

CRISIS OF INDUSTRIALIZATION IN THE PEARL RIVER DELTA

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Executive Summary

1. The Pearl River Delta (PRD) region is suffering from a sharp decline in export demand, large-scale closures of Small and Medium Enterprises (SMEs) and massive lay-offs of migrant worker. The scale of the crisis is unprecedented for the region, which represents 80% of the economy of Guangdong.
2. The crisis of industrialization in PRD is best understood as a combined result of global economic slowdown and structural problems inherent in the model of industrial development centering on the once booming labor-intensive export process sectors.
3. In recent years, the once successful PRD model of development has gradually lost its momentum, as mounting costs of various factor inputs and new government policy initiatives considerably eroded the thin profit margin of the SMEs.
4. The Guangdong leadership, led by Party Secretary Wang Yang, has pledged to make full use of its fiscal prowess to cope with the crisis in the short run, while promoting industrial restructuring in the long term.
5. The direct impact of global economic recession is felt differently across different sectors and regions. Large enterprises with their own patents so far have weathered the crisis better than the SMEs.
6. In the long run, structural problems such as over-dependence on export markets, shortfalls in education and R&D development and absence of proper protection of property rights in the PRD will emerge as major constraints for successful restructuring.
7. In all probability, the PRD will overcome the negative impacts of the global economic recession in the next few years. However, the region is expected to

suffer further slowdown in growth, increasing unemployment and other social consequences of the ongoing crisis.

8. The crisis and the response it elicits shall bring about major changes in the economic landscape of the PRD. Since the PRD is exemplary in China's industrialization, the current crisis of industrialization in the PRD offers important lessons for China's economic development as well.

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HUANG Yanjie & CHEN Shaofeng*

Credibility of Pearl River Delta Model Doubted¹

- 1.1 After ten years of double-digit growth, the year 2008 proved to be a tough year for China's economic development. This is especially true with regard to the Pearl River Delta (PRD) region, a region producing 80% of Guangdong's GDP. The external shock waves triggered by the global financial crisis have combined forces with the ongoing industrial restructuring, causing dire consequences to the economy of Guangdong.
- 1.2 The present crisis is vividly manifested in the large-scale closure of factories. During the course of 2008, large scale closure of processing factories and layoff of migrant workers became a daily phenomenon. While complete official statistics are still unavailable, it is estimated that more than 7,100 firms have since closed down in the PRD region by the end of 2008.²
- 1.3 A direct consequence of factory closures is a sharp fall in employment, especially for low-skilled migrant workers. An indicator of this massive lay-

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¹ The term Pearl River Delta (珠江三角洲) in this context refers to the nine municipalities of Guangzhou, Shenzhen, Zhuhai, Dongguan, Zhongshan, Foshan, Huizhou, Jiangmen and Zhaoqing in Guangdong province. Sometimes scholars also include the Special Administrative Regions (SARs) of Hong Kong and Macau to form the "Larger PRD" and the neighboring provinces of Guangdong to form the "Pan-PRD". Since these SARs and provinces are rather different from Guangdong in terms of their economic development and industrial structure, they are outside the scope of this discussion. For a map of the PRD, please refer to Appendix V.

² *Investigating the rumor of the close-down wave*, http://news.dayoo.com/guangdong/200812/15/53873_4805971.htm

off wave was a 243% surge in labor-related arbitration cases in 2008 over the previous year at Shenzhen People's Court concerning mostly unpaid wages and compensation for the lay-offs.³ A potential factor of future unease could be seen in the mass return of 40% of migrant workers in Dongguan, a hub for export processing, to their homeland just after the Chinese New Year, ahead of their usual schedules.⁴

1.4 Deepening global recession is reflected in deteriorating trade prospects. Recent trends in trade statistics suggest a cold winter ahead for the export sectors, as Guangdong's export in November and December registered unprecedented drop of 12.2% and 6.8% from that of the previous year.⁵ Trade in January 2009 was even more worrying, as total trade, export and import dropped by 31.1%, 26.6% and 42.1% respectively from January 2008, the worst monthly fall ever recorded.⁶ Since the American economy, the center of this financial tsunami, has yet to reach the bottom, the outlook for the PRD economy will continue to be grim.

