ECONOMIC AND URBAN CHANGES IN THE SHENZHEN SPECIAL ECONOMIC ZONE, 1979-1986

by

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ABSTRACT

Since the Third Plenum, a series of reform measures has been adopted in their efforts to modernize China. The major aims of the reform program were to increase economic efficiency, raise living standards, improve enterprise management, and upgrade technology. An open door policy was pursued which was designed to expand foreign trade, introduce foreign capital, and promote technology transfer. One of the key components of the open door policy was the emphasis on the development of China's Coastal Region. Two southern coastal provinces, including Guangdong and Fujian, were granted the power to adopt "flexible and special" measures in introducing foreign investment and conducting foreign trade. To accelerate the open door program, four special economic zones (SEZs), Shenzhen, Zhuhai and Shantou in Guangdong and Xiamen in Fujian were created in the early 1980s.

The major objective of this thesis is to assess the performance of the Shenzhen SEZ during the eight year period from 1979 to 1986. The thesis has five main aims: first, to analyze the development goals of China in the creation of its SEZs and the extent to which these goals were met by Shenzhen; second, to evaluate the performance of Shenzhen in its attraction of foreign investment and the contributions of foreign firms to the development of the SEZ; third, to assess the growth of income, changes in economic and employment structures, and the expansion of manufacturing exports in Shenzhen and its contributions to the regional development of
Guangdong Province; fourth, to assess the processes of industrialization and technological development in Shenzhen and its importance as a model of development for the open coastal cities; fifth, to examine the impact of the SEZ on migration, urbanization, and urban development in Shenzhen.

Data for the thesis are derived from both documentary research and field work. Two field studies were carried out in Shenzhen and other SEZs during 1986 and 1987. Extensive interviews were held with scholars, government officials, enterprise administrators, workers, and residents in these zones.

An assessment of Shenzhen's performance indicates mixed results. By the end of 1986 Shenzhen had achieved almost all of its economic and production targets well ahead of schedule as specified in its economic and urban plan. Shenzhen emerged as the leading recipient of foreign investment amongst all Chinese cities. During the early 1980s, Shenzhen not only experienced high rates of economic and industrial growth but was transformed from an agricultural region to a highly commercialized city. During this eight year period, industrial exports from Shenzhen grew at a rapid rate, contributing significantly to the growth of exports from Guangdong Province. The rapid economic, income, and employment growth led to a large influx of migrants. Since 1979, Shenzhen's population increased seven fold to reach almost half a million. Shenzhen developed into a city with modernized transportation and telecommunication systems.

Despite achievements in economic and urban growth, Shenzhen faced several critical issues, including the high cost of development,
unstable growth, structural deficiency, low productivity, and declining comparative advantage in production.
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<table>
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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CCI</td>
<td>Capital Construction Investment</td>
</tr>
<tr>
<td>CCP</td>
<td>Chinese Communist Party</td>
</tr>
<tr>
<td>CMSNC</td>
<td>China Merchants Steam Navigation Company, Ltd.</td>
</tr>
<tr>
<td>EPZ</td>
<td>Export Processing Zone</td>
</tr>
<tr>
<td>FAI</td>
<td>Fixed Asset Investment</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
<tr>
<td>FYP</td>
<td>Five-Year Plan</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GDYS</td>
<td>Guangzhou Dili Yanjiu Suo (Guangzhou Institute of Geographical Research)</td>
</tr>
<tr>
<td>GNBWH</td>
<td>Guangzhou Nianjian Bianzuan Weiyuan Hui (Guangzhou Yearbook Editorial Board)</td>
</tr>
<tr>
<td>GNP</td>
<td>Gross National Product</td>
</tr>
<tr>
<td>GPAC</td>
<td>Guangdong Provincial Administrative Committee for the Special Economic Zones</td>
</tr>
<tr>
<td>GSTJ</td>
<td>Guangdong Sheng Tongji Ju (Guangdong Province Statistical Bureau)</td>
</tr>
<tr>
<td>GTJ</td>
<td>Guojia Tongji Ju (State Statistical Bureau)</td>
</tr>
<tr>
<td>GTJZS</td>
<td>Guojia Tongji Ju Zonghe Si (State Statistical Bureau Comprehensive Division)</td>
</tr>
<tr>
<td>GVIAO</td>
<td>Gross Value of Industrial and Agricultural Output</td>
</tr>
<tr>
<td>GVIO</td>
<td>Gross Value of Industrial Output</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>IZ</td>
<td>Industrial Zone</td>
</tr>
<tr>
<td>MFERT</td>
<td>Ministry of Foreign Economic Relations and Trade</td>
</tr>
<tr>
<td>MNC</td>
<td>Multinational Corporation</td>
</tr>
<tr>
<td>NIC</td>
<td>Newly Industrializing Country</td>
</tr>
<tr>
<td>NIDL</td>
<td>New International Division of Labour</td>
</tr>
<tr>
<td>NMP</td>
<td>Net Material Product</td>
</tr>
<tr>
<td>NOSDS</td>
<td>Nanhai Oil Shenzhen Development and Services Corporation</td>
</tr>
<tr>
<td>NPC</td>
<td>National People’s Congress</td>
</tr>
<tr>
<td>PRC</td>
<td>People’s Republic of China</td>
</tr>
<tr>
<td>Rmb</td>
<td>Renminbi</td>
</tr>
<tr>
<td>SEZ</td>
<td>Special Economic Zone</td>
</tr>
<tr>
<td>SJTN</td>
<td>Shenzhen Jingji Tequ Nianjian Bianji Weiyuan Hui (Shenzhen Special Economic Zone Yearbook Editorial Board)</td>
</tr>
<tr>
<td>SSDXC</td>
<td>Shenzhen Shi Duwai Xuanchuan Chu (Shenzhen Municipality Public Propaganda Department)</td>
</tr>
<tr>
<td>SSTJ</td>
<td>Shenzhen Shi Tongji Ju (Shenzhen Municipality Statistical Office)</td>
</tr>
<tr>
<td>SSZG</td>
<td>Shenzhen Shi Zhengfu Gongye Bangong Shi (Shenzhen Municipality Industrial Department)</td>
</tr>
<tr>
<td>SSZJ</td>
<td>Shenzhen Shi Zhengfu Jihua Bang Chanye Chu (Shenzhen Planning Department, Economic Sector Division)</td>
</tr>
<tr>
<td>UNCTC</td>
<td>United Nations Centre on Transnational Corporations</td>
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</table>
UNESCAP  United Nations Economic and Social Commission for Asia and the Pacific
UNIDO  United Nations Industrial Development Organization
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CHAPTER 1. INTRODUCTION

After the Third Plenary Session of the Eleventh Chinese Communist Party (CCP) Central Committee Meeting in December 1978, China abandoned the policy of self-reliance advocated by Mao Zedong and his supporters. A series of measures have been introduced to reform the economic system and to integrate the economy more closely with the outside world. The reform measures focused on three major sectors: agriculture, the urban industrial sector, and the foreign economic sector. Of these measures, the most drastic was the adoption of the production responsibility systems in agriculture which significantly reduced central control over production decisions and gave individual peasants greater autonomy and incentive. The industrial sector was also restructured to allow enterprises to retain a higher portion of their profits and to enlarge their decision-making powers (Field 1984, 746). Additional reforms in the wages, materials allocation, marketing, and financing of industrial enterprises were also initiated (Perry and Wong 1985, 11-12). Part of this attempt to improve domestic production structure, management, and technology involved the creation of an open door policy which aimed to expand foreign trade, introduce foreign capital, and promote technology transfer.

\[1\] Hereafter referred to as the Third Plenum.

\[2\] Despite the political turmoil in 1989, China still openly claimed to continue the economic reform and open door policies. Nevertheless, the post-1989 political leadership adopted a program of economic retrenchment, a drastic slowdown in the price and economic reforms, and a restructuring of major reform institutions and personnel.

\[3\] See G. Johnson (1982) for various forms of the production responsibility system adopted in the Pearl River Delta Region in the early 1980s.
The open door policy also meant a renewed emphasis on the development of China’s Coastal Region. This was a major departure from an earlier policy which placed a strong emphasis on the development of the Interior Region. During the First Five-Year Plan (FYP) (1953-57) as well as the following two decades, the bulk of the industrial investment was concentrated in the inland provinces. The aims of this regional policy were to accelerate the pace of economic development and to safeguard the security needs of the new nation (Kirby and Cannon 1989, 6). Since the late 1970s, the central government has given parts of China’s Coastal Region a higher priority in state investment, greater powers to conduct foreign trade and to approve foreign investment projects. It was believed that the coastal region which had a better infrastructure could be developed more efficiently and would be more attractive to foreign investment. Senior party leaders, including Deng Xiaoping and Gu Mu, held that by first developing the coastal region as the growth centre, the demonstration effects and trickle down effects would lead to the growth of the interior region (Deng 1987 13; Gu 1987a, 29-33). This idea clearly received strong support from Chinese

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4 The regionalization of China throughout the thesis is based on the tripartite system adopted in China’s Seventh Five Year Plan - Eastern Coastal, Central, and Western regions. The Eastern Coastal region is also referred to as the Coastal Region and the Central and Western Regions are together referred to as the Interior or Inland Region. Details of the regionalization system are provided in section 1.5 (see figure 1.1).

5 About 47 percent of all capital construction investment was invested in the interior region as compared to 37 percent in the coastal region during this period (GT Guomin Jingji Pengheng Tongji Si 1987, 105).

6 The coastal region received an increasing share of capital construction investment from 40.1 percent to 48.4 percent while the share by the interior region declined from 51 percent to 45 percent during the 1978-1985 period (GT Guding Zhichan Touzi Tongji Si 1987, 104).
planners as indicated in China’s Seventh FYP (1986-1990) which accorded the Coastal Region a high priority in development. Nevertheless, the government also requested that the coastal provinces should increase economic cooperation with the Interior Region through joint ventures, processing, technical consultancy, and other schemes (National People’s Congress 1986, XI).

A major component of the open door policy adopted at the Third Plenum was the granting of special powers to the coastal provinces of Guangdong and Fujian (see Figure 1-1). Included among the special powers were authority to plan their economies autonomously in the pricing and distribution of raw materials, fuel supply, and transportation (Vogel 1989, 85-86). After 1980, Guangdong and Fujian successfully negotiated with the central government to operate under a so-called “guarantee” (baoguan) system, whereby the provinces and the central government shared the tax revenue and the foreign exchange earnings generated according to a predetermined formula for the period of 1980-1984, which was subsequently renewed for another five years (Ho and Huenemann 1984, 48; Gu 1986a, 466). The central government also granted Guangdong and Fujian other preferential measures including greater authority to approve foreign investment projects, to conduct their own imports and exports and to borrow directly from abroad. Finally, to allow the two provinces to open their doors even more widely, the central government granted them the authority to operate special economic zones (SEZs). In the early 1980s, four

7 However, the commodities are not among those to be balanced under the state plan.
Figure 1-1. The Three Macro Regions, the Open Coastal Cities and the Special Economic Zones in China.

Sources: Adapted from Pannell and Ma 1983, 5; Leung 1990, 404.
SEZs - Shenzhen, Zhuhai, Shantou, and Xiamen (see Figure 1-1) - were established in the two provinces.

1.1 REASONS FOR REFORM AND THE OPEN DOOR POLICY

When Hua Guofeng officially announced the suspension of the Ten Year Plan in 1979, he also gave reasons why China needed economic reform and the open door policy. In order to become more efficient economically, a period was needed to readjust, restructure, consolidate, and improve the national economy (Hua 1979, 11). Readjustment referred to the new efforts in bringing about a balanced growth in the economy by giving greater priority to the development of agriculture, textiles and other light industries, and energy and transportation sectors. The new program also stressed the importance of raising people’s living standards, increasing the level of consumption, and improving the efficiency of capital construction projects. The "extensive" growth strategy was no longer considered an appropriate means of achieving sustained long term growth.9

The objectives of restructuring were to reform the economic system and to achieve greater efficiency. This involved the decentralization of

---

8 The Ten Year Plan was presented to the Fifth National People’s Congress in February 1978 and called for the quadrupling of national income by the end of this century. Specifically, the Plan aimed at the expansion of agricultural output by an average of 4-5 percent per annum and of industrial output by over 10 percent a year. CCI in these projects were to equal the total for the past twenty-eight years (Hua 1978, 18-31).

9 The "extensive growth" strategy refers to the emphasis on the expansion of output by building new plants and increasing production capacity rather than upgrading existing technology and raising productivity as under an "intensive growth" strategy.
decision-making power to regional and local economic units (Dernberger 1982, 29). The mandatory planning, central allocation, and fixed prices systems would be gradually revamped with an increasing emphasis on market forces. The egalitarian remuneration system was to be replaced by the principle of “to each according to his work.” The wages of workers were to be more directly linked to their performance and the productivity of the enterprise. Peasant households were allowed to make their own production decisions in accordance with market demands and local conditions rather than “taking grain as the key link”. The new program favoured greater specialization and reliance on comparative advantage (Dernberger 1982, 37).

One of the major aims of consolidation was to improve the enterprise management system by giving enterprise directors more administrative power to operate and manage the enterprises. Each worker was to be assigned a clearly defined job responsibility. Those enterprises which incurred losses and were inefficient in energy consumption were to be closed down or amalgamated with others (Hua 1979, 13).

Chinese planners also intended to improve the economy by upgrading production, technology and management in various sectors. Chinese enterprises were expected to learn from foreign enterprises, import advanced technology, and undertake innovative changes which could

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10 The new leadership particularly emphasized the specialization of agricultural production according to local comparative advantage and rejected the idea of local self-sufficiency in grain production as practiced during the Mao era.
improve the quality of products and services, develop new products, reduce waste, and raise labour and capital productivity (Hua 1979, 13).

One of the major reasons why China had to adopt an economic reform program was its gross inefficiency in the management of its economy. The growth rates of net material product (NMP) and industry during the 1952-1978 period were fairly high but they were achieved at substantial cost (GTJ 1983, 17 and 23). ¹¹ Both state investment and energy input needed to increase NMP by Rmb 1 Yuan doubled during the last two decades before 1976 (Ma 1983, 21). ¹² While fixed assets were expanded at a high rate to keep up with industrial output, the rates of profits dropped significantly. ¹³ Other indicators of inefficiency were the low quality of products, higher cost of construction and longer construction period, low utilization rate of equipment and other capital goods, and the existence of large inventories (Yeh 1984, 694-695).

The low economic efficiency was partly the result of the imbalanced development strategy adopted during the 1953-1978 period. Prior to 1978 undue emphasis was placed on the development of heavy industry at the

¹¹ The NMP and industry grew at annual averages of 6 percent and 11.3 percent respectively during this period.

¹² The amount of CCI required to produce Rmb 1 Yuan of NMP increased from Rmb 1.7 Yuan during the First FYP period to Rmb 3.8 Yuan during the Fourth FYP (1971-1975). The amount of energy required to produce Rmb 10,000 Yuan of NMP also increased from 9.6 tons in 1957 to 19.3 tons in 1978 (GTJ Guomin Jingji Pengheng Tongji Si 1987, 89).

¹³ The ratio of the value of industrial output to industrial fixed assets declined by 26 percent during the 1957 and 1978 period. The amount of profits gained by state-owned industrial enterprises per Rmb 100 Yuan of the net value of fixed assets declined by 30.4 percent from 1957 to 1978 (GTJ Guoming Zhichan Touzi Tongji Si 1985, 125-126).
expense of agriculture and light industry, particularly consumer durables.\textsuperscript{14} The insufficient attention paid to the development of supporting industries and infrastructure, such as fuel, electric power, and transport facilities, led to substantial under-utilization of industrial capacity during 1975-1977 (Perry and Wong 1985, 3). The over-emphasis on production during the 1970s also dampened consumption and lowered the living standards (Ma 1983, 25).\textsuperscript{15} During the 1957 to 1976 period, both urban and rural incomes increased only marginally, far behind inflation rates (Perry and Wong 1985, 2).\textsuperscript{16}

The growth of China’s economy was also impeded by the over-centralization of decision-making power with little flexibility left at the local and enterprise levels. The private economy in the urban areas was hastily transformed into state and collective ownership in the early 1950s while collectivization of the rural sector was carried out in the late 1950s. The national, provincial and the local economies all came under a unified state plan. Consequently, the economy was rigidly controlled from the top with little flexibility given to local enterprises and with few incentives for increasing the efficiency of the enterprises and the productivity of the workers.

\textsuperscript{14}The proportional share of CCI by heavy industry increased from 36.2 percent during the First FYP to 49.2 percent during the Fourth FYP (1971-1975) period while light industry suffered a decline from 6.4 percent to 5.8 percent during the same period (GTJ 1987, 477).

\textsuperscript{15}The accumulation rate increased from an average of 24.2 percent of the national income during the First FYP to 33 percent during the Fourth FYP (GTJ 1987, 59).

\textsuperscript{16}The average wages of workers and staff increased by only 1.1 percent while real income declined by 11.5 percent. The growth of rural per capita income was even lower, rising from 103 Yuan in 1957 to only 113 Yuan in 1977, or an increase of merely 0.5 percent per annum even without price adjustments.
The poor economic performance was also partially attributable to the adoption of a self-sufficiency and self-reliance policy without due regard for economic results and the law of comparative advantage. Due to the perceived external threat, regional self-sufficiency in agricultural and industrial production was vigorously pursued. Foreign economic cooperation was also severely reduced as a result of the political conflicts with the Western countries in early 1950s and later with the Soviet Union. International trade was conducted only for the purpose of financing necessary imports.

In view of these economic development problems, the policy of self-reliance was officially replaced with an open door policy. The communique from the Third Plenum clearly stated that China would be “actively expanding economic co-operation on terms of equality and mutual benefit with other countries” (CCP 1978, 11). It further emphasized that China would be “striving to adopt the world’s advanced technologies and equipment and greatly strengthening scientific and educational work to meet the needs of modernization.” (CCP 1978, 11). As Ho and Huenemann pointed out, the open door policy was not simply trade liberalization but “an outward-looking policy that stresses not only increased technological exchanges with other countries but also the speedy ‘entry of Chinese products into the world market’ and the vigorous expansion of foreign trade” (Ho and Huenemann 1984, 21).

The adoption of an open door policy was considered essential for China’s economic development. Gu Mu, state councillor responsible for
China's foreign economic relations, pointed out that international exchange was important for China's path to modernization. He stressed that: "Looking round the globe, no country with faster economic development has been closing itself to international exchange...China's socialist modernization also depends, to a large extent, on whether China can adapt itself to this situation." Therefore China should "insist on the policy of opening to the outside world and actively develop our economic cooperation and exchange with foreign countries" (Gu 1985a, 365).

Premier Zhao Ziyang also strongly asserted the importance of the open door program in his report to the Fourth Session of the Fifth National People's Congress (NPC) held in December 1981:

By linking our country with the world market, expanding foreign trade, importing advanced technology, utilizing foreign capital and entering into different forms of international economic and technology co-operation, we can use our strong points to make up for our weak points through international exchange on the basis of equality and mutual benefit. Far from impairing our capacity for self-reliant action, this will only serve to enhance it. In economic work, we must abandon once for all the idea of self-sufficiency...(Zhao 1981, 23).

As clearly expressed in Zhao's report, one of the key objectives of the open door policy was the introduction of advanced technology, particularly from the Western world. The need to accelerate the imports of advanced technology and equipment was explained by Gu Mu who admitted that China's scientific and technological levels fell behind developed countries by 20 to 30 years. Most of the equipment in the 400,000 industrial enterprises was outdated and backward and was in need of urgent technical renovations (Gu 1985a, 364). It was hoped that the open door policy would
enable the enterprises to improve their economic performance and upgrade the quality of their products. The lessons learned from previous mistakes, however, led China to place greater emphasis on the imports of "software" and the process of assimilation instead of importing "hardware" alone. The Chinese leaders also stressed that China should only import technology and key equipment for renovating the existing enterprises rather than importing complete plants (Zhao 1981, 24).

In order to finance the imports of advanced technology and equipment, China also stressed the importance of expanding its exports under the open door program. In the same report to the NPC, Zhao suggested that "greater exports are the key to the expansion of foreign trade. We should boldly enter the world market and strive to maintain a rate of increase of exports higher than the rate of growth of the Chinese economy" (Zhao 1981, 24). During the Sixth FYP (1981-1985), total exports were to be increased by an average of 8 percent, which was higher than the planned growth rate of the gross value of industrial and agricultural output (GVIAO).

The promotion of exports was also related to the policy of improvement under the reform program. It was believed that by increasing manufactured exports to the world market, Chinese enterprises could improve their product quality and increase their efficiency. As Zhao Ziyang explained it: "Putting China's products to the test of competition in the

17 Software refers to the information, technology, and know-how while hardware refers to equipment.
world market will spur us to improve management, increase variety, raise quality, lower production costs and achieve better economic results” (Zhao 1981, 24).

The promotion of exports not only helped to finance China’s imports of advanced technology and the improvement of its manufacturing products but also increased its foreign exchange earnings. The importance of foreign exchange earnings was stressed by Zhao Ziyang in his report to the NPC on the Seventh FYP:

Export is the main source of foreign exchange earnings for China. Our capacity to earn foreign exchange determines the scope of our foreign economic, trade and technological exchanges, affects the scale and rate of domestic economic development and is therefore of strategic importance to the further implementation of the open policy (Zhao 1986, IX).

To accomplish these objectives, Zhao further promised to raise the quality and competitiveness of Chinese products, to develop more export production centres in the coastal areas, and to provide more incentives to those exporting enterprises (Zhao 1986, X).

In their efforts to promote technology transfer from developed countries and exports of Chinese products, the reform leaders considered the introduction of foreign capital essential. Under the open door initiatives, both foreign loans and investments from other countries were accepted.18

18. Foreign investments in China are in general more liberally defined, including not only solely foreign-owned ventures and equity joint ventures but also contractual joint ventures, compensation trade, resource development, assembling and processing, and international leasing projects. Not all investments in the latter four types are considered as foreign direct investment in the West. Detail explanations of these ventures are in Chapter 3.
Foreign loans became particularly important in large scale infrastructural projects which required a long construction period and large capital outlay.

The participation of foreign entrepreneurs in Chinese enterprises also became possible with the promulgation of China's first national regulation on foreign investment, "The Law of the PRC on Chinese-Foreign Joint Ventures" in 1979 (Foreign Language Press 1982, 1-7). In addition to equity joint ventures, various other forms of foreign investments which ranged from processing trades to wholly foreign-owned enterprises were subsequently initiated. In his 1981 report to the NPC, Zhao further expressed that: "in accordance with the principle of equality and mutual benefit, foreigners are welcome to invest in China and launch joint ventures in opening up mines and running factories or other undertakings..." (Zhao 1981, 24). This point was further reiterated in his report on the Sixth FYP which stated that "Efforts should be continued to use foreign loans efficiently, encourage direct investment by foreign businessmen or the setting up of joint ventures with Chinese and foreign investment in order to increase the use of foreign funds to a suitable extent" (Zhao 1982, 17). The benefits of foreign capital to China's economy was further explained by Wei Yuming, the vice-minister of the Ministry of Foreign Economic Relations and Trade (MFERT), who asserted that the inflow of foreign capital would accelerate the process of technology transfer, the expansion of exports and the generation of foreign exchange earnings. In turn, these would encourage Chinese enterprises to increase output and variety of products, improve quality and conserve energy and materials (Wei 1985, 32-41).
1.2 SEZ: AN INSTRUMENT OF THE OPEN DOOR POLICY

Of the measures adopted as part of China's open door policy, the one that departed most radically from previous economic practices was the creation of SEZs. According to the Chinese Encyclopaedia, the SEZ is "a small area demarcated within a country's territory and suitably insulated for adopting special and flexible policies to attract and encourage foreign investments in industrial and other economic activities" (Li 1984, 68-69, also quoted in Leung 1986, 10). Liang Xiang, the ex-mayor of Shenzhen, pointed out that SEZs were important vehicles "to expand exports, to utilize foreign capital, to introduce foreign technology, and to develop the economy" (Liang 1985b, 54). In addition to the creation of employment opportunities, a senior economist, Xu Dixin, also suggested that the zones could serve as "experimental units in economic structural reforms and as schools for learning the law of value and the regulation of production according to market demands" (D. Xu 1981, 15-16). Liang further proposed that the SEZs could play an important political role in facilitating the re-unification of Hong Kong to China (Liang 1985b, 54). In order to achieve these objectives, the SEZs were promised to offer preferential treatment to foreign investors, to adopt different administrative practices, to operate according to market system, and to allow foreign capital to play a leading role in the economy (Liang 1985b, 53).

Because the SEZ is in many ways similar to the export processing zone (EPZ), it is useful to examine the reasons why many developing countries
have established EPZs. Many of the EPZs in Asia and elsewhere were
developed to facilitate the transition from an import-substitution to an
outward-looking policy (Balassa 1971, 63). The changes in policy were in
response to the difficulties encountered in the development of further
industrialization due to the limited size of local market, the bias against
agriculture and industrial exports, unemployment, the balance of payments
and other factors (Little, Scitovsky, and Scott 1970, 6-11; Todaro 1977, 304-
307). For some countries, the adoption of an outward-looking policy
attempted not only to address some of these structural problems but also to
open up the economy for the promotion of foreign investment,
technological upgrading, and economic growth (Keesing 1967).

The advantages of EPZs have been summarized by many scholars. For
example, the United Nations Industrial Development Organization (UNIDO),
a leading promoter of the EPZ concept, argued in a 1980 report that EPZs
generated substantial foreign investment and employment opportunities in
the manufacturing sector and that they "can make a significant net
collection to the balance of payment portion of a developing country"
(UNIDO 1980, 23-29). Although forward linkages with the host economy

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19 This is not to suggest that China's SEZs are the same as EPZs in other countries. In fact, some argue that they are distinctively different in their development goals, economic systems, and ideological and political background. This thesis adopts a broad definition of EPZs which include free trade territories, free trade zones, export zones, and others. For a detailed explanation of the definitions and terminologies of EPZs, see Armstrong and McGee 1984, 235 and UNCTC and ILO 1988, 4-5.

20 The UNIDO estimated that the EPZs in developing countries gained around US$10-15 billion in net foreign investment and provided direct employment of one million people in 1980.
were rare, the study suggested that backward linkages could be increased when the zone became more developed. A recent joint publication by the United Nations Centre on Transnational Corporations (UNCTC) and International Labour Organization (ILO) reported that transfer of basic production technology along with training programs for the workers were observed in some of the zones (UNCTC and ILO 1988, 111). In his evaluation of the Asian EPZs, Rabbani commented that positive contributions to the regional development of the zones' surrounding areas had taken place in some of the zones and labour management relations were also satisfactory (Rabbani 1981, 28-29). In their discussion of the development of EPZs in Asia, Salita and Juanico also concluded that EPZs "have become one of the major agents for earning foreign exchange, attracting foreign investments and creating employment as well as acting as an important vehicle for technology transfer and regional development in the Third World" (Salita and Juanico 1983, 441).

Such optimistic views on the contribution of foreign investment and the role of EPZ to economic development were supported by many neoclassical modernisation studies (Rostow 1960). According to this perspective, modernisation was to occur through the diffusion of capital, technology, values, institutional arrangements and political beliefs from the West to the traditional societies (Slater 1986, 9). As a strong supporter of foreign direct investment (FDI), Johnson argues that FDI brings to the host

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21 The evaluation was based on the reports from several Asian EPZs presented at the second Symposium on EPZs which was held in Colombo in August 1980.
country "a ‘package’ of cheap capital, advanced technology, superior management ability, and superior knowledge of foreign markets for both final products, and capital goods, intermediate inputs, and raw materials" (Johnson 1977, 168). Drucker has also suggested that multinational corporations (MNCs) serve as a major avenue for exports from developing country and reduce their problems of unemployment (Drucker 1974, 128, 134). In this modernisation process, the city is considered to play a positive and essential role in transferring new ideas and capital to the countryside.

While many such modernisation studies suggested that Western society was an appropriate and replicable model for developing countries to emulate, the "persistence and constant growth of poverty in the Third World" posed serious challenges to these conventional development wisdom (Armstrong and McGee 1985, 19). One of the persistent challenges to these orthodox development and international trade theories came from Latin American economists. By formalizing the concept of a world-system divided into "centre" and "periphery", Pinto and Knakal argue that the developed societies are able to exercise significant influence over development in the periphery through international trade and capital movements (Armstrong and McGee 1985, 21). In their review of modernisation theory, many dependencia writers considered that the relations between the advanced capitalist societies and the periphery countries were negative rather than positive; the Western experience were not directly applicable to Third World countries; and there was an inadequate understanding of the spatial impact on peripheral societies, in
particularly, their urban-rural relations (Slater 1986, 10). Some even suggested that such centre-periphery relationships resulted in the creation of underdevelopment, external domination and the siphoning off of the surplus (Frank 1967; Amin 1974). In contrast to the pro-FDI perspective, the dependencia school has emphasized the risks that MNCs pose for the developing countries. Muller concludes that MNCs transfer technologies to developing countries that result in mass unemployment; that they monopolize rather than inject new capital resources; that they displace rather than generate or reinforce local businesses; and that they worsen rather than ameliorate these countries’ balance of payments problems (Hymer 1972, 113-140; Muller 1973, 173). To the dependencia, urban problems such as underemployment, housing shortages and urban "marginality" were resolvable only through the breaking of dependency relations and the initiation of radical structural transformation (Slater 1986 12).

These radical critics, however, were also subjected to intense scrutiny by the structuralists and others. The dependency school was being criticized for its focus on unequal trading links and the consequent transfer of economic surplus (Baran 1957) or value (Emmanuel 1972) from the peripheral nations to the centre rather than to the internal social, economic and political structures and relationships. The concentration on commercial capital but not finance and production capital was also considered inadequate as a full measure of the causes and processes of unequal development (Armstrong and McGee 1985, 23). In his attempt to refine the
centre/periphery argument to a world-system, Wallerstein stresses the need to understand development in any territorial unit, whether in "core" or "peripheral" areas in relation to the changing historical circumstances under which those units are structurally incorporated into a global capitalist system (Henderson 1986a, 64). Nevertheless, the world-system literature also concentrates on external relationships among countries rather than analyzing systems of production and their social relationships (Armstrong and McGee 1985, 24).

Beginning with some dependency writers, the focus of attention in development studies during the 1970s began to shift from the analysis of external factors to that of the internal structures and interactions which condition societal development. The structuralist school undertook the examination of the internal framework of capitalist society, in the modes of production, class formations and relationships, the role of the state and the articulation of all these elements (Armstrong and McGee 1984, 38). Slater pointed out that it was essential to show how capital accumulation encompassed both town and countryside in a combined and unequal process of contradictory development. Therefore it was also important to examine the capitalist penetration of agriculture, the production of relative surplus population and the consequent trend of spatial displacement of rural labour towards urban centres (Slater 1986, 14).

While the pro-FDI and dependencia approaches each suggest very different distribution of benefits between MNCs and developing countries, the bargaining school has argued that distributions of gains depend on
negotiations between foreign firms and host-country governments. The bargaining school points out that foreign enterprises often enjoy relatively high profits due to market imperfections but, at the same time, a host government can deny a firm's entry. Therefore, the MNCs' terms of entry result from negotiations between the government and the foreign firm (Grieco 1986, 39; Moran 1978, 81-82). This approach has also suggested that bargains struck between MNCs and host countries often initially favour the former but that the balance of benefits tilts increasingly in favour of the latter (Grieco 1986, 39-40).

The optimistic view held by the bargaining school on the role of FDI has been further challenged by the structuralist school. The structuralists have argued that developing countries may in fact experience a long term decrease in their power over high-technology manufacturing MNCs. The weak bargaining power of host countries vis-a-vis manufacturing MNCs is attributed by the structuralist to the fact that the home offices control most research and development, their political alliances with local business, and the integration of local productive resources into the global system of the MNCs (Grieco 1986, 42).

In the late 1970s, the socialist-humanist historians began to criticize the structuralist tendency to explain social relationships and change as arising out of the inherent logic of capitalism. The later structuralists were criticized on their mechanistic quality and the economism of analysis, and the increasingly rarified abstraction of the model-building. The new approach highlighted those elements of societal evolution through history
which reflected the fluidity and subtleties of individuals and social classes, rather than structural or systemic over determination. This approach has restored a sense of primacy to human agency and the conscious participation of individual and groups in the shaping of their societies, in contrast to the more impersonal, even mechanical, analyses of structuralism (Armstrong and McGee 1984, 39).

One of the major strands of these neo-Marxist development theories is the thesis of the New International Division of Labour (NIDL). As developed by Frobel, Heinrichs and Kreye (1980) and others, the major theme of the NIDL school concerns with the dynamics of the internationalization of capital and its impacts on the industrialization of developing countries. One of the spatial implications of the NIDL is to promote an urban hierarchy organized on a global scale. The apex of this hierarchy is the "world cities" which are considered by Friedmann and Wolff (1982) to constitute the control centres of the international corporate economy and have emerged in both core and semi-periphery countries (Henderson 1986a, 75). Although large scale production now tends to be organized globally but they tend not to be associated with world cities. Rather, cities in peripheral areas have tended to be the recipients of the more labour intensive aspects of production (Henderson 1986a, 75).

Based on the NIDL assumptions, some scholars have argued that the development of EPZs result in the creation of enclaves, of structural deficiencies and of unstable employment patterns. In addition, EPZs do not promote technology transfer. To Frobel, Heinrichs, and Kreye, the EPZs are
created to accelerate the process of the NIDL which "serves to intensify the
tendency towards the uneven and dependent development of the Third
World countries" (Frobel, Heinrichs, and Kreye 1980, 293). Even the
UNCTC and ILO study readily admitted that the transfer of advanced
technology through the EPZs was difficult because of the lack of forward and
backward linkages, the high import inputs, and the limited product range of
the zone enterprises (UNCTC and ILO 1988, 109-110). Any technology
transferred in these zones tends to be confined to technically simple
operations with high labour content on the assembly line (Ho 1978, 76-78).
The employment pattern in the zones is also being criticized as highly
unstable due to the hiring of particular types of labour, the fluctuating
market demand, and the highly concentrated industrial structure (Frobel,
Heinrichs, and Kreye 1980, 339-344). The enclave nature of these EPZs has
also impeded extensive linkages to the domestic economy due to the heavy
reliance on imports of raw materials and the requirements to export most of
their finished products. Hence, the regional development potential is
severely restricted. As most of the industries in the EPZs are also
concentrated in the textiles and electronics sectors which are labour
intensive and footloose, their employment and exports are often subject to
large fluctuations. This led to the conclusion by Frobel and others that the
EPZ "does not solve the problem of unemployment, train a skilled labour-

\[22\] Further discussions of the processes of the new international division of labour are provided
in Chapter 2.
force, or provide access to modern technology” (Frobel, Heinrichs, and Kreye 1980, 367).

In light of the disagreements over the actual benefits of EPZs, an important question is whether China’s SEZs have achieved the development objectives assigned to them?

1.3 SHENZHEN: A CASE STUDY OF CHINA’S OPEN DOOR POLICY

Of the four SEZs created in the early 1980s, Shenzhen was the largest in area and has been by far the most active. The plans for Shenzhen were ambitious. The “Shenzhen SEZ Social and Economic Development Outline Plan”23 (SEZ Plan) adopted in 1982, called for a 10-fold increase in population and more than a 30-fold increase in NMP (Shenzhen Shi 1983, n.p.).24 The Shenzhen SEZ was to be developed as an economic and political showcase for the outside world. That Shenzhen has been at the forefront of SEZ development in China and has been held up as a model for other special zones to emulate make it an obvious candidate for in-depth study.

Research on China’s SEZs began almost immediately after their formation. Since 1979, the literature on the economic, political, and geographical development of the SEZs has grown rapidly. Most of the earlier writings were by journalists but scholarly works have also appeared.


24 The NMP includes the net value of output from the five material production sectors, namely industry, agriculture, construction, commerce, and transportation.
Geographers from China and Hong Kong were amongst the earliest groups who took part in the field study and research on Shenzhen and other SEZs. Several research institutions in both China and Hong Kong have since been set up to examine their development. Various journals and magazines have also been published to study the development strategy, aims, and theoretical implications of the SEZs.

In China, geographers from Guangzhou were one of the earliest groups of researchers who actively involved in the planning and study of the SEZs. Their studies provided detailed information on the natural resource, environment, industrial location, economic and urban development plans (GDYS 1985; GDYS 1986; Liang and Wang 1981). Some of them also raised critical issues concerning the development strategies, employment effects and costs of development in these zones (Wang 1982; Zhong and Xu 1983; Z. Xu 1981; Cai 1981; Xu 1987).

