

7 The Third Coming of China's Special Economic Zones

The Rise and Regional Dimensions of Tianjin Binhai New Area*

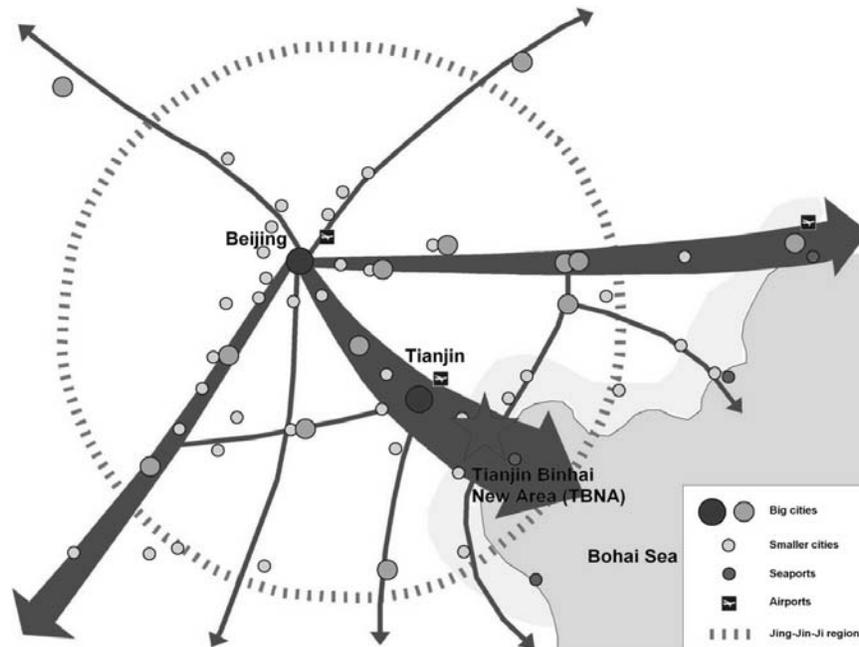
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INTRODUCTION

Since becoming the newest national economic zone and growth engine of China in 2005, Tianjin Binhai New Area (hereafter TBNA) has drawn attention across China but remains relatively unknown to the outside world. Located on the coastline of Tianjin Municipality (see Map 7.1), the largest industrial city in northern China, TBNA has been one of the fastest growing local economies in China with gross domestic product (GDP) averaging about 20 percent since 2006. The Chinese media has dubbed it as “China’s third growth engine.” It follows the special economic zone (SEZ), and now megacity, of Shenzhen bordering Hong Kong that took off in the 1980s (see the preceding chapter) and the Pudong new district of Shanghai that has flourished since the early 1990s (Chen 2009). We see TBNA as the third coming of China’s SEZs, with important retrospective connections to Shenzhen and Pudong and prospective implications for major cities in China and beyond.

TBNA is not entirely new. Its core area, Tianjin Economic Development Area (TEDA), was founded in 1984. After Shenzhen was opened to foreign investment around 1980 and enjoyed development success almost overnight (Chen and de’Medici 2010, this volume), the central government of China set up more SEZs along the entire coast in 1984, and TEDA was among them. For a long time, however, TEDA did not make the expected strong contribution to the economy of Tianjin, whose annual GDP growth remained at about 7 percent, well below the national average of nearly 10 percent through the early 1990s.

Faster development of TEDA did not occur until 1992, when global forces began to exert a stronger local impact. Regarding the growing investment by multinational companies in TEDA, Motorola sunk \$120 million and built a huge mobile phone factory, which was the largest foreign investment project in China at that time. As Samsung, Panasonic, and other large electronic companies followed suit, TEDA became number one in attracting foreign investment among China’s economic development zone for nine years in a row from 1993 (Liu 2008). This infusion of global capital contributed to an annual GDP growth of 20 percent in TBNA during the 1990s.



Map 7.1 Tianjin Binhai New Area (TBNA) in the Beijing-Tianjin-Hebei (Jing-Jin-Ji) region.

In 1994, the municipal government of Tianjin proposed to set up the Binhai New Area. With TEDA as its core, TBNA would cover 2,270 square kilometers with seven districts of separate functional orientations. It remained an administrative collection of the separate districts without a powerful or enforcing governing unit until 2006, when the State Council of China approved TBNA to be an Experimental Zone for Comprehensive Reform and declared the inclusion of TBNA into a strategic national development strategy via *On Problems Concerning the Promotion of Development and Opening of Tianjin Binhai New Area* (Document No. 20). This document stated the goals of TBNA as: “1) being based in the Beijing-Tianjin-Hebei (province) region; 2) serving the Bohai Rim on the Yellow Sea; 3) spreading the development benefits to northern China; and 4) connecting to Northeast Asia and become the gateway to northern China.”¹

These ambitious goals were feasible through the central government’s top-down push given its unchallenged authority and abundant resources as proven by Shenzhen in the 1980s and Pudong in the 1990s. This chapter examines the rise and regional dimensions of TBNA. First, we place the case of TNBA in relevant theoretical context. Then we analyze the empirical information regarding TBNA in a broader framework involving such reference or comparable cases as Shenzhen and Pudong, Shanghai. Finally, we draw limited conclusions and policy implications based on the evidence.

CITY-REGIONAL DEVELOPMENT IN LOCAL CONTEXT

Urban economists hold that cities are results of agglomeration effects and increasing return to scale. This basic condition attracts firms because of the positive externalities of infrastructure sharing, labor matching, and knowledge spillover within and between spatial clusters. Among these externalities, knowledge and technology would be a major source of economy-wide increasing return and thus the source of long-run economic growth under resource constraints (Romer 1990, cited in Storper 2009). (See Forrant, this volume, on the skill- and technology-driven development of the machine-tool industry in Springfield, Massachusetts, in the late nineteenth century.) Romer's argument is often linked with the earlier contributions by Marshall (1920) and Arrow (1962), who focused on the local implications of technology spillovers, which became known as the Marshall-Arrow-Romer Externality Theory for economic growth. In this process, innovation is first created by firms in some regions of technology advantages, and for a certain amount of time, monopoly rent is enjoyed from the invention as long as the barrier remains. However, as the innovation is more widely used over time, substitute technology may be developed and imitation begins to take place.

If this is the only process, as Storper (2009) suggests, we should find a homogeneous world that develops at about the same pace and in the same direction. However, in the real world, the global division of labor and fragmentation of production requires further theoretical discussion. Specific innovation only happens in certain places, and some places, the so-called learning regions, can imitate better than others. This presses us to probe key differences among regions. To mainstream economists, actors and decision-making processes are the same everywhere, but preferences, endowments, and factor costs are different; whereas sociologists and anthropologists would see an economic actor's decision-making process as embedded in the tradition and institutions of localities. Storper (2009) defined such different traditions and institutions across places as *local contexts*. This theorizing of local context can be linked to other empirical studies to help us understand regional differences that may be hidden in the regional "black box" (Florida, Mellander, and Stolarick 2007).

Going back to the case of TBNA, the idea of local context can help explain its advantages and disadvantages in intra- and interregional and global competition. In local institutional and cultural terms, TBNA is relatively new and thus has little tradition and traction. This means that local firms are not fixed into one particular way of thinking and do not have much bias in decision making about how to innovate. Technologically speaking, TBNA is not at the frontier of global or even regional innovation. Its success depends largely on how it receives the diffusion of technology advances, and its imitation of such innovations. That requires two conditions: one is the presence of multilocation companies with new technology. Whereas the central and local governments' policies have attracted many multinational firms such as

Airbus and Motorola, the most advanced technology may not be brought to and so easily digested by the TBNA firms and factories, which may have to climb a steep learning curve toward innovative practices.

