

Present Position of China's Local Industrial Clusters(LICs) in the Global Value Chain(GVC): Apparel and Textile industry Case Study¹

POSITION PRESENTE DES GROUPES INDUSTRIELS LOCAUX (GIL) DE LA CHINE DANS LA CHAINE DE VALEUR GLOBALE (CVG) :

ETUDE DE CAS DE L'INDUSTRIE DE VETEMENT ET DE TEXTILE

Liu PingQing² Gu Qiang³

Abstract: In the globalization era, cost competitiveness alone will not be sufficient to guarantee further success. The China's LICs faced a serious challenge between the top-down (global) and bottom-up (local) governance pressures. In order to remain competitive, there is a need for LICs to upgrade their activities and move up along GVC, and shall constantly pursue enhancement and optimization of value chain and developing their capabilities. To help overcome the constraints on LICs, the need to develop new and more effective governance strategies and policies are high priority. This paper also shows how LICs can break out of the "lock-in" which results from working for a small powerful GVC's governors. It recognizes the GVC governance variance and opening up new opportunities for LIC.

Key words: Local Industrial Clusters (LICs), Global Value Chain (GVC), Governance

Résumé: A l'époque de globalisation, la compétitivité du prix seul ne suffit pas pour garantir le succès futur. Les GIL de Chine font face à un double défi sérieux des pressions de gouvernance globale et locale. Afin de maintenir la compétitivité, il est nécessaire pour les GIL d'améliorer leurs activités et de s'avancer dans la CVG. Ils devraient poursuivre constamment le renforcement et l'optimisation de la chaîne de valeur et développer leurs capacités. Pour vaincre les contraintes, le développement de plus de nouvelles stratégies de gouvernance est devenu la première priorité. L'article montre aussi comment les GIL peuvent se débarrasser de l'isolation qui résultant du fait qu'ils travaillent pour les gouverneurs d'une petite CVG puissante. Il reconnaît la différence de gouvernance de la CVG et la création de nouvelles opportunités pour les GIL.

Mots-Clés: Groupes industriels locaux (GIL), Chaîne de valeur globale(CVG), gouvernance

1. INTRODUCTION

Since the initiation of economic reforms in 1978, China has become one of the world's fastest-growing economies. From 1979 to 2005 China's real GDP grew at an average annual rate of 9.6%. Trade continues to play a major role in China's booming economy, China is

now the world's third-largest trading economy, 'MADE IN CHINA' products could be seen everywhere in the global market. Foreign visitors to China are often surprised to find hundreds (or even thousands) of factories producing the same type of merchandise in a single township or county. Why does China enjoy manufacturing advantage over other countries? Low-cost labor certainly comes into play, but it's only part of the answer. Another factor—and in many cases

¹ This work was funded by the National Natural Science Foundation of China "Study on the Occupational Health and Safety Management in Small and Medium-size Enterprises based on sociality regulation"(70503003) and Excellent Young Scholars Research Fund of Beijing Institute of Technology(00Y08-33).

² School of Management & Economics, Beijing Institute of Technology, China.

³ National Development and Reform Commission, China.

*Received 24 November 2006 ; accepted 11 January 2007

an even bigger one—is the existence of LICs.

The LICs—e.g. Zhejiang’s so-called lump economies (*Kuaizhuang jingji*), specialized towns (*zhuangye zhen*) and manufacture base (*shengchan jidi*)—focus on one product in a locality, and are conducive to industrial linkages in response to market competition. In China, LICs have a fairly long history. Jingdezhen has a pottery and porcelain production cluster with a history of more than 1,400 years; while Shenze Town of Wujiang in Jiangsu has been one of the well-known silk manufacture and trade centers in China for hundreds of years. Nevertheless, the development of industrial clusters gained momentum after the country implemented its reform policies in 1978. Recent studies (Zhou and Pu, 2003) (Zhu, *et al*, 2005) identify LICs as one of the most productive strategies in promoting sector and regional growth. This remarkable specialization has helped China to increase its manufacturing capacity and overall competitiveness, and a growing percentage of cluster’s production is functionally integrated into the global systems of supply to the global market.

In China, LICs mostly are located around booming cities and towns in the eastern coastal region—particularly the Yangtze River Delta (YRD), the Pearl River Delta (PRD), as well as in the Bohai-Rim (BoR) region in the north. The three regions have developed a broad range of clusters in various industries, and LICs create 50% of manufacturing output in east-south of China. Nowadays, in the central and western regions, LIC also grow very fast, and speed up industrialization and urbanization process in Chinese less developed regions.

