3

Economic Glocalizing, Regional Embedding, and State Scaling

A Comparative Analysis of the Pearl River Delta and the Yangtze River Delta in China

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Despite the progress in research on the renewed importance and dynamics of varied forms of regions and regionalism, there remains an void in understanding how regions may play a "middle" role in bridging and integrating global, national, and local economies. This role also turns regions into highly contested terrains where the diverse processes and outcomes of economic development and integration, or lack of it, manifest themselves. These include simultaneously competitive and cooperative policies and practices of regional and local governments vs. those of global and local firms, as well as shifting opportunities and constraints on economic development and industrial upgrading. In this chapter, I contend that regional dynamics are capable of embedding global-local economic relations in ways that either facilitate or hinder local economic growth and competition. But this regional embedding is intertwined with the spatial downscaling of the Chinese state. I examine the coupled influence of regional embedding and downward state scaling on economic development in the Pearl River Delta (PRD) and the Yangtze River Delta (YRD) in China–two of the most dynamic manufacturing regions in the world. The comparative analysis shows that regardless of the historical and geographic differences between the PRD and the YRD, their similarity in rapid economic growth and limited industrial upgrading can be accounted for by regionally embedded global-local production linkages that are subject to the shaping by the developmentally-minded local state.

Research on regions becomes increasingly important to a more comprehensive understanding of the multifaceted relationship between globalization, the nation state, and local economic development. The contemporary era of globalization has elevated the significance of regional studies, prompting Scott (1995: 59) 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 focused on 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 ten-

dency toward global economic integration and the resulting erosion of independent regional economies (see Amin 1993).[1]

Corroborating evidence on the first trend 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 Modena (Lazerson 1993). The latter tendency, however, 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). The rise of global city-regions, mostly in industrialized countries in recent years may represent a new spatial-economic form of local-regional response to global opportunities and constraints (Scott et al. 2001), as exemplified by the 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).

Introducing the renewed interest in regional studies leads to two crucial questions. The first is to what extent have the position and role of regions shifted in relation to those of the state at different spatial scales. The second pertains to what does the realigned power of the region vs. the state mean to local economic development. While the first question calls for understanding a given region's relationship to the national and local government, the second question points the analytical attention to the varied ways in which a given region is related to both the global and local economy and to how these relations, mediated by the changing state, may either facilitate or impede local economic development. In the next section, I develop the argument that while regional dynamics have become crucial in embedding global-local economic ties, their influence generally works through the porous body of the rescaled state.

A new dynamic triangle: economic glocalizing, regional embedding, and state scaling

Research on globalization confronts the challenge of understanding the complex and multifaceted global-local relationship. While this relationship has been conceptualized as interdependent and interpenetrating through such terms as "glocalization" (Robertson and Khondker 1998), it remains empirically difficult to specify and clarify how the global and local are linked and interact with each other in different socio-spatial contexts. Of all types of global-local ties, the economic ones may be most complex, extensive, and resilient because economic globalization is more advanced than cultural or political globalization and thus exerts the strongest local impact. It makes conceptual sense to characterize global-local economic ties as a nexus, which contains

a web of mutually embedded linkages between the global economy and local economies. To understand how these linkages are organized at any spatial scale calls for untangling or deconstructing the global-local economic nexus (Chen and Sun 2007).

The challenge to untie the global-local economic nexus is complicated further by the varied ways in which the nexus is embedded regionally as region becomes a more enabling spatial structure that is capable of reconfiguring linked economic activities across the global-local divide. Regions have gained this strength as the nation state has been weakened by the decentralization and localization of state autonomy and power, at least in the Chinese and broader Asian contexts (Chen 2005). However, the rise of regional economies has not occurred at the total expense of the nation state as claimed by Kenichi Ohmae (1995). So what is happening exactly to the nation state and how it is reorganizing itself as it confronts deeper and more rooted global-local economic ties on the one hand, and the increasing regional embedding of them, on the other? In a new way of decoding the shifting and somewhat invisible DNA of the nation state in the vortex of globalization, Sassen (2006) points to the dual process by which the variety of micro-processes unleashed by globalization denationalize some national institutions and practices, while the nation state is also a key enabler of the global scale. As this process unfolds, the state has also rescaled itself into more differentiated political spaces (Brenner 2004) as a result of yielding some sovereign authority upward to supranational organizations like the EU and granting some autonomy and power downward to local governments. It is the latter or downscaling of state power and its development consequences that can be understood in relation to the regional embedding of global-local economic linkages in the Chinese context.

The role of regions in embedding global-local economic ties varies by how the latter are spatially and organizationally differentiated in either agglomerated or dispersed forms. This embedding process may lead to a cumulative spatial outcome shaped by aggregate decisions of various disaggregated actors such as business firms, local governments, and professional associations (Markusen 2004). Decisions by powerful actors such as multinational corporations often carry strategic reference for and bearing on multiple locations in a regional context (Ho 2000). These actors' behavior and decisions add up to a collective force that serves as a "mediating middle" between the global economy and local economies. And the downscaling of the state leads to a more active and aggressive local state, which acts on the mediating role of regional embedding from below.

If regional embedding and state scaling have a joint and interactive influence on global-local economic ties at the local level, it is crucial to specify the form and content of these ties as they reflect the larger process of globalization

vs. localization and the tension between them. Rosenau (1997) argues that the integrating force of globalization and fragmenting impact of localization blend into fragmegrative (his original usage) processes that produce either complementary or contradictory outcomes. Amin and Thrift (1994) challenge the homogenizing effect of globalization by emphasizing persistent local diversity, which includes inter-institutional interaction and synergy, collective representation by many bodies, a common industrial purpose, and shared cultural norms and values. While the global and local are mutually constituted as Rosenau suggested, the local may remain distinctively local against the global (Amin and Thrift). The challenge for a regional analysis of the global-local economic nexus is to uncover how it is nested in multi-layered spatial and functional hierarchies. This analysis can benefit from perspectives on how *place* is viewed in relation to *network* and how value *chains* and industry *clusters* fit in.

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). The role of cities or places in a globalized or globalizing region is more complex as they get tangled up with networks of value chains and industrial clusters. A networked production system in a given region involves input-output linkages among embedded places. The relative benefits for the actors involved in a regional division of labor accrue from their positions in different value chains and their power or lack of it in the governance of global value chains (Gereffi, Humphrey, and Sturgeon 2005).

Any globally integrated regional production networks contain value chains that 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. 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., manufacturing). The uneven involvement and functions of cities as local nodes in value chains depend on the size and concentration of industry clusters specific to a region. Given the rich components of a cluster in a region, 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. The spatial configuration of chains and clusters 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 (Porter 2000). 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), even though it was criticized as based on a problematic concept and cautioned as a policy tool (Martin and Sunley 2003).

Incorporating value chains and industry clusters into the relative importance of places and networks turns the global-local economic nexus into a highly complex phenomenon consisting of multiple functional and relational attributes. This synthetic view is crucial for studying regions hosting complete or partial global production networks that drive regional and local development through value creation and other enhancements (Coe et al. 2004; Yeung 2005). The local impact of global production networks, either positive or negative, generally works its way through layers of embedded organizational and spatial relations to producing local development outcomes. Regional embedding is about how these relations are spatially configured, while downward state scaling, which empowers local governments, directly affects the policy-making capacity of the localities that are linked together regionally. Having mapped out the relational triangle in which economic glocalizing (in the form of global-local production linkages) is subject to the coupled influence of regional embedding and state scaling, the stage is set for introducing the Pearl River Delta and the Yangtze River Delta of China as a pair of cases for comparative analysis.