In their study of the spatial and economic changes in China, various geographers outside China also recognized the important regional implications of the open door policy, especially the creation of the SEZs (Kirby 1985; Ma and Noble 1986; Yeung and Zhou 1987; Tan 1989; Fung

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25In China, there are no less than six new research institutes specifically set up to undertake research on the development of the SEZs. They include research institutes established at the Guangdong Academy of Social Sciences, Shenzhen University, Jinan University, Zhongshan University, South China Normal University and Xiamen University. In Hong Kong, the Chinese University has also set up a research library to collect materials on the SEZs.

26These included magazines, such as Tequ jingji (Special Economic Zone Economy), Tequ jingji daobao (SEZ Economic Herald), Yinjin (Transfer), which mainly concerned with developments in the SEZs. Some English language journals, including Chinese Economic Studies, Chinese City Planning Review, Asian Journal of Public Administration, have also published special issues on China’s SEZs.
Kirby clearly pointed out that the SEZs and other open cities "powerfully symbolize the new policy of promoting rapid urban-industrial growth in China’s coastal region" which could lead to the emergence of a new spatial-economic pattern in the long run (Kirby 1985, 226-229). In their studies of the urbanization processes in China, Yeung and Zhou commented that "...the policy of designating fourteen open coastal cities in 1984, and the related measures to set up four SEZs and open other coastal regions, may be seen as new agents of change to speed up development in these coastal foci..." (Yeung and Zhou, 1987, 5). Tan was also convinced that the policy to create the SEZs and the open cities and regions "has taken the regional approach beyond the creation of a new kind of economic region and elevated it to the level of a new spatial strategy" (Tan 1989, 10). Fung further pointed out that the open coastal cities were designated as China’s growth centres to introduce "advanced technology, management skills, and knowledge of foreign markets" which would be diffused not only within their respective economic regions but also, in turn, to the backward areas in the nation (Fung 1989, 4). Cannon also suggested that the spatial impact of the new trade and investment opportunities had reinforced the growth of the Coastal Region which was strongly supported by the policies of setting up the SEZs (Cannon 1990, 49). Zhou further pinpointed the important role of the Shenzhen SEZ in accelerating the development of the Pearl River Delta Region as one of the metropolitan interlocking regions or kotadesasi zones emerging in China (Zhou 1991, 99-101; McGee 1991, 3-25).
While the above geographical works provided a macro overview on the importance of Shenzhen and other SEZs in China's process of spatial restructuring, several geographers and other scholars examined the economic and urban developments of the SEZs more closely. The majority of these English-language publications focused on the strategies adopted by the SEZs to attract foreign investment, to promote economic growth, and to transform the urban landscape (Wong 1982; Wong and Chu 1985a; Oborne 1986; Jao and Leung 1986; Falkenheim 1985; Yeh 1985; Wu 1985). Some of these studies attempted to highlight the SEZ objectives (Chan, Chen, and Chin, 1986; Chu 1985a; Oborne 1986), to provide details on their physical and investment climate (Ng and Chu 1985; Herbst 1986; Wong and Chu 1985c), to identify their agricultural and industrial development strategies (Wong 1985; Zheng, Wei, and Chu 1985; Kwok 1986), and to outline their specific changes in administrative, management, and investment policies (Shum and Sigel 1986; Lo 1986; Chu 1985a; Chan 1985; Wu and Ip 1985). A recent publication by Crane further evaluated the political structure underlying the highly fluctuating policies and performance of the SEZs (Crane 1990).

Another major thrust of the English-language studies on China's SEZs attempted to document their economic performance. Many of these publications outlined the achievements of Shenzhen in its attraction of foreign investment, the industrial and economic growth, and the promotion of exports (Sit 1986; Wong 1985; Oborne 1986; Falkenheim 1985). However, most of these studies, especially the earlier ones, were based on very
scattered sources and data which were often incompatible with one another and inconsistent in their definitions. With the exceptions of a few publications (Yeh 1985; Phillips and Yeh 1989; Kwok 1986), many of these studies made little attempt to link the economic and urban changes in these zones.

1.4 AIMS AND ORGANIZATION

The major objective of this thesis is to assess the performance of the Shenzhen SEZ during the eight year period from 1979 to 1986. The study of Shenzhen in this thesis starts from 1979 when Shenzhen was authorized to become China’s first export zone to accept foreign capital. Although Shenzhen was not officially designated as an SEZ until August 1980, the construction and development of Shekou, which is located in southwestern Shenzhen, began as early as January 1979. The analysis of the SEZ ends in 1986 when Shenzhen attempted to realign its economic and urban development strategy. In a SEZ Working Committee held in early 1987, Gu Mu recommended that the first stage of construction which emphasized on the development of infrastructure in Shenzhen was largely completed and it should enter the next stage of development with a new focus on raising “production, quality, economic results and exports” (Gu 1987b, 355).

As SEZs play a central role under the open door policy, their performance will have significant impact on China’s economic development, especially in the areas of foreign trade, investment, and technology transfer. The development of Shenzhen and other SEZs will not only have critical
bearings on the continuation of the open door policy but will also have major impacts on the spatial structure of China with a new emphasis on the development of the coastal region and the acceleration of urbanization in coastal cities. As previous studies on EPZs are primarily based on their development experience in market economies, a case study of Shenzhen will contribute to our understanding of the applicability of the EPZ concept to non-capitalist economies. In evaluating Shenzhen’s achievements and shortfalls, the thesis has five main aims.

First, to analyze the development goals of China in the creation of its SEZs and the extent to which these goals were met by Shenzhen. In this thesis, I shall argue that during the 1979-1986 period the Shenzhen SEZ achieved many of the short-term economic objectives assigned to it by the government. Some of the long term development goals however were not fully met.

The second purpose is to evaluate the performance of Shenzhen in its attraction of foreign investment and the contributions of foreign firms to the development of the SEZ. A successful introduction of foreign investment in Shenzhen will not only be essential for Shenzhen’s development but will also be critical for China’s open door policy.

The third aim of this thesis is to assess the economic changes in Shenzhen since its designation as an SEZ. The study will focus on the growth of income, changes in economic and employment structures, and the expansion of manufacturing exports. The contributions of Shenzhen to the regional development of Guangdong Province are also examined.
The fourth purpose is to assess the processes of industrialization and technological development in Shenzhen and its importance as a model of development for the open coastal cities. The development of Shenzhen will have significant regional ramifications as it is an essential part of the coastal development strategy of China.

Finally, the thesis examines the impact of the SEZ on population and urban development in Shenzhen. The analysis will concentrate on the processes of migration and urbanization, and the issues of urban development in Shenzhen.

With the above aims, the evaluation of Shenzhen's development and performance is divided into seven chapters.

Following this introductory chapter, the second chapter outlines the evolution of Shenzhen as China's first and largest SEZ. It highlights the development patterns of EPZs in other developing countries, describes the main development goals of China's SEZs, and the main administrative framework in Shenzhen. Some of the major political and ideological issues confronting the development of China's SEZs are also presented.

The third chapter assesses the performance of Shenzhen in the attraction of foreign investment. The changing policies in enterprise management, taxation, legal structure, and employment practices are also outlined. The analysis focuses on the sources, sectoral distribution, forms, and scale of investment in the zone. The main issues in the absorption of foreign investment in Shenzhen are also raised.
The fourth chapter evaluates the economic achievement of Shenzhen. The growth of Shenzhen's income and the structural changes in its economy and employment are analyzed. Its contributions to the economic growth of Guangdong Province are also highlighted.

The fifth chapter discusses the process of industrialization in Shenzhen during the 1979-1986 period. The focus of the chapter is on the growth of industry, productivity, and technological development in the zone. The roles of foreign enterprises in industrial growth, technology transfer, and manufacturing exports are further stressed.

The sixth chapter studies the impact of the SEZ on the processes of migration and urbanization, and the issues in the transformation of the urban landscape of Shenzhen.

The seventh chapter concludes with an evaluation of Shenzhen's performance in meeting its development goals. The chapter assesses the contributions of foreign investors, especially Hong Kong, to the economic and urban development of Shenzhen; the role of Shenzhen in accelerating the regional development of Guangdong; and the major issues challenging Shenzhen's long term development.

1.5 RESEARCH METHODS AND DEFINITIONS

The thesis is based on both documentary research and field work conducted in Shenzhen and other SEZs. Both published and unpublished sources in Chinese and Western languages have been consulted. Most statistical sources for this thesis are based on recently released government
sources, including those from the local, provincial and central governments. However, this does not imply that data collection on Shenzhen is without problems. On the contrary, different sources often have to be consulted and cross-checked to ensure their accuracy. Any conflicting data, however, will be noted appropriately in the thesis. Another major problem encountered in connection with the statistical data is the different accounting system used in China and the West.\textsuperscript{27}

Two field studies were carried out in Shenzhen and other Chinese cities during October 1985 to May 1986 and December 1987. Interviews and consultations were conducted with scholars and researchers from various universities and research institutions in Shenzhen, Guangzhou, Beijing, Tianjin, Xiamen, and Shantou during these two field trips. Several domestic and foreign enterprises in Shenzhen were visited and interviews with their representatives were conducted. These interviews helped to identify, clarify and confirm some of the major development issues and problems in the SEZ. Extensive interviews with some government officials in planning, labour, foreign investment, foreign affairs, science and technology development, industry, and commerce were most useful in clarifying some of their organizational structures, constraints, issues, and concerns. A visit to Bao'an County during the second period of fieldwork in 1987 also provided an

\textsuperscript{27}For example, one of the most well known discrepancies is the difference in the calculation of national income where in China only five net material products (agriculture, industry, construction, commerce, transportation) are included while all personal and most public services are excluded. Another case in point is the value of industrial production which refers to gross output at ex-factory prices instead of net output value and includes manufacturing, mining, power generation and lumbering (World Bank 1983, Vol I:246).
opportunity to compare the development patterns of urban and rural areas in Shenzhen Municipality. In addition to Shenzhen, three other SEZs, including Shantou, Xiamen, and Zhuhai, were also visited in 1986 to obtain a first hand knowledge of their development and comparisons with Shenzhen. The thesis covers the time period from January 1979 to the end of 1986.

In the discussion of the macro regions of China, the tripartite regionalization outlined in the Seventh FYP is adopted throughout the thesis. The three regions included the Western, the Central, and the Eastern Coastal (see Figure 1-1). The Eastern Coastal or commonly referred to as the Coastal region included the provinces of Liaoning, Hebei, Shandong, Jiangsu, Zhejiang, Fujian, Guangdong and Guangxi and the three municipalities of Beijing, Tianjin, and Shanghai. The Central and the Western are together referred to as the interior or inland region of China and consisted of eighteen provinces and autonomous regions.

In referring to Shenzhen and other Chinese cities, a distinction is also made between the municipality and the city areas. For example, Guangzhou Municipality includes both the city of Guangzhou and eight rural counties, covering a total area of 16,631.7 sq. km. and a total population of 7.4 million in 1987. The city of Guangzhou, on the other hand, does not include the

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28 Hainan Island separated from Guangdong Province and became China’s 30th province in 1988.  
29 The Central region included Heilongjiang, Jilin, Inner Mongolia, Shanxi, Henan, Anhui, Jiangxi, Hubei, and Hunan provinces. The Western region included the nine provinces of Xinjiang, Tibet, Qinghai, Gansu, Shaanxi, Ningxia, Sichuan, Yunnan, and Guizhou.
rural counties and covers only an area of 1,443.6 sq. km. with a total of 3.4 million people (Guangzhoushi Tongjiju 1988, 20).

Similarly, Shenzhen Municipality is comprised of two geographical components, the Shenzhen SEZ and a rural county, Bao’an, with a total land area of 1,865.57 sq. km. (see Figure 1-2). The Shenzhen SEZ refers to the urban area, located within the "second boundary", with a total area of 357.23 sq. km. Bao’an County, located outside the "second boundary", has a total area of 1,504.34 sq. km. In the thesis, Shenzhen generally refers to the SEZ while the Municipality refers to the whole municipality of Shenzhen.

Another major concept that needs to be explained is the distinction between foreign, domestic, and interior enterprises. As foreign investment is a much broader concept than in the Western countries, foreign enterprises in the thesis is broadly defined to include wholly foreign-owned ventures, equity joint ventures, contractual joint ventures as well as other investment ventures, such as processing and assembling, compensation trade, and international leasing operations. However, we should note that not all foreign enterprises are under the management and participation of the foreign partners. Domestic enterprises included those under the ownership of state, urban collective, individual, rural collective, and joint ownership between different types of domestic enterprises. Interior enterprises refer to those enterprises which originated outside of Shenzhen Municipality. Some of them may be in the form of joint ownership with local enterprises.

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30 Details of these forms of foreign investment are explained in Chapter 3.
Figure 1-2. Shenzhen Municipality and the Pearl River Delta Region

Sources: Adapted from Lo 1989, 294.
All currencies in the thesis are quoted at their original value and, if necessary, converted into US Dollars for comparison. The exchange rates of Chinese currency, Renminbi were based on the averages of buying and selling as reported by the United Nations Statistical Division (quoted in GTJ 1987, 881).\textsuperscript{31} The exchange rates of Hong Kong dollars were based on the averages of buying and selling in the open market until 1983 when rates were linked to the US Dollars at a rate set by the Hong Kong Government (Hong Kong Government Information Services 1987, 310).\textsuperscript{32}

All Chinese names and place names in this thesis are romanized by the official pinyin system with the exception of some commonly used names, such as Hong Kong, Macao, and the Pearl River Delta Region. The Chinese names of some Hong Kong authors are translated according to the names that they commonly appeared in English publications.

The major thrust of this thesis is to show how fieldwork and data analysis can be used to evaluate the process of development in China as is illustrated by the case of Shenzhen. With the opening up of the fourteen coastal cities, the three economic regions (the Pearl River Delta Region, the Changjiang Delta Economic Region and the ‘Minnan’ or Southern Fujian Economic Region), and Hainan Island, an evaluation of the "experiment" in Shenzhen becomes unquestionably critical (Phillips and Yeh 1990, 236-237). Whether China will be able to use the results from Shenzhen as a learning

\textsuperscript{31}The currency exchange rates between US$1 and Renminbi were 1.55, 1.49, 1.78, 1.92, 1.98, 2.33, 2.94, 3.45 for the 1979-1986 period.

\textsuperscript{32}The exchange rates between US$1 and Hong Kong Dollar were 5.002, 5.130, 5.675, 6.495, 7.780, 7.823, 7.811, 7.795 for the 1979-1986 period.
experience for China's economic development and spatial restructuring is still a matter of conjecture. Given the huge problems of development in China, this thesis makes a modest contribution to the knowledge of the creation and development of SEZs in China.
CHAPTER 2. THE EVOLUTION OF THE SHENZHEN SPECIAL ECONOMIC ZONE

China has decided to set up special zones in the municipalities of Shenzhen and Zhuhai, near Hong Kong and Macao. We welcome compatriots from Hong Kong and Macao as well as other foreign friends to come to these special zones to start all kinds of businesses or operations, either by joint capital or by individual management. In management and administering these two zones, we will adopt more liberalized methods than those in the inland areas (quoted in Sun Ru 1980, 68).

During a press conference held in Tokyo in September 1979, Gu Mu officially unveiled China’s decision to create special zones, later renamed SEZs, in Shenzhen and Zhuhai. As outlined in Gu’s announcement, China was to encourage foreign business ventures to be set up in specially designated areas where more liberalized policies would be adopted. It was not clear from Gu’s statement what the major objectives of creating these SEZs were and how they would contribute to the development of China. Although Gu indicated that more liberalized policies would be adopted, he did not specify exactly what these policies were to be, how they would be implemented and why they were adopted. The statement also left unanswered important questions of how China would justify its creation of SEZs under a socialist political and economic system and how these zones would be operated differently from EPZs in other market economies.

The major aim of this chapter is an attempt to answer some of these questions. The chapter presents an analysis of China’s main objectives in the development of its SEZs; outlines the origins, evolution, and administrative structure of Shenzhen; and discusses the different ideological and political
interpretations of the nature and functions of the zones. The analysis of China’s SEZs, however, cannot be fully understood without first placing them in the context of development in other EPZs.

2.1 THE DEVELOPMENT OF EXPORT PROCESSING ZONES

The contemporary concept of an EPZ is a development and modification of the earlier free ports and free trade zones. There is a diversity of terminologies in the description of these zones - no less than nineteen as outlined by the UNCTC and ILO (UNCTC and ILO 1988, 5). The definition of EPZ has also been a subject of wide disagreements. A broad definition is adopted by the World Export Processing Zone Association which includes “government authorized areas such as, free ports, free trade zones, custom free zones, industrial free zones or foreign trade zones, or any other type of zone as the Council may from time to time decide to include” (quoted in UNIDO, 1980, 6). The UNIDO, however, adopts a more narrow definition of EPZ which involves:

- the establishment of modern manufacturing plants inside an industrial estate, by offering a suitable package of investment incentives to both foreign and domestic entrepreneurs. To encourage this, legislation must be passed, giving investors such incentives as fixed term corporate tax exemption, duty exemption on production machinery import, freedom to repatriate profits at a certain rate, and other facilities (quoted in Salita and Juanico 1983, 442).

The original development of the EPZ as a manufacturing area occurred in 1959 in Ireland at the Shannon Export Free Zone. By importing raw materials and exporting finished products from the zone, Ireland was able to promote its manufactured exports successfully throughout the 1960s (Currie
1979, 2). As the zone was established at a time when Ireland was undergoing a change from import substitution to export-led expansion, its success provided inspiration to Third World countries in planning their own zones.

With encouragement from the UNIDO, the development of EPZs in Third World countries began in the early 1960s and expanded rapidly in the early 1970s. Puerto Rico and India were the first two developing countries to establish EPZs in the early 1960s while Taiwan, the Philippines, the Dominican Republic, Mexico, Panama and Brazil followed suit shortly after. By the end of 1986, there were 176 EPZs in forty six Third World countries and another 110 more zones were in the planning and construction stages (UNCTC and ILO 1988, 164-165). Most of these EPZs are relatively small in size, generally less than 200 hectares and contain pre-built factories for foreign industrial operations (Salita and Juanico 1983, 445). Since most of these industrial enterprises depend on an external source of supply of raw materials and export their finished product, many of them are located near major transportation routes.

The adoption of an export-led growth strategy and the creation of EPZs were facilitated by the development of the world market economy after the Second World War. As explained by Frobel, Heinrichs, and Kreye, the phenomena of capital flow from the developed to the developing countries, the relocation of manufacturing from the "centre" to the "periphery", and the increasing export-oriented manufacturing in the Third World were the result of three major developments: first, the development of a world-wide
reservoir of an inexhaustible labour-force which consists mainly of surplus rural workers willing to accept a low wage level; second, the development of technology and production organization makes it possible to break down complex production processes into simple operations so that even unskilled workers can be easily trained in a short period of time; third, the development of modern technology in transportation and communication systems makes possible the location of an industry and the management of production largely independent of geographical distance (Frobel, Heinrichs, and Kreye 1980, 34-37; Armstrong and McGee 1985, 45).

The objectives of these zones vary from one EPZ to another but often consist of one or more of the following: to encourage export-led industrial development, attract foreign capital, introduce advanced technology and management skill, increase export earnings, provide new employment opportunities, and promote regional development (Vittal 1977, 2; UNIDO 1980, 14).

In order to achieve these objectives, especially the attraction of foreign investment, the EPZs invariably provide a package of incentives. The incentives often include the provision of financial concessions and subsidies to ensure that the potential rate of profit is sufficiently attractive to induce the investment and the provision of a good infrastructure to facilitate industrial development within the zones (UNIDO 1980, 15).

Despite their similar objectives, the performance of these zones varied widely. In some of the EPZs, such as those in Taiwan and South Korea, large numbers of foreign firms and substantial investments were
attracted. However, in other Asian EPZs, such as those in Indonesia, the Philippines, and India, results were limited (Rabbani 1981, 15-19). The generation of employment opportunities was more satisfactory in most Asian EPZs as the majority of the investment ventures were in the labour intensive, export-oriented industrial sector. The contributions of EPZs to the balance of payments were somewhat limited as their exports were generally not very large while raw materials and intermediate goods were dependent on imports (Wong and Chu 1984 6-7; Ho 1978, 76-78). The zones' contributions appeared to be mainly in the form of indirect foreign currency earnings through salaries and wages of local employees, and direct receipts from rent, taxes, duties on domestic raw materials, and public service charges (UNIDO 1980). However, the local government was often required to invest substantially to build up the infrastructure and to provide tax and credit inducements to potential investors - not a small cost for some of the developing countries (Armstrong and McGee 1984, 65-66).

Forward linkage to the host country economy was generally restricted by regulation to produce for export only (UNIDO 1980, 25). The backward linkage to the domestic economy was not extensive as EPZ enterprises tended to be heavily dependent on imported inputs. This was partially due to the reduced custom duties on import materials, close affiliation with foreign corporations, the type of manufacturing activity, and the underdeveloped character of many host economies (UNIDO 1980, 26). Hence, the regional development potential was severely restricted. Most of the industries in the EPZs were also concentrated in the textiles and
electronics sectors which were labour intensive and footloose. Their employment and exports were often subject to large fluctuations (Maex 1983, 16, 65).

In many Asian countries, one of the major objectives of establishing EPZs was the generation of employment opportunities for their surplus labour force. It was believed that each new direct manufacturing job created in the zone would have a multiplier effect by creating indirect jobs in the services sector (Salita and Juanico 1983, 450-451). In addition to the benefits of increasing employment and income opportunities, the EPZ was also considered important in the training of workers and the transfer of technology to the host country. While more than a million people were directly employed in all the major EPZs by the mid-1980s, the employment performance varied from one country to another. In Singapore, Taiwan, S. Korea, and Hong Kong, tens of thousands of new jobs were created in their EPZs but in most other countries the share of manufacturing employment created by the zones was insignificant (Maex 1983, 34). The patterns of employment in these zones were noted for their high concentration in a few labour-intensive manufacturing industries, such as garments and textiles, and electronics. The "footloose" characteristics of these industries were particularly criticized for they could easily move from one zone to another when production costs changed. The instability of production in these zones was further aggravated by changes in market demand or in export quotas

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33 Some authors refer to the whole of Hong Kong and Singapore as EPZs while most others would limit their EPZ areas to the officially established industrial districts.
which caused drastic fluctuations in employment (Edgren 1984, 32). The working conditions in these EPZs were also unfavourable due to their large concentration of women workers who were usually paid lower wages, subjected to long working hours, and were deprived of union protection. The prospect of upgrading the industrial skills of the zone workers was rare as most of them were engaged in assembly-type work with very limited industrial training provided. Some commentators did not hesitate to conclude that employment in the zones offered little more than meagre and limited benefit for workers and for the national economy (Lim 1984, 56).

Despite warnings of the limitations in the introduction of advanced technology, generation of export earnings, and promotion of regional development in most EPZs, the successful cases in South Korea, Taiwan, Singapore and Hong Kong provided a sweet temptation for China, a socialist planned economy, to adopt similar policies.

2.2 OBJECTIVES OF DEVELOPING CHINA'S SEZS

Shortly after the decision to accept foreign investment in late 1978, China decided to develop Shekou (see Figure 2-1) as the first industrial zone which would allow the participation of foreign capital and entrepreneurs (Hong and Xu 1987, 46). It was a modest attempt to make use of the low cost land and labour in Shekou to process materials for export purposes. Although the original plan to develop Shekou as a small industrial zone was similar to other Asian EPZs, the objectives of China's SEZs were expanded in
Figure 2-1. The Shenzhen Special Economic Zone

source: Adapted from Wong and Chu 1985b, 64.
1980 to include not only economic but also political, technological and regional development in its SEZs.

The designation of Shenzhen, Zhuhai, and Shantou as Guangdong Province’s SEZs was authorized by the NPC in 1980 under the “Regulations on SEZs in Guangdong Province” (Regulations on SEZs) which clearly stipulates the objectives of the SEZs as follows:

...to develop economic co-operation and technical exchanges with foreign countries and to promote socialist modernization programme...The SEZs shall encourage foreign citizens, overseas Chinese and compatriots from Hong Kong and Macao and their companies and enterprises to set up factories and establish enterprises and other undertakings, with their own investment or in joint ventures with our side...(Foreign Language Press 1982, 193).

The “Regulations on SEZs” point out that one of the primary purposes of creating the SEZ is to attract foreign investment. Under the open door policy, other Chinese cities were also allowed to introduce foreign investment but the Chinese authorities promised to be more flexible in the operations of these zones. In addition to the participation of foreign capital in joint ventures as allowed in other Chinese cities, wholly foreign-owned business ventures were to be approved in these zones. They would be permitted the full control and management of their enterprises. Foreign enterprises in the SEZs were also allowed to adopt different employment practices and wage systems than those in the interior. Not only could they hire their own workers directly but they also could dismiss them when they became redundant - which was rarely allowed in other Chinese enterprises. To increase the investment opportunities, foreign investors were allowed to invest not only in industry but also in commerce, tourism, and other
economic activities. The entry and exit procedures were also promised to be simplified to allow easier access to the SEZs (Foreign Language Press 1982, 197).

Similar to other EPZs, China’s SEZs also intended to promote exports and to increase foreign exchange earnings which were two of the major objectives under the open door program. In order to encourage exports, especially manufacturing exports, import duties and export taxes were foregone. The labour, land and other service charges were also kept at a low level to increase the competitiveness of the SEZ products in the world market. It was also hoped that by increasing their exports, the enterprises in the SEZ not only could generate foreign exchange earnings but also understand better the world market system, improve the quality of goods, develop new products and reduce production costs - some of the major goals of China’s economic reform program (D. Xu 1981, 16). In his report to the NPC in 1986, Zhao Ziyang specifically instructed that “the SEZs should move towards building an export-oriented economy” and they “should regard increasing exports and earning more foreign exchange as their primary duty” (Zhao 1986, X).

It was well understood that the quality and prices of many Chinese manufacturing products were uncompetitive in the world market. To increase manufacturing exports from the SEZs therefore required a drastic improvement in the quality of the products and the raising of labour productivity. This could only be achieved if advanced technology and Western management techniques were introduced and assimilated. The
Chinese government hoped that by providing an attractive incentive package, an improved legal framework and a streamlined bureaucracy, foreign investors would be encouraged to bring in more advanced technology and management methods. In his report on the work of the government in 1981, Zhao Ziyang stressed this point:

We have set up experimental special economic zones in Shenzhen, Zhuhai and Shantou in Guangdong Province, and Xiamen in Fujian Province... these zones should boldly introduce advanced technology and methods of management from abroad and make use of foreign capital. Our aim is to promote China's socialist modernization... (Zhao 1981, 24).

The Chinese leaders also hoped that the SEZs could play an important role in accelerating the development of the interior region. The SEZs were expected to promote economic growth in the Western and Central regions by transferring skilful workers and advanced technology to them. This important role was clearly stated in the Seventh FYP:

We shall accelerate the development of SEZs..These will gradually become our bases for conducting foreign trade, for training senior technical and managerial personnel and sending them to other parts of the country, and for disseminating new technologies and providing information and consultant services throughout the country (NPC 1986, XI).

One of the most often cited objectives by the Asian EPZs was to increase employment opportunities. However, very few officials in China emphasized the importance of employment creation in the SEZs. On one hand, the officials tended to focus on the introduction of "advanced technology" which is generally capital intensive rather than labour intensive. On the other hand, few of them would readily admit that there were a serious problem of under-employment and unemployment in China. By not
focussing on the benefits of employment creation, the SEZ supporters also hoped to minimize the criticism on the issues of exploitation and surplus value in these zones.

While some Asian countries also adopted more liberalized policies in the management of their EPZs, few expected their zones to play such an active role in the economic restructuring of their economies as in the case of China's SEZs. With a new and mixed ownership structure, the adoption of Western techniques, and the exposure to Western ideas, some proposed that the SEZs could carry out some of the economic reform measures on an experimental basis (D. Xu 1981, 16). Since the SEZs were newly created administrative units, reform leaders hoped that some of the experimental reform measures could be tested there with minimum interference and opposition. Moreover, by limiting these economic reforms in a small area, their effectiveness and possible consequences could first be observed and evaluated before they were introduced in the interior. Referring to the experiment of economic reform in the SEZs, Gu Mu expressed that:

In this way, it is not only conducive for us to explore new approach(es) for quickening the pace of economic development and spread successful experience to the interior regions but also to confine unsuccessful experience from the experiment within a limited area (Gu 1985a, 368).

Another important objective which also had national significance was the political role which the SEZs were expected to play. Some supporters of the SEZs claimed that the rapid economic development, political stability and an open environment in these zones would help to ease the worries of people in Hong Kong and Macao over the issues of re-unification with China.
(Zhao and Chen 1984, 80). By reducing the gap between the living standards of the SEZs and Hong Kong, by improving the legal framework, and by implementing the open door policy consistently, the SEZs would help to build up confidence among people in Hong Kong and Macao especially in regard to the promise of preserving their existing economic and social systems for fifty years (Gu 1985a, 369). According to the mayor of Shenzhen, Liang Xiang, the successful development of Shenzhen and other SEZs was not only important to stabilize the political uncertainties in Hong Kong, it was also conceived as an important political and economic showcase to facilitate the unification of Taiwan (Liang 1985b, 54-55). In fact, the designation of Xiamen as an SEZ was an attempt to attract Taiwanese investors who would build up the linkages between the two places.

Although the SEZs shared many similar objectives with other Asian EPZs, senior Chinese officials repeatedly asserted that their fundamental development goals were different. In most other Asian countries, the development of the EPZs was to promote the development of the capitalist economic system and private ownership. In contrast, as Liang Xiang pointed out, the SEZs in China were established with the primary focus to introduce better economic, technology, and management techniques for the socialist modernization of China (Liang 1985b, 53). Liang adamantly denied that the SEZs were replica of EPZs or a retreat to the treaty port system, as in the nineteenth century (Liang 1985b, 53).

With such broad objectives set down for the SEZs, an examination of the evolution of Shenzhen as China’s first SEZ is essential.
2.3 EVOLUTION OF THE SHENZHEN SEZ

The original conception to develop Shekou came from a Hong Kong based Chinese enterprise - the Chinese Merchants Steam Navigation Company, Ltd. (CMSNC)\(^4\) which was under the administration of the Ministry of Communications. The CMSNC's earliest aim was to develop Shekou as an industrial zone which could provide large land areas to scrap old ships at a low cost (Vogel 1989, 132). In their joint request to the central government to develop Shekou, the CMSNC and the provincial government of Guangdong proposed that the Shekou Industrial Zone (IZ) would "make use of the low cost of local labour and land while utilizing foreign capital, imported advanced technology and raw material" (Hong and Xu 1987, 46).\(^5\) Their request was approved in principle by the vice-premier, Li Xiannian, in January 1979, only two months after the closing of the Third Plenum.

After a short study of the investment regulations in other EPZs and consultations with other Hong Kong businessmen, the Shekou IZ adopted its own draft foreign investment regulations in March 1979,\(^6\) several months before China's first Law of Joint Venture was officially promulgated (Hong and Xu 1987, 73). To encourage foreign investment to the zone, the CMSNC

\(^{4}\) The CMSNC was first established in 1872 during the Qing Dynasty by Viceroy Li Hung-chang. In 1950 the staff of CMSNC in Hong Kong declared their defection to the People's Republic of China. The CMSNC has since become a state-owned Chinese enterprise under the Ministry of Communications but continued its operations in Hong Kong (China Merchants Holdings 1987, 3).

\(^{5}\) "A Report On Setting Up An Industrial District in Bao'an (County), Guangdong Province by the China Merchant's Steam Navigation Company" (January 1979).

\(^{6}\) "Draft Regulations on Investment in the Shekou Industrial Zone of the CMSNC", March 1979.
requested the central government to waive taxes on imported raw materials, equipment, fuel, and supplies for workers as well as products for exports.\(^{37}\)

The CMSNC also appealed to the central government to streamline the procedures for the entry and exit of foreign personnel from the zone which was considered an important condition for the successful operation in other EPZs (Hong and Xu 1987, 46). A total area of 2.14 sq. km. was finally approved for development as an export-oriented industrial zone in Shekou.\(^{38}\) While Bao'an County would be responsible for public order, party work, and the supply of daily necessities, the CMSNC would be responsible for the construction, development, and management of the Shekou IZ.

In addition to the advantage of having easy access to high level decision-makers in the central government, the speedy approval of the Shekou IZ was also attributed to the development of export production bases in the early 1970s. Under the administration of the MFERT, these bases were set up for the production and exports of various industrial, mineral, and agricultural products (Chan, Chen, and Chin 1986, 89). The management of these production bases was given much greater flexibility because of their need to respond to the changing world market conditions. They were, however, different from the EPZs as the flow of foreign capital into these bases was not permitted. In fact, an earlier evaluation of EPZs was negative.

\(^{37}\) Their request for tax exemptions was based on the provisions of the “Draft Regulations on the Processing and Assembly Works for Foreign Enterprises” which was approved by the State Council earlier.

\(^{38}\) The Shekou IZ was later expanded to 8.2 sq. km. (SJTN 1985, 101)
as they were seen as modern manifestations of imperialism and colonialism (Crane 1990, 24). It was not until the Third Plenum that a new ideological basis for the development of export zones similar to other Asian EPZs became possible. Chan and others therefore suggested that the development of the Shekou IZ did not represent a completely new policy in China’s foreign trade as "...it was but a further development of these (export) bases in the new context of allowing foreign investment in China" (Chan, Chen, and Chin 1986, 89).

One of the primary reasons for the selection of Shekou as the site of China’s first export zone was its geographical location. Shekou is located 20 nautical miles by sea and 30 km. by land from Hong Kong. There is no doubt that the geographical proximity to Hong Kong was one of the major factors leading to the development of Shekou as an industrial zone by the CMSNC. By locating an industrial zone close to Hong Kong, it was hoped that enterprises in the zone could have easier access to capital, technology, and market information from Hong Kong. The short distance from Hong Kong also allowed CMSNC and other investors to maintain a close monitoring of the operation and management of their enterprises in the zone. The geographical proximity to Hong Kong also significantly reduced transportation costs as most of Shenzhen’s imports and exports would be conducted through Hong Kong. The location of the new export zone in Shekou rather than existing major industrial centres of China further allowed the CMSNC to have less administrative constraints and political repercussions in its attempt to introduce foreign capital and modern
management techniques to the zone. The decision to develop Shekou was also facilitated by the support of Yuan Geng, head of the CMSNC, who originated from Bao'an County and had close personal connections with, and knowledge of, the local and provincial authorities (Vogel 1989, 131).

The expansion from a small industrial zone in Shekou into a full-fledged SEZ in Shenzhen involved several major changes in its development goals and expansions of its geographical area (see Table 2-1). Less than a month after the Shekou IZ was established by the CMSNC, the State Council authorized the development of Bao'an County where Shekou was located to become "an export production base for industrial and agricultural commodities, a tourist centre, and a new form of border city" (Liang 1985b, 52). Although the State Council did not specify exactly the functions of this new border city, it was obvious that tourism and exports would be promoted in Bao'an to increase its foreign exchange earnings.

The nature and functions of Shenzhen again shifted in July 1979 as announced in Gu Mu’s press statement. Shenzhen and Zhuhai were to be developed as "special export zones" on an experimental basis. The special export zones were expected to introduce foreign capital and to increase foreign exchange earnings through exports.