The following types of LICs have emerged and established firm footholds: 1) Export-oriented clusters. The formation of these clusters date back to the early 1980s, are dominated by foreign direct investment (FDI), and set up outward-processing factories in the PRD. 2) Self-augmented entrepreneurial clusters. The swift development of this type of clusters began in the early 1980s, enterprises in these clusters are mostly entrepreneurial and family-owned, often with a craft tradition. Many LICs located along the coastal regions in China were formed in this way. 3) Resource-driven clusters. Some industrial clusters relied heavily on the natural resources of the region such as mines, forests or quarries. 4) Market-driven clusters. This type of clusters was formed under the driving force of the wholesale market, such as the establishing of a regional distribution center. 5) High-tech cluster. These clusters were formed by a group of scientists and scholars from universities and colleges, and located in the surrounding areas of the universities and research institutes. Some of them are pushed by sub-national and local government. 6) Gradual progress from large -scale enterprise. Some clusters of small and median enterprise (SMEs) have developed in the neighborhood of large-scale SOEs and FDI enterprises.

Many LICs entered the GVC according to their different technology capabilities and competitiveness, but also are under increasing pressure to improve the position of GVC. This paper is intended to raise and answer the emerging question as to how the labor-intensive and low value-added manufacturing LICs could “grow up” and “graduate” to more technology-intensive and high value-added business through the challenging process of industrial upgrading and innovation. This paper will focus only on products that are made by Chinese LICs for consumption in other countries.

2. SURVEY OF THE GOVERNANCE OF GVC

LICs play an important role in nexus between global commodity chains and local production system, so this paper incorporates global value chain and LIC into analysis of China’s industrial upgrading strategies.

2.1 LICs

An industrial cluster (Porter, 1990) is a set of industries related through buyer-supplier and supplier-buyer relationships, or by common technologies, common buyers or distribution channels, or common labor pools. Industry clusters are “geographic concentrations of interconnected companies, specialized supplies, service providers, firms in related industries, and associated institutions” (Porter, 2001, p. 7). An industrial cluster (Enright, 1992, 1993) exist value member firms in the same or closely related industries are in close geographic proximity to each other. Industrial districts are concentrations of firms involved in interdependent production processes, often in the same industry or industry segment, that are embedded in the local community and delimited by daily travel to work distances. LICs are important, because they allow companies to be more productive and innovative than they would be in isolation, and they reduce the barriers to entry for new business creation relative to other locations. LICs are common in a wide range of countries and sectors, and clustering has helped small firms to overcome well-known growth constraints and sell to distant markets, firms which co-operate tend to perform better than those which do not (Schmitz, 1999). Experience shows LIC-based initiatives are a highly desirable policy tool for locality in their efforts to increase growth, productivity, and employment.

2.2 GVC

The value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production

(involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use (Raphael Kaplinsky and Mike Morris, 2003). Value chain activities can be contained within a single geographical location or spread over wider areas, hence the term "global value chain". The GVC includes activities such as design, production, marketing, distribution and support to the final consumer. The activities that comprise a value chain can be contained within a single firm or divided among different firms. The GVC analysis plays a key role in understanding the need and scope for systemic competitiveness in this era of rapid globalization. It obviously shows efficiency in production is only a necessary condition for successfully penetrating global markets, the

competence of intangible activities/functions i.e. design, R&D, branding, marketing, logistics, financial services etc is more important than tangible production activities. In GVC analysis, there are three key elements: barriers to entry and rent, governance and different types of value chain. The LIC of attributes are focus on dynamic capabilities and core competences in literature, but they may also arise from purposeful activities taking place between groups of firm---these are referred to as relational rent--i.e. having superior quality relationships with suppliers and customers (Raphael Kaplinsky and Mike Morris, 2003). The chart 1 shows how LIC insert into and integrate with GVC. The GVC analysis framework is imbued with the status of LIC's systemic competitiveness and policy implication.

