

# Regionalizing the Global-Local Economic Nexus: A Tale of Two Regions in China

Xiangming Chen  
Department of Sociology  
University of Illinois at Chicago

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## About the Author

**Xiangming Chen** is Professor of Sociology with adjunct appointments in Political Science and Urban Planning and Policy at the University of Illinois at Chicago. He may be contacted at [xmchen@uic.edu](mailto:xmchen@uic.edu).

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Great Cities Institute (MC 107)  
College of Urban Planning and Public Affairs  
University of Illinois at Chicago  
412 S. Peoria Street, Suite 400  
Chicago IL 60607-7067  
Phone: 312-996-8700  
Fax: 312-996-8933  
<http://www.uic.edu/cuppa/gci>

# Regionalizing the Global-Local Economic Nexus: A Tale of Two Regions in China

## Abstract

The study of regions has been undergoing an intellectual “renaissance,” resulting in a growing literature on the renewed importance of new and more varied forms of regions and regionalism. This literature has focused on supranational regional schemes such as the EU, NAFTA, and APEC on one hand, and within-country dynamic or declining regions like the Silicon Valley, the industrial districts, or the heavy industrial areas in Europe or the United States on the other. However, insufficient research has been devoted to other geographical scales and political contexts where regions have become the “crucial middle” for integrating global, national, and local economies. This stronger role of regions can also turn them into more contested terrains for the diverse tensions and outcomes of economic integration or lack of it to play out, especially in terms of simultaneous tendencies in competitive and cooperative policies and practices of subnational and local governments, special-purpose authorities, and global and local firms. In this paper, I offer a new framework for conceptualizing and analyzing region as capable of mediating or restructuring global-local economic relations in varied ways. This framework allows region to be scrutinized as a more active and dynamic entity for investment and economic growth, which nevertheless faces a greater dilemma of fostering collective efficiency and welfare through a rational regional division of labor and cooperation while forestalling extreme intraregional or inter-local competition through unbridled location incentives under the condition of accelerated capital mobility and more discriminating global investors. Using this framework to guide a comparative analysis of the Pearl River Delta (PRD) and the Yangtze River Delta (YRD) in China—two of the most dynamic manufacturing regions in the world, this paper describes the structural and spatial formations of regionalized global-local value chains and production networks, analyzes the opportunities and constraints for indigenous Chinese firms in these two regions to achieve industrial upgrading, and finally discusses the implications for new forms of regional governance.

## 1. Introduction

The study of regions has been undergoing an intellectual “renaissance” and become increasingly important to a more comprehensive understanding of the multifaceted relationship between globalization, the nation-state, and local economic development. This renewed interest in regions reflects recent scholarly efforts to wrestle fresh insights from scrutinizing new regional realities beyond what traditional or conventional perspectives on regional studies would and could provide. This paper purports to do just that through developing a new conceptual framework for understanding the varied role of regions in linking global and local economies and then carrying out a comparative analysis of two dynamic regions in China within this framework.

Much of the earlier or classical conceptualizing and theorizing of regions focused on regional economic differentiation and development within national borders. German geographer Christaller (1972) formulated the central place theory (CPT) based on the regional hierarchies of towns in southern Germany in the 1930s. French economist Perroux pioneered the notion of growth poles which are foci or centers “from which centrifugal forces emanate and to which centripetal forces are attracted. Each center being a center of attraction and repulsion, has its proper fields, set in the fields of other centers” (1950: 50). Growth poles may produce either “backwash” (negative) or “spread” (positive) effects on the regional hinterlands (Myrdal 1957). While those classical foci have spawned extensive empirical research on varied forms of regional development, the contemporary era of globalization has further elevated the significance of regional studies, prompting Scott (1995: 59), for example, to pronounce that “[R]egions are once again emerging as important foci of production and as repositories of specialized know-how of technological capability, even as the globalization of economic relationships proceeds apace.”

The resurgent interest in regions has sparked a debate about the relative momentum of two seemingly competing tendencies: a trend toward a regionalization and localization of economic activity and production due to simultaneous vertical disintegration and political/administrative decentralization vs. a tendency toward global economic integration and the resulting erosion of independent regional economies (see Amin 1993). Corroborating evidence on the former tendency includes successful industrial districts of closely networked and functionally specialized small- and medium-sized firms in a tightly knit space like the Italian knitwear industry in the province of Modena (Lazerson 1993). The latter trend, on the other hand, was reflected in the steady decline of older regional economies due to the long-term

“lock-in” development and attempted recovery through continued specialization and internal coherence, as exemplified by the coal-and-steel dominated Ruhr area of Germany (Grabher 1993). Regardless of the earlier success in these functionally specialized and spatially distinctive industrial districts in Europe’s advanced economies, accelerated globalization has created new challenges and opportunities for them to adapt to remain viable or face eventual demise. The rise of global city-regions, mostly in industrialized countries in recent years represents a new spatio-economic form of local-regional responses to global opportunities and constraints (see Scott et al. 2001), as exemplified by the expansive Southeast Region of England anchored to both London as a global financial center and involving a number of much smaller cities as booming high-tech and info-tech nodes (Hall 2001).

In comparison to the established research on regional economies within industrialized European countries and the United States, the more limited research on cross-national regions (spanning international boundaries) has focused almost exclusively on regional economic and political cooperation and integration as reflected in the EU and its various antecedents. The level of integration was the most common dependent variable to be explained, while the typical independent variables included national goals, size of regional groupings (number of member countries), perceived costs and benefits, and extra-regional factors such as superpower influence (Axline 1994). Focusing mostly on the U.S.-Canada and the U.S.-Mexico borders, the borderlands literature (e.g., Konrad 1991; Martínez 1986) has examined the shared characteristics of people and activities in border areas and how the former make the latter distinctive regions or contiguous zones of frequent and intensive interactions and transactions that both blend the nation-states into each other and temper their central tendencies. Research on Europe (Corvers, Dankbaar, and Hassink 1996; Church and Reid 1996) shows that although the move toward the Single European Market (SEM) and the removal of trade barriers, coupled with political and administrative decentralization within the nation-states may facilitate international cross-border cooperation, the peripheral location of border regions and large economic disparities among their constituent parts may hinder development.

The above discussion with references to the European scene highlights a crucial two-fold question of the extent to which regions are autonomous, specialized, and open in the era of globalization, and what does regional autonomy, specialization, and openness mean to regional economic development. While the first half of the question calls for understanding a given region’s relationship to the national government, its industrial history and structure, and its own

institutional and cultural characteristics, answering the second half of the question points the analytical attention to how the varied ways in which a given region is related to both the global and local economy will either facilitate or impede its role in regional development. This is an area in the literature on regions where new conceptual thinking has been lacking and is called for. In the next section, I attempt to reconceptualize the more complex and varied role of regions to prepare for a comparative analysis of how regional dynamics in China have become more important in restructuring global-local economic ties with developmental consequences and new challenges to local industrial upgrading and regional governance.

## **2. Reconceptualizing the regional role**

If we accept the claim that the region has become a more important unit of study, we need to be clear about why and how this is so. In one sense, we could argue and show that the region has become more important than the nation-state in mediating between globalization and localization as the state has become more decentralized and decentered (Chen 2005). In a different way, we could contend that the region has become more important relative to its past in bridging and restructuring global-local economic ties as the latter have become spatially and organizationally differentiated and uneven in either agglomerated or dispersed forms. While both arguments imply a more activist and enabling role for regions, we should be mindful of not going too far in rendering region a unified rational actor. Alternatively, regional change and development should be seen as a cumulative spatial outcome of aggregate decisions of various disaggregated actors such as business firms, local governments, and professional associations (Markusen 2001). And decisions by key and powerful actors such as multinational corporations often carry strategic reference for and bearing on multiple locations in a regional context (Ho 2000). Generally speaking, these actors' behavior and decisions do add up to a collective force that translates into an important regional role, which varies in different contexts as a "mediating middle" between the global economy and local economies.

## 2.1 Between the global and the local

The relationship between the global and the local<sup>1</sup> is difficult to define and demarcate. Although globalization may exert an integrating and homogenizing impact on nations and localities, the global-local nexus could be more balanced and nuanced. Rosenau (1997) views globalization and localization as coexisting and interdependent processes, and argues that the integrating force of globalization and fragmenting impact of localization blend into *framegrative* (his original usage) processes that produce either complementary or contradictory outcomes. Kloos (2000) has reinforced this perspective by arguing that the twin process of globalization and localization has a double face: making transnational and local dynamics go hand in hand. Amin and Thrift (1994: 6) countered the thesis that globalization homogenizes by emphasizing persistent local diversity:

One distinctive characteristic, as in the past, is the uneven distribution of tasks in the international division of labor to different locations offering specific attributes for capital accumulation. Another is the spatially differentiated assimilation and inflection of global imperatives, as the latter encounter places with distinctive, historically layered, socioeconomic structures and traditions. Globalization, therefore, does not imply a sameness between places, but a continuation of the significance of territorial diversity and difference.