In May 1980, the CCP Central Committee and the State Council announced the decision to replace the term "special export zone" with that of "special economic zone" in Shenzhen and Zhuhai. Two other cities, Shantou and Xiamen, were also authorized to be developed as SEZs. In August 1980, the legal status of the SEZs in Guangdong was given final
<table>
<thead>
<tr>
<th>Type of Zone</th>
<th>Date Established</th>
<th>Area (sq. km.)</th>
<th>Zone Located In</th>
<th>Administrative Status*</th>
<th>Higher Administrative Unit*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Zone</td>
<td>Jan. 1979</td>
<td>2.14</td>
<td>Shekou Commune</td>
<td>commune</td>
<td>Bao’an County</td>
</tr>
<tr>
<td>Export Production Base</td>
<td>Feb. 1979</td>
<td>1,865.57</td>
<td>Bao’an County</td>
<td>county</td>
<td>Huiyang Prefecture</td>
</tr>
<tr>
<td>Export Production Base</td>
<td>Mar. 1979</td>
<td>1,865.57</td>
<td>Shenzhen Municipality</td>
<td>county-level municipality</td>
<td>Huiyang Prefecture and Guangdong Province</td>
</tr>
<tr>
<td>Special Export Zone</td>
<td>Jul. 1979</td>
<td>1,865.57</td>
<td>Shenzhen Municipality</td>
<td>county-level municipality</td>
<td>Huiyang Prefecture and Guangdong Province</td>
</tr>
<tr>
<td>Special Export Zone</td>
<td>Nov. 1979</td>
<td>1,865.57</td>
<td>Shenzhen Municipality</td>
<td>prefecture-level municipality</td>
<td>Guangdong Province</td>
</tr>
<tr>
<td>Special Economic Zone</td>
<td>Aug. 1980</td>
<td>357.23</td>
<td>Shenzhen Municipality</td>
<td>prefecture-level municipality</td>
<td>Guangdong Province</td>
</tr>
<tr>
<td>Special Economic Zone</td>
<td>Oct. 1981</td>
<td>357.23</td>
<td>Shenzhen Municipality</td>
<td>semi provincial level municipality</td>
<td>Guangdong Province</td>
</tr>
</tbody>
</table>

**Note:**
*Referred to the area where the zone is located.

approval by the NPC in the "Regulations on SEZs" (Foreign Language Press 1982, 193-200). The new term, SEZs, attempted to convey that the zones were politically similar to other parts of China and were therefore not "special political zones" (Chu 1986, 22). The Chinese authorities stressed that the SEZs were not separate or autonomous political units although some of the economic practices and management system might be different from other parts of China. The change of name was also necessary because at least two of the zones, Shenzhen and Zhuhai, were no longer simply export zones but were to be developed into comprehensive entities whose goals included the development of agriculture, industry, commerce, tourism, housing, transportation, and other economic activities.

By early 1980, the concept of an SEZ in China became clearer. Sun Ru, a senior economist in the Guangdong Academy of Social Sciences, explained that an SEZ is:

...an area in a certain locality is delineated so that controls are relaxed as compared with inland China for the purpose of promoting economic cooperation by all proper measures with foreign businessmen, overseas Chinese, as well as Hong Kong and Macao compatriots who are welcome to invest in China and operate jointly with China's various enterprises and businesses. The SEZs either set up factories or engage in service trade such as commerce, housing, and tourism. They can also invest in public utilities like road construction and power plants (Sun Ru 1980, 71).

The most important reason for the selection of Shenzhen as China's first full-fledged SEZ was its geographical proximity to Hong Kong. Shenzhen is only 30 km. away from Hong Kong's central business district which can be reached within an hour. Hong Kong, as one of the major financial centres in
the Pacific Rim and a leading investor in the Third World, was considered to be an important source of foreign investment for Shenzhen. Hong Kong's well developed transportation systems could also facilitate Shenzhen's exports to other parts of the world. Although industrial technology in Hong Kong was not high, it was considered appropriate for transferring to Shenzhen. The planners also hoped that Chinese managers would learn entrepreneurship from Hong Kong which was one of the most successful exporters in the world. The cultural and language affinities between Shenzhen and Hong Kong also provided additional advantages for tapping the financial, economic, and managerial resources from Hong Kong.

The size and location of the SEZ in Shenzhen were subjects of speculation for some time even after its legal status was confirmed. Before the boundary of the SEZ was delineated, various interpretations of the area to be considered as SEZ were put forward. Some considered that the SEZ covered the whole municipality of Shenzhen while others suggested that it covered the whole province of Guangdong (Xu and Cai 1983, 7). The SEZ was originally planned to be located west of the town of Shenzhen with a total area of 38 sq. km. (Sun 1980, 71). Shenzhen thus would have included two "special export zones", Shenzhen and Shekou, in the municipality (Chu 1986, 24). The deliberate exclusion of the old town of Shenzhen was decided because it was common for other Asian EPZs to be located away from existing townships. It was considered that the inclusion of the existing township would create problems of management. Finally, the inclusion of all the existing residents would complicate the task of selecting only those
workers who maintained high socialist consciousness and were able to resist Western influences for employment in the zone (Chu 1986, 25). However, this approach would deny the special zone an existing urban core and sites for tourist and commercial development and was less attractive to foreign investment as it would be far less accessible. The inclusion of the town of Shenzhen in the SEZ marked the defeat of those who took a cautious position of confining "capitalist" influence to a largely uninhabited area. The "unified" approach also allowed the Shenzhen SEZ to exist as a territorial entity, of which the Shekou IZ was only a part, not a separate unit. The location of the SEZ in Shenzhen was finalized in August 1981 when Shenzhen Municipality was delineated into two administrative units - the Shenzhen SEZ and Bao'an County. The Shenzhen SEZ included an area of 357.23 sq. km.\(^39\) while the area outside the SEZ was to be re-established as Bao'an County but would be administratively part of the Shenzhen Municipality (see Figure 1-2).\(^40\) In 1983, the SEZ further set up four local urban districts, Luohu, Nantou, Shangbu, and Shatoujiao, to manage local urban developments (SJTN 1986, 48).\(^41\) A year later, Shekou also set up an urban district to coordinate urban development in the area but assumed much greater administrative power than other urban districts.

\(^{39}\) The official document put the area of the Shenzhen SEZ as 327.5 sq. km. but the detailed calculations by Guangzhou Institute of Geographical Research in 1984 indicated that the SEZ has an area of 357.23 sq. km.

\(^{40}\) After the establishment of the Shenzhen Municipality in March 1979, Bao’an County was abolished. Shortly after the area for the SEZ was clearly designated in August 1980, Bao’an County was re-established as part of Shenzhen Municipality but located outside the SEZ.

\(^{41}\) The local urban districts have county level administrative powers.
The geographical evolution of the Shenzhen SEZ was finally completed with the building of a 84.6 km. border fence which separated the SEZ area from the rest of China. However, the delineation of the SEZ area did not completely remove the complexity in the administrative structure of Shenzhen.

2.4 ADMINISTRATIVE STRUCTURE OF SHENZHEN

Parallel to the evolution of Shenzhen from a small industrial zone to a comprehensive SEZ was its changing administrative status. Shenzhen’s shift from a small industrial zone in a commune to a semi-provincial level municipality had rarely been matched in the urban administration system of China (see Table 2-1). Its administrative relationship with Guangdong Province and the central government also changed dramatically as it became a comprehensive SEZ. Despite its changing administrative status, several industrial zones remained outside the full control of Shenzhen.

The administrative status of Shenzhen was upgraded several times in a short period of time to accommodate its expanding objectives and size. The original site of the Shekou IZ was located in Shekou commune in Bao’an County. Shortly after, the County was authorized to become an export production base. Less than a month later, it was upgraded to become a county-level municipality under the dual administration of Huiyang prefecture and the provincial government of Guangdong. The new

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42 Municipalities in China are administratively classified into several different levels. At the top of the urban hierarchy is the zhixiaoshi (direct control municipality) which include the three municipalities under the direct administration of the central government - Beijing, Tianjin, and
municipality was renamed the Municipality of Shenzhen (Shenzhen Shi) which covers an area of 1866 sq. km. (GDYS 1986, 104). It was obvious that the upgrading was a move by the provincial government to extend its control over this newly designated export production base. Shortly after Shenzhen was authorized to become a special export zone, it was raised to a prefecture-level municipality under the direct administration of the provincial government in November 1979. The changing administrative status thus allowed the provincial government to have direct control and plan for its development. The appointment of Wu Nansheng, who was one of the party secretaries of the provincial party committee, as head of Shenzhen’s party and Revolutionary committees further confirmed the province’s strong interests in the development of Shenzhen (SJTN 1985, 617). In October 1981, Shenzhen’s administrative status was again changed and it became a "semi-provincial" level municipality. The promotion enabled Shenzhen to attain the same administrative status as the provincial capital while the other two SEZs remained at a lower administrative level (SJTN 1985, 619-620). The importance of Shenzhen in the administrative hierarchy of Guangdong was further illustrated by the appointment of Liang Xiang, who held a concurrent position as a vice-governor of Guangdong, as its mayor and

Shanghai. The second order cities are those under the administration of provinces and autonomous regions - shengxiashi (provincially administered municipality) which include provincial capitals and other major urban centres. The third order cities are those under the administration of prefectures - dijishi (prefecture level municipality). The lowest order cities are those under the direct administration of counties - xianjishi (county level municipality).

43 This land area was reported by The Guangzhou Institute of Geographical Research after detailed survey. Other sources reported the area of Shenzhen Municipality ranging from 1,831 sq. km. to 2,020.5 sq. km.
party secretary (SJTN 1985, 615-620). The elevation of Shenzhen's administrative status and the promotion of its administrators allowed Shenzhen to have greater administrative power over its own development planning, making it more attractive to the recruitment of cadres and other professionals, and enabled Shenzhen to gain better access to government funding for urban construction.

Despite its new administrative status, several major districts within Shenzhen, including Shekou, Shahe, and Nantou remained under the "autonomous" management and development of different administrative units. Their administrative and commercial linkages with different government organizations and corporations are indicated in Figure 2-2. Some of these major "developers" were central government ministries and corporations which were headed by high ranking officials. Their close connections to the central government provided them with extraordinary status and influence over the SEZ policies and the adoption of their own development plans.

Even after the Shekou IZ was incorporated into Shenzhen, the CMSNC continued to be responsible for the development, administration, and planning of the zone. Prior to Shenzhen's designation as an SEZ, the CMSNC was authorized by the central government to set up its own regulations on foreign investment, corporate income tax, labour management and wage systems, and land and utility charges (Hong and Xu 1987, 73-74). When the SEZ was divided into four urban districts in 1983, Shekou was not included. A separate urban district was set up in Shekou a
Figure 2-2. Administrative Structure of the Shenzhen Special Economic Zone

Notes:
CMSNC - China Merchants Steam Navigation Company, Ltd.
NOSDS - Nanhai Oil Shenzhen Development and Services Corp. It is a joint venture of Shenzhen SEZ Development Corp., Nanhai Oil Service Base; and Everbright Co.
CNDC - China Nanshan Development Company Ltd.; CNDC is a joint venture formed by eight corporations.
GOCAC - Guangdong Overseas Chinese Affairs Committee.
Shahe Industrial Zone has been renamed as Huajicheng Zone since 1985, under the development of China Tra Services of Hong Kong.
GPAC - Guangdong Provincial Administrative Committee for SEZs.

year later but its administrative power was much broader than the other four urban districts (SJTN 1986, 48). The autonomous local administrative power of CMSNC in Shekou allowed it to provide a different investment environment for foreign investors. Most investment negotiations for setting up enterprises in Shekou were also conducted in Hong Kong by the CMSNC, whose board of directors included both the minister and vice-minister of the Ministry of Communications (China Merchants Holdings 1987, 6). This continued to give the Shekou IZ special access to high-level policy makers within the central government without the need to follow municipal and provincial governmental procedures. The CMSNC also initiated a number of reform programs in the labour and wage system, housing allocation, and hiring of cadres which were well ahead of most enterprises in other parts of Shenzhen (Hong and Xu 1987, 47-57). To the foreign investors, especially those from Hong Kong, the management and operational techniques adopted by the Hong Kong-based CMSNC were more acceptable than the administrative system adopted in many Chinese enterprises. The shortage of land and rising labour cost in Hong Kong also prompted many investors to search for new investment opportunities in various parts of Asia and Shekou seemed to provide a ready solution for some of their immediate needs. Investors from Hong Kong also considered that the "autonomous" administrative status of the CMSNC could reduce the bureaucratic redtape and political interference prevalent in other parts of China.
In addition to more liberalized practices, the tax and investment regulations adopted in the Shekou IZ also made full integration with Shenzhen difficult. In November 1979, the CMSNC reached an agreement to allow the Shenzhen Municipal Government to extend its jurisdiction over Shekou and to bring various measures adopted in the Shekou IZ into harmony with those to be formulated for all the SEZs in Guangdong. One of the major difficulties faced by the administrators in the negotiations of this agreement was the different income tax rates in these two areas. In the Shekou IZ, the income tax for foreign enterprises was set at 10 percent while the "Regulations on the SEZs" stipulated that enterprises in the SEZs should be taxed at a rate of 15 percent. The types of investment ventures to be allowed in Shekou and in other parts of Shenzhen were also different. In its handbook for foreign investors, Shekou clearly rejected the introduction of investment ventures in the form of processing and compensation trade which were acceptable in other parts of the SEZ (CMSNC 1983, 51).

Moreover, the wage level, employment benefits, land use fees, and other utility charges in Shekou were all different from those specified by the SEZ government.

The different development goals and reform measures adopted in Shekou also hindered its full unification with the rest of the SEZ. The most important characteristic of Shekou which distinguished it from other parts of Shenzhen was its development strategy which stressed the development of industry and manufacturing exports while Shenzhen was to be developed as a comprehensive SEZ (Hong and Xu 1987, 38). As early as 1980, cadres and
workers were being recruited directly by the industrial zone enterprises. Wages were based on a floating rather than a fixed system. Rents for residential housing were charged according to the size of the housing unit rather than at a uniform rate (Yuan 1987, 28-31). Shekou has essentially remained an autonomous economic and planning unit within the SEZ, retaining its own economic and urban plans, and administrative control over public security, taxation, labour management, materials imports and exports, business registration and regulations, and others (SJTN 1985, 101).

In a similar manner to Shekou, several other districts in Shenzhen also came under separate management from those of the SEZ. Located mid-way between Luohu and Shekou, the Shahe IZ, with an area of 12.6 sq. km., was developed and managed by the Overseas Chinese Affairs Commission under the administration of the State Council (see Figure 2-2). In addition to enjoying all the privileges that the SEZ offered, foreign enterprises in Shahe were also promised a more flexible approach in the forms and length of investment ventures, a supply of better educated workers, and lower land use fees (SSDXC 1984, 142). The Shahe IZ was reorganized and renamed as Huaqiucheng (Overseas Chinese Zone) in 1985 with approvals from the State Council to focus on tourism and industrial development (SJTN 1986, 62-78).

Another 38 sq. km. of land in Nantou District, triple the size of the Shahe IZ, was allocated to Nanhai Oil Shenzhen Development and Services Corporation (NOSDS) in 1984. The land was allocated to NOSDS, which is a corporation under the Ministry of Petroleum, for development as a South
China Sea oil exploration service base. The NOSDS was responsible for the provision of all basic infrastructure in the area and the planning of this district.\(^{44}\) Thus, neither the land-use planning nor investments for these areas were under the full control of the Shenzhen government. An example was the proposal by NOSDS to build an oil refinery facility in Nantou which was opposed by some SEZ planners on the grounds of potential environmental pollution. The planners, however, admitted that very little could be done to stop the NOSDS from going ahead with its plans if they decided to do so.\(^{45}\)

The administrative structure of the Shenzhen SEZ was further complicated by the fact that several projects located outside the SEZ were granted similar preferential treatment. There were reports that a large state farm, a dyeing factory, a holiday resort, and an industrial estate project which were all located in Bao’an County, outside the SEZ, received similar incentive package to other SEZ enterprises (Chu 1986, 25).\(^{46}\) Some of these projects were granted tax and benefits similar to other SEZ enterprises before the exact boundary of the SEZ was delineated. Nonetheless, even after the SEZ was officially demarcated, two mega projects located outside the SEZ, including the Shajiao Power Plant located in Dongguan County and the nuclear power plant at Daya Bay, also received preferential treatment

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\(^{44}\) Interview with a senior staff at the NOSDS in 1987.

\(^{45}\) Interviews with planners at the Planning Department of Shenzhen, 1986.

\(^{46}\) The industrial estate project located in Buji was later cancelled.
similar to other SEZ enterprises. In other words, the concept of the SEZ extends well beyond its geographical boundary (Chu 1986, 25).

The changing administrative status of Shenzhen and its expanding economic roles not only affected its relationship with lower administrative units within the SEZ but also complicated its relations with higher administrative authorities - the provincial and the central governments.

With the official approval to create Shenzhen, Zhuhai, and Shantou as its SEZs in August 1980, the provincial government of Guangdong immediately set up a management committee, the Guangdong Provincial Administrative Committee for the Special Economic Zones (GPAC), to coordinate and oversee their development. The GPAC was granted sweeping administrative powers which included the formulation and implementation of development plans for the SEZs, the examination and approval of investment projects, the handling of industrial and commercial registration and land allotment, coordinating the banking, insurance, taxation, customs, frontier inspection, postal and telecommunications and other services in the zones, the supply of workers and the maintenance of public order (Foreign Language Press 1982, 193-200). The purpose of creating the GPAC was to encourage a more efficient and powerful administrative body to operate these zones without going through the regular bureaucratic channels. Moreover, it also showed the provincial government’s strong interests in the development of Shenzhen as other SEZs remained under the administration of their respective municipal governments rather than direct GPAC control.
Despite the wide ranging power delegated to the GPAC, subsequent regulations created ambiguity in the administration of the SEZs by authorizing the municipal governments certain powers to administer their respective SEZs. In 1981 regulations on enterprise registration, labour and wage management, and land management also authorized the Shenzhen Municipal Government the power to approve enterprise registrations, labour contracts, and land use applications (Foreign Language Press 1982, 193-244)\(^47\). When the more detailed "Rules for the Implementation of the Registration and Administration of Enterprises in the Shenzhen SEZ" were promulgated in 1984, the sole power to approve all business registration in Shenzhen was delegated to the Shenzhen Municipal Government. The administrative power of the GPAC was again undermined when regulations on foreign economic contracts, commercial property and housing, and the import of technology in Shenzhen authorized the municipal government to approve all investment contracts and enterprise registrations in the SEZ (Foreign Language Press 1987, 273-368).\(^48\) The delegation of more administrative power to the municipal government might be an attempt to

\(^{47}\)The regulations referred to are: "Interim Provisions for the Registration and Administration of Enterprises in the Special Economic Zones in Guangdong Province"; "Interim Provisions for Labour and Wage Management in Enterprises in the Special Economic Zones in Guangdong Province"; and "Interim Provisions of the Shenzhen Special Economic Zone for Land Management".

\(^{48}\)The regulations referred to are: "Provisions of the Shenzhen Special Economic Zone for the Administration of Commercial Building Property"; "Provisions of the Shenzhen Special Economic Zone on Economic Contracts Involving Foreign Interests"; and "Interim Provisions of the Shenzhen Special Economic Zone for Import of Technology".
streamline the bureaucratic process in the SEZs but it also created ambiguity in regard to the administrative power and the roles of the GPAC.

The changing administrative power structure in Shenzhen was also due partly to the increasing role played by the central government. In contrast to the active participation of the provincial authorities in the establishment of Shenzhen and other SEZs, the central government seemed to be less directly involved with their development until much later. As pointed out by Chan and others, the central government in the early years regarded SEZs as merely local experiments of little national significance (Chan, Chen, and Chin 1986, 91-92). Even the legislative power of the SEZs was delegated to the provincial people’s congresses in Guangdong and Fujian. All regulations concerning the SEZs needed only to be submitted to the Standing Committee of the NPC for the record (Herbst 1986, 126). While various central ministries were responsible for setting the import and export quotas, levying custom duties, border patrol and other functions in the SEZs, none of them had an overall responsibility for their development. The State Council’s Office for SEZ Affairs was not set up until 1982 when repeated criticism of the smuggling activities in the SEZs was raised. Subsequently, major policies in connection with the development of the SEZs had to be approved by the Office for SEZ while the provincial authorities seemed to be side-stepped.

In sum, Shenzhen rapidly augmented its administrative power by becoming a semi-provincial level municipality as a result of its designation as an SEZ. The development allowed Shenzhen to have more direct control
over administrative matters and development plans while the administrative role of the GPAC was eclipsed. By the end of 1986, the new administrative status of Shenzhen, however, had not yet fully integrated all districts under its administration and development plans. The growth of Shenzhen and other SEZs also led to the creation of a new office in the State Council to oversee their development. The office was set up also in response to the criticism levelled against the capitalist nature, illegal activities, and problems of the SEZs.

2.5 IDEOLOGICAL AND POLITICAL ISSUES

In order to attract foreign investment, preferential treatment which included the lowering of income tax, reduction of custom duties, and the provision of low wage labour, were offered to investors in China’s SEZs. According to the “Regulation on SEZs”, the socialist economic system in these zones was further adjusted to allow the operation of wholly foreign-owned enterprises, hiring of foreign personnel, adoption of Western management techniques, and adjustment of the “iron rice bowl” labour system. Moreover, the zones also aimed to attract overseas tourists, to promote advanced technology and management, and to disseminate Western ideas and market information. Such departures from the Mao’s self-reliance policies were not readily accepted by all. The strongest critique of the SEZ policy came from some party members who considered SEZs as capitalist in nature and were opposed to their development. However, there

49 Under the "iron rice bowl" system, workers were entitled to life tenure in the enterprises with little risk of being dismissed.
were also staunch supporters of SEZs who considered the SEZs socialist in essence and fully supported their creation. Yet, there were others who considered the SEZs as essentially state-capitalist in nature with a combination of both capitalist and socialist characters. Hence, their views on the establishment of the SEZs diverged from limited implementation to full scale development.

Although their views rarely appear in official publications, the critics of the SEZ are often referred to and rebutted by the SEZ supporters (Crane 1985-86, 4-5). The opponents of the SEZs point out that the zones are no different from the market oriented EPZs and represent a revival of the former concessions under the treaty port system in the nineteenth century. They argue that the capitalist character of the zones can be demonstrated by their reliance on foreign capital, their observance of capitalist business practice, and their free repatriation of profits. The predominance of the foreign wholly-owned enterprises and various forms of joint ventures are further proof of the zones’ capitalist nature. To some of the opponents, the preferential measures and incentives offered to foreign investors, and the adoption of more liberalized policies, and the rising importance of foreign capital in the SEZs represent a revival of the former treaty port system. The proposal to erect a fenced boundary between the Shenzhen SEZ and the interior of China further led to the belief that the setting up of these SEZs would infringe upon the sovereignty of China (D. Xu 1981, 14).

The open door policy in general and the creation of the SEZs, in particular, have been strongly criticized for allowing the revival of
exploitation by the capitalists after their elimination from China since the 1950s. The setting up of wholly foreign-owned enterprises and other forms of foreign joint ventures in these zones are considered as a new form of exploitation by the capitalists. Even supporters of the SEZs admitted that "some exploitation does exist in the joint ventures or individually financed enterprises in the special zones... The profits remitted abroad (by the foreign investors) and the profits retained for re-investment in the zones obviously represent the surplus value of the labourers" (D. Xu 1981, 15).

The SEZs are further considered by their opponents as adversely affecting the economy of China rather than promoting development. The repatriation of profits and interests by foreign enterprises from the SEZs is referred to as a drain on China's financial resources. It was reported that Chen Yun, a senior party member, was strongly opposed to the creation of the SEZs from the start. Chen was one of those party members who worried that "by using foreign capital and establishing SEZs, profits will be taken by foreign capitalists and we will suffer economic harm" (Wang and Chen 1985-86, 22). In a working session of the CCP Central Committee in 1980, Chen Yun warned against the over-optimism concerning the benefits that foreign capital could bring to China. He further pointed out that most of the foreign loans bear a very high interest rate and must be utilized carefully (Chen 1987b, 70-71). During the same session, Chen Yun even spoke against the introduction of processing works for foreign enterprises which, he argued, could adversely affect the exports of local products (Chen 1987a, 127). The widespread smuggling activities and the black-market activities in currency
transactions were also attributed to the opening up of the SEZs for foreign investment. The two provinces, Guangdong and Fujian, where the four SEZs are located, were further reprimanded by Chen Yun for their lack of critical review of their open door experience (Chen 1987a, 127).

In contrast to those who criticize the SEZs as capitalist in nature, a few Chinese scholars consider the SEZs as essentially socialist in nature and fully support their development. According to them, the SEZ is "a pluralistic, multi-sector economy in which the socialist sector holds a dominant position" (Shi 1985-86, 30). They argue that the socialist sector, which includes the state, collective, and also part of the foreign joint enterprises, firmly controls the financial, administration, legal and economic systems of the SEZ. To the SEZ supporters, contradiction exists between the socialist and the capitalist mode of production in the SEZs but the socialist sector's dominant position in the ownership, production, and the superstructure, including law, culture, ideology, and others, enables the economy of the SEZs to remain socialist rather than revert to capitalist (Shi 1985-86, 32). In his analysis of the Shenzhen SEZ, Yu Guangyuan, a senior economist, also argues that the state capitalist economic activities in the zone are only a minor part of the whole economic structure. The socialist economic sector is much larger and holds the dominant position in the economic structure. The socialist economic sector in the zones includes the activities of socialist workers, capital, and organization which are aimed at the modernizations of the socialist economy. Yu concluded that: "in view of the presence of the different forms of ownership structures and the economic control by the
socialist state, the socialist economy is the major economic sector in the Shenzhen SEZ...Shenzhen is a socialist SEZ" (Yu 1983, 30).

Other scholars, however, interpret the character of the SEZs as neither capitalist nor socialist but state capitalist. Xu Dixin suggested that the SEZs are state capitalist in nature in view of the increasingly large number of foreign joint enterprises being set up.⁵⁰ According to Xu,

The economy in the special zones encompasses the socialist state economy, the collective economy and the individual economy, but state capitalism has the lion's share. Processing materials for foreign countries, compensatory trade, co-operative enterprises and joint ventures are all state capitalist economic activities. Strictly speaking, the enterprises run by foreign or overseas Chinese capital constitute a kind of capitalist economy, but the activities of such enterprises are subject to control and regulation by the governments of the special zones. As a result, they are special kinds of capitalist enterprises (D. Xu 1981, 14).

The state capitalist character of the SEZs is further advanced by some scholars as a composite and independent economic entity. While some scholars support the idea that the infusion of foreign capital in the SEZ economy increases the strength of the state capitalist sector⁵¹, others, such as Su Yanhan, suggest that the rising importance of the state capitalist sector in the mode of production also transforms the relations of production in the SEZs and consequently a new economic form is manifested (Tao 1983, 7; D. Xu 1981, 14; Su 1985-86, 42-43).

⁵⁰Xu was the vice-president of the Chinese Academy of Social Sciences and also director of its Institute of Economic Research.

⁵¹Referred to the Sino-foreign joint ventures, compensation trade agreements, and processing contracts.
While most scholars who regard the characteristics of the SEZs as state capitalist support the development of SEZs, there are some who have serious reservations on their rapid growth and insist on limiting its size and economic activities (Ruan 1982, 27). While realizing the possible benefits that the zones may generate, Wang and Chen consider the existence of both socialist and capitalist elements in the SEZ as "the continuation of the international class struggle under new circumstances" (Wang and Chen 1985-86, 24). The use of foreign capital in the SEZs must therefore be "used cautiously" while the principle of "self-reliance" should always be considered as of primary importance to China.

While conceding the presence of capitalist elements in the SEZs, most supporters of the SEZs reject the idea that the SEZs are capitalist in nature or represent a revival of the former treaty port system. They argue that the presence of foreign enterprises in the SEZs does not infringe upon the sovereignty of China as their operations are regulated by Chinese laws, they are required to pay taxes and duties, and they are set up for the purpose of China’s socialist modernizations (D. Xu 1981, 14; Qian 1984, 3). A senior Chinese official also asserted that "the four SEZs...are not special political zones and not like Taiwan and Hong Kong... but are SEZs. They are still the regions under the leadership of the CCP, where the PRC completely exercises sovereign rights" (Gu 1985a, 367).

Even supporters of the SEZ policy readily admit that exploitation of workers does take place in the SEZs with the surplus value being repatriated abroad as profits. However, they point out that the preferential treatment
and the lower labour charges to the foreign investors are necessary to encourage foreign investment. Yet, the profits gained by the foreign investors are somewhat restricted by the socialist laws and regulations and the practice is similar to the policy of redemption. The redemption policy was adopted by China in the early 1950s to win the support of the small capitalists who were offered "reasonable profits by paying them for processing jobs and purchasing their goods at fair prices" (Xue 1981, 24).

The redemption policy adopted in China's SEZs is further justified by referring to Lenin's idea of using foreign capital to promote the national economies of socialist countries without compromising their independence (Crane 1990, 36). Several Chinese economists and officials point out that during the New Economic Policy, Lenin had proposed to lease some Soviet mines, forests, and oil-fields to foreign capitalists in order to accelerate the industrialization program in the Soviet Union. Although the leasing would allow the capitalists to reap huge profits, Lenin regarded this as tuition paid to the capitalists, while in the long run it would benefit the development of the socialist economy (Wang and Chen 1985-86, 20). As quoted in a speech by Gu Mu, Lenin considered that the profits and interests taken out were "a kind of tribute and taxes paid by workers state to the world capitalists. Paying these tribute and taxes is beneficial to us" (quoted in Gu 1985a, 367). Gu went on to suggest that: "it is in our interest to pay some prices in order to get capital, technology and development speed and it is worthwhile sacrifice a little immediate interests for the long-term interests of our state and nation" (Gu 1985a, 367).
Despite the strong ideological and political justifications of the open door policy and the creation of the SEZs, there were criticism of the increased smuggling activities and the infusion of bourgeois ideas. Although it was vigorously denied that increased smuggling was associated with the establishment of the SEZs, Gu Mu admitted that smuggling was rampant in Guangdong, Fujian and Zhejiang provinces during 1981-1982 (Gu 1985a, 369). The image of the SEZ as a socialist land was further tarnished by the import of capitalist ideas, Western lifestyle, and widespread corruption and bribery. Even a strong supporter of the open door policy, such as the vice-premier, Tian Jiyun, conceded that

along with the implementation of the policy of opening to the outside world, decadent and moribund capitalist ideas and way of life will unavoidably make their way into our society and corrode the people’s mind. Some evil things long stamped out after the founding of the PRC have appeared and emerged again. It is hard to avoid that a few people would be influenced by bourgeois thinking and even degenerate morally (Tian 1987, 28).

Such ideological retreat and practical problems brought by the open door and especially the creation of the SEZs led to the strong recommendation by Chen Yun that “no more SEZs should be added to the existing four, Shenzhen, Zhuhai, Shantou, and Zhuhai, located in the provinces of Guangdong and Fujian” (Chen 1987a, 127). However, the supporters of the SEZs maintain that the benefits to be gained will outweigh the inevitable negative consequences which can be limited and controlled.
Summary

Along with other Asian EPZs, China’s SEZs are considered as important vehicles for the attraction of foreign investment, transfer of advanced technology, increased export earnings and the promotion of regional growth. Moreover, China’s SEZs are also intended to be an important economic and political showcase for the unification of Hong Kong, Macao, and Taiwan. Furthermore, they are also expected to be in the forefront in carrying out some of the economic reform measures. The objectives put forth for China’s SEZs are much broader than in most other EPZs in Asia. However, some of these economic, regional and political objectives are not fully compatible and in some cases even in conflict with one another.

To enable Shenzhen to achieve these important national and regional development goals, its administrative status was elevated and its geographical areas were expanded. It is clear that one of the main reasons for the designation of Shenzhen as one of China’s SEZs is due to its geographical proximity to Hong Kong which is perceived as an important source of capital, transportation, human and other resources for the development of Shenzhen. Shenzhen and other SEZs, however, face strong opposition by some senior party members on the grounds of its capitalist nature, exploitation, illegal activities and the infringement on national sovereignty. Their criticism has so far failed to stop Shenzhen and other SEZs from introducing foreign capital and the participation of foreign entrepreneurs in the management of their enterprises. However, these
different political and ideological interpretations on the SEZs have significant implications on their development goals, economic performance, and the potential to attract foreign investment.
CHAPTER 3. FOREIGN INVESTMENT IN THE SHENZHEN SPECIAL ECONOMIC ZONE

Despite the skepticism held by some senior party members, the Shenzhen SEZ was created expeditiously with the aim of attracting foreign investment. This chapter attempts to answer two questions: How successful was Shenzhen in attracting foreign capital and what kinds of investment flowed into the zone? The chapter opens with a discussion of the environment for foreign investment in Shenzhen and the growth of foreign investment between 1979 and 1986. The pattern and structure of foreign investment are then discussed. The chapter concludes with a brief discussion of the prospects of foreign investment in Shenzhen.

3.1 GROWTH OF FOREIGN INVESTMENT

To encourage foreign investment, many Asian EPZs provide tax concessions and other incentives to investors and set up the necessary infrastructure for industrial development. Income taxes for foreign corporations and personnel in most EPZs are set at a low level or partially exempted for extended periods of time. Raw materials imported to and products exported from the zones are usually duty free. Some EPZs in Asia, such as Kandla in India and Bataan in the Philippines, also offer loans at reduced rates of interest to foreign investors. In addition, labour, utilities and infrastructure services are often provided at subsidized or reduced rates in some of the EPZs (UNIDO 1980, 15).\textsuperscript{52} A number of developing

\textsuperscript{52}The concessions and subsidies available in Karachi EPZ in Pakistan and Bataan EPZ in the Philippines are listed in UNIDO 1980, Annex II.
countries have further adopted an "accommodating approach" in suspending labour and trade union activities in the EPZs in order to create a favourable "social" climate for foreign investment (Basile and Germidis 1984, 33-38).

To attract foreign investment, Shenzhen also followed the practices of other Asian EPZs by offering generous incentives to foreign investors and investing heavily to upgrade its infrastructure. As Shenzhen places a major focus on attracting investment from Hong Kong, many of the incentive measures are specifically designed to attract investors from Hong Kong. The corporation income tax, land use fees, and wage level are purposefully set at a lower rate than those prevailing in Hong Kong (Hong and Xu 1987, 113; SSDXC 1984, 125-126). In addition, the development strategy of Shenzhen has also been broadened and the legal system amended to cater to the interests of Hong Kong businessmen.

The prevailing wage rate in Shenzhen was considerably lower than in Hong Kong. In the Shekou IZ, monthly wages for workers employed in foreign ventures were set at a minimum of HK$800 (US$102.6) (Hong and Xu 1987, 113). There was no prescribed minimum wage in Shenzhen but the average monthly wage for all permanent workers was about Rmb 210.33 Yuan (US$61) in 1986 (SJTN 1987, 349). By comparison, the average monthly wage level for unskilled labor in Hong Kong was about HK$2,652 (US$340.2), or five times higher than in Shekou (Hong Kong Government Based on a 26 working-day month in 1986.)

53Based on a 26 working-day month in 1986.
Information Services 1987, 84). However, average wage level in Shenzhen was about 50 percent higher than in other Chinese cities.

It is well recognized that one of the major problems facing industrial development in Hong Kong and other countries is the high costs of land. Consequently, land use fees in Shenzhen are set at a low level in order to entice investors from Hong Kong and other countries. In the SEZ, the industrial land use fees are set at a range from Rmb 6 Yuan to Rmb 30 Yuan (US$1.7-US$8.7) per sq. m. while fees for commercial use are charged Rmb 40 - 200 Yuan (US$11.6-US$58) per sq. m., considerably lower than the level in Hong Kong. In 1985, land use fees were further reduced by 30 percent to 50 percent to ensure the competitiveness of the SEZ (SSDXC 1984, 125-126). In Shekou, industrial land use fees were set at HK$18-36 (US$2.3-4.6) per sq. m. which was slightly higher than the rate in Shenzhen in the early 1980s (SSDXC 1984, 133).

The tax system in Shenzhen has also been revamped to provide a strong incentive for establishing new business ventures in the zone. The corporation income tax in Shenzhen is set at 15 percent which is purposefully to be lower than the tax rate in Hong Kong. Foreign ventures are also entitled to 1 to 3 years of tax holidays, the length of which depends on the ratio of their exports and their technology level. By comparison, joint ventures in other parts of China have to pay a much higher corporation income tax, well over 30 percent in most cases. Customs duty and the consolidated industrial and commercial tax on imported equipment and raw materials are waived while export tax are forefeited. Foreign enterprises are
further exempted from product tax and value-added tax. Since late 1984, profit remittance tax has also been waived for foreign investors (Foreign Language Press 1987, 240).

In most Asian EPZs the selling of zone products to the domestic market is strictly regulated (Basile and Germidis 1984, 39). By contrast to most other EPZs, a good proportion of the products manufactured in the Shenzhen SEZ are allowed to be sold in the domestic market. Although enterprises in Shenzhen are supposed to be export-oriented, part of their products can be sold in the interior market upon approval by the GPAC (Foreign Language Press 1982, 195). In Shekou, only those enterprises whose products are manufactured with advanced technology, are currently imported by China, and have a high local content are allowed to sell a portion of their products in the interior market (Hong and Xu 1987, 112-113). Nevertheless, enterprises in the Shahe IZ are allowed to sell 40 percent of their manufactured products in the interior market (SSDXC 1984, 137). This has been one of the most important incentives for some of the foreign investors who are interested in breaking into the huge domestic market of China.

In order to provide an investment climate acceptable to the international business community, various laws and regulations were drawn up to specify the responsibilities and the legal rights of the foreign investors.