The second condition involves sufficient local human capital and the presence of research institutes. Human capital is needed for both receiving global diffusion of knowledge and imitation of such technology advances, which can be cultivated by strong and sophisticated research universities and institutes. This condition becomes more significant for TBNA to further its “original innovations,” as promoted by the central government. However, TBNA does not host many prominent research institutes. Although several of China’s highly ranked universities are in Tianjin and certainly in nearby Beijing, which is China’s best educational and research and development (R&D) center, TBNA itself has not developed long enough to have this human capital base (An and Chen 2009). Instead, TBNA needs to adopt a more flexible approach to attract the wider human capital flows into and spanning the broader region.

FROM GLOBAL CITY TO GLOBAL CITY-REGION

The global city perspective, advanced by sociologist Saskia Sassen (1991), looks at cities as interrelated nodes embedded in a global economic network and urban hierarchy. At the top are New York and London, with their commanding power on the global economy, whereas lower down are globalizing cities with different levels and strength of global connectivity and functional influence. This view turns the assumption that the city is a localized and bounded territory on its head by conceptualizing it as partially denationalized or detached with significant autonomy from the restrictions of national government.

While not a global city like New York or London, TBNA is fast becoming a new key node in the global economy. Hosting one of the busiest container ports in China and a busy international airport, TBNA is capable of serving as the gateway to a much larger city-region around Tianjin. Its favorable location in northeast Asia attracts a lot of Korean and Japanese capital (OECD 2009). From the global city perspective the question of whether and how growing global connections, coupled with the special zone status like Shenzhen or Pudong, can make TBNA somewhat autonomous from its national political and economic anchors and with what consequences arises.

Unaligned with conventional national or local political jurisdictions, a global city can spill and extend economic activities and information impulses into its hinterlands and beyond (Ren, Chen, and Läßle 2009). In global cities, service industries are densely concentrated in the central business district (CBD), which helps push out other industries and some residents to suburbs, even to some nearby cities with lower-cost labor or land. This process stimulates the emergence of the global city-region, which may encompass multiple

cities that are functionally specialized and linked through their comparative advantages and transport routes. The global city-region, as Vogel (2010) suggests, can serve as a more precise description for Sassen's global city. Moving from the global city to the global city-region casts the spotlight on the distinctive *regional contexts* (relative to the local contexts discussed earlier) of large globalized or globalizing urban entities. As Brito and Correia (2010) suggest, the geographic proximity of many firms does not automatically equal an economy of scale, but some mechanism must be created to foster a positive relationship among market actors to make agglomeration beneficial. This logic, ironically, may also cross over to the intergovernment relationship at the regional scale. Vogel (2010) advocates the use of "regional governance" to hold many regional administrative units together where fierce competition can otherwise lead to fragmentation. While seemingly collaborating in a cross-border regional context, the Detroit-Windsor metro area has been undergoing more de-globalization rather than globalization at the local scale (see Ryan, this volume).

The Beijing (Jing)–Tianjin (Jin)–Hebei (known as Ji in Chinese official use) region (hereafter Jing-Jin-Ji), where TBNA is located, is among the world's major city-regions in terms of territorial, demographic, and economic scales. In research using light emission-related economic activities as a major indicator, the Jing-Jin-Ji region ranks the thirty-fourth worldwide, ahead of the Greater Berlin region and Singapore (Florida, Gulden, and Mellander 2007). The Jing-Jin-Ji region is sometimes referred to as Greater Beijing by Chinese scholars (e.g., Wu 2005), because Beijing constitutes the central hub for the region. However, the idea of Greater Beijing has not caught on with TBNA, which instead identifies itself as a major and distinct regional center. This is the result of both the historical competition between Tianjin and Beijing and the explosive economic development of TBNA. Besides this competition, the less developed secondary cities of Hebei province, whose economy largely depends on agriculture, raw material exports, and low-end manufacturing, may become an obstacle for intraregional cooperation. Whereas there exists severe uneven development between Hebei province and the two dominant municipalities of Beijing and Tianjin, that all three are provincial authorities creates both unequal and yet comparable relations that challenge intraregional cooperation. This regional context is fitting for a multitiered and multidimensional analysis of TBNA.

TBNA IN MULTIDIMENSIONAL AND COMPARATIVE PERSPECTIVES

Explosive Growth and Contributing Factors

One can hardly dispute TBNA as being one of the fastest-growing areas in China over the last decade or so. After averaging 20 percent in annual

growth, TBNA's GDP for 2009, when the world only began to recover from the crisis and China's GDP growth fell to only 8.7 percent, rose 23.5 percent over the previous year (see Figure 7.1). Besides this miraculous cumulative growth, it was shocking that TBNA's total GDP surpassed that of Pudong, the growth leader of China's economic zones since the early 1990s, by over \$3 billion in 2008. As Figure 7.1 also shows, the dynamic growth of TBNA was fueled by a large influx of foreign investment, even through the crisis year of 2009. In 2006 and 2007, foreign-funded enterprises accounted for 20 percent and 16 percent of TBNA's total fixed asset investment, respectively. A chunk of this heavy foreign investment was accounted for by the establishment of a highly capitalized Airbus assembly facility, one of the four in the world and the only one in a developing country.

To explain TBNA's rapid growth, Chinese scholars have studied a variety of its comparative and competitive advantages such as *location*, on the coast with port facilities (Chang 2007; Lei 2007; Li 2008); *transportation*, well connected to the center of Tianjin and beyond (Lei 2007; Wu 2007); *natural resources*, especially land resource, with 2,200 square kilometers of land for development (Lei 2007; Li 2008; Xiao 2006); *human capital*, an easy access to university graduates in Tianjin (Li 2007; Xiao 2006); and *industrial foundation*, linked to Tianjin's strong manufacturing tradition (Chang 2007; Lei 2007; Xiao 2006). Regarding location, TBNA is also China's gateway to northeast Asia with its geographic proximity to Japan and Korea, which attracts incoming and outgoing investment with the two developed economies. Secondly, geographic proximity to the capital city of Beijing—China's educational, technological, and second economic center (behind Shanghai)—fosters cooperative opportunities. With its location advantages enhanced by

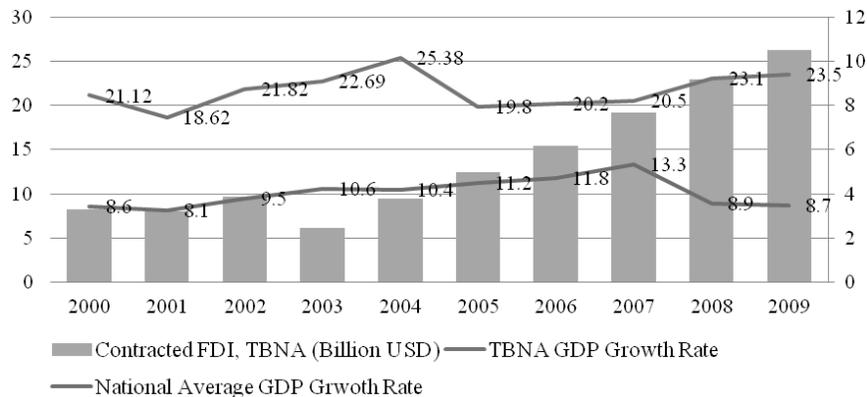


Figure 7.1 GDP growth rate, national and TBNA, with contracted foreign direct investment in TBNA, 2000–2009.

