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THE EVOLUTION OF MARKET INSTITUTIONS AND THEIR ROLE IN CHINESE INDUSTRIAL DEVELOPMENT: EVIDENCE FROM AN INDUSTRIAL AGGLOMERATION IN GUANGDONG

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Summary

Many rural areas in China have experienced a fast industrialisation process since 1978 when the “reform and opening-up” policy was initiated. The evolution of market institutions is a specific institutional manifestation of decentralisation and marketisation (accompanied by the globalisation) in this national economic reform. From the actor perspective considering the firm heterogeneity, how these successive institutions interact with each other and co-evolve with the industrial agglomerations has rarely been investigated in literature.

Three major forms of market institutions which represent the milestones in Chinese industrial development history – specialised market, trade fair and electronic market – are identified. Drawing on the evolutionary concepts and approaches of institutional economics and political economy and through a case study of the Lecong-Longjiang-Jiujiang furniture industrial agglomeration in Guangdong, China, this paper seeks to better explain how market institutions evolve and how do heterogeneous firms in the industrial agglomeration evolve differently with the institutional change.

Findings include that the evolution of the market institution system is a path-dependent layering process, with partial replacement and conversion of older institutions. Local firms evolve from single-institution followers into seven groups with different market institution portfolios. Results suggest the limitations of a single theoretical model of evaluation, and the usefulness of a neoclassical approach in institution-agglomeration research is reemphasised.

Keywords: Market institutions, industrial agglomeration, firm heterogeneity, evolution, layering, replacement, conversion, path dependence, furniture industry, industrial development, Guangdong, China

Zusammenfassung

DIE ENTWICKLUNG DER MARKTINSTITUTIONEN UND IHRE ROLLE FÜR DIE INDUSTRIELLE ENTWICKLUNG IN CHINA, ANALYSIERT AM BEISPIEL EINER INDUSTRIELLEN AGGLOMERATION IN GUANGDONG

Viele ländliche Gebiete in China haben seit 1978, als die Politik der „Reform und Öffnung“ eingeleitet wurde, einen raschen Industrialisierungsprozess durchlaufen. Die Entwicklung

von Marktinstitutionen ist in diesem Kontext eine spezifische institutionelle Manifestation der Dezentralisierung und Marktorientierung (begleitet vom Prozess der Globalisierung) im Rahmen dieser nationalen Wirtschaftsreform. In der Forschung wurde bisher aus der Akteursperspektive und unter Berücksichtigung der Heterogenität der Unternehmen nur selten untersucht, wie die verschiedenen Marktinstitutionen miteinander interagieren und sich gemeinsam mit den industriellen Ballungsräumen entwickeln.

Im Rahmen dieser Untersuchung werden drei Hauptformen von Marktinstitutionen identifiziert, die Meilensteine in der industriellen Entwicklung Chinas darstellen: historisch gewachsene Spezialmärkte, Messen und elektronische Märkte. Auf der Grundlage der evolutionären Konzepte und Ansätze der Institutionenökonomie und der politischen Ökonomie und anhand einer Fallstudie über den Möbelindustrie-Ballungsraum Lecong-Longjiang-Jiujiang in Guangdong, China, soll in diesem Beitrag versucht werden, besser zu erklären, wie sich Marktinstitutionen entwickeln und wie sich die heterogenen Unternehmen in dem Industrie-Ballungsraum im Zuge des institutionellen Wandels unterschiedlich entwickeln.

Zu den Ergebnissen gehört, dass die Entwicklung des Marktinstitutionensystems ein pfadabhängiger Schichtungsprozess ist, bei dem ältere Institutionen teilweise ersetzt und umgewandelt werden. Lokale Unternehmen sind in ihrer Entwicklung nicht mehr auf einzelne Marktinstitutionen ausgerichtet, sondern können in sieben Gruppen mit unterschiedlichen Marktinstitutionenportfolios differenziert werden. Die Ergebnisse weisen auf die Grenzen eines einzigen theoretischen Erklärungsmodells hin und unterstreichen die Nützlichkeit eines neoklassischen Ansatzes in der Institutionen-Agglomerationsforschung.

Schlagwörter: Marktinstitutionen, industrielle Agglomeration, Evolution, Schichtung, Transformation, Pfadabhängigkeit, Marktportfolios, Möbelindustrie, industrielle Entwicklung, Guangdong, China

1 Introduction

The study of industrial agglomeration has long been a staple of economic geography. Much recent innovation on this subject has alighted on the institutional bases of agglomeration (AMIN and THRIFT 1992; SCHMITZ 1999) including as this plays into the evolution of industrial agglomerations (POTTER and WATTS 2011). The processes of vertical disintegration or integration (SCOTT 1986; SCOTT 1983) and their spatial reach (PHELPS 2004; ANAS et al. 1998) reflect change in the division of labour based on the specialisation of manufacturing and marketing activities.

Institutions regarding marketing have a complex relationship to the evolution of industrial agglomerations. Historical evidence suggests that institutional development can be as much cause as effect of industrial agglomeration. Moreover, although not their intention, historical schemes (DURANTON 2001) can give the impression of the simple linear replacement of institutions over time. Rarely have some of the complexities of how institutions co-evolve to shape the evolution of industrial agglomerations been investigated in the economic geographical research (BOSCHMA and FRENKEN 2009; STRAMBACH 2010). In the

present, for example, the disintermediation promoted by the rapid emergence of electronic market based on the information technology (GELLMAN 1996; ANDERSON and ANDERSON 2002) is layered onto traditional institutions (e.g., trade fair) posing the question: Do successive market institutions coexist inertly, negate, augment or displace each other in the development of industrial agglomerations? Starting from the market institutions which are closely associated with the industrial development, this paper aims to dig deeper into the complex co-evolution of institutions and industrial agglomerations.

In mainland China, many rural areas have experienced a fast industrialisation process since 1978 when the “reform and opening-up” national policy was initiated. Industrial agglomerations, which emerged in many villages and small towns (QIAO et al. 2016; BELLANDI and DI TOMMASO 2005), embody this development process in geographical space (HE and ZHU 2009; HO and LIN 2004). Two major driving forces of this process which have been widely recognised are the decentralisation and the economic globalisation (HE et al. 2016). Decentralisation brought about the quickly emerging and now flourishing private enterprises (LIN and MA 1994; HE and WANG 2012). The dynamics of globalisation is often interpreted as foreign direct investment (FDI) (HE 2008; ZHAO et al. 2012) or international processing trade (LEMOINE 2010; YANG et al. 2015).

In the transitional process of China’s industrial economy, the role of different forms of markets and their evolution with interactions, which can be viewed as compound manifestations of the institutional results of both decentralisation and economic globalisation, are underplayed in literature. Their relationship to the evolution of industrial agglomerations still lacks adequate interpretation. Brick-and-mortar markets which emerged due to the expansion of domestic demand of China in the early 1980s (e.g. specialised markets) have experienced substantial upgrades (HUANG et al. 2008; BELLANDI and LOMBARDI 2012). The more recent physical forms (e.g. trade fairs) and virtual forms (e.g. electronic markets), which emerge as a result of the extension of market reach, further complicate the evolution of China’s industrial economy (ZHANG et al. 2020; BATHELT and ZENG 2015).

In terms of the evolution history of market, market as a key institution of economic activities develops from traditional marketplaces in the preindustrial era to now modern transaction places in various specific forms¹⁾ (e.g. stock market, shopping mall) (FEINMAN and GARRATY 2010; JEGADEESH and TITMAN 1993). Regarding the industrial product distribution in China, the authors identified three major forms of markets which represent the milestones in the Chinese industrial development history – the traditional brick-and-mortar specialised market, the modern trade fair and the electronic market (hereafter e-market).