54 Details of the tax exemptions, see "Interim Provisions of the State Council of the People's Republic of China Concerning the Reduction of and Exemption from Enterprise Income Tax and Consolidated Industrial and Commercial Tax in the Special Economic Zones and 14 Coastal Port Cities" (Beijing Review 1987, 239-248).
China's first Chinese-Foreign Joint Venture law was promulgated as early as 1979. Subsequently, about a hundred different laws and regulations covering a diverse area such as laws on taxation, custom duties, preferential treatment, foreign exchange controls, bank loans and mortgages for foreign enterprises were announced. In addition laws on arbitration, patent, trademark, and labour management were also adopted to protect the rights of foreign enterprises operating in China (Almanac, various years). A series of regulations and laws was also promulgated in Shenzhen and Guangdong province to provide specific legal protection and preferential treatment for foreign investors in the SEZ. Guangdong province was further authorized to draft and implement regulations regarding the setting up, administration, and detailed policies on the operation of its SEZs. Over 30 regulations and laws were subsequently passed covering labour management, wages and unions, land leasing and rent, commercial housing development, entry and exit procedures, shares and stocks regulations, banking, corporation tax and bankruptcy in the Shenzhen SEZ. These are listed in see Appendix 3-1. Despite the fact that dozens of regulations were adopted for the protection of legal rights and a high degree of autonomy in the operation of foreign enterprises in the SEZ, there were still wide differences in the interpretations of these regulations.

Another major effort by the local government to encourage foreign investment in Shenzhen was the improvement of its infrastructure. Since its designation as an SEZ, substantial amount of domestic and foreign investments has been spent to develop Shenzhen's transportation and
communication systems, power and water supply, and other urban services. Shenzhen has become one of the most modernized cities in the provision of telecommunications, transportation, housing, and other services to the investors. The details of these urban development programs in Shenzhen are presented in Chapter 6.

The growth of foreign investment in Shenzhen was further facilitated by allowing investment not only in the industrial sector but in almost all economic activities. The adoption of a comprehensive development strategy further favoured investors from Hong Kong who showed strong interests in the development of real estate, tourism, and commercial activities. Some Hong Kong investors were also encouraged to sign up for large tracts of land which were to be developed similarly to the new towns of Hong Kong (Chu 1983, 88-89).55

With the adoption of these policies, Shenzhen successfully introduced a substantial amount of foreign investment into Shenzhen. Foreign investment in the Shenzhen SEZ increased rapidly during the 1979-1986 period. As shown in Table 3-1, the number of investment agreements signed in the SEZ increased by 3.5 times to reach 350 during the 1979-1986 period. The amount of approved* and utilized investment in the SEZ also jumped 8-fold and 25-fold respectively during the same period. From 1980

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55 These large tracts of land were to be developed as high density residential and commercial areas, similar to the new town projects in Hong Kong.

56 Referred to the amount of foreign investment approved by the appropriate authorities. It does not represent the actual investment funds received.

57 The amount of investment actually utilized or received.
Table 3-1. Foreign Investment in the Shenzhen Special Economic Zone, 1979-1986

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Contracts**</th>
<th>Approved Investment (US$ million)</th>
<th>Utilized Investment (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>109</td>
<td>32.2</td>
<td>14.8</td>
</tr>
<tr>
<td>1980</td>
<td>142</td>
<td>335.9</td>
<td>40.8</td>
</tr>
<tr>
<td>1981</td>
<td>318</td>
<td>1,189.2</td>
<td>135.4</td>
</tr>
<tr>
<td>1982</td>
<td>357</td>
<td>213.1</td>
<td>81.0</td>
</tr>
<tr>
<td>1983</td>
<td>739</td>
<td>291.4</td>
<td>119.8</td>
</tr>
<tr>
<td>1984</td>
<td>550</td>
<td>559.7</td>
<td>208.0</td>
</tr>
<tr>
<td>1985</td>
<td>565</td>
<td>781.6</td>
<td>188.4</td>
</tr>
<tr>
<td>1986</td>
<td>383</td>
<td>271.1</td>
<td>375.4</td>
</tr>
<tr>
<td>Total</td>
<td>3,163</td>
<td>3,674.0</td>
<td>1,163.6</td>
</tr>
</tbody>
</table>

Regional Share of Cumulative Foreign Investment by Shenzhen, 1979-1986 (in percentage)

<table>
<thead>
<tr>
<th>Region</th>
<th>No. of Contracts**</th>
<th>Approved Investment</th>
<th>Utilized Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guangdong Province</td>
<td>4.3</td>
<td>34.4</td>
<td>34.7</td>
</tr>
<tr>
<td>China</td>
<td>n.a.</td>
<td>18.4</td>
<td>14.0</td>
</tr>
</tbody>
</table>

Notes:
*Investment figures for 1979 to 1984 are converted from Hong Kong dollar. The exchange rates are based on US$1=HK$5.002, 5.130, 5.675, 6.495, 7.780, and 7.823 for the period 1979-1984 respectively.
**Data included wholly foreign-owned, equity and contractual joint ventures, compensation trade, processing and assembling, leasing, and joint exploration contracts.

to 1986, the amount of utilized investment in Shenzhen increased by an annual average of 49 percent, significantly higher than the provincial average of 26 percent (SJTN 1985, 594-600; SJTN 1987, 337-340; GSTJ 1984, 287-289; GSTJ 1987, 338-342). By the end of 1986, total cumulative investment in Shenzhen reached US$1.2 billion, which constituted 14 percent and 35 percent of all utilized investment in China and Guangdong Province respectively. Shenzhen emerged as the leading recipient of foreign investment amongst all Chinese cities, more than double the amount Shanghai received in 1986 (GTJZS 1987, 427-434).

The flow of foreign investment in Shenzhen, however, fluctuated. The amount of approved investment in the Shenzhen SEZ experienced a cyclical pattern of development which grew more than 35-fold in its first three years of operation but plunged abruptly by over 80 percent in 1982. Investment picked up rapidly in 1985 but dropped sharply again in 1986. Consequently, Shenzhen tumbled from first place to fourth in approved investment, ranking behind Beijing, Guangzhou, and Shanghai in 1986.

Utilized investment grew in a less dramatic fashion but also suffered from a 40 percent decline in 1982 before reaching its peak of US$375 million in 1986. However, we should note that the amount of utilized investment in 1986 was highly exaggerated. In 1986, the economy of Shenzhen suffered from a severe downturn and a two-third reduction in the amount of approved investment. The amount of utilized investment in 1986, however, doubled over the previous year. The increase was probably due to the inclusion of investment in the Shajiao power plant which is located in
Dongguan County, outside Shenzhen Municipality. A rough estimation showed that about US$50-100 million reported in the official investment data came from this project and inflated the actual amount of investment in the zone (SJTN 1987, 193).\textsuperscript{58} It is expected that investment in later years will have difficulties in maintaining the same level of investment when these mega projects are completed. Moreover, the sharp drop of approved investment in 1986 would also have a serious effect on the flow of investment in the SEZ in subsequent years.

The fluctuating pattern of foreign investment in the Shenzhen SEZ was due to both external and internal influences. As Shenzhen’s foreign investment was heavily dependent on Hong Kong, the economic downturn of Hong Kong in 1982 led to a dramatic decline of its investment in Shenzhen. As reported by the Government of Hong Kong, “the financial scene in 1982 was dominated by a crisis of confidence...stemming principally from concern over Hong Kong’s future...” (Hong Kong Government Information Services 1983, 46). The Hang Seng (stock exchange) index in Hong Kong also plunged sharply from 1405.8 in 1981 to 783.8 in 1982. The pattern of investment in Shenzhen was also affected by the fiscal constraint policy adopted by China in late 1985 and early 1986. The retrenchment

\textsuperscript{58}A total of HK2,200 million (US$282.23 million) or 76 percent of the total planned investment were invested in the power plant by the end of 1986 (SJTN 1987, 193). As the foreign partners have a 55 percent stake in the project, it is estimated that about US$155.23 million has been utilized and included in the Shenzhen investment data. Although, we do not have a breakdown of the investments on a yearly basis, it was reported that full scale construction of the project had not begun until early 1986 and most of the equipment were also installed in the same year. It is therefore quite probable that about US$50-100 million reported in the official investment data came from this project.
program led to a drop of almost 30 percent in capital construction investment (CCI) in Shenzhen (SJTN 1987, 335). Many joint venture projects were not able to go ahead on schedule as many Chinese enterprises failed to provide their share of investments under tight credit control by the central government (Cheng 1987, 88-89).

Despite its excellent performance in the attraction of foreign investment, the paid-up capital in Shenzhen at the end of 1986 was less than one-third of its total cumulative pledged investment. The proportion was also far below the national average of 39 percent. The large discrepancy between approved and utilized investments in Shenzhen is due to several factors. First, some of the projects have been delayed or cancelled due to changing economic conditions. For example, several large land development projects in 1982 fell through due to the slump in the property market in Hong Kong. Second, some of the projects had to be constructed from scratch and so needed some time to obtain the necessary licenses, lease the land, hire workers, and install basic utilities and equipment. So, there is a time lag between the signing of the contract and the disbursement of funds into the project. At the end of 1986, only 800 or two-thirds of the "direct" investment projects had started operating (SJTN 1987, 28). Third, some of the projects are to be implemented over a number of phases and so investment funds are to be spread over a number of years. Fourth, some projects were delayed due to bureaucratic redtape. The long process of getting the necessary approvals from all the different government departments delayed the starting date for many enterprises. A study in 1984
reported that a total of 36 government departmental approvals were needed to get an industrial enterprise approved for operation.

3.2 PATTERNS OF FOREIGN INVESTMENT

In many of the Asian EPZs, it is quite common to have a high concentration of foreign investment originating from one or two countries, particularly Japan. For example, in South Korea's Masan and Iri EPZs, 90 percent of their investments in 1980 came from Japan (Basile and Germidis 1984, 41). In Taiwan's three EPZs, Japan was also the most important investor in the late 1970s (Currie 1979, 80). However, recent studies indicated that an increasing number of MNCs in these zones originated from the Newly Industrializing Countries (NICs), especially those from Hong Kong, South Korea and Taiwan (Currie 1979, 11; Forbes 1986, 109; UNCTC and ILO 1988, 34). Detailed data on the total number of MNCs from NICs were not available but they were estimated to consist of roughly between 16 and 22 percent of the total number of enterprises in the EPZs (UNCTC and ILO 1988, 34).

Hong Kong emerged as a leading NIC investor in some of these EPZs. In Sri Lanka, the major source of foreign investment in its Katunayake EPZ in

59 Most of these Third World MNCs would be more appropriately classified as from newly industrializing countries. The thesis adopts this terminology to make it consistent with terms commonly used by other scholars (Chen 1981; Lall 1983).

60 The estimation was based on a survey of more than 1,200 EPZ enterprises. The figures included also joint ventures. The proportional share, however, varied considerably from one country to another. For example, Third World MNCs consisted of 47 percent of all zone enterprises in Sri Lanka in 1981 but contributed only 9 percent to the total in Malaysia in 1982 (UNCTC and ILO 1988, 29-33).
the late 1970s came from Hong Kong (Currie 1979, 77). The same source also indicated that about 12 percent of investment in Taiwan’s three EPZs came from Hong Kong in the late 1970s. In the Bataan EPZ, 5 out of the 24 foreign firms surveyed in 1979 were from developing countries, 3 of which came from Hong Kong (Warr 1985, 15). In the Jakarta EPZ, most of the firms with foreign capital interests in 1982 were from NICs, including 11 wholly foreign-owned firms from Hong Kong, Taiwan, and Singapore (Warr 1983, 30). With an increasing presence of MNCs from NICs, the scale of investment, types of technology, and the forms of investment in these zones were significantly different from the earlier zone experience.

As in many Asian EPZs, Shenzhen had a high concentration of investment from only a limited number of countries. Data from Table 3-2 clearly indicated that investment from Hong Kong constituted more than 80 percent of both the cumulative number of direct investment contracts and the amount of approved investment during the 1979-1986 period. Despite its sharp decline in the amount of approved investment in 1986, the proportional share of utilized investment by Hong Kong during the 1985-1986 period remained over 85 percent. The degree of dependency on Hong Kong investment would be even higher if processing and assembling

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61 Of the 86 Third World enterprises in the UNCTC and ILO survey, 40 percent came from Hong Kong.

62 Warr pointed out that many of the firms operating in the zone were owned indirectly by North American and European firms.

63 The amount of approved investment from Hong Kong dropped from US$734 million in 1985 to US$89 million in 1986.
Table 3-2. Sources of Foreign Investment in the Shenzhen Special Economic Zone 1979-1986 (Selected Years)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong**</td>
<td>89.47</td>
<td>88.21</td>
<td>88.39</td>
</tr>
<tr>
<td>U. S. A.</td>
<td>2.53</td>
<td>2.40</td>
<td>6.63</td>
</tr>
<tr>
<td>Japan</td>
<td>2.61</td>
<td>1.21</td>
<td>3.89</td>
</tr>
<tr>
<td>Thailand</td>
<td>0.25</td>
<td>0.65</td>
<td>0.58</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.17</td>
<td>0.04</td>
<td>0.19</td>
</tr>
<tr>
<td>Australia</td>
<td>0.51</td>
<td>1.08</td>
<td>0.12</td>
</tr>
<tr>
<td>Singapore</td>
<td>1.60</td>
<td>3.24</td>
<td>0.07</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0.08</td>
<td>0.01</td>
<td>0.05</td>
</tr>
<tr>
<td>Britain</td>
<td>0.51</td>
<td>1.17</td>
<td>0.05</td>
</tr>
<tr>
<td>Philippines</td>
<td>0.25</td>
<td>0.05</td>
<td>0.01</td>
</tr>
<tr>
<td>Lebanon</td>
<td>0.08</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>W. Germany</td>
<td>0.34</td>
<td>0.45</td>
<td>0.00</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.25</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Canada</td>
<td>0.25</td>
<td>0.22</td>
<td>0.00</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>0.08</td>
<td>0.28</td>
<td>0.00</td>
</tr>
<tr>
<td>Libya</td>
<td>0.08</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Norway</td>
<td>0.25</td>
<td>0.07</td>
<td>0.00</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.51</td>
<td>0.73</td>
<td>0.00</td>
</tr>
<tr>
<td>Liberia</td>
<td>0.08</td>
<td>0.06</td>
<td>0.00</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.08</td>
<td>0.09</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Notes:
*Data included only foreign wholly owned, equity joint and contractual joint ventures. Countries are in rank order in accordance to their share of utilized foreign direct investment.
**Data included also investments from Macao.

contracts were included. Shenzhen became one of the leading cities with a high proportion of its investment coming from NICs.

The major attraction of Shenzhen for Hong Kong investors was the availability of low cost land and cheap labour. In two separate surveys of Hong Kong MNCs, Chen found that the availability of cheaper land and labour were very important considerations for investing in host countries (Chen 1981, 93; Chen 1983, 110-111). The geographical proximity and cultural and language affinities further facilitated investment from Hong Kong.

Although Shenzhen allowed part of the locally produced products to be sold in the interior, many Hong Kong MNCs in manufacturing did not consider the opening of the host market as important. Exports to the developed markets were their prime consideration. In the early 1980s, Hong Kong firms did not generally invest in China to circumvent tariff and quota restrictions by the developed countries as China did not allow foreign investors to use the Chinese quota for their exports. Consequently, many Hong Kong parent firms set up vertically integrated networks with their subsidiaries in China, in order to take advantage of lower factor costs and a more certain supply of labour (Chen 1983, 111). Shenzhen thus became a convenient low cost production base for Hong Kong MNCs to compete in the developed markets. According to some reports, another motivation for many Hong Kong textile firms to establish subsidiaries abroad was a need to

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64 They are firms operating in more than one country with their headquarters in Hong Kong and subsidiaries overseas. However, some of these firms may be locally owned or subsidiaries of other overseas firms.
find an outlet for the outdated machinery they had been using (Chen 1981, 92). This was in fact one of the complaints some Chinese firms raised with their Hong Kong partners.

In comparison with other parts of China, Shenzhen seemed to be far less attractive to Japanese and American investors. While American and Japanese investments altogether contributed 30 percent to the total foreign investment in China, only a negligible amount was invested in Shenzhen. In 1986, China received less than 1 percent of Japan’s global investment despite its huge trade surpluses with China. Shenzhen performed poorly in attracting Japanese investment even when compared with other Chinese cities. In 1986, Shenzhen received less than 3 percent of total Japanese investment in China, far below its share of the national total (GTJ 1987, 604; GSTJ 1987, 349). The prospect for attracting further Japanese investment in the immediate future seemed to be bleak, as less than US$2 million of Japanese investment was pledged in Shenzhen in 1986, a 90 percent decline from the previous year (GSTJ 1987, 348-349). The lack of Japanese investment in the zone could be attributed to Shenzhen’s over-supply of tourist facilities and hotels, in which Japanese investors were most interested. Moreover, Japanese investors also had reservations about the

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65 In 1986, China received total Japanese investment of US$226 million, or less than 1 percent of its global investment. The investment figure is different from the Chinese source which reported total Japanese pledged investment of US$283 million and actual investment of US$263 million in 1986. The difference is probably due to the differences in accounting procedures with Japanese figures based on fiscal year and Chinese based on year end (Tsukazaki 1987, 10-15). Chinese custom statistics reported that China-Japan trade deficit in 1986 was US$7.66 billion in Japan’s favor.
quality and productivity of workers in Shenzhen and had serious concerns about the difficulties of converting their profits into hard currency (Hirata 1985, 18). Although thousands of Japanese entrepreneurs have visited Shenzhen, only a few have so far invested there. This led to widespread disappointment amongst many local officials.

The total amount of foreign investment in Shenzhen originating from Hong Kong was misleading. Part of these investments actually came from Chinese enterprises stationed in Hong Kong. For example, CMSNC has 31 subsidiaries and 177 joint ventures in the Zone, including Guangdong Float Glass, Nanhai Hotel, Chiwan Port, and others (China Merchants Holdings 1987, 10-15). In addition, China Resources, China Travel Services, and Everbright, which are also Chinese enterprises based in Hong Kong, also have substantial holdings in various projects in Shenzhen.

Despite the large inflow of investments from Hong Kong and other countries, not all of these investments are considered as FDI by international practices. According to a World Bank study on China's foreign capital, FDI implies that "the investor has a large enough share in the enterprise that he will exert some degree of control over its operations" and the investors "have the last claim on the earnings of the enterprise, but will get the most rewards if the enterprise is successful" (World Bank 1988, 239). In Shenzhen, six major forms of foreign investments are allowed, including wholly foreign-owned ventures, equity joint ventures, contractual joint ventures,
compensation trade, processing and assembling, and leasing.\textsuperscript{66} The two forms of FDI which fully meet the criteria set above are: wholly foreign-owned ventures which are completely owned by foreigners and the equity joint ventures which are corporate entities owned partly by foreigners and partly by Chinese. However, only some contractual joint ventures can be satisfactorily be classified as FDI. Many of these ventures are joint undertakings between one or more foreign entities and Chinese entities which are either being created with or without a corporate entity. Their profits and losses may be allocated in any way specified in the contract and their degree of cooperation varies from an equity joint venture, a compensation trade venture or a processing and assembling venture.

The last two forms of investment ventures are not normally considered as FDI in western practices as they do not involve a sharing of risks and profits, and the foreign partner usually does not participate in the management of the enterprise. However, the value of machinery imported under them is counted as FDI by Chinese authorities (World Bank 1988, 249). In essence, compensation trade is a form of counter-trade in which the local partner imports machinery from the foreign partner who is paid by goods produced after the purchase. In the processing and assembling, the foreign parties provide some or all inputs to a product, and sometimes some machinery and know-how. The Chinese enterprise use the inputs to make the product, which it then returns to the foreign partner, who pays a fee for

\textsuperscript{66}In other parts of China, joint development is another form of investment allowed to develop natural resources, mainly offshore oil. No such investment existed in Shenzhen as of 1986.
the service. Another form of investment, international leasing, which leases equipment from foreign enterprises is also not normally considered as FDI. Nevertheless, each of these six forms of investments provides some technology transfer and additional investable resources and has different potential benefits to Shenzhen (see Appendix 3-2).

In most Asian EPZs, 100 percent foreign ownership is allowed but joint ventures with local partners are strongly encouraged. In Sri Lanka, for example, while wholly foreign-owned enterprises are legally allowed to set up in the zone, none of the 46 enterprises approved for operation obtained such authorization. In the Bataan EPZ in the Philippines, 38 percent of all firms in 1979 were joint ventures while another 34 percent were wholly foreign-owned ventures. In the Masan EPZ in South Korea about one-quarter of the total invested capital in 1980 was in the form of joint ventures (Basile and Germidis 1984, 41). In a 1986 survey of 1,269 zone enterprises in 13 countries, the UNCTC and ILO reported that less than two-fifths were wholly foreign-owned, one-quarter were domestically owned and 38 percent were joint ventures (UNCTC and ILO 1988, 26-28). The study also suggested that the larger proportion of joint ventures in EPZs provided a better structure to facilitate the transfer of technology and created a more stable environment (UNCTC and ILO 1988, 29).

In Shenzhen, the most common form of investment was processing and assembling, constituting over 60 percent of the total number of contracts by the end of 1986. However, as indicated in Table 3-3, in terms of the amount of investment, processing ventures contributed less than 10
Table 3-3. Forms of Foreign Investment in the Shenzhen Special Economic Zone, 1979-1986

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Investment</td>
<td>31.2</td>
<td>49.6</td>
<td>37.5</td>
<td>76.1</td>
<td>83.8</td>
<td>96.4</td>
<td>58.3</td>
<td>96.1</td>
<td>91.6</td>
</tr>
<tr>
<td>Equity Joint</td>
<td>4.6</td>
<td>35.0</td>
<td>19.7</td>
<td>32.9</td>
<td>34.4</td>
<td>16.3</td>
<td>20.5</td>
<td>13.1</td>
<td>21.5</td>
</tr>
<tr>
<td>Contractual Joint</td>
<td>26.6</td>
<td>12.8</td>
<td>15.5</td>
<td>43.2</td>
<td>44.6</td>
<td>69.5</td>
<td>37.9</td>
<td>80.1</td>
<td>58.1</td>
</tr>
<tr>
<td>Wholly Foreign</td>
<td>0.0</td>
<td>1.8</td>
<td>2.3</td>
<td>0.0</td>
<td>4.8</td>
<td>10.7</td>
<td>0.0</td>
<td>2.9</td>
<td>12.0</td>
</tr>
<tr>
<td>Other Investment</td>
<td>68.8</td>
<td>50.4</td>
<td>62.5</td>
<td>23.9</td>
<td>16.2</td>
<td>3.6</td>
<td>41.7</td>
<td>3.9</td>
<td>8.4</td>
</tr>
<tr>
<td>Leasing</td>
<td>0.0</td>
<td>0.8</td>
<td>0.1</td>
<td>0.0</td>
<td>1.0</td>
<td>0.1</td>
<td>0.0</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Compensation Trade</td>
<td>0.0</td>
<td>0.3</td>
<td>0.3</td>
<td>0.0</td>
<td>0.7</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Processing*</td>
<td>68.8</td>
<td>49.3</td>
<td>62.1</td>
<td>23.9</td>
<td>14.4</td>
<td>3.4</td>
<td>41.7</td>
<td>3.8</td>
<td>7.9</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note:
* Included processing, assembling and fish culture (lailiao zhongyang).

percent to the total during the 1979-1986 period. Contractual and equity joint ventures which made up of only 35 percent of all ventures contributed 80 percent to the total investment funds during the same period. There were less than 100 wholly foreign-owned ventures in Shenzhen but they contributed 12 percent to the total investment.

The form of investment indicated that the foreign investors are encouraged to have a stronger commitment than just subcontracting works in Shenzhen. Joint ventures are the preferred forms of cooperation while wholly foreign-owned ventures are approved under more stringent guidelines. The contractual joint venture is a more favourable form of investment because it offers both Chinese and foreign partners greater flexibility in terms of investment contributions and profit sharing than equity joint ventures. Many of the real estate development projects which are mostly under contractual forms of partnership thus allow the capital-deficient Chinese partners to offer land as their contributions to the investment and share part of the profits generated.

In contrast to the national pattern, only a negligible amount of foreign investment in Shenzhen was in the form of compensation trade. The Shekou IZ administrators even set down a clear policy not to introduce investment in the form of compensation trade to avoid the introduction of outdated equipment. This policy, however, did not prevent some compensation trade ventures skilfully covered under contractual joint venture agreements.

On the other hand, the proportion of wholly foreign-owned ventures was much higher in Shenzhen than nationally. This is mainly because wholly-
owned ventures are more restrictive in places other than the SEZs. Nevertheless, wholly foreign-owned ventures have not received active encouragement from the zone authorities because of their perceived difficulties in administrative control and possibly less potential for transfer of technology.

Shenzhen did not seem to fare too well in its competition for processing and assembling trade contracts.\(^67\) Whereas Shenzhen received one-quarter of all direct investment contracts in Guangdong province, only 3 percent of the provincial processing trade contracts were obtained by Shenzhen. The smaller share of processing trade contracts by Shenzhen was attributed to the higher wage level in the SEZ which was two-thirds higher than the average in Guangdong. In addition, the local government did not seem to be actively promoting processing and assembling investments (Fieldwork 1987). Until very recently, the Shekou IZ also adopted a strict policy not to introduce processing and assembling works.\(^68\)

The predominance of joint ventures in Shenzhen can be further explained by the fact that most of the investments originated from NICs tend to set up joint ventures with local partners rather than wholly-owned subsidiaries. Chen argues that the preference for joint ventures by MNCs from NICs is mainly because they usually produce mature products, such as

---

\(^67\)The processing and assembling trade contracts exist in several different forms. Some of these contracts may involve simply subcontracting works from the foreign firms who have no equity participation in the ventures. Others may receive investment by the investors in the form of equipment and technical assistance.

\(^68\)The Shekou IZ decided to accept processing trade contracts on a selective basis in 1987 (Fieldwork 1987.)
colour televisions, textiles and clothings, and others, using standardized technology with high price elasticity of demand and are therefore not as anxious as developed country MNCs to obtain complete control because for them there is little fear of losing control over standardized technology. Moreover, co-operating with a local entrepreneur also enable NIC investors to gain knowledge of local distribution channels and the local economic and political environment. Furthermore, this form of ownership is also generally politically more acceptable on the part of the host country government (Chen 1983, 118).

Generally, the average size of foreign investment ventures in the Shenzhen SEZ is small. In Shenzhen, the size of approved investment averaged at less than US$1.2 million per project. If only "direct" investment ventures were included, the average investment jumped to US$3 million. The average "direct" investment in the Shenzhen SEZ was one-third larger than the average investment in either Guangdong or China. The higher than average scale of investment was due to the presence of several large scale projects, such as the two power plant projects, a number of real estate and tourist facilities development projects.

A more detailed analysis of foreign investment ventures in Shenzhen also confirmed that most investment ventures were small in size. Of the 241 equity joint ventures approved and reported by MFERT during the period

69 In South Korea’s EPZs, over two-thirds of the foreign investment projects in 1980 were less than US$1 million each (Basile and Gemidis 1984, 26). In India’s Kandla EPZ, the average number of workers per firm was 67 (Basile and Gemidis 1984, 27).

70 All investment figures in this section are calculated from the amount of pledged investment.
from 1979 to 1986, more than 70 percent had a total investment of less than US$2 million per project (Table 3-4). In fact, over 30 percent of them had total investments of less than US$0.5 million. When only the foreign equity was considered, over 85 percent of the investment ventures were under US$2 million and over half had less than US$0.5 million of contributions from their foreign partners.

The small scale investment in Shenzhen was linked to its sectoral distribution. In the period up to 1986, Shenzhen experienced a dramatic shift in the sectoral distribution of foreign investment. As data in Table 3-5 showed that the majority of the investment in the late 1970s was concentrated in the services sector, in particularly in the real estate sector. The industrial sector then received less than one-third of what the services sector absorbed. The sectoral distribution of foreign investment in Shenzhen also suggested that the service sector was highly favoured by foreign investors. The early comprehensive development strategy adopted in Shenzhen led to an overwhelming proportion of investment in the real estate and services sectors. Despite a strenuous effort by the government to develop industry in the SEZ in recent years, a substantial proportion of the investment funds was still directed towards the real estate and commercial sectors. Foreign investors were attracted by the high demand for tourist and other services and the foreign exchange income opportunities available in these activities. This sectoral distribution pattern was corresponding to the investment trend in the world in general and in the Pacific Rim region in particular in which an increasing proportion of foreign investment was
Table 3-4. Scale of Equity Joint Ventures in Shenzhen, 1979-1986

<table>
<thead>
<tr>
<th>Scale of Investment (US$ million)</th>
<th>Total Approved Investment*</th>
<th>Investment by Foreign Partner**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Ventures</td>
<td>Amount of Investment</td>
</tr>
<tr>
<td>&gt;30</td>
<td>0.4</td>
<td>88.5</td>
</tr>
<tr>
<td>10 - 29.99</td>
<td>3.7</td>
<td>3.3</td>
</tr>
<tr>
<td>5 - 9.99</td>
<td>6.6</td>
<td>2.6</td>
</tr>
<tr>
<td>3 - 4.99</td>
<td>4.6</td>
<td>1.0</td>
</tr>
<tr>
<td>2 - 2.99</td>
<td>14.1</td>
<td>1.8</td>
</tr>
<tr>
<td>1 - 1.99</td>
<td>23.7</td>
<td>1.7</td>
</tr>
<tr>
<td>0.5 - 1</td>
<td>15.4</td>
<td>0.6</td>
</tr>
<tr>
<td>&lt;0.5</td>
<td>31.5</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Notes:
*Data included 241 equity joint ventures and a total approved investment of US$4,519.15 million.
**Data included 241 equity joint ventures and approved investment of US$1,227.51 million by the foreign partners.

Table 3-5. Sectoral Distribution of Foreign Investment in the Shenzhen Special Economic Zone 1979-1986.

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Investment Contracts</th>
<th>Approved Investment</th>
<th>Utilized Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry*</td>
<td>67.0</td>
<td>37.3</td>
<td>54.1</td>
</tr>
<tr>
<td>Services**</td>
<td>11.0</td>
<td>9.7</td>
<td>16.8</td>
</tr>
<tr>
<td>Real Estate</td>
<td>1.8</td>
<td>0.8</td>
<td>2.8</td>
</tr>
<tr>
<td>Agriculture***</td>
<td>0.0</td>
<td>0.5</td>
<td>0.8</td>
</tr>
<tr>
<td>Others+</td>
<td>22.0</td>
<td>52.5</td>
<td>28.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Notes:
* Data for the 1984-1986 period do not include processing and assembling ventures.
** Included transportation, communication, real estate, commercial, tourism, restaurant and other service activities.
*** Included also livestock, fishing, and forestry activities.
+ Included also processing and assembling ventures in the 1984-1986 period.

directed towards the services sector (UNCTC 1987, 26; UNESCAP 1989, 85-86). In comparison with other EPZs, Shenzhen had a much lower proportion of foreign investment in its industrial activities.

By the end of 1986, cumulative investment in the services sector declined substantially as a result of the shrinking investment in real estate projects. Industry became the major sector and received more than half of all foreign investment in the zone. The sudden surge of investment in the industrial sector in 1986 was probably due to the large injection of foreign capital into the electrical power plant which is classified as industrial project in China.

The changing sectoral distribution of foreign investment was due also to a more restrictive policy on real estate development by foreign investors after the collapse of many land development projects in 1982. Thereafter, many of the real estate projects were undertaken without foreign participation. Moreover, the Shenzhen government attempted to divert its development based on real estate and commercial development to that of industrial development. A better infrastructure in Shenzhen also encouraged more investment in the industrial sector in recent years. Finally, several mega energy projects, such as the nuclear power plant, the Shajiao electrical power plant, also boosted the proportional share of industry in the overall investment structure in the past few years.

The above analysis indicates that Shenzhen in some ways shares similar investment characteristics as in many EPZs but it also shows
important differences in its sources, sectoral structure and forms of investment.

3.3 INVESTMENT ISSUES AND PROSPECTS

By comparison to other Asian countries, Shenzhen was able to attract a larger amount of foreign investment during the early 1980s (Ensor 1987, 69; Holloway 1987, 90-91; Marchand 1987, 82-83). We should note however that foreign investment figures in Shenzhen were not directly comparable to those in other countries as China adopted a more liberalized definition of FDI.

Nevertheless, the performance of Shenzhen was very impressive when compared to other Chinese cities. With less than 1 percent of Guangdong Province’s population, Shenzhen absorbed over one-third of all foreign investment in Guangdong during the 1979-1986 period. The share of foreign investment in Shenzhen was even more prominent at the regional level. In 1986, the utilized "direct" investment received by Shenzhen was even more than the total in the fourteen open coastal cities (GTJZS 1987, 427).

However, the share of provincial and national total investment in Shenzhen declined in recent years. The share of China’s total "direct" investment contracts and approved investment in Shenzhen declined from about one-fifth and one-quarter in the 1979-1982 period to 13 percent and 8

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71 In 1986, South Korea received total foreign investment of US$345 million. In Singapore and Hong Kong, foreign investment amounted to US$657.52 million and US$2.5 billion respectively in 1986.
percent respectively in 1986. Its share of the utilized investment in China would also have declined if the investment in the Shajiao power plant project was not included.\textsuperscript{72}

Despite the offering of various investment incentives, the attractiveness of Shenzhen as a key investment centre in China was undermined by the increasing production costs, competition from other parts of China, and economic and political instability. The high mobility of foreign capital, the foot-loose nature of some of these industrial operations, and the changing world market prices all contributed to the fluidity of investment in Shenzhen.

One of the major complaints of foreign investors in the Shenzhen SEZ was rising production costs, especially labour costs. Wages in Shenzhen were not only higher than most other Chinese cities but also experienced a double digit increase annually during the 1979-1986 period. In addition to the wages, foreign enterprises in Shenzhen were required to pay an extra 25 percent of the total wage bill to the labor service bureau (for labour insurance and other social programs) and a further 5 percent for the workers’ welfare fund. Moreover, foreign enterprises were also expected to provide dormitories for the workers and subsidize their meals, annual home visits, and medical expenses (Hokkaido and Takugin 1987, 21). Some Japanese investors pointed out that when productivity of the workers was

\textsuperscript{72}Shenzhen’s share of the national total investment declined from 15 percent during the 1979-1982 period to less than 10 percent in 1985 but dramatically jumped to 16 percent in 1986.
taken into account and all the subsidies were included, the total labour costs
did not seem to be significantly lower in Shenzhen than other parts of Asia.
They further claimed that "in terms of overall production cost, Shenzhen is
not that much cheaper than Japan or South Korea" (Hirata 1985, 18).

Although the land use fees in Shenzhen were relatively low, the rent
of the pre-built factories was only slightly lower than Hong Kong. As
Shenzhen did not have a well developed infrastructure, the initial
development cost of providing electricity, water, telephone, roads and other
urban services was exorbitant. Foreign enterprises in Shenzhen were
expected not only to pay the basic utilities charges but also to pay for the
development cost, the installation expenses, and additional management
fees for providing basic utilities (Hokkaido and Takugin 1987, 56-57). The
production cost of foreign enterprises in Shenzhen was further exacerbated
by various kinds of unexpected fees and charges imposed by different
government and public agencies. An example of this was the monthly
security charges of Rmb 500 Yuan required by the Public Security Bureau
(Bai 1987, 13-16).

The declining share of foreign investment by Shenzhen in recent years
was due to an increasing number of cities and counties in Guangdong and
other parts of China opening up for foreign investment. Many cities and
counties in the Pearl River Delta Region competed directly with Shenzhen
for investment and subcontracting ventures from Hong Kong. Many of them
not only offered substantially lower labour and services charges but also
promised a more streamlined procedures for setting up investment
ventures, less administrative interference in the operations, and the waiving of most local taxes. A noted example was Dongguan County which offered a lower labour fee and competed vigorously with Shenzhen for subcontracting work from Hong Kong. When the new freeway between Hong Kong and Guangzhou is completed, the geographical advantage of Shenzhen will diminish further as more cities and townships along this new transportation route will be able to take advantage of the lower transportation cost and compete with Shenzhen for investment from Hong Kong. The granting of more investment approval powers and the provision of similar preferential measures to foreign investors in the fourteen open coastal cities, Hainan Island and other open coastal regions also reduced the comparative advantage of Shenzhen and other SEZs. Shenzhen will have difficulty in maintaining its share of foreign investment in China and Guangdong unless it has more to offer than at present.

