that are reflected in both clusters and GVCs, and the extent to which their potential intersections can be seen as a co-evolutionary process. By adopting a temporal perspective, cluster studies have identified tipping points that have modified the internal structure of clusters based on a variety of factors (e.g. Belussi and Sedita, 2009). Studies on GVCs have also explored changes in the governance of value chains in specific industries and territories, showing how local and global systems co-evolve (Sturgeon et al., 2008; Ponte and Sturgeon, 2014) and how the co-evolution of geographic and organizational concentration within GVCs impacts the development of industries (Lee et al., 2012).

The GVC framework devotes particular attention to evolutionary trends in industries by emphasizing upgrading (or downgrading) trajectories of firms, regions and countries, a topic of particular importance for clusters. Longitudinal analysis is crucial to describe how actors and places are able to create additional value or modify their position in value chains by stressing the drivers of these changes (such as regulations, technological trends, market changes etc.). In this respect, the book offers new insights on how globalization trends depicted by GVC studies – such as the rise of large retailers, the internationalization strategies of brand vendors, new industry standards or regulations, and concentration in the production and distribution segments of chains – are modifying the opportunity of clusters to compete globally and their ability to capture value locally. At the same time, the empirical evidence provided will show how the trajectories of change at the cluster level – in particular in advanced countries – can contribute to the transformation of GVCs, thanks to their innovation efforts or the rise of new global actors with roots at the cluster level.

The first section of the book includes three contributions that address several research questions: What are the key drivers of change within traditional, manufacturing clusters? What are the major transformations that are taking place? What determines the different evolutionary trajectories of clusters? What enabling elements are supporting the reproduction of local industrial commons?

In Chapter 2, Giuliani and Rabello-tti discuss how Italian IDs are linked to globalization dynamics, with an overview of the major transformations that have taken place in traditional IDs as well as a reflection from the policymaker perspective. The authors provide evidence for the increasing heterogeneity across IDs, based on their export strategies and their involvement in GVCs. A new typology of Italian ID organizational models is proposed (low-road IDs, locally rooted GVC-led IDs, and outward-oriented GVC-led IDs) to highlight the intersection between the ID and GVC models with an emphasis on the value-chain activities that are performed locally.
Leveraging the debate on the transformations of clusters, Chapter 3 by De Marchi, Gereffi, and Grandinetti offers a framework to categorize the heterogeneous evolutionary trajectories of IDs embedded in GVCs, based on their diversified resilience in global markets and the distribution of resources within the cluster. Focusing on four Italian districts in the Veneto region, they identify the presence of Global Lead Firms (GLFs) and Local Dynamic Actors (LDAs) (including both capable firms and institutions) as key determinants for a resilient development trajectory.

In Chapter 4, Parrilli and Blažek explore how upgrading processes affect the evolutionary trends of clusters within GVCs by considering supply chain management strategies of lead firms and their suppliers (with special attention on the transformation in the number and role of local suppliers). Using typologies of clusters and examples from different industries and countries, they provide a framework for how to contextualize upgrading in GVCs within the broader perspective of innovation. In particular, they explore how Global Innovation Networks (GIN) and Regional Innovation Systems (RIS) can affect and sustain cluster upgrading trajectories.

The role of lead firms in GVCs and clusters

A second major research issue concerns the role of lead firms in the increasingly diverse industrial structures of both local clusters and GVCs. As shown in Table 1.1, the focus on key actors is a component of the governance structures identified by the GVC framework (where they are called global “lead firms”), since it highlights who exercises the power to orchestrate and shape outcomes among firms and territories that participate in GVCs. In producer-driven chains, lead firms are typically large, vertically integrated manufacturers, while in buyer-driven chains, the lead firms could either be large retailers or global brands (Gereffi, 1994). The power of these lead firms is based on various assets: large manufacturers rely on their scale of production and technological prowess in global factory networks (e.g., Toyota or General Electric); giant retailers leverage direct access to consumers through their commercial outlets (e.g., Walmart, Tesco or Carrefour); and global brands use extensive marketing campaigns to generate awareness and sales of their products (e.g., Nike, Armani or Disney).