A pair of regional powerhouses: the PRD vs. the YRD

If the GDP and exports for all the world's major economic regions are mapped out and up in colored bars, two regions on China's coast would easily stand out. The two regions are widely known and labeled as the Pearl River Delta (PRD) region bordering Hong Kong and the Yangtze River Delta (YRD) region anchored to Shanghai, respectively. While the PRD fueled southern China's emergence and growth as a major region for massive foreign (mostly overseas Chinese) investment and manufactured exports during the 1980s and into the 1990s, the YRD rose as the second regional driver of huge foreign investment into and export out of central coastal China during the 1990s and into the 21st century. Despite being often mentioned in tandem, the PRD and YRD have not been comparatively analyzed via the framework as outlined in the preceding section. I begin by providing a brief statistical account of the two regions' dominant shares in China's inward foreign investments and exports as powerful engines behind their rapid economic growth (see table 1).

The PRD and the YRD account for the lion's share of China's total inward foreign investment and exports, absorbing as much as 87.2% of China's foreign

Table 1. Foreign investment into and exports from the Pearl River Delta (PRD) and the Yangtze River Delta (YRD) as shares of China's totals, 2000-2005

	Pearl River Delta (PRD)* Surface: 42,000 sq km Population: 40.77 million GDP: $100 billion (2005)		Yangtze River Delta (YRD)** 101,000 sq km 82.82 million $208 billion (2005)	
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
2005 (1st Half)	19.0	28.0	51.0	37.0

Note: The figures in the four columns are percentages of China's totals.

* 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.

investment and sending as much as 74.6% of its exports in 2003. Having moved differently in recent years, however, the PRD's share of foreign investment in China's total stagnated and began to drop, while that of the YRD rose sharply after 2001. Secondly, the PRD is more export-oriented than the YRD, and 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 2005 when its foreign investment inflow exceeded exports by a factor of 1.38 (51% divided by 37%), suggesting that foreign investment in the YRD became less export-oriented. (The use of different boundaries of both regions between 2003 and 2005 in table 1 does not distort the parallel trends over time.)

The influx of foreign investment into and abundant exports from both regions have kept the economic growth of the PRD's cities at an average of almost 15% annually since the 1980s and that of the YRD's cities at the same rate since the 1990s. In fact, even with slowed GDP growth of the YRD in the first half of 2005 due to macroeconomic adjustment, half of the cities in the region maintained more than 15% GDP growth. Among them, the cities of Nantong and Wuxi led others by growing at 15.5%, closely followed by Suzhou, Zhoushan, Changzhou, and Nanjing, which grew at 15-15.4%.[2] While the total GDP of the YRD doubled that of the PRD, GDP per capita of the PRD remains higher than that of the YRD due to their population differentials (table 1). Nevertheless, the GDP per capita gap narrowed over the last decade

from 55% higher in 1995 of favor of the PRD to about 35% in 2004. Folding the GDP of Hong Kong into what may be called the Greater PRD would tilt the total GDP in favor of the PRD and further widen the GDP per capita gap between the two (Fang 2005).

The PRD and the YRD are similar in having had their sustained rapid economic growth driven by foreign investment and exports, which are tied to some shared features of the two regions' industrial composition. There is a striking spatial concentration of the (huge) outputs from the clothing and related industries in the PRD and the YRD, especially the latter. However, the broad cross-regional similarity in certain spatially agglomerated industries between the PRD and the YRD masks important cross-regional differences across a range of spatially organized industries and intra-regional variations in the spatially networked production in both regions.

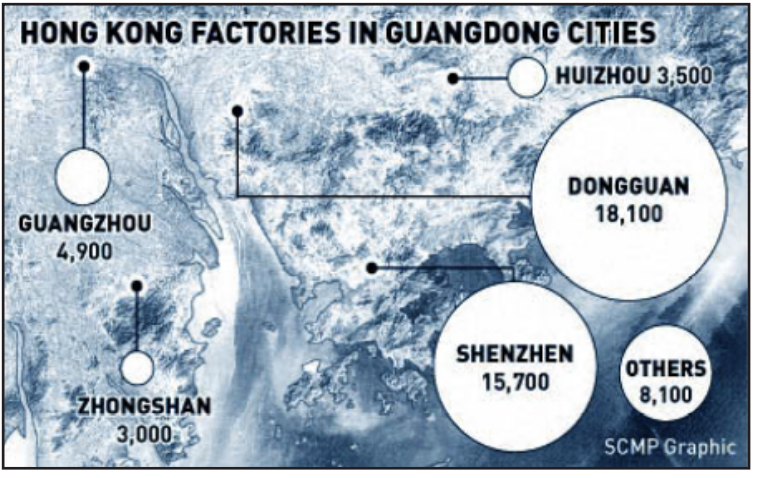
Regional embedding of two global-local production networks

The real development dynamics of the PRD and the YRD lie beneath the general glowing picture of their rapid growth and booming exports; they are embedded in two largely regionalized global-local production networks. The critical question here is do these networks exhibit a visible region-wide division of labor across localities of varied sizes, hierarchical positions, and functional influences. The question can be partly answered by mapping out the array of global-local economic linkages that tie the cities of either region together as local nodes of the regionalized and regionalizing production chains.

The PRD's stronger export orientation is based on a region-wide industrial system consisting of numerous 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 Macao) into the world's 16th largest economy and tenth leading exporter, if it were a country. Over 50,000 Hong Kong-owned companies and factories in the PRD (see map 1) employ 10 million workers, more than Hong Kong's total population (Enright and Scott 2005). These factories, coupled with over 10,000 Taiwan-owned factories, churn out disproportionately large shares of China's consumer products for the world markets.

Export-oriented manufacturing in the PRD is embedded in regionalized global-local production linkages that span Taiwan, Hong Kong, and the PRD cities in Guangdong province. Figure 1 displays the complementary inputs from and the functional linkages between the four geographic nodes that connect the PRD to the global economy through different value chains. For example, in the chain of athletic shoes, multinationals like Nike and Reebok used to order the bulk of shoes from their subsidiaries or subcontractors in Taiwan,

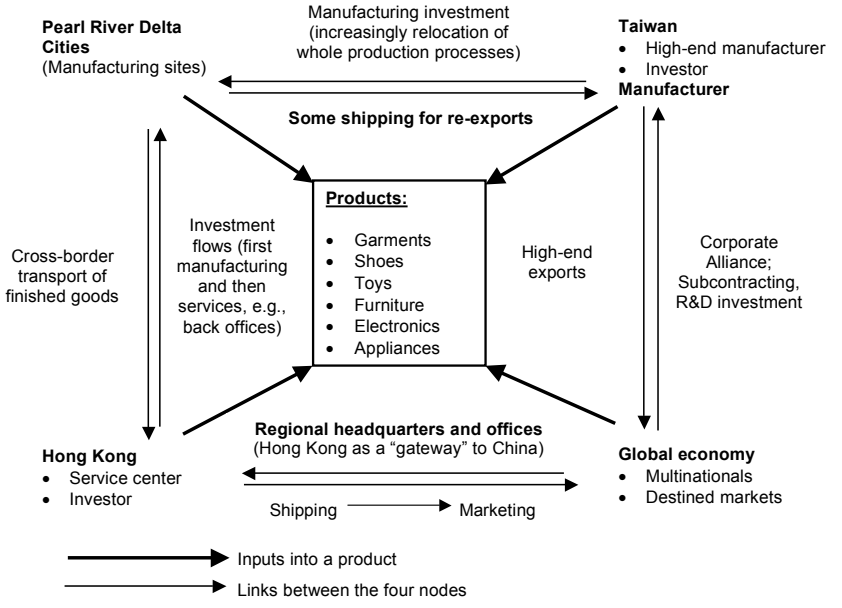
Map 1. Huge numbers of Hong Kong-owned factories clustered in major cities of the Pearl River Delta (PRD), Southern China



which began to move their factories to in the PRD cities. 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).[3]

