

A Historical Approach to Clustering in Emerging Economies

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Abstract

Clusters are defined as geographically concentrated agglomerations of specialized firms in a particular domain. The cluster concept in its broader meaning of industrial agglomeration has been the focus of longstanding debates in the social sciences. This working paper traces the evolution of the literature on industrial concentration, reviewing the major contributions and puzzles at the core of cluster theory with a specific focus on clustering in developing economies. Traditionally, studies on clusters have overemphasized the dynamics arising in specific cluster locations as opposed to the impact of external factors. Indeed, researchers have explained clusters as self-contained entities and reduced their success to local exceptionalism. In contrast, emerging literature has shown that clusters are integrated in broader structures beyond their location and are rather building blocks of today's global economy. The working paper goes on to present two historical cases from the global south to explain how clusters work as major tools for international business. Particularly in the developing world, multinationals have used clusters as platforms for channeling foreign investment, knowledge and imported inputs. The study concludes by stressing the importance of using historical evidence and data to look at clusters as agglomerations of actors and companies operating not just at the local level but across broader global networks. In doing so the historical perspective provides explanations lacking in the existing cluster scholarship to understand clusters as organizational structures underpinning the process of globalization.

1. Introduction

Clusters are geographically concentrated and interlinked agglomerations of specialized firms in a particular domain. The cluster concept in its broader meaning of industrial agglomeration has been the focus of longstanding debates in the social sciences. Yet, studies on clusters have traditionally overemphasized the dynamics arising in specific cluster locations as opposed to external factors and, as a result, critics have accused cluster scholarship of suffering from “self-containment” and a “local obsession” (Declercq, 2018). When considering non-local sources of cluster development such as knowledge and technology, the literature has indeed focused on how these have been absorbed and repackaged at the local level. Although within the geography camp there have been some early attempts at solving this theoretical puzzle, most contributions have struggled to deliver explanations that consider the interrelation of different levels of analysis. By contrast, the *longue-durée* character of historical reconstruction allows for a thorough examination of the complex relationships between actors, firms, related institutions and different forms of macro-structures.

This working paper advances the idea that long-term studies of clusters in developing countries – only partially addressed in the literature – are specifically useful to explain the relevance of clusters for the activities of multinational enterprises (MNEs), the making of global business and for the building of an integrated marketplace. Indeed, in frontier territories economic growth surfaced from export activities clustered around specific locations due to the limited infrastructure in the interior. This paper reviews the major contributions at the core of cluster theory and argues for a new understanding of clusters as “open” systems in the global economy and organizational structures that facilitate international business activity. The

following section 2 reviews the development of the multidisciplinary literature on industrial agglomeration and pinpoints the major puzzles raised in the theoretical debate on clusters. Section 3 discusses the advantages of historical analysis for the study of clusters in international business perspective. Section 4 presents two historical cases of clusters in developing economies to show how MNEs' activities and investment into clusters favored the internationalization of developing economies and strengthened the process of globalization. Section 5 concludes by claiming that the historical analysis of clusters documents the complexity of the cluster as a multidisciplinary concept; highlights clusters' influence on the strategies and investment decisions of multinational enterprises; and helps to understand clusters as organizational structures fostering the spread of global capitalism.

2. Industrial concentration as a foundation of cluster scholarship

The topic of industrial concentration in a specific location is an established area of research in the social sciences. The standard reference for this literature is Alfred Marshall, who is credited as the first to discuss the advantages of localization for economic activity in his *Principles of Economics* (1920). Marshall coined the expression "industrial districts" after observing the high density of small and medium-sized enterprises (SMEs) specializing in the same product in specific regions of the UK, such as Lancashire cotton, Staffordshire pottery, and Sheffield cutlery. Companies operating in these industrial areas could benefit from cost savings (such as lower input prices) and higher specialization resulting from co-location. These benefits were understood as being exogenous to each individual firm in the area, but endogenous to the group of companies there. Marshall identified a triad of factors, later named "agglomeration

economies,” as the sources of these positive externalities: a skilled labor pool; local non-traded inputs; and information spillovers due to proximity (McCann, 2009).

In the post-war period, the concept of industrial districts was revamped to explain new organizational forms emerging in Europe as alternatives to the declining Fordist model (Piore & Sabel, 1984; Trigilia, 2002, pp. 197-210). In particular, Marshall’s theory was initially extended to analyze the successful performance of regionally concentrated systems of production based on family-owned and highly specialized SMEs.

2.1 New industrial districts, learning regions and self-containment

Since the 1980s, Marshall’s ideas have inspired several seminal works in different fields of the social sciences that have defined the phenomenon in different ways: (neo-Marshallian) industrial districts (Bellandi, Becattini, & De Propis, 2009), learning regions, or *milieux innovateurs* (Aydalot, 1986; Maillat, 1998), and clusters (Karlsson, 2008; M. E. Porter, 1998).