1.5 While the current crisis has a cyclical aspect closely associated with the global economic recession, structural factors are also at work. Labor-intensive, export-oriented sectors have gradually lost much of their competitive edge, as rising costs of labor, land and raw materials and stagnant selling prices have eroded their profit margin in recent years. Even without the financial crisis, the industrial sector in the PRD region needs to be restructured and upgraded,⁷

³ http://www.zaobao.com/zg/zg081213_502.shtml

⁴ According to a most recent news article, Guangdong government estimated that 9.7 million migrant workers were returning to the PRD after the Lunar New Year, among them as many as 2 million migrant workers without definitive employment. <http://www.mingpaonews.com/20090205/cac1.htm>

⁵ 40% Migrant Workers heading for home ahead of schedule, <http://www.mingpaonews.com/20090108/ccb1.htm>

⁶ Some of the fall in January 2009 was explained by the weeklong Chinese New Year public holiday in late January. Last year the Chinese New Year was in early February. Thus the fall in trade might be less severe than this figure suggests.

⁷ Industrial restructuring is a technical term in industrial economics referring to structural changes in the composition of the industrial sectors in terms of level and type of products,

just like what the Asian Tigers have been experiencing during the last twenty years.

- 1.6 Facing the quandary of carrying out industrial upgrading amid the global economic recession, both the provincial government of Guangdong and the central government are determined to act decisively. Although some in the government favored radical approaches to “squeeze out” inefficient industries, the call for a gradualist and comprehensive approach clearly has the upper hand, in view of the possible social consequences of the current crisis.
- 1.7 Despite a moderate growth in 2008, the economic prospect of the PRD for the near future is rapidly worsening. In the short run, the sharp falls in export will inevitably lead to more severe reduction in growth and employment as the restructuring is still at an early stage; in the long run, structural problems such as the lack of domestic demand and shortage of high-quality human resources may pose serious threats to the restructuring process.⁸ The rapid loss of comparative advantage in labor-intensive process export industries, the main engine for growth in the last twenty years, also places greater urgency upon prompt response to the crisis.

The Making of a Crisis

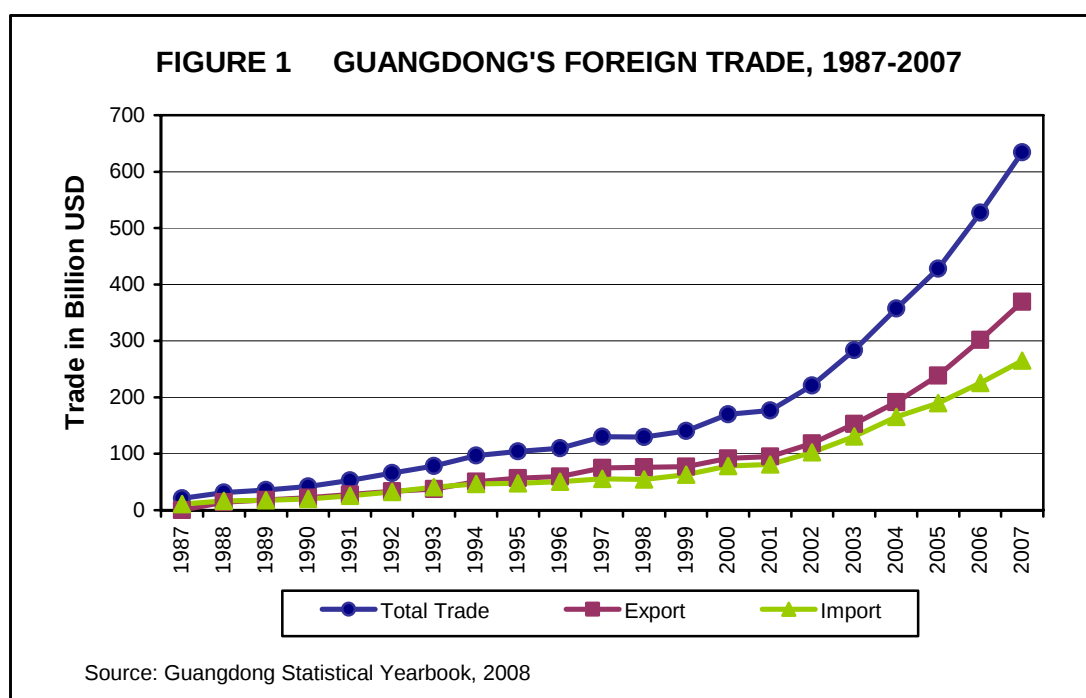
- 2.1 In the last twenty years, the PRD model is a model *par excellence* for China’s export-oriented economic growth. A typical manufacturing firm in the PRD will process imported semi-finished goods and raw materials based on foreign patented technology and export the finished products to overseas markets,