Compared with the PRD, the YRD embeds a more diverse set of industries of varied global connectivity and capital and technological intensity, ranging from garments to cars and to semiconductors. 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 recently built an integrated car manufacturing complex (with a Formula 1 race track nearby) in the new town of Anting on the outskirts of Shanghai, representing a spatial extension of manufacturing from Shanghai into the larger region. Hankook, a large Korean tire-maker based in the city of Jiaxing in Zhejiang province, about one hour

Figure 1. Regionalized global-local production linkages 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, logistics 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).

away from Shanghai, is a major supplier of tires to VW from the 50% of its domestic sales through its marking functions in Shanghai (see figure 2).[4]

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. These industries vary in the spatial division of labor and inter-firm linkages 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 $48 million factory complex in Shanghai

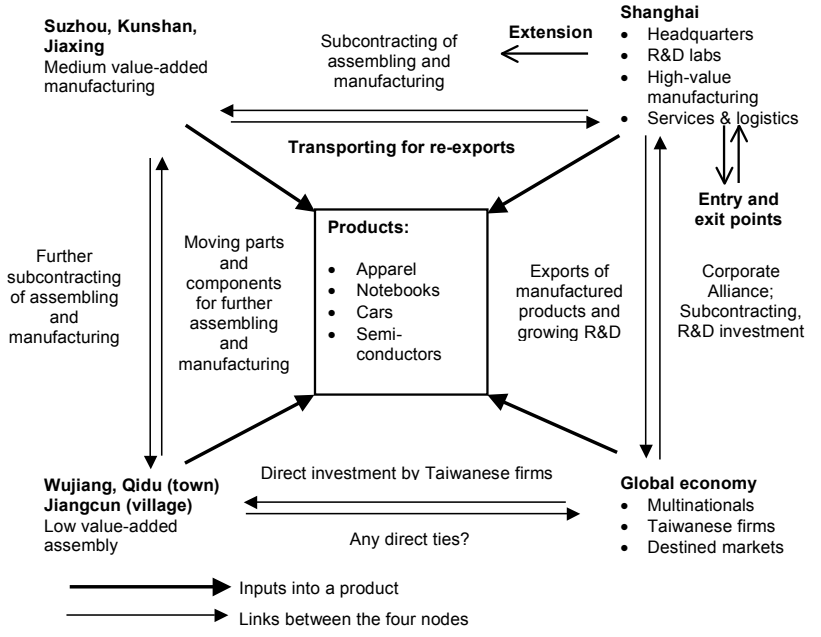
where more than 90% of its output is generated and for Dell and HP orders back in the U.S. While manufacturing, packaging, and shipping is done in and from Shanghai, the most valuable components of the notebooks are designed and sourced overseas, with memory chips from the U.S., Korea, and Taiwan, graphic 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). 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).

Core, secondary, and peripheral nodes in a regional hierarchy

The PRD and the YRD appear to share more similarities than differences in the regionally embedded and inter-locally linked labor-intensive and export-oriented industries. To widen and deepen the cross-regional comparison, I shift the analytical focus on the core, secondary, and peripheral cities as various nodes with different (and perhaps complementary) roles in the respective regional hierarchies. This is essentially a shift from a horizontal to a vertical analysis of how cities of different sizes and complexities function both independently and in interdependence with one another. I begin with the two core cities or regional centers of the PRD and the YRD–Hong Kong and Shanghai. While some may view Guangzhou and/or Shenzhen as core cities of the PRD, Hong Kong has dominated the region from its much more powerful position and strategic location as the major source of investment capital, management experience, and export outlet. This makes Hong Kong a fair comparison as the core of the PRD with Shanghai for the YRD.

Since the purpose of this paper and lack of space do not allow a full-fledged comparison of Hong Kong and Shanghai, I restrict the comparison to their positions and roles in the two regions. Hong Kong's development and role has been shaped by its evolved economic relations with the PRD. Tuan and Ng (2002) identified three stages in the transition of Hong Kong's economy as it became more integrated with the PRD. And they were referred as: 1) cross-border operations (1980-1987) during which Hong Kong shifted partial manufacturing operations and original equipment manufacturing (OEM[5]) to the PRD; 2) direct outward investment (1988-1992) during which Hong Kong shifted mid-stream manufacturing production to the PRD to achieve maximum re-exports; and 3) Hong Kong relocating whole plants with more service-oriented operations to the PRD since 1992 and becoming almost exclu-

Figure 2. Regionalized global-local production 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**, **Qidu** and **Jiangcun** (third-tier cities, fourth-tier towns, fifth-tier villages in the YRD) contribute lowest-cost land and labor, some raw processed materials, and ships parts and components to secondary cities for further assembling or manufacturing.

Source: Modified from Figure 1 above.

sively focused on manufacturing management (Tuan and Ng 2002: 3). What is most revealing about this shift in Hong Kong's ties with the PRD is not the continued decline of Hong Kong's manufacturing sector from 46% of total employment in 1980 to 5% in 2002 (Chen 2005). It not only has something to do with the overwhelming spatial concentration (almost 70%) of Hong Kong-owned factories in the PRD but also with how Hong Kong's role in servicing the PRD and China as a whole has shifted.

The shift has occurred along two dimensions. First, Hong Kong companies have relocated some operations of service nature such as R&D, design, prototype manufacturing, and logistics to the PRD. However, they have kept high-level services like advanced R&D, manufacturing management, and offshore trade in their Hong Kong headquarters (Tuan and Ng 2006). Second, Hong Kong has reasserted its broader service role not only by growing its traditionally strong banking and finance, but also other services such as professional services, trading, and re-exports. For example, the number of Chinese state-owned companies listed on Hong Kong's stock market increased from six in 1993 to 72 in 2004. In addition, the number of multinational corporations' regional headquarters in Hong Kong rose from 602 in 1991 to 944 in 2001 and then 1,167 in 2005, while the number of regional offices increased from 278 in 1991 to 2,631 in 2005. And 1,046 of the 1,167 regional headquarters are responsible for business in China, and more of these regional headquarters engage in wholesale, retail, and trade-related services. Hong Kong's strategic role in bridging the global economy and China's economy and in servicing the latter has become stronger (Lui and Chiu 2006) even as its dominant service function for the PRD gets consolidated.