The traditional wholesale specialised market is supposed to reduce searching costs for both manufacturers and buyers as well as increasing scale economies of industrial clusters (BELLANDI and LOMBARDI 2012, DING 2012). Trade fairs help expand the market scale of export by creating agglomeration benefits, and reduce the research and development costs by generating knowledge spillovers (BATHELT et al. 2014; BATHELT et al 2004). As

¹⁾ In this study, market institutions can be viewed as socio-economic constraints that can lower transaction costs. Such a conception of institutions is the mainstream view of new institutional economics (NORTH 1990; RUTHERFORD 1994; WILLIAMSON 1985).

for the e-market, existing literature discussed more on the downstream product distribution (LÖHE and LEGNER 2010; STEINFELD et al. 1995) and the platform economies per se (LANGLEY and LEYSHON 2017; GORMAN 2002) while rarely focused on industrial clusters, especially the manufacturers and the relations between (STEINFELD and SCUPOLA 2008), and the empirical work at the industrial level over past three decades has generated inconsistent and complicated results (GALLIANO and ROUX 2008; KOCH and SCHULTZE 2011; ALT and KLEIN 2011). View of the transition of relations from the hierarchy to the market governance (CLEMONS et al. 1993; MALONE et al. 1987) and the elimination of intermediaries between manufacturers and consumers (ANDERSON and ANDERSON 2002; GELLMAN 1996) both seem to imply dissolution of established industrial clusters.

However, many empirical cases have revealed that a balance or trade-off between costs and sales through online and offline channels is often made by firms (HOLLAND and LOCKETT 1997; BRYNJOLFSSON et al. 2009), and both the market governance and the disintermediation are not complete (CHIRCU and KAUFFMAN 2000; KOCH and SCHULTZE 2011). Instead of continuing with the debate on transaction costs or profits, with tacitly acknowledging that industrial clusters remain, another strand of literature from the perspective of value chain is more interested in the description of industrial upgrading brought by the e-market, and a profound change in both the Chinese e-market and the manufacturing industry has been noticed (GEREFFI 2001; LI et al. 2019).

Compared with the high-tech industries emerging in recent decades, traditional labour-intensive industries in China have experienced a full-scale institutional change since the pre-industrial time. Therefore, research case from traditional industries suits the purpose of studying both the institution and the evolution. Furthermore, being a connection between upstream suppliers and downstream consumers industrial agglomerations engaged in finished product manufacturing are more significantly influenced by the market institutions. The manufacturing industry of finished furniture products is a typical labour-intensive sector which contributes to a major part of the domestic sales and exports of China's industrial products. As a low-tech industry, furniture manufacturing and marketing primarily rely on the product design (especially the appearance design) and services. Conclusions drawn from the study case selected from this industry thus are able to generalise about the agglomerations of light industry with similar characteristics in China. Empirical findings of this study also may be instructive for the development of industrial agglomerations and the improvement of market system in countries as the world's factories (e.g., Vietnam, Indonesia) sharing a similar history of industrial development and undergoing changes in their market institutions.

Based on a case study of the furniture industrial agglomeration in Lecong, Longjiang and Jiujiang (LLJ) region of Guangdong Province, we will decompose a complicated institutional layering process, in which old market institutions also have faced varying degrees of replacement or conversion brought by the new ones. The furniture industry in the LLJ region originated with a specialised market in early 1980s. Despite being located in the countryside, the three towns possess advantageous transportation connecting major cities (Guangzhou, Shenzhen and Hong Kong) in South China. Due to the reform and opening-up, the rural surplus labour force began to engage in non-agricultural businesses. The

No. 325 national road which crosses the three towns and connects nearby cities naturally became a low-cost channel for product distribution. Due to the scarcity of light industry products at that time, furniture shops and factories increasingly emerged along the road.

Drawing on the evolutionary concepts and approaches of institutional economics and political economy which have been linked to economic geography (MACKINNON et al. 2009), this paper seeks to explore the evolution of three important market institutions – specialised market, trade fair and e-market – and explain the reflexive relationship between the institutional evolution and the evolution of industrial agglomeration in China since the economic reform in 1980s. This study not only reveals an industrial evolution pattern in China which was downplayed in existing literature but also reminds that certain firm-level dynamics may not be fully explained by a single evolutionary or institutional theory, which calls for more future work.

2 A Brief Literature Review of Industrial Agglomeration, Institutions and Evolution

2.1 Factors Influencing the Performance of Industrial Agglomerations

China's economic transition has been summarised as a triple process of decentralisation, marketisation, and globalisation (HE 2008). And the three factors are believed to have a significant impact on China's industrial agglomerations (BATISSE and PONCET 2004). Decentralisation which generates local protectionism has served as a centrifugal force for Chinese industries as it hurdles industrial specialisation and geographic concentration. By contrast, marketisation and globalisation both have stimulated the spatial concentration of Chinese industries. Not only for China, the impact of globalisation on industrial clusters has been widely recognised by scholars around the world. How the foreign investment, trade liberalisation, global production networks (GPNs) and the firm internationalisation therein affect local relations (MARIOTTI et al. 2008; COE and YEUNG 2019) and the competitiveness or resilience of local production systems (POWER and HALLENCREUTZ 2007; RABELLOTTI 1999) has been extensively researched. As for the market, what has been mostly discussed is the market extent of local industries (LEVY 1984; DURANTON and JAYET 2011).

Scholars in industrial economics believe that the market expansion for local products not just means a sales growth but enhances a division of labour among firms. In addition to the macro-level factors aforementioned, extra-local knowledge linkages are believed to play an important role in maintaining the innovativeness of industrial agglomerations (BATHELT 2007; MORRISON et al. 2013; EXPÓSITO-LANGA et al. 2015) and may even redirect their evolutionary paths according to the cluster life cycle model (TER WAL and BOSCHMA 2011). At the micro-level the characteristics of firms are also treated as a major factor which may influence the local technique and the relational structure of clusters (CHANDRA and MACPHERSON 1994; NEFFKE et al. 2018).

While literature on the performance of industrial agglomerations covers numerous specific themes, it basically belongs two major categories – the agglomeration dynamics

and the (collective) performance of cluster agents. In terms of the agglomeration dynamics, externalities and relations between local agents are two fundamental aspects being frequently discussed. The Marshall-Arrow-Romer (MAR) externalities (specialisation externalities) indicate the dynamics of single-industry agglomerations while the JACOBS' externalities (diversity externalities) reflect the major characteristics of the multi-industrial ones (ROMER 1986; JACOBS 1969; NEFFKE et al. 2011).

As for local relations, scholars have explored the networks of sociality (FU et al. 2013; SEARLE et al. 2018), innovation or knowledge (CAMAGNI 1999; COOKE and MORGAN 1993), and vertical supply (GORDON and McCANN 2000; PROVAN 1993). The structure (MARKUSEN 1996; SCHUTJENS and STAM 2003) and governance (LOASBY 1994; CLEMONS et al. 1993) of these relational networks have been frequently researched. As regards the (collective) performance of cluster agents, it covers a variety of dimensions including innovation (ANOKHIN et al. 2019; AUDRETSCH 1998), economic growth (BATHELT and TAYLOR 2002; ERIKSSON and LINDGREN 2008), and position in value chains (HUMPHREY and SCHMITZ 2002; GIULIANI et al. 2005).

As a transitional economy, China has passed through a fast-paced process of marketisation (accompanied by the globalisation) in which certain institutions have played a key role in the genesis and development of industrial agglomerations. In this study, we will focus on the key institutional factors in this marketisation process and find out how they shape the dynamic performance (including the externalities, supply relations, agglomeration scale, the business and innovation operation of different firms) of industrial agglomerations and are in turn shaped by the agents therein.

2.2 A Reemphasis on Linking Institutions with the Evolution of Industrial Agglomerations

The causal relationships between local institutions and the performance of industrial agglomerations have been identified by economic geographers. For example, the so-called institutional thickness was asserted strongly that it could explain the success of many industrial clusters in the world (HENRY and PINCH 2001; AMIN and THRIFT 1995). For many labour-intensive or craft industrial agglomerations in the global south, policy or institutional development was held key to unleashing external economy effects (SCHMITZ 1995; SCHMITZ 1999). However, existing studies concerning the institutions and their change remain largely disconnected to the study of industrial agglomerations. Despite the role of institutions having been implied in the literature on the evolution or life cycles of industrial agglomerations (MENZEL and FORNAHL 2010), the causality often drawn between the fluctuating fortunes of institutions and industrial agglomerations also leave questions of the exact contribution of institutions to the dynamic performance unanswered.