The patterns of foreign investment in Shenzhen also indicate that it is heavily dependent on Hong Kong. As the great majority of all investment in Shenzhen comes from Hong Kong, any fluctuations in the flow of its investment will have a severe impact on Shenzhen. A good example was the slump in the property market of Hong Kong in 1982 which led to a 80 percent plunge in pledged investment in Shenzhen. Another case in point was in 1986 when a large reduction in Hong Kong investment led to a sharp decline in the amount of approved investment in Shenzhen. The drop in investment took place despite a three-fold increase in investment from other countries.
As in other Asian EPZs, investment in the Shenzhen SEZ is subject to large fluctuations due to changing world market conditions and relative competitiveness in production costs. However, as Shenzhen is heavily dependent on Hong Kong for its investment capital, Hong Kong’s uncertain political future, unstable export performance (due to increasing trade restrictions imposed by developed countries and changing world market demand), and high sensitivity to China’s changing political and economic policies further add to the fluidity of investment in Shenzhen.

Although Shenzhen shares some of the development objectives of other Asian EPZs, a distinctive feature of Shenzhen is that China remains a planned socialist economy while most other EPZs are located in market economic systems. One of the major concerns of foreign investors is the long term political and economic stability of Shenzhen and China. Shenzhen not only is the first city to open up to foreign investment but also adopts more “radical” economic reform policies than most other Chinese cities. Some of these policies, however, may not be fully supported by all party members and officials when the political climate changes and may have to be adjusted and retracted accordingly. Some of the special economic measures granted to Shenzhen can also be lifted any time when economic conditions change. The stability of investment in Shenzhen is thus highly affected by its “experimental” nature. Moreover, the large numbers of joint venture projects in Shenzhen also require a continuous commitment of funding from Chinese enterprises which are vulnerable to this changing political and economic policies of the central and provincial governments.
Shenzhen's investment is therefore highly dependent on the political and economic stability of China, which remains one of the major concerns of many Hong Kong, Japanese and other foreign investors.

Other hurdles which also limit the absorption of foreign investment in Shenzhen are the administrative redtape, control of foreign exchange, and interference of enterprise management. Although Shenzhen claims to have simplified many administrative procedures, it still may take up to a year to get a project approved through many different government departments. The presence of different administrative authorities in the SEZ and the provisions of different, competing preferential treatment also confuse many investors. Yet, another major stumbling block for foreign investment in both Shenzhen and other parts of China is foreign exchange control. Successful entrepreneurs often find it difficult to convert their hard earned Renminbi into foreign exchange for remittance back home. Although Shenzhen has lately set up a foreign exchange centre to allow foreign exchange to be converted at a higher rate than the official exchange rate, both the exchange rate and the participants in the centre are highly restricted (Shi 1987a, 17-19). There were also reports of interference in the management of some joint venture enterprises by the administration in regard to personnel, investment priorities, and production plans.

Despite such issues in its absorption of foreign investment, Shenzhen has undoubtedly emerged as the most successful city in the amount of foreign investment attracted. The flow of foreign investment has further
provided a strong stimulus to the growth and structural changes in its economy and employment.
CHAPTER 4. ECONOMIC GROWTH AND STRUCTURAL CHANGE IN SHENZHEN

Prior to its designation as an SEZ, Shenzhen was a small county town with a low income level and a poorly developed infrastructure. Its economy was predominantly agricultural and the great majority of its labour force was engaged in primary activities (Liu and Liang 1985, 58). As Shenzhen is located in the frontier region, its industrial and commercial activities were restricted for security reasons. Consequently, Shenzhen’s local revenue was very limited, less than Rmb 25 million Yuan in 1978 (GDYS 1986, 247). Per capita income in Shenzhen was also considerably lower than in other parts of Guangdong (GSTJ 1984, 320; SJTN 1885, 586). Shenzhen’s contributions to the regional economy of Guangdong in the late 1970s were negligible, less than 1 percent of its GVIAO.

The limited financial resources of the local government severely restricted Shenzhen’s capacity to develop its economic and urban infrastructure. In 1978, less than Rmb 12 million Yuan was available for capital construction in the whole Municipality. The urban infrastructure, such as power, water, and transportation, was inadequate to support major industrial development. There was only a handful of technicians and professionals in Shenzhen and the level of education amongst the workers was not high. Even the unskilled labourers were in short supply as many of them had migrated to other parts of China and Hong Kong. Despite its importance as a gateway to and from Hong Kong, no major tourist and

73Rural per capita income in 1980 was only Rmb 208.5 Yuan in Shenzhen Municipality as compared to the provincial average of Rmb 274.37 Yuan.

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commercial facilities were developed as most visitors considered Shenzhen no more than a transit point to other parts of China.

In order to transform Shenzhen from a backward county to a "modernized city"\textsuperscript{74} of China and to achieve its wide ranging economic, political, and regional development goals, the SEZ Plan was formulated in 1981 to guide the full scale development of Shenzhen. The plan stipulated specific production, investment and population targets for the Shenzhen SEZ to accomplish during the twenty year period from 1980 to 2000. After consultation with various Chinese and Hong Kong planners, scholars, and administrators, the SEZ Plan was submitted to the provincial government and the State Council in 1982. However, the scale of development, the economic growth targets, and the financial costs of developing the SEZ remained subjects of debates amongst many planners and scholars.

The major purposes of this chapter are: first, to outline the major development targets of the SEZ Plan; second, to evaluate the extent to which Shenzhen has achieved the planned economic targets; third, to analyze the structural changes and deficiencies in the economy; and fourth, to assess the growth and patterns of employment in the SEZ.

\textbf{4.1 PLANS FOR ECONOMIC AND URBAN DEVELOPMENT}

The economic backwardness of Shenzhen did not impede the formulation of an ambitious economic and urban development plan. As early

\textsuperscript{74}Modernized here referred to a better developed infrastructure in Shenzhen, particularly in transportation and communications.
as 1980, dozens of engineers and other experts were invited to participate in the formulation of an urban development plan for Shenzhen (Guan 1983, 367; Shenzhen Shi 1983, n.p.). This early urban plan proposed to develop Shenzhen into a city of 600,000 people with a built-up area of 60 sq. km. by the end of the century (Xu and Cai 1983, 20-21). Shortly after the central government decided to develop Shenzhen as a comprehensive SEZ and proposals were submitted by several foreign investors to develop large tracts of land in Shenzhen, the urban plan was revised to include a population of 800,000, a ten-fold increase over its population in 1980. It was believed that the larger scale of development would increase the economies of scale and more attractive to foreign investors, particularly those interested in real estate and land development in the zone. Details of the population growth and urban development plans in Shenzhen are presented in Chapter 6.

In addition to a rapid expansion of population, the growth rates of other key development targets in the SEZ Plan were exceptionally high. As indicated in Table 4-1, Shenzhen’s NMP was to be increased by an annual average of more than 20 percent during the 1981-2000 period. Per capita NMP by the year 2000 was expected to reach US$3,130, quadruple the national goal of US$800. This was undoubtedly the most ambitious goal set by any Chinese city. It was firmly believed that the higher economic and income growth in Shenzhen would not only help to reduce its income gap

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76 All development targets hereafter referred to the 1983 revised SEZ Plan.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SEZ in 1980*</th>
<th>1985</th>
<th>1990</th>
<th>2000</th>
<th>Planned Average Annual Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>85,000</td>
<td>250,000</td>
<td>400,000</td>
<td>800,000</td>
<td>24.1</td>
</tr>
<tr>
<td>% Non-agricultural</td>
<td>57.6</td>
<td>84.0</td>
<td>92.5</td>
<td>97.5</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41,000</td>
<td>125,000</td>
<td>210,000</td>
<td>500,000</td>
<td>25.0</td>
</tr>
<tr>
<td>% in Agriculture</td>
<td>39.0</td>
<td>16.0</td>
<td>7.1</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>% in Industry</td>
<td>22.0</td>
<td>32.0</td>
<td>38.1</td>
<td>32.0</td>
<td></td>
</tr>
<tr>
<td>% in Services</td>
<td>39.0</td>
<td>52.0</td>
<td>54.8</td>
<td>66.0</td>
<td></td>
</tr>
<tr>
<td>Total Income (Rmb million Yuan)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GVIAO</td>
<td>72.0</td>
<td>530.0</td>
<td>1423.0</td>
<td>4260.0</td>
<td>49.1</td>
</tr>
<tr>
<td>GVIO</td>
<td>76.7</td>
<td>1280.0</td>
<td>3690.0</td>
<td>9700.0</td>
<td>75.6</td>
</tr>
<tr>
<td>GVAO</td>
<td>51.2</td>
<td>1200.0</td>
<td>3600.0</td>
<td>9600.0</td>
<td>87.9</td>
</tr>
<tr>
<td>Per Capita Output (Rmb Yuan)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GVIAO</td>
<td>25.5</td>
<td>80.0</td>
<td>90.0</td>
<td>100.0</td>
<td>25.7</td>
</tr>
</tbody>
</table>

Notes:
GVIAO - Gross Value of Industrial and Agricultural Output; GVIO - Gross Value of Industrial Output; GVAO - Gross Value of Agricultural Output.
*The data are reported in the SEZ Plan. Some of the data are different from the figures released by the Shenzhen Statistical Office.

Continued on next page
Table 4-1  
Continued

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SEZ in 1980*</th>
<th>Planned Targets</th>
<th>Planned Average Annual Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output per Worker (Rmb Yuan)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GVIO/Worker</td>
<td>5,600</td>
<td>30,000</td>
<td>45,000</td>
</tr>
<tr>
<td>GVAO/Worker</td>
<td>1,600</td>
<td>4,000</td>
<td>6,000</td>
</tr>
<tr>
<td><strong>Total Capital Construction Investment (Rmb million Yuan)</strong></td>
<td>113</td>
<td>3,000</td>
<td>8,500</td>
</tr>
<tr>
<td>Sectoral Distribution (% in)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sources (% from)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign Capital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Budgetary Fund</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Revenue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank Loans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Targets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Built-up Area (in sq.km.)</td>
<td>4</td>
<td>19</td>
<td>50</td>
</tr>
<tr>
<td>No. of Housing Units</td>
<td>n.a.</td>
<td>60,500</td>
<td>100,000</td>
</tr>
<tr>
<td>No. of Factories</td>
<td>69</td>
<td>200</td>
<td>450</td>
</tr>
<tr>
<td>No. of Tourists ('000)</td>
<td>n.a.</td>
<td>500</td>
<td>900</td>
</tr>
<tr>
<td>No. of Hotel Rooms</td>
<td>n.a.</td>
<td>2,500</td>
<td>5,500</td>
</tr>
<tr>
<td>Electricity Supply (kw)</td>
<td>n.a.</td>
<td>125,000</td>
<td>200,000</td>
</tr>
</tbody>
</table>

Notes: GVIO - Gross Value of Industrial Output; GVAO - Gross Value of Agricultural Output.


with Hong Kong but also served the political goal of facilitating the unification of Hong Kong with China in 1997.

As outlined in the SEZ Plan, Shenzhen would be transformed from an agricultural county to a comprehensive SEZ encompassing various industrial and commercial activities. The agricultural sector was to decline steadily in the SEZ, contributing less than 2 percent to the total employment and NMP by the end of the century. Tertiary activities would be strongly encouraged as expressed in its share of CCI during the planned period. The services sector was expected to provide large numbers of employment opportunities, which were planned to increase by an average of 16 percent per annum. One of the major service activities to be strongly promoted was tourism which was seen to be an important source of foreign exchange earnings. By the end of the century, 30 to 50 hotels were to be built and up to 10,000 hotel rooms would be available to accommodate up to 1.5 million foreign visitors (Shenzhen Shi 1983, n.p.).

Despite the emphasis on the development of services activities in the SEZ, the industrial sector was to play a key role in the promotion of economic growth and the absorption of advanced foreign technology. A total of 15 sq. km. of land was allocated for the building of 1,500 factories. Industrial output was planned to grow by an annual average of 30 percent, triple the national growth rate. As the SEZ was to be in the forefront of introducing advanced technology and western management techniques, industrial productivity was expected to be increased by 13 percent per year.
during this twenty year period. This was a very ambitious target as industrial productivity grew by an annual average of only 3.2 percent in Guangdong Province during the 1953-1980 period (GSTJ 1987, 36).

Such high rates of economic and industrial growth in Shenzhen were to be supported by a large infusion of CCI. During the period from 1981 to 2000, Shenzhen planned to invest Rmb 21 billion Yuan to build up the urban, commercial and industrial infrastructure, of which, over half of the investment would be spent to build up the urban facilities and housing for its workers. It was recognized that the poor basic infrastructures, such as roads, communications, power, and other urban services, needed drastic improvement before foreign investments could be attracted. Electricity supply would be increased by an average of 8 percent per year during the 1986-2000 period. Up to 200,000 housing units would also be required to accommodate the large numbers of new migrants. The ten-fold increase in population during the planned period further required substantial investment in the social, education, and other urban services which had to be built almost from scratch.

The bulk of the CCI was to be financed by foreign capital. As indicated in the SEZ Plan, a total of Rmb 12.2 billion Yuan or almost 60 percent of the CCI during the 1981-2000 period would have to be raised from foreign sources. Contributions from the central government was not

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77 Industrial productivity is measured by the GVIO per “staff and workers”.

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expected to be very large as the SEZ was planned to generate revenues for China rather than as a financial liability.

To support this large scale infrastructural development, thousands of workers would have to be recruited. The SEZ authorities anticipated that up to half a million workers would be employed in the zone by the year 2000. Shenzhen would contribute significantly in reducing the problems of unemployment and under-employment in both urban and rural areas of Guangdong. Most of the workers would be engaged in non-agricultural activities with industry alone employing 32 percent of the total workforce. Nevertheless, the major employer in the zone would be the services sector which would absorb over two-thirds of the labour force (Shenzhen Shi 1983, n.p.).

With the adoption of such an ambitious plan, Shenzhen embarked on a development strategy which attempted to develop various economic activities at a pace unprecedented in China.

4.2 ECONOMIC AND INCOME GROWTH IN SHENZHEN

Despite its poor economic foundation, Shenzhen achieved a high rate of economic growth during the 1979-1986 period. As indicated in Table 4-2, Shenzhen accomplished almost all its economic and production targets as set out in the SEZ Plan. One of the most dramatic achievements of Shenzhen was the high rate of growth in its gross domestic product
Table 4-2. Economic Growth in Shenzhen and Guangdong, 1981-1986

<table>
<thead>
<tr>
<th></th>
<th>Total Output in 1986* (RMB million Yuan)</th>
<th>Average Annual Growth Rate (%) 1981-1986**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shenzhen SEZ</td>
<td>Shenzhen Municipality</td>
</tr>
<tr>
<td>1 Gross Domestic Product</td>
<td>2,756.5</td>
<td>3,549.7</td>
</tr>
<tr>
<td>2 Net Material Product</td>
<td>1,995.1</td>
<td>2,729.4</td>
</tr>
<tr>
<td>3 GVIAO</td>
<td>3,126.3</td>
<td>3,815.1</td>
</tr>
<tr>
<td>4 GVAO</td>
<td>15.3</td>
<td>250.0</td>
</tr>
<tr>
<td>5 GVIO</td>
<td>3,111.0</td>
<td>3,565.1</td>
</tr>
</tbody>
</table>

Notes:
*Data are in current prices except GVIAO, GVIO, and GVAO which are in 1980 constant prices.
**Data are adjusted with retail price indexes. Retail price indexes in 1986 are 183.4 for Shenzhen and 135.7 for Guangdong Province (both are based on the price index of 100 in 1980). The price indexes are estimated by the Shenzhen Statistical Office, quoted in Zeng 1990, 155.

Sources:
3 GVIAO = Gross Value of Industrial and Agricultural Output. SJTN 1985, 582; SJTN 1987, 325; GSTJ 1987, 43.
4 GVAO = Gross Value of Agricultural Output. SJTN 1985, 582; SJTN 1987, 325; GSTJ 1987, 43.
5 GVIO = Gross Value of Industrial Output. SJTN 1985, 582; SJTN 1987, 325; GSTJ 1987, 43.
Within a period of six years, the total GDP in the SEZ expanded more than 18 times to reach Rmb 2.8 billion Yuan in 1986 (SSTJ 1987a, 2). After price adjustments were made, the growth of GDP in Shenzhen was more than quadruple the provincial average. Consequently Shenzhen’s share of the provincial total GDP increased from less than 1 percent in 1980 to 4.1 percent in 1986, significantly higher than Shenzhen’s share of the provincial population (GSTJ 1987, 42).

As data on Shenzhen’s GDP were not systematically collected until recently, GDP figures for earlier years were based on estimations by the Shenzhen Statistical Office. In order to have a full assessment of Shenzhen’s patterns of economic growth, data on Shenzhen’s NMP and the GVIAO are also presented in Table 4-2. In 1986, the total NMP in Shenzhen reached Rmb 2 billion Yuan, almost triple the target in the SEZ Plan. Shenzhen Municipality as a whole also experienced an annual growth of more than 37 percent in its NMP during the same period (SSTJ 1987b, n.p.; SJTN 1987, 325). We should, however, note that the NMP is not a comprehensive economic indicator as it includes only the value of production from five

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78 The GDP in China is measured as the total value added in the process of producing products or providing services, excluding value of intermediate inputs but added depreciation of fixed assets.

79 The growth rates of GDP and NMP were adjusted with retail price indexes. The Shenzhen Statistical Office estimated that the retail price index in 1986 was 183.4 in Shenzhen and 135.7 for Guangdong Province (based on the price index of 100 in 1980). Quoted in Zeng 1990, 155.

80 Shenzhen’s share of the provincial population was 0.74 percent in 1986.

81 Bao’an County also experienced an annual growth of more than 39 percent in its NMP during the 1979-1986 period.
productive economic sectors while output from other sectors, such as government, financial, urban, social, and other services are not included. In addition, the NMP data for Shenzhen are available only in current prices which may not fully reflect the actual growth rate during this period which was characterized by high inflation, averaging over 10 percent per year.

In contrast to both NMP and GDP which are measured in current prices, the GVIAO which is given in constant prices also shows that Shenzhen achieved a significant higher growth rate than planned for the 1981-1986 period. The GVIAO in Shenzhen increased by an annual average of more than 80 percent, almost six times higher than the provincial average during the 1981-1986 period (GSTJ 1987, 42-44). The phenomenal growth led Shenzhen to become the second ranked city in Guangdong Province in terms of GVIAO output (GTJZS 1987, 48). However, the GVIAO also has several deficiencies as a measure of economic growth. The GVIAO includes only two economic sectors - industry and agriculture - while income from other sectors are not included. Second, the data are based on gross value instead of net output and so there are some distortion of the net growth rate. Nevertheless, the data on GVIAO have been more systematically collected in Shenzhen than other economic indicators in the earlier years and gives us an indication of the growth of two major economic sectors.

The above three major economic indicators invariably showed that Shenzhen achieved a rapid rate of economic growth during the early 1980s.

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82In 1986, Guangzhou led all cities in total GVIAO with an output of Rmb 15.6 billion Yuan while Foshan ranked third with an output of Rmb 2.8 billion Yuan.
The high rate of economic growth was strongly supported by the large inputs of fixed asset investment (FAI) and labour. In 1986, total FAI in Shenzhen Municipality reached Rmb 2.0 billion or about 9 percent of the provincial total (GTJZS, 1987, 256; GSTJ 1987, 219). Shenzhen's per capita FAI was far above the provincial average, reaching Rmb 4,117 Yuan in 1986 (GSTJ 1987, 217-219; GNBWH 1987, 542). In fact, the total FAI in Shenzhen was even more than in some provinces of China, including Qinghai, Ningxia, and Tibet (GTJ 1987, 469).

The great majority of FAI in the SEZ was allocated to the building and expansion of new capital projects. From 1979 to 1986, CCI in Shenzhen increased 40-fold to reach a cumulative total of Rmb 7.8 billion Yuan (SJTN 1985, 592-593; SSTJ 1987a, 2). Shenzhen's share of the provincial total also increased from less than 2 percent in 1979 to 16 percent in 1986. If investment in the Shajiao power plant and the nuclear power plant in Daya Bay were included, Shenzhen's share of the provincial total would be even higher (SSTJ 1987a, 2). Although Shenzhen Municipality was under a stringent fiscal restraint policy in 1986, its per capita CCI remained the

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83 Fixed asset investment include investments by all units and individuals in capital construction, technical upgrading, and other projects.

84 In 1986, per capita FAI in Guangdong Province reached Rmb 351 Yuan.

85 In 1986, 91.6 percent of all FAI was allocated to capital construction projects.

86 Data for 1979 were based on the share of the provincial total by Shenzhen Municipality. The data is based on the amount of investment utilized rather than planned.

87 Investments in the Daya Bay nuclear power plant and the Shajiao power plant in 1986 were Rmb 85 million Yuan and Rmb 1,141 million Yuan respectively. In 1985, Shenzhen received 12 percent more CCI than that in Guangzhou (GSTJ 1985, 241).
highest in the province and was five times higher than in the provincial capital (GSTJ 1987, 219; GNBWH 1987, 543).

In contrast to the investment pattern in many other Asian EPZs, most of the CCI in the SEZ came from domestic sources. The bulk of the investment came from credits granted by Chinese state banks and investments from domestic enterprises. By the end of 1986, less than 20 percent of the CCI came from foreign sources, far below the 58 percent level as outlined in the SEZ Plan (see Table 4-3). One of the major reasons for the large domestic capital outlay was the expansion of Shenzhen from a small industrial zone to a city of half a million which required substantial infrastructural support.

The rapid growth of Shenzhen’s economy was also attributed to the input of a large labour force. By the end of 1986, more than 400,000 workers were employed in the SEZ, a 13-fold increase from 1979. The growth of the labour force in Shenzhen almost double the planned growth rate for this period. Details of the employment patterns are presented in section 4.4.

The expansion of Shenzhen’s economy was further strengthened by a large increase in the purchasing power of its residents and visitors. In 1986, total population in Shenzhen increased to almost half a million and the number of visits by domestic and foreign tourists reached 1.7 million (SJTN 1987, 344). The purchases of food, consumer durable goods and other services by Shenzhen’s residents and visitors amounted to Rmb 2.3 billion Yuan or about 6 percent of the provincial total in 1986 (GSTJ 1987, 259). The expansion of the retail trade provided an important thrust for Shenzhen’s
Table 4-3. Sectoral Distribution and Sources of Capital
Construction Investment in Shenzhen, 1979-1986

<table>
<thead>
<tr>
<th>Percentage of Total</th>
<th>Shenzhen Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1979</td>
</tr>
</tbody>
</table>

A. Sectoral Distribution

1. Primary
   - 10.9  | 2.5   | 1.8   |

2. Secondary
   2.1 Industry
   - 34.4 | 24.9  | 24.4  |
   2.2 Construction
   - 0.0  | 0.0   | 0.0   |
   2.3 Survey
   - 0.0  | 0.0   | 0.0   |

3. Tertiary
   3.1 Transportation
   - 32.8 | 59.7  | 60.2  |
   3.2 Commerce
   - 5.7  | 7.9   | 10.0  |
   3.3 Urban & Tourist
   - 9.8  | 13.8  | 12.5  |
   3.4 Health & Social
   - 12.0 | 25.3  | 30.0  |
   3.5 Cultural
   - 4.2  | 8.5   | 6.2   |
   3.6 Research
   - 0.0  | 0.0   | 0.0   |
   3.7 Financial
   - 0.7  | 3.6   | 1.2   |
   3.8 Administration
   - 0.0  | n.a.  | n.a.  |

4. Others
   - 21.8 | 12.9  | 13.6  |

B. Sources of Investment

5. Domestic
   5.1 State Budgetary Fund
   - 89.0 | 76.3  | 77.9  |
   5.2 Central & Provincial Enterprises
   - 47.8 | 2.6   | 3.4   |
   5.3 Local Revenue
   - 24.5 | 15.8  | 12.1  |
   5.4 Local Enterprise
   - 12.5 | 18.0  | 14.5  |
   5.5 Interior Enterprise
   - 4.1  | 15.6  | 17.2  |
   5.6 Bank Loans
   - 0.0  | 10.0  | 4.9   |

6. Foreign Capital
   - 11.0 | 18.1  | 19.1  |

7. Others
   - 0.0  | 5.7   | 3.0   |
Notes to Table 4-3:

* Based on cumulative total investment.

1. Included agriculture, forestry, livestock, fishing, and water works.
2.2 Included also geological survey in 1979-1984.
2.3 Included geological survey and land survey.
3.1 Included also communication.
3.2 Included also restaurant, material supply, and warehousing.
3.3 Included also real estate management, tourism, hotel, information services.
3.4 Included also sport activities; cultural and educational services are also included in 1979-1984.
3.5 Included also educational, and broadcasting services.
3.6 Included also technical services.
3.7 Included also insurance services.
3.8 Included government, party, and other social organizations.

Item 5: included all sources of domestic investment, loans, and others.
Item 5.1: state funds from central and provincial governments.
Item 5.2: investment from central ministries and other provincial agencies.
Item 5.3: funds from local revenue.
Item 5.4: funds raised by local enterprises, including loans advanced to these enterprises. Data for China included all locally raised investments.
Item 5.5: investments by enterprises from other provinces and municipalities.
Item 5.6: loans from Chinese banks.
Item 6: included both foreign investment and loans.

Sources to Table 4-3:

(A) - SJTN 1985, 592-593; SJTN 1987, 335-336.
(B) - SJTN 1985, 592-593; SJTN 1987, 337-338.
economic growth. The rise of the tertiary activities are further discussed in section 4.3.

As the population in Shenzhen also increased rapidly during the 1979-1986 period, the growth rate of per capita income was much lower than that of total income. Data in Table 4-4 showed that when both permanent and temporary population were included, per capita GDP grew at an annual rate of 12 percent, less than one-quarter of its growth rate in total income. The per capita NMP also grew at a rate far below the planned growth rate for the 1981-1985 period. If the tens of thousands of illegal residents in Shenzhen were also included, the growth rate of per capita income in Shenzhen would be even lower.

Nevertheless, per capita income and the standards of living in Shenzhen improved significantly during this period and compared favourably to other parts of Guangdong. While per capita income in Shenzhen Municipality was below the provincial average in the late 1970s, per capita GDP in Shenzhen increased to Rmb 5,640 Yuan, double that in Guangzhou Municipality and five times higher than the provincial average in 1986 (GSTJ 1987, 42). Shenzhen's per capita GVIAO also surpassed that in the Pearl River Delta Region by two and a half times.88 Even if we take into account the large numbers of unregistered residents in the SEZ, per capita income in Shenzhen would be higher than in most other municipalities.

88 The per capita income of GVIAO in the Pearl River Delta Open Economic Zone was Rmb 2,387 Yuan in 1986.
<table>
<thead>
<tr>
<th></th>
<th>Per Capita Income and Wages, 1986*</th>
<th>Average Annual Growth Rate (%) 1981-1986**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Rmb Yuan)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shenzhen SEZ</td>
<td>Shenzhen Municipality</td>
</tr>
<tr>
<td>1 Gross Domestic Product</td>
<td>5,640</td>
<td>3,794</td>
</tr>
<tr>
<td>2 Net Material Product</td>
<td>4,082</td>
<td>2,917</td>
</tr>
<tr>
<td>3 GVIAO</td>
<td>6,397</td>
<td>4,078</td>
</tr>
<tr>
<td>4 Wages Per Worker</td>
<td>2,568</td>
<td>2,452</td>
</tr>
<tr>
<td>5 Urban Net Income</td>
<td>n.a.</td>
<td>1,683</td>
</tr>
<tr>
<td>6 Rural Net Income</td>
<td>n.a.</td>
<td>894</td>
</tr>
</tbody>
</table>

Notes and Sources:
*Per capita income data are derived from year-end total population. Total population included also temporary residents in Shenzhen but not in other parts of Guangdong.
**Data are adjusted with retail price indexes. Retail price indexes in 1986 are 183.4 for Shenzhen and 135.7 for Guangdong Provinces (both are based on the price index of 100 in 1980). The price indexes are estimated by the Shenzhen Statistical Office, Quoted in Zeng 1990,155.

3 GVIAO = Gross Value of Industrial and Agricultural Output. SJTN 1985, 582; SJTN 1987, 325; GSTJ 1987, 43.
4 Data are average wages for staff and workers in all enterprises except data for Guangdong which included only state sector enterprises in 1980. Wages for temporary workers, rural collective workers, and individual workers are not included. SJTN 1985, 608; SJTN 1987, 348; GSTJ 1987, 375.
5 Data are average net urban household income. Net income refers to the income of the sample households which can be used as daily expenses. In the urban area, it is the total income minus the supporting expenses, subsidies for book-keeping, and income from providing food to non-family members. GSTJ 1987, 388-389.
6 Data are average net rural household income. For peasant households, net income refers to the total income after the deductions of expenses which included investments for production and non-production construction and for improvement of daily life. SJTN 1985, 586; SJTN 1987, 329; GSTJ 1987, 414.
As presented in Table 4-4, a small sample survey of urban household income also confirmed that Shenzhen's income level was higher than all other cities in Guangdong Province. The data from the survey showed that the net per capita urban household income in Shenzhen Municipality reached Rmb 1,683 Yuan, 24 percent higher than in the second rank city of Foshan and more than 50 percent higher than the average in other cities in Guangdong (GSTJ 1987, 388-389). The rising income in Shenzhen was contributed by the higher wage level and the availability of employment opportunities. Wages in Shenzhen were 75 percent higher than the provincial average in 1986. The ready availability of employment opportunities to both males and females in the SEZ also raised household incomes considerably.

Living standards in Shenzhen improved dramatically after its designation as an SEZ. Nominal income, however, far exaggerates the actual living standards enjoyed by its residents. During the 1980-1986 period, Shenzhen experienced a high rate of inflation, averaging 10.6 percent per year as compared to the provincial average of 5.2 percent (Zeng 1990, 155). Consequently, the cost of living for workers and staff was higher in Shenzhen than in other parts of Guangdong by 25 percent (Zeng 1990, 155). The higher cost of living in Shenzhen is also confirmed by its higher total living expenses. In 1986, per capita urban living expenses were 35

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89 A total of 100 households were surveyed in Shenzhen and 1,150 households province-wide.
90 The cost of living index for "staff and workers" in Shenzhen was 169 as compared to the provincial average of 135.1 which are based on the index of 100 in 1980.
percent higher than the provincial average (GSTJ 1987, 388). The higher cost of living thus kept Shenzhen’s residents only marginally ahead of other cities.

The rapid growth of the economy in Shenzhen improved the income levels of not only the urban residents but also the peasants. Rural per capita net income jumped by 15 percent per annum during the 1980-1986 period, far above the provincial average growth rate of 7 percent. While it was far below the provincial average in 1980, rural net income in Shenzhen was almost 64 percent higher than the provincial average at the end of 1986 (GSTJ 1987, 414). Higher rural income was due to the expanding income and employment opportunities in non-farm activities. In 1986, the share of non-agricultural activities in Shenzhen Municipality’s rural total product of society\(^2\) and rural employment reached 61 percent and 44 percent respectively as compared to only 44 percent and 25 percent in others parts of the province (GSTJ 1987, 119, 122-123).

Despite its high rates of economic and income growth, Shenzhen’s economy faced several major development issues. One of the most critical issues confronting Shenzhen’s economic growth was its heavy dependence on the input of investment. In 1986, the ratio of FAI to GDP in Shenzhen was 73 percent as compared to 33 percent in Guangdong Province (GTJZS

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\(^1\)Living expenditures refer to the total expenses by the sample households for daily life, including the expenses for various commodities and the expenses for non-commodity items such as recreation and other services. In 1986, per capita household living expense was Rmb 1617.84 Yuan and Rmb 1051.68 Yuan for Shenzhen and Guangdong respectively.

\(^2\)Rural total product of society included the gross value of rural production from the five material sectors, including agriculture, industry, construction, commerce, and transportation.
Without the clampdown by the central government on capital projects in 1986, the ratio would have been even higher.

As most of its investment came from domestic sources, the economy of Shenzhen was highly susceptible to China’s fiscal and credit policies. By the mid-1980s, Shenzhen emerged as the leading recipient of CCI in Guangdong, absorbing over one-quarter of the provincial total. Shenzhen not only depended on domestic investment to build up its infrastructure but also to supply capital for its joint ventures with foreign investors. Shenzhen's vulnerability was clearly demonstrated by the economic events during the period of late 1985 and early 1986. In order to slow down the frenetic construction programs in various parts of China, state economic planners adopted tight fiscal and credit policies beginning in late 1985. As a result of tight fiscal and credit control imposed by the central government, Shenzhen suffered from a severe cutback in its capital construction funding by more than 50 percent in 1986. Shenzhen had originally planned to construct 1,532 projects with a total investment of Rmb 4.2 billion Yuan for 1986. Under the fiscal constraint measures, over half of the projects were either cancelled or suspended and only Rmb 1.7 billion Yuan, or 40 percent of the planned investment, were approved (Li 1987c, 365). The amount of investment was later increased to Rmb 2 billion Yuan after hard lobbying by local officials who were alarmed by the sliding economy in the zone.

The drastic cut in CCI led to an immediate halt in economic growth in 1986. The growth rate of GDP dropped from an annual average of 79
percent during the 1981-1985 period to only 2 percent in 1986 (SSTJ 1987a, 2). After price adjustments were made, the GDP in 1986 shrank by 3.8 percent over the previous year. The per capita NMP even suffered a 24.3 percent drop in just one year. The net urban household income also confirmed that real income in Shenzhen was down by 11.7 percent (GSTJ 1986, 346; GSTJ 1987, 414). The availability of capital for infrastructural projects and production ventures from both domestic and foreign sources were therefore critical in the development of Shenzhen and other SEZs.

The second major economic development issue in Shenzhen concerned the sources of investment which relied heavily on bank loans. The great majority of the CCI came from domestic sources, including investments from local, provincial, and central level enterprises, bank loans, and local revenues. In contrast to the SEZ Plan, bank loans contributed more than one-quarter to Shenzhen's total cumulative CCI during the 1979-1986 period (see Table 4-3).\(^93\) It was also believed that a substantial portion of the investment from local enterprises came also from bank loans (Liu and Liang 1985, 113). The fluidity of bank loans to support development in Shenzhen could be illustrated by its drastic drop from Rmb 564 million Yuan in 1985 to Rmb 272 million Yuan in 1986.

The heavy reliance on bank loans to support development also led to the large bank debt incurred by Shenzhen. In a SEZ Working Committee, the Mayor of Shenzhen, Li Hao, admitted that state enterprises in the SEZ

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\(^{93}\)In 1986, 38 percent of China's CCI came from state budgetary fund and 17 percent came from domestic bank loans.
were heavily indebted. By the end of 1986, Shenzhen’s enterprises and the municipal government accumulated total bank debts of Rmb 7 billion Yuan and Rmb 700 million Yuan respectively (Li 1987c, 371). The state enterprises had to make annual interest payments of more than Rmb 600 million Yuan. It was estimated that more than Rmb 2 billion Yuan of bank loans were overdue and at least 10 percent of it was considered to be unrecoverable (Li 1987c, 371; ZSW 1987, 6).

The third major issue in Shenzhen’s economic development concerned with its economic efficiency. Although detailed data are not available on the total productivity of the economy, partial labour and capital productivity indexes suggest that productivity growth in Shenzhen remained below the provincial average up to the mid-1980s. As indicated in Table 4-5, the growth rate of labour productivity (Productivity II) in the Shenzhen SEZ was below the provincial average during the 1981-1986 period. However, we should note that data on the total labour force in Shenzhen were not systematically collected and the coverage might not be comparable from one year to another. As data on “staff and workers” were more consistently compiled, an alternative productivity growth measure (Productivity I) is also presented in Table 4-5. Both indexes suggest that labour productivity

\[ \text{Labour productivity} = \frac{\text{Output}}{\text{Labour}} \]

However, we should note that “staff and workers” constitute only a portion of the total labour force. Labour productivity based on “staff and workers” is not a full indication of the changes in labour and productivity.

94The labour productivity is measured as the differences in the growth rates of output and labour.