Turning to Shanghai in the YRD, it not only has grown rapidly from inward foreign investment and booming exports but also experienced a major restructuring of its economic system and thus faced a major dilemma regarding its role at varied scales. Behind the strong push of the Shanghai government to promote the service sector and downsize the declining state-owned manufacturing industries, the industrial share of the GDP dropped from 63.8% in 1990 to 57.3% in 1995 and then to 50.1% in 2003. In terms of employment, the industrial share of the GDP declined from 54.6% in 1995 to 39% in 2003, while the services' share rose from 33.5% to 51.9% (Shanghai Statistical Bureau 2004). Within the service sector, producer services such as finance, insurance, and real estate (FIRE), which are central to a global city (Sassen 2001), grew most rapidly, as its combined employment in Shanghai's total service employment rose from 2% in 1997 to about 10% in 2003 (Shanghai Statistical Bureau 2004). This economic restructuring has facilitated the emergence of Shanghai as an attractive new hub for multinationals' regional headquarters and R&D centers (see figure 2). Fifty-five multinational companies set up regional headquarters in Shanghai after 2003, leading to increased memberships for the city's American Chamber of Commerce, while Amcham membership in Hong Kong shrunk (Overholt 2004). There was an average annual addition of 30 multinationals' R&D centers in Shanghai from 2002 to 2005. The total number of R&D facilities of multinationals in Shanghai is expected to grow from around 150 in 2005 to around 200 by the end of 2008. The R&D centers

that GE and Alcatel have set recently in Shanghai rank among their top three global R&D centers, respectively (Du 2005).

Shanghai's shift from a dominant manufacturing to a more service-oriented center with increasing strength in business services and R&D moves it a little closer to the functional profile of a global city like Hong Kong. This generally favorable transition, however, has thrust Shanghai into an unfavorable scenario of balancing the continued growth of its advanced service sector, which is expected of a global city, vs. maintaining its dominance as a traditional regional manufacturing hub for the YRD. In addition to being a dilemma, it is a crucial part of Shanghai's image and functionality that are perceived quite differently from those of Hong Kong. Overholt (2004) saw Hong Kong's advantages in many business services such as accounting, law, and investment banking, and some of these have spilled over into the PRD over time and facilitated the latter's edge in logistics and supply-chain management, especially in rapidly changing product areas like toys, gifts, and fashion. Shanghai, according to Overholt, has advantages in engineering, R&D, and design due its concentrated human talent and top-notch universities, with another advantage in the economies of scale from the critical mass of heavy industries like petrochemicals, steel, automobiles, machines tools, and information technology. Overholt's conclusion was that most Fortune 500 companies focused on China's domestic market belong in Shanghai, while most exporters and many sophisticated service industries belong in Hong Kong.

Regardless of its comparative advantages against Hong Kong, Shanghai is facing new challenges in the YRD regional context stemming partly from its economic boom. Its land and labor costs in the central city, especially in the most developed industrial zones (such as Jinqiao and Waigaoqiao) have risen relative to those in the outlying areas of the city and the nearby secondary cities of Jiangsu and Zhejiang provinces (see table 2). Although these differentials do not appear to be large, they are large enough to induce new foreign and domestic companies to locate in or relocate from Shanghai to the surrounding (YRD) region, especially to booming secondary cities such as Suzhou (see map 2). While the even bigger disparity in manager salaries between Shanghai and other YRD cities reinforces this outward spill of business activities, they attract some managers in the other cities to Shanghai. This has a double-edged effect on the relative development of Shanghai vs. such booming secondary cities like Suzhou in the YRD.

To better understand a rising secondary city like Suzhou in the YRD context, I use Dongguan as both a different and similar booming secondary city in the PRD for comparison. Bordering Shenzhen (and thus close to Hong Kong), Dongguan is arguably the most favorably located secondary city in the PRD. This location, coupled with its flexible policies and incentives, has turned

Table 2. Labor costs in Shanghai and cities around Shanghai

Location	Average wage workers (RMB/month)	Average wage technicians (RMB/month)	Average wage managers (RMB/month)	Pension contribution (%)
Shanghai Jinqiao Export Processing Zone	700-1,000	1,000-2,000	2,000-5,000	44
Shanghai Waigaoqiao Free Trade Zone	700-1,000	1,000-2,000	2,000-5,000	44
Shanghai Qingpu Industrial Zone	600-800	1,000-1,200	2,000-5,000	24
Singapore-Suzhou Industrial Park, Jiangsu	600-800	1,000-1,800	1,800-3,500	22
Suzhou New District, Jiangsu	600-800	1,000-1,800	variable	40-41
Wuxi, Jiangsu	500-800	800-1,100	1,500-3,000	37
Nanjing, Jiangsu	460-600	900-1,500	1,500-3,000	42
Changzhou, Jiangsu	600-800	1,000-1,800	1,600-3,200	40
Hangzhou, Zhejiang	700-900	1,000-2,000	1,800-3,500	42
Ningbo, Zhejiang	500-700	900-1,200	1,500-3,200	42

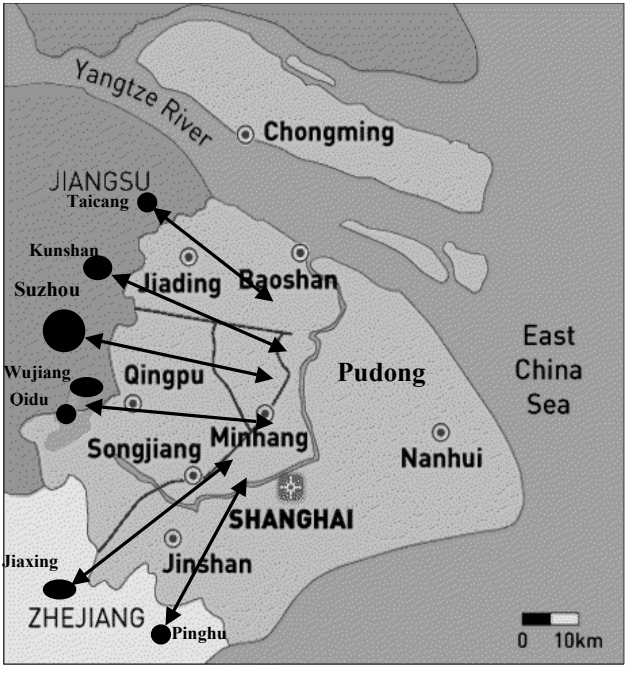
Note: 8 RMB=1US$.

Source: Adapted from McDaniels

Dongguan into one of the "hottest" spots for Hong Kong and Taiwanese investments in over 20,000 factories (see map 1). They account for 80% of Dongguan's gross industrial output, 62.5% of its economic growth, and 90% of its exports in 2002, pushing Dongguan up to China's third-ranked city in exports volume behind only Shanghai and its neighbor Shenzhen (Mao, Liu, and Hu 2004). A rural township surrounded by rice fields and known for growing litchis in the 1980s, Dongguan has risen to a booming manufacturing center that stretches 2,520 sq km and has over five million people. With large revenues from leasing increasingly valuable land for building 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).

Underlying Dongguan's explosive growth is a difficult and complex process of an evolving manufacturing sector. From the 1980s to the early 1990s, Dongguan was primarily involved in simple cross-border processing and assembly of labor-intensive food, clothing, and home electronics products for

Map 2. Shanghai's spillovers to and back flows from several secondary cities and lower-tiered cities and towns in the Yangtze River Delta (YRD)



exports to and through Hong Kong. The limited IT activity in Dongguan was confined to assembling and finishing at the low value-added segment of the international production chain organized by and through Hong Kong companies based on cheap local land and labor. Since both raw materials, parts, and half-finished and finished components of IT products came from and went through Hong Kong (with the two high value-added ends being controlled from the outside), Dongguan was stuck in the low value-added middle with few inter-firm supplier-manufacturer links that benefit the local economy.