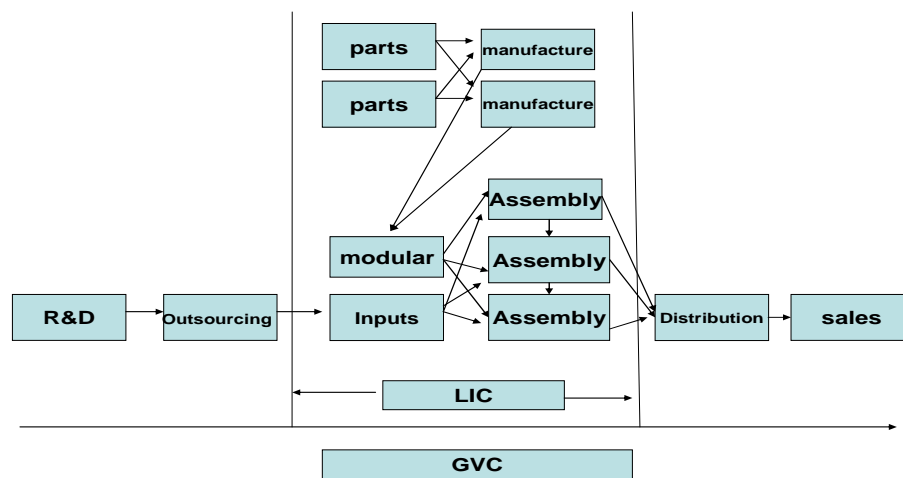


Chart 1. LIC vs. GVC

2.3 Governance of GVC

Governance does not mean mere government. It means the framework of rules, institutions and established practices that set limits and give incentives for the behavior of individuals, organizations and firms (UNDP, 1997). The starting point for interest in GVC is the fact that some firms directly or indirectly influence the organization of global production, logistics and marketing systems. The research has also shown that GVC exhibit a variety of characteristics and impact particular localities in a variety of ways. The GVC generally emphasizes the power of all of actors involved, and the rules that govern the relationships between them. Gereffi (2005) use an analytic framework, identifying five different GVC governance patterns as follows:

2.3.1 Markets

GVC governed by markets contain firms and individuals that buy and sell products to one another with little interaction beyond exchanging goods and services for money. The central governance mechanism is price. Most of daily commodities chains are belong to this type, and these are buyer-driven chains.

2.3.2 Modular value chains

Typically, suppliers in modular value chains make products or provide services to a customer's specifications. Suppliers tend to be highly competent, with an ability to provide "turn-key" or "full-package" services. The extent of chain power is determined with buyers and suppliers inter-relationship, and this is typical producer-driven chains.

2.3.3 Relational value chains

The most obvious examples of such networks are local industrial clusters, since spatial and social proximity are, by definition, limited to a relatively small set of firms, the costs of switching to new partners tends to be high in relational GVC. In addition to relational value chain, this paper is involve in other value chains analysis in LIC, because it involve in different size of enterprise.

2.3.4 Captive value chains

Small suppliers tend to be dependent on larger, dominant by global lead buyers. Depending on a dominant lead firm for a large share of business (e.g.

50% or more) and for process technology raises switching costs for suppliers which are, therefore, "captive."

2.3.5 Hierarchy

This governance pattern is characterized by vertical integration (i.e. "transactions" take place inside a single firm). The dominant form of governance is ownership and managerial control e.g. global auto assemblies.

Further, Gereffi (2005) identifies three variables that play a large role in determining how GVC governed and change. These are: the complexity of transactions, and the codifiability of transactions, the competence of suppliers. The extent of chain power is related some indicators: share of chain sales, value added, profits, buying power, and control over such distinctive competence as a key technology and brand-name. It is clear that global-scale regulations, the "rules of the game" as it were, have a profound effect on the shape and direction of change in GVC. Kaplinsky (2000), drawing upon literature on civil society governance, distinguishes three forms of governance that can be exercised within GVC. "Legislative governance" refers to formulation of standards or rules for action either by lead firms in the value chain or state institutions, "judicial governance" mechanisms monitors and ensures that such rules or standards are complied with. Finally, firms need to be provided with additional support resource like access to credit or new technologies to fulfill some of the requirements. Governance can therefore also take on an "executive" role. Together, these forms of governance are said to condition the mode of upgrading.

3. CASE STUDY: APPAREL AND TEXTILE INDUSTRY

This section uses GVC framework analysis to explain the China LIC's development stage, position of the GVC, demonstrated that the relationships with these global actors by Apparel and Textile Industry case study.

3.1 Industry definition and basic governance models of GVC

Apparel Industry include companies that design, manufacture, market, and/or license brands for men's, women's, and/or children's clothing, footwear, and accessories. It also called footwear industry, textile and clothing industry, shoe industry, textile industry, fashion industry, apparel manufacturing industry, and garment industry. Textile also refers to the yarns, threads and wools that can be spun, woven, tufted, tied and otherwise used to manufacture cloth. Common clothing materials include: cloth, down for down-filled parkas, fur, leather. So in this paper, the author is combination

apparel, textile and footwear industry together, analysis GVC governance and upgrading strategy.

The apparel has been characterized by global production and trade network since at least the middle of twentieth century. 2005, world trade in apparel and textile accounted for \$276 billion and \$203billion, the share in world merchandise trade each are 2.7 percent and 2.0 percent. The apparel industry is identified as a buyer-driven value chain that contains three types of lead firms: retailers, marketers, and branded manufacturers (Gereffi, 2003). With the globalization of apparel production, competition between the leading firms in the industry has intensified as each type of lead firm has developed extensive global sourcing capabilities. Tiered network of developing contractors that make finished goods for foreign buyers carry out production, large retailers or marketers that order the goods supply the specification.