Amin and Thrift (1994: 15) attribute lasting local diversity to local “institutional thickness,” which includes inter-institutional interaction and synergy, collective representation by many bodies, a common industrial purpose, and shared cultural norms and values. This explanation attaches primary importance to the particular combination of institutional factors across localities that differentiate their development. It both competes with and complements the conventional functionalist and territorial approaches that stress location and infrastructure (e.g., transportation) factors in determining local economic development (Christaller 1972; Hoover 1968).

The above perspectives are concerned with the dialectics between globalization and localization, with particular attention paid to why and how localities could continue to pursue

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1 The definition of what is the ‘local’ and what is the ‘global’ may not be precise, just as it is difficult to pin down their respective physical boundaries. Amin and Thrift (1994: 6) choose to leave both terms more or less ambiguous. They highlighted the more varied use of the ‘local’, which might refer to a small area like the rural industrial districts of Italy or a large agglomeration like Silicon Valley as a player in the world economy. In this paper, I use the ‘local’ to refer to cities or areas that are the building blocks of a larger region, even though these cities or areas are actual or potential players in the global economy. This allows me to examine the important role of two regions of China in mediating the economic relations between cities and the global economy in this paper.

somewhat autonomous development under global constraints. In a regional context, however, localities are nested in multi-layered spatial and functional hierarchies. To show what a regional hierarchical composition of local economies may look like, it is important to differentiate between how **place** is viewed in relation to **network** and how value **chains** and industry **clusters** fit in.

## **2.2 Place, network, chain, and cluster in a regional context**

Place has taken on added importance in the study of globalization, global cities, and regional development (see Orum and Chen 2003). The greater salience of place is reflected in a new geography of power produced by economic globalization, exemplified by the emergence of global cities like New York, London, and Tokyo as the command and control centers in the global economy (Sassen 2001). Other major international centers like Miami, Toronto, and Sydney have also developed certain global city functions such as banking, even though they might not become actual global cities, themselves (Sassen 1994). Applying Sassen's perspective to a regional context points to the role of certain dominant cities in linking the global, national, and local economies. The role of cities or places in a transnational region is more complex. Uneven spatial clustering at the sectoral or industry level in an open and interactive environment may strengthen some existing centers, downgrade others, elevate a select few to potential world cities, and upgrade the status and functions of previously secondary centers in peripheral locations. The places absorbed into a transnational regional system may become more detached from the rest of the national space and reconfigured in a new regional space.

The network-based perspective is typically represented by studies that focus on transnational production systems and global commodity chains. A production system involves a functional division of labor through a network of input-output linkages set in a context of power and decision-making (Scott 1995: 52; Storper and Harrison 1991: 411). A production system in a given region involves input-output links among embedded localities. Gereffi (1994) extended the network-based analysis to include the connected, albeit varied, roles of retailers, trading companies, and marketers, in addition to suppliers and manufacturers, in shaping a commodity chain. He argues that the process of industrial upgrading occurs through a "shift from bilateral, asymmetrical, inter-regional trade flows to a more fully developed intra-regional division of labor incorporating all phases of the commodity chain from raw material supply, through production, distribution, and consumption" (1999: 52). More recent work by Gereffi and others (Gereffi, Humphrey, and Sturgeon 2005) has focused on value chains as a more fruitful area of inquiry



for theorizing and analyzing the complex variation in the amount of value added through and across different value chains and in their varied governance mechanisms.

If commodity or value chains are truly global, they must cut through certain regions. In addition, they vary in where and how they enter, extend through, and exit regions. In one region, the chains may encompass more cities and their hinterlands than in another region. From a local perspective, cities in one region may spread more evenly along different segments of a global value chain, whereas localities in another region may cluster around one distinctive segment of the chain (e.g., raw material supply or manufacturing). The uneven involvement and functions of cities as local nodes in global value chains depend on the size and scope of industry and firm networks specific to a region. This mediating effect is dynamic as the evolution of the economic base and sectoral mix of a region could facilitate localities to shift along global value chains, with important development consequences.

As value chain analysis has complicated the interface between place- vs. network-oriented perspectives, research on clusters has added another dimension to it. Defined as “geographic concentrations of highly specialized skills and knowledge, institutions, rivals, related businesses, and sophisticated customers in a particular nation or region” (Porter 2000: 32), cluster(s), if they are present and successful in a given region, matter a great deal to its development and integration by enhancing and sustaining the economic competitiveness of the places or localities that host these clusters as constituent parts of that region. This logic has made clusters or cluster-based initiatives a highly desirable policy tool for many cities and regions in their efforts to increase growth, productivity, and employment (Cumbers and MacKinnon, 2004). Given the rich components of a given cluster, it may either occupy a single segment (e.g. manufacturing of parts and components in a particular industry) or cover multiple segments (R&D, completion of a high-value-added product, marketing) of a value chain anchored to a locality. In other words, a value chain could thread through multiple clusters in different localities of a regional economy. Incorporating value chains and clusters into analysis of the relative importance of places and networks leads to more integrated understanding of regional economic development at different spatial scales (Dicken et al. 2001).

### **2.3 Mediating the global-local nexus differently**

To set the stage for an integrated empirical analysis of how place, network in terms of value chains, and clusters come together in the Chinese regional context, I expand and

elaborate on a relatively undifferentiated view on how regions mediate global-local economic relations by restructuring network ties across local places (see figure 1). The generic mediating role of region varies from a “conduit” to a “container” to an “integrator.” This reconceptualization rejects the global-local dualism, which tends to attach the dominance of the global scale over the local scale (Dicken et al. 2001). As a set of assumptions, these varied roles could play out in different regions and will need to be verified empirically.

*Figure 1 about here*

The upper-left diagram in figure 1 displays a generic model of a regional economy mediating the interactions between the global economy and a local economy. The model does not assume or specify the nature of the mediating role but illustrates that a regional economy occupies the middle space along the global-local economic nexus and therefore exerts an influence on how one end is connected to the other. The model does assume that this mutual influence is capable of producing consequences on either side. More importantly, the generic model is the source for deriving alternative possibilities for a regional economy to serve as a mediator between the global economy and a local economy. In the lower-left diagram, I suggest that a regional economy could function as a “conduit” or a “filter” between the global economy and a local economy. The mediating role is assumed to be relatively light, passive, and nonedirectional in that it basically allows or channels flows (e.g. capital, goods) from the global economy to a local economy, without reshaping them. This kind of mediating role is also assumed to be fairly narrow in that the global economic influence may be geographically and functionally confined as it reaches a local economy. The weak and narrow role tends to bring about more problematic or less desirable development consequences for a local economy as a passive recipient of global economic flows. While I have not identified a specific region as a matching case for this model, I assume that many regions in developing countries, especially those located in remote or peripheral areas, belong to this category because they are generally not capable of playing a stronger or broader role in shaping global economic flows to the benefit of a local economy.

In the upper-right diagram, I have presented a very different model that characterizes the mediating role of a regional economy as a “container.” In contrast to the weak and narrow “conduit” role, a “container” region plays a much stronger and more encompassing role that is capable of substantially integrating and restructuring the global economy and a local economy or multiple local economies. While this role may stem from a geographically large or expansive

region, it does not necessarily require one. As a “container,” a region may absorb or cushion the brutal impact of global economic forces by rooting them in a local economy or spreading or diffusing them through well-connected local economies. At the same time, this region can be more pro-active and involved in shaping a full range of interfaces between the global economy and a local economy. The assumed strength and scope of this “container” role appear to fit expansive and well-integrated macro-regional economies such as the European Union, which may use a fully integrated regional economic system to counter external competition from powerful actors in the global economy like the United States. Whether the EU fits this model will require careful empirical research. Looking at macro-regional economies (e.g., the EU) from a commodity chain perspective, Smith et al. (2002) have emphasized the importance of shifting the analytical focus from the commodity itself to how the organization of production, appropriation, and distribution of unequal value flows between places (nodes) of the commodity chain shapes the reconfiguration of regional economic activities. They also have pointed to state governance, labor organization, and corporate practices as stronger forces driving the process and creating mosaics of regional territorial inequality. The relational embeddedness approach attempts to explain regional development as an outcome of a broader socio-spatial organization of industrialization, production, and territorial development (Yeung 2005).

Finally, I have conceptualized a third alternative to the generic model by proposing that a region can serve as an “integrator” of the global economy and a local economy or multiple local economies. As the lower-right diagram indicates, a region can envelop large portions of the global economy and a local economy without subsuming them as in model 3. And with its integrating capacity, a region depicted by this model plays a stronger and broader role than that in model 2. While it may appear that a region as an “integrator” lies somewhere between models 2 and 3 regarding both the strength and scope of the mediating role, model 4 implies a distinctive way by which a region not only bridges the global economy and a local economy but also reorganizes their linkages through integration, albeit in a partial fashion. This conceptualization emphasizes region as a more active and enabling actor vis-à-vis the global economy and a local economy, as well as the state at central or local levels. Model 4 has the potential to capture a growing category of regional economies that have become heavily globalized in terms of a network of global-local economic ties across multiple places (cities). In the section below, I will offer a comparative analysis of two regions in China that appear to fit of the model as the first step to evaluate the latter’s broader applicability.