The mid-1990s ushered a new and more advanced stage for Dongguan's manufacturing sector, which began to take advantage of more Taiwanese IT companies moving more complete production networks to the PRD due to greater price pressure for OEM order from multinational corporations and growing competition from Southeast Asian IT firms. This process involved a core Taiwanese IT company with both or either OBM or ODM[6] relocating to Dongguan first and then bringing a group of its small and medium-sized suppliers of parts and components over to form a complete production and assembly network. As some Taiwanese firms have shifted more manufactur-

ing of computer components (switch power supply units, motherboards) and peripherals (monitors, keyboards) to Dongguan, upstream suppliers of plastics, resistors, and printed circuit boards have followed them there, which was also facilitated by preexisting social networks in Taiwan that continued in Dongguan (Chen 2000, 2001, 2005). This makes it possible for a PC to be assembled and shipped in only few 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. The real local multiplier benefit is that there are now approximately 1,000 indigenous IT companies in Dongguan that can supply a whole range of parts and components like printed circuit boards and liquid crystal for Taiwanese-owned PC manufacturers (Ma, Liu, and Hu 2004). Dongguan illustrates the significant role of a rising secondary city with externally linked and specialized industry clusters in driving local economic development with some industrial upgrading (see Chen 2007).

In comparison to Dongguan, Suzhou has risen to a dynamic secondary city in the YRD from a very different background but reached a similar economic status as Dongguan along a distinctive development trajectory. Once a pleasant merchant town known for its fine silks, elegant gardens, and canal-lined streets, Suzhou is the oldest and one of the weathiest cities of Jiangsu province. It once thrived as a trading center along the Grand Canal built between Hangzhou to Beijing in the seventh century, and the silk trade and textiles remain important to its modern-day economy. Located only about 100 km west of Shanghai, Suzhou's fortune has long been tied with Shanghai through a reputation as the latter's "backyard garden." Despite and because of those fine qualities, Suzhou existed as an industrial backwater to Shanghai. With regard to the lack of industrial tradition, Suzhou was not dissimilar to Dongguan before their recent manufacturing boom.

Suzhou has pursued two different models of development as opposed to Dongguan's two sequential stages. From the early 1980s to the early 1990s, government-led development of Suzhou's economy focused on township and collective enterprises (TVEs)–the so-called "Southern Jiangsu (Sunan) economic model," which was also followed by other nearby cities. While generally successful in stimulating pent-up economic growth and rural industrialization, the Sunan model ran into serious problems from its inherent constraints such as local government interference, lack of economies of scale, duplication of production, and environmental pollution. In the next decade Suzhou switched gears, reducing the role of state-owned companies and concentrating on bringing in foreign capital. From 1997 to 2002, the share of industrial output for state and collective enterprises dropped from 58.9% to 9.8%, while that of foreign-invested entities shot from 33.2% to 55.8%.[7] What became known now as the Suzhou model (as opposed to the old Sunan model) relies heav-

ily on careful planning and aggressive action by the municipal government to create an attractive investment environment, which differentiates Suzhou from other cities in the YRD. The most prominent and successful project is the Suzhou Industrial Park (SIP), which began as a 35-65% joint venture between the Chinese and Singapore governments in the early 1990s. The Singapore side effectively jumpstarted Suzhou's snowballing foreign investment with its technical know-how, and the large swath of land east of the old city morphed into a meticulously planned suburban community with efficient infrastructure and corporate campuses. A second large-scale planned project is the Suzhou New District (SND), which the municipal government developed in the western part of the city as a sort of rival zone to the SIP.[8]

With lower land and labor costs than Shanghai (see table 2), the SIP and the SND have attracted the operations of 107 Fortune 500 companies and most of the over 5,500 foreign enterprises in Suzhou, with over 16,000 foreign expatriates working in the two parks. Electronics and telecommunications equipment make up the largest portion of the city's broad industrial base. High-tech firms like Panasonic, Philips, Nokia and Alcatel have large presences there. Suzhou exported 16 million laptop computers (taking only five days to assemble one) valued at $10.9 billion in 2005, and makes more than a third of the world's mice as Logitech's largest production base (see later). Semiconductors have also become a major business, as chipmakers National Semiconductor, Solectron, Fairchild, and AMD have all moved into town. Besides being a manufacturing behemoth, Suzhou is also gaining a reputation as an R&D-friendly town. More than 30 top-500 companies in the city have set up R&D centers, and SIP plans to push for more growth in technological and R&D sites. Even as some firms move their assembly operations to cheaper, mid-sized cities in the larger region, they are staying in Suzhou for research.[9] This massive influx of foreign investment has fueled Suzhou's economy. In 2005, Suzhou's GDP ranked fifth in the country at $50.8 billion, and its industrial output totaled $150 billion, good enough for second place behind Shanghai after topping the list in 2004. Suzhou also received $6 billion in foreign investment in 2005, second only to Shanghai.[10]

Its prosperity aside, Suzhou's development strategy has become heavily dependent on foreign capital. Of the city's bounding growth figures in recent years, foreign investment accounts for over 70%. The massive foreign investment-driven exports not only cost huge amount of energy and resources to produce but also the local government hefty export tax rebates every year. For all the thriving foreign-invested enterprises in town, there are practically no significant homegrown businesses. The Suzhounese have become relatively poorer–while Suzhou's per capita GDP is higher than Shanghai's, its per capita income is about half that of Shanghai.[11] Local government officials see this

heavy dependence on foreign investment as very imbalanced like walking on two very uneven legs, with the one based on foreign capital being long and strong and the one involving indigenous capital being short and weak. They also expressed a sense of potential crisis in which foreign companies will pick up and move to lower-cost cities in northern Jiangsu or the interior of China, leaving the local economy to weak indigenous companies.[12]

Does the rise of secondary cities like Dongguan and Suzhou have a developmental influence on the smaller cities and towns below them in the regional hierarchies? What are the opportunities and constraints for smaller and lower-ranked places to grow via their direct and indirect ties to the secondary cities and regional cores? The lowest land and labor costs, coupled with geographic proximity would seem to favor small towns as attractive and accessible sites for the most labor-intensive assembly and manufacturing operations, even though this may "lock" them into the least profitable and dependent segments of the regionally embedded global-local production chains. Both realities are illustrated by the small places with distinctive manufacturing clusters in the PRD and the YRD.

In the PRD, the concentration of IT production in Dongguan has triggered spatially clustered specialization in the manufacturing of PC peripherals and other products in its towns. 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). While this was driven largely by production cost considerations and the spatial benefit from clustering, other factors make towns slightly beyond the main PRD cities attractive to overseas investors. A Hong Kong company chose to build a plant in the town of Xixiang just outside Shenzhen, because it had social connections with one local official there. In addition, Xixiang not only is close to Hong Kong but also lies beyond Shenzhen's bureaucratic regulations, which tend to be heavier than its surrounding areas (Lee 1998).