The significance of local actors in determining the development of clusters or IDs in global markets has been relatively overlooked. Studies of IDs contain diversified sets of actors – 1) final product firms, 2) stage-firms, and 3) firms belonging to vertically integrated sectors, to use Brusco’s labels – that are quite homogeneous in size, which prevents them from having “a centre for strategic decision-making” (Brusco, 1990, p. 14). More recent studies, however, point to the rise of leading firms at the cluster level. Such firms have power within the cluster due to their technological competencies, commercial capabilities, innovation propensity or ability to internationalize, and might act as important “knowledge gatekeepers” to support ID evolution (see Camuffo and Grandinetti, 2011). Thanks to their strategies, they push the cluster system through the reconfiguration of value chain activities that are situated between the local and the global.

Thus, the second section of the book deals with the evolutionary trajectories of clusters looking at intra-district heterogeneity, giving special attention to the key actors in such changes, considering both local lead firms and global lead firms, whose specificities and characteristics will be described in Chapter 3. How is the interplay of those local and global lead firms working for cluster evolution? Which features of these actors are necessary for
the cluster to retain competitiveness in global markets? Are local lead firms needed for the emergence and survival of dynamic clusters in the globalization era?

In Chapter 5, Belussi, Caloffi and Sedita explore the role of foreign MNEs in the evolution of clusters, emphasizing the timing of entry of MNEs in relation to the cluster life cycle. By comparing the process and impact of foreign MNE (often global lead firm) investments in Italian, Chinese, and Romanian clusters, the authors show the implications for the acquisition and transfer of knowledge between local and global players according to the phase of the cluster life cycle (initial versus maturity). The chapter highlights the heterogeneity of evolutionary paths related to governance issues and innovation opportunities.

Chapter 6 by Barzotto, Corò and Volpe offers the complementary perspective of ID companies that have internationalized their value chains, focusing on the rationale behind their decision to keep value-added activities at the local level. Based on a qualitative analysis of 10 MNEs operating in different clusters in the Veneto Region (Italy) with different positions in the value chain, the authors discuss how such firms contribute to sustaining the industrial commons at the cluster level, and they question whether IDs still represent an anchor within the internationalization strategies of these firms.

Chapter 7 also emphasizes the diverse roles that local actors can play in clusters, which introduces a major condition for ID resilience: its ability to remain a locus for innovation. Based on a quantitative analysis of two Spanish districts specializing in ceramic tiles and toys, Molina-Morales, Martínez-Chafer and Belso-Martínez explore intra-distinct heterogeneity by measuring the impact on innovation of different knowledge brokerage roles that local firms adopt, taking into account their technical and business networks, the type of knowledge shared and the ability to connect with global flows of knowledge.

In Chapter 8, Guercini offers an original perspective on the inter-firm dynamics of local (cluster) and global linkages by exploring immigrant entrepreneurship. This allows for a deeper understanding of intra-distinct heterogeneity by discussing how the presence, within the same cluster, of firms that belong to two different value chains (and social communities) might affect the cluster’s development. Through the analysis of the upgrading processes of Chinese firms in the Prato textile cluster (Italy), the author discusses local liability and shows how those firms were able to modify the organization of value chain activities and their relationship with indigenous cluster firms through their linkages with GVCs based in their home country, China.

Value-chain activities: rethinking the balance between manufacturing, services and innovation

A third issue that needs to be better understood is the description and analysis of the full array of value-chain activities (including pre-production, production and post-production phases) and their mapping within the industry being studied. In cluster/GVC analysis, this focus will improve our comprehension of: 1) how single activities contribute to the process of local value generation (links with the “smile” framework); and 2) the geographical distribution of activities (with particular attention to production tasks) and the role of different locations across global, country, regional and district levels of analysis.

Most GVC studies have emphasized a division of labour between global lead firms located in advanced countries (specializing in the upper branches or extremities of the “smile” curve, i.e. the pre and post-production phases) and suppliers in emerging countries (which focus on the lower-value-added stages, i.e. production processes). By contrast, studies of industrial
districts have emphasized the relevance of production activities to enable ID competitiveness, especially in terms of innovation outcomes.

The third section of the book thus offers fresh insights into manufacturing as a value-adding activity and its impact on the geographical organization of production in light of technological transformations, the increasing costs of managing supply chains in developing countries and the growing attention toward country-of-origin products. How will such trends impact the organization of GVCs as well as the role of clusters in the global division of labour from the perspective of manufacturing? What new configurations of activities exist for value creation and innovation development? Will the cluster as a system remain a competitive milieu for local companies and still be supportive of their innovative efforts?