Although “renewal” or “replacement”, and “constant mutation” have been theorised in the adaptive version of evolutionary opinions (MARTIN and SUNLEY 2011), they still explain the cluster evolution primarily based on the internal dynamics, which does not distinguish the different roles of institutions therein. How multiple institutions in the process

of their complex interactions drive the agglomeration development and co-evolve with the agglomeration(s) seem to be neglected in the rich body of literature.

Received theories of agglomeration, including their institutional variants, continue to speak primarily to place-based processes subject to long historical sweeps of slow change in which one institution replaces another in the evolution of industrial agglomerations (DURANTON 2001). The buzz-and-pipelines approach (BATHELT 2007; BATHELT et al. 2004) overcomes some of the localism (and some of the tautology of agglomeration theory) and perhaps prioritised particular institutions (i.e. trade fairs). However, contemporary industrialisation in some global south or transition economies has taken place at break-neck speed and unprecedented scale, which gives rise to more or newer forms of market institutions. More recently e-market has begun to challenge long established institutions such as brick-and-mortar emporiums and trade fairs, posing open questions for how the evolution of market institutions in recent decades have influenced the industrial agglomerations.

Three market institutions, namely, the specialised market, the trade fair, and the electronic market, emerged sequentially in different periods of China's industrialisation process and have greatly promoted the development of manufacturing clusters.

The specialised market (SM) in China is where economic agents mainly conduct wholesale on one type of merchandise. The SM is a unique institution of Chinese economy and is distinct from other modern market institutions (e.g. supermarket), and from the regular 'marketplaces' in the history of western countries (BRAUDEL 1973; WANG et al. 2013) as well as centrally-located merchant-operated bazaars found in the Middle East (KESHAVARZIAN 2007; ROTBLAT 1975). Chinese specialised markets are situated near or within industrial agglomerations in the periphery of major cities or adjacent to transport hubs, and most shops in the SMs are run by manufacturers (DING 2012). Creating market access to many distant specialised clients, specialised markets realize the economies of scale for agglomeration manufacturers by reducing searching costs and allowing mass production.

Similarly, trade fairs (TFs) held around the world, including those in China, broaden the market reach of manufacturers (BATHELT and ZENG 2014; BATHELT et al. 2014). However, more than expanding market trade fairs continuously generate knowledge spillovers to industrial agglomerations based on the buzz-and-pipeline mechanism (BATHELT 2007; BATHELT et al. 2004).

As for the e-market, existing literature did not offer a clear conclusion on what it has brought to the upstream agents and relations within industrial agglomerations. Inferring from the views that the governance of supply relations would move from the offline hierarchy to the online market (CLEMONS et al. 1993; MALONE et al. 1987) and that the intermediaries between manufacturers and consumers would be eliminated (ANDERSON and ANDERSON 2002; GELLMAN 1996), industrial clusters would disintegrate. However, the conflict between online and offline channels still remains (CHIRCU and KAUFFMAN 2000; KOCH and SCHULTZE 2011). Large volume of industrial products in China have been distributed primarily through third-party exchange (3PXs) type of e-market channel in the past 15 years (PHELPS et al. 2022) and how this online retail has influenced the industrial agglomerations thus requires further exploration.

2.3 Seeking an Approach to Better Portray Heterogeneous Firms, Diverse Institutions and their Co-evolution

A major defect of the literature on industrial agglomerations is that it lacks an actor perspective and often neglects that firms are heterogeneous (TER WAL and BOSCHMA 2011; GIULIANI 2007). Firm heterogeneity is part and parcel of industrial agglomerations, and might even be considered a driving force of agglomeration evolution (BOSCHMA and FORNAHL 2011; MENZEL and FORNAHL 2010). However, studies of industrial agglomerations have not explained much on how heterogeneous firms response to the institution evolution (STRAMBACH 2010; AVNIMELECH and TEUBAL 2008). Geographical literature focusing on the technological heterogeneity of firms (GIULIANI 2011; MORRISON 2008) lacks evolutionary and institutional perspectives both. Meanwhile, for the handful of empirical studies which mentioned the response of different firms to the institutional changes (HILLIARD and JACOBSON 2011), they failed to notice that institutions can be created and reshaped by agglomeration actors over time. It seems that research on the co-evolution of multiple institutions and industrial agglomerations with heterogeneous firms still remains in the evolutionary economic theories (VAN DEN BERGH and STAGL 2003).

To better understand the institutional dynamics of industrial agglomeration evolution, the variety and the coexistence of institutions cannot be bypassed. The emphasis of evolutionary economics on the rational behaviour of firms centred on the economisation on production and transaction costs (NORTH 1995; WILLIAMSON 1985; COASE 1998) may fit best with the existing theories of industrial agglomeration in economic geography (MARSHALL 1920; PHELPS 1992; SCOTT 1983). However, with few insights into the diversity of institutions most work in evolutionary economics does not deconstruct the institutions of local economies (DAVID 1994; ACEMOGLU and ROBINSON 2006).

The relational structure of diverse institutions is more emphasised in economic sociology and political economy (AMABLE 2000; HALL and THELEN 2009), and their approach has seeped into economic geography (MACKINNON et al. 2009). STREECK and THELEN (2005) identified several modes of institutional change: replacement, layering, and conversion²⁾ which view that institutional change is cultivated by agents within the context of existing institutions. Replacement happens as new models emerge and diffuse while traditional behaviours are overtaken by new institutions (FLIGSTEIN 1996; POWELL and DIMAGGIO 2012). Layering takes place by gradually adding new rules or new functions to existing institutions (STREECK and THELEN 2005). Conversion is that existing institutions are realigned to serve new functions (MARTIN 2010).

In this sense, the theoretical modes in economic sociology or political economy aforementioned which consider the heterogeneity of both institutions, agglomeration firms and their co-evolution simultaneously seem to be an appropriate analytical tool for the empirical research. Moreover, this approach is able to explain the enduring unchanged phenomena from the past (negative) outcomes (KHALIL 2013), which means it does not conflict with the path dependence approach in the evolutionary studies (MARTIN 2010).

²⁾ Drift and exhaustion of institutions in this approach are not applied to discussing the market institutions in this paper, as not all the five modes of institutional change will occur in cases in an ergodic way in the context of China's economic development.

2.4 Three Market Institutions Emerged Sequentially Along with the Development of Chinese Industrial Agglomerations

To avoid a full-scale discussion on the overcomplicated inter-institution relationships in the whole institution system and the possible ambiguity concerning the ‘institutional thickness’ (HENRY and PINCH 2001), in this exploratory study the authors particularly focus on three market institutions, namely, the specialised market, the trade fair, and the electronic market, which emerged sequentially in different periods of Chinese industrialisation. The three specific institutions correspond with three different but comparable forms – permanent and brick-and-mortar; temporary and brick-and-mortar; permanent and virtual. In addition, the chronological order in which the three market institutions emerged also reflects a trend of industrial evolution – towards the forward integration in the supply chain – from wholesale to franchising, and then to retail.

The ‘reform and opening-up’ in China since 1979 made the huge domestic demand for light industry products be suddenly released, which caused the ‘specialised market’ (translated from mandarin ‘*zhuanye shichang*’; hereafter SM) to emerge (DING 2012). The SM emerged naturally as an institutional response to the scarcity of channels for commodity circulation in the early time of China’s transition from a planned economy. SM is an institution by which economic agents mainly conduct wholesale in large volumes on one type of merchandise at a fixed site. SM thus aggregates customer demand at a regional, national, or even global scale into a small supplying space (e.g. a small town) (MAO 2011), which helps lower the searching costs of local wholesalers (most of them are manufacturers) and realise the economies of scale through mass production. Since a SM functions as a low-cost and shared marketing platform for its neighbouring industry, SMs play an important role in the genesis and development of industrial agglomerations (BAI 2010).