### 3. A Tale of Two Regions: Key Drivers of China's Rise in the Global Economy

Taking any casual glance at the world economic map today, one is very unlikely to miss two of the brightest regions of rapid growth and booming export that stand out on China's coast. They are widely known and labeled as the Pearl River Delta (PRD) region in southern China and the Yangtze River Delta (YRD) region around Shanghai, respectively. While the PRD fueled southern China's emergence and growth as a major region for foreign investment and of manufactured exports during the 1980s and into the 1990s, the YRD rose as the second regional driver of continued foreign investment inflows and export outflows during the 1990s and into the 21st century. While increasingly mentioned in the same breath or in tandem and widely reported in the media outlets, the PRD and YRD have rarely been subjected to a systematic and rigorous comparison, almost certainly not via a clearly conceptualized framework. Before comparing the two regions in light of model 4 in figure 1, it is important to provide a brief statistical account of their relative weights in China's national economy in recent years (see table 1).

*Table 1 about here*

As table 1 indicates, the PRD and the YRD together have accounted for the lion's share of China's total inward foreign investment and exports, absorbing as much as 87.2% of the country's foreign investment and sending as much as 74.6% of its exports in 2003. In separate and comparative terms, the two regions have moved differently in recent years. First of all, while the PRD's share of foreign investment in China's total has stagnated and begun to drop, that of the YRD rose sharply after 2001. The two regions' shares of exports have exhibited a similar trend. Secondly, the PRD is more export-oriented than the YRD. The PRD has had a consistently higher export-to-foreign-investment ratio, which reached 1.47 (28% divided by 19%) in the first half of 2005. The YRD, on the other hand, maintained a rough balance between foreign investment and exports until 2003 when its foreign investment inflow exceeded exports by a factor of 1.47 (50.6% divided by 34.2%). These indicators for the last few years show that the YRD's has gained momentum over the PRD in attracting foreign investment and promoting exports in the national context, while the most recent foreign investment in the YRD became less export-oriented. The differences in foreign investment and exports between the PRD and the YRD reflect the distinctive composition of the two regions with regard to their varied roles in integrating the global economy and local economies.

The general economic profiles aside, the PRD and YRD as dynamic and active regions also may differ along specific industrial sectors within each. In fact, it is the spatial composition of industries in either region that provides the most appropriate and meaningful focus for an integrated place-network analysis involving value chains and clusters. Map 1 displays the striking spatial concentration of and disproportionately large outputs from the clothing and related industries in the PRD and YRD, especially the latter (see map 1). By these indicators, both the PRC and YRD exemplify what Florida (2005) calls economic “hills”—cities or places that manufacture high quantities of the world’s established goods as opposed to economic “peaks”—the few cities that generate the world’s innovations or many economic “valleys” that have little connection to the world economy. Florida also argued that the peaks can easily remain vital and dynamic, while the hills may rise and fall, which is particularly relevant issue to be probed for the PRD and YRD within the framework shown in figure 1. The carry out the comparative analysis in full, I take an in-depth look at the PRD first and then at the YRD.

*Map 1 about here*

### **3.1 The Pearl River Delta: Regionalized global-local production links for low-cost export manufacturing**

The Pearl River Delta (PRD) differs from the YRD considerably in terms of its role in creating a distinctive structure of global-local economic ties. The PRD’s stronger export orientation is based on a region-wide industrial system consisting of thousands of factories of varied sizes in a cluster of cities that make labor-intensive products for exports. This massive export-driven growth machine has turned the PRD (with Hong Kong and Macau) into the world’s 16th largest economy and tenth leading exporter, if it were a country. Hong Kong-owned companies and factories in the PRD employ between 10 and 11 million workers, more than Hong Kong’s total population (Enright and Scott, 2005). The figures at the bottom of map 2 refer to a number of consumer electronics products from the PRD as shares of China’s totals, and the bulk of these products are destined for the world markets.

*Map 2 about here*

Export-oriented manufacturing in the PRD is embedded in its regionalized global-local production links through global commodity chains that span Taiwan, Hong Kong, and the PRD cities in Guangdong province. Commodity chains consist of flows between the nodes, the relations of production, the dominant organization of production, the geographic loci of

production, and other backward and forward linkages (Gereffi 1994). Figure 2 displays the complementary inputs from and the functional links between the four geographic nodes of exemplary commodity chains that link the PRD to the global economy through Hong Kong and Taiwan (see figure 2).

*Figure 2 about here*

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. Most of the raw materials were shipped from Taiwan through Hong Kong to the mainland sites, at least initially before they could be increasingly sourced locally. Each of the shoe factories would use a few Taiwanese resident managers who have been in the shoe business for years and might also speak the local dialect. Hong Kong-based staff of companies like Nike have continued to handle accounting and designs, make sure the sample and raw materials reach the factories on time, and transport the finished Nike shoes out of China through Hong Kong toward their destined markets. The chain of toys is similarly structured: toys are designed in Hong Kong, assembled in the PRD, often with a Taiwan-made chip for talking dolls, and finally packaged in and shipped from Hong Kong to world markets (see Chen 1994, 2001).<sup>2</sup>

The preceding commodity chain analysis has revealed both the cooperative and competitive aspects of industry-level inter-firm ties across the PRD, Hong Kong, and Taiwan. The broad distribution of benefits for the different nodes of a given chain varies according to their relative position on and contribution to its overall value. Generally speaking, multinational companies are most profitable by controlling marketing and retails. Hong Kong and Taiwanese firms control the less profitable segments of order receiving and manufacturing services, while PRD-based factories profit the least by occupying the middle segment of manufacturing (Chen

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2 In the early 1980s, when some children's dolls were made in Hong Kong, they would be designed in Hong Kong, and their molds were produced in Hong Kong where sophisticated machinery was available. Then the molds were shipped to China, where workers would shoot the plastic, assemble the dolls, paint the figures, and make the dolls' clothing. Then the dolls were brought back to Hong Kong for final-testing, inspection, packaging, which could not be done up to quality in China, and finally were distributed from Hong Kong (Interview with Victor Fung in Magretta, 1998: 105). Nowadays, though the dolls may still be contracted to and designed by a Hong Kong firm, the manufacturing process through packaging is normally completed in China, which shifts "Made by Hong Kong" to "Made by China." Hong Kong, however, still controls the front (design) and back (distribution) ends of the process. In this sense, "Made by Hong Kong" has shifted to "Made in Hong Kong but Made by China" (see Berger and Lester, 1997).

1994, 2001). Since a local economy is a distinctive local focus of the study, it is instructive to examine how the PRD cities have benefited from regionalized global commodity chains.

The city of Dongguan in the PRD has become the most heavily favored location for Taiwanese computer manufacturers to supply global computer giants. Nearly half of the over 3,000 Taiwan-owned enterprises in Dongguan belong to the PC-related industry. As Taiwanese firms have shifted more manufacturing of computer components (switch power supply units, motherboards) and peripherals (monitors, keyboards) to the mainland, upstream suppliers of plastics, resistors, and printed circuit boards have followed suit. As a result, a newly indigenized supply and production chain has been formed in Dongguan. This allows a PC to be assembled and shipped within 15 days within an area of 50 sq km in which specialized suppliers of such peripherals as monitors and keyboards cluster with motherboard manufacturers and final assemblers. Within Dongguan, there is further specialization in the manufacturing of PC peripherals and other products. The town of Qingxi, with only 30,000 residents, hosts several large-scale manufacturing facilities of seven large Taiwanese PC companies traded on Taiwan's Stock Market. The town turns out two million monitors, 700,000 keyboards, and 13 million PC boxes (20% of the world's total) a year (Chen 2005). Today Dongguan is the world's largest supplier of computer peripherals, and IBM and Compaq have set up purchasing centers there. The case illustrates the significant role of externally linked, highly specialized local clusters in certain networked and globalized industries.

The spatial clustering of the computer industry in certain PRD has also spurred the attraction of higher-value added or higher-technology manufacturing investments from both Taiwan and Hong Kong. A number of high-tech or science parks have cropped up in and around the PRD cities of Guangzhou and Shenzhen (see map 2), which has more Ph.D.s as a percentage of total population than any other city in China (Enright and Scott 2005). This trend breeds a higher level of cooperative synergy, as strong R&D capacity, rich venture capital, and mature enterprise management in Taiwan, coupled with Hong Kong's knowledge in finance, logistics, and marketing for IT industries and networking in international markets could help mainland high-tech companies turn their inventions into marketable products.

The heavy concentration of Taiwanese manufacturing investment in Dongguan has had a highly favorable impact on local development. Formerly a rural township surrounded by rice fields and known for growing litchis, Dongguan has over just one decade exploded into a large urban, industrial center that covers 2,520 sq km and has over five million people, the majority of

whom are among the estimated 20 million migrant workers cycled through Guangdong province every year. The Taiwan-invested factories in Dongguan have created 600,000 jobs. In 1998, Dongguan's economy grew 26%, and Dongguan became China's third-ranked city in exports and foreign exchange earnings, behind only Shanghai and Shenzhen. Not surprisingly, the export of PC-related products reached US\$6.7 billion and accounted for over 40% of Dongguan's total exports. The city has planned to build several science and technology parks focusing on the computer-related industries. With large revenues from leasing increasingly valuable land for building Taiwan-invested factories, the local government is capable of funding the entire primary and secondary education at no cost to residents and of experimenting with completely free health insurance and old-age pensions. At the household level, the level of wealth in Dongguan is reflected in a 20-% ownership of private cars, the highest of all cities in Guangdong province and one of the highest in China (Chen 2005).