The neo-Marshallian (new) industrial district tradition emerged from the work of economic historians and sociologists (Becattini, 2004; Brusco, 1990; Piore & Sabel, 1984) seeking to account for the successful performance of sectoral groups of SMEs in the northeastern and central part of the Italian Peninsula – the so-called “Third Italy” – after the 1970s. In the neo-Marshallian districts, production occurs in dense industrial networks via an “extended division of labor between small and medium-sized firms specialized in distinct phases or complementary activities within a common industrial sector” (Zeitlin, 2008, p. 223). The superior flexibility of this organizational design arises from cooperative relations based on trust, which in turn allow for the rapid circulation of knowledge in non-codified (tacit) forms through informal,

often face-to-face, exchange. To this regard, the literature is indebted to Granovetter's (1985) concept of social embeddedness, as this new type of district complements the traditional Marshallian model by stressing the social and cultural roots of these production systems. Towards the turn of the century, several business historians joined the discussion on districts by examining the long-term relationship between firm behavior and their institutional environment (Zeitlin, 2008, pp. 222-224). On the wave of North's neo-institutionalism and of the emerging approach of Varieties of Capitalism (Hall & Soskice, 2001) in the late 1990s, this literature expanded to apply these models to the advanced economies in Western Europe, North America, and Japan. Among them, Popp and Wilson (2000; Wilson & Popp, 2003) studied the business structures and culture in the pottery district of North Staffordshire. Carnevali (2004) researched how industrial associations impacted the cohesiveness of the Birmingham jewelry district. Parsons and Rose (2005) scrutinized the evolution of skills and innovation in the Lancashire cotton district as outdoor trade expanded after the 1960s. Scranton (1997) focused on the manufacturing districts in the US to complement the Chandlerian paradigm based on large corporations. Colli (1999) reinterpreted the Italian district tradition using archival material to describe the entrepreneurial elements underpinning the district; while Spadavecchia (2005a, 2005b) investigated the sources of financing, innovation and knowledge transfer among Italian SMEs. Lescure (2002) concentrated on the role of financial institutions in the development of districts in France. Similarly, Kurosawa and Hashino (2013) shed light on the linkages between firms, government institutions and trade associations for the promotion of districts in Japan.

In the same period, economic geographers provided their own interpretation of the phenomenon of industrial concentration, overcoming the industrial district to introduce more malleable concepts such as "new industrial spaces" (Scott, 1985; Storper & Walker, 1989),

“*milieu innovateurs*” (Crevoisier, 2004), and “learning regions”(Lundvall, 1995). While historians’ interest in industrial agglomeration was aimed at understand the long term patterns of social and economic interaction behind these region’s performance, geographers’ interest lied in the relationship between these organizational structures and the surrounding spatial characteristics, such as regional endowments and territorial dynamics. In its different national variations (Californian, French, and Scandinavian schools respectively), this scholarship, generally dubbed “new economic geography,” presents aspects of both continuation of and departure from the new industrial districts literature. Endogenous effects related to local capabilities, path dependency, and the embeddedness of local institutions in shaping industrial development remain a major influence in this approach. Conversely, it deviates from the district tradition in terms of level of analysis, core questions, and methods. First, these studies focus on larger territories rather than local communities and companies. Second, economic localization and Marshall’s “information spillovers” are interpreted as learning dynamics and technological trajectories within a specific space, region, or milieu (MacKinnon, Cumbers, & Chapman, 2002). In terms of methods, the two traditions present opposite challenges. The empirical focus of the studies on industrial districts uncovers different versions of the original neo-Marshallian type, but in doing so it endangers the analytical power of the district concept (Zeitlin 2008). In contrast, the theoretical focus of economic geographers does not coalesce into an equally relevant body of empirical investigation (MacKinnon et al. 2002). As a general limitation, all these contributions overstate the self-containment of industrial concentration, while eschewing comparative analyses or competitive dynamics among similar districts in different locations. As such, Saxenian’s (1996) ethnography of technology firms in the two tech-regions of Silicon Valley and Boston Route 128 represents both an exception and a *trait-d’union* between the two

traditions. The study identifies local institutions as the major discriminant of the divergent performance of the two regions. Historians Amdam and Bjarnar (2015) found that differences in strategic actions and in shared understanding of internationalization were the major causes of divergence in the performance of two Norwegian clusters since the 1990s.

However, these studies share three major limitations with the above-mentioned scholarships: they do not fully explain the relationship between regional and national regulatory frameworks; they only partially account for the connection between these industrial complexes and international markets; and they focus on advanced economies in relatively recent times.