The recent global shifts have seen the emergence of *trade fairs* (TFs) in East Asia due to the reorganisation of global supply chains. The prosperous trade fairs in China are closely associated to the great development of modern manufacturing industries and their demand for market expansion (BATHELT and ZENG 2014; LI 2015). From the 1990s, support policies at all levels of government in China led to a convention and exhibition centre building boom that continued into the late 2000s (BATHELT et al. 2014). As of year 2019 before the COVID-19 pandemic, the total gross exhibition space in China has reached 14.9 million m² and 11,003 trade fairs have been hosted with an average size of over 34,000 square meters,³⁾ which ranks first in the Asia-Pacific region. In addition to promoting market expansion (especially for the export) and thus increasing the economies of scale for manufacturers, research which primarily focuses on the knowledge effects of trade fairs (TFs) has contended that TFs continuously serve as temporary hot spots of innovative knowledge compared with permanent industrial clusters by setting a short innovation cycle and gathering the highly innovative firms. Therefore, the knowledge spillovers of TFs to in-

³⁾ Source: Global Association of the Exhibition Industry (UFI) data for 2008/9; 2019 Statistical Report on Chinese Trade Fair Industry.

dustrial clusters also help reduce the research and development costs of firms (MASKELL et al. 2006; BATHELT et al. 2004).

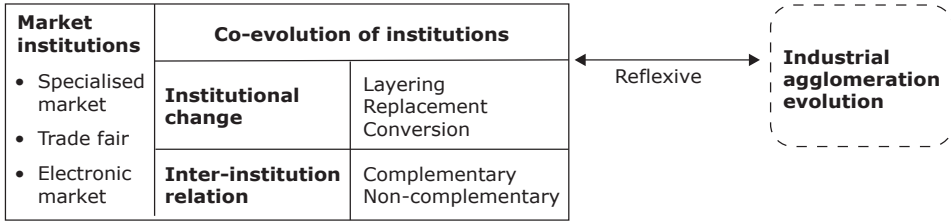
E-market is the platform on which e-commerce is conducted. Discussions about the effects of e-commerce are frequently found in management literature. Due to its research purpose and paradigm, instead of focusing on industrial agglomerations in the upstream of supply chain directly existing literature mainly explores the downstream product distribution (LÖHE and LEGNER 2010; STEINFELD et al. 1995) or the platform economies *per se* (LANGLEY and LEYSHON 2017; GORMAN 2002). Views that the governance of supply relations would shift from the hierarchy to the market (CLEMONS et al. 1993; MALONE et al. 1987) and the intermediaries between manufacturers and consumers would be eliminated (ANDERSON and ANDERSON 2002; GELLMAN 1996) both seem to imply the dissolution of established industrial agglomerations. However, many empirical cases have revealed that considerable existing agents and the offline relations between them still remain (CHIRCU and KAUFFMAN 2000; KOCH and SCHULTZE 2011) because a trade-off between costs and sales through online and offline channels can be made by firms (HOLLAND and LOCKETT 1997; BRYNJOLFSSON et al. 2009).

According to the operation mode of the e-market (WANG and ARCHER 2007; CHELARU and SANGTANI 2009), e-markets can be divided into three types: third-party exchange (3PXs), industry-sponsored marketplaces (ISMs), and private trading networks (PTNs). The 3PX is a neutral, many-to-many intermediary that provides a marketplace for sellers and buyers without participating in it on either side. After a fast-pace development of e-commerce in the past decade, the distribution of most finished products in China has moved onto the 3PX e-markets. In 2019 before the COVID-19 pandemic, the gross merchandise volume of the e-market in China reached CNY 34.81 trillion, having increased by 816.1 percent compared with that in 2009. The online retail sales (ORS) was CNY 10.63 trillion which is 40.1 times larger than those in 2009.⁴⁾ The ORS of China was ranked the first around the globe in 2019, and so is its average growth rate in the recent decade.⁵⁾ Along with the e-market boom, offline industries have quickly connected with the Internet.

In light of the omissions of literature and several shortcomings of theories and approaches discussed above, this study chooses to apply the methods that analyse institutional change in political economy and the path dependence approach to giving a better description and explanation on how diverse institutions evolve and how do heterogeneous firms in the industrial agglomeration evolve differently with the institutional change. By focusing on the three market institutions which emerged sequentially in China's industrialisation process, we intend to articulate the institution-industrial agglomeration co-evolution process through a case study of a furniture agglomeration in South China. The analytical framework is summarised in Figure 1.

⁴⁾ Source: China E-commerce Report (2019). See: <https://www.asendia.com/resource/china-e-commerce-report-2019>.

⁵⁾ Source: Report by eMarketer. See: <https://www.emarketer.com/content/global-ecommerce-2019>.



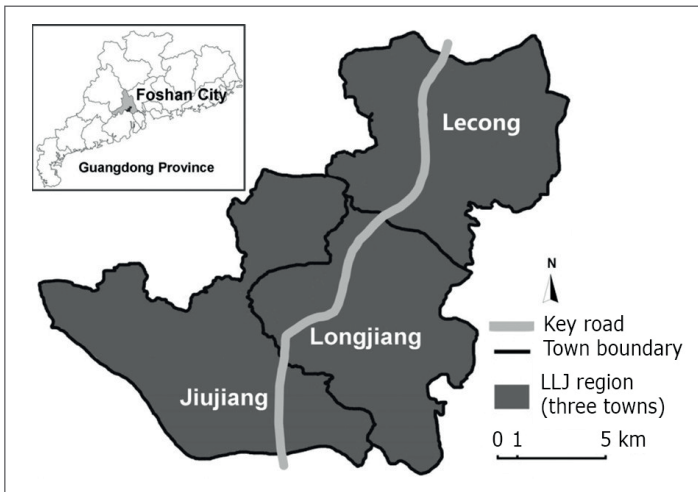
Source: Authors

Figure 1: The framework of analysis

3 Study Case and Methods

3.1 Study Case

Compared with the high-tech industries which emerge in recent decades, traditional labour-intensive industries in China have experienced a full-scale institutional change since the pre-industrial time. Moreover, most of industrial agglomerations in China belong to the labour-intensive industries, and the manufacturing of finished furniture is a typical one. Conclusions drawn from the case can help generalise about the complex co-evolution between spatial agglomerations of the labour-intensive industry and the institutions (at least the three market institutions). Choosing the study case from this industry thus suits the research purpose.



Source: Authors

Figure 2: Location of the Lecong-Longjiang-Jiujiang (LLJ) furniture industrial agglomeration

The study case is located in a region that is comprised of three adjacent towns, namely Lecong, Longjiang and Jiujiang (LLJ) in Foshan City of Guangdong province, South China (Figure 2). This LLJ region is China's one of the four largest furniture production bases (Table 1).

	Lecong	Longjiang	Jiujiang
Area (km²)	78.0	78.3	94.8
Number of enterprises	1,300 manufacturers 4,100 shop lessees	2,300 manufacturers 3,000 raw-material suppliers and supporting-service providers	700 manufacturers
Employees (year 2019)	70,000	100,000	57,000
Specialised markets	<ul style="list-style-type: none"> The global largest market of finished furniture products The capital of China furniture trade^a 	Markets of raw and auxiliary materials, including the largest timber market in Asia	//
Trade fairs	//	Longjiang International Dragon Furniture Fair	//
Electronic market	<ul style="list-style-type: none"> National-level pilot town of e-commerce^b Platforms: Alibaba* 	<ul style="list-style-type: none"> The E-Commerce Capital of Chinese Furniture Industry^c Platforms: JD.com,** Alibaba 	E-commerce pilot town of Foshan city for traditional industry upgrading

a Conferred by the China National Light Industry Council in 2004.

b Conferred by the Ministry of Industry and Information Technology of the People's Republic of China in 2010.

c Conferred by the China Electronic Commerce Association in 2015.

// Means no typical manifestations.

* Alibaba Group Holding Limited is a Chinese e-commerce company that provides C2C, B2C and B2B sales services via Web portals. On 18 September 2014, Alibaba achieved the biggest US IPO in history. Its retail business surpasses Walmart to be the world's largest as of April 2016 (Source: Alibaba Group's portal, <http://www.alibabagroup.com/en/global/home>).

** Jingdong or JD.com is China's largest online direct sales company which currently holds close to a quarter of the Chinese B2C market. In May of 2014, JD.com was listed on the Nasdaq stock exchange, which marked the largest listing in the year (Source: <http://www.joybuy.com/help/question-7.html>).