technological intensity and market orientation. Here it means the transformation of the export-oriented, labor-intensive, low-tech and low value-add industries in the Pearl River Delta region into more domestically oriented, relatively high value-add and high-tech industries.

⁸ In early November, the Bureau of Small and Medium Firms in Guangdong province publicly refuted the idea that a systemic crisis was occurring among the SMEs in the PRD region, attributing large numbers of factory closure to specific reasons and natural consequences of industrial restructuring. Among these closures, 90% were labor-intensive manufacturers who were unable to survive or in search of favorable site elsewhere. However, recently published statistics have suggested that the aftermath of the financial crisis is worse than expected with regard to at least some parts of the heavily export-oriented Pearl River Delta region, such as Dongguan, Zhuhai and Shantou.

most often via Hong Kong.⁹ These factories are by and large owned by Hong Kong companies who have transferred their production facility to the PRD region in the last twenty years as Hong Kong underwent industrial upgrading.¹⁰

2.2 With almost unlimited supply of cheap migrant labor from inland provinces, abundant foreign investments and favorable government policies, the PRD region enjoyed competitive advantage as China became increasingly involved in world trade. By the end of 2007, Guangdong's international trade increased from merely US\$ 21 billion in 1978 to US\$ 634 billion, representing about 29% of China's total trade; moreover, the region's processing trade accounted for 42% of China's total processing trade in 2007. The rapid growth of Guangdong's trade is illustrated in Figure 1 below.



⁹ Since all imported semi-finished products and raw materials are counted as import items in statistical yearbooks, the PRD region has one of the highest import to GDP ratios as well as trade to GDP ratios. Moreover, processing trade is the most important type of trade for the region, representing about 63% of total trade.

¹⁰ John Wong, "Hong Kong's Outward Processing in China and the Economic Hongkongization of Guangdong", *Ritsumeikan Journal of International Relations and Area Studies*, No.2, 1992, pp. 13-14.

- 2.3 This development model has brought about serious problems as well. Positioned in the lower end of the value chain, some industries under this model are characterized as requiring high energy consumption and high labor inputs, and causing high pollution, while generating low value-add per unit output. As a result, it posed daunting challenges for sustainable development in Guangdong, and for China as a whole.
- 2.4 The PRD economy is also vulnerable to any foreign cyclical shocks due to its high dependence on foreign markets. In the first ten months of 2008, Guangdong's export already experienced a mere 13% increase, falling from the growth rate of 22% for the same period in 2007, a rather unsatisfactory performance compared with the national average growth of 22.4%. In particular, textile export for the first eight months registered a 22% fall from 2007.¹¹ The downward pressure on demand for China's export has further been aggravated by the gradual appreciation of RMB by nearly 20% since July 2005, making "*Made in China*" products more expensive to foreign buyers.
- 2.5 Prior to the financial crisis, many SMEs engaged in processing trade in the region have already confronted rising costs of inputs, which have added greater urgency for upgrading. The root cause of price inflation could be attributed to the hike in global oil prices since 2005, which led to price increases of oil related products and other major raw materials such as minerals, coal, fiber, paper and imported plastic. Stringent government policies on land use in recent years also made extra land for industrial use increasingly scarce and costly.¹²

¹¹ Export and growth data are from the Statistical Bureau of Guangdong province. According to most recent data on trade, November saw the sharpest decrease in China's trade with the world (a moderate fall of 2% compared with 2007), with Guangdong's external trade volume falling -13% from the Nov 2007 level. Reports also indicate that half of the manufacturers of low value-add textiles and toys registered nil export for that particular month.