2.2 From districts to clusters: the problem of the cluster in context

As for the relationship between regional and national geographies, a major contribution came from Michael Porter (2000), who revisited the Marshallian idea of economic concentration in the domain of business strategy to understand its impact on countries' competitiveness. Porter overcame the industrial district model largely based on systems of SMEs and coined the concept of the "cluster." In Porter's most recent definition, clusters "are geographic concentrations of industries related by knowledge, skills, inputs, demand and/or other linkages"(Delgado, Porter, & Stern, 2016, p. 1); hence, clusters could include organizations of different sizes and types (M. Porter & Ketels, 2009). In light of this, industrial districts could be considered a type of cluster as they comprised companies of small and medium size in light manufacturing industries (Declercq, 2018, p. 15; M. Porter & Ketels, 2009). Further, drawing from the theory of comparative advantage, Porter interpreted the existence of specialized industrial locations as competitive tools or strategic weapons available to nations to succeed in the international markets. In light of this,

Porter conceived clusters as resulting from the interplay of different environmental factors, the so-called “diamond,” but also as policy tools that can contribute to nation’s performance (M. Porter, 2000). Although Porter popularized the debate on industrial concentration and introduced it into the fields of international business and strategy, his framework was accused of being a “fuzzy” branding exercise, lacking analytical depth (Markusen, 1999; R. Martin & Sunley, 2003).

Yet, on the wave of the “cluster vogue,” economic geographers developed the “knowledge-based” cluster theory (Maskell, 2001; Maskell & Kebir, 2005) and the “evolutionary approach” to clusters (Bresnahan, Gambardella, & Saxenian, 2001; Trippel & Todtling, 2008). This line of research accepted Porter’s conceptual framework and took for granted key aspects of the “diamond,” especially with regard to the dynamics of rivalry and cooperation that result from co-location (Wolfe & Gertler, 2016, p. 1077), but departed from different epistemological assumptions (mostly social constructivist). According to this approach, clusters advance through a balanced access to and exchange of both tacit and codified knowledge. Cluster members access internal and external sources of knowledge via a system of “local buzz” and “global pipelines” (Bathelt, Malmberg, & Maskell, 2004). While the “buzz” identifies the Marshallian externalities resulting from proximity, “pipelines” are institutional arrangements channeling knowledge available elsewhere into the cluster (Maskell, Bathelt, & Malmberg, 2007). While proximity supports continuous buzz, via constant comparison and monitoring among firms, global pipelines must be carefully constructed “developing a shared institutional context which enables joint problem solving, learning and knowledge creation” (Bathelt et al., 2004, p. 43) with properly selected partners. Buzz and pipelines intertwine through a shared institutional structure that

enables “positive” institutional change via technology transfer and minimizes the risk of institutional lock-in (Bathelt & Glückler, 2014).

Overall, while cluster scholarship provided a synthetic and more open conceptualization of previous studies on agglomeration, it did not as yet offer a comprehensive solution to the problem of location specificity – or “tunnel vision.” By presenting clusters as results of comparative advantage, Porter’s theory overplayed the role of local dynamics over external linkages. Whereas the knowledge-based approach did not explicitly consider contextual contingencies, or external shocks, impacting the cluster’s working, its evolution or its role within the broader global economy. Further, neither approach extensively studied clusters through comparative analyses, measuring their performance against similar clusters in other locations. Conversely, clusters were (and are still) considered as unique and very peculiar entities that could support and integrate transnational organizational structures, but remained only barely reproducible in the broad competitive system.

In summary, so-called “location specificity” is in fact “cluster specificity.” The issue of self-containment was indeed raised separately for all theoretical approaches presented above. While Martin and Sunley argued that clusters are “self-contained entities abstract from the rest of the economic landscape” (2003, p. 17), Zeitlin observed that “the self-contained character of the districts has been overstated,” calling for more research on the “relationship between districts and the wider world” (2008, p. 219). Finally, MacKinnon et al. (2002, p. 293) pointed out that the economic geography literature on regions tends to “underemphasize the importance of wider extra-local networks and structures.”

A partial response to this problem came from economics, as Paul Krugman (1998) focused on the endogenous effects of industrial concentration, applying the methods and

vocabulary of mainstream economics to provide a new reading of the role of geography in growth dynamics (Fujita, Krugman, & Venables, 1999). Specifically, Krugman and colleagues interpreted Marshall's economic agglomerations as the result of increasing returns to scale generated by proximity. This perspective enhanced the role of trade in industrial development, stressing the fact that (several) inputs contributing to the agglomeration economies can be imported to a specific location from elsewhere. In fact, while representing sources of national competitiveness, clusters are often longstanding organizational structures supporting international business activity. In economic geography, recent studies attempted to overcome location specificity and local-global duality, but this line of research is still in early stage. The most promising studies investigate non-durable trans-local institutions, such as trade fairs, conventions and conferences as "temporary clusters." These are channels of horizontal interaction to identify potential partners for long distance knowledge exchange (Henn & Bathelt, 2015; Maskell, 2014). Finally, further research concentrated on the role of virtual communication as alternative to face-to-face interaction (Bathelt & Turi, 2011; Grabher & Ibert, 2014).