Source: Shunde Yearbook (2020); Report on the Development of Shunde Furniture Industry (2014); Nanhai Yearbook (2020)

Table 1: Basic information of the furniture manufacturing and commerce in the LLJ region

3.2 Data and Method

Mixed methods of data collection were used. Secondary data were collected from statistical reports, newspapers and year books. Primary data were collected through a questionnaire

survey of furniture businesses, semi-structured interviews with firms, government, industry associations, institution administrators, and observations conducted in the field during January to June 2017, March to May and November to December 2019. Two supplementary short-term surveys were also conducted after the COVID-19 epidemic lockdown.

First-hand data were mainly collected from 175 face-to-face semi-structured interviews which permits analysis of themes unforeseen in the set-up of research (LONGHURST 2016). Industry associations were approached first, and firms were surveyed with the assistance of associations. Since no complete and up-to-date firm directories could be provided by the local Industry and Commerce Administration Bureaus, a non-probabilistic convenience sampling was employed for the questionnaire survey of firms, which ensured that firms following each of the three market institutions were included. Firms being interviewed were selected based on the questionnaire sample and through a mixed random and purposive sampling (BRYMAN 2012). Administrators of the market institutions and civil servants in government departments were also interviewed. Interviews with the trade fair organiser and the exhibiting firms were arranged after the busy fair events.

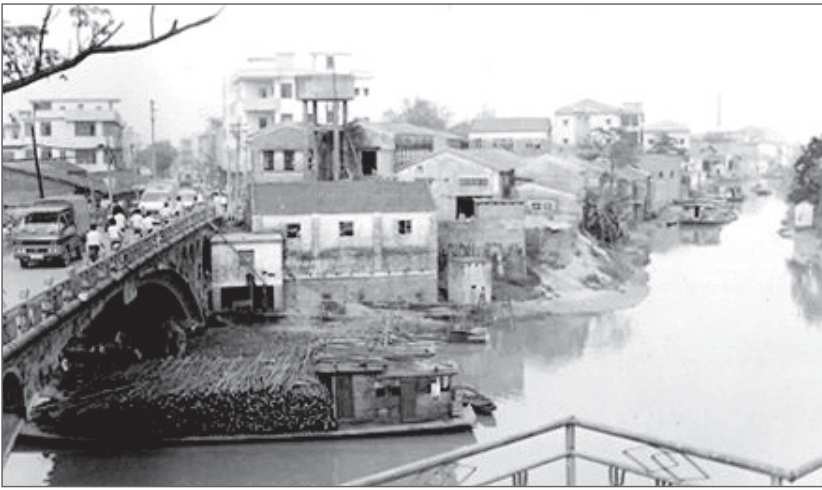
188 firms in total were approached. Only 154 of them finally completed our survey, which resulted in a response rate of 81.9 percent. In the interview sample, the numbers of firms which purely operate shops in the specialised market, exhibit at the fair and sell products on the e-market are 51, 29 and 39 respectively. 11 firms sold both through the specialised market and the trade fair. 17 firms were both fair exhibitors and online retailers. 3 firms did business online and maintained their shops in the specialised market simultaneously. The remaining 4 interviewees were firms following the three market institutions at the same time. The qualitative analysis of the data followed a procedure being widely adopted in human geography – transcription, annotation, classification, and connection (KITCHIN and TATE 2013).

4 Findings

4.1 The Single Market Institution Leading to the Emergence and Growth of the Lecong-Longjiang-Jiujiang Furniture Agglomeration: Specialised Market

The furniture industry in the Lecong-Longjiang-Jiujiang (LLJ) region originated with a specialised market. From early 1980s, the agricultural production in China began to be organised with the family as a unit, breaking with the past communes in Chairman Mao's era. The transformation from food shortage into an abundant supply of agricultural products generated a surplus of labour force in the countryside, which pushed some farmers to start non-agricultural businesses (JEONG 2002; BELLANDI and LOMBARDI 2012). Initially, the *Hukou* (the Household Registration System) restriction and the high threshold on retailing licenses in cities prevented rural residents to sell commodities in urban areas (CHAN 2010). Thus, such a specialised market, which was located in the countryside yet enjoyed the convenient transportation connecting major cities, naturally became a low-cost distribution channel for industrial goods produced in rural areas (interviewee 3, deputy director of Economy & Technology Promotion Bureau, January 2017).

In 1983, privately-owned business was permitted, ending the monopoly of state-owned enterprise and the ‘supply and marketing cooperatives’ (*Gongxiaoshe* in mandarin) in commodity transaction. For the LLJ case, farmers were free to sell their home-made furniture along the No. 325 national road which connects nearby cities without incurring any legal risk (interviewee 5, furniture association secretary, January 2017). Due to the scarcity of light industry products, it was easy to sell furniture along the No. 325 national road. Shops and factories emerged together along the road. Before 1990 farmers used bamboo, wood and clay to build sheds for trading and manufacturing (Figure 3). This earliest form of specialised market, which developed into the largest global market of finished furniture products later, stretched along the national road for about six kilometres.



Source: Photo was provided by the Lecong government.

Figure 3: Primitive constructions of the specialised market built on the ponds in the Lecong-Longjiang-Jiujiang region in early 1980s

The prosperous “road market” led to a massive capital accumulation for local manufacturers. In the 1990s, the Lecong authority requisitioned 2.4 million m² of agricultural land (about 80 percent of the current land area of the specialised market) located adjacent to the national road from different village collectives, converted this land into urban development land for commercial use, and encouraged private establishments to invest in the construction of the new emporiums (interviewee 89, director of Economy & Technology Promotion Bureau, March 2019). A few manufacturers⁶⁾ which had accumulated their fortunes naturally became the investors for the modernisation and upgrading of the specialised market later (Figure 4).

⁶⁾ These firms later abandoned furniture manufacturing and became professional management corporations for the commercial properties.

By the end of the 1990s, all the sheds had been demolished, and the total construction area of the modern specialised market exceeded 2.85 million m². In parallel with the market modernisation, increasing areas of farmland (including that being relatively far from the national road in all three towns) were turned into industrial land by local villagers (interviewee 11, manager of a furniture manufacturing firm, January 2017). Approval for new industrial and commercial land ceased after 2010 when the three town governments slashed their approvals for land conversion to preserve the remaining farmland (interviewee 3, deputy director of Economy & Technology Promotion Bureau, January 2017). Increasing numbers of professional merchants undertaking wholesale business in different regions of China emerged and came to the specialised market to purchase goods, and now more than 70 percent of total orders are from furniture manufacturers in other parts of China and foreign countries (interviewee 15, manager of a furniture emporium, January 2017).



Source: Photos provided by the Shunde Huangchao (Property Management) Corporation.

Figure 4: Construction of the first modern furniture emporium in the early 1990s: (a) the commencement ceremony, (b) construction before completion

During the 1990s, the cost of importing western-style modern furniture was much higher than the manufacturing cost of homemade goods. For example, the purchasing price of imported sofas was 8,000 to 12,000 Yuan per set. Yet the cost of producing a similar set was just 3,000 Yuan. At the market price at that time, the profit margin gained from each homemade set was double that achieved by selling the imported goods, or even higher. This gave impetus for local firms to manufacture similar products themselves. They found that the internal structure and workmanship of imported furniture was not very complicated and could be imitated to produce similar products (interviewee 32, manager of a furniture emporium, January 2017). Local firms were eager to gain more advanced and sophisticated manufacturing techniques. Knowledge spillovers in the specialised market filled this gap: A considerable proportion of imported commodities were sold, and thus at this early stage the specialised market played an important role in bringing external knowledge into the local industry.

In the early 2000s, emporium operators of the specialised market invested about 24 million Yuan each year on advertising. From 2006 onwards, commodities of the specialised market were able to export to more than 120 countries. From 2001 to 2009, the total sales value experienced a fivefold increase – from 600.2 million Yuan to 2.9 billion – and

the proportion of export grew from less than 10 percent to 55 percent. As of the end of our survey the number of firms at the LLJ region which followed the specialised market (including those following more than one market institutions) was around 3,320.