Sources: *Statistic Yearbook of China* 2008, 2010, *Statistical Yearbook of Tianjin* 2008, 2009, 2010. *Development Report of TBNA*, 2007.

favorable transport infrastructure, TBNA benefits further from the rapid growth of the Tianjin Port, which in 2008 passed Guangzhou and became China's third busiest harbor for cargo shipping, behind only Shanghai and Shenzhen, rising to the world's fifth busiest port.²

Building off Tianjin's manufacturing base, TBNA has developed strong comparative advantages in such industries as electronics and information, petroleum and marine chemical, automobile and equipment manufacturing, petroleum steel pipe and high quality steel, biological technology and modern metallurgy, new energy and new materials as well as green industries (Zhu and Sun 2009). This diverse industrial base facilitates current and future economic growth through continued agglomeration and diversification.

Besides these "natural" entrenched advantages, TBNA has enjoyed recent advantages "manufactured" by the state, the most significant of which was aggressive promotion by the national government. In October 2005, the central government placed TBNA in the same league as Shenzhen and Pudong (Zhu and Sun 2009). In the following year, the State Council announced TBNA as an "experimental zone for comprehensive reforms." Since then, state media have kept TBNA in the limelight and touted it as the "third growth engine" on a number of important occasions. Such top-level promotion has helped draw major international investors, highlighted by the establishment of the Airbus assembly line in 2007, which would not have materialized in TBNA without the central government's targeted promotion and pull.

Moreover, the government has injected substantial investment into local and regional transport infrastructure. The fast train that connects Beijing, downtown Tianjin, and TBNA absorbed an investment of nearly \$2 billion. The train allows people to travel from TBNA to downtown Tianjin in fifteen minutes or to Beijing in forty-five minutes. In 2009, the TBNA administration began the so-called Ten Campaigns in order to improve the investment environment. The official Web site of TBNA claims that new funding would reach a stunning amount of \$200 billion.³ By 2009, in the midst of the global financial crisis, the campaigns resulted in an investment of more than \$15 billion, materialized as new highways, a power plant, entertainment facilities, and other physical infrastructure for business and industries that would exert a stronger impact on TBNA's local economic structure.

Economic Structure in Comparative Perspective

As the manufacturing and infrastructure-driven growth of TBNA has accelerated, the central and local governments have also ratcheted up their advocacy for developing service industries in TBNA. This ambitious dual goal, set and advocated by the state, is up against the constraints of path-dependent development, more visibly in comparison to Pudong and Shenzhen over the more recent period. As Figure 7.2 reveals, the manufacturing sector not only dominated the TBNA economy but also gained a

little ground relative to services after 2006. In comparison, Pudong, which boasted a larger manufacturing sector in 1993, right after its own national launch as a new economic zone, grew its service sector to the point where it proportionally surpassed manufacturing in 2007. As Bai and Li (2003) contend, Pudong had entered a “post-industrial stage,” and became a service provider for Shanghai’s broad hinterland of the Yangtze River Delta (Chen 2009). Regarding the other close reference case, Shenzhen’s industrialization took off in the 1980s and accelerated through the 1990s. Although still a major manufacturing center, Shenzhen has achieved and maintained an evenly balanced local economy of manufacturing and services since the early 2000s (Chen and de’Medici 2010).

The evidence points to a longer evolution and adjustment of Pudong’s and Shenzhen’s economic sectors given their earlier start. TBNA, however, remains locked into its manufacturing groove, reinforced by the fact that the bulk of the fixed-asset investment in 2009 was channeled into manufacturing. At the end of 2009, TBNA managed to get the central government’s approval of their plan to experiment with “financial innovations.”⁴ Such innovations would include private equities, venture investments, offshore banking, and other high-end services that were severely restricted by the national government. TBNA’s service sector is dominated not by financial services but by transportation and logistical services. The fate of the financial-services sector remains uncertain due to its minimal role in the region’s tertiary sector. Overall, TBNA differs from both Pudong and Shenzhen in the relative strength of manufacturing versus services due to their varied stages of development and changing external environments, which includes the shadow influence of nearby Beijing.

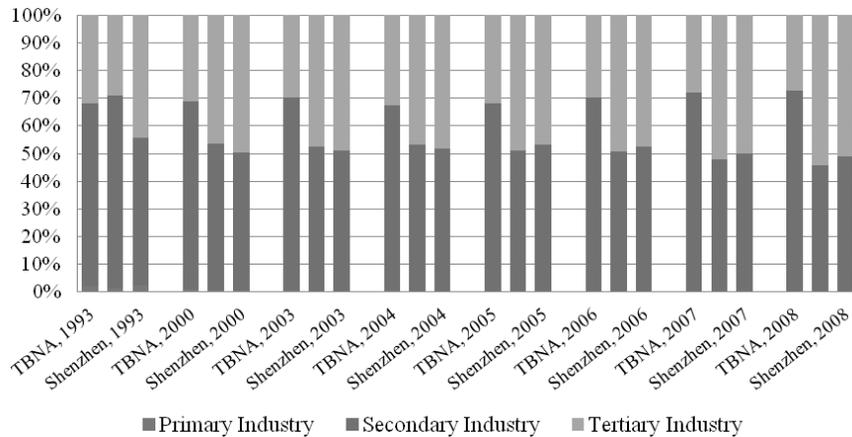


Figure 7.2 The industrial composition of TBNA, Pudong, and Shenzhen, 1993–2008. Sources: *Statistical Yearbook of Tianjin 2004–2009*. *Statistical Yearbook of Shanghai 2000–2009*. *Statistic Yearbook of Shenzhen, 2009*.

The Beijing Effect: A Blessing or a Curse?

For TBNA, the close proximity to Beijing is a double-edged sword. Complementing its status as the political center of China, Beijing is above or comparable to Shanghai as an educational and innovation hub. In 2008, Beijing produced more than 6,478 patents, first among all Chinese cities, whereas Shanghai occupied the second place with 4,258 patents. With the largest concentration of top universities and institutes, Beijing leads all Chinese cities in the abundant supply of highly educated and specialized labor force. In addition, Beijing and Shanghai host a comparable amount of multinational corporations' headquarters and international banks, but the former's capital exceeds the latter's, with more large state-owned enterprises headquarters.

Given Beijing's dominance and ambition, an ideal Beijing-Tianjin division of labor would lead TBNA to position itself to receive the manufacturing industries that Beijing is willing to let go and to develop a "designed in Beijing, made in Binhai" industrial nexus (Wu 2007). Hewlett-Packard's recent actions illustrate this relationship. In 2010, the firm decided to open a \$5 million cloud computing and data center in TBNA. This new center will most likely become an anchor for a whole chain of suppliers and manufactures to follow into TBNA. With headquarters in Beijing, HP can combine the cheaper land and preferential policy of TBNA with the better R&D facilities and high-quality human capital of Beijing, conveniently linked by the forty-five-minute fast train service. This "Beijing effect," however, may cut both ways. It means that TBNA will have to compete with Beijing for both financial and human capital (Zhu and Sun 2009), albeit from a less advantaged position.