The PRD in general and the development of Dongguan in particular illustrate the cumulative interaction between network- and place-based dynamics through a fairly wide and deep regionalization of long global production chains in distinctive local clusters like PC peripherals in Dongguan. However, most of the local manufacturing in the PRD has remained at the lower value-added end of the global value chains sustained by very low and largely stagnant wage labor. Even this seemingly lasting comparative advantage has lost some edge since 2004, mainly due to energy and labor shortages. According to Enright and Scott (2005: 31), current demand for electricity in the PRD exceeds generation capacity by nearly 15%, while there were two million more jobs than employees to fill them in 2004, and the figure rose to 2.5 million in 2005 (Roberts 2006). The problem has got worse since then. A company in Dongguan making lamps and furniture for Wal-Mart, Home Depot, and Target had to raise salaries 40% in 2005, to an average of US\$160 a month (compared to about US\$100 a month for most of the 1980s and through the 1990s in the PRD), in order to attract more workers. In addition, the company upgraded the dormitories and improved the food in the cafeteria. Despite these efforts, which led to its profit margins shrinking to 5%--half what it made when it opened about 15 years ago, the company's five factories remain about 10% shy of the 6,000 employees needed (Roberts 2006). While some of this labor shortage in the PRD may be attributed to the increasing attractions of accelerated growth, strong labor demand, and higher wages in the YRD (see section below), it raises the larger question central to this paper, that is, whether and how the labor-intensive and low value-added manufacturing economy of the prosperous PRD could



“grow up” and “graduate” to more technology-intensive and higher value-added development through the challenging process of industrial upgrading (see last section).

### **3.2 The Yangtze River Delta: Regionalizing more varied and higher-value global-local economic ties**

Turning to the YRD, I begin by looking at Shanghai as central core of the region. Shanghai has experienced an unprecedented "renaissance" since the early 1990s. Unquestionably the most dynamic and globalizing city in the world today, Shanghai has been on a sustained building binge, with nearly 4,000 modern high-rises erected over the last 10 years. The Pudong New Area--Shanghai's previous backwater of rice paddies and farm houses--is now dotted with modern factories and commercial skyscrapers, including the world's tallest hotel (a Hyatt on the 88th floor), with the world's tallest building going straight up after delays caused by the Asian financial crisis in 1997-98. Receiving US\$11 billion in foreign investment in 2003, Shanghai ranked first among all Chinese and non-Chinese cities as a single-city destination of foreign investment in the world. This economic boom, however, has driven up land and labor costs in the densely populated Shanghai with limited developable land. The average wages of both factory workers and technicians in Shanghai are now double those in interior cities, while the average pay for managers and senior managers in Shanghai is three times higher. In 2005, the annual pay of manual labor in Shanghai averaged US\$2,979 compared to US\$1,787 in Chongqing and US\$1,489 in Chengdu. Land cost in Shanghai has become 30%-40% higher than secondary cities in the YRD (Roberts 2005, 2006). As multinationals have become less willing to build new manufacturing plants in Shanghai, development has begun to spill into the surrounding (YRD) region, especially to booming secondary cities such as Suzhou, with a new wave of development spreading further out and down to smaller cities like Wujia and Jiashan of neighboring Jiangsu and Zhejiang provinces (see map 3).

*Map 3 about here*

As the YRD regional context shifts in response to the more discriminating behavior of global capital in targeting localities, the relative positions and roles of Shanghai and other cities have been undergoing a realignment and reorganization. While Shanghai remains as the central node of the YRD, it has developed some new facets to its dominant role for the region and vis-à-vis other cities. I have modified the commodity chain scheme shown in figure 2 to illustrating

the emerging but increasingly prevalent structure of global-local economic relations in the PRD (see figure 3).

*Figure 3 about here*

In discussing figure 3, I begin with the position of Shanghai in the upper-right corner of the diagram. First of all, Shanghai is generally the **entry** point for multinational companies to set up representative offices and increasingly headquarters for China or even the Asia-Pacific region, resulting in the concentration of crucial and high-value-added corporate control and service functions such as finance, accounting, marketing, personnel, etc. Approximately 60 of the over 300 multinationals on the Fortune 500 list have set up China or Asia-Pacific headquarters in Shanghai. Shanghai has also provided the entry and location for a large number of large-scale and often high-tech manufacturing facilities set up by foreign companies, although high land cost and land shortage may slow down the location of factories. More recently, to take advantage of a rich pool of local technical and engineering talents, multinationals have quickened the pace of establishing R&D centers or labs in Shanghai, with the total of number of R&D facilities reaching around 150 by 2005 and projected to reach around 200 by the end of 2008. And 60% of these facilities are located in the Pudong New Area, especially in Zhangjiang High-Tech Park and Jinqiao Export Processing Zone (see map 3). GE, for example, has set up one of its three largest global R&D centers in Shanghai.

The increasing agglomeration of higher-value-added activities in Shanghai, coupled with the rising land and labor costs and the need to be closer to regionally based suppliers, have induced multinational companies to relocate some more labor-intensive manufacturing activities to secondary cities around Shanghai. This marks the process of both functional and metropolitan **extension** from Shanghai. It not only reveals some of Shanghai's competitive disadvantages but also reflects the hinterland's comparative advantages in drawing the spillover of production facilities and processes. Since Shanghai has risen to such a dominant port in the world in recent years (now ranking third in container cargo volume in 2003-2005 behind only Hong Kong and Singapore), it serves as the **exit** point for the export of finished manufactures that are increasingly assembled and sourced from the cities and towns around Shanghai and farther beyond (see figure 3). The combined **entry-exit** points at both ends, in conjunction with the **extension** from Shanghai to other regional cities, suggest that Shanghai be treated as the crucial "access or basing point" for a whole set of intra-regional linkages spanning the YRD.

The three secondary cities (see map 3 and the upper-left corner of figure 3) represent booming manufacturing centers in the YRD. Suzhou and Kunshan are in Jiangsu province, while Jiaxing is in Zhejiang province. Bordering Shanghai from the northwest and southwest, respectively, both Jiangsu and Zhejiang are among the most wealthy provinces of China and have been historically, economically, and culturally linked to Shanghai in the YRD. Jiangsu's economy was characterized by the prevalence of township enterprises and has become the leading province in absorbing investment from Taiwanese companies and multinationals in recent years. In contrast, Zhejiang's economy features the widespread success of small, privately-owned businesses for many years, as represented by the city of Wenzhou. Secondly, the city of Suzhou, located about one hour away from Shanghai, has become the largest and most successful among the secondary centers in the YRD for manufacturing, having benefited from capturing a lot of the relocated production activity and new investment from Shanghai. Since 1999, Suzhou and especially its two industrial parks (one jointly developed with Singapore and one built locally) have attracted over 1,000 industrial enterprises set up by Shanghai based companies with a total capitalization of over US\$5billion. Shanghai has become the largest investor in Suzhou, accounting for over 35% of the total capital investment,<sup>3</sup> which helped boost Suzhou's GDP pass that of Shenzhen in 2004 to place the city fourth nationally behind only Shanghai, Beijing, and Guangzhou.<sup>4</sup> More importantly, the Suzhou government has officially adopted the policy or strategy of more actively linking with Shanghai through both competition and cooperation across different industries and services. This policy was characterized as playing the "best supporting role" vs. Shanghai.<sup>5</sup> In comparison, the city of Kunshan, a smaller, county-level city under the Suzhou municipal government, has developed one of the largest clusters of electronics and IT assembling and manufacturing facilities owned by Taiwanese firms, many of which are headquartered in Shanghai. While Kunshan is part of what is known as the emerging "Greater Suzhou," its local functional specialization has been fueled by the diffusion or spread impact of Shanghai. Kunshan also serves as a critical place/case for examining whether and to what extent a much smaller city with a lower administrative rank (than Suzhou) has emerged from a rural base to become an important

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3 These statistics were reported in a press release in Suzhou obtained during my visit to the city in connection to this research project in July 2004.

4 "Incorporate government and market roles," *China Daily* online at [http://www.chinadaily.com.cn/english/doc/2005-05/13/content\\_441714.htm](http://www.chinadaily.com.cn/english/doc/2005-05/13/content_441714.htm); accessed on May 16, 2005.

5 This stance or posture was metaphorically described as "one bite from Shanghai will last Jiaxing a long time." Author's interview in Jiaxing, July, 2004.

manufacturing center with per capita industrial output and GDP exceeding those of Suzhou and Shanghai in the late 1990s (Marton 1998).

Located also about one hour away from Shanghai, the city of Jiaxing in Zhejiang province has a different kind of relationship with Shanghai. Having received less spillover effect from Shanghai than Suzhou with a less specialized local economy than the smaller Kunshan, Jiaxing has “resigned” to a sort of dependent relationship with Shanghai and pursued a stance of passive adaptation to the latter.<sup>6</sup> However, Jiaxing has bred a small indigenous private garmentsmaking company (*muzhihua*), which has since grown into a large and diversified multinational corporation. While maintaining a substantial manufacturing base in Jiaxing, this company has moved its headquarters to Shanghai to take advantage of the latter’s role as an entry and exit point for receiving orders and promoting exports.