In Chapter 9, Bettiol, Chiarese, Di Maria and Micelli discuss why companies choose to locate manufacturing activities in the cluster or abroad based on their analysis of local lead firms operating in Italian furniture, sports system and eyewear clusters. The authors suggest that controlling manufacturing activities at the cluster level is crucial for innovation purposes, but also that the global scale of production (in emerging countries) is a crucial factor to enable global competitiveness and efficiency gains enabled by mass production.

In Chapter 10, Hervas-Oliver and Parrilli offer insights on how innovation can be developed and diffused across two co-evolving IDs by analyzing a recent break-through innovation that modified ceramic tile production in the Castellon (Spain) and Sassuolo (Italy) tile clusters: inkjet printing. The authors argue that the presence of home-grown global lead firms (often having facilities in both IDs) and of strong manufacturing capabilities at the local level have enabled the new technology to be developed, starting from an innovation initially created in the United Kingdom and subsequently diffused within the two clusters (Castellon first and Sassuolo later).

In Chapter 11, Golini and Boffelli propose an original methodology to map manufacturing activities at the cluster level based on the GVC framework. Through a survey-based analysis of the Bergamo textile cluster (Italy), the authors explore how firms at the cluster level control value-chain activities (within and across segments of the textile value chain) and operationalize their upgrading strategies into several distinctive patterns to exploit competitive niches within both the local and global economies.

Finally, Chapter 12, by the editors (De Marchi, Di Maria and Gereffi), reflects on the volume’s key contributions with respect to the central research questions addressed. In addition, it discusses the policy implications and avenues for further research opened up by the chapters in this book.

In summary, the book’s chapters explore the intersection between clusters and GVCs through a variety of methodological approaches, facilitating a broader understanding of the complex issues at stake. Chapters 7 and 11, for example, adopt quantitative approaches based on samples of cluster firms. Chapter 6 and 9, by contrast, utilize the comparative case-study approach, offering a richer picture of strategies of key firms within the cluster. Chapter 5 reports a meta-analysis of previous studies on the MNEs’ investments at the cluster level. The various chapters in this book provide complementary narratives also with respect to the different units of analysis adopted, including: 1) the cluster as a whole, approached through a systemic perspective (Chapters 2, 3, 8 and 10); 2) the firm-level (Chapters 5 and 9); and 3) the GVC level (Chapters 6 and 11).

Due to this diversity of empirical approaches, which are rooted in similar theoretical frameworks, this book is uniquely positioned to offer an integrated view of the evolution of clusters within GVCs. It reveals not only how cluster (and firm) activities are connected with global markets, but also the heterogeneous internal structure of local clusters refracted
through a GVC lens. The diversity of industries considered (jewellery, toys, textiles, ceramics, eyewear, furniture, footwear, ICT and metal-mechanics) as well as the countries explored (Italy, Spain, China and Romania) further enrich the picture and provide better grounding for the generalizations across clusters as well as their intersection with GVCs.

Notes

1 These can be defined as a population of firms, mostly small and medium-sized enterprises (SMEs), carrying out different activities in the same industry and located in a geographically bounded area.

2 While acknowledging the differences across these diverse literatures (see e.g. De Marchi and Grandiutti, 2014; Ortega-Colomer et al., 2016), in this chapter and the book, unless otherwise specified, we will use the terms cluster and industrial district as synonymous.

3 This is especially true in the configuration that Brusco (1990) named Mark II, as opposed to Mark I, which has no external local government intervention.

4 These typologies are based on detailed GVC case studies. The research required to map governance structures typically involves two steps: first, the input-output structure of the value chain needs to be identified in considerable detail (GVC case studies almost always contain diagrams of these input-output structures composed of boxes and arrows that map interconnected goods and services); and second, the research needs to overlay the main companies involved in different stages of the supply chain, and figure out where the “lead firms” are located. This gives us the governance structure of an industry.

5 Current studies show that most global industries are made up of a mix of these governance structures in different parts of the global supply chain, and these structures change over time and across different regional and country settings (Gereffi and Fernandez-Stark, 2016).

6 For example, the offshore production of high-tech electronics, such as Apple products, has led to the disappearance of middle-income jobs in the United States while generating a large group of Chinese workers suffering excessive working hours, violation of labour laws and hazardous factory conditions (see Duhigg and Bradsher, 2012; Duhigg and Barboza, 2012).

7 In this model, which depicts value-added activities at each stage of the chain, production itself is usually represented as relatively low-value-added activities, compared with higher value pre- and post-production services (see Gereffi and Fernandez-Stark, 2016, p. 14).

8 See, for example, the role of anchor or seed firms (Belussi, 2015).

References