¹² The analysis on the cost factors behind the restructuring is based on Zhang Rui's "Small and medium sized firms in the Pearl River Delta: the pain of restructuring and the road to transformation", *Journal of Guangdong Economy*, Vol.12, 2008.

- 2.6 The input price hike has driven many SMEs into severe financial difficulties, since the market prices of their finished products grow only moderately against prices of their raw material inputs and general consumer prices since 2005. The combined effect of the increasing costs of key factor inputs has considerably narrowed the modest profit margin originally enjoyed by import processing firms in the PRD region.
- 2.7 Rising labor cost is another source of the crisis. The new labor law enacted in January 2008 restricts employer's bargaining power and legalizes mandatory social security and over-time payment for workers. With this law taking effect, most firms in the region experience rising labor cost by up to 25%.¹³ The labor cost in Shenzhen, for instance, has been rising steadily from 2005; the first quarter of 2008 saw the sharpest wage hike in recent years.¹⁴
- 2.8 The crisis is also a result of a government policy shift to curb mounting social costs associated with the old model of economic growth. The government's heightening concern for environmental pollution, energy use inefficiency and worker's safety and welfare provision, as evidenced by the new labor law and newly formulated environmental regulations for water and air pollution has pressurized firms to upgrade their businesses. The adjustment of export tax rebate scheme introduced in 2006, which stipulated that most low-tech and low value-added exports will receive a much less tax rebate than before, added to this pressure.¹⁵

¹³ Oxford Analytica, "China: Guangdong faces restructuring test," *International Herald Tribune*, 19 Nov. 2008.

¹⁴ While wage increases, there is additional labor cost due to tensions between management and labor force which has taken a tougher stand in demanding more non-wage compensation for injury, over-time work, poor work environment and welfare provisions.

¹⁵ From 2006 to early 2008, the Ministry of Finance and General Custom Office lowered export tax rebate rate for low-value add products in general, and cancelled the rebate for products with high per-value add energy consumption and pollution. However, most recently, the rebate for cloths, textiles and toys are raised in view of external shocks generated by the financial crisis. Sources of information: Custom Duty Department of the Ministry of Finance website at <http://www.mof.gov.cn/guanshuisi>

- 2.9 In the short run, the Chinese economy, and in particular, economy of the PRD is facing grave challenges from the economic slowdown and surging unemployment. The Chinese Academy of Social Sciences predicts that the Chinese economy will be sapped by withering trade, and actual unemployment rate will be over 9.4% in 2009.¹⁶ The Chinese government has set an 8% GDP growth target and abundant job creation as its chief policy priority in 2009.
- 2.10 Other than the economic downturn, labor outflow is another concern for the PRD since it would have strong impact on the urban area as the economy undergoes restructuring. Not only will local governments suffer from loss in tax revenue, local residents who derive their livelihood from offering house rentals and other services for the migrant population also stand to lose from the restructuring. A lot thus rests with the local government to offer adequate and necessary policy packages to save the region from the negative social consequences of deindustrialization and urban decay.
- 2.11 External shocks also tend to accelerate structural changes, since different sectors and businesses suffer differently. From an industry wide perspective, although export-oriented labor-intensive industry still rules much of the economy, structural changes have already been highlighted by recent growth in high-value add and high-tech industries. Despite the financial crisis, the value-adds of relatively high-tech sectors such as specialized equipment and electronics have increased or retreated much less in value-add growth, compared with labor-intensive low-tech sectors like wood processing and textiles (Appendix I).
- 2.12 For individual firms, the crisis also produces different results. While toy and shoe manufacturers are having a bitter time, most firms with core technology patent have weathered well despite far-reaching repercussions of the global financial crisis. A few Shenzhen firms suffice to serve as examples. The TV manufacturer Kang Jia (康佳彩电), the consumer electronics maker Tong

¹⁶ Han Fudong, "Social Bluebook: Income growth rate drops and unemployment rises," *Nanfang Dushi bao*, 16 Dec. 2008, http://finance.southcn.com/jrdd/content/2008-12/16/content_4772342.htm.