3. Clusters beyond location: MNEs, developing economies and global integration

The previous section concluded that much of the available scholarship on industrial agglomeration suffers from "tunnel vision" (Declercq, 2018, p. 11). Cluster studies overlooked the sources of cluster connectivity and specifically the influence of distant/non-local sources of growth such as foreign investment; imported inputs; dispersed sources of knowledge; market-driven standards and requirements; and, other organizational forms e.g. business groups, similar

distant clusters, global value chains (GVC) and global cities. The reason is twofold. First, most studies on economic agglomeration deal with industrialized economies, characterized by fairly homogenous features like availability of inputs, solid institutions, low trade barriers and political stability. In contrast, when scholars started examining clustering in less-developed economies, it became evident that sources of growth were rarely only location-specific and more frequently depended on factors imported from other locations or even located far away from where production took place. Thus, as developing economies often lacked efficient institutional apparatus and extended infrastructure, clusters emerged as preferred structures for the allocation of non-local resources, channeling foreign capital, specialized knowledge and inputs, and facilitating the upgrading of the local business environment and its integration within the global economy. In line with the idea that developing economies' competitiveness is often impaired by institutional voids (Khanna & Palepu, 2010; Puffer, McCarthy, & Jaeger, 2016), clusters represent organizational bridges to these gaps. Second, cluster theory traditionally concentrated on the dynamics of cooperation and competition among groups of firms, while the relevance of clusters for the strategies and cross-location activities of MNEs has often been neglected. Focusing on the activities of MNEs and transnational entrepreneurs as engines of change within clusters and as sources of connectivity across different locations helps to understand clusters as pillars of the global economic architecture.

3.1 The GVC approach and the role of clustering in less-developed countries

According to Porter, "poor countries lack well-developed clusters" (M. E. Porter, 1998, p. 86), mostly because of structural deficiencies in their business environment. These can also be

phrased as “institutional voids”, or missing intermediaries and poor institutional infrastructure, impairing the smooth functioning of capitalist systems. On the other hand, in developing economies industrial activity tends to concentrate in selected locations, especially around capital cities, because of the lack of widespread infrastructure in peripheral areas (Fujita et al., 1999; Jacobs, Ducruet, & De Langen, 2010). A vast literature in globalization and development studies has recognized the importance of clustering for economic development, especially in the first stage of growth of small and medium-sized enterprises (Dijk & Rabellotti, 1997; Schmitz & Nadvi, 1999). Several contributions in these fields showed how clustering in the developing world is often related to (technological or sectoral) upgrading through insertion into broader production structures, also theorized as global commodity or value chains (Bair & Gereffi, 2001; Humphrey & Schmitz, 2002; Pyke & Lund-Thomsen, 2016; Sturgeon, Van Biesebroeck, & Gereffi, 2008). Bathelt and Li (2014) analyzed the relationship between global cities and clusters, measuring the flow of FDIs among these centres as longstanding cross-cluster patterns referred to as “global cluster networks.” In the GVC view, cluster upgrading is externally enforced by “lead firms” – core actors in cross-border business networks. Lead firms represent “powerful nodes” that control production chains across different locations, through coordination mechanisms that do not necessarily involve direct ownership of the firms (Ponte & Sturgeon, 2014). This control is exercised via diverse types of governance, namely the “coordination of economic activities through [inter-firm] non-market relationships”(Humphrey & Schmitz, 2002, p. 4). The GVC approach overcomes the problem of location specificity by showing that cluster upgrading can result from factors independent from the cluster location and by conceptualizing the cluster as part of the broader global economic system. With regard to the integration between GVCs, global cities and clusters in less-developed countries, however, this literature still

presents a series of unresolved issues. First, the framework is accused of overlooking the challenges of integration between lead firms and the local institutional environment (Gereffi & Lee, 2016; Thomsen, 2007). A further criticism concerns the alleged excessive focus on export-oriented clusters. This way, this scholarship would convey a passive image of local firms and present host economies as mere suppliers to first-world MNEs (Lund-Thomsen, Lindgreen, & Vanhamme, 2016). In general, since its inception in the late 1990s, the GVC framework has sought to balance the need for comprehensive theorization of chain governance and to acknowledge the diversity of mechanisms linking different nodes in the value chain (Ponte & Sturgeon, 2014). However, by placing emphasis on lead firms whose choices are largely determined by the type of chain where they belong to, the approach tends to favor structure over agency instead of analyzing the strategies and contingencies of the MNEs operating along the GVCs. Critics within the field call for a more open approach that overcomes this perceived duality between local and global to embrace the growing organizational complexity of the global economy, accommodating the full range of forces, actors and spatial scales at work (Sturgeon et al., 2008).