The growth of many towns in and around the PRD cities has led some making famous local brand products to register them as collective trademarks, including Houjie furniture, Nanhai Yanbu undergarments, Guzhen lightings and Xintang denims. The Dongguan town of Dalang, which is renowned for its woollen textiles, recently announced its plan for building Dalang into an International Brand Name and enhancing its international reputation. In early 2006, the Guangdong provincial government designated Dalang (China's celebrated town for woollen jumpers), Shantou's Chenghai (for toys) and Chaozhou's Fengxi (for ceramics) as pilot units for regional brand building. Dalang has asked the industry associations concerned to assist in the registra-

tion of "Dalang" and "Dalang Woollen Textiles" as trademarks. The township government of Dalang will inject over one million U.S. dollars as a start-up fund to cover expenses incurred in the hiring of experts, trademark design, and planning. There are estimated to be over 100 specialized industrial clusters in towns like Dalang in Guangdong province, mostly in the PRD. Most of these specialized towns started off as family workshops and many of them made their first large sales through carrying out OEM operations.[13]

The development of manufacturing towns in the YRD is similarly dynamic. The county city of Wujiang under Suzhou municipality (see map 2) has several specialized manufacturing towns (see the lower-left corner of figure 2). The town of Jinjiaba, with only about 50,000 residents, is crowded with several hundred small factories making and assembling steel frames used for constructing factory or office buildings, which makes the town the largest cluster with the largest output of this product in China. Everyday as many as 5,000 salesmen for these factories roam the country to sell steel frames. In two towns specialized in making cotton and synthetic fabrics and extracting silk threads, there are over 100,000 water-powered looms humming in small and often makeshift factory buildings scattered in the villages around the town centers. Many peasant households also own a couple or handful of these looms and use them for subcontracted work at home during the slow farming season. These preliminarily processed fabrics are generally sold as inputs to clothing companies in the towns of neighboring Zhejiang province, which make garments for export. Given the constant pressure on the price of the fabrics, some small factories and individual families periodically have to shut down production to avoid selling their fabrics at a loss.[14]

The town of Qidu under Wujiang city (see figure 2) shows a different aspect of how local manufacturing clusters are globally linked through a partially regionalized production network. Amidst the large number of small local cable and electrical components factories in Qidu is a large Taiwanese-owned electronics company with approximately 1,300 employees that is capable of making 600,000 key tops of computer keyboards, 480,000 sets of top/bottom cases of keyboards, and assembling over 120,000 complete keyboards a month. In fact, this company produces a large share of all the keyboards manufactured and exported by its Taiwan-based mother company, which accounts for 28% of the world's keyboards. The Qidu facility opened in 2001 to begin producing keyboards for the American company Logitech, which had just established a large factory in Suzhou one hour away (see earlier). The Taiwanese-owned factory also makes keyboards for Sony through a Japanese trading company based in Kunshan 80 minutes away (see map 2). Dell and HP also place orders for higher-end keyboards that are painted by hand after plastic injection. And all these keyboards are shipped out through the Shanghai port. Given

its convenient location and in light of its multiple customers in the YRD, the Taiwanese manufacturer in Qidu tries to schedule the delivery date so that its trucks can carry the ordered keyboards to different customers located in the nearby larger YRD cities.[15]

The booming manufacturing towns in both the PRD and the YRD share three salient features in common. First, they are attractive local manufacturing sites, especially for Hong Kong and Taiwanese companies due to their lowest labor and land costs in the regions. Second, these towns' geographic proximity allows convenient and timely delivery of components and finished products to the secondary cities for further assembly or higher-value-added manufacturing (see figure 2). Third, regardless of their diverse industries, many of these towns have become directly or indirectly linked to or even embedded in increasingly regionalized economic network of global-local ties. Their positions and roles both stretch these ties spatially and solidify them in functional terms.

Making sense of cross-regional similarities and differences

Having compared the PRD and the YRD from the chain (horizontal) and hierarchy (vertical) perspectives, it is time to highlight their most important similarities and differences in development success and challenges that need to be accounted for. First of all, despite the different timing of development, the rapid and sustained economic growth of both regions has been driven by regionally grounded production networks of global-local and some local-local linkages. Second, while the industries in the regional production networks in both regions differ somewhat, they share the similar profile of being heavily foreign investment-driven, labor-intensive, and export-oriented. Third, as these general features are portrayed somewhat ideal-typically in figures 1 and 2 earlier, there are variations within and deviations from the expected capital intensity of the industries involved, the length of the production chains and the number of their segments, and the spatial organization of production linkages.

Chains and places in a regional milieu

What may explain these important similarities and differences are factors located within and beyond the production chains and places (cities and towns). The regionalized production chains have stimulated and sustained the rapid economic growth of the two regions thus far because they contain the middle segment of agglomerated factories and supportive facilities owned by foreign companies in many PRD and YRD cities, while the two ends–design and R&D

at the front and marketing and after-sales services at the back–are largely outside the regional boundaries. The cheap and abundant land and labor allow these factories to churn out huge volumes of price-competitive exports, boosting GDP and trade statistics. The "manufacturing middle" in both regions has stretched within itself and extended in both directions over time. Its internal stretching involves the development of more inter-firm ties of supply and subcontracting in certain industries, especially the IT industry. Extension to the front end of the production chain involves drawing R&D activities from the regional cores and beyond to key manufacturing nodes such as Suzhou. In extending backward, some foreign-owned factories have pulled a growing number of local domestic suppliers into their production orbit as exemplified by the IT manufacturing clusters in Dongguan.

There are however built-in constraints on the typical production chain in both regions that tend to fragment or truncate them, thus preventing their local development benefits from reaching more deeply and widely. Some chains are governed by a network or relational mechanism, which creates and sustains complex interactions between buyers and sellers based on mutual interdependence and high levels of asset specificity through reputation, or family or ethnic ties in either spatial proximity or not (Gereffi, Humphrey, and Sturgeon 2005). In the two regions, foreign companies, especially those from Korea and Taiwan that drive and control the production chains rely primarily on their transplanted supplier networks to minimize the use of local suppliers who are often perceived as cheaper but less qualified.[16] In cases where multinationals source from Taiwanese-owned factories or where the latter use local Chinese suppliers, the buyer keeps a strong price squeeze on suppliers, creating extremely fierce competition among them. This tends to "lock" small suppliers in the PRD and the YRD into a transactionally dependent relationship with large, powerful customers.

Looking beyond the explanatory factors within the chains and places to account for the cross-regional similarities and differences in development success and challenges, several larger and regional-level factors appear in sight. Both the PRD and the YRD are endowed with favorable geographic and natural conditions, and a long history of development. They are among the most populous and productive farming regions in ancient China. While the PRD has long been China's southern gateway for foreign trade and sea transportation, the YRD has always been China's central transport hub for the interior cities along the Yangtze River to link with the outside world. Situated at the southern end of the Chinese mainland, the PRD is far away from the political center of Beijing. This remote location, coupled with being separated from the vast national territory by the Nanling Mountains has fostered an outward, business-oriented, and flexible attitude among the people. In comparison, the

YRD has long been one of China's central economic regions, and Shanghai has been one of the central government municipalities since 1949. Hence, the YRD has always been more constrained by the central government. While these geographic, cultural, and historical conditions do not guarantee rapid development, they are conducive to it.

The rescaled state and rising local power

Regional embedding has had a generally favorable effect on the PRD and the YRD through the chains and places of global-local production linkages and broader regional conditions. Asserting and exerting additional influence is the new power alignment created by the process of state scaling. The beginning of this process provided the initial trigger and subsequent timing for the takeoff and development of the two regions over the past two and half decades. The PRD was the first collective beneficiary of central government policies that spurred the region (following the Special Economic Zone model of Shenzhen) to pursue open and autonomous development in the early 1980s. This allowed the PRD to take full advantage of being close to Hong Kong and Taiwan to capture the massive cross-border relocation of their export-oriented factories. The shallow and less diverse industrial foundation in the region dominated by light consumer goods industries, which was an intended historical legacy of centrally planned economy favoring heavy industries in northern cities, turned out to be unintended advantage for the PRD to develop spatially concentrated competitive toys, garments, and consumer electronics, and some IT clusters. When the favorable development policies were shifted to Shanghai and the YRD in the early 1990s, they immediately set the region off on a fast growth track. In addition, the YRD has benefited tremendously from its historical advantage in having developed a more balanced and complete mix of industries under central planning, which allowed the region to draw foreign investment into more capital- and technology-intensive industries than the PRD.