Zhou (同舟电子), and the producer of environmentally friendly car, Bydauto (比亚迪) had all seen their profits rise by 20-30% in the first three quarters of 2008.¹⁷

Government Policy Response

- 3.1 Given the greater urgency for industrial upgrading, Wang Yang, the party secretary of Guangdong, sees the financial crisis as a rare opportunity. He argued that Guangdong would face more difficulties and take longer time to achieve the goals of industrial upgrading and establish a modern industrial system without the current grim economic situation. The provincial government appears resolved to push forward the *Double Restructuring Program*.¹⁸ To that end, the Guangdong government is planning to spend 50 billion RMB to create an environment suitable for a new high-tech and high value-added economy to gradually replace the labor-intensive processing industry.
- 3.2 The core of the government restructuring program focuses on the necessary infrastructures and business environment for industrial upgrading. In the next five years (2009-2013), the government is expected to build more industrial parks in new growth areas such as information technology (IT), bio-medicine, high-tech electronics, industrial waste processing, heavy chemicals and specialized business equipment. The government also provides special incentive packages to encourage firms to engage in R&D activities and climb up the value chain with the inflow of high value-added capital investment and a highly educated labor force.

¹⁷ “Reliance on self-innovation and brand creation,” *Economic Daily*, 11th Dec, 2008

¹⁸ Double restructuring refers to two ongoing processes. The first process is industrialization of the relative poor regions of Guangdong (outside PRD), based partially on relocation of labor-intensive industry from the PRD to other parts of Guangdong. The second process is the industrial restructuring of PRD which is the main theme of this background brief.

- 3.3 Meanwhile, the government is also committed to set tougher standards on energy consumption and environment pollution, impose stricter criteria for tax rebate and compulsory minimum wage and welfare provision for migrant workers for the labor-intensive low value-add industries in an effort to squeeze some of the less efficient firms from the region at the least economic and social costs.
- 3.4 Guangdong's initiative to push forward industrial upgrading, however, has attracted a good deal of criticisms for its excessive radical nature. Party Secretary Wang Yang described SME bankruptcies as "obsolete productivity forces", which were "discarded by the cycling fluctuation of the market", and as such, "government should not salvage them."¹⁹ However, job losses caused by these failing SMEs may cause serious social instability and fall in income for local residents and inland provinces. Thus the central government and the general public generally favor a gradualist approach.
- 3.5 In response to both the deteriorating economic situation and the pressure from the central government and the public, Guangdong has taken important measures to buttress the faltering SMEs and assist those unemployed. Policies include allocating 180 million RMB annually in the next three years to facilitate loans to SMEs, setting up a provincial re-insurance company with one billion capital, reducing enterprise taxes and fees, speeding up infrastructure construction, launching extensive training programs for the unemployed, and helping to relocate labor forces.²⁰
- 3.6 Meanwhile, the central government is also participating actively in charting economic development, in particular industrial restructuring, of the PRD region. A recently released outline drafted by the National Development and Reform Commission (NDRC) reaffirms its support of the PRD model for its

¹⁹ Hu Jiang & Yue Zong, "Government Cannot Salvage Backward Productivity Force," *Nanfang Dushi Bao*, 14 Nov. 2008, AA10.

²⁰ Chen Ji, "Investigating the truth of SMEs closedowns in the PRD," *Xinhua*, 25 Nov. 2008. http://news.xinhuanet.com/fortune/2008-11/25/content_10411916.htm

exemplary role in China's economic reform, opening and development stating that restructuring the economy is essential for the region to continue this role. The outline stresses creativity and economy of scale as the key elements in the new economy, whereas the modern service sector, heavy industry, high-tech sector and large multinational firms are designated as key "growth areas".²¹