3.2 Cluster competition and internationalization: the role of MNEs activity

As a major downside inherent in GVC structuralism, the chain approach struggled to connect different levels of analysis and only partially acknowledged globalization as the result of the continuous activity of specific actors and networks. In contrast, the strategies of MNEs in developing countries and their relationship with clusters in these locations provide insights on how the phenomenon of clustering contributes to the making of global business. These are well-

established ideas at the foundation of business history (Geoffrey Jones, 2000, 2005; 2013, pp. 190-207) and international business (Bayly, 2004; Fitzgerald, 2016; Kindleberger, 1969; Wilkins, 1970). For instance, Charles Jones (1987) introduced the notion of *cosmopolitan bourgeoisie* – thick networks of families and dense ethnically-heterogeneous trading communities concentrating in a wide net of port locations and hubs for global trade – to document the social structures behind the genesis and the expansion of the formal and informal British Empire during 19th century (Barton, 2014). Geoffrey Jones documented in depth the activities of trading firms, their subsequent transformation into business groups, and their role in international commerce and in the financing of (mostly clustered) infrastructure for primary production in less-developed countries (G. Jones & Wale, 1999; van Helten & Jones, 1989). McCann and Acs (2011) used an historical perspective to illustrate how MNEs have direct impact on locations' connectivity, being “the primary conduits via which global knowledge flows operate and the natural channels via which domestic firms can distribute their goods” (Aitken, Hanson, & Harrison, 1997; McCann & Acs, 2011) especially in times of intense globalization. Goerzen et al. (2013) showed that MNEs are more likely to invest within clusters and global cities than other locations due to their global interconnectedness, and proximity to advanced services and cosmopolitan networks. Studies on districts investigated MNEs investment into industrial poles to tap into specialized knowledge and how this has supported the regeneration and internationalization of these locations (Zeitlin, 2008, p. 226).

Overall, the longitudinal character of the historical approach offers a “nested” and empirically grounded focus on the interrelation of different levels of analysis: the agent perspective and corporate strategy, the institutional environment, and the role of contingency. This provides a solution to the abovementioned structuralism in existing accounts on clusters and

GVCs. Recent contributions in business history emphasized the advantages of cross-fertilization, using theoretical models developed in geography to direct their historical analysis of archival material. In his study of the fur district in Saxony during the 19th century, Declercq (2015, 2018) scrutinized the relationship between GVCs and industrial districts by retracing the long-term trans-border interaction among fur entrepreneurs. Moreover, the study explored the centrality of lead firms in triggering dynamic responses to external pressures in the form of collaboration and collective action at the local level. Similarly, Sebastian Henn's analyses of the diamond district in Antwerp examined the activity of transnational entrepreneurs and their strategies in constructing global pipelines and shaping value chains between clusters in India and Belgium (Henn, 2013; Henn & Laureys, 2010). Evren and Ökten (2017) used a historical approach to illustrate the long-term interaction among institutions and their resilience in the Istanbul jewelry cluster. Business historian Cirer-Costa (2014) studied the historical roots and external influence of Majorca's clustered tourist activities.

In summary, an historical approach of MNEs' activities conceptualizes clusters as entities that are only partially locally-entrenched, and can rather be moved and reproduced according to MNEs strategies. In light of this, long-term comparisons of similar clusters in different locations help to overcome location specificity and shed light on the under-researched topic of cluster competition (Buciuni & Pisano, 2015). This is particularly relevant in developing economies, as MNEs may choose to operate in similar clusters located in different contexts to diversify their political risk (Giacomin, 2017a). Alternatively, MNEs' initial focus in niche segments can eventually provide the basis for targeting the mass-market and ensuring continuous growth for the local economy as a whole.

4. Clusters and global business: two cases from the developing world

The globalizing activity of MNEs since the 19th century has shaped an institutional architecture based on clustered industrial operations, connected across value chains and global city networks. Studies on economic agglomeration documented the tight relationships between MNEs and cluster evolution. In some cases MNEs' investment has prompted the formation of clusters, in some others MNEs have joined existing clusters via acquisition of firms and either disrupted or revitalized the inner dynamics of these business poles. A closer look to MNEs activities in the developing world allows understanding clusters as platforms that facilitate the making of global business.