TBNA's delicate position in the Beijing-Tianjin nexus is revealed further by the two cities' divergent development paths (see Figure 7.3). Despite their

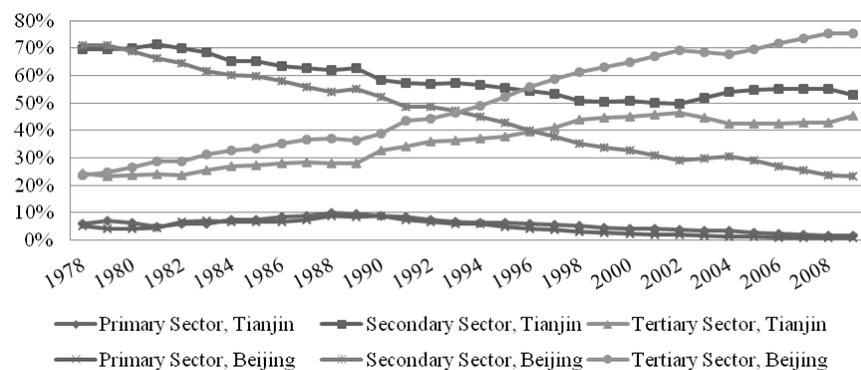


Figure 7.3 Trends in the industrial composition of Beijing and Tianjin, 1978–2009. Sources: *Statistic Yearbook of Beijing 2010*, *Statistical Yearbook of Tianjin 2010*.

Table 7.1 Gross domestic product (GDP) for the industrial sectors of Beijing and Tianjin with service-sector breakdowns, 2003–2009 (in Billion U.S. Dollars*)

Year		2003	2004	2005	2006	2007	2008	2009
Beijing	Gross Domestic Product	77.6	93.5	108.1	125.9	152.7	172.3	188.4
	Agricultural Sector	1.3	1.3	1.4	1.4	1.6	1.8	1.8
	Manufacturing Sector	23.1	28.7	31.4	34.0	38.9	40.7	44.3
	Service Sector	53.3	63.4	75.3	90.5	112.2	129.9	142.3
	Transportation, Storage, Post and Telecommunications	4.8	5.5	6.2	7.1	7.7	7.7	8.6
	Information Transmission, Computer Services and Software	5.9	7.0	9.1	10.8	13.5	15.5	16.5
	Wholesale and Retail Trade	8.0	9.1	10.9	13.5	17.0	22.1	23.6
	Finance	9.9	11.1	13.0	15.2	20.2	23.6	24.9
	Real Estate	5.3	6.8	7.7	10.2	12.7	13.1	16.5
	Tenancy and Commercial Services	3.6	4.3	5.6	6.9	9.7	11.9	12.6
	Scientific Research, Technical Services and Geological Prospecting	3.8	4.3	5.6	6.9	9.7	11.9	12.6
	Other Industries	12.1	15.4	17.3	20.0	22.6	25.0	27.0
	Finance as % of GDP	12.7%	11.8%	12.1%	12.1%	13.2%	13.7%	13.2%
	Finance as % Service GDP	18.5%	17.4%	17.3%	16.8%	18.0%	18.1%	17.5%
Tianjin	Gross Domestic Product	38.0	48.2	57.3	67.6	81.4	104.2	116.6
	Agricultural Sector	1.4	1.6	1.7	1.8	1.7	1.9	2.0
	Manufacturing Sector	19.3	26.1	31.8	38.6	44.9	57.5	61.8
	Service Sector	17.2	20.5	23.8	27.2	34.9	44.8	52.8
	Transportation, Storage, Post and Telecommunications	3.0	3.5	3.5	3.9	5.2	6.8	7.3
	Information Transmission, Computer Services and Software	1.1	1.0	1.2	1.3	1.4	1.7	2.1
	Wholesale and Retail Trade	2.8	5.8	6.8	7.3	9.1	11.1	13.0
	Finance	1.7	2.1	2.5	2.9	4.5	5.7	7.1
	Real Estate	1.9	1.6	2.0	2.5	2.8	3.5	4.8
	Tenancy and Commercial Services	0.3	0.4	0.7	0.9	1.3	1.9	2.4
	Scientific Research, Technical Services and Geological Prospecting	0.7	1.0	1.2	1.5	2.0	2.9	3.7
	Other Industries	5.8	5.1	5.9	6.8	8.5	11.1	12.4
	Finance as % GDP	4.4%	4.4%	4.3%	4.3%	5.5%	5.5%	6.1%
	Finance as % Service GDP	9.6%	10.4%	10.4%	10.6%	12.8%	12.8%	13.5%

Source: Same as Figure 7.3

*Note: Figures in this chart are converted from Chinese Yuan (RMB) at the current exchange rate of 6.45 RMB = one U.S. dollar.

almost identical industrial structures in 1978, Beijing and Tianjin followed distinctive trajectories from 1979 in the relative rise of services and the decline of manufacturing. Although appearing to move in the direction of Beijing's service sector in 2002, Tianjin's manufacturing and service sectors began to diverge and reached the widest margin in the postreform era by 2008 due to TBNA's growing manufacturing contribution to the city's economy. In the meantime, the divergence between the manufacturing and service industries of Beijing became the widest by 2009 (Figure 7.3).

In trying to escape Beijing's huge shadow, Tianjin and TBNA began to compete with Beijing in favoring tertiary industry, particularly financial services. In 2009, Tianjin secured national support to become the financial center of northern China, while TBNA would serve as the hub of "innovative financial companies." At the same time, a document published by the Beijing municipal government set the goal for the capital city to become a "national financial center for decisions, management, information and service with global influence."⁵

China does not need two financial centers so close to each other, and it is hard to foresee TBNA winning this race (Zhu 2010). Most headquarters of Chinese banks, along with headquarters and offices of multinational investment companies, are located in Beijing. An already established financial sector contributes to 13 percent of Beijing's GDP, doubling the contribution of the financial sector to Tianjin's GDP. However, the financial sector's share of the service sector's GDP for Tianjin rose steadily as its manufacturing sector continued to grow at the expense of services (see Table 7.1). In a related manner, TBNA faces difficulty in attracting a highly skilled labor force. In 2006, only 1.2 percent of the employees in Tianjin came from outside the city, excluding those who had attended colleges locally (OECD 2009). Many graduates of Tianjin's universities would choose Beijing over Tianjin, creating a competitive disadvantage for TBNA against its powerful neighbor in developing high-end services.

In envisioning and supporting the development of financial services and R&D facilities in TBNA, the central government has been partially blind to the large shadow of its home city. Even if TBNA can close some of the gap with Beijing due to powerful central support, as the data on 2009 suggest, the competition would still favor the side with the initial advantages and render the "Beijing effect" on TBNA more negative over time. It is incumbent upon the authorities of the national government and of Beijing and Tianjin to fully evaluate and balance the double-sided "Beijing effect" in planning and guiding TBNA's development.

Local Autonomy and Limitation

Seen from the global city perspective, linkages with the global economic network can free a city from its geographic boundary and control of the nation-state involved. Looking at TBNA through the global city-region lens,

Table 7.2 Gross Domestic Product (GDP) and Foreign Direct Investment (FDI) in TBNA and Tianjin, 2004–2009

	GDP of TBNA (Billion U.S. Dollars*)	% of Tianjin's Total GDP	Contracted FDI (Billion U.S. Dollars*)	% of Tianjin's Total FDI	Realized FDI (Billion U.S. Dollars*)	% of Tianjin's Total GDP
2004	19.4	42.7%	3.8	67.3%	1.7	70.6%
2005	24.9	43.9%	5.0	68.1%	2.5	76.0%
2006	30.4	45.0%	6.2	76.2%	3.3	80.9%
2007	36.7	46.8%	7.7	66.7%	3.9	74.2%
2008	48.1	48.8%	9.2	69.1%	5.1	68.5%
2009	59.1	50.7%	10.9	75.8%	5.8	63.9%

Source: Same as Figure 7.1

*Note: Figures in these columns are converted from Chinese Yuan (RMB) at the current exchange rate of 6.45 RMB = one U.S. dollar.

there is the question of how TBNA relates to Tianjin as it becomes more global and regional in the Jing-Jin-Ji context. As Table 7.2 shows, TBNA accounted for half of Tianjin's GDP in 2009, whereas its contracted foreign investment as a proportion of Tianjin's total stood at 76 percent. Besides functioning as the major engine of Tianjin's economic growth, TBNA is a powerful vacuum that has sucked in and away more foreign capital that might have otherwise spread across the Tianjin municipal territory.