Long Term Implications

- 4.1 In the long run, the economy of the region has to pass several critical tests. The restructuring requires the economy to become more domestic oriented. However, the domestic markets in Guangdong and China are still relatively underdeveloped and poorly integrated in contrast to world class productive capacity built during the years of export-oriented development. Meanwhile, growth in per-capita income and effective domestic purchasing power in China has trailed far behind its double digit growth in trade and GDP.
- 4.2 The problem can be exemplified by a simple comparison between domestic and external trade of the PRD region. As Appendix II shows, total domestic sale and retail of the region is much smaller than the region's total export, and at a much slower rate as well.²² It is unlikely that in the near future domestic demand will make up for the shortfall in foreign trade, which is expected to fall further. Since much of the excess productive capacity has to depend on the domestic market to avoid a severe slowdown and growing unemployment, the industry restructuring and economic growth of the PRD will be highly contingent on growth prospects of domestic demand.²³

²¹ Outline of the plan reform and development in PRD region, Reform and Development Commission, 8 Jan 2009.

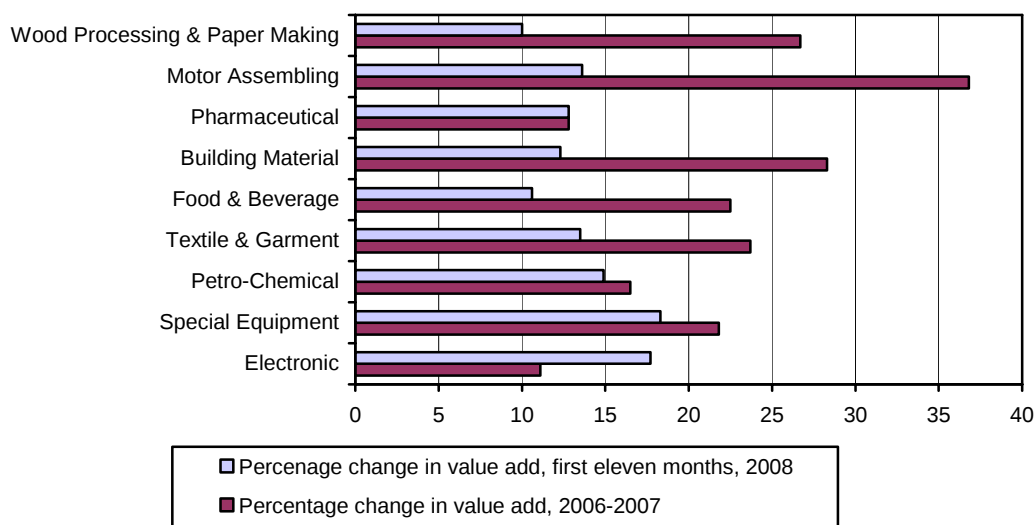
²² The average annual rate of growth for domestic retail sales was only 13%, compared with 21% for that of external trade, from 2000 to 2007.

²³ This concern is to some extent mitigated by a general structural change in the Chinese economy. In the first ten months of 2008, domestic consumption in China experienced a rise of 22% over that of last year, or 14% in rural terms. Over the next few years, domestic consumption is expected to rise in response to government incentive packages designed to sharply increase urban wages and rural income.

- 4.3 Another serious concern is associated with the lack of high-level human capital and R&D resources for restructuring. Compared with the Yangtze River Delta, the PRD region is not as well equipped in terms of educational level of its labor force, investment in educational infrastructure and R&D capacity (see Appendix III and Appendix IV). As human capital and R&D capacity are pre-requisites for successful restructuring, the region may face severe constraints in the subsequent efforts at industrial upgrading.
- 4.4 Meanwhile, the PRD region will continue to lose much of its comparative advantage in labor-intensive products and see factories relocating to inland China and some ASEANs countries, like Vietnam. This transfer process will probably gather further impetus as the economy recovers to find better infrastructures and burgeoning labor supply in “less developed” regions. In consequence, the government will have to instill new vigor into the industrial sectors in the PRD before sweeping changes in the economic landscape leave most old industries in shambles.²⁴
- 4.5 While the economy of the PRD had achieved moderate growth for 2008, the prospect for the near future is rapidly worsening. The combined effects of a sharp fall in external demand in the short-run and various structural problems are bound to pose serious challenges to the restructuring process and pose a critical test for the government.