The following subsections present two historical analyses of clusters in developing countries. Specifically, the plantation (rubber and palm oil) cluster in Malaysia and Indonesia and the eco-tourism cluster in Costa Rica illustrate how MNEs incorporated clusters in their strategies; and how clusters support the process of integration of developing economies in the international markets. Despite differences in terms of region (Southeast Asia vs. Central America); industry (agriculture vs. services); size of cluster companies (big corporations vs. SMEs); historical period (colonial vs. postcolonial); and type of empirical material (archival sources and oral history), both cases show that clusters work as platforms for the globalization of these developing economies. Indeed, these clusters initially emerged to serve the export markets, and then generated - both positive and negative - spillovers for the growth of the local economy. In both cases, an initially limited group of foreign companies recognized elements of exceptionality in the local environment, which appealed to local as well as international demand. Successively, these international actors organized the import of locally unavailable inputs such

as skilled human resources, knowledge and capital, while mobilizing native actors and resources to set up the needed infrastructure to expand their activity *in loco*. Overall, multinationals impacted these clusters' development by implementing their strategies, such as staffing policies; knowledge transfer and generation; geographical and market diversification; countering of political risk; and opening of new markets. Through the emergence of new institutions, the resulting cluster organization filled some of the existing institutional voids and enhanced the competitive advantage of these locations *vis-à-vis* potential competitors.

4.1 Rubber and Palm Oil Plantation Cluster in Southeast Asia (1900-1970)

The rubber cluster emerged in the colonial territories of British Malaya and Dutch East Indies at the turn of the 20th century. In the late 19th century, British businessmen had imported the rubber tree (*Hevea Brasiliensis*) from the Amazon, its native home, into colonial Southeast Asia, a climatically similar but politically more stable environment. Since the late 19th century, the colonial government in both British Malaya and DEI granted the access to the land and attracted researchers (agronomists, botanists, biologists and engineers) to public institutions such as Botanic Gardens or Agricultural Departments. In less than two decades, a dynamic community of European and ethnic Chinese planters domesticated the tree into an estate crop leveraging the existing planting tradition (mostly on coffee and tobacco). Simultaneously, Chinese, Indian and Hadhrami Arab traders orchestrated the inflow of “coolies,” migrant labor from overpopulated areas of China, India and eventually Java, to employ as low-skilled workers in the plantations (McKeown, 2010; Stoler, 1985).

A cluster organization based on estate companies, industrial associations, public and private research institutions, and specialized supporting services, quickly took shape around the

global city of Singapore, following a boom of demand for natural rubber in the early 1900s (Huff, 1993). On the wave of increasing rubber prices, the *cosmopolitan bourgeoisie* operating in Singapore, foreign entrepreneurs and merchants, mobilized their network among bankers and ship-owners in Europe to channel foreign capital, strengthen the transport and production infrastructure, and connect with global commodity markets in Europe and North America. By listing estate companies and retaining shares of these ventures, several major trading houses vertically integrated into plantations, making it their core revenue stream (Drabble & Drake, 1981). When the price of rubber stabilized in the 1910s, a few of these largest players took control of the bulk of the estates. These were agency houses and plantation companies – Guthrie, H&C, Barlows, Boustead, Socfin, Harper and Gilfillan, among the most influential – formally represented by the London-based Rubber Growers’ Association (RGA). Alongside industry associations, specialized institutions were created, such as the Rubber Research Institute and the Incorporated Planter Society as well as outlets for knowledge dissemination such as the scientific magazine *the Planter*. In the 1920s, the spread of rubber estates in the region translated in lower entry barriers – access to seeds; technology; specialized knowledge on breeding, harvesting and refining techniques; transport and service infrastructure; and demand – for local smallholders, who soon started to grow rubber as a family business in small plots adjacent to the large estates.

As a result of the rising competition by Asian smallholders and increasingly volatile rubber prices, plantation companies such as Socfin and Guthrie introduced another imported crop in their estates, the West African oil palm (*Elais Guineensis*), as a potential diversification strategy (S. M. Martin, 2003; Tate, 1996). The oil palm was sufficiently similar to the rubber tree to leverage the synergies of the existing rubber organizational structure, but, being a more capital intensive crop, it shielded large estates from smallholders’ competition. Similarly to rubber,

during the 1920s and 1930s and eventually, after Japanese occupation, in the 1950s, the Southeast Asian cluster quickly established itself as the major palm oil producer over the leading exporters at the time, native West African locations, where the oil was still obtained from wild palm grooves (Giacomin, 2017b). Moreover, since the 1960s the major (foreign) cluster players cooperated with the newly formed Malaysian and Indonesian governments to develop palm oil smallholdings, which represented a major driver of rural growth for the region in the next two decades (Sutton & Buang, 1995).

The plantation example shows that although Malaysia and Indonesia provided climatically and politically conducive environments, non-local elements, and specifically FDIs, were major drivers of cluster emergence and success. Indeed, the cluster organization surfaced as a result of the strategies and investment of foreign companies, making use of imported inputs such as financial capital, specialized knowledge, migrant labor and non-native crops. While both the rubber boom and the diversification towards palm oil created lavish fortunes for Western and Chinese entrepreneurs, eventually the emergence of the plantation cluster ensured long-term rural development for these regions enduring until today.