95However, we should note that “staff and workers” constitute only a portion of the total labour force. Labour productivity based on “staff and workers” is not a full indication of the changes in labour and productivity.
<table>
<thead>
<tr>
<th>Measures</th>
<th>Shenzhen SEZ</th>
<th>Shenzhen Municipality</th>
<th>Guangdong Province</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Output (GDP)</td>
<td>47.4</td>
<td>38.8</td>
<td>11.0</td>
</tr>
<tr>
<td>2 Labour I (Staff and Workers)</td>
<td>42.4</td>
<td>32.1</td>
<td>3.3</td>
</tr>
<tr>
<td>3 Labour II (All Workers)</td>
<td>46.0</td>
<td>31.4</td>
<td>3.6</td>
</tr>
<tr>
<td>4 Labour Productivity I (Staff and Workers)</td>
<td>5.0</td>
<td>6.7</td>
<td>7.8</td>
</tr>
<tr>
<td>5 Labour Productivity II (All Workers)</td>
<td>1.4</td>
<td>7.5</td>
<td>7.4</td>
</tr>
</tbody>
</table>

Notes and sources:
1 Data are total GDP adjusted by retail price index. Based on the index of 100 in 1980, the 1986 retail price indexes are reported by Shenzhen Statistical Office as 183.4 and 135.7 for Shenzhen and Guangdong respectively. SSTJ 1987b, n.p.; GSTJ 1987, 42-44; Zeng 1990, 155.
2 Data included only staff and workers in state, urban collectives, foreign, and domestic joint enterprises. SJTN 1987, 345; GSTJ 1987, 95.
3 Data included all workers, including all staff and workers in state, urban collective, foreign, domestic joint, and individual enterprises, and rural collectives. Data for Shenzhen included also temporary workers. The numbers of temporary workers were estimated to be 75 percent of the temporary population for 1980. In 1986, figures for non-local temporary workers for the SEZ and the Municipality were reported by the Labour Services Bureau and the Family Planning Office. SJTN 1987, 18, 236, 345; GSTJ 1987, 95.
4 Productivity is calculated as the differences between the growth rates of GDP and Labour I. Methodology are adapted from Yeh 1984, 706.
5 Productivity is calculated as the differences between the growth rates of GDP and Labour II. Methodology are adapted from Yeh 1984, 706.
growth in the SEZ was lower than the provincial average during the 1981-1986 period.

A rough estimation of the incremental output-capital ratio in Table 4-6 also suggests that the efficiency of Shenzhen in the use of capital was below the provincial average during the 1982-1986 period.\(^6\) The usefulness of this ratio, however, is open to question. First, the estimations of output growth and rates of investment are based on current prices. Some distortions due to differential price changes in investment and NMP are possible. Secondly, the investment data are based on CCI instead of total investment which included both fixed asset investment and inventories. Thirdly, the one year time lag assumed for the investment may not be realistic for all projects. Fourthly, the data are based on NMP instead of the more comprehensive output indicator of GDP.\(^7\) The results therefore should be interpreted cautiously.

The low capital efficiency, as indicated by the above partial productivity measure, could be attributed to several factors. First, the proportion of CCI in the "non-productive" sector, including infrastructural and residential housing projects, was much higher in Shenzhen than in the rest of Guangdong in both 1985 and 1986 (GSTJ 1986, 259; GSTJ 1987, 240). The sectoral distribution of investment also indicated that the share of investment by industry - a productive sector - was far below the provincial

---

\(^6\) The incremental output-capital ratio is defined as the increase in output that can be obtained per unit of investment (Yeh 1984, 707).

\(^7\) The incremental output-capital ratio based on GDP for the 1982-1986 period indicated that the productivity level were 0.67 and 1.14 for Shenzhen and Guangdong respectively.
Table 4-6. Incremental Output-Capital Ratios in Shenzhen and Guangdong, 1982-1986

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of Investment to Net Material Product*</td>
<td>Average Growth Rate of NMP (%)**</td>
<td>Incremental Output-Capital Ratio***</td>
</tr>
<tr>
<td>Shenzhen SEZ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>58.1</td>
<td>67.8</td>
<td>1.17</td>
</tr>
<tr>
<td>1983</td>
<td>74.1</td>
<td>70.0</td>
<td>0.95</td>
</tr>
<tr>
<td>1984</td>
<td>55.1</td>
<td>82.1</td>
<td>1.49</td>
</tr>
<tr>
<td>1985</td>
<td>74.3</td>
<td>3.3</td>
<td>0.04</td>
</tr>
<tr>
<td>1986</td>
<td>130.4</td>
<td>-10.1</td>
<td>-0.08</td>
</tr>
<tr>
<td>1982-1986</td>
<td>78.4</td>
<td>37.0</td>
<td>0.47</td>
</tr>
<tr>
<td>Shenzhen Municipality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>39.9</td>
<td>49.7</td>
<td>1.24</td>
</tr>
<tr>
<td>1983</td>
<td>58.8</td>
<td>55.5</td>
<td>0.94</td>
</tr>
<tr>
<td>1984</td>
<td>43.8</td>
<td>78.8</td>
<td>1.80</td>
</tr>
<tr>
<td>1985</td>
<td>62.1</td>
<td>-2.4</td>
<td>-0.04</td>
</tr>
<tr>
<td>1986</td>
<td>101.2</td>
<td>-2.4</td>
<td>-0.02</td>
</tr>
<tr>
<td>1982-1986</td>
<td>61.2</td>
<td>31.7</td>
<td>0.52</td>
</tr>
<tr>
<td>Guangdong Province</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>10.3</td>
<td>9.1</td>
<td>0.88</td>
</tr>
<tr>
<td>1983</td>
<td>11.4</td>
<td>5.2</td>
<td>0.45</td>
</tr>
<tr>
<td>1984</td>
<td>9.7</td>
<td>15.6</td>
<td>1.62</td>
</tr>
<tr>
<td>1985</td>
<td>12.2</td>
<td>17.0</td>
<td>1.40</td>
</tr>
<tr>
<td>1986</td>
<td>18.4</td>
<td>9.0</td>
<td>0.49</td>
</tr>
<tr>
<td>1982-1986</td>
<td>12.4</td>
<td>11.1</td>
<td>0.90</td>
</tr>
</tbody>
</table>

Notes:
*The proportion of investment to output are measured in current prices, assuming a one-year lag between investment and output. Investments are based on capital construction investment.
**NMP - net material product. Data for Shenzhen are adjusted by retail price index. Data for Guangdong are based on constant prices of 1952.
***Measured as the ratio of II/I. Methodology adapted from Yeh 1984.

average. Second, the basic infrastructures in Shenzhen, such as transportation, communications, sewage, and others, had to be built from scratch. Many of these projects, such as highways, power plants, and ports, required large capital outlay and long construction period. Thirdly, the low rate of capital formation also seriously undermined the efficiency of capital. The ratio of FAI turned into capital stock in Shenzhen was 62 percent as compared to the provincial average of 66 percent during the 1979-1986 period (GSTJ 1987, 239; GSTJ 1986, 60-61; SJTN 1987, 195). The low ratio of capital formation was further confirmed by its low ratio of completed floorspace to those under construction. In the SEZ, only 37 percent of all floorspace under construction was completed which was considerably lower than the provincial average of 50 percent (SJTN 1987, 195; GSTJ 1987, 245). This suggested that more capital was tied up in the construction process in Shenzhen than the average in other parts of the province. As Yeh pointed out, by eliminating this adverse effect alone, the economic growth rate could be increased appreciably (Yeh 1984, 709).\textsuperscript{98} Other factors, which included the quest for high building standards, the under-utilization of resources, such as hotels and other high class residential housing, also reduced the efficiency in the use of capital and labour.

In sum, Shenzhen’s economy experienced a phenomenal rate of growth during the 1979-1986 period. Both urban and rural residents improved their living standards considerably. The development of Shenzhen

\textsuperscript{98} The discussion by Yeh referred to China as a whole but the principle could also be applied to Shenzhen.
however encountered several major structural problems. Nevertheless, these deficiencies did not impede the transformation of its economic structure.

4.3 STRUCTURAL TRANSFORMATION

Between 1979 and 1986, Shenzhen's predominantly subsistence economy was dramatically transformed. In 1979, almost two-thirds of Shenzhen Municipality's GVIAO came from the agricultural sector (see Table 4-7). The sectoral structure of the NMP also indicated that agriculture was the predominant economic sector in Shenzhen. As reported by the Shenzhen Statistical Office, the share of the GDP by the tertiary sector reached more than two-fifths in 1979 (SSTJ 1987b, n.p.). However, the figures reported seemed to over-estimate the income generated from the services activities during the late 1970s (Liu and Liang 1985, 50-51). However, both NMP and GDP data consistently indicated that the industrial sector in Shenzhen was conspicuously under-developed in comparison with other parts of Guangdong.

The most dramatic shift in Shenzhen's economy since its establishment as an SEZ was its sharp decline in the importance of agriculture. The share of total GDP by agriculture in Shenzhen Municipality dropped to less than 10 percent by the end of 1986 while in the SEZ it was down to only 2 percent, far below the provincial average (see Table 4-7). Although the value of agricultural output in Shenzhen Municipality increased at a rate higher than the provincial average, most of the increases came from
<table>
<thead>
<tr>
<th></th>
<th>Shenzhen SEZ</th>
<th>Shenzhen Municipality</th>
<th>Guangdong Province</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GVIAO</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>58.9 99.5</td>
<td>34.6 93.4</td>
<td>72.4 76.3</td>
</tr>
<tr>
<td>Agriculture</td>
<td>41.1 0.5</td>
<td>65.4 6.6</td>
<td>27.6 23.7</td>
</tr>
<tr>
<td><strong>Net Material Product</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>11.9 n.a.</td>
<td>7.0 n.a.</td>
<td>35.2 36.0</td>
</tr>
<tr>
<td>Agriculture</td>
<td>40.8 n.a.</td>
<td>65.1 n.a.</td>
<td>39.3 37.1</td>
</tr>
<tr>
<td>Construction</td>
<td>19.2 n.a.</td>
<td>7.1 n.a.</td>
<td>5.1 8.2</td>
</tr>
<tr>
<td>Commerce</td>
<td>21.5 n.a.</td>
<td>14.3 n.a.</td>
<td>15.9 14.2</td>
</tr>
<tr>
<td>Transportation</td>
<td>6.6 n.a.</td>
<td>6.6 n.a.</td>
<td>4.5 4.5</td>
</tr>
<tr>
<td><strong>Gross Domestic Product</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Primary</td>
<td>n.a. 1.8</td>
<td>37.0 9.3</td>
<td>35.4 31.8</td>
</tr>
<tr>
<td>2. Secondary</td>
<td>n.a. 46.6</td>
<td>20.5 43.6</td>
<td>39.7 40.7</td>
</tr>
<tr>
<td>2.1 Industry</td>
<td>n.a. n.a.</td>
<td>n.a. 27.6</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>2.2 Construction</td>
<td>n.a. n.a.</td>
<td>n.a. 15.9</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>2.3 Survey</td>
<td>n.a. n.a.</td>
<td>n.a. n.a.</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>3. Tertiary</td>
<td>n.a. 51.5</td>
<td>42.5 47.1</td>
<td>24.9 27.5</td>
</tr>
<tr>
<td>3.1 Transportation</td>
<td>n.a. n.a.</td>
<td>n.a. 10.8</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>3.2 Commerce</td>
<td>n.a. n.a.</td>
<td>n.a. 22.5</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>3.3 Urban &amp; Tourist</td>
<td>n.a. n.a.</td>
<td>n.a. 2.9</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>3.4 Health &amp; Social</td>
<td>n.a. n.a.</td>
<td>n.a. 0.0</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>3.5 Cultural</td>
<td>n.a. n.a.</td>
<td>n.a. 0.0</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>3.6 Research</td>
<td>n.a. n.a.</td>
<td>n.a. 0.0</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>3.7 Financial</td>
<td>n.a. n.a.</td>
<td>n.a. 3.2</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>3.8 Administration</td>
<td>n.a. n.a.</td>
<td>n.a. 0.0</td>
<td>n.a. n.a.</td>
</tr>
<tr>
<td>3.9 Others</td>
<td>n.a. n.a.</td>
<td>n.a. 7.8</td>
<td>n.a. n.a.</td>
</tr>
</tbody>
</table>

Notes:
GVIAO = Gross Value of Agricultural and Industrial Output
1. Included agriculture, forestry, livestock, fishing, and water works.
2.3 Included geological survey and land survey.
3.1 Included also communication.
3.2 Included also restaurant, material supply, and warehousing.
3.3 Included also real estate management, tourism, hotel, information services.
3.4 Included also sport activities.
3.5 Included also educational, and broadcasting services.
3.6 Included also technical services.
3.7 Included also insurance services.
3.8 Included government, party, and other social organizations.
non-farm activities. The share of farming in agricultural output dropped from over half of the total in 1980 to about one-quarter by the end of 1986 (SJTN 1987, 326). In the SEZ, agricultural output even suffered an absolute decline of more than 25 percent during the 1979-1986 period.

The declining importance of agriculture in the economy of Shenzhen was primarily due to its decreasing share of domestic investment, lack of foreign investment, declining employment and the loss of farmland. Despite its claim to develop Shenzhen as a comprehensive zone, the local government paid little attention to the development of agriculture. The share of total CCI by agriculture in Shenzhen Municipality declined from over 10 percent of the total in 1979 to less than 3 percent in 1986 (see Table 4-3). In fact, Shenzhen had the lowest ratio of investment allocated to the agricultural sector amongst all municipalities in Guangdong Province in 1986 (GSTJ 1987, 236).

The reduced importance of agricultural production in Shenzhen was also partly due to the decline in its labour force. Despite the rapid growth of the total labour force in Shenzhen Municipality, the number of agricultural workers dropped by 25 percent during the 1983-1986 period (GSTJ 1984, 109; GSTJ 1987, 123). The agricultural labour force would have dropped

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99 The value of agricultural output in Shenzhen Municipality increased by an annual average of 11.8 percent during 1979-1986 period. The increase was attributed to the expansion of non-farm activities which included forestry, fishing, livestock, and sidelines.

100 The Shenzhen SEZ Yearbook 1987 reported that the share of total CCI by the primary sector in 1986 was 2.5 percent. However both the Shenzhen Municipality Planning Office and Guangdong Province Statistical Bureau reported a much lower rate of only 1.3 percent (SSZJ 1987, 25; GSTJ 1987, 236-237).
further if thousands of farm workers from other parts of China had not been recruited (GDYS 1986, 277). More than two-fifths of its labour force was engaged in non-agricultural activities, double the proportion just three years earlier (GSTJ 1987, 122-123). It is true that farming population in other parts of Guangdong also fell rapidly in the past decade but none had experienced such a dramatic decline as in Shenzhen.101

The long term development of agriculture in Shenzhen was seriously affected by the rapid loss of farmland. In a short period of eight years since the establishment of the SEZ, close to two-fifths of all farmland in the municipality were lost to urban, industrial, and commercial uses. Consequently, less than 22,000 hectares of farmland were left in Shenzhen Municipality by the end of 1986, down from over 35,000 hectares in 1979 (SJTN 1987, 326-327). Within the SEZ, almost three-fifths of all farmland were lost during the same period. Although other parts of Guangdong also suffered a rapid loss of farmland to nonagricultural uses during the same period, sown acreage in Shenzhen Municipality declined by 34 percent as compared to 13 percent in the province as a whole (GSTJ 1987, 121). An even more detrimental effect on agricultural production in the SEZ was the prevailing slogan that "it is better to lease the farmland than to cultivate (but) it is even better to sell the land than to lease it" (GDYS 1986, 269).

The slow growth of agriculture was also due to a shortage of foreign investment. During the period of 1979-1986, less than 3 percent of the utilized foreign investment in Shenzhen Municipality was directed towards

---

101 The number of agricultural workers dropped from 76,100 in 1983 to only 56,500 in 1986.
the agricultural sector (SJTN 1987, 340). The small share of foreign investment by the agricultural sector was attributed to the export restrictions, shortage of domestic investment, and the lack of a duty-free status for imported materials (Zhao and Chen 1984, 221-222). Another major factor which discouraged foreign investment in the agricultural sector was inconsistent policies adopted by China. A well publicized case in 1985 was the suspension of export licenses held by several foreign investors who set up vegetable farms in Shenzhen Municipality. The suspension was explained by the provincial authorities as necessary to maintain market order and prices. The policy changes, however, served to discourage further investment in the agricultural sector.

In contrast, the secondary sector, which includes both industrial and construction activities, increased in importance during the 1979-1986 period (see Table 4-7). The strong growth of the secondary sector was supported by the infusion of both domestic and foreign investment, growth of employment and a rapid expansion of output. During the 1979-1986 period, industry received about one-quarter of all CCI and over half of the utilized foreign investment in the SEZ. The investment accelerated the growth of industrial output and generated a large number of employment opportunities. Consequently, industrial output and employment increased

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102 Fertilizers, seeds, seedlings, and other materials imported by Bao’an county (where 90 percent of Shenzhen Municipality’s farmland is located) do not enjoy the duty free status as in the SEZ.
by more than 100-fold and 13-fold respectively in the SEZ during 1979-1986 period (SSZG 1987a, 1).

As data in Table 4-8 showed, the share of total employment by the secondary sector increased from less than one-fifth to about half of the total by the end of 1986, more than double the provincial average. Industrial enterprises alone employed more than one-third of the total labour force which was even higher than the more industrialized municipality of Guangzhou. Despite the large scale dismissals of construction workers in 1986, the share of employment by the construction sector remained significantly higher than in other parts of Guangdong.

During the early 1980s, the construction sector experienced significant growth as large scale CCI in housing, commercial, tourist and other urban projects took place. As a result of the clampdown by the central government on capital construction projects, the contributions of construction activities to the total GDP dropped from well over one-quarter in 1985 to less than one-sixth in 1986. Nevertheless, the total value of construction reached Rmb 1 billion Yuan and almost 3 million sq. m. of floorspace were completed in 1986 (SJTN 1987, 187; GSTJ 1987, 245). Consequently, industry became the leading economic activity in Shenzhen for the first time. The development of Shenzhen’s industry is further analyzed in Chapter 5.

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103 The industrial employment growth was based on the number of “staff and workers” estimates by the officials.

104 The share of GDP by the construction sector for the period of 1979-1985 was based on the estimations from NMP.
Table 4-8. Employment Structures in Shenzhen, Guangzhou Municipality, and Guangdong Province, 1979-1986 (Selected Years)

<table>
<thead>
<tr>
<th>Percentage of Total Labour Force</th>
<th>Shenzhen SEZ</th>
<th>Shenzhen Municipality</th>
<th>Guangzhou Municipality</th>
<th>Guangdong Province</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Types of Employment*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>n.a.</td>
<td>60.0</td>
<td>n.a.</td>
<td>46.7</td>
</tr>
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<td>Contract</td>
<td>n.a.</td>
<td>24.1</td>
<td>n.a.</td>
<td>10.0</td>
</tr>
<tr>
<td>Temporary</td>
<td>n.a.</td>
<td>7.5</td>
<td>n.a.</td>
<td>0.0</td>
</tr>
<tr>
<td>Others**</td>
<td>n.a.</td>
<td>22.5</td>
<td>n.a.</td>
<td>9.0</td>
</tr>
<tr>
<td>Non-local Temporary Workers***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n.a.</td>
<td>5.9</td>
<td>n.a.</td>
<td>3.7</td>
</tr>
<tr>
<td>B. Ownership Structure#</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign##</td>
<td>0.0</td>
<td>14.9</td>
<td>0.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Domestic</td>
<td>100.0</td>
<td>85.1</td>
<td>100.0</td>
<td>90.0</td>
</tr>
<tr>
<td>State</td>
<td>77.9</td>
<td>63.5</td>
<td>24.2</td>
<td>51.4</td>
</tr>
<tr>
<td>Urban Collective</td>
<td>0.0</td>
<td>9.2</td>
<td>4.7</td>
<td>7.3</td>
</tr>
<tr>
<td>Individual Enterprise</td>
<td>0.3</td>
<td>2.5</td>
<td>0.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Rural Collective</td>
<td>21.7</td>
<td>7.7</td>
<td>71.1</td>
<td>27.4</td>
</tr>
<tr>
<td>Others###</td>
<td>0.0</td>
<td>2.2</td>
<td>0.0</td>
<td>1.5</td>
</tr>
<tr>
<td>C. Sectoral Structure+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Primary</td>
<td>39.0</td>
<td>8.2</td>
<td>86.9</td>
<td>15.8</td>
</tr>
<tr>
<td>2. Secondary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Industry</td>
<td>n.a.</td>
<td>34.9</td>
<td>n.a.</td>
<td>37.3</td>
</tr>
<tr>
<td>2.2 Construction</td>
<td>n.a.</td>
<td>14.7</td>
<td>n.a.</td>
<td>13.9</td>
</tr>
<tr>
<td>2.3 Survey</td>
<td>n.a.</td>
<td>0.1</td>
<td>n.a.</td>
<td>0.1</td>
</tr>
<tr>
<td>3. Tertiary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 Transportation</td>
<td>n.a.</td>
<td>4.0</td>
<td>n.a.</td>
<td>2.8</td>
</tr>
<tr>
<td>3.2 Commerce</td>
<td>n.a.</td>
<td>17.0</td>
<td>n.a.</td>
<td>11.5</td>
</tr>
<tr>
<td>3.3 Urban &amp; Tourist</td>
<td>n.a.</td>
<td>8.0</td>
<td>n.a.</td>
<td>5.9</td>
</tr>
<tr>
<td>3.4 Health &amp; Social</td>
<td>n.a.</td>
<td>1.4</td>
<td>n.a.</td>
<td>0.8</td>
</tr>
<tr>
<td>3.5 Cultural</td>
<td>n.a.</td>
<td>1.6</td>
<td>n.a.</td>
<td>1.3</td>
</tr>
<tr>
<td>3.6 Research</td>
<td>n.a.</td>
<td>0.3</td>
<td>n.a.</td>
<td>0.2</td>
</tr>
<tr>
<td>3.7 Financial</td>
<td>n.a.</td>
<td>0.9</td>
<td>n.a.</td>
<td>0.5</td>
</tr>
<tr>
<td>3.8 Administration++</td>
<td>n.a.</td>
<td>5.1</td>
<td>n.a.</td>
<td>3.8</td>
</tr>
<tr>
<td>3.9 Others</td>
<td>n.a.</td>
<td>3.7</td>
<td>n.a.</td>
<td>6.2</td>
</tr>
</tbody>
</table>
Notes and sources to Table 4-8:

*Data for the Shenzhen SEZ in 1986 are based on Liang who reported that the number of staff and workers were 229,600. However, SJTN reported only 221,300 for the same year.
**Data included rural collective and individual enterprise workers.
***Included those workers without permanent residence status.

#Data do not include non-local temporary workers.
###Included workers in foreign equity and contractual joint ventures, wholly foreign-owned ventures. Data for Guangzhou and Shenzhen are estimated from the share of other employment by foreign enterprises in Guangdong Province.
####Included employment in domestic joint enterprises and others. The share of employment in Shenzhen and Guangzhou are estimated from provincial average for other employment. The 1980 data for Guangzhou included domestic joint, individual and other enterprises.

+Data for Shenzhen SEZ in 1979 are 1980 figures.
++Data for administration in Guangzhou Municipality also included other employment in 1986.
1. Included agriculture, forestry, livestock, fishing, and water works.
2.3 Included geological survey and land survey.
3.1 Included also communication.
3.2 Included also restaurant, material supply, and warehousing.
3.3 Included also real estate management, tourism, hotel, information services.
3.4 Included also sport activities.
3.5 Included also educational, and broadcasting services.
3.6 Included also technical services.
3.7 Included also insurance services.
3.8 Included government, party, and other social organizations.
While industry was the dominant economic activity in most cities in Guangdong Province, the tertiary sector was the leading economic sector in Shenzhen. Despite the lack of a detailed breakdown of the sectoral structure of income before Shenzhen’s designation as an SEZ, the services sector increased its share of the total GDP significantly during its first eight years of development. As indicated in Table 4-7, the contributions of the services sector to Shenzhen’s GDP in 1986 were over half of the total, well above the provincial average (GSTJ 1987, 42).

The growth of the tertiary sector was mainly attributed to the large injection of domestic and foreign investments. During the 1979-1986 period, the tertiary sector received almost two-thirds of the CCI and two-fifths of foreign investment in Shenzhen for the development of housing, tourist and commercial facilities and other services. The real estate and tourism sector alone received 30 percent of all CCI, double the provincial level (see Table 4-3).

The growth of the services activities was accelerated by an almost seven-fold increase in population. The demand for housing, transportation, retail and other urban services in Shenzhen expanded dramatically as a result of the expansion of population. During the 1979-1986 period, a total of 5.3 million sq. m. of residential housing space was completed at a cost of Rmb 1.84 billion Yuan to provide accommodation for more than 400,000 new migrants in the SEZ.105 These large numbers of new migrants also required the provision of other social, urban, and educational services.

105 The total cost was estimated from the average cost of residential housing in 1986.
The rapid expansion of the tertiary sector was also supported by the growth of commercial activities, particularly domestic retail trade. The total value of retail trade in Shenzhen reached Rmb 1.8 billion Yuan in 1986, an increase of almost 20-fold from 1980 (SJTN 1985, 601; SJTN 1987, 341). The rapid growth was partly due to the higher purchasing powers and demand for new furniture, appliances and clothing from the new residents. However, purchases by the rising number of tourists, especially those from other parts of China, accounted for a significant portion of the retail growth. Per capita retail sales in 1986 amounted to Rmb 3,658 Yuan in the Shenzhen SEZ or two and a half times higher than in Guangzhou (GNBWH 1987, 561). It may be argued that the average wage level and the urban household income in Shenzhen were much higher than in Guangzhou and other Chinese cities and so a higher consumption level would be expected. However, local residents could not fully account for all the purchases. A large proportion of the retail sales was probably made by residents from other parts of China and to some extent foreign visitors (SJTN 1987, 344). Purchases by foreign tourists were estimated to be Rmb 174.4 million Yuan or less than 10 percent of the total retail sales. Even if we allowed for a 30 percent higher consumption level by Shenzhen residents than those in Guangzhou, about 40 percent of the purchases would have been made by Chinese residents.

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106 The average per capita retail sales in Guangzhou City was Rmb 1,395.9 Yuan in 1986.

107 The allowance was based on the fact that the urban net income of Shenzhen was 26.9 percent higher than in Guangzhou in 1986. The estimated retail purchases by domestic tourists was the difference between the total value of retail sales and the purchases by SEZ residents and foreign tourists.
residents outside the SEZ. Based on the 1983 sales pattern, two senior economists at the Jinan University also estimated that about 50 percent of the retail sales in the SEZ were made by local residents, 10 percent by foreign tourists, and 40 percent by residents from other parts of China (Zhao and Chen 1984, 254-255). They also pointed out that over 80 percent of the electrical consumer goods and clothing were bought by non-SEZ residents.

The shopping spree in Shenzhen by visitors from other parts of China was encouraged by the reduced duties on some imported goods, the relaxed control over imported materials, and a less regulated marketing system. As imported parts and raw materials were duty-free and were also easily approved by the local government, many consumer durables, such as televisions, radio-cassettes, and others, were assembled mainly from imported parts. These finished products could then be sold at lower prices than in other parts of China which were under high tariff barriers. The consumers from other parts of China could make substantial savings by purchasing these products in Shenzhen rather than in the interior.

Part of the growth of retail sales in Shenzhen was simply due to the availability of some manufactured products, particularly consumer durable goods. As enterprises in Shenzhen were no longer restricted to receive their supplies solely from designated suppliers, they were able to obtain their supplies from different regions and enterprises. Some of the Chinese products were also available in Shenzhen at lower prices than in the interior as a result of its ability to pay in foreign exchange through the biannual
Guangzhou Trade Fair.\textsuperscript{108} Some of the enterprises were also able to import directly without going through the state foreign trade corporations. Consequently, a wide variety of commodities, often with different prices and quality, became more readily available to consumers from all places.

While the availability of both imported and domestic manufactured products in Shenzhen generated a large flow of tourists from other parts of China, the geographical proximity to Hong Kong also facilitated its evolution as a popular holiday resort for many foreign tourists. The number of visits by foreign tourists reached 1.7 million in 1986 (SJTN 1987, 344).\textsuperscript{109} The tourism boom in Shenzhen encouraged the establishment of a large number of hotels, restaurants, and other tourist facilities. By the end of 1986, more than 9,700 hotel rooms were available to accommodate the domestic and foreign visitors. The number of hotel rooms available was even more than what was planned for the year 2000 (Shenzhen Shi 1983, n.p.).

Despite its diversified economic activities, the tertiary sector was not immune from China’s drastic changes in economic policies. After price adjustments were made, the services sector in 1986 also experienced a 2.5 percent decline from 1985 (SSTJ 1987b, n.p.). The most significant decline was in retail sales which suffered a 6.7 percent drop from a year earlier (SJTN 1987, 341). The reduced sales was a result of the decreasing number of visitors in the zone, down by 24 percent from 1985 (SJTN 1987, 344). The

\textsuperscript{108}In some cases, Shenzhen paid a premium on top of the export prices quoted in the Guangzhou Trade Fair but they remained lower than the domestic prices.

\textsuperscript{109}Foreign tourists included visitors from Hong Kong, Macao, and other countries.
economic recession in late 1985 and early 1986 also seriously affected the
tourism business. The occupancy rate for more than 300 hotels in Shenzhen
was below 50 percent during the early months of 1986 (SJTN 1987, 205).
Many of the tourist oriented businesses, including hotels, amusement parks,
restaurants, incurred heavy losses in 1986.

In sum, Shenzhen transformed from an agricultural community into a
commercialized city within a short span of eight years. The services sector
became the dominant economic activity in the zone while agriculture was
relegated to an almost negligible activity. The structural transformation of
the economy further generated new patterns of employment opportunities
in the zone.

4.4 PATTERNS OF EMPLOYMENT

As in other Asian EPZs, China also well recognized that its SEZs could
contribute to the provision of employment for the large numbers of surplus
rural workers. Despite the skepticism about the contributions of the SEZs
towards solving China's huge unemployment problem, they were considered
important training grounds for workers employed in the SEZ enterprises
(Wang 1982, 31). The new employment opportunities were also expected
to increase not only the income of the workers but also the SEZ economy
through new demands for consumer goods and services. Moreover, part of
the income earned by the migrant workers would be remitted to the interior

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110Based on the ratio of 16,000 workers per sq. km., Wang suggested that Shenzhen could
create 87,000 industrial jobs and provided a total employment of 145,000.
region and provided a new source of economic growth there. The SEZs, especially Shenzhen, were also considered important places where reforms in the labour allocation and wage systems could be carried out. However, the new policies adopted and the employment patterns evolved in the zone also created several problems with respect to the flux of employment in the zone and the inequalities among different groups of workers.

Shortly after the establishment of the SEZ, Shenzhen experienced tremendous growth in the number of new workers in its construction, industrial, and services sectors. There was little doubt that Shenzhen was one of the leading Chinese cities in terms of employment growth during the 1979-1986 period. Most official reports only included the number of "staff and workers" or zhigong,¹¹¹ which numbered about 221,000 in the SEZ in 1986. However, the total labour force, which included also the rural, individual, and non-local temporary workers, was estimated to reach more than 400,000 in the SEZ and almost 800,000 in the Municipality (SJTN 1987, 236).¹¹² Despite its high growth rate, Shenzhen’s share of the total labour force in Guangdong Province was less than 1.3 percent (GSTJ 1987, 95).

Shenzhen’s share of the provincial workforce would be higher if the actual number of people working in Shenzhen were known. Although all workers were required to register with the Labour Services Bureau, large

¹¹¹"Staff and workers" include all employees in state, collective, foreign, and other joint enterprises. However, they do not include workers in rural collectives and individual enterprises and those employed as (non-local) temporary workers.

¹¹²The total number of workers in the Shenzhen SEZ and the Municipality were estimated to reach 416,325 and 790,409 respectively.
numbers of workers who did not register or failed to get employment authorizations were left out of the official registry. There were reports of 30,000 to 40,000 people working in Shenzhen without proper registration in 1984 (China Academy 1987a, 60). There was also a small number of foreign workers and management personnel who received full authorization from the government to work in the zone but they were not included in the official data on employment. Some estimated that they could be more than 1,000, but that number fluctuated widely as mobility amongst this group was very high. An additional 10,000 workers who were transferred to Shenzhen from other interior enterprises on a rotational basis were also left out of the official records (Liang 1987, 33).

The rapid growth of employment in Shenzhen was facilitated by both the macro trends that occurred in other parts of China and micro factors that existed in the SEZ. One of the most important trends that took place in Guangdong and other parts of China was the release of large numbers of peasants from farming as a result of the adoption of the production responsibility system. By the end of 1986, over a quarter of Guangdong's rural labour force had shifted to non-agricultural activities, of which about 2 million had taken up industrial work while another 1.2 million peasants became construction workers (GSTJ 1987, 122-123). In addition, close to half a million urban youths from Guangdong Province were available each year when another group will replace them.

These workers will return to their interior enterprises after a period of one to two years.
for employment (GSTJ 1987, 100). This large reserve of workers in Guangdong thus provided a major source of labour supply for Shenzhen.

To accomplish its ambitious development goals, both domestic and foreign investments were attracted to build up the urban and industrial infrastructures in the Shenzhen SEZ. The housing construction boom, the establishment of more than 700 new factories, and the setting up of over 4,000 new retail outlets, restaurants, and tourist facilities thus required the recruitment of large numbers of new workers from both inside and outside of the SEZ (GTJZS 1987, 368). The upgraded administrative status of Shenzhen and other administrative units also required thousands of cadres to manage and administer this new city.

In addition to the availability of a wide variety of employment opportunities, the higher wage level in Shenzhen also attracted many workers from both rural and urban areas. In 1986, the average wage of "staff and workers" in Shenzhen was 40 percent more than that in other parts of the province (GSTJ 1987, 382). In fact workers in Shenzhen received the highest wages amongst all Chinese cities, almost 50 percent higher than the national average (GTJZS 1987, 531). The higher wage level thus attracted workers not just from rural areas but also those from other cities.

Reforms in the employment system also facilitated the large influx of migrant workers into Shenzhen during the 1979-1986 period. Under the old permanent employment (gudinggong) system, the workers were

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114 "Gudinggong" or "fixed" workers refer to those who enjoy life tenure employment or an "iron rice bowl".
allocated by the Labour Services Bureau according to the employment targets with little consultation with the enterprises concerned. Under this system, workers could be transferred within the enterprise but they could not be dismissed even when they became redundant (Fang 1984, 100). Workers also did not have the right to choose the enterprise or the types of work they desired nor would they be allowed to leave for another enterprise without the prior approval of their original employer and the labour services bureau (Whyte and Parish 1984, 33).

In order to provide greater flexibility to foreign investors, to enlarge the management power of the enterprises directors and to raise the efficiency of the enterprises, new labour practices were adopted in Shenzhen. Under the terms of the "Interim Provisions for Labour and Wage Management in Enterprises in the SEZs in Guangdong Province", foreign enterprises in the SEZs could recruit their own workers according to their production requirements and selected qualified candidates directly according to their education and technical qualifications.\textsuperscript{115} An increasing number of workers in domestic enterprises in Shenzhen were also hired directly through an open examination system.\textsuperscript{116}

A new contract labour system (hetonggong) was implemented in 40 foreign ventures on an experimental basis in the early 1980s (Chen 1986, 78). Since July 1982, all new workers in domestic enterprises were hired on a

\textsuperscript{115}As reported by Wu and Ip most foreign enterprises opted for centralized recruitment by the labour bureaus but they could set their own skill and education requirements.

\textsuperscript{116}The hiring of workers, however, had to be approved and often supervised by the Labour Service Department.
contract basis. The contract labour system was later extended to include all workers and cadres in government institutions and urban collectives (Zhao and Chen 1984, 295). However, some job categories were exempted from this new system, such as police and fire-fighter, upon approval by the Shenzhen municipal government (Fang 1984, 102). Under the contract labour system, on one hand, workers had the right to transfer to other enterprises when their contracts expire while, on the other hand, enterprises had the right to lay off those workers as a result of poor performance, shortage of work, or when the contracts expire (Liu and Liang 1985, 176). By the end of 1986, over 30,000, or 8 percent, of all workers in the SEZ were hired under this system (Liang 1987, 33). The contract period for most workers was for a period of two to three years and could be renewed upon agreements by both the worker and the enterprise (Gu 1984, 98). In the Shekou IZ, even cadres and enterprise directors were increasingly being recruited directly by the enterprises on fixed-term contracts, usually ranging from one to three years, and their renewals were subject to approval by a majority of the workers (Yuan 1987, 27-30).