The specialised market is a revolutionary institution for the development of modern labour-intensive industrial agglomerations in China because it incubates small and medium-size enterprises (SMEs) which were formerly not capable of establishing their own marketing networks and helps them grow. In sum, before 2009 the expansion and modernisation of the specialised market and the growth of the industrial agglomeration were mutually reinforcing.

4.2 Trade Fair as the First-time Institutional Stretching: The Complementary Layer upon the Specialised Market

The rise of trade fair was driven by the endogenous dynamics. Planning on the trade fair industry is often relegated to a section of tourism planning in China, and urban and regional planning often lacks a clear and detailed exposition of trade fairs. In contrast to the hub trade fairs in the first-tier cities like Shanghai and Guangzhou which receive strong support from the government (BATHELT et al. 2014; BATHELT and ZENG 2014), the development of the for-the-local-supply type of fairs which are located in smaller cities and close to industrial clusters receives the least support from the government and thus highly relies on the private capital. In the 1990s, the primary approach to commodity distribution was wholesale on the specialised market. There were several tiers of wholesalers which earned a major proportion of the total profit along the distribution chain.

Entering the new century, local manufacturers began to realise the important role of brand in increasing their profit margin and were anxious to cooperate with the franchisees which could do the direct retailing in a particular consumer region to gain more profits, and they also wanted to increase their export proportion (interviewee 89, director of Economy & Technology Promotion Bureau, March 2019). Therefore, with enough capital accumulated during the past two decades, hundreds of entrepreneurial firms began to invest on marketing further. In the late 1990s, the Longjiang town government approved the construction scheme for the Qianjin Exhibition Centre, and soon the Longjiang International Dragon Furniture Fair became an influential trade fair for the furniture industry in China (Figure 5b).

Nearly 400 local manufacturers exhibit at the trade fair semi-annually.⁷⁾ About 25 percent of exhibitors at each fair event will be replaced by new participants in the following year, and this has occurred iteratively since the year when the Longjiang fair started in 2001 (interviewee 27, chief executive of the Longjiang furniture fair organising company, April 2017). About 15 percent of the exhibiting firms attended the fair only once a year. Thus, it can be estimated that by the end of our survey about 360 local firms continue to exhibit at the fair every year while about 1000 firms which had formerly exhibited at the

⁷⁾ The total number of exhibitors at one fair event ranges from 428 to 480. Exhibitors also include firms that exhibit once per year and those quitted in the next year.



Source: Photos provided by the authors

Figure 5: The specialised market at Lecong (a) and the trade fair at Longjiang (b)

fair had ceased to do so. We are particularly interested in whether the behaviours of these adherents or quitters mean the function of the specialised market was replaced or not.

First, most firms which ceased to exhibit at the trade fair (including both the conservative and the ambitious firms) retained their shops in the specialised market throughout. For the conservative ones, the trade fair was more of an event to establish a particular group of loyal customers rather than a sustained transaction platform to attract new buyers. Attending trade fairs regularly is a costly investment for those conservative manufacturers. If the benefit gained at the fair is not large enough, they will give up, merely stick to their pre-existing customers accumulated before, and keep purely relying on the specialised market again (interviewee 93, a cadre of Longjiang town government, March 2019). Therefore, once the long-term cooperative franchisees were gained through several trade fair events, these buyers plus the customers on the specialised market would be sufficient for these firms to earn a respectable profit. As for the ambitious firms which had grown bigger and moved to higher-tier international trade fairs, operating shops in the specialised market in parallel was not regarded as a cost burden.

For those firms which chose to abandon shops in the specialised market and exhibit at the Longjiang fair continuously, their old institution was not replaced as well. There is no considerable overlap between the customers on the specialised market and the Longjiang fair, because the trade fair is primarily oriented toward franchisees and export orders

(interviewee 73, vice president of the Longjiang furniture fair organizing company, June 2017). In addition, each year numerous start-ups chose to enter the specialised market as their first step to accumulate customers. Hence the specialised market has not been affected.

In fact, rather than generating conflicts, the two institutions benefit from each other. On the one hand, the area of the exhibition centre is limited, while the specialised market is much larger to accommodate local manufacturers' shops. When buyers from distant places come to the LLJ region, they know that they will not only view products at the exhibition centre but also see more in the specialised market (interviewee 95, manager of a local manufacturer, March 2019). In this sense, the specialised market increases the attractiveness of the trade fair; in turn, the trade fair also spreads the name of the specialised market.

In sum, the emergence of the trade fair did not lead to the replacement or triggered the conversion of the specialised market. The local market institution system was layered without combination. Moreover, the vitality of the older institution increases due to the high complementarity between the two. A further integration of downstream product distribution of local firms provides the dynamics for the rise of the trade fair

4.3 Second-time Institutional Stretching: Partial Replacement and Conversion of Existing Institutions Caused by the e-Market

Survey evidence from furniture manufacturers reveals that the online domestic B2C market has taken a major market share from the traditional offline specialised market, and the B2B export e-market has moved 20 percent of the business relations established via the trade fair onto the Internet. More specifically, a few firms entered the e-market earlier in the 2000s than other local manufacturers. With the first-mover advantage, the increase in their online sales means that the offline market share of many other firms was encroached upon. In order to survive, most of the late-moving manufacturers started doing contract-manufacturing for the early-movers which control the online distribution channel from 2009. As of the end of our survey, about 2,260 local firms had been involved in the e-commerce, of which about 410 were e-retailing firms while the remaining had become contract manufacturers.

However, replacement is unlikely to be complete as preexisting market institutions possess multidimensional characteristics which represent different functions in product distribution. Firms following the older institutions show different responses to the e-market, which complicates the picture of evolution.

(1) Response of the firms following both the two old institutions to the new e-market layer

Not more than 130 local furniture manufacturers (about 3 %) participate in the Longjiang fair and operate shops in the specialised market in parallel. These firms show high adaptability when facing the impact of the e-market.

First, exporting is still heavily reliant on the trade fair, and the B2B e-market has very limited capability to aggregate the foreign demand and thus can hardly grab the market

share of trade fair. Second, despite facing pressure from the B2C e-market on the domestic distribution, firms following both of the two old institutions are able to differentiate their offline products from the online ones (interviewee 109, manager of a local manufacturer, June 2019). Hence firms following both of the two older institutions are able to maintain their existing market institutions without being influenced by the e-market.

However, this does not mean that preexisting market institutions remain unchanged. These multi-institution followers only account for a very small proportion. In fact, about 80 percent of local firms (SMEs) are not capable of investing in both product distribution markets. For these single-institution following firms, the impacts of the e-market on pre-existing market institutions are much more complicated.

(2) Large-scale replacement of the specialised market's domestic sales

From 2008, the domestic B2C e-market quickly developed into a marketplace of monopolistic competition. Only a small number of local firms in the LLJ agglomeration were able to distribute their products through retail on the e-market, while the majority had not successfully realised such e-retailing (Interviewee 92, furniture association secretary, March 2019). This means that the minority e-retailing firms inevitably encroach upon the market share of most local manufacturers which have failed to enter the e-market. Triggered by the e-market, the evolution trajectories of local manufacturers which operated shops in the specialised market began to diverge.

In the initial stage (years 2008 and 2009), the 3PX online retail platforms *Tmall.com* and *JD.com China* were initially entrepreneurial projects that emulated those of the Netherlands and the United States. The two e-commerce platform companies offered favourable terms to manufacturers: online start-ups could enjoy a large discount on their membership and service fees (interviewee 23, marketing manager of a furniture manufacturer, April 2017). In the first few years, online retail not only reduced the purchasing costs of consumers but also lowered the distribution costs of manufacturers. With the fast increase of online consumers, the e-market grew quickly, and a few early-moving firms were thus attracted to it.

However, after 2010 the duopoly of the e-retailing market in China led to a fierce competition of e-sellers. And e-markets impose a high charge for the top positions of searched key words. In this sense, the 'rent' of e-shops in the virtual world sets an exorbitant investment threshold which prevents many late-moving manufacturers from doing online retail (interviewee 31, manager of a contract manufacturer, April 2017). Early movers have encroached on the offline market share of many other local manufacturers. However, meanwhile their own capacity could not satisfy the online demand. Therefore, many late-moving manufacturers having lost much offline market share began to do contract manufacturing for the early-movers.