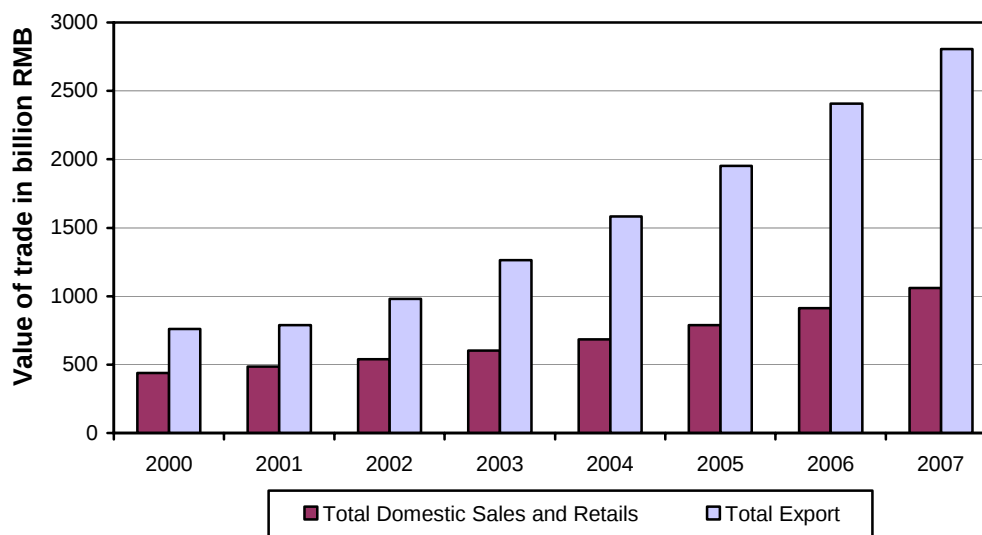
²⁴ It is useful to note here that industrial development in the PRD has more or less followed a laissez-faire path, setting the stage for Hong Kong capital and local private enterprises to play the leading role in industrialization. The lack of strategic plan looms large as the export-oriented SMEs, mostly situated in the lower-end of the value chain, begin to falter. It is expected that the government will play a more significant role in the next stage of Guangdong’s industrialization.

APPENDIX I CHANGES IN VALUE-ADD FOR NINE MAJOR INDUSTRIAL SECTORS OF GUANGDONG, 2006-2008



Source: Guangdong Statistical Yearbook, 2008

APPENDIX II GUANGDONG'S DOMESTIC AND FOREIGN TRADE, 2000-2007



Source: Calculation based on Guangdong Statistical Yearbook, 2008

**APPENDIX III INDICATORS OF EDUCATIONAL LEVEL FOR
SELECTED PROVINCES, 2006**

Region	% of college graduate in the population	Annual urban household spending on education (RMB)	Annual rural household spending on education (RMB)	Average years of education (Years)	Gov spending in education (RMB)
Beijing	10.81	975	844	10.8	52b
Shanghai	9.95	1225	920	9.9	42b
Jiangsu	8.71	722	544	8.7	67b
Guangdong	4.35	604	303	8.9	89b

Source: China Demographic Yearbook, 2008

**APPENDIX IV INDICATORS OF TECHNOLOGICAL CAPACITY FOR
SELECTED PROVINCES, 2006**

Province	R&D Personnel (persons)	R&D spending (billion RMB)	Number of invention applied (patented invention)	Percentage of firms with research facility	Percentage of research personnel in the workforce	Technology transfer contracts with foreign companies
Beijing	58,717	87	751(281)	22.1	6.7	1857
Shanghai	17,223	49	2488(909)	14.5	4.9	2879
Jiangsu	12,633	71	1297(402)	26.8	5.1	843
Guangdong	4,941	56	801(243)	16.8	3.1	668
Zhejiang	3,408	48	372(157)	36	4.5	547

Source: China Technology Yearbook, 2007

APPENDIX V MAP OF THE PEARL RIVER DELTA REGION



Source: Wikipedia