A dominant economic player for Tianjin aside, TBNA was criticized as having an ineffective administrative structure and cumbersome relationship with Tianjin (Xiao 2006; Zhu and Sun 2009). The separate districts that comprised the TBNA territory had altogether seven police bureaus, five business bureaus, and thirteen different bureaus in charge of taxation. This heavy and internally competing bureaucratic setup had sustained slow decision making, duplicative functions, and many superfluous party and government positions. In November 2009, the central government approved Tianjin's reform plan to eliminate three separate administrative districts and merge them into one single government—Tianjin Binhai New District—with a more simplified and unified governance structure. This new district administration was expected to have greater autonomy in making decisions and implementing further administrative reforms. *The People's Daily*, the official national newspaper, quoted a claim of Tianjin that it would release the power to TBNA so that it could make any policy decisions that used to be made by the municipal government, and would let TBNA to report to the central government directly if the decision has to be vetted by Beijing.⁶ For example, the central government would preapprove the change of land use for a five-year period, instead of once a year, and allow the local government to allocate the approved land at its own

discretion.⁷ However, Beijing did not forget to install a check on TBNA's autonomy by insisting on a "one permission, one reform" policy requiring the new district government to ask for permission for every new experiment they would like to try.

The director of the new TBNA administration is a vice party secretary of Tianjin, which keeps it within the local political pyramid. However, this position is high enough to be directly appointed by the central government. The first new director, He Lifeng, was the former mayor of Xiamen, a key city facing Taiwan in southeastern China. That he has never been an official of Tianjin indicates his appointment as a political strategy of the central government to put TBNA under its direct control. This signifies that TBNA's local autonomy does not translate into autonomous policy action when it is geographically and administratively so close to the large shadow of Beijing, both as a more powerful competing city and as the site for one of the most powerful central governments in the world.

Regional Opportunity vs. Constraint

To the extent that the comparative advantages and local autonomy of TBNA have facilitated and will continue to foster its dynamic growth, the "Beijing effect" and central government monitoring tend to act as constraints. The balance between these factors will depend on the critical middle and bridging Jing-Jin-Ji region that provides additional opportunities and constraints. To understand how this broader regional effect works, we subject TBNA in the Jing-Jin-Ji to a limited comparative analysis involving the Pearl River Delta (PRD) and the Yangtze River Delta (YRD) that surged in the 1980s and the 1990s, respectively (Chen 2007).

Located in southern China at the mouth of the Pearl River, the PRD is subject to varied definition of its spatial boundary. Chinese official documents often confine it to a portion of Guangdong province, whereas scholars tend to include Hong Kong and Macao in the PRD. There is a lack of consensus regarding what comprises the region's core. If we include Hong Kong, then its global connections and economic power make it the indisputable center. But if Hong Kong is not included, which does not make economic and geographic sense in our view, then Guangzhou, the capital of Guangdong province, will contend with Shenzhen for the status and influence of the PRD's center.

The region began to grow rapidly in the 1980s, mainly through absorbing a significant amount of overseas investment and specializing in export-oriented manufacturing. It started with a relocation of Hong Kong's factories across the border for the region's competitive low labor cost. Shenzhen, bordering on Hong Kong, was the first PRD city to take off due to its SEZ status. As Shenzhen industrialized further and became more expensive for manufacturing, Hong Kong capital spread out to the broader PRD to seek lower production costs until it became a dominant node of global

manufacturing, especially for certain products. In 2001, 78.8 percent of China's telephone export originated from the region, as well as 34.8 percent of color TVs and 35.5 percent of VCD players. If the PRD were a country, it would be the sixteenth largest economy in the world and the tenth leading exporter (Chen 2007). The PRD now features other major manufacturing centers besides Shenzhen. In Dongguan, a secondary industrial center, a single plant can produce 60 percent of the electronic learning devices sold in the U.S. market, in addition to producing 30 percent of the magnetic recording heads used in hard drives worldwide (Gill and Kharas 2007).

The PRD has a great potential for regional economic integration, but it has not been fully pursued and achieved. This is partly due to multinational companies' interest in controlling the largely regionalized production chain. In Dongguan, for example, 95 percent of the parts and components of personal computer assembly can be found within Dongguan's jurisdiction, but foreign companies, especially those from Korea and Taiwan, "rely primarily on their transplanted supplier networks to minimize the use of local suppliers who are often perceived as cheaper, but less qualified" (Chen 2007), thus gaining a strong price squeeze at both ends. While becoming more blurred and porous over time, (inter)national borders can continue to be obstacles to regional cooperation (Chen 2005). Hong Kong and the rest of the region are divided by a border that remains administratively demarcated and controlled. Passengers heading for both sides of the Hong Kong–Guangdong border, on a daily or longer-term visit, still have to wait to pass the border checkpoint.

Hong Kong, if counted in the region, is undoubtedly the leading city of PRD. It has been the primary investor and job creator in the region. From 1979 to 1999, more than 40,000 Hong Kong–owned companies and factories in the PRD employed 10 million workers (Enright and Scott 2005). Hong Kong also is the center for industrial design and distribution, whereas the rest of the region is specialized in or confined to assembly-based production. A Hong Kong–based toy producer can create the designs, transport samples and likely raw materials to the factories, and distribute the finished products out of China through Hong Kong toward their destined markets (Chen 2007). Finally, Hong Kong is the service center for the region as well, based on its entrenched and irreplaceable tradition and foundation in advanced and concentrated financial services, including multinational banks and insurance companies (Yeh 2005).

Shenzhen has gained a prominent position within the PRD region. Set up as a SEZ in the 1980s to attract initial investment from Hong Kong, Shenzhen has grown tremendously and risen from a small town to a megacity of over 12 million people in less than twenty years (Chen and de'Medici 2010). However, as Shenzhen is already a megacity with its own economic strength and regional functions, it is becoming less dependent on Hong Kong. GDP per capita of Shenzhen reached about \$13,000 in 2008, the highest among all Chinese cities. With continued industrial upgrading to

overcome its weakness in labor-intensive manufacturing and transition to more services, Shenzhen's industries have become more technology- and knowledge-intensive, and its service industry accounted for over 50 percent of its total GDP in 2008 (see Figure 7.2). Home to one of the only two stock exchanges in China and one of China's most dynamic commercial banks (China Merchant Bank), the Shenzhen government in 2009 announced an ambitious goal to develop into a "global financial service center."⁸

The YRD is located at the central section of China's coastal belt and anchored to Shanghai. It features a main corridor of Shanghai-Suzhou-Hangzhou and a radiating area that extends to large portions of Jiangsu and Zhejiang provinces and beyond. The YRD has been China's leading economic region since the late Ming Dynasty 500 years ago, and began to develop a dynamic commercial tradition in the late nineteenth century. However, the region was not the first to be open up to foreign investment after 1978 and fell behind the PRD for nearly a decade till the early 1990s, when Pudong was developed as a SEZ and opened to global investment.