More than 1800 local firms in the specialised market were now turned into contract manufacturers (CMs) working for the e-retailing firms. Compared to the trade fair, the specialised market has a much lower export proportion (under 30 %). The diminished domestic market share explains why these CMs, which were formerly independent firms, lack resistance to the impact of the domestic B2C e-market. The majority of CMs struggle

to maintain their shops in the specialised market and retain less than 50 percent of sales through this traditional distribution channel. However, they believe that keeping selling through the specialised market lowers the operational risk: If they quit the specialised market and purely supplied the e-market, their fate would completely depend on the e-retailing firms, because if the e-retailing firms shut down, these CMs would die very soon (interviewee 136, manager of a contract manufacturer, November 2019).

The above results suggest that although the brick-and-mortar specialised market still exists, its function of traditional wholesaling and selling the franchise has been largely replaced by the B2C e-retailing. Nevertheless, this replacement process still reflects the high dependence of most manufacturers on the specialised market.

Different from the above situation, about 25 percent of the firms still do business solely on the specialised market, showing strong resistance to the e-market. These firms primarily focus on several niche markets which are free from the influence of the e-market. For example, for office furniture trading, in which the negotiation process is complicated and the transaction value per order is large, face-to-face transactions at the brick-and-mortar shops are thus necessary. As for the remainder on the specialised market which neither joins the contract manufacturing nor focuses on the niche markets, they in fact operate at a loss and fall into decline.

(3) A small-scale replacement and conversion of the trade fair's function

The impact of the e-market on the exports of exhibiting firms at the Longjiang trade fair is minimal. However, the exhibitors are unavoidably affected by the booming domestic B2C e-market. Informants at the trade fair told that they had experienced a 10 percent to 20 percent decrease in their domestic sales since 2015. However, such decreases did not accrue annually and were less than those decline experienced by firms in the specialised market.

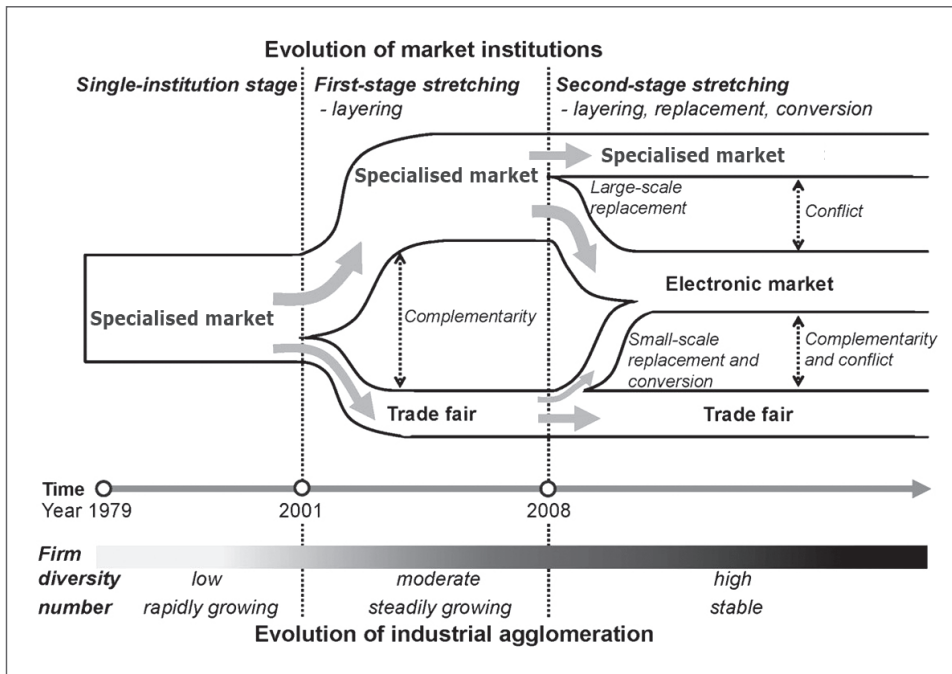
Pure e-retailing firms (PERFs) tend to search contract manufacturers (CMs) through the trade fair and prefer firms exhibiting at the trade fair to those in the specialised market, because the former have a higher level of product design and manufacturing efficiency. Some manufacturers exhibiting at the trade fair (hereinafter referred to as REMs for short) also do direct e-retailing. These REMs also want to identify some potential contract manufacturers (CMs) during the trade fair because sometimes their self-owned plants are not able to manufacture sufficient products due to the seasonal instability of demand (Interviewee 112, furniture association secretary, May 2019).

Hence, at the fairground, there exist three different categories of firms that are willing to establish contract-manufacturing relations:

- the exhibiting firms as single-institution followers, which can become contract manufacturers (CMs) for other firms;
- the pure e-retailing firms (PERFs), which try to persuade certain exhibiting firms to supply online shops;
- and the manufacturers exhibiting at the trade fair (REMs) as two-institution followers, which sometimes need to search CMs to supplement their own production capacity.

Since the proportion of the exhibiting firms’ manufacturing capacity being allocated to online product supply does not exceed 50 percent, their business does not depend on the PERFs or the REMs. For these exhibiting firms, contract manufacturing for e-retailing is more of a strategic adjustment rather than a passive reaction. From the news report and the interview with the manager of the Qianjin Exhibition Centre, we learn that since 2014 the fair organiser has set aside a 4000 m² *ad hoc* area for the product exhibition of potential contract manufacturers (CMs) and the contract negotiation between all exhibitors and visitors which engage in e-commerce. After 2016 this special zone was cancelled to enable all the exhibitors to get as many orders as possible from a variety of visitors in different channels. Then contract-manufacturing negotiation widely occurs across the fairground and all exhibitors are involved in them (interviewee 27, chief executive of the Longjiang furniture fair organizing company, April 2017). The e-outsourcers and the CMs may re-match with each other via the trade fair every half year.

This makes the fairground into a space where periodic negotiation on e-market-related contract manufacturing occurs. In this sense, a new and constant function has been added to the trade fair, which can be viewed as a partial conversion of this market institution. Based on the above analysis, Figure 6 below summarises the interactions between market institutions and the co-evolution process.

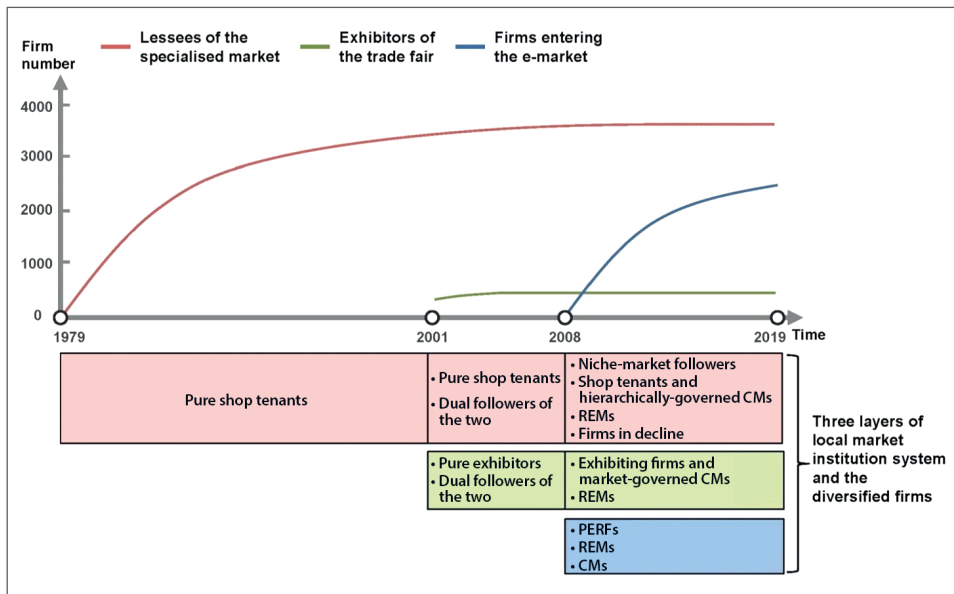


Source: Authors

Figure 6: The co-evolution process of the market institutions and the Lecong-Longjiang-Jiujiang furniture (LLJ) industrial agglomeration

5 Discussion: Evolution of Market Institutions and Firm Diversification

The diagram below (Figure 7) shows how the number of firms following each institution has changed since 1979 and it also shows the specific types of firms involved in each institution layer. After 40 years of development, there are currently seven categories of firms which have developed different market institution portfolios.