The new labour contract system did not, however, mean that domestic and foreign enterprises in the SEZ could hire and dismiss any workers they wished (Wu and Ip 1985, 222). The hiring of any number of new workers and their education, skill, and residency qualifications had to be first approved by Shenzhen’s Labour Services Bureau which was also

117 Workers who were hired on a permanent basis before 1982 and transferred to Shenzhen before 1985 would not be affected by the new hiring system.
responsible for examining and approving the wage level, benefits, disciplinary procedures and working conditions provided by the foreign firms. The dismissals of workers also had to be reported and examined by the Labour Service Bureau. In Shekou, the dismissals of workers would have to be approved by the union and the Labour Services Company (Gu 1984, 98). The decisions of dismissals could be appealed by the workers through mediation and arbitration processes (Foreign Language Press 1982, 227).

Since the implementation of the labour contract system, about 1,800 workers or 6 percent or all contract workers, were reported to be dismissed (Liang 1987, 34).

Despite the highly acclaimed contract labour system, the majority of the workers in Shenzhen was employed only on temporary contracts. In fact, the rapid growth of employment in Shenzhen was largely due to the expansion of the temporary workforce. Temporary workers included those who were hired as an individual or through a collective to work on some specific projects which could range from a few days to over a year (Wu and Ip 1985, 223). As indicated in Table 4-8, temporary workers consisted of more than three-fifths of all workers in the SEZ. The share of the total labour force by the temporary workforce in the SEZ would have been even higher if 50,000 temporary workers had not been dismissed earlier in the year (SJTN 1986, 204). Nevertheless, the proportion of the temporary workers in the total labour force of Shenzhen was probably amongst the highest in China.
The majority of the temporary workers were employed in the secondary sector, including the construction and industrial sectors. In 1986, more than three-fifths of all non-local temporary workers in Shenzhen Municipality were employed in the secondary sector (SJTN 1987, 18). Prior to the fiscal restraint policy in 1986, the construction sector absorbed more than half of all non-local temporary workers in the SEZ (China Academy 1987a, 61). However, the industrial sector now became the major employer for the temporary workers. It was estimated that more than 50 percent and 60 percent of the industrial workforce in the SEZ and the Municipality respectively were hired on a temporary basis. There were also reports that the great majority of workers in some industries, such as electronics, were hired on temporary contracts (Zeng 1987a, 21).

The hiring of temporary workers in Shenzhen is not new in China but has been practised in a number of other Chinese cities for some time. In order to control the flow of rural labour from the countryside to the cities, China has set up a stringent household registration system as well as regulating the movement of rural labour into urban employment through a system of temporary contract work. These temporary residents, often through their rural collectives, are recruited as workers for specific periods of time by urban industrial or commercial enterprises. These people retain their formal status as rural residents rather than being allowed to register as urban residents. They maintain their family residence in their village, either

By comparison, the share of temporary workers in the total labour force was 10.7 percent in Guangzhou Municipality and 12 percent in Beijing.
commuting daily to work in the town or staying in a factory dormitory and returning home on weekly or monthly visits.

As outlined by Blecher, the hiring of temporary labour has several advantages for the city, urban enterprises and rural collectives. Since temporary workers do not have access to urban housing, education facilities and medical services, the city government therefore realizes substantial savings by hiring these temporary workers rather than recruiting permanent workers. Second, the city can adhere to a strict labour allocation plan imposed by higher authorities but at the same time have full access to the supply of labour. For the urban employers, the temporary workforce provides significant savings, since temporary workers are paid less than regular urban workers. Temporary workers also receive far less benefits from the enterprise than permanent workers. Moreover, since temporary workers can be dismissed easily or simply not have their contracts renewed, urban enterprise managers gain a higher degree of flexibility and control over the temporary workers than over their permanent workers (Zeng 1987a, 21; Blecher 1985, 236-237). The rural collectives which supplied the labourer also benefited from the system as they could increase the nonagricultural employment opportunities for their members, increase the incomes of both the working members and the collectives, and upgrade the industrial skills of these workers.

The hiring of temporary workers in other parts of China has often been criticized for their lack of job security, low wages and lack of fringe benefits (Blecher 1985, 235-236). In Shenzhen, temporary workers were paid
40 percent lower than permanent workers.\textsuperscript{119} Often they were paid either by piece work, hourly work plus bonus, or wages contracted on a group basis (Liang 1987, 35; Zeng 1987a, 21). Fieldwork conducted in 1987 also confirmed that temporary workers were paid at a much lower level than permanent workers. In one of the largest industrial enterprises in the SEZ, temporary workers were paid 25 percent less than permanent workers (Fieldwork 1987).\textsuperscript{120} Temporary workers in the Shenzhen SEZ, as in many parts of China, have little job security and can be laid off any time when there is insufficient work for them. Several social security programs were initiated in Shenzhen but none of them were available to temporary workers. For example, a worker’s insurance program for all contract workers in foreign, state, and urban collective enterprises was set up in 1982,\textsuperscript{121} a municipal pension fund was initiated for state sector employees in 1985 and an unemployment insurance program was initiated for permanent and contract workers as well as Chinese workers in foreign enterprises in 1986. However, no temporary workers were allowed to enroll in any of these programs.

The existence of a large temporary workforce was partly a result of the response to the needs of the foreign enterprises. Before the establishment of the SEZ, employment in foreign enterprises was non-

\textsuperscript{119}A senior economist in Shenzhen reported that temporary workers were paid an average of Rmb 120 Yuan per month, significantly below the average for regular employees.

\textsuperscript{120}Temporary workers were paid Rmb160 Yuan a month as compared with more than Rmb 200 Yuan for other workers.

\textsuperscript{121}Only workers in collective enterprises above the county or district level were allowed to participate in the program.
existent. But by the end of 1986, foreign firms were estimated to employ about 15 percent and 10 percent of the total labour force in Shenzhen's SEZ and the Municipality respectively (see Table 4-8). If data on the ownership pattern of the temporary workforce were available, the share of the total labour force in Shenzhen would probably be much higher. In 1985, the Department of Industry and Commerce reported that 123,000 workers or 30 percent of Shenzhen's total labour force were employed in foreign firms (SJTN 1986, 212). Although data on employment by foreign firms were not available for 1986, there was no doubt that Shenzhen was the leading city in China with respect to the number of workers employed in foreign enterprises (GTJZS 1987, 504). Shenzhen alone employed more than one-third of all workers employed in Guangdong's foreign enterprises. By comparison, less than 1 percent of all workers in Guangzhou Municipality were hired by foreign firms.

Despite its declining share of the total labour force in Shenzhen, the growth rate of employment in domestic enterprises varied. The most drastic change was experienced by the rural collectives which suffered a decline in their share of total employment in both the SEZ and the Municipality. In Shenzhen Municipality, rural employment dropped to less than 30 percent of the total, far below the provincial average of 72 percent. The decline was a result of the large numbers of peasants moving away to take up new employment opportunities in the urban enterprises. In contrast to the rural

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122 The data were estimated from the provincial distribution pattern and do not include non-local temporary workers.
collectives, employment in the state\textsuperscript{123} and urban collective\textsuperscript{124} enterprises experienced a substantial increase in Shenzhen Municipality. Consequently, the share of the total labour force by the state sector was more than doubled with the creation of more than 100,000 jobs in its industrial, commercial, and construction enterprises (SJTN 1987, 345-346).

In sum, during the period of 1979-1986, Shenzhen experienced an extraordinarily high rate of employment growth, unsurpassed by any other city in Guangdong Province. The total number of workers in 1986 was three times more than was planned for the SEZ. However, more than half of all workers were employed only on a temporary basis which was far from a stable employment system. Although total jobs created in the zone constituted only a small proportion of Guangdong’s total labour force, it contributed significantly to alleviate the unemployment problem in Shenzhen and other municipalities in the province. As the great majority of the workers in Shenzhen was employed in domestic enterprises, it was a distinctive pattern from other EPZs where employment in foreign enterprises predominated.

\textit{Conclusion}

Most major indicators confirm that the economy of Shenzhen experienced an extremely rapid rate of growth during the 1979-1986 period.

\textsuperscript{123}Employment in the state sector included “staff and workers” who are employed in government agencies, people’s organizations, and state-owned enterprises and institutions.

\textsuperscript{124}These enterprises are owned collectively and run by cities, counties and towns and the neighbourhood committees.
Most of the major production and income targets were achieved well ahead of the schedule in the SEZ Plan. By 1986, Shenzhen became the leading city in Guangdong province in terms of per capita income. The contributions of Shenzhen to the total GDP and employment of Guangdong Province increased dramatically. Both urban and rural residents in Shenzhen improved their living standards considerably while many workers also received the highest wage level in China.

The economic growth in Shenzhen, however, was achieved at very high cost. Large inputs of investment and labour were required to support Shenzhen's economic development. Preliminary estimations indicated that its labour and capital productivity growth remained below the provincial average. This was far short of attaining the objective of raising productivity as set out in China's economic reform program.

Shenzhen's economy also suffered from major structural deficiencies. As the rapid economic growth in Shenzhen depended on its receipt of a disproportionate share of CCI, the economy was sensitive to changes in China's credit and fiscal policies. This dependency was particularly critical as a large proportion of the investment came from bank loans. Consequently, Shenzhen was heavily indebted and many enterprises were facing difficulties in meeting bank payments. The economic slow down in Shenzhen in 1986 clearly demonstrated the vulnerability of Shenzhen's economy to changes in China's fiscal and credit policies.

During this period of rapid, albeit fluctuating, growth, Shenzhen swiftly transformed from a subsistence to a commercialized economy. The
tertiary sector was supported by high profit margins from retail sales and tourist business which were mainly dedicated to interior customers. The services sector thus relied heavily on the special policies granted to SEZ imports, the lax border controls on the flow of goods from the SEZ, and the distorted pricing structures on consumer durables in the interior.

The agricultural sector was particularly affected by this unbalanced investment policy. The lack of domestic investment, the declining agricultural labour, and the loss of farmland, as well as the inconsistent policy on foreign investment led to the slow growth in the agricultural sector. Foodgrain production in Shenzhen Municipality dropped drastically - thus aggravating the food supply problem in the Pearl River Delta Region.

The growth of employment was very rapid as a result of the large scale construction and the rapid expansion of the economy. The fluidity of employment was accentuated not only by the new labour management system but also the employment of large numbers of temporary workers. All new workers, including both temporary and contract workers, lost their life tenure in employment and were subject to be laid off any time when there was a work shortage. The temporary workers suffered further from a much lower wage level, enjoyed relatively few fringe benefits, and denied access to most of the social security programs. Consequently, large income and social inequalities emerged amongst the permanent, contract and temporary workers. There was also criticism of the new employment system in Shenzhen where the peasant-worker could no longer claim to be a part-owner of the means of production as his/her status had now been changed
from a member in a commune to an individual who sold his/her labour to a foreign-owned or joint venture (Wu and Ip 1985, 240). The peasant-worker further faced the possibility of dismissal in a similar manner to workers in capitalist countries. In this respect, they do not seem to be any better than workers in other Asian EPZs even though they remain "socialist" workers. The new labour system also undermined the original purpose of having workers acquire industrial training since few enterprises would offer extensive training for "temporary" workers. The process of industrialization and the technological upgrading of Shenzhen are further reviewed in the following chapter.
CHAPTER 5. INDUSTRIAL AND TECHNOLOGICAL DEVELOPMENT IN SHENZHEN

Before its designation as an SEZ, Shenzhen had only a few small-scale industrial enterprises operated mainly by rural collectives. Only a small proportion of its labour force was employed in these workshops and their contributions to the total gross value of industrial output (GVIO) of the province were negligible (GDYS 1986, 247). The products from these plants were mainly light industrial goods for the support of the agricultural sector, including small farm tools, processed food products, light consumer goods, and fertilizers (SSZG 1987a, 1; GDYS 1986, 252).

Shenzhen was intended to be developed as a comprehensive SEZ in which not only industry but commercial, real estate, tourism, agriculture and other activities would also be encouraged. Nevertheless, the development of industry was considered particularly important to facilitate the introduction of advanced technology and Western management techniques, the training of "staff and workers", and the exports of manufacturing products to the world market (Liang 1985b, 54).

According to the SEZ Plan, the industrial sector would be one of the fastest growing economic sectors. By the end of the century, there would be 1,500 factories with a total output of Rmb 9.7 billion Yuan, a 300-fold increase from 1980. The industrial workforce would also be increased more

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125 The share of the provincial GVIO by Shenzhen Municipality was 0.3 percent in 1978.

126 See Table 4-1 for the key economic development targets of the SEZ Plan during the 1981-2000 period.
than 17-fold to 160,000 during the 20-year period (Shenzhen Shi 1983, n.p.; Wong 1985, 74-76). The large scale industrial expansion in Shenzhen was to be financed by a total of Rmb 3.7 billion Yuan in CCl during the 20-year period.

In order to promote industrial growth in Shenzhen as specified in the SEZ Plan, various reform measures in planning, labour, wages, taxation, enterprise management, and director responsibility system were adopted. Investments from both foreign and domestic sources were also encouraged to support the industrialization program in the SEZ. In order to attract foreign investment into the industrial sector, manufacturing ventures were being granted additional preferential treatment. Recently, Shenzhen also encouraged interior enterprises to set up industrial production plants by offering them better tax benefits.

There are three major aims in this chapter: first, to highlight the major industrial reforms and their roles in the industrial development of Shenzhen; second, to examine the extent to which the industrial output, productivity, employment and export targets as outlined in the SEZ Plan were achieved; third, to outline the processes of industrialization and technology transfer in Shenzhen and the role of foreign enterprises in these processes.

5.1 INDUSTRIAL REFORMS IN SHENZHEN

In order to achieve the ambitious industrial production targets, to encourage foreign investment, and to respond to the national call for economic restructuring, improvement, consolidation, and readjustment,
various reform programs in the planning, pricing, enterprise management, taxation, and labour and wage systems were initiated in Shenzhen.

In addition to the adoption of a new employment system as described in Chapter 4, one of the most significant reforms adopted in Shenzhen was the liberalization of the centrally planned, mandatory, and fixed-price planning system. In other parts of China, the major thrust of the reform was to "narrow the mandatory plan step by step and to expand the guidance plan" (Liu and Liang 1985, 175). In the Shenzhen SEZ, the production and distribution of commodities were shifted to a mixed system of market, guidance and mandatory plans. Most production and income targets in the SEZ were placed under guidance rather than mandatory planning. The production plans of foreign enterprises were not subject to centralized control but they were required to submit them to the municipal government for incorporation into the annual and five-year plans. For domestic enterprises in the zone, most raw materials and finished products were purchased and sold in the open market rather than allocated through the state distribution system. In the mid-1980s, over 80 percent of all agricultural, industrial, and construction materials in Shenzhen were purchased and sold through the market system (Chen 1986, 93).

While the reform program in other parts of China gradually allowed the pricing of some commodities to be changed from a fixed to a floating system, an increasing number of commodities in Shenzhen were allowed to be sold at market prices. However, prices for some services remained under the fixed price system, including transport and postal services provided by
the central and provincial governments, utilities such as water, electricity, and other services such as educational, medical and local transport, and housing (SJTN 1985, 215).\textsuperscript{127} Prices for most major industrial and consumer goods in the SEZ were allowed to float within a range. These commodities included steel, cement, gas, tobacco, colour televisions, radio cassettes, bicycles, and others (SJTN 1986, 215). With the exception of grain, edible oil, flour and pork which remained regulated by the government, other agricultural commodities were allowed to be sold at market prices (Chen 1986, 93; SJTN 1986, 215).\textsuperscript{128}

In line with the planning system, the management of the enterprises in Shenzhen was also granted more decision-making powers. The local government no longer assigned mandatory production quotas and plans to the enterprises. They could set up and make changes to their own production plans according to market conditions and the rates of return. Nevertheless, industrial enterprises had to adhere to five major targets which included gross and net output, output per worker, profit, and ratio of profit to output under the guidance plan (SJTN 1986, 59). The decision-making power in production, marketing, administration, hiring of staff, and the operation of the enterprises was decentralized by granting the enterprise directors overall responsibilities (Chen 1986, 81).

\textsuperscript{127}In 1986, prices for 17 commodities and 31 services in Shenzhen remained being fixed by the local, provincial and central governments.

\textsuperscript{128}Previously about 110 agricultural commodities were under the fixed price system.
The management of the enterprises was also improved by reducing party interference in the day-to-day operation of the enterprises in Shenzhen. In other parts of China, the enterprise reform advocated the separation of the party from the daily administration of the enterprise but the party continued to exist and to play a major role in the setting of policies and directions (Shum and Sigel 1986, 221). In Shenzhen, party committees were not formed in foreign and joint ventures to allow enterprises full decision-making power. However, Shum and Sigel pointed out that there could be a party branch within a Sino-foreign enterprise if the number of party members warranted one. Nevertheless, the party members there would probably deal only with personal ideological education and party business (Shum and Sigel 1986, 221). The absence of a party committee in joint ventures was also aimed to remove any concerns of foreign investors on the intrusion of party policies into the running of the enterprises (Shum and Sigel 1986, 221-222).

The administrative system of industries in Shenzhen was further restructured by reducing direct interference by the government. The industrial corporations which were responsible for direct supervision and administration of enterprises were disbanded in 1982. In 1986, the highest decision-making body of the industrial enterprises rested with their own board of directors. An Industrial Development Commission was set up in 1984 to plan, coordinate, and supervise all industries in Shenzhen. It was

\[129\] Previously each branch of industry had an industrial corporation responsible for administration, supervision, planning, and coordination within the branch.
further reorganized to become a non-governmental policy-setting organization in 1986. The administration of industries lies with a new Industrial Department (SSZG 1987a, 5). The coordination and planning within each industrial branch were the responsibilities of their own industrial associations.\textsuperscript{130}

The industrial growth in Shenzhen was further accentuated by the reform in the taxation system. The corporate income tax for foreign enterprises was set at a low rate and some were permitted to enjoy tax holidays of one to three years. From 1986 on, new domestic and interior industrial enterprises would also enjoy tax holidays of one to three years or a reduction of their corporation income tax if over half of their products were exported. Their products sold in the SEZ were also exempted from product and value-added tax (SJTN 1987, 220).

The SEZ government hoped that the implementation of these reform measures would promote the growth of not only industrial output but also productivity.

5.2 INDUSTRIAL GROWTH AND PRODUCTIVITY IN SHENZHEN

Since the establishment of the SEZ, the number of industrial enterprises and the value of industrial production in Shenzhen have expanded dramatically. From 1979 to 1986, the number of industrial enterprises in the SEZ increased by ten-fold to 700 and reached more than 1,000 in the Municipality. The GVIO also experienced a high rate of growth,

\textsuperscript{130}There were eight industrial associations established in 1986, including electronics, textiles, printing, machinery, chemicals, food processing, building materials, and machine tools.
almost doubling every year during the 1979-1986 period (see Table 5-1). The industrial growth rate in Shenzhen was far higher than what was projected in the SEZ Plan. Although the industrial sector in Guangdong also experienced a high rate of growth, no other municipalities came close to such a record rate of growth as in Shenzhen. The share of the provincial industrial output by the SEZ increased to 5.2 percent by the end of 1986. Shenzhen became Guangdong’s second ranked city in industrial output (GSTJ 1987, 40, 478-482).

The rapid expansion of industrial enterprises and the GVIO in Shenzhen was due to the large inputs of domestic and foreign investments, and labour. The industrial growth was primarily a result of the local government’s determination to build up the industrial and urban infrastructure of Shenzhen expeditiously. By the end of 1986, over Rmb 2 billion Yuan or one-quarter of the CCI were invested in the industrial sector. The amount of investment was more than double the proposed amount of industrial investment in the SEZ Plan. Industrial development in Shenzhen was further benefited by the infusion of more than US$600 million or slightly over 50 percent of the utilized foreign investment.\footnote{In addition to the injection of large investment, the large scale expansion of the industrial capacity in Shenzhen was also supported by...}

\footnote{During the period of 1983-1986, industrial output in Shenzhen Municipality increased by 388 percent while in Foshan, the next fast growing municipality, industry grew by 114 percent.}

\footnote{Part of the industrial investment also included infrastructural projects, such as power plants.}
Table 5-1. Industrial Growth in Shenzhen and Guangdong, 1986

<table>
<thead>
<tr>
<th>No. of Enterprises</th>
<th>Shenzhen SEZ</th>
<th>Mun</th>
<th>Province*</th>
<th>GD</th>
<th>Shenzhen SEZ</th>
<th>Mun</th>
<th>Province*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>730</td>
<td>1176</td>
<td>27005</td>
<td></td>
<td>48.5</td>
<td>31.8</td>
<td>3.2</td>
</tr>
<tr>
<td>2 Total Industrial Workforce ('000s)</td>
<td>145.4</td>
<td>294.9</td>
<td>5045.0</td>
<td>57.7</td>
<td>60.8</td>
<td>9.8</td>
<td></td>
</tr>
</tbody>
</table>

Industrial Output (Rmb million Yuan)

| 3 GVIO | 3,111 | 3,565 | 60,023 | 98.3 | 86.6 | 16.4 |
| 4 Net Industrial Output | 856 | 981 | 20,358 | 91.4 | 80.2 | 14.9 |

Industrial Output/Worker (Rmb Yuan)

| 5 GVIO/Staff and Workers | 37,014 | 26,155 | 17,425 | n.a. | n.a. | 7.4 |
| 6 Net Output/All Workers | 5,890 | 3,328 | 4,035 | 21.4 | 12.0 | 4.7 |

Notes and sources:
*GD - Guangdong

1 Data for Guangdong do not include enterprises at the village level and below.

2 Data for 1986 in Shenzhen also included non-local temporary workers. The numbers of industrial workers in Shenzhen in 1980 were estimated from the provincial average.
SSZG 1987a, 1; SJTN 1987, 30, 345-346; GSTJ 1987, 95.

3 Data are in 1980 constant prices. Output from village enterprises also included since 1984. SJTN 1985, 587-589; SJTN 1987, 330-332.

4 Data are in current prices and are based on industry's share of net material product. Data for Shenzhen in 1986 are estimated from industry's contribution to GDP. The growth rates for net industrial output based on the share of NMP by industry and are adjusted by the provincial industrial price index. Data for the Shenzhen SEZ are estimated in accordance to its share of GVIO in the Municipality.

5 Data are reported by Shenzhen and Guangdong Statistical Bureaus. Data for Guangdong are based on those state enterprises with independent accounting status.

6 The net output is expressed as Item 4/Item 2. Net output are measured in current prices and all workers are included. Growth rates are based on industry's share of NMP and are adjusted with industrial price index of Guangdong Province.
the rapid increase in the industrial workforce. The number of industrial "staff and workers" increased 10-fold to more than 84,000 in the SEZ during the 1980-1986 period (SSTJ 1987b, n.p.; Shenzhen Shi 1983, n.p.). When rural, individual and temporary industrial workers were also included, the industrial workforce in the SEZ and the Municipality was estimated to reach almost 150,000 and 300,000 respectively, more than double the official reported figure of 136,000 for the Municipality as a whole (SJTN 1987, 18; GSTJ 1987, 99-100; SSZG 1987a, 1).

The industrial growth in Shenzhen was also strengthened by the large demands for its products by both residents in the SEZ and visitors from other parts of China. They were attracted by the availability of the lower-priced consumer durable goods manufactured from imported parts. The customers thus enjoyed a substantial saving by bringing these duty-free products to the interior where high tariffs were imposed on imports. As mentioned earlier, a large proportion of the consumer durable goods were reported to be purchased by customers from the interior (Zhao and Chen 1984, 254-255).

The rapid industrial growth in Shenzhen was further facilitated by the adoption of various reform measures in planning, pricing, enterprise management, labour and wages, taxation and administration of the industrial system as described earlier in section 5.1.

The expansion of gross industrial output, however, far exaggerated its net value of output. In 1986, the net value of industrial output in Shenzhen Municipality was estimated to be less than RMB 1 billion Yuan, slightly over
one-quarter of its gross output after price adjustments (See Table 5-1).\textsuperscript{133} Even if we accept the higher net to gross output ratio of 27 percent put forward by Zhou Xiwu, a deputy mayor of Shenzhen, the ratio in Shenzhen remained below the provincial average of 31.4 percent (GSTJ 1987, 42-44; Zhou 1987d, 5). Consequently, Shenzhen’s share of the provincial net industrial output was only 4.2 percent in 1986, less than its share of the provincial GVIO (GSTJ 1987, 44).

The low value-added ratio\textsuperscript{134} in Shenzhen was attributed to Shenzhen’s skewed industrial structure, high import contents, and labour-intensive operations. Shenzhen’s industry was highly concentrated in the electronics sector which had an average value-added ratio of only 17.9 percent, significantly below other industries (China Academy 1987c, 126; Liu and Liang 1985, 83). The value-added ratio in Shenzhen could not be increased unless a diversification to other higher value-added industries took place. The low value-added was also a result of the high import contents of Shenzhen’s industry. In the electronics industry, most of the materials and parts were imported rather than procured locally. The low value-added was also due to the fact that the majority of the industrial operations in Shenzhen involved mainly downstream, labour-intensive assembly work.

\begin{footnotesize}
\textsuperscript{133}Gross value of industrial output refers to the total volume of industrial products in value terms while the net value of industrial output excludes the value of material inputs. Net value of industrial output is expressed in current prices. Data for 1986 were estimated from the share of GDP by industry. The net to gross industrial output in Shenzhen was adjusted by the price differentials between 1980 and 1986 in the industrial sector of Guangdong Province. The price differentials was estimated to be 8.09 percent (GSTJ 1987, 42-43). The net value of industry estimated from its share of NMP would give a value of Rmb883 million Yuan.

\textsuperscript{134}Value-added ratio here referred to the ratio of net to gross industrial output.
\end{footnotesize}
rather than high value-added, capital-intensive upstream production (Liu and Liang 1985, 83). Moreover, most of the workers recruited were recent secondary school graduates or rural migrants, their industrial skill and productivity were not high.

Parallel to the rapid expansion of industrial output, industrial productivity also experienced a significant increase in Shenzhen during the early 1980s. According to the Shenzhen Statistical Office, industrial productivity, as expressed by the GVIO per "staff and workers" (quanyuan laodong shengchanlu), in the SEZ reached Rmb 37,000 Yuan in 1986. In the Municipality the GVIO per "staff and workers" was more than tripled from Rmb 7,400 yuan in 1979 to Rmb 26,000 yuan in 1986 (SSTJ 1987a, 2; SSTJ 1987b, n.p.; SSZG 1987a, 2). Hence, Shenzhen’s GVIO per "staff and workers" was 50 percent higher than the provincial average (GSTJ 1987, 180).  

However, industrial productivity as measured by the GVIO per "staff and workers" has several major deficiencies. First, the data exaggerate the productivity level by excluding those industrial workers employed in rural collectives, individual enterprises, and on temporary contracts. Second, the GVIO also inflates the productivity level as the net output is often only a fraction of the gross output. Third, the data are also distorted by the inclusion of non-production workers. A more accurate measure of industrial productivity should be based on the net output per production worker.

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135 The GVIO per "staff and workers" in the state sector of Guangdong was Rmb 17,425 Yuan in 1986.
There was no detailed data on the average number of industrial workers in either the SEZ or in the Municipality as a whole. To provide a more accurate assessment of the industrial output per worker, Table 5-1 includes data on the net value of industrial output produced by each worker. The data indicated that net output per worker was only a small fraction of the GVIO per "staff and workers". During the period of 1979-1986, net industrial output per worker in Shenzhen Municipality increased by an annual average of 12 percent, significantly higher than the provincial average of less than 5 percent. In the Shenzhen SEZ, net output per worker even surpassed Rmb 5,000 Yuan, well above the provincial average. However, the net output per worker in Shenzhen Municipality as a whole remained below the provincial average by as much as 25.8 percent.

The net output per worker data in Table 5-1 also have two major limitations as an indicator of labour productivity. First, the data assume that all workers participated in industrial production but in fact a portion of them engaged in non-production functions and it may vary from year to year. Secondly, not all workers, such as temporary workers, participate in industrial production with the same number of work days as regular workers over the year.

The higher growth rate of labour productivity achieved by Shenzhen is partly explained by its low industrial productivity level in the late 1970s.

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136 The growth rates of net output per worker were adjusted to include only industrial output derived from NMP throughout the period and adjusted with the industrial price index of Guangdong.

137 If industrial output data were based on NMP, the net industrial output per worker in 1986 were Rmb 2993 Yuan and Rmb 5296 Yuan in Shenzhen Municipality and the SEZ respectively.
Nevertheless, the large capital input, reform in the wage system, and enterprises reforms since the early 1980s also encouraged the growth of Shenzhen’s industrial labour productivity. During the 1979-1986 period, CCI in the industrial sector increased by more than 100-fold. In 1986 net fixed industrial assets per worker in Shenzhen Municipality amounted to almost Rmb 4,000 Yuan, 50 percent more than the provincial average.

The higher labour productivity was also due to the restructuring of the wage system in Shenzhen. The income of workers in the SEZ was no longer based on egalitarian principles but linked directly to job performance and the profitability of the enterprise (SJTN 1987, 236). Enterprises in the SEZ adopted different wage and remuneration systems but most of them disbanded the old system which was characterized by a low wage level with large subsidies. The most common wage system in Shenzhen consisted of three components: the basic wage (jibeng gongzi), which was a fixed amount for all workers and reflected the basic cost of living; the duty wage (zhiwu gongzi), which varied according to the responsibilities, skill level, and seniority of the worker; the floating wage (fudong gongzi), which varied according to the productivity of the worker and the profitability of the

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138 A senior staff member in one of Shenzhen’s more advanced textile factories estimated that only about half as many workers were needed in his factory as compared to a similar one in the interior (Fieldwork 1986).

139 The data for Shenzhen and Guangdong were estimated from the net industrial fixed assets in 1978 and the total completed cumulative CCI in the industrial sector during the 1979-1986 period, discounted with a 5 percent depreciation rate per year. Data for Shenzhen in 1978 were estimated from its proportional share of the provincial industrial net fixed assets.

140 Individual wages are set by the enterprise but total wage levels have to be approved by the government.
enterprise. In a 1984 survey of enterprises in the Shekou IZ, the share of the total wages by basic wage, duty wage, and floating wage was 30.5 percent, 37.2 percent, and 22 percent respectively (Hong and Xu 1987, 54). Most of the urban subsidies, such as housing, electricity, fuels, transportation, and others which were available in other Chinese cities were largely eliminated in Shenzhen (SJTN 1986, 205). The new wage system thus encouraged workers to increase their productivity which also meant higher wages.

The higher industrial labour productivity growth was also attributed to the adoption of a more flexible management system in Shenzhen. The new employment system adopted in Shenzhen allowed enterprise directors to select and hire workers according to the quality and quantity they needed. Most of the new workers were hired on contract or temporary basis which meant that they could be dismissed any time when there was a shortage of work or if their job performance were below expectations.

In addition to the reforms in the wage and employment systems, the taxation system was also revised to encourage both domestic and foreign enterprises to increase their productivity. Instead of submitting all their profits to the state, domestic enterprises in the SEZ could retain an increasing share of their profits (SJTN 1987, 32). As a result of these policy changes, the enterprises had a much greater incentive to increase their productivity and hence their rates of profit.

\[141\text{ In Shekou, about 10 percent of the wage bill remained to be allocated for subsidies on food and other supplies.}\]
The higher labour productivity growth in Shenzhen, however, was not matched by growth in capital productivity. A rough estimation of the incremental output-capital ratio in Shenzhen, as presented in Appendix 5-1, suggested that capital productivity growth in Shenzhen was below provincial average during the 1982-1986 period. However, the incremental output-capital ratio for the industrial sector was higher than for the economy as a whole during the same period. This suggested that capital productivity in the industrial sector was higher than other economic sectors in Shenzhen.

As partial indexes of labour and capital productivity oversimplify the output-input relationship of the economy, a more appropriate measure of productivity change is the total factor productivity which measures the inputs of capital and labour together. Unfortunately we do not have detailed data on Shenzhen's industrial capital stocks throughout this early period to make an estimation of the industrial sector's total factor productivity growth during this period.

5.3 OWNERSHIP AND SECTORAL CHANGES

One of the major factors contributing to the rapid industrial growth in Shenzhen was changes in its ownership structure. There were no foreign industrial enterprises operating in Shenzhen prior to 1979. But by the end of 1986 there were over 200 foreign enterprises established in the SEZ. Although they constituted less than 30 percent of the total number of

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enterprises in the SEZ, they accounted for two-thirds of the GVIO and the net industrial output (see Table 5-2). Foreign industrial enterprises also employed more than one-third of all industrial "staff and workers" in the zone. The average industrial output by foreign enterprises was over Rmb 10 million Yuan, five times more than the average output by domestic enterprises. Shenzhen’s share of foreign industrial enterprises, employment, and output in the province was very large, accounting for 30 percent, 39 percent and 55 percent of the provincial total in 1986 (GSTJ 1987, 97, 159; GTJZS 1987, 512). In fact, Shenzhen was the leading city in China with the largest number of industrial enterprises, employment and output from foreign enterprises in 1986 (GTJZS 1987, 96, 107-114).

The higher output growth by foreign enterprises in Shenzhen was attributed to their higher labour productivity, preferential treatment, large investments, and less administrative interference. The productivity of workers in foreign enterprises was considerably higher than in domestic enterprises. In 1986, the GVIO per "staff and workers" in foreign enterprises was more than triple in domestic enterprises. The higher productivity could be due to the adoption of a better management system, the availability of suitable equipment, an improved incentive system and the conscientious concern for economic results. Foreign enterprises in the zone also enjoyed more preferential treatment and tax benefits than domestic firms. In the SEZ, foreign enterprises received longer tax holidays and paid a lower

143 The data for Guangdong Province included also other forms of ownership. Shenzhen’s proportional share of "foreign" funded enterprises in Guangdong province would be slightly higher than the figure quoted here if only foreign-funded enterprises were included.
Table 5-2. Ownership Structure of Industry in Shenzhen, 1979-1986

<table>
<thead>
<tr>
<th>Ownership Structure</th>
<th>Shenzhen SEZ</th>
<th>Shenzhen Municipality</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>100.0</td>
<td>72.2</td>
<td>100.0</td>
<td>32.4</td>
<td>34.4</td>
<td>68.6</td>
<td>62.5</td>
<td>100.0</td>
<td>81.4</td>
</tr>
<tr>
<td>State-owned</td>
<td>60.3</td>
<td>30.7</td>
<td>60.0</td>
<td>26.1</td>
<td>26.1</td>
<td>42.7</td>
<td>41.7</td>
<td>29.9</td>
<td>29.7</td>
</tr>
<tr>
<td>Collectives</td>
<td>39.7</td>
<td>40.7</td>
<td>39.8</td>
<td>6.1</td>
<td>8.0</td>
<td>25.9</td>
<td>20.8</td>
<td>70.1</td>
<td>50.4</td>
</tr>
<tr>
<td>Others</td>
<td>0.0</td>
<td>0.8</td>
<td>0.0</td>
<td>0.3</td>
<td>0.3</td>
<td>n.a.</td>
<td>n.a.</td>
<td>0.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Foreign</td>
<td>0.0</td>
<td>27.8</td>
<td>0.0</td>
<td>67.6</td>
<td>65.6</td>
<td>31.4</td>
<td>37.5</td>
<td>0.0</td>
<td>18.6</td>
</tr>
<tr>
<td>Joint**</td>
<td>0.0</td>
<td>25.9</td>
<td>0.0</td>
<td>49.4</td>
<td>0.0</td>
<td>n.a.</td>
<td>n.a.</td>
<td>0.0</td>
<td>17.3</td>
</tr>
<tr>
<td>Wholly-owned</td>
<td>0.0</td>
<td>1.9</td>
<td>0.0</td>
<td>18.3</td>
<td>0.0</td>
<td>n.a.</td>
<td>n.a.</td>
<td>0.0</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Notes:
GVIO = Gross Value of Industrial Output
*Included only "staff and workers" in the state, urban collective, and foreign enterprises. Data for foreign enterprises also included employment in domestic joint enterprises.
*Included both equity joint ventures and contractual joint ventures.

corporation income tax than domestic enterprises. Foreign industrial enterprises were not only allowed duty-free imports of materials and the waiving of export taxes but were also charged lower land use fees (SSDXC 1984, 125-126). In the Shekou IZ foreign industrial investment ventures were further entitled to an extended tax holidays of 3 to 5 years (Yu, Zhang, and Xu 1987, 38). Those industrial enterprises with advanced technology were also allowed the sales of a portion of their products in the interior market of China (SSDXC 1984, 125). While foreign enterprises enjoyed full exemption from paying product tax, value-added tax, and export tax, domestic industries had to pay the full rate (SJTN 1987, 219). Foreign enterprises were also able to run more efficiently than domestic enterprises as they had fewer supervising authorities over them. Enterprise directors in foreign firms had more power in management, operation, hiring of labour, setting of wage rates, and distribution of profits.