The apparel value chain is organized around five main parts(Chart 2): raw material supply, component network, production networks, export networks and market network(Gereffi, 2003). Across each of the value chains studied, important common tendencies were observed. First, there are increasing concentration in the retail sectors in Europe and North America and changes in buying practices. Large retailing firms—whether sourcing directly or through intermediaries—have become powerful global buyers. By 1995, the five largest retailers—Wal-Mart, Sears, Kmart, Dayton, Hudson Corporation and JC Penney—accounted for 68 percent of all apparel sales. The next top 24 retailers, represented an additional 30 percent of these sales (Finnie,1996). 2005, Wal-Mart's apparel market share is 13 percent, Target's share is 6.2, the two retail giant accounted for 20 percent U.S. apparel retail⁴. The top 10 global discount retailers currently have combined total annual sales around \$711billion, with value apparel retail sales expected to rise from \$146billion to \$204billion by 2010⁵. Second, there is an increasing concern with labels, codes and standards—related to technical product standards, quality, social standards and environmental impact—created by firms, by sectoral associations, by international organizations and by governments (Nadvi and Waltring 2004). Thirds, across a range of GVC, there is increased emphasis on the 'service aspects' of product supply, including delivery times, reliability of delivery, quality systems and traceability.

Retailers like Wal-Mart, Sears and JC Penney, athletic footwear companies like Nike and Reebok, and fashion-oriented apparel companies like Liz Claiborne, Gap and The limited Inc., generally design and /or market—but do not make—the branded products they order. They are "manufacturers without factories", with the physical production of goods separated from the

⁴ www.eatendedretail.com/subscribe-ni.asp

⁵ Global market review of discount apparel retailing-forecasts to 2010, www.bharatbook.com/bookdetail.asp?bookid

design and marketing. Buyer-driven chains profits come from combinations of high-value research, design, sales, marketing and financial services that allow the retailer, designers, and marketers to act as strategies brokers in linking overseas factories and traders with product niches in their main consumer markets. What

distinguishes lead firms from non-lead firms is that they control access to major resources (such as product design, distribution channel, new technologies, brand names or consumer demand) that generate the most profitable returns.