After WWII, in a time of widespread political uncertainty connected to decolonization, MNEs looked for diversifying their international exposure with regard to strategic raw materials. Unilever, the largest private palm oil buyer, holding extensive palm oil interest in West Africa since the 1910s, joined the Malaysian palm oil cluster through the acquisition of confiscated German estates in the Peninsula in the late 1940s. Between the 1950s and the mid-1960s the two locations shared knowledge, while also competing for the supremacy in the global palm oil market. Some Malaysian palm oil companies considered investing in West Africa despite its poorer cluster organization in order to counter potential political instabilities in Malaya. While

attempting at upgrading the production system in West Africa to resemble the organizational structure of the Malaysian cluster, Unilever also fostered the inflow of specialized knowledge developed in its West African facilities and its circulation among cluster players across Southeast Asia. The political turmoil of the 1960s in West Africa further reinforced this trend by driving skilled human resources and investment to Southeast Asia and eventually led to the definitive decline of West Africa as palm oil exporter in the 1970s.

The analysis of the long-term relationship between the only two global palm oil clusters leads to two major insights. First, similar clusters in different locations are preferred platforms for MNEs to diversify their investment in politically unstable business environment. Second, MNEs' localization strategies in conditions of political uncertainty may lead to competition among different cluster locations. Studies on clusters have traditionally eschewed the topic of cluster competition on the premise that location specificity, in terms of actors and institutional frameworks, often constitutes a barrier to comparing different production systems even when distant clusters specialize in similar products. Conversely, the palm oil case overcomes location specificity by showing that clusters specialized in homogeneous and standardized products can move and compete as a result of the strategies of MNEs operating within them.

4.2 Costa Rica eco-tourism cluster (1940-2000)

Jones and Spadafora's (2017) analysis of the ecotourism cluster in Costa Rica also illustrates the role of clusters as preferred platforms for international business activity. The authors use oral history to describe the creation and evolution of this cluster since the 1940s, which eventually

made eco-tourism one of the largest revenue sources for the country. The cluster emerged as a successful case of making nature preservation commercially viable.

The basis story is one of co-creation by NGOs, the government and private enterprise, sometimes acting together but mostly acting separately. A group of local and foreign (primarily American) institutions operating in the country since the 1940s played a crucial role in spreading scientific knowledge about Costa Rica's biodiversity and introducing educational programs on environmental protection and wildlife conservation. Among them, the National School of Agriculture in the University of Costa Rica; the Inter-American Institute of Agricultural Sciences (later known as CATIE); the US-funded NGOs Caribbean Conservation Corporation and Tropic Science Centre; and the (mostly US-led) university consortium Organization for Tropical Studies. These institutions included several highly committed scientists and researchers, who attracted significant funding and organizational infrastructure for the conservation of the country's biodiversity and natural wildlife. These experts formed a transnational "epistemic community" (Cohendet, Grandadam, Simon, & Capdevila, 2014), who channeled established knowledge and ideas on biodiversity and environmental protection into Costa Rica and applied these perspectives to the local context. Further, these institutions heavily invested in dissemination of scientific research, marketing and media coverage to raise global awareness on environmental preservation.

These efforts produced positive spillovers in terms of both supply and demand for eco-tourism in the country. On the one hand, a formal definition of biodiversity was introduced in 1980 followed by the creation of several national reserves and parks in the country. On the other hand, this "environmental buzz" presented the country's rainforests and untouched wildlife as attractive travelling destinations for European and North American tourists. Several rainforest

enthusiasts from Europe and North America relocated to Costa Rica, invested in properties within or nearby the national parks and devoted themselves to nature preservation. Some of them eventually launched the first entrepreneurial ventures offering lodging and guided tours in protected areas – often employing biodiversity researchers as guides or part of their staff. The success of these pioneer companies and their focus on conservation attracted additional transnational entrepreneurs quickly leading to the emergence of the eco-tourism cluster, a system of companies and institutions profiting from sustainable tourism. Finally, between the 1940s and the 1990s, the local government indirectly supported tourism activities through investing in transport infrastructure such as rail lines, highways and international airports; establishing public institutions such as the Costa Rica Tourism Institute and the national airline LACSA; issuing industry-specific regulation such as tax incentives for large-scale tourism and legislation for environmental protection.

In the long-term, the cluster organizational structure built to serve the need of the very specialized niche of eco-tourists worked as the basis for the commercialization of tourism in the country. Both local and foreign entrepreneurs piggybacked on the successful image of Costa Rica as an untouched and exclusive travel destination to build conventional tourism facilities across the country. The national branding strategy based on protection of biodiversity and sustainable tourism became a double-edged sword. It had successfully created a longstanding international demand for tourism in Costa Rica which resulted in local growth, but by free-riding on the “green” image of the cluster, mainstream tourism ventures ended up watering down the very concept of sustainability that had informed the cluster emergence in the first place.