Moving down the regional urban hierarchy, I have identified smaller cities like Wujiang and Jiashan (which were formerly agricultural counties and are still partially rural) shown in the lower-left corner of the diagram in figure 3. These cities have emerged as new sites for assembling or manufacturing specialized components and parts that are subcontracted or outsourced from firms located in Suzhou, Jiaxing or even Shanghai. They are attractive and competitive for this purpose due to their even lower labor and land costs, as well as geographical proximity, which allows convenient and timely delivery of parts and components back to the secondary cities for further assembly or higher-value-added manufacturing. While their size and local conditions may not appeal directly to large multinational companies as factory sites, the smaller or third-tier cities have become attractive to smaller Taiwanese companies. For example, a Taiwanese labor-intensive food company based in Shanghai decided to build a new plant in Jiashan that was much larger than its existing facility in Shanghai to deal with the latter’s rising cost. New capital influx and fast growth have begun to turn these third-tier cities into competitive actors in an increasingly regionalized economic network of dense global-local ties. Their greater participation will both stretch these ties spatially and solidify them in functional terms.

Somewhat different from the dominance of labor-intensive industrial products in and from the PRD (see figure 2), the YRD features a more diverse set of industries of varied global connectivity and capital and technological intensity, ranging from garments to cars and to

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<sup>6</sup> This stance or posture was metaphorically described as “one bite from Shanghai will last Jiaxing a long time.” Author’s interview in Jiaxing, July, 2004.

semiconductors (see center of figure 3). The automotive industry in the YRD involves heavy capitalization and advanced manufacturing technology. Shanghai Volkswagen or SVW (a joint venture between Shanghai Automobile Industrial Corporation [SAIC] and VW) has already built an integrated “motor city” on the outskirts of Shanghai, representing a spatial extension of manufacturing from Shanghai into the larger region. Shanghai GM or SGM (a JV between SAIC and General Motors) has begun to source simple, specialized components from small suppliers located in towns at the far edges of the YRD.

The electronics/PC/IT industries involving primarily Taiwanese capital have become agglomerated in and around Shanghai and are more technology-intensive and advanced than their counterparts in the PRD. More interestingly, these industries also have developed a spatial specialization and redistribution among the key YRD cities in recent years as reflected in notebooks in Shanghai and Suzhou vs. semi-conductor chips in Shanghai. These industries vary in the spatial division of labor and inter-firm links between the global economy and the YRD and within the latter. In notebook manufacturing, the Taiwanese company of Quanta, the world’s No. 1 notebook maker that accounted for a quarter of the roughly 49 million notebooks shipped in 2004, employs 20,000 workers at its US\$48 million factory complex in Shanghai where more than 90% of its output is generated and for Dell and H-P orders back in the U.S. While manufacturing, packaging, and shipping is done in and from Shanghai, the most valuable components of the notebooks are designed and sourced overseas, with memory chips 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 moved to near Shanghai (Dean and Tam 2005). The smaller Taiwanese rival of Quanta (Compal Electronics), which also makes laptops for customers such as Dell, employs 13,000 workers at a notebook factory in Kunshan. The Taiwanese company of Asustek--the world’s top producer of PC motherboards and is developing its own brand of notebooks--has a work force of 45,000 in Suzhou. Beyond notebooks, Asustek makes iPods for Apple in Suzhou, while the Taiwanese firm of Hon Hai—the world’s second largest electronics contract manufacturer—employs up to 100,000 workers in both Kunshan near Shanghai and the PRD to make the PlayStation 2 for Sony among other products (Einhorn 2005).

The garment industry provides a still different example of how highly labor-intensive, low-tech, and export-oriented goods are made by a regional division of labor embedded in

interlocal flows of raw materials, intermediate inputs, and transport logistics. Despite the internal attrition of textile mills in and outward relocation of clothing factories from Shanghai to smaller YRD cities due to highly inefficient state control and ownership in these industries, Shanghai has remained a dominant center of clothing manufacturing (see map 1). Hundreds of surviving state-owned garment factories now compete fiercely to meet the high standards of quality, delivery, service, and price of the international markets. For example, approximately 60 apparel manufacturers funnel knitted apparel to Shanghai Knitwear, which is the largest exporter of knit clothing in China and shipped 2.5 million T-shirts to the U.S. in 2000 alone. Each year Americans buy about one billion garments made in China, four for every person (Rivoli 2005). While this huge influx of Chinese apparel, which has accelerated since the end of the global textiles quota on January 1, 2005, has been resisted by U.S. imposed quotas and tariffs introduced by the Chinese government on some textiles, large U.S. and European clothing retailers continue to flock to Shanghai and other cities in the YRD for more sourcing (Fong 2005). In particular, the apparel industry in such smaller cities as Jiaxing and Shaoxing of Zhejiang province have done well in using close physical and industry connections to Shanghai as China's fashion center.

While some labor-intensive industries in the YRD remain viable, they have begun to face the same labor shortage problem haunting the PRD, which has led to high turnovers, rising salaries, and shrinking margins. Besides the high-cost Shanghai, in second-tier cities like Suzhou, wages at an American maker of wireless networking gear have been rising by 10% annually in recent years. Turnover for some jobs at another American-owned company hit 20% forcing management to implement such additional incentives and benefits as flexible work hours for workers with children, holding quarterly parties for the entire staff, and organizing free trips to resort areas (Roberts 2006). Like the PRD, labor shortage and rising costs in the YRD provide further evidence that industrial upgrading is necessary and desirable to sustain regional growth and prosperity.

#### **4. Challenges to Local Industrial Upgrading and Regional Governance**

Before taking on the issue of industrial upgrading in the two regional contexts, a brief summary of the similarities and differences between the PRD and YRD is in order. Both regions are major destinations for direct foreign investment by multinational and overseas Chinese companies and export platforms for labor-intensive manufactures. Both regions contain

extensive global-to-local production chains that have “touched down” in a clustering of cities with some degree of functional specialization in certain industries. Both regions involve spatial divisions of labor across various nodes (cities) based on the latter’s comparative advantages and economic complementarities. However, two major differences between the two regions stand out. First, the PRD has established a larger and more entrenched base of more labor- and export-intensive industries than the YRD due to its earlier start or first-mover advantage, industrial tradition in and orientation toward light manufacturing, and location proximity to Hong Kong and Taiwan’s small- and medium-sized companies looking to relocate. Secondly, unlike Hong Kong’s narrower service role for the PRD, Shanghai is more diverse and multifunctional central node for the YRD. In moving toward higher-value-added manufacturing and providing more services, R&D, and logistics functions for the YRD, Shanghai has unleashed a powerful push for broader and deeper regionalization of global-local production links and value chains. These similarities and differences also reveal some common and distinctive challenges and opportunities for industrial upgrading and regional governance in the PRD vs. the YRD.

In the PRD, in spite of the continued high growth over two decades and great export success, the region has encountered severe constraints that threaten its continued prosperity. One constraint takes the prevalent form of labor-intensive and low-tech assembly and manufacturing that not only rely on suppressed low wages and razor-thin profit margins but also lack local integration and innovation. This model of industrialization, successful as it might have been in its earlier phase, has kept some local industries and firms in the PRD in a dependent and even disconnected mode in relation to the global economy, even though the global-local economic ties appear to be extensive and dense. The PRD-based firms and factories, in a way, are stuck in the assembling and manufacturing segment of the production chain and earning merely labor-processing fees rather than engaged in acquiring technology, developing their own brand-name products, and creating international markets directly. There is also a lack of indigenous companies in the PRD that are sufficiently large and truly international beyond names like Huawei, TCL, Galanz, and Kanka (Enright and Scott 2005). These conditions tend to perpetuate the control of multinational companies over the much more lucrative front segments of global value chains such as marketing and retailing. As a result of low wages for workers, bad working conditions, and rising crime rates in the PRD that have forced more migrant workers to return home in interior provinces, there has emerged a labor shortage of 15% to 20% since 2004 for many local factories irrespective of their efforts to raise wages. The labor shortage has

got worse as some workers have moved to the YRD for its higher wages, lower crimes, and better schools and job training.<sup>7</sup> Businesses in response to a survey have preferred better geographical location, more cooperative local governments, and a richer supply of manpower of the YRD to the PRD.<sup>8</sup> In sum, the PRD is in danger of being “locked-in” a “low-road” (labor-intensive and wage-squeezing) approach to local and regional development (see Grabher 1993; Schmitz 1999).