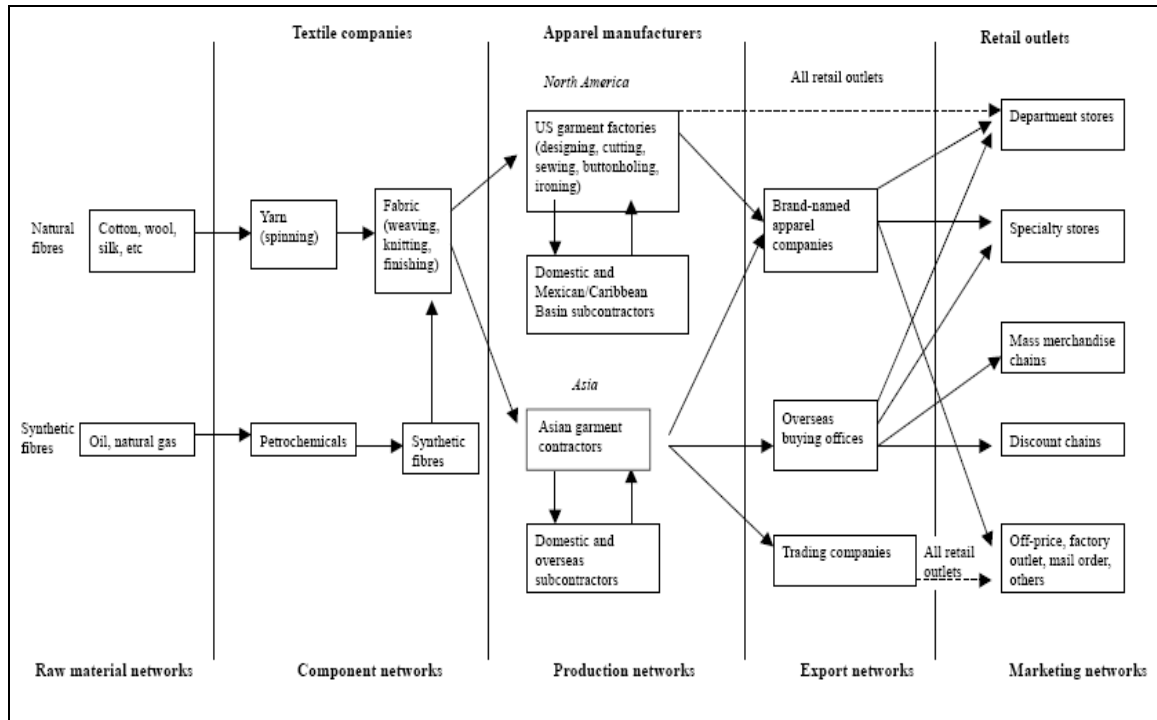


Chart2 Apparel Global value chain and governance

3.2 China apparel, textile industry and LICs

China is the world’s largest producer and exporter of textile and apparel. 2005, China cotton and man-made fiber production each occupied 32 percent and 28 percent of world production. Weaving, spinning—installed capacities account one-third of world total capacities. 2005, China export \$41.05 billion textile and \$74.16 billion apparel, account for 20 percent and 27 percent of world textile and apparel trade. 2005, China have become US, Canada, Japan and EU (25) mainly supplier, accounted for 26.4 percent, 46.8 percent, 80.9 percent and 17.9 percent of clothing import share. 2005, China textile accounted for US, Canada, Japan and EU (25) textile import share of 26.9 percent, 55.9 percent, 52.3 percent and 7.5 percent⁶.

One of the noteworthy features in China’s textile and apparel production is the presence of industrial clusters. These LICs are mainly located in the cities and towns of the coastal regional. Today, the textile and apparel LICs clusters in China have become principal sourcing bases for textile, apparel and footwear products that are sold in the international markets. It was estimated that around 60% of the total sales of all textiles and apparel

enterprises above designated size were generated from LICs (Li&Fung,2006). This indicates that the phenomenon of industrial clustering has become a distinctive feature in shaping the development of the textile and apparel industry in China. As precious page, 108 national textile and garment industrial clusters base city, county and town denominated by CNTAC.

The chart 3 shows, the LICs concentrate in PRD and YRD(Chen 2006). Actually, LICs can divided tow kinds of “supply-chain cities”. The first usage refers to giant, vertically-integrated firms factories. Appelbaum (2005), as well as a variety of textile journals and large textile/apparel company like WeiQiao and Luen Thai, this kind of new breed of “supply factory” are constructing in China. these factories are company-specific, and are designed to bring together multiple parts of the firm’s supply chain—designers, suppliers, and manufacturers—so as to minimize transaction costs, take advantage of economies of scale, and foster more flexible supply chain management. In fact, those giant manufacturers located at LICs areas. A second usage of this term refers to so-called cluster cities. In China’s coastal regions, have dramatically increased production of one specific product, and are churning out massive volume, but are not limited simply to manufacturing firms. For example, Li & Fung – producers and exporters of private label consumer goods – exemplifies unbundling as it orchestrates a

⁶ <http://wto.org/statistics>

global network of vendors from 40 countries to deliver

high – quality products to its customers.