If the above account reveals the scaling down of state autonomy and power to the regional level, the further downward scaling of the state has translated into the strong and competing role of the local governments in both regions, turning them into developmentally-oriented entrepreneurial actors. Their control over and right to approve land use allows them to lease land as a both a valuable asset and financial incentive to foreign investors to build factories. Revenues from land lease are used to finance large-scale infrastructure provision, which in turn improves the transportation and logistics of manufactured goods (Chen 2005). While the autonomous and flexible policies and incentives of local governments have brought in huge and spatially uneven numbers of growth-generating foreign companies, they have led to almost unbridled

competition for foreign investment that involves discounting land values and compromising on environmental protection. This has eventually put cities like Suzhou in a dilemma of foreign capital becoming "too much of a good thing" where they feel the pressure to seek a more balanced development involving more local companies and investment from Shanghai (see earlier).

Although too much foreign capital has caused concerns for the local government of a booming secondary city like Suzhou and prompted it to draw domestic investment from Shanghai, smaller and less prosperous cities in the YRD have continued their aggressive efforts to lure both foreign and domestic investors within and outside the region. The county-level city of Taicang under Suzhou municipality has taken a three-pronged approach to both competing against and cooperating with Shanghai using geographic proximity (see map 2). First, Taicang's government has staged a number of prominent promotional events in Shanghai to lure companies there to relocate to Taicang for its much lower land and labor costs, and managed to get about 300 companies to do so during 2003-2005, with another 41 in January-May of 2006. Taicang also zoned about 20 sq km of open land near the border with Shanghai as an automotive-related industrial park for new factories that could supply parts to the auto manufacturing complex in the town of Anting in Shanghai (see map 2). Second, the city of Taicang has been engaged in a large-scale upgrade of its container port off the month of the Yangtze River with funding from the central, provincial, and local governments. This project also involves connecting and coordinating with two other nearby mid-sized ports more closely to create a cluster of ports as an alternative export platform besides Shanghai. Third, Taicang has advertised and sold its new housing estates in a town bordering Shanghai to the latter's residents, some of whom have purchased the apartments at one-third of Shanghai's price.[17] Located very close to Shanghai, the city of Pinghu in Zhejiang province has also tried hard to strengthen its ties with Shanghai (see map 2). Pinghu has set up four government offices in Shanghai since 2000 to promote cooperation in investment, tourism, and agriculture. These government-led initiatives reflect the close economic relationship between the two cities, as Shanghai accounts for 30% of Pinghu's investment and 20% of its tourists, while 90% of Pinghu's agricultural products are exported Shanghai.[18]

In some ways, the aggressive governments of the cities near Shanghai appear to be harmless to the dominant regional core. If Suzhou wants to look up to Shanghai for commerce and turns to the provincial capital of Nanjing for politics, while Jiaxing approaches Shanghai vs. Hangzhou (the capital of Zhejiang) the same way, what is wrong? Nothing, especially when cities like Suzhou and Jiaxing have professed to occupy secondary, supportive, and complementary positions or niches vs. Shanghai, and described them in different metaphorical

ways.[19] Suzhou government officials even played down the statistical "shock" that its total FDI (not FDI per capita) was almost neck to neck with Shanghai in 2004 and 2005. But drawing capital and companies away from Shanghai was perceived as a threat to its broad manufacturing base, prompting Shanghai to launch a 2004 policy initiative of keeping old manufacturing jobs and growing new ones in Jiading and Qingpu close to its border with Jiangsu province (map 2). While Shanghai may be losing some edge in lower-end manufacturing to the YRD's booming secondary cities, the latter keep losing white-collar professionals, especially senior managers to Shanghai due to its higher pay scale (see table 2) and quality of life. The governments and companies of Suzhou, Jiaxing, Taicang, and Pinghu not only have to offer higher salaries to keep their competent administrators and managers but also have to keep recruiting highly educated and trained talents from interior cities.[20]

All the simultaneous competitive and cooperative behaviors of the local governments in the YRD have stemmed inevitably and predictably from the broadly rescaled Chinese state driven and managed by the central government in a top-down fashion. For the local state, more decision-making power has brought about both development opportunities and pressures at the same time. While the opportunities are many and some have been explored to the advantages of some cities and towns as examined earlier, the pressures are great on top local government officials to seize the opportunities to improve their cities and towns' economic performance. And this performance has been measured in a personalized manner where local officials are evaluate annually for their efforts in bringing in both foreign and domestic investment and raising GDP, which in turn determine their chances for upward promotions to higher Party and government positions. The annual national rankings of the top 100 counties (or county cities like Wujiang, Taicang, Pinghu) only serve to heighten the personal political stakes for local officials in booming and competitive county cities in the YRD.[21]

Conclusion: toward a new global(izing) city-region

As the multi-scaled comparative analysis has shown, both regional embedding and state scaling have intersected and converged to facilitate and fuel the rapid economic growth of the PRD and the YRD. The closer and more fine-grained examination, however, has revealed emerging and potential challenges that may threaten the sustainability of the two regions' good times. To reiterate, most cities and towns in the PRD and YRD, which specialize in making low-end and medium-level standard products, qualify for what Florida (2005) called "hills." The hills may rise and fall, but the "peaks"–the world's top advanced services and innovation centers–can remain vital and dynamic.

And Shanghai may rise further from a large hill to becoming a peak like Hong Kong someday, but the rapid development of the rest of the PRD and the YRD is difficult to sustain without industrial upgrading. The YRD's prospect looks somewhat brighter than the PRD, which has relied more heavily on 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 a dependent and even disconnected mode in relation to the global economy. Most PRD-based firms and factories may be trapped 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. (For an extended discussion on the constraints on industrial upgrading in both the PRD and the YRD, see Chen 2007.)

The comparative analysis here has yielded certain insights suggesting that the PRD and the YRD may have become a new type of globalizing city-region with general(izable) features and a clear Chinese imprint. Generally speaking, both cases point to the more enabling role of regions in mediating and restructuring global-local economic relations. This role has a potential double-edge. It could foster local industrial upgrading through more effective and cooperative mechanisms for regional integration as one possibility. Alternatively, this regional role could delay or even derail local industrial upgrading when inter-local or intra-regional competition breeds fragmentation. In addition, the PRD and the YRD demonstrate the analytical value in rethinking and reassessing the relationship between city and region in the global city-region. This may help bridge the analytical divergence between the optimistic and sanguine view on regions as new engines of growth and the economic hope for the future vs. the pessimistic and bleak focus on cities, especially some in industrialized countries as a gathering place for economic decline and unsolved social problems (Läpple 2001).