The YRD also faces daunting challenges to local and regional industrial upgrading, albeit in somewhat more favorable environment and at better timing than the PRD. As mentioned earlier, the more diverse industrial base and more educated and skilled work force in and around Shanghai have lured more multinationals to subcontract higher-value manufacturing to local companies, to source more parts and components locally, and to set up more producer services and R&D functions in the YRD. In other words, more multinationals have become willing to lengthen global value chains through the YRD, particularly by moving the more advanced segments of value chains to Shanghai to creating more backward linkages to sourcing and manufacturing and forward linkages to distribution and marketing in a newer and larger regional market. These opportunities have created both incentives and pressures for local or indigenous firms and factories in the YRD to connect to or “hook into” certain niches or segments of global value chains as suppliers or assemblers. While this “bootstrap” strategy may work to bring about some industrial upgrading of certain products, process, and/or functions (Schmitz and Nadvi 1999; Giuliani and Pietrobelli 2005), it could raise the specter of “immiserizing” industrial growth (paying the lowest possible wage) due to hyper competition (Kaplinsky 1998 cited in Schmitz 1999: 1647). This tendency seems to be temporarily thwarted by labor shortage and rising wages as discussed earlier. However, there is a long-term possibility for small suppliers in the YRD to be “locked into” a “captive” bind of being transactionally dependent on and controlled by large customers (Gereffi, Humphrey, and Sturgeon 2005). The “high road” (industrial upgrading) road to development for the YRD economy is not free of dilemmas and tough choices.

To help overcome the constraints on local industrial upgrading in the PRD and YRD, the need to develop new and more effective governance strategies for improving the “collective efficiency” of local governments and firms is a high priority. This however is not easy as regions

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<sup>7</sup> Reported by *South China Morning Post* online at [www.scmp.com](http://www.scmp.com); accessed on September 24, 2005.

<sup>8</sup> “China: Tale of two deltas,” *Asia Times* online, September 6, 2003; accessed on September 7, 2003.



like the PRD and YRD are sandwiched between the top-down (global) and bottom-up (local) governance pressures. Certain forms of global governance such as the rule-setting regime of the World Trade Organization (WTO) have introduced and reinforced global technical, social, and ecological standards, which exert considerable demands and pressures on national, regional, and local actors (Messner 2002). From the bottom, local governments in the PRD and YRD have become more autonomous and powerful vis-à-vis the central and provincial governments due to political and fiscal decentralization (Oi 1995), as well as larger local coffers from sustained rapid growth and land-leasing revenues. Local autonomy in the PRD has translated into flexible policy actions. In the city of Dongguan, both municipal and township governments are particularly willing to offer financial incentives such as reduced land prices, factory leases, and utilities charges to Taiwanese investors. The Taiwan Affairs Office of Dongguan provides special services to Taiwanese investors in processing entry and exit travel documents, clearing traded goods, settling economic disputes, maintaining public order, and arranging for child education. These favorable policies and practices have helped make Dongguan the most popular and concentrated locality in China for Taiwanese companies to set up factories, which account for over one-third of all Taiwan invested factories in Guangdong province, more than Shenzhen. Not coincidentally, Dongguan also hosts more Hong Kong-invested factories than the bigger and better known Shenzhen bordering on Hong Kong (Chen 2005).

In the YRD, growing local autonomy has not freed municipal governments from being fixated to territorially bounded and functionally independent entities. This has, under the legacy of the entrenched planning system, sustained regional and local economic fragmentation. Local governments have become more assertive and interventionist in economic development by using their monopoly of resources and policies over their jurisdictions. Although some of this extreme inter-city competition has been ameliorated by the administrative annexation by higher-order cities of adjacent lower-ranked, county-level units as new city districts in the YRD (e.g. Changzhou city annexing Wujin county in Jiangsu province), it has not eliminated all the conflicts (Zhang and Wu 2006). In relation to firms, dominant local companies like Shanghai Automotive Industrial Corporation (SAIC) pursued inefficient and wasteful import-substitution strategies for their component supplies (Huang 2003), impeding horizontal or trans-local supplier and service linkages that are regionally based and thus more efficient. In some YRD cities and towns, as market reforms deepened, powerful local officials have run into a greater

conflict of interest with the successful and wealth-creating township-village enterprises (TVEs) and resorted to illegal means of grabbing and siphoning off the latter's assets (Li 2005).

Greater local autonomy without regional-level coordination and governance tends to create unbridled competition for foreign investment among localities, leading to duplicative and wasteful use of local resources in the form of giving away too many financial incentives to foreign investors. This is akin to cities or localities in the highly decentralized U.S. system competing fiercely for mobile capital and ending up giving away too much subsidy to private investors (Thomas 2003). Another outcome may be continued local protection and further fragmentation within the regional economies, thus delaying the expected regional integration facilitated by the heavy presence of global capital, industrial agglomeration, and denser interlocal ties. Meeting these challenge invokes the concept and need of policy networks, which are "mechanisms of political resource mobilization in situations where the capacity for decisionmaking, program formulation and implementation is widely distributed or dispersed among private and public actors" (cited in Messner 2002: 2). These mechanisms inevitably have become key elements of a broadened notion of urban governance that refers to "actions and institutions within an urban region that regulate and impose conditions for its political economy...including both informal coordination and formal organization among local governments and other local actors" (Sellers 2002: 9). An increasingly powerful non-government local and regional actor in the U.S. context is special-purpose authorities, which not only continue to undertake and run traditional infrastructure projects (highways, rapid transit, ports) but also have taken on urban redevelopment projects like convention centers and sports facilities (Judd 2003).

While non-government actors have yet to rise to a comparable level of power of the mighty local governments in the PRD and YRD contexts, non-government organizations (NGOs) and business associations have become more active and involved in local development policymaking and thus could contribute to broader and more effective policy networks for facilitating industrial upgrading and regional integration. Environmental NGOs could work with local governments to deter approval of some labor-intensive manufacturing projects that may have pollution problems down the road. Business associations could cooperate with local governments to provide better and more targeted training programs to upgrade the skills of workers. Policy networks of a broader alliance of local actors could create more favorable conditions for industrial upgrading in the PRD and the YRD. By offering both financial

(dis)incentives and market information to certain manufacturers, local governments in the regional network could redirect them to new or alternative market segments in order to reduce the current “horde mentality” of too many local Chinese companies competing to produce the same seemingly profitable products by squeezing one another’s already razor thin margins. Although policy networks are slow to emerge due to the traditional administrative barriers that tend to keep Shanghai and the surrounding cities somewhat isolated or disconnected in a vertical administrative system with relatively few horizontal ties, they appear to be inevitable responses to the complex challenges facing the YRD. Although the PRD does not have to contend with the barrier effect of provincial boundaries, it faces perhaps an even tougher challenge of regulating a complex and differentiated movement of people across the Guangdong-Hong Kong border (Lin and Tse 2005). The PRD also faces a steeper climb than the YRD in upgrading from a dominant and massive industrial system characterized by labor intensity, low wages and technology, and lack of local innovation. The two Chinese cases, in both similar and different ways, have provided strong evidence that region has become a strong “integrator” of more extensive, albeit uneven, global-local economic ties across national contexts. In recovering or reestablishing region as that “crucial middle” between the global economy and local economies through a comparative analysis of two dynamic regions in China, this paper is intended to complement the other articles invited by the World Society Foundation in advancing the research agenda on the broad implications of regional formation and change in the global age.

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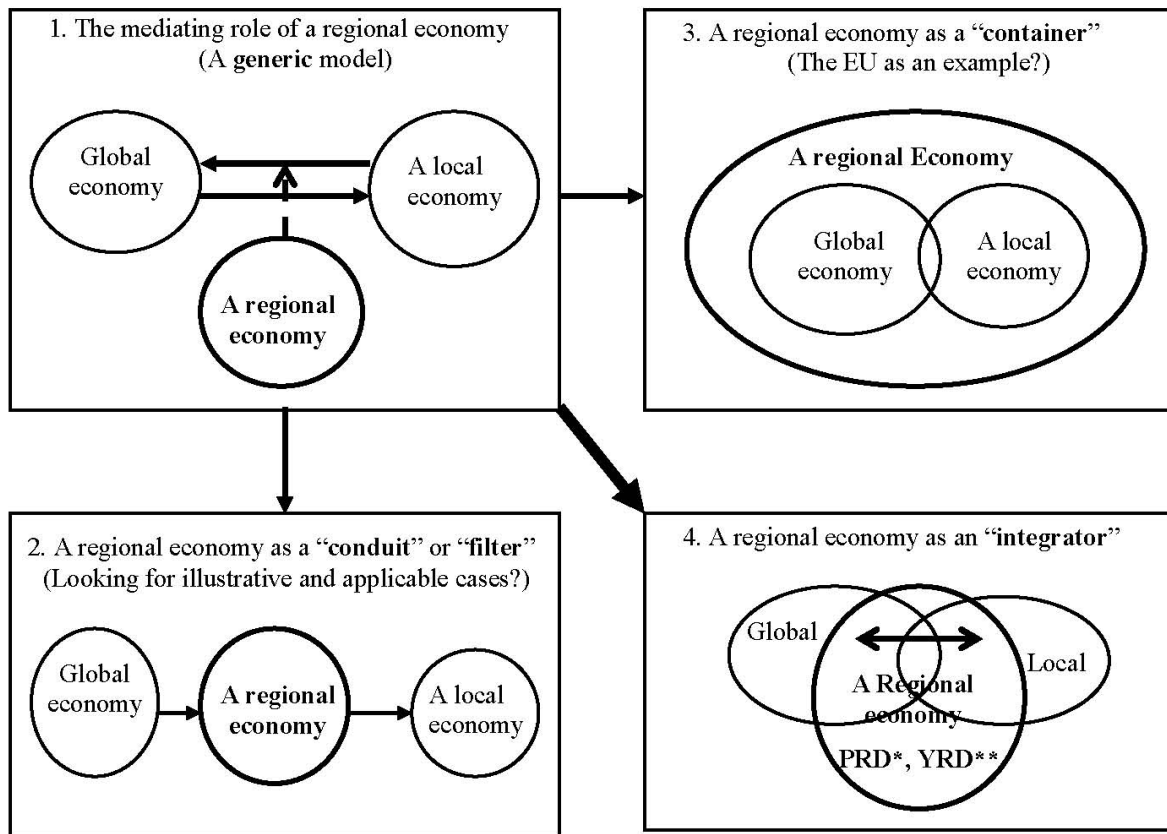
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Figure 1

**Regionalizing the Global-Local Economic Nexus:  
From a Generic Model to Three Alternative Conceptualizations**



\*PRD stands for the Pearl River Delta in southern China around Hong Kong and Guangzhou.