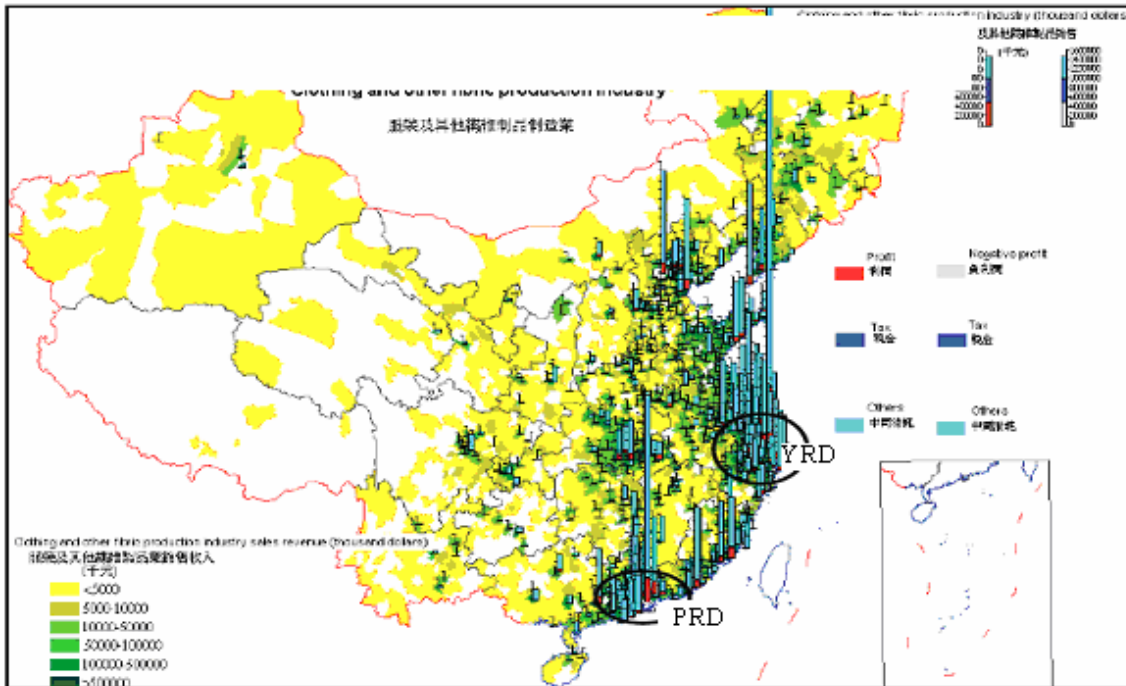


Chart 3 China textile, apparel and footwear LICs Map

3.3 GVC analysis

In the apparel end market, depending on the product, the value chain will either involve three sets of actors or two. For products such as hosiery, textile firms will typically sell the finished product directly to either wholesalers or retailers without further processing work required. For other fabric products such as denim, they will have to be modified and assembled into garments by apparel firms before being sold to retailers or wholesalers. In the household or home furnishings end market, products such as bed linen or carpets will also typically be sold directly to retailers or wholesalers. In industrial end markets, textile firms supply their products as inputs to industrial purchasers in other industries such as automotive. Usually made using non-woven processes, these fabrics are sold directly to buyers with no intermediary involved. If we want to know present position of LICs in the GVC, we should analysis every stage of GVC.

Raw material: China is biggest textile raw material producer in the world. But China also should import some cotton since 2000, some high-tech man-made fiber need import, only few high-tech fibers are monopoly by very few suppliers. China takes some import administrative measure in cotton, other fibers import and domestic trade are free market. In raw material, it is typical arm’s length market.

Component: In China, 50 percent trade is processing trade, its means the product mainly manufacture by import component and raw material.

There are two reasons: one is China’s component quality isn’t meet the buyer’s demand; another reason is policy difference between convention trade and processing trade. In apparel sector, only small proportions of component need import, after assemble the clothing then export to other country. In this stage, the imported components don’t affect the competitiveness for China’s firms, usually the component value pay by the buyer.

Product: Low cost of production, ever-improving quality, abundant production capacity, and further liberalization will further strengthen China’s position as the leading global sourcing base. China sourcing is through three stages. In the first stage, China LICs firms mainly assembly of imported input. At second stages, the LICs move to a more domestically integrated and higher value-added from of exporting known as full-package supply or OEM production. With regard to the chain of athletic shoes, multinationals like Nike and Reebok used to order the bulk of shoes from their subsidiaries or subcontractors in Taiwan, which began to move their factories to such PRD cities as Dongguan in Guangdong. The OEM model at the international level is a form of commercial subcontracting in which the buyer-seller linkage between overseas buyers and domestic manufacturers allows for a greater degree of local learning about the upstream and downstream segment of the apparel. In the third stage, some company move OEM to OBM, e.g.Erdoes. Almost all of international men’s suits and shirts brand are OEM in China. China firms design level improve quickly, usually, some China’s firms provide some sample, designed by China’s firms, after the buyer confirm, the

firms start to produce. As an independent stage, China's firms manufacture capacities are satisfy for international market demand. Technical textiles are defined as textile materials and products manufactured primarily for their technical performance and functional properties, rather than their aesthetic or decorative characteristics. End uses include aerospace, industrial, marine, medical, military, safety and transport textiles, and geo-textiles. China is still weaker in technical textiles than the United States and Europe.

Export: Foreign visitors to China are often surprised to find hundreds (or even thousands) of factories producing the same type of merchandise in a single township along the east coast. Supply clusters in China utilize a number of different marketing channels. For example, firms formed with foreign investments generally use direct marketing to large customers in foreign countries. On the other side of the continuum, many of the small- and medium-sized enterprise production clusters usually serve large and small buyers through brick-and-mortar marketplaces. One of the largest such marketplaces is the China Commodity City market in the city of Yiwu in Zhejiang province. This 15 million square-foot wholesale mall contains 40,000 stores. The marketplace's sales volume reached 26.6 billion yuan in 2004; of that amount, 60 percent represented exports to more than 208 countries and regions in the world. Dozens of specialized manufacturing clusters are situated in towns and cities within a 50-mile radius of China Commodity City and produce the huge volumes of ornaments, umbrellas, holiday gifts, toys, glasses, socks, and other commodity items sold at the marketplace. Another channel is re-exports through Hongkong and Singapore, but its increasing decline recent years.