If the PRD is heavily labor-intensive, the YRD has a wider range of industries, including capital- and technology-intensive industry such as automobile and notebook computers, alongside labor-intensive garment or textile factories (Lu 2009). These industries, however, are similar to those in the PRD in that they also are dependent on foreign capital. Quanta, a Taiwan-based notebook maker ranked first in the world, owns a \$48 million factory complex in Shanghai which employs 20,000 workers and produces more than 90 percent of its total notebooks for Dell and HP's U.S. market. Whereas manufacturing, packaging, and shipping are done in and from Shanghai, the most valuable components of the notebooks are designed and sourced overseas (Chen 2007).

Shanghai is usually regarded as the center of the region. It has been so since the early twentieth century, when it was the "Paris of the East," and has largely reclaimed this dominant position with an annual growth of over 12 percent since early the 1990s (Chen 2009). The city has served the region as the gateway to the rest of the world with its port ranking first in terms of container shipment in China and now second in the world. It also provides the region with educated labor through its large number of excellent universities and research institutes. More and more multinationals have set up regional headquarters in Shanghai to integrate the marketing/service and manufacturing functions in and around the YRD. With the help of these firms, Shanghai is being transformed from a primarily industrial city to a growing service center providing the YRD with human talents in manufacturing, service, and increasingly R&D.

Positioned at the center of Shanghai, Pudong is often considered the jewel in the crown of the YRD. Lujiazui, the heart of Pudong, is frequently referred to as the "Manhattan of China" and the dominant center for the YRD's service economy and regional corporate headquarters. Another part of Pudong, Zhangjiang High Tech Park, has become the R&D center for

the greater region, with the third highest input of R&D investment of China's localities and significant spillover effects (Liu 2007). Pudong also has a free-trade zone that is directly linked to the port.

However, the leading role of Pudong is challenged from several directions. A number of secondary ports, such as Taichang in Jiangsu province, have been upgrading their capacities in order to capture some of the huge manufactured exports in container shipments that mostly exit through the Shanghai port. Suzhou, a booming industrial center one hour away from Shanghai, has established two industrial districts that have attracted a soaring number of manufacturing and even R&D facilities, such as that of Samsung's semiconductor operations in China. The only aspect of Shanghai and Pudong that is likely to remain unchallenged is the financial-service sector in Lujiazui, which stems partly from Shanghai's heritage and tradition and partly from the central government's goal of making it the financial heart and hub of China.

This brief assessment of the PRD and the YRD places TBNA and the Jing-Jin-Ji region in a clearer comparative light. Unlike the other two cases, the Jing-Jin-Ji region features extremely uneven spatial development. Wang's (2009) three-dimensional model of GDP contour lines reveals this uneven growth and resource distribution (see Figure 7.4). The figure shows a dominant peak in Beijing, the nearby lower peak representing Tianjin across a

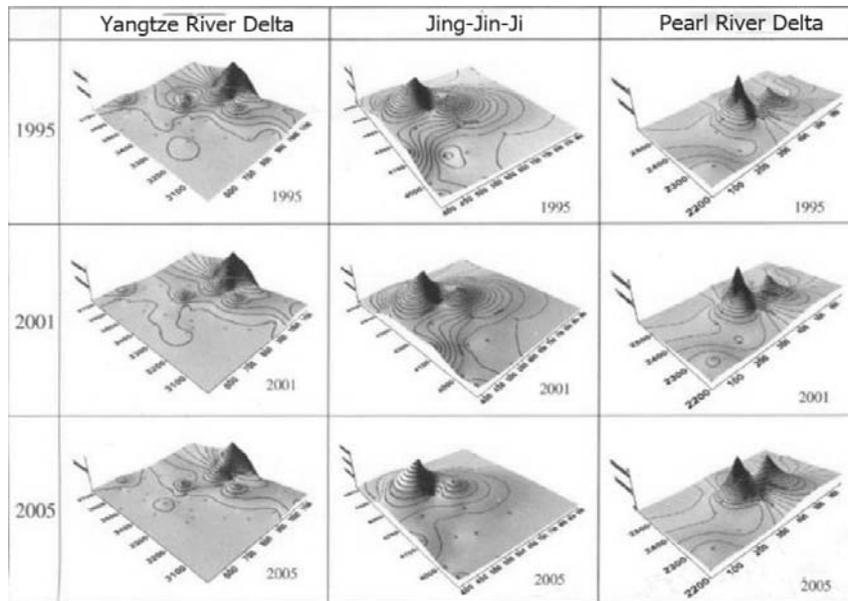


Figure 7.4 A GDP contour model of three major city-regions of China.
Sources: From Wang (2009: Figure 5), with the author's permission.

valley, and four or five scattered tiny hills on a nearly flat surface. In contrast, the figure displays more hills across the other two regions, especially the YRD, where powerful secondary industrial centers like Suzhou and Hangzhou have emerged. In the PRD case, we see a visible bridge connecting the two peaks of Guangzhou and Shenzhen, which is missing in the Jing-Jin-Ji case between Beijing and Tianjin. In statistical terms, the average per capita GDP of Hebei province's thirty-one counties around Beijing and Tianjin was \$800, only about 16 percent that of Beijing (Jing et al. 2006). Unlike the PRD or the YRD, where a range of secondary and smaller cities compete with and are a complement to the central hub and one another for investment, the secondary and smaller cities in the Jing-Jin-Ji region are not sufficiently appealing to the global investment that flows automatically to Beijing first and to Tianjin, specifically now to TBNA, as a second destination, and they hardly participated in forming any value chain around the two cores.

The rise of TBNA has given the Jing-Jin-Ji region a new boost, but also poses a new challenge. While generally regarded as a crucial part of Tianjin, TBNA is gaining more economic and political autonomy vis-à-vis its host city, raising the question of whether it may become a quasi-independent city by itself. Given its national prominence, TBNA may see its relationship with Beijing as more important than with Tianjin. This reminds us of the relationship between Shenzhen and Hong Kong. For both pairs of cities that are secondary to the respectively dominant regional centers, the distance is very close, and the relative economic structures are comparable. TBNA and Shenzhen both started as manufacturing centers, and are now trying to step out of the shadow of their dominant neighbors by upgrading their manufacturing and by developing advanced services like finance.

Pudong is more often used as a reference case for TBNA in the sense that they are both special districts within a municipality, but Pudong has quite different regional functions than TBNA. First of all, Pudong is adjacent to downtown Shanghai, just across the Huangpu River, and thus much less likely to gain the semiautonomous status that TBNA may obtain. Pudong also has the most concentrated financial-service sector of any subcity district in China, which is unlikely to happen in TBNA in the foreseeable future. Pudong was the only district of Shanghai that was granted special policy incentives for luring banks and financial service firms. This is not the case with TBNA because Beijing, just one hour away, is already a well-established financial center, as discussed earlier.

These comparative evidence and perspectives reinforce the question about whether or not TBNA should be developed into a regional financial center. Instead, TBNA may be better off to follow the gradual upgrading path of Shenzhen in the PRD. Shenzhen developed with the help of Hong Kong's physical and intellectual capital and technology, and became fully industrialized while the labor and land costs grew. This prompted labor-intensive factories to migrate to the inner PRD. TBNA can help fill the largely

empty economic valley of the Jing-Jin-Ji region by making full use of global capital and Beijing-based R&D facilities to strengthen industrialization further. At a future inflection point, industrial upgrading and saturation in TBNA will push less competitive and lower value-added manufacturers out to the surrounding areas. But because land supply is still plentiful in TBNA, the onset of this critical transition point is difficult to predict. Until that happens, uneven intraregional development may continue as much of the investment and resources are allocated to TBNA both through the top-down national promotion and through the horizontal inter-city competition that favors Beijing over the rest of the Jing-Jin-Ji region.