\*\*YRD stands for the Yangtze River Delta in central coastal China around Shanghai.



**Table 1**

**Foreign Investment Into and Exports From the Pearl River Delta (PRD)  
and the Yangtze River Delta (YRD), China, 2000-2005**  
(The figures in the four columns are percentages of China's totals)

	Pearl River Delta (PRD) <sup>1</sup> 42,000 sq km; population 40.77 million; GDP US\$100 billion		Yangtze River Delta (YRD) <sup>2</sup> 101,000 sq km; population 82.28 million; GDP US\$208 billion	
Year	Foreign investment	Exports	Foreign investment	Exports
2000	36.1	43.0	27.5	28.7
2001	33.8	41.5	28.6	30.2
2002	28.8	42.2	33.3	31.2
2003	36.6	40.4	50.6	34.2
<b>2005 (First half)</b>	<b>19.0</b>	<b>28.0</b>	<b>51.0</b>	<b>37.0</b>

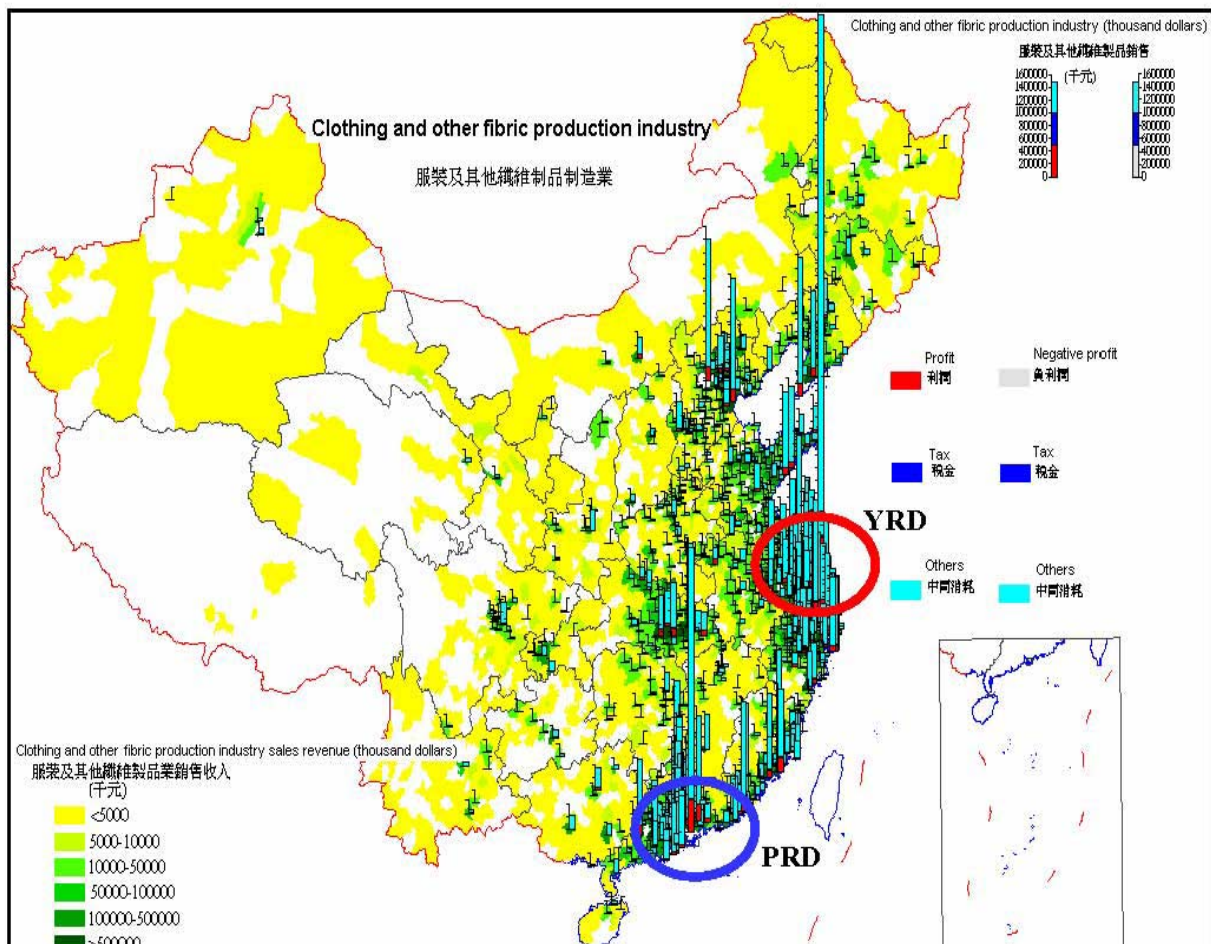
<sup>1</sup>The PRD is defined as Guangdong and Fujian provinces for data through 2003, and the data for the first half of 2005 refer to Guangzhou and eight other central cities in Guangdong province.

<sup>2</sup>The YRD includes Shanghai, Jiangsu province, and Zhejiang province for data through 2003, while the data for the first half of 2005 pertain to Shanghai, eight cities in Jiangsu province, and seven cities in Zhejiang province.

*Source:* "Regional Rivalry: Delta Face-off," *South China Morning Post* online at [www.scmp.com](http://www.scmp.com), September 23, 2005; accessed on September 24, 2005.

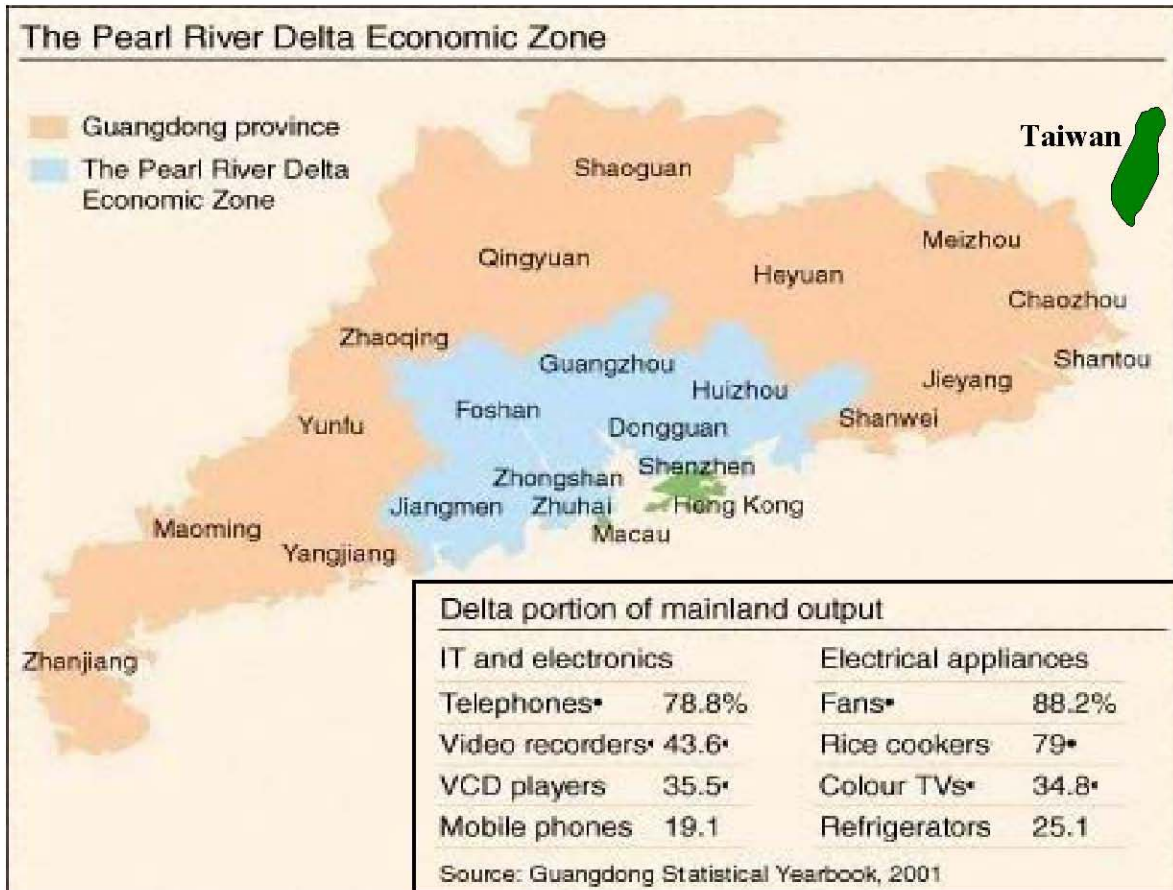
## Map 1

### The Concentration of Clothing and Other Fabric Industries in the Pearl River Delta (PRD) and Yangtze River Delta (YRD), China