Marketing: As the retail end of the chain consolidates, competition among supermarkets has led to tighter organization of the chain, and shifting patterns of competition among distinct categories of retailers imply new pressures on local producer on local clusters firms. Traditional branded garment retailers are finding their market shares challenged by newer, more fashion-conscious and more price-sensitive garment retailers. In addition, the growing significance of supermarkets and discount stores in garment retailing underline the need to manage costs, while pressures from specialist garment multiple has led to shorter fashion seasons and more rapid turnaround of shelf stock. In international market, for China LICs, it's too far, because its capacity constrains them joint the value chain. In domestic market, wholesale markets or commodity exchange markets selling apparel products

often exist in major LICs. They act as distribution channels for mass apparel products produced in the LICs. According to the statistical yearbook of China commodity exchange market, there are 252 textile and apparel commodity exchange market with an annual turnover exceeding 100 million in China in 2004.

According to precious analysis, we could find the incremental change GVC governance from the captive to relational value chain and modular. OEM and OBM is mainly stream in China apparel export. China is more integrated in the GVC and GPN activities than other developing countries. In sun, Chinese cost advantage goes well beyond labor costs. Specifically, it is reflected in the value chain—particularly, in low-cost raw materials and sourcing inputs, in efficient logistics processes, and in a highly competitive marketplace.

4. CONCLUSIONS AND DISCUSSION

In general, China LICs's basic characteristic are highly labor-intensive, low-tech, and export-oriented, some LICs are sandwiched between the top-down (global) and bottom-up (local) governance pressures.

4.1 LICs and firms are governed by global player

The GVC include three further features: first, the activities are often carried out in different parts of word; second, some activities add more value and are more lucrative than others; third, some actors in the chain have power over the others (Hubert, 2005). The powerful actors are often called the "lead firms" who seek to "govern" the chain. They set and/or enforce the terms under which the others in the chain operate, its means the lead firm making the rules and enforcing the rules, and Chinese LICs and firms are implementing the rules. Generally speaking, multinational companies are most profitable by controlling marketing, high-end technology and innovation, and reaping the technology rents, human resource rents, organizational rents, and marketing rents. These conditions tend to perpetuate the control of multinational companies over the much more lucrative front segments of global value chains. Sub-contract companies control the less profitable segments of order receiving and manufacturing services, the LICs-based factories profit the least by occupying the middle segment of manufacturing. So the famous "smile curve" don't make Chinese smile sweetly (chart 4).