CONCLUSION: TBNA, REGIONAL GOVERNANCE, AND GLOBAL COMPETITIVENESS

TBNA is a timely case that enriches the theoretical debate and empirical study on the role of secondary cities and city-regions of developing countries in generating growth and distributing wealth as they become more globally connected. A. J. Scott (1996) argued that cities in developing countries have become “islands of prosperity” where global capital exploits the local surplus of cheap labor and resources. The more they are connected to the global market, the more they are exploited. Unless there are more integrated urban systems where complete value chains are locally and regionalized embedded, the larger share of the economic fruit will be collected by multinational corporations. This challenge is generally quite evident in China, but varies regionally and locally as shown through the comparative analysis featuring TBNA. Despite starting at a more industrialized stage as part of Tianjin than Shenzhen in the PRD, TBNA has not progressed far enough as a critical node of a regionally integrated economic system. Despite being the only assembler of Airbus passenger jets outside the industrialized West, the brand new facility in TBNA, visited by both authors of this chapter in summer 2009, imports about 90 percent of all the intermediate inputs and basic components. In other industries, TBNA and the Jing-Jin-Ji region lag behind the most advanced YRD and even the PRD in developing a regionally integrated supply, manufacturing, and distribution system.

This set of comparative evidence circles back to the theoretical discussion at the beginning of this chapter. From the familiar economic angle, a global city-region gains its competitiveness through economies of scale, both internal and external. Internal economies of scale can be obtained with increased production ability of single firms or industry in a broader sense, whereas the external can only be obtained when a complementary set of industries producing positive externalities concentrate in a region. Because a value chain is a type of external scale economy, well-developed transport infrastructure, which lowers transaction costs, can make a value

chain more regionally rooted and thus globally more competitive. But the effects of sociocultural variables such as tradition and institutions advocated by Storper (2009) are less clear in the so-called “black box” of regional development (Florida, Mellander, and Stolarick 2007). Besides the obvious absence of tradition and institutions such as local knowledge in a new SEZ like TBNA, it embodies a powerful external context at a regional and national scale that both shrouds and illuminates the “black box” that is the Jing-Jin-Ji. One is tempted to see TBNA as merely a repeated product of central government policy like Shenzhen and Pudong. True as it is regarding the rationale and mechanism used by the national government to launch TBNA, this convenient political explanation would leave the various elements of the “black box”—a distinctive regional context of the Jing-Jin-Ji for TBNA—unexplained. We have dealt with this analytical challenge via a comparative approach to the timing and stage of city-regional development beyond initial creation.

In the PRD, which has a longer postreform development history behind it, the less valuable parts and components of the main products can be sourced within the region, but such integration has not been fully materialized due to the vested interests and advantages of global capital. Despite taking off later than the PRD, the YRD has caught up and moved ahead due to its distinctive advantages: a stronger and richer industrial tradition, coupled with Shanghai's integrating role and a density of productive secondary cities, have facilitated a more regionally linked economic system with broader spatial spillovers and less polarization and fragmentation. For TBNA and the Jing-Jin-Ji region, however, development is still very early and dominated by the overwhelming advantage of Beijing and the close, albeit delicate, relationship between Beijing and Tianjin. On the other hand, this early development, if well planned and with central government guidance, may help avoid the pitfalls the other two regions have differentially experienced, such as an overemphasis on export-oriented manufacturing that has delayed industrial upgrading, especially in the PRD (Chen 2007).

To the extent that TBNA is the third time that the national government has prominently and powerfully promoted a single area for focused and intensive development of the highest priority, it highlights broad regional governance as key to the success of this strategy. The National Development and Reform Commission (NDRC), a key central government agency, has attempted a comprehensive plan for the Jing-Jin-Ji region since 2007. This plan, however, has not worked out due to the difficulty in balancing the respective interests of the three provincial units that make up the region. In an ideal division of labor, Beijing would be specialized in the technological and financial services, TBNA in higher value-added manufacturing, and the secondary cities in lower-end production. But so far, TBNA has absorbed the bulk of new manufacturing investment while trying to grow advanced services, which leads to uneven regional development and sustains losing competition with Beijing.

As a final comparative reflection, TBNA in the Jing-Jin-Ji region has some similarity to the role and relational influence of Shenzhen in the PRD and Pudong in the YRD, or any hub, artificially created or “naturally” evolved, in any city-region for that matter. As TBNA develops further, it becomes more intertwined with its *local* and *regional contexts* and less shaped by the powerful initial impact of central government policy. The interaction between the opportunities of fast growth and greater autonomy and constraints of the “Beijing effect” and uneven development will intensify, and the outcome will depend heavily on instituting an effective governance mechanism of intraregional negotiation and cooperation to foster broader regional growth and stronger global competitiveness.

As key policy elements of this regional governance, the new TBNA government should better coordinate its development with Tianjin and other cities in the region instead of only focusing on and basking in its own spectacular growth in recent years. It will make sense for TBNA to concentrate on high-tech manufacturing and to tie up with the financial and R&D services in Beijing, instead of trying to develop them independently. Relative to governmentally “forced” or directed upgrading from manufacturing to services, a more evolutionary upgrading of TBNA’s economy appears to be the best way forward. As the third coming of China’s SEZs, TBNA has achieved the same spectacular growth as the first two rounds with Shenzhen and Pudong. As we end on the policy implications of our analysis, we also leave you with the caution that this chapter has shed only limited light on this complex model of development. Future research following TBNA’s unfolding trajectory will surely yield more insights into the many facets and variations of secondary cities in the emerging global city-regions of the twenty-first century.

ACKNOWLEDGEMENTS

Chang Liu’s field research in Tianjin Binhai New Area (TBNA) in summer 2010 that contributed to this chapter was supported by a student grant from The Kenneth S. Grossman ’78 Global Studies Fund from the Center for Urban and Global Studies at Trinity College. Xiangming Chen would like to acknowledge the Paul E. Raether Distinguished Professorship for partially funding his research trip to TBNA with Chang Liu in summer 2010.

NOTES

1. State Council of the P.R.C. 2006. Opinions on the Development of Tianjin Binhai New Area, May 26; retrieved on November 5, 2009, from <http://www.tjca.gov.cn/binhai/detail.asp?articleid=9701&classid=268&parentid=0>.
2. Zhang, Yongzhi, 2009. “Tianjin Port Ranked Third in China.” *Bohai Morning News*, March 12; retrieved on November 5, 2009, from <http://www.bh.gov.cn/bhsh/system/2009/03/12/010023273.shtml>.