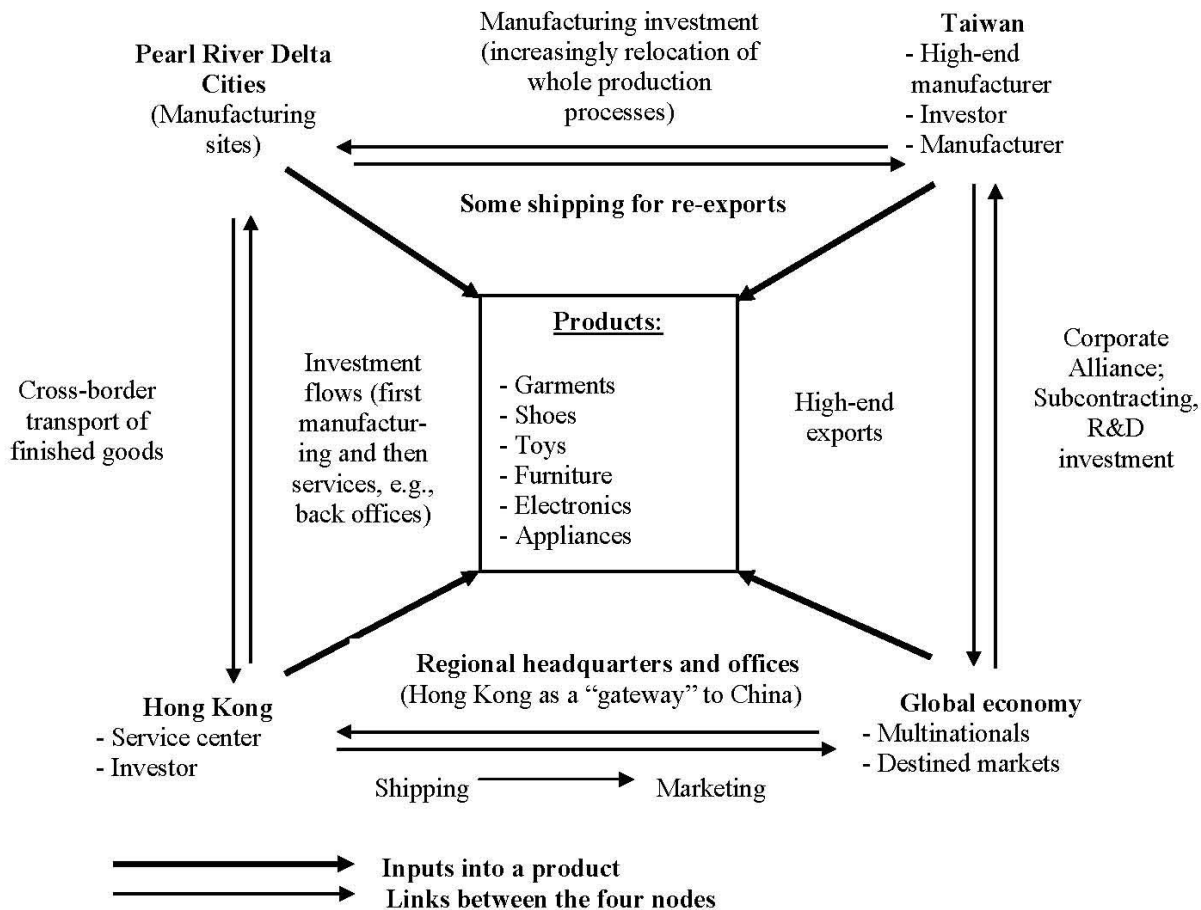
## Map 2

### The Pearl River Delta (PRD) Region and Beyond



**Figure 2**

**Regionalized Global-Local Economic Links Embedded in Cross-Border Production Chains in and out of the Pearl River Delta (PRD)**



- A multinational company owns brand names, sets product specifications, subcontracts, and controls wholesale channels and retail markets.
- Taiwan contributes capital, manufacturing technology, equipment, management expertise, raw materials, and intermediate inputs.
- Hong Kong contributes manufacturing management, product design, accounting and legal services, customs clearance, forwarding, and other producer services.
- Pearl River Delta (PRD) cities contribute land, labor, and some raw and semi-processed materials.

Source: Modified from Chen (2005: 70).

Map 3

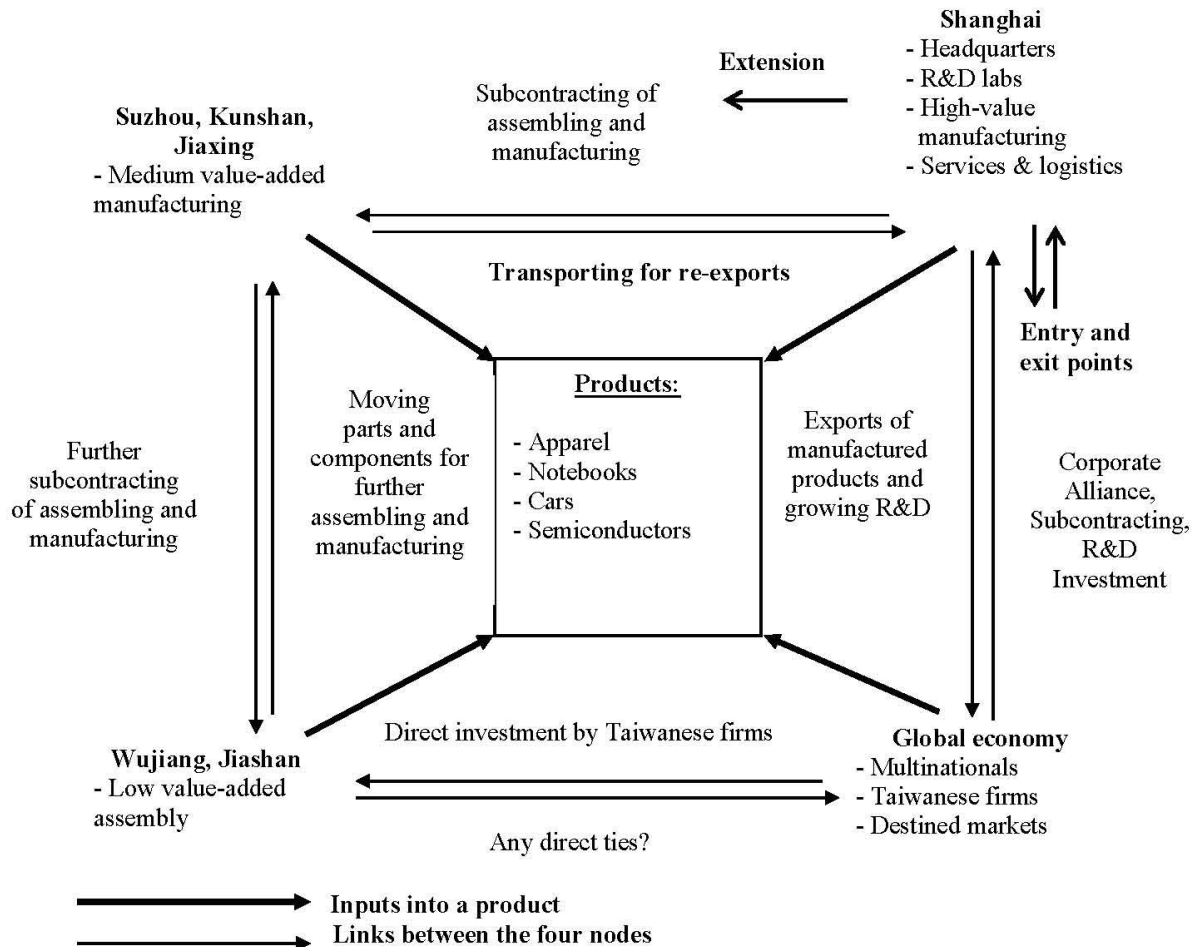
**The Yangtze River Delta (YRD) Region Around Shanghai**





Figure 3

### Regionalizing Global-Local Production and Value Chains Into, Through, and Out of the Yangtze River Delta (YRD)



- A multinational company owns brand names, sets product specifications, subcontracts manufacturing, and controls wholesale channels and retail markets.
- Shanghai (central node of the YRD) contributes land, some capital, skilled labor, some production equipment, and management expertise; provides some producer services such as accounting, insurance, and legal services, custom clearance, shipping logistics, and increasingly R&D talent and outputs.
- Suzhou, Kunshan, and Jiaxing (secondary cities in the YRD) contribute medium-cost land and labor, intermediate inputs, manufacturing expertise, and also finished products to be moved (back) to Shanghai for exports.
- Wujiang and Jiashan (county-level or third-tier cities in the YRD) contribute lowest-cost land and labor, some raw processed materials, and ship parts and components to secondary cities for further assembling or manufacturing.

Source: Modified from figure 2 above.