In ways the PRD and the YRD exhibit China-specific attributes, they push us to think through their implications for the study of global city-regions more broadly. The thin theoretical and empirical research on global city-regions acknowledges both their external and internal orientations (Scott et al. 2001), having taken a cue from the perspective on global cities functioning as key nodes of the global economy but producing unequal and undesirable local consequences such as service sector and income polarizations (Sassen 2001). In the PRD, Hong Kong, with this dominant and advanced services, influences the PRD as a true global city, albeit from across a de facto international border. In the YRD, Shanghai's dominant power is complicated and compromised by

its dual role as a rapidly globalizing city and traditional regional manufacturing hub, as well as by the administrative barrier of being a separate, central government municipality. Despite these distinctive characteristics, economic and spatial integration has come a long way in both regions. In the YRD, some engineers from state-owned enterprises in Shanghai on the weekends crossed the administrative boundaries to work for and provide technical assistance to small and mid-sized state or collective enterprises in Jiangsu and Zhejiang provinces as early as the mid-1980s, and thus earned the legendary title of "Saturday engineers." Today labor and goods crisscross the myriad of administrative boundaries between Shanghai, the secondary cities, and small towns, as well as among the latter, with much greater ease and frequency. The internal economic and physical linkages within the YRD are just as important as its cities and towns' increasingly strong external or global orientations.

On balance, while regional embedding of global-local production chains has created both broad (region-wide) and local constraints on industrial upgrading in the PRD and the YRD, the more autonomous and powerful local governments from downward state scaling pose a bigger challenge to developing new and more effective governance strategies for improving regional "collective efficiency." Regions 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 the YRD have gained autonomy and power not only from political and fiscal decentralization but also from larger local coffers from rapid growth and land-lease revenues. In the YRD, local autonomy has not freed municipal governments from being fixated to territorially bounded and functionally independent entities. This has sustained some degree of regional and local economic fragmentation and conflicts under the legacy of the entrenched planning system. Although some of this 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, it has not eliminated all the hierarchical and horizontal inter-city conflicts (Zhang and Wu 2006).

The strong local state aside, 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). In the PRD and YRD, non-government organizations (NGOs) and business associations have become more active and involved in local policy-making and could con-

tribute 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. 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 profitable products by squeezing one another's already razor thin margins.

Although cross-boundary policy networks are slow to emerge due to the traditional administrative barriers that tend to restrict horizontal ties between Shanghai and the surrounding cities, they appear to be an inevitable response to the complex challenges facing the YRD. While the PRD does not have to contend with the barrier effect of provincial boundaries, it faces a tough 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 more massive industrial system characterized by labor intensity, low wages and technology, and lack of local innovation.

In both similar and different ways, the PRD and the YRD have provided extensive and layered evidence that helps analysts recover region as a "crucial middle" that is capable of mediating the tight nexus between the global economy and local economies in conjunction with the continued rescaling of the nation state. Just as the PRD and YRD are central to China's economic development, accounting for the bulk of its FDI and exports (table 1), they also bring crucial value to continued comparative research for better understanding the broader and distinctive attributes and impacts of a growing number of global(izing) city-regions in the world.

Notes

[1] While the bulk of the empirical analysis in this chapter was abridged from "A Tale of Two Regions in China: Rapid Economic Development and Slow Industrial Upgrading in the Pearl River and the Yangtze River Deltas," which is forthcoming in *International Journal of Comparative Sociology* (April, 2007), it pushes in a different theoretical direction through an alternative conceptual framework and with some different field data on the role of the local state. In drafting this chapter, I benefited from a Faculty Scholar Award from the Great Cities Institute of the University of Illinois at Chicago during Fall 2005. My appointment as Professor in the School of Social Development and Public Policy of Fudan University in Shanghai in Spring 2006 greatly facilitated my subsequent field work in Shanghai and the Yangtze River Delta region. Professor Haoxin Liu at Fudan University arranged and

accompanied me through the field interviews in several cities, towns, and villages around Shanghai. The revision benefited from comments and suggestions from Sir Peter Hall, Dennis Judd, Mark Herkenrath, Yuemin Ning, Dajian Zhu, and two anonymous reviewers, while I am alone responsible for the content. I also thank the participants at the conference "City and State in 20th Century East Asia" at Northwestern University (October 12-13, 2006) for their feedback on my presentation on the Yangtze River Delta region. Finally, I am grateful to the World Society Foundation in Switzerland for rewarding my effort to understand the complexity of regional formations in a global world.

[2] "Growth cools in Yangtze River region," Asia Times online, reprinted and accessed on Asian Development Bank Institute (ADBI)'s Web site at http://www.adbi.org/e-newsline/index.html, June 3, 2005.

[3] 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).

[4] Hankook chose Jiaxing because its founding CEO knew Kim Gu (who, like Sun Yat-sen, was like the founding father of Korea, and his exile government in China during Japanese occupation ended up in Jiaxing where there is a Kim Gu museum) and had some sentimental attachment to Jiaxing. Hankook started making tires in 1996 with $30 million investment and raised its capitalization to $300 million by 2006. It now employs about 1,000 people and also has brought its key suppliers from Korea to be with it in Jiaxing. Author's interview in Jiaxing, May 29, 2006.

[5] OEM refers to suppliers making certain products according to the designs and specifications and with equipment from generally multinational corporations as buyers. It makes companies engaged in OEM largely dependent on multinational corporations that contract the OEM production to them.

[6] ODB (original design manufacturing) refers to companies engaged in OEM also providing designs, whereas OBM (original brand manufacturing) refers to companies owning their own brands and using them to deal with buyers of their branded products. ODM is an important upgrade over OEM, and OBM is another major advancement beyond ODM.

[7] "Silks to silicon," China Economic Review online, March 2006, accessed from http://chinaeconomicreview.com/cer/ on April 4, 2006.

[8] Due to this perceived or real competition between the SIP and the SND for foreign investment projects, the JV partners in the SIP had a falling out in the late 1990s, which led the Chinese side buying out 30% of Singapore's stake in the venture.

[9] "Silks to silicon," China Economic Review online, March 2006, accessed from http://chinaeconomicreview.com/cer/ on April 4, 2006.

[10] Ibid.

[11] Ibid.

[12] Author's interview in Suzhou, June, 2006.

[13] "Dongguan protects collective brands with trademarks," Hong Kong Trade Development Council online, reprinted and accessed on Asian Development Bank Institute (ADBI)'s Web site at http://www.adbi.org/e-newsline/index.html, July 12, 2006.

[14] Author's interview in Wujiang, Suzhou, June 9, 2006.

[15] Author's interview in Qidu town, Wujiang, Suzhou, June 10, 2006.
[16] Author's interviews with several business executives in the Yangtze River Delta, June, 2006.
[17] All the information on Taicang was obtained during the author's interviews in Taicang, June, 2006.
[18] Author's interview with government officials in Pinghu, Zhejiang province, June, 2006.
[19] Officials of Suzhou described the city as green tea growing under the shadow of the big tree (Shanghai), whereas officials of Jiaxing seemed to be content with "making a bite from Shanghai last a long time." Author's interviews in Suzhou and Jiaxing, July, 2004 and June, 2006.
[20] The government officials and business managers in the secondary cities like Suzhou and Jiaxing compared Shanghai to a big magnet sucking talents away. Author's interviews in June, 2006.
[21] After the city of Wujiang (see figure 2 and map 2) dropped from No. 10 in the national ranking of top 100 counties in 2004 to the 11th spot in 2005, the Party secretary of Wujiang was reportedly told by higher authorities that he would need to work harder for next year. The prior expectation was that this man who had been the director of a key commission of Suzhou municipality, which administers the county city of Wujiang, would be promoted to the position of a vice Party secretary of Suzhou municipality in 2005, after successfully serving a three-year term as Wujiang's Party secretary. The one-spot slipping of Wujiang from China's top 10 counties implied the lack of success for its top Party boss. Author's interview in Suzhou, June, 2006.

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