CM ... contract manufacturer; PERF ... pure e-retailing firm; REM ... manufacturer exhibiting at a trade fair

Note: As some firms follow two or three market institutions, the total number of each institution’s followers in the diagram is larger than the total number of firms in the case industrial agglomeration.

Source: Authors. Own elaboration

Figure 7: The increase and the diversification of local firms along with the layering evolution of marketing institutions

By identifying the specific functions of each market institution in product distribution and their corresponding change, the evolutionary dynamics of market institutions can be further revealed (Table 2).

Result of the first stretching of the local market institution system is simple layering: with the emergence of the trade fair as a new institutional layer, the two institutions coexisted and complemented each other. On the one hand, the major functions of the trade fair – including negotiation on the franchise and export – were highly complementary to the specialised market. On the other, the specialised market has strengthened the brand image of the LLJ region and thus increased the attractiveness of trade fair.

First-time stretching of local institution system				
Functions of the market institutions		Institutional change	Types from firms	Institutional path
Specialised market	<ul style="list-style-type: none"> Wholesale and little franchise selling Small-proportion export 	<ul style="list-style-type: none"> The older being uninfluenced Complementary relationship 	Emporium tenants	Path dependence
Trade fair	<ul style="list-style-type: none"> Franchising More export 		Fair exhibiting firms	New path creation
Second-time stretching of local institution system				
Functions of the market institutions		Institutional change	Types from firms	Institutional path
Specialised market	Domestic distribution	Large-scale replacement, reject contract manufacturing	Declining emporium tenants	Path dependence
		Uninfluenced	Emporium tenants specialising in niche markets	
		Large-scale replacement, accept contract manufacturing	Emporium tenants and CMs in hierarchical relations	Low path dependence and new path creation
		Large-scale replacement, turn to online retailing	REMs	
	Brand showcase and intensification	Uninfluenced		
Trade fair	Export	No replacement	All exhibiting firms	High path dependence and new path creation
	Domestic distribution	Small-degree replacement, accept contract manufacturing	Exhibiting firms and CMs in market relations	
		Small-degree replacement, turn to online retailing	REMs	
	Contract manufacturing negotiation	New conversion	All exhibiting firms	
Electronic market	B2C domestic retailing B2B export	New layer	PERFs REMs CMs	New path creation

CM ... contract manufacturer; PERF ... pure e-retailing firm; REM ... manufacturer exhibiting at a trade fair

Source: Authors. Own elaboration

Table 2: Specific change in the institutional functions among different groups of firms

With the emergence of the third institution – the e-market – although there is a layering of institutions bearing on the industrial agglomeration, a degree of replacement and conversion of old institutions has occurred. The domestic distribution function of both the specialised market and the trade fair has been replaced to some extent by the e-market, while their functions on branding and exporting are not affected. Moreover, the trade fair has gained a new function as a platform where exhibiting firms can negotiate the outsourcing-and-contract-manufacturing for the online supply. The overall evolution shows the dependence of firms on the older market institutions.

Path dependence usually means the outcomes of a system evolve as a consequence of its own history (ARTHUR 1989; DAVID 1994). Instead of being merely past dependent, it is a probabilistic and contingent process which shapes the possible future development (BELUSSI and SEDITA 2009). Path dependence can be caused by both negative and positive feedback. The negative feedback often comes from the sunk costs of local assets (NOTTEBOOM et al. 2013). In the case of the Lecong, Longjiang and Jiujiang (LLJ) region of Guangdong Province, a major reason leading to the path dependence of firms on the specialised market is their big investment on it (e.g. shop decoration, high rent). The positive feedback derives from a variety of self-reinforcing or self-reproducing effects (often caused by the dynamic increasing returns or learning effects) (PIERSON 2000; MARTIN 2010). Due to the brand showcase function of the specialised market, it develops a complementary relationship with the trade fair.

This mutually-reinforcing effect partially explains why the specialised market still remains after the e-market rises. Moreover, the dependence of e-retailers on the contract manufacturers is in essence the dependence on the existing tacit knowledge of manufacturing. Otherwise, all firms would evolve into e-OBMs with in-house manufacturing only. Similarly, the path dependence of exhibiting firms on the trade fair, to a large extent, results from firms' learning brought by the knowledge externalities. In addition, the large export market share of trade fair which continuously brings increasing returns also explains why many local manufacturers still remain as exhibitors.

Despite that more emphasis has been placed on change rather than merely on continuity in the revised version of path dependence model (MARTIN 2010), certain phenomena in the process of regional industrial evolution still cannot be simply explained by the model. Economic agents may give a flexible interpretation of the institutions (this flexibility is termed “plasticity” by some scholars) (STRAMBACH 2010; NOTTEBOOM et al. 2013). Such flexibility means a state which can develop along the old paths or create new ones. As the LLJ case shows, most firms exhibiting at the trade fair are able to adjust both the proportion of export and domestic sales and the proportion of offline and online product distribution flexibly.

6 Conclusion

This paper has sought to uncover the evolution process of market institutions and a typical industrial agglomeration concerned. Overall, the evolution of the market insti-

tutions of the LLJ industrial agglomeration is a path-dependent layering process, with partial replacement and conversion of older institutions. Local firms evolve from single-institution followers into seven groups with different market institution portfolios. The old institution (*specialised market*) which contributed to the genesis of the study case, although its function was largely replaced by the new institution, has not become exhausted. Meanwhile, the degree of conversion of the two older institutions – the *specialised market* and the *trade fair* – is low. The co-existence of old and new institutions suggests complex complementary and non-complementary facets of inter-institution relationships.

The results of institution-driven evolution of industrial agglomeration recounted here may be a supplement to the existing theories of industrial agglomeration and evolutionary economics. First, behaviours of economic agents (firms) and institutions are both heterogeneous and reflexive which belies the simple notions of a selection environment, and the selection notion in ‘generalised Darwinism’ (HODGSON and KNUDSEN 2006; ESSLETZBICHLER and RIGBY 2010) thus may be insufficient to explain the co-evolution of institutions and industrial agglomerations. Second, though to a large extent for many local firms the older market institutions have shown continuity which echo the dynamic increasing returns, learning and reinforcing effects in the path dependence model, the flexible state of a few firms which can jump nimbly between the old and a new path suggests that there are still phenomena that cannot be fully explained by a single evolution model. Third, our examination does not discount neoclassical ‘rational choice’ explanations of adjustments by firms to institutional change based on the production and transaction cost considerations (EGGERTSSON 1990; NORTH 1990; WILLIAMSON 1985) which have been extended to an understanding of processes of industrial agglomeration (SCOTT 1986; PHELPS 1992). Each institution layer has a functional significance to firms. Firms evaluate which combinations of market functions are beneficial and are within their cost budget while retaining a certain degree of dependence on pre-existing institutions.

The study case in west Pearl River Delta suggests an endogenous industrial evolution process in China which seems to be downplayed by existing literature. In China, industrial agglomerations which develop based on the foreign direct investment (FDI) and the international processing trade have attracted much academic attention (YANG and LIAO 2010; GE 2009). However, for many Chinese traditional industrial agglomerations which originate completely from the domestic market demand and expand with foreign trade being gradually integrated into it, this layering evolution driven by the three market institutions may be another general pattern.

The complicated interactions between market institutions which underlie this industrial development remind that more complex evolutionary paths of industrial agglomerations influenced by many other different types of institutions at both the society and community levels need to be further unpacked. Differing capabilities of firms determine that not all firms will follow new institutions. The heterogeneity of economic agents complicates the firm-level responses to institutional evolution, which, however, is often downplayed in the industrial agglomeration literature, also reminds that more attention needs to be paid to the micro-level dynamics in future research.

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