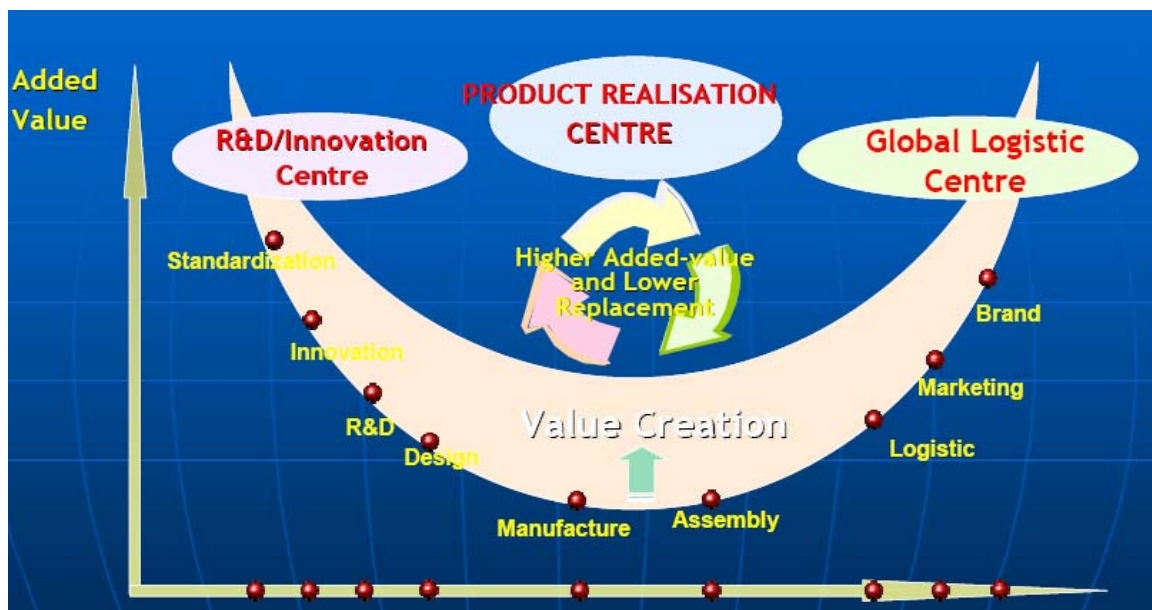


Chart 4 Smile curve and value distribution

4.2 LICs advantages are in manufacturing and assembly

Comparing with overseas, independent design, information, and finance companies are few in China LIC, and almost none of related research and technology institute located in LICs. With low entry barrier, LICs have overcapacity in production, duplicative factions of production, etc. Moreover, owing to their small perpetration scale, enterprises often emphasize on short-term benefits and compete severely with, rather than cooperate with one another. The notebook's manufacturing, packaging, and shipping is done in and from China mainland, the most valuable components of the notebooks are designed and sourced overseas, with memory chip from the U.S., Korea, and Taiwan, graphic processors designed in the U.S. and Canada but made in Taiwan, and liquid-crystal-display screens from Korea, Taiwan and Japan. However, more and more of the notebook-component production has move to China's LICs, but it is also contract manufacturing. The PRD, for instance, is the world's largest manufacturing base of certain manufactured goods, but it has the few internationally famous brands of its own. Even though in YRD, there is also a lack of indigenous companies that are sufficiently large and truly international.

4.3 The relationship with LIC and lead firm usually is uneven

Integration into global value chains is a two-edged sword. The global buyers are often leading global manufacturers looking to outsource production to low-cost locations. Even if they outsource to multiple locations, they work with the suppliers in each locations. E.g., US clothing imports from China were 14.6% lower

in volume during the first six months of 2006 than in the corresponding period of the previous year. In labor-intensive sectors such as garments, global buyers are frequently looking for new sources of supply as a means of reducing cost. This model of industrialization, successful as it might have been in its earlier phase, has kept some local industries and firms in a dependent and even disconnected mode in relation to the global economy. Actually, more and more self-augmented LICs are joining into GVC. In U.S.A import, the China's market share exceeds 40% products, are all involved in mainly China's industrial cluster (attachment 2). Most of LICs aren't FFEs driven, they initiative or passiveness inserted into GVC. Being part of an international production network (or GVC), LICs and its firms continued involvement in the network and upgrading opportunities might depend on the strategies decisions of the global lead firms. These produces were facing powerful global buyers who had a major influence not just on sales but also on the types of upgrading strategies open to them.

4.4 LICs upgrading faced new challenge

While some labor-intensive industrial clusters, they have begun to face the increasing labor shortage problem, which has led to high turnovers, rising salaries, and shrinking margins. Labor shortage and rising cost provide further evidence that industrial upgrading is necessary and desirable to sustain regional growth and prosperity. The development trajectory behind the high speed of growth is now confronted with barriers for further growth. Some of these are external and refer to potential trade conflicts. Others reflect domestic problems with social and ecological sustainability. Disproportionate support for leading firms within a cluster leads to malnutrition for SMEs in terms of resources, leading to a weak support network. There are

indications of serious weaknesses of the innovation system. The call for 'harmonious development' may be interpreted as an attempt to give new direction to the recognized unsustainable growth patterns. In fact, China

LICs are in danger of being "locked-in" a "low-road" (labor-intensive and wage-squeezing) to economic development.

REFERENCES

- Chen xiangming. Regionalizing the Global-local Economic Nexus: A Tale of Two regions in China, www.uic.edu/depts/soci/xmchen, Chicgo, March, 2006.
- Enright, M. J. The Geographic Scope of Competitive Advantage. in E. Dirven, J. Groenewegen, and S. van Hoof, editors, *Stuck in the Region?: Changing Scales of Regional Identity*. Utrecht: Netherlands Geographical Studies, 1993. 155
- Gereffi. Gary New offshoring of jobs and global development. International institute for Labour Studies, International Labour Office Geneva, ILO Social Policy Lectures, Jamaica, December, 2005
- Gereffi. Gary Olga Memedovic, the Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries? UNIDO, Vienna, 2003
- Porter, M. E. *The Competitive Advantage of Nations*, New York: The Free Press. 1990. 20
- Porter, M. E. *Cluster Innovation: Regional Foundations of U.S. Competitiveness*. Council of Competitiveness, Washington, D.C., 2001
- Raphael Kaplinsky & Mike Morris (2003). *A handbook for value chain research*: <http://www.bds-forum.net/download/valuechain-handbook.pdf>
- UNDP. *Dedicated to the Memory Ofmahub UI Haq (1934–98) Creator of the reator of the Human Development report*, New York Oxford, Oxford University Press, 1999
- Zhou Bing, Pu Yongjian. *A Growth Economic Explanation of Industrial Cluster*, China Soft Science. 2003, 5:119-121(in Chinese)

THE AUTHORS

- Liu PingQing**, School of Management & Economics, Beijing Institute of Technology, Beijing, 100081, P. R. China.
Gu Qiang, Department of Small and Medium-sized Enterprises, National Development and Reform Commission, Beijing, 100053, P. R. China.