3. www.bh.gov.cn. 2009. "Ten Campaigns of Binhai, Total Investment Exceeds 1.5 trillion Yuan," August 13; retrieved on November 5, 2009, from <http://www.bh.gov.cn/zjbh/system/2009/08/13/010031871.shtml>.
4. Tianjin Municipal Commission of Development and Reform. 2009. "Plan to Advance Innovation Financial Services in TBNA is Approved," October 28; retrieved on January 12, 2010, from <http://www.tjdpc.gov.cn/templet/default/ShowArticle.jsp?id=12798>.
5. Beijing Official Website International. 2008. "A Plan to Advance the Financial Industry in Beijing," April 30; retrieved on January 12, 2010, from <http://zhengwu.beijing.gov.cn/gzdt/gggs/t968340.htm>.
6. www.peoples.com. 2009. "Unification of Administration in TBNA," November 10. Retrieved on January 12, 2010, from <http://unn.people.com.cn/GB/14748/10346910.html>.
7. See *Development Report of Tianjin Binhai New Area*, published by Administration of Tianjin Binhai New Area, 2008, pp. 46–47.
8. Finance Net. 2009. "Shenzhen Failed to Become a Global Financial Center," May 27; retrieved on February 28, 2010, from http://www.caijing.com.cn/2009-05-27/110172330_1.html.

REFERENCES

- An, Husen, and Fei Chen (2009). "Barriers of Human Capital Flow to Tianjin Binhai New Area." *Science of Science and Management of Science and Technology* 30 (7): 191–196.
- Arrow, Kenneth (1962). "The Economic Implications of Learning-by-Doing." *Review of Economic Studies* 29: 155–173.
- Bai, Zhonglin, and Jun Li (2003). "A Compare Study of the Structural Features and the Changes of Three Industries in the New Districts of Tianjin-Binhai and Shanghai-Pudong." *Science of Science and Management of Science and Technology* 24 (7): 29–52.
- Brito, Carlos, and Ricardo Correia (2010). *Regions as Networks: Towards a Conceptual Framework of Territorial Dynamics*. Working paper, Faculdade de Economia, Universidade do Porto.
- Chang, Xinghua (2007). "SWOT Analysis of Jing-Jin-Ji Metropolitan Region." *Reference for Research on Economics* 2064: 28–37.
- Chen, Xiangming (2005). *As Borders Bend: Transnational Spaces on the Pacific Rim*. Lanham, MD: Rowman & Littlefield Publishers.
- Chen, Xiangming (2007). "A Tale of Two Regions in China: Rapid Economic Development and Slow Industrial Upgrading in the Pearl River and the Yangtze River Deltas." *International Journal of Comparative Sociology* 48 (2–3): 167–201.
- Chen, Xiangming, ed. (2009). *Shanghai Rising: State Power and Local Transformations in a Global Megacity*. Minneapolis: University of Minnesota Press.
- Chen, Xiangming, and Tomás de'Medici (2010). "The "Instant City" Coming of Age: The Production of Spaces in China's Shenzhen Special Economic Zone." *Urban Geography* 31 (8): 1141–1147.
- Enright, Michael J., and E. E. Scott (2005). "China's Quiet Powerhouse." *Far Eastern Economic Review* 168 (5): 27–34.
- Florida, Richard, Charlotta Mellander, and Kevin Stolarick (2007). "Inside the Black Box of Regional Development: Human Capital, the Creative Class and Tolerance." Working paper, the Martin Prosperity Institute, Joseph L. Rotman School of Management, University of Toronto.

- Florida, Richard, Tim Gulden, and Charlotta Mellander (2007). "The Rise of the Mega Region." Working paper, the Martin Prosperity Institute, Joseph L. Rotman School of Management, University of Toronto.
- Gill, Indermit, and Homi Kharas (2007). *An East Asian Renaissance: Ideas for Economic Growth*. Washington, DC: World Bank.
- Jing, Tihua, et al. (2006). *Report on Regional Economies of China*. Beijing: Social Sciences Documents Press.
- Lei, Ming (2007). "Advantages and Disadvantages of Tianjin Binhai New Area and the Future of Pan-Yellow Sea Cooperation." *City 7*: 17–21.
- Li, Bing (2007). "Opening and Development of Tianjin Binhai New Area and the Cooperational Growth of Northeast Asia." *Hong Guan Jing Ji Guan Li* 10: 56–57.
- Li, Jinkun (2008). *Growth and Future of Tianjin Binhai New Area*. Tianjin: Tianjin Academy of Social Science Press.
- Li, Xuemei, Zhen Zhang, Xiangshu Yao, and Qianjin Zhang (2009). "Regional Assessment of Land Intensive Utilization for Tianjin Binhai New Area." *Journal of Shanxi Agriculture University (Social Science Edition)* 8 (3): 293–298.
- Liu, Gongye. 2008. *Third Pole: Record of Development of Tianjin Binhai New Area*. Tianjin: Tianjin People's Publishing House.
- Liu, Yong (2007). "On R&D Spillover within Yangtze River Delta and Economic Development." *Journal of Nantong University: Social Sciences Edition* 23 (2): 36–39.
- Lu, Mingyuan, and Kai Liu (2009). "Comparison of Evolution of Industrial Structure between the Binhai New Area in Tianjin and the Pudong New Area in Shanghai." *Journal of Tianjin University of Commerce* 29 (3): 31–35.
- Marshall, Alfred (1920). *Principles of Economics*, London: Macmillan.
- Meng, Guangwen (2003). *The Theory and Practice of Free Economic Zones: A Case Study of Tianjin, People's Republic of China*. Doctorial dissertation submitted to Ruprecht-Karls University of Heidelberg, Germany.
- OECD (2009). *Trans-Border Urban Co-operation in the Pan Yellow Sea Region*. Paris: OECD Publishing.
- Ren, Yuan, Xiangming Chen, and Dieter Läpple, eds. (2009). *The Era of Global City-Regions* (in Chinese). Shanghai: Fudan University Press.
- Romer, Paul M. (1990). "Endogenous Technological Change." *Journal of Political Economy* 98 (5): S1071–1102.
- Sassen, Saskia (1991). *The Global City: New York, London, Tokyo*. Princeton, NJ: Princeton University Press.
- Scott, Allen J. (1996). "Regional Motors of the Global Economy." *Futures* 28: 391–411.
- Storper, Michael (2009). "Regional Context and Global Trade." *Economic Geography* 85 (1): 1–21.
- Vogel, Ronald K. (2010). "Governing Global City Regions in China and the West." *Progress in Planning* 73: 4–10.
- Wang, Wei (2009). "A Comparative Study of Eco-Spatial Morphological Features of Three Major Urban Agglomerations in China." *Urban Planning Forum* 179: 46–53.
- Wu, Liangyong (2005). "Assessing the Strategic Significance of Tianjin Binhai New Area from Jing-Jin-Ji and Broader Spatial Context." *Port Economy* 5: 5–7.
- Wu, Zhe (2007). "The Future of Jing-Jin-Ji Region and the Aspects of Zhongguancun, Caofeidian and Binhai New Area." *China Reform* 10: 44–46.
- Xiao, Jincheng, Yulong Shi, and Zhong Li (2006). *The Rise of the Third Growth Pole: Research on Development Strategy of Tianjin Binhai New Area*. Beijing: Economic Science Press.

- Yeh, Anthony G. O. (2005). "Producer Services and Industrial Linkages in the Hong Kong- Pearl River Delta Region." Pp. 150–173 in *Services Industries and Asia-Pacific Cities*, edited by P. W. Daniels, K. C. Ho, and T. A. Hutton. London: Routledge.
- Zhu, Erjuan (2010). *Studies on Industrial Cooperation between Tianjin Binhai New Area and Beijing*. Beijing: China Economic Publishing House.
- Zhu, Xufeng, and Bing Sun (2009). "Tianjin Binhai New Area: A Case Study of Multi-Level Streams Model of Chinese Decision-Making." *Journal of Chinese Political Science* 2009: 191–211.