In summary, the case of Costa Rica offers a further example which counters the idea of cluster as self-contained structures, and rather presents clusters as facilitating international

business and global integration of less developed countries. Tourism activity flourished not only due to the country's resource endowment and generally supportive government action, but primarily as a result of intense international business activity around eco-tourism. Expatriate entrepreneurs and eventually tour companies developed and managed facilities respecting the local biodiversity and nurtured demand for eco-travelling from Europe and North America. Transnational scientists and researchers favored the inflow and circulation of specialized knowledge on forest and wildlife, while local and foreign natural conservation NGOs attracted capital for environmental protection and contributed to the branding of Costa Rica as a biodiversity temple.

As in the case of rubber and palm oil in Malaysia during decolonization, the political stability of Costa Rica relative to its neighboring locations like Guatemala or Nicaragua allowed the steady inflow of capital and international visitors, which provided long-term legitimacy to the branding of Costa Rica as a "natural paradise" and reinforced its reputation of authentic and intact (as well as absolutely safe) tourism destination.

5. Concluding Remarks

Starting with Marshall, industrial concentration has been a recurring theme in the social sciences. This working paper argued that historical analysis is the preferred strategy for addressing the abovementioned lacunas in the studies of clusters, particularly in the context of economic development and globalization. First, comparing diverse historical case studies enables a broader theoretical understanding of clusters as tools facilitating the operations of multinationals in the developing world. In this view, clusters are no longer conceptualized as

self-contained organizational forms, but rather as platforms enabling the interaction between global and local spheres as well as between different types of actors and organizations. The fact that MNEs' investment concentrated within clusters provide evidence on clusters' impact on the broader global economic system rather than only representing these industrial agglomerations as overly-localized organizational structures. Further, it helps to understand clusters as bridges to institutional voids favoring local upgrading through foreign investment in less-developed countries and hence contributing to globalization.

The two cases presented in this working paper stress the role of knowledge concentration and political stability for the development of durable clustered activities that can contribute to MNEs international operations. Both environments revealed extremely conducive for cluster emergence as they presented overlapping networks of scientists and businessmen. These communities were particularly cohesive in developing economies as members were primarily expats employed by MNEs and internationally-oriented institutions. The cases also show the relevance of government policy and public institutions in supporting the production of specialized knowledge, the inflow of FDIs and the activity of MNEs. Finally, the strategies and products developed within these first *nuclei* of firms were then adopted in different forms by local actors, smallholders in Asia and local tour operators in Central America. In both Southeast Asia and Costa Rica, the cluster institutional framework responded to changes in demand and was repurposed for different products: palm oil in the former and broader tourist packages in the latter.

Second, while different perspectives in a wide range of fields such as economic geography and development studies started addressing the problem of cluster self-containment, this growing body of work so far offered solutions that encompass only specific levels of

analysis and show clear biases in terms of what they can explain or not – i.e. the actor level of the transnational entrepreneurs or communities of practices; the middle level of specialized institutions, temporary clusters and lead-firms; or the macro level of the GVCs and global city networks. In contrast, the historical methodology offers the advantage of *longue durée* that enables cross-level integration of actors' decisions, corporate strategies and environmental contingency. As theorized by historical institutionalism, a long-term perspective helps to disentangle trade-offs and offers a contextual explanation of otherwise disjoint levels of analysis (Suddaby, Foster, & Mills, 2013).

Finally, the proliferation of scholarly production on industrial concentration informed the compilation of several meta-studies that apply bibliometric techniques to provide a categorization of scholarship in different fields (Cruz & Teixeira, 2010; Hervás-Oliver, Gonzalez, Caja, & Sempere-Ripoll, 2015; Lazzeretti, Sedita, & Caloffi, 2014). Although this research proves the multidisciplinary appeal of the cluster concept and acknowledges some degree of “contamination” among different fields, it also testifies that these streams of scholarship have remained largely segregated, with similar discussions and lines of inquiry developing in parallel within the boundaries of different disciplines. Wolfe and Gertler (2016) identified three major cross-disciplinary themes in the cluster literature that need further research: path dependency and cluster formation; the nature of knowledge and learning in clusters; and the integration of the cluster at the broader regional, national, and global levels. These themes are in line with those proposed by Schmitz and Nadvi (1999): external linkages; knowledge systems; and cluster comparisons. In light of this, the systematic use of archival sources and oral history provides the empirical depth which cluster scholarship has often missed as well as a nuanced and comprehensive view on themes that can be relevant to numerous

disciplines – as the cases have shown not just international business but also strategy, development studies and economic geography. In this regard, the historical methods help to build a “transdisciplinary” (Leblebici, 2013) rather than a multidisciplinary approach, embracing the specificities of and the differences within fields as distinct ways of tackling the same themes.

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