The rapid expansion of industrial employment in the foreign enterprises was due to the fact that most of the foreign enterprises in Shenzhen were newly set up and so required a large number of new workers to start operating. In addition, many of the new foreign industrial enterprises set up in Shenzhen were engaged in electronics, and textiles and garments industries, which were mainly labour-intensive. In fact, one of the most important reasons for foreign investors entering manufacturing activities in Shenzhen was the availability of low-wage labour.

In addition to the ownership structure, the sectoral structure of industry in Shenzhen Municipality was also dramatically transformed after
the establishment of the SEZ. In 1979, food processing was the single most important industry which accounted for over 50 percent of the total GVIO in the Municipality (SJTN 1985, 588-589). Other industries, which included textiles and garments, machinery, chemicals and building materials, altogether contributed less than one-quarter to the total (see Table 5-3).

The electronics industry emerged as the dominant industry in Shenzhen as early as 1984 when it contributed more than 50 percent to the total output (Liu and Liang 1985, 79). In 1986, the dominance of electronics industry declined slightly but it continued to contribute over two-fifths and one-quarter to the total GVIO and net industrial output respectively in the Municipality. Although detailed data on the sectoral distribution of industrial employment were not available, incomplete data from several major industrial corporations and enterprises confirmed that the electronics industry employed the bulk of industrial workers in the zone. Within the electronics sector, more than 85 percent of the products were consumer goods, especially televisions which alone accounted for almost half of the electronics output or about one-fifth of Shenzhen's GVIO (SSZJ 1987, 22). A more detailed breakdown of the sectoral distribution of industrial enterprises and gross output in Appendix 5-2 clearly showed the predominance of the electronics sector while most other industries were weakly developed in Shenzhen. With the exception of machinery and textiles industries, no other industries contributed more than 5 percent to

144 The sectoral distribution of net output for Shenzhen was estimated from the net to gross output ratio of each industrial sector in Guangdong province.
Table 5-3. Sectoral Distribution of Industry in Shenzhen Municipality, 1979-1986 (Selected Years)

<table>
<thead>
<tr>
<th>Item</th>
<th>Sectors</th>
<th>Industrial Enterprises</th>
<th>Gross Output*</th>
<th>Net Output**</th>
<th>Employment***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Metals</td>
<td>0.77</td>
<td>7.83</td>
<td>0.16</td>
<td>4.12</td>
</tr>
<tr>
<td>2</td>
<td>Fuel &amp; Power</td>
<td>2.81</td>
<td>0.91</td>
<td>0.79</td>
<td>1.38</td>
</tr>
<tr>
<td>3</td>
<td>Chemicals</td>
<td>9.18</td>
<td>9.46</td>
<td>5.35</td>
<td>8.83</td>
</tr>
<tr>
<td>4</td>
<td>Machinery</td>
<td>18.88</td>
<td>13.47</td>
<td>6.35</td>
<td>9.89</td>
</tr>
<tr>
<td>5</td>
<td>Electronics</td>
<td>8.93</td>
<td>11.29</td>
<td>2.00</td>
<td>45.89</td>
</tr>
<tr>
<td>6</td>
<td>Building Materials</td>
<td>10.97</td>
<td>7.11</td>
<td>5.35</td>
<td>2.25</td>
</tr>
<tr>
<td>7</td>
<td>Wood Products</td>
<td>3.83</td>
<td>4.10</td>
<td>4.04</td>
<td>1.62</td>
</tr>
<tr>
<td>8</td>
<td>Food &amp; Beverage</td>
<td>13.27</td>
<td>7.47</td>
<td>56.36</td>
<td>8.49</td>
</tr>
<tr>
<td>9</td>
<td>Textiles and Garments</td>
<td>10.97</td>
<td>13.57</td>
<td>6.68</td>
<td>7.29</td>
</tr>
<tr>
<td>10</td>
<td>Leather</td>
<td>4.85</td>
<td>5.56</td>
<td>1.19</td>
<td>1.31</td>
</tr>
<tr>
<td>11</td>
<td>Paper Products</td>
<td>0.00</td>
<td>3.19</td>
<td>1.01</td>
<td>2.36</td>
</tr>
<tr>
<td>12</td>
<td>Handicrafts &amp; Stationery</td>
<td>4.34</td>
<td>13.48</td>
<td>3.18</td>
<td>5.45</td>
</tr>
<tr>
<td>13</td>
<td>Others</td>
<td>11.22</td>
<td>2.56</td>
<td>7.54</td>
<td>1.12</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Notes to Table 5-3.

* Data are based on 1980 constant prices.

** Data for 1984 are reported by China Academy, 1987. Data for 1986 are estimated from provincial average for each industrial sector. All data are in current prices.

*** Data for 1984 are reported by Liu and Liang 1985. Data for 1986 are incomplete reports from industrial corporations.

Item 1 included metal products, metal making, black metals making, and metal extraction. Item 2 included petroleum, coal, and electricity industry. Item 3 included also plastics, rubber, polyester, and medical supplies. Item 4 included also transport equipment, electrical equipment, and instrument industry. Net output in 1984 also included other light industry. Item 5 included also sewing and apparel. Item 6 included both building materials extraction and processing. Item 7 included lumber logging and transport, wood processing, and furniture. Item 8 included also tobacco processing, and feedstuff processing. Item 10 included also fur processing and their products. Item 11 included printing, paper making, and paper products. Item 12 included also sports, arts, and educational products. Item 13 included water works, salt production, other minerals, and others.

the GVIO in Shenzhen Municipality. The food processing industry suffered the largest decline in its share of the GVIO, down to less than 5 percent by the end of 1986.

In contrast to its small share of the total number of industrial enterprises and output in Guangdong province, Shenzhen Municipality's share of some branches of industry was exceptionally high. As indicated in Appendix 5-2, electronics industry in Shenzhen Municipality had a disproportionate share of the provincial total, accounting for 26 percent and 45 percent of its enterprises and GVIO in 1986 (GSTJ 1987, 162-169). The same source of data also showed that almost half of the province's output from the feedstuff industry came from Shenzhen. This was not surprising as Shenzhen's largest factory was a feedstuff plant. Other industries which contributed more than 10 percent each to the provincial total output included building materials and stationery and sports. In Shenzhen Municipality, there were also a significant number of leather factories which were probably established to take advantage of the less stringent environmental protection laws.

The high concentration of output, employment, and exports in the electronics sector was mainly due to the price distortions in the interior market, the relaxed custom control and the duty-free import status granted to Shenzhen's industrial enterprises. The rapid growth of the electronics industry in Shenzhen was primarily due to the high profits in the production of consumer products, such as televisions, which could be sold at high prices in the interior market. In 1986, more than 750,000 television sets and
4.5 million radio cassettes which consisted of more than half of the provincial total were produced in Shenzhen (SJTN 1987, 112; GSTJ 1987, 177-179). The expansion of the electronics sector was also facilitated by the liberalized import procedures and duty-free status granted to the SEZ. The relaxed import procedures encouraged the large imports of raw materials and parts to be assembled by dozens of newly introduced production lines. As most electronics production were engaged in the downstream assembly of imported parts, the technology involved in the setting up of these operations was not complicate and the training of workers could also be done in a relatively short period of time.

5.4 INDUSTRIAL EXPORTS

One of China’s major objectives in the establishment of the SEZs was the promotion of exports, particularly manufactured exports, and the generation of foreign exchange earnings. In order to encourage exports from the Shenzhen SEZ, various preferential treatment and tax concessions were offered to foreign enterprises, and administrative reforms in the trading system were initiated.

As specified in the "Regulations on SEZs", foreign enterprises were allowed to import parts, materials, and equipment duty-free (Foreign Language Press 1982, 196-197). Moreover, they were authorized to export directly without going through the state export corporations and their export products would be exempted from the consolidated industrial and
commercial tax (Hokkaido and Takugin, 1987, 24). The exemption of import duties and export taxes was considered important to allow enterprises in the SEZs to lower production costs and to be competitive in the international market. However, to import materials other than their own production needs or to export goods not produced by themselves, enterprises had to obtain prior approval from appropriate government agencies and paid full duties on these products. The SEZ enterprises were also required to pay import duties and the consolidated industrial and commercial tax on the portion of goods that they sold to other parts of China.

The state monopoly in foreign trade was also opened up to allow more industrial enterprises to participate directly in the import and export business. The total number of enterprises which were authorized to import and export materials from the SEZ increased from 6 in 1980 to about 100 by the end of 1984 (SJTN 1985, 444; SJTN 1986, 60). Some of these enterprises were also authorized to export products originating from the interior of China. However, those materials which were under export quota control by the central and provincial governments would have to be approved beforehand.

Local enterprises were further encouraged to increase their exports by allowing them to retain a higher share of their foreign exchange earnings.

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145 The exemption, however, do not apply to mineral oil, tobacco and alcoholic drinks on which only a 50% tax reduction is granted. Other commodities which are under state control, such as vehicles, televisions, etc., have to obtain approvals from the central government before they are allowed to be imported.
Some domestic enterprises were allowed to retain all their foreign exchange earnings after submitting a fixed quota to the state (SJTN 1985, 444; SJTN 1987, 60). This was considerably higher than the average between 30 percent and 70 percent in other parts of the province (SJTN 1986, 59-60).

As a result of the above tax and administrative changes, industrial exports from Shenzhen expanded tremendously. Detailed data on foreign trade in the late 1970s were not available but various sources indicated that total exports from Shenzhen Municipality in 1979 were less than US$10 million (Liu and Liang, 1985, 141; Chan 1985a, 190; Falkenheim, 1985, 164). Only about 12 percent of the total exports came from the industrial sector as it was only weakly developed then (Liu and Liang 1985, 141). By the end of 1986, industrial output expanded by 100-fold and its share of total exports also increased to more than three-quarters or US$561 million (Almanac 1985, 647; SSTJ 1987a, 2). The large upsurge of exports from Shenzhen increased its share of Guangdong Province’s industrial exports from less than 1 percent in 1979 to 23 percent in 1986 (GSTJ 1987, 329).

Shenzhen thus became the leading industrial exporter in the province, exporting even more than that from Guangzhou Municipality (GNBWH 1987, 565). The rising exports from Shenzhen Municipality also played an important role in

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146 The quota would remain unchanged for three years. However, there was a 5 percent administration charges imposed on foreign exchange earnings but the rest could be retained by the enterprises after the quota was met.

147 The data included fees from processing and assembling works and other non-agricultural exports.

148 Shenzhen Municipality’s share of the total provincial exports was 17 percent in 1986.
enabling Guangdong to overtake Liaoning province and Shanghai to become China’s leading province in exports (Almanac 1987, 380).

Total industrial exports from Shenzhen, however, were exaggerated. Almost 30 percent of the total exports from Shenzhen actually originated from other parts of China (Almanac 1987, 301). The growth of the entrepot trade was probably in response to the less restrictive trading system, the higher foreign exchange retention ratio, and the need to meet the foreign exchange payments in Shenzhen.

Despite its high rate of growth in industrial exports, less than half of Shenzhen’s total GVIO was exported (SSZJ 1987, 22). The export performance of Shenzhen’s industry was far below the planned export ratio of 70 percent. This was one of the major criticism raised by some party members on the lack of contributions of Shenzhen to China’s economy, especially its foreign exchange balance.

Export growth from SEZ enterprises was impeded by the administrative structure and the export quota system. Although an increasing number of enterprises had the right to export, many others did not have the right to export directly. Often, they had to pay a premium to those authorized trading corporations in order to export any products. The promotion of exports was further slowed by the lack of market information and qualified marketing personnel. It was a cumbersome procedure to get

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If exports of industrial products originated from other places were included, the export level would have reached 51 percent.
approvals from the municipal government for business trips abroad. Consequently, access to market information was limited and often outdated.

The credit restraint policy and the re-centralization of trading power adopted by the central government after mid-1985 also seriously hindered export growth. Some commodities which Shenzhen previously was allowed to import and export without prior approval were forfeited. At the end of 1985, more than 79 groups of commodities, which included some electronics parts for production purposes, required approvals from the provincial and central governments (Tang 1986, 23-26). The exports of certain textiles, footwear, and others, were also under strict control by the central government due to quota restrictions imposed by other countries. The procedures of getting necessary approvals and licenses to export could take several months even if they were granted.

The poor export performance was also partly the result of export difficulties experienced by some enterprises in Shenzhen. As most of the industrial enterprises were newly established, they needed a period of time to establish the necessary marketing networks and to build up consumer confidence on their product quality. The export performance was also affected by the different price structures in the interior market and the international market. As prices for industrial products were generally higher in the interior market than in the world market, there was little incentive for industrial enterprises to export as they could get a higher profit from domestic sales. Some of the industrial ventures were therefore established with the sole intention of supplying the domestic market rather than
 exporting to the overseas market. Exports from some of these enterprises were only intended to satisfy the government requirements as they were often a money-losing business. A major joint venture electronics firm in Shenzhen admitted that its television sets were exported at a loss of US$5-15 per set because of high competition in the international market and unproven quality (Fieldwork 1986). The failure to export not only undermined the competitiveness of Shenzhen’s manufacturing products but also adversely affected the chances of upgrading quality and improvement of product design which were important objectives of setting up the SEZ.

Similar to other Asian EPZs, Shenzhen’s industrial exports were heavily concentrated in the electronics and textiles sectors. According to the Shenzhen Economic Planning Department, exports of electronics and textiles products together accounted for over two-thirds of the total industrial exports (SSZJ 1987, 22). Exports from other industries, such as food processing, machinery, and others were very small and contributed less than 5 percent each to the total. Despite its large output, the electronics industry performed poorly in its export performance. Less than two-fifths of all its products were exported in 1986 (SSZJ 1987, 22). In contrast to its small output, the textiles and garments industries had the highest export ratio amongst all industries in Shenzhen. According to Liu Zhigeng, 75 percent of the total output from the textiles industry in 1986 was exported (Liu 1987a,

150 Shenzhen Electronics Group Corporation, which included 55 percent of all enterprises and 80 percent of total output in the electronics sector, received only US$80 million in foreign exchange, or only 21 percent of its total output. This report could only be considered as a rough indication of the level of export.
The major export commodities from Shenzhen Municipality included televisions, radio-cassette recorders, cotton-cloth, feedstuff, furniture, bicycles, and others. Altogether they contributed more than two-thirds to the industrial exports of Shenzhen in 1986 (SSZJ 1987, 22). Data for 1984 also indicated that electronics products were the major exports from foreign enterprises which included 0.6 million radio-cassette recorders, 0.17 million televisions, and 2.2 million electronics watches (SJTN 1985, 442-443).

The export performance of foreign and domestic enterprises varied considerably. In 1984, the great majority of the industrial exports came from foreign enterprises. Exports from domestic enterprises amounted to only 1 percent of the total. According to Liu and Liang, over 70 percent of the industrial output from foreign enterprises was exported while less than 1 percent of the output from domestic enterprises was exported (Liu and Liang 1985, 144). The dominance of industrial exports from foreign enterprises was due to their better knowledge of marketing networks and marketing strategy. Some foreign enterprises were also required by the government to export a certain portion of their products.

A recent survey of foreign industrial enterprises indicated that the export level of foreign industrial enterprises varied widely but most of them were below 70 percent. In a survey of 27 joint equity ventures in 1986, Lu found that over 65 percent of their products were exported, 17 percent sold locally, while sales to the interior was just under 10 percent (Lu 1987, 39).

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151 The Shenzhen Economic Planning Department reported that textile and garment exports amounted to 26 percent of the total industrial exports which was 50 percent more than its total output (SSZJ 1987, 22).
However, the export performance of these industrial enterprises varied considerably with only 26 percent of the these enterprises exporting up to 70 percent. In fact, about one-third of all the enterprises surveyed exported less than 30 percent of their products (Lu 1987, 39).

Data for 1986 indicated that the export performance of domestic enterprises improved considerably. Data reported by the MFERT as presented in Table 5-4 indicated that domestic firms contributed more than 60 percent to the total exports from Shenzhen Municipality (Almanac 1987, 301). The offer of a higher foreign exchange retention ratio, the sluggish domestic market, and the relaxed control of interior products re-exporting from Shenzhen all contributed to the better export performance of domestic firms (Liu and Liang 1985, 141-144; Almanac 1987, 301). However, the data were not entirely consistent with earlier reports and should not be considered as conclusive.

Shenzhen’s export market was highly concentrated with over 90 percent of its exports shipped to Hong Kong (Almanac 1987, 301). The geographical proximity of Hong Kong, a well connected transportation and communication system between the two cities, and the large concentration of Hong Kong investment in Shenzhen all helped to explain the flows of

\[152\] Data included re-exports which were mainly carried out by domestic enterprises.

\[153\] Interior products which have a 20 percent value-added in Shenzhen can be exported as Shenzhen products and receive a more favourable foreign exchange retention ratio. However, the ratio of value-added is not always strictly enforced and some interior products may simply be repacked in Shenzhen and then are exported as Shenzhen products.
Table 5-4. Industrial Export Structure of Shenzhen, 1986

<table>
<thead>
<tr>
<th></th>
<th>Amount (US$ million)</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Exports</td>
<td>726.0</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Sectoral Structure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light &amp; Textiles</td>
<td>338.0</td>
<td>46.6</td>
</tr>
<tr>
<td>Minerals &amp; Heavy Industry</td>
<td>98.0</td>
<td>13.5</td>
</tr>
<tr>
<td>Processing Works</td>
<td>87.7</td>
<td>12.1</td>
</tr>
<tr>
<td>Others</td>
<td>37.3</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Ownership Structure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Enterprises</td>
<td>468.0</td>
<td>64.5</td>
</tr>
<tr>
<td>Shenzhen Firms</td>
<td>404.0</td>
<td>55.6</td>
</tr>
<tr>
<td>Interior Firms</td>
<td>64.0</td>
<td>8.8</td>
</tr>
<tr>
<td>Foreign Enterprises</td>
<td>258.0</td>
<td>35.5</td>
</tr>
</tbody>
</table>

Source: Almanac 1987, 301.
exports. However, a good proportion of these exports were also re-exported from Hong Kong to other countries.

However, the relaxed import and export controls in Shenzhen also brought about problems of large trade deficits, heavy reliance on imports and even unauthorized imports. Despite the very high rate of export growth, uncontrolled imports by both domestic and foreign firms in Shenzhen Municipality led to large trade deficits. Total imports by Shenzhen Municipality in 1986 reached US$1.1 billion which constituted over two-fifths of the total imports of Guangdong province (GSTJ 1987, 329). More than half of these imports in 1986 were equipment, raw materials, and other supplies required by foreign enterprises for production and other uses. Imports by domestic firms in 1986 constituted 43 percent of the total, a significant decline from almost three-quarters of the total in 1984 (Almanac 1987, 301). This was largely a result of the credit restraint imposed on these enterprises during late 1985 and early 1986. Nevertheless, more than 70 percent of the US$1.7 billion trade deficits accumulated during the 1983-1986 period were incurred by domestic enterprises.

The large trade deficits incurred by SEZ enterprises were a result of the waiving of import duties for equipment and raw materials, the higher prices of local industrial goods, and the large demand for imported consumer goods. The waiving of all imported duties for equipment and raw materials encouraged SEZ enterprises to rely on import materials rather than acquiring from domestic sources. The dependence on imports was also a result of the difficulties of obtaining domestic supplies. For example, the
supply of some of the centrally controlled materials, such as steel, cement, and others, was generally very limited. Even if they were available, their prices and quality were often uncompetitive with overseas suppliers. The large volume of imports in Shenzhen was also due to the large demands for consumer durables in both Shenzhen and other parts of China. The more liberalized import procedures and lower import duties encouraged imports of these consumer goods for both the local and interior consumers. In 1984 alone, almost 90,000 television sets and over 100,000 electric fans were imported for only 60,000 households in the SEZ (Liu and Liang 1985, 143).

5.5 TECHNOLOGICAL DEVELOPMENT

One of the key objectives of developing the SEZs was to introduce advanced technology. Through the promotion of foreign investment, the reduction of import duties, the greater power to use foreign exchange, and the use of bank credits, it was hoped that the SEZs could accelerate the process of technology transfer. To attain its objective of introducing foreign technology, a good number of machines and assembly lines were imported, hundreds of patented technologies were transferred, and a large number of technical personnel were hired to upgrade the technological structure of Shenzhen. However, the emphasis on the introduction of "hardware" rather than "software", the imports of mainly low technology equipment, and the low absorption capacity severely impeded technological development in Shenzhen.
In its efforts to modernize the industrial infrastructure and to achieve the industrial output targets, Shenzhen imported thousands of machines during the 1979-1986 period. By the end of 1985, over 30,000 machines were imported by Shenzhen with a value in excess of US$580 million (SJTN 1986, 55). Although it was not an easy task to make an accurate appraisal of the degree of sophistication of these machines, their levels of technology seemed to vary considerably. The Shenzhen Science and Technology Development Centre reported that in a 1985 study of 10,000 machines and 52 assembly lines, each of which was worth over US$50,000 and US$100,000 respectively, 13 percent of them were considered advanced by international standards, another 10 percent of them were of advanced and appropriate technology (SJTN 1986, 55; SSZJ 1987, 22). According to another appraisal by a senior official in Shenzhen, 13 percent of this imported equipment was considered advanced while another 70 percent was described as appropriate or medium technology (Qu 1987, 8). The rest, or 17 percent, of this high-valued equipment was therefore "inappropriate" or backward technology. If the lower-priced equipment were included, the proportion of the "inappropriate" and backward equipment would probably be much higher.

The majority of the equipment was imported by foreign enterprises through various forms of trade and investment ventures. About half of the

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154 Data included 10,000 pieces of machines which valued at over US$50,000 each and 52 assembly lines valued at US$100,000 each. An additional 20,000 pieces of machines valued at below US$50,000 each.

155 The survey did not include enterprises in Shekou IZ.
machines were imported by the foreign investors as part of their capital contributions while the rest were purchased from other countries (SJTN 1986, 56). Although more than half of all this high valued equipment came from Japan and only 14 percent came from Hong Kong, a higher proportion of the lower-priced equipment would have come from Hong Kong. In a field survey of a knitting factory in Shenzhen, the manager admitted that the machines imported were purchased from the foreign partner and they were technology of the 1960s. This type of equipment was considered obsolete by Hong Kong standards (Fieldwork 1986).

The large-scale imports of high-priced equipment in Shenzhen, however, failed to achieve a corresponding increase in the imports of licensed and patented technology. Of the 300 industrial projects which had imported 10,000 high-priced machines, only 6 percent had also introduced some form of licensed or patented technology. The total expense of the licensed or patented technology was only a small fraction of the import cost of this equipment. By the end of 1985, only 1.3 percent of the total expense on imported equipment was spent on imports of technology (SJTN 1986, 55.)

Consequently, very few enterprises in Shenzhen were considered as having advanced technology and equipment. In a 1984 survey of industrial enterprises, only 5 percent of the enterprises in Shenzhen were classified as technology and knowledge-intensive, about 45 percent had appropriate equipment and technology, the rest, or 50 percent, of the enterprises were labour-intensive operations (Liu and Liang 1985, 80). Even the technology
used in many of Shenzhen’s foreign enterprises was not high. This could be attributed by the fact that MNCs from NICs were small and used more labour-intensive technologies than MNCs from developed countries. However, the greater amount of labour-intensive technologies used by MNCs originated from NICs might simply reflect the fact that they tended to operate in more labour-intensive industries.

The technology absorption capacity of Shenzhen was also impeded by its lack of research and development, the low skill of workers, and the lack of trained technicians. In Shenzhen, very little research and development was carried out by foreign enterprises. In a survey of Hong Kong manufacturing multinationals, most of them admitted that very little research and development was done in the host country (Chen 1983, 123). As in the case of the textiles and garments industries, only the manufacturing and production portions were done in Shenzhen while the research and development and marketing were undertaken in the head offices of these MNCs (Goldstein 1988, 70-72).

The low skill level of workers further impeded the pace of technology transfer which Shenzhen hoped to attain. One of the major complaints raised by some foreign entrepreneurs in Shenzhen was the low skill level of workers. As most of the workers were recruited from recent middle school graduates, unemployed youths and rural migrants, their industrial skill was not high. The average skill level of workers in Shenzhen was only at grade 1.5, out of an eight-grade system (Fieldwork 1987). In one of the largest electronics factories in Shenzhen, most of the 1,300 workers had low
educational level and none of them had any industrial experience (Gu 1986c, 39-40).

There was also a lack of technical personnel in Shenzhen. In 1983, only 6.3 percent of those employed in the electronics sector were technicians, substantially lower than the national average of 16 percent in state enterprises (GDYS 1986, 258). The number of technicians increased to over 10,000 by the mid-1980s but they constituted less than 5 percent of the total industrial workforce in the Municipality (GSTJ 1987, 454). Consequently, the Department of Industry admitted that of the 298 technology transfer projects that Shenzhen introduced, only 25 percent of them was considered to have been "absorbed and digested" (SSZG 1987a, 3).

The industrial structure in Shenzhen also limited any extensive technology transfer. As almost half of the total industrial output came solely from the electronics sector which engaged in mainly assembly operations, the level of technology involved was not very high (SSZJ 1987, 22). A senior staff member in one of the major electronics factories in Shenzhen suggested that 2 to 3 days of training for new workers was all that was necessary, as most of the tasks they performed were very easy to follow (Fieldwork 1986). In one of the knitting factories visited, the manager claimed that one to two weeks of training was all that was necessary for the workers (Fieldwork 1986).

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156 By the end of 1986, there were 11,261 scientific and technical personnel in Shenzhen Municipality, less than 4 percent of the provincial total (GSTJ 1987).

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As pointed out by a former MFERT official, the process of technology transfer in China was undermined by insufficient coordination, excessive duplication, and poor assimilation (quoted in Simon 1989, 302-304). Some of these problems were also relevant to Shenzhen. In addition to the difficulties facing the assimilation of imported technology as noted above, there was relatively little coordination among the zone's various organizations responsible for the imports of equipment and know-how. The problem was accentuated by the changes in the administration of industrial enterprises, the relatively weak control over foreign enterprises, and the difficulties in integrating industrial planning in some of the industrial districts. Another problem facing Shenzhen's technology transfer program was the excessive duplication of technology and equipment imports, in particular the imports of dozens of colour-television production lines. As pointed out by Simon, China had so far imported more than 100 colour-TV production lines which created a production capacity far exceeding projected domestic demand (Simon 1989, 303). The problem was accentuated by the fact that most of the products were not competitive in design and prices in the world market. When all these production lines reached full production capacity, Shenzhen would have difficulty in selling its main industrial product, colour-TVs, and even more difficulty in maintaining its huge profits as at present.

Despite the lack of extensive research and development and the problems of assimilation, the SEZ benefited from the large quantity of machines imported, the transfer of basic production technology, and the
training of its workers. Although it was rather unusual for Hong Kong MNCs to undertake research and development in Shenzhen, it was quite common for Hong Kong firms to provide some training to the local workers. A large percentage of firms surveyed in Hong Kong claimed that they offered even more extensive training for workers in the host countries than in the home country. The training program thus ensured that the workers they employed locally attained a certain minimum standard (Chen 1983, 123).

In addition, some adaptations to the imported machines probably have been undertaken. In two surveys of Hong Kong MNCs in 1979 and 1982, Chen found that 80 percent of firms claimed to have undertaken adaptations to the technology which was to be transferred to their overseas subsidiaries (Chen 1983, 121). The nature of adaptations, however, varied between technologies and between industries. Most often, the machines imported from abroad and used in the Hong Kong parent firms were modified so that fewer skilled workers were required. A popular type of modification was to convert manually operated machines into semi-automatic ones. In other cases, adaptations and modifications of machines and production methods were made simply to suit the climatic situation, the working conditions, and the working habits of the labour force in the host countries (Chen 1983, 121-122). It was also quite probable that some adaptations of equipment were undertaken by Hong Kong manufacturing investors in Shenzhen. However, most NIC investment ventures which manufacture mainly mature products with standardized technology have very limited potential for the transfer of advanced technology.
CONCLUSION

During the 1979-1986 period, Shenzhen achieved a high rate of industrial growth unsurpassed by any other Chinese cities (GSTJ 1987, 40, 478-482; GTJZS 1985, 1987). The number of factories and the industrial output grew by more than 10-fold and 100-fold respectively. Shenzhen was transformed from a region dominated by subsistence agriculture to a municipality dominated by secondary and tertiary activities. By the end of 1986, the industry sector employed more than one-third of the total labour force in the SEZ. Industrial exports also jumped by more than 400-fold during this short span of eight years. By the end of 1986, Shenzhen not only achieved almost all its industrial targets in the SEZ Plan well ahead of its schedule but also contributed significantly to the growth of industrial output and exports in Guangdong Province.

Foreign enterprises contributed significantly to the achievement of these industrial targets. With less than one-third of all industrial enterprises in the zone, foreign enterprises contributed more than two-thirds to the total output and employed more than one-third of the workforce. Although an accurate evaluation of the role of foreign enterprises in the transfer of technology was difficult, they played a key role in this important objective. As part of their capital contributions, foreign investors supplied more than half of the equipment imported by Shenzhen during this period. Some foreign enterprises also provided some training to their workers and made adaptations to the equipment imported, which further indicated their contributions to the transfer of technology. The most impressive
contributions by foreign enterprises, however, were their promotion of industrial exports.

Shenzhen’s linkages to the domestic economy were stronger than in many EPZs where the sourcing of local materials were limited and domestic sales highly restrictive. Interior enterprise invested Rmb 2 billion Yuan in Shenzhen and produced about one-quarter of the GVIO in 1986. There were also reports of technology transfer from the interior to Shenzhen and more than 10,000 skilled workers were also sent from interior enterprises to support industrial development in Shenzhen (SJTN 1987; 28-29). Moreover, most of the trained engineers, technicians, managers, and administrators were recruited from the interior during the past few years.

The high pace of industrial growth not only brought about significant structural changes in the economy of Shenzhen but it also created several problems in its course of industrialization, particularly in regard to its high cost, structural deficiency, low productivity, and the balance of payments.

The expansion of the industrial output in Shenzhen was achieved at very high cost. The high industrial growth was based on heavy capital investment which was three times more than that projected for the Sixth FYP. In 1986, Shenzhen Municipality produced only Rmb 84 Yuan of net value of industrial output from every Rmb 100 Yuan of cumulative completed CCI in the industrial sector, slightly over half of the provincial average of Rmb 157 Yuan.157

157The data were based on the completed cumulative CCI in the industrial sector during the 1979-1986 period and discounted by a 5 percent depreciation rate per year. Data for Shenzhen prior to 1978 were estimated from its share of the provincial GVIO.
While industrial labour productivity grew at a higher rate than the provincial average, capital productivity remained below the average in the early 1980s. Until more complete data were available, we were unable to make a conclusive assessment on industrial productivity growth in Shenzhen.

Shenzhen’s industrial investment, technology, raw materials supply, and exports were heavily dependent on Hong Kong. With more than 90 percent of the foreign investment in the industrial sector coming from Hong Kong, Shenzhen was also heavily dependent on the supply of equipment and the transfer of technology from Hong Kong. The great majority of Shenzhen’s industrial exports were also shipped to Hong Kong (Almanac 1987, 301). This dependency was highly susceptible to any fluctuations in Hong Kong’s political and economic stability which was further affected by the highly fluctuating world market.

Shenzhen’s industrial production, employment and exports were over-concentrated in one industry, that is, the electronics sector. Other supporting industries were only weakly developed. Moreover, most of the electronics firms in Shenzhen were concentrated in the downstream assembly operations and the production of similar consumer products. Most of the raw materials and parts and equipment had to be imported and the value-added ratio was notably low in Shenzhen. The high import content and low export ratio of Shenzhen’s industries led to a balance of payments problem. Some industries, especially electronics, imported most of their equipment and raw materials but failed to export. Most of the electronics
products were sold domestically rather than exported due to the irrational price structure and highly protected domestic market. The balance of payments difficulties were exacerbated by the inconvertibility of the Renminbi.

The total stock of equipment in Shenzhen increased substantially after 1979 but only a small proportion of the equipment was considered advanced. There was a general shortage of technical and managerial competency. The skill level of most workers was also fairly low as most of them received only limited training. Research and development activities conducted by MNCs in the SEZ were also very limited.

Industrial development in Shenzhen was further hindered by the bureaucratic redtape, poor infrastructure, and high cost of production. Although the administrative structure in Shenzhen was simplified, there were still complaints from foreign entrepreneurs about the low efficiency, cumbersome procedures, and intervention on the part of the local and other government agencies. While labour costs in Shenzhen were substantially lower than Hong Kong, other production costs were not much lower, and often even higher. In a comparative study of the industrial production costs in Shenzhen and Hong Kong, Du found that electricity and telephone services were 30 percent higher in Shenzhen than in Hong Kong (Du 1987, 30-32). Other studies indicated that the overall production costs in the manufacturing sector in Shenzhen were only marginally lower than in Hong Kong (Goldstein 1988, 70-72). In comparison with other Chinese cities, the rising cost of wages, rent, and other service charges rendered Shenzhen
increasingly uncompetitive. Moreover, Shenzhen suffered from severe power shortages and many factories had to close down 1 to 3 days a week as a result.

The economic reform program initiated in Shenzhen was also far from a success. Although the economic reform program carried out in Shenzhen was more advanced than in most other Chinese cities, it did not mean that all enterprises had adopted the reform measures or had a completely free hand to manage their enterprises. The strength of reforms that had been adopted depended on the ownership of the enterprises, the willingness and capability of both the administrators and managers, and the types of business activity. Administrative interference in the market system was still quite evident with administrative orders being imposed by various levels of governments. The production plans, equipment purchases, setting of commodity prices, recruitment of labour, and wage levels of these enterprises often had to be approved by higher authorities. In addition the central and provincial governments could often decide on the types of commodities which are subject to export or production control, and the local government can also set the floating price ranges for certain commodities or even impose price ceilings on some of them (Chen 1986, 94). Shenzhen's economic system at this time, in Chai's conclusions, "still bears elements of a centrally planned economy with directive planning, currency inconvertibility, and administrative pricing" (Chai 1986, 156). He also suggested that the domestic enterprises in the zone were relatively
closed to external influences while the foreign enterprises were not fully integrated with the rest of the economy (Chai 1986, 156).

Nevertheless, the economic and industrial changes not only accelerated the processes of migration and urbanization in the SEZ but also contributed to its formation as a city of rapid economic and urban growth.
CHAPTER 6. POPULATION GROWTH AND URBAN DEVELOPMENT IN SHENZHEN

Before its establishment as an SEZ, Shenzhen was administratively a county with a total population of less than 350,000. Most of the households were classified as agricultural\(^ {158}\) with a small portion of the labour force engaged in industrial and services activities. There was only one designated town, the Shenzhen Town, with less than 25,000 people (GDYS 1986, 313). Up to the late 1970s, the amount of investment available for urban construction was limited. The county town itself was in a dilapidated condition with a built-up area of less than 3 sq. km. and a total floorspace of 0.3 million sq. m. (SJTN 1985, 312). The average per capita housing space was 2.7 sq. m., significantly below the national urban average of 4.2 sq. m. in 1978 (GDYS 1986, 248; GTJ Shehui Tongji Si 1985, 97). Up to the late 1970s, there were only a thousand vehicles operating on Shenzhen’s largely unpaved roads. The supply of power was totally inadequate and no modern telecommunication systems were installed. Despite its important function as gateway to Hong Kong, the transportation linkages with other Chinese cities and Hong Kong were poorly developed.

\(^{158}\)The household registration system in China distinguishes its population into two major categories: “agricultural” (nongye renkou) and “non-agricultural” (feinong renkou). The purpose is to determine those households who are entitled to commodity food grain (shangpinliang) rations from the state. However, this distinction may not reflect the actual nature of an individual’s occupation or residential location (Chan and Xu 1985:587-588).

\(^{159}\)There were also reports that Shenzhen had a total area of 1 sq. km., with only 0.1 sq. km. of built up area (GDYS 1986, 248).
The under-developed urban infrastructure did not deter officials from planning Shenzhen to become a city with high planning standards. By the end of the century, Shenzhen planned to have 0.8 million people and a total built up area of 110 sq. km., about half the size of the built-up area of Shanghai (Shenzhen Shi 1983, n.p.; GTJZS 1987, 37). The proportion of the non-agricultural population in the SEZ was expected to be increased from less than 60 percent to 98 percent during the planned period. Population growth was considered necessary to support the large labour requirements for the high pace of industrial and economic growth in the zone. During the 1980-2000 period, a substantial proportion of the total CCI was to be injected to build up the urban infrastructure of Shenzhen. More than 200,000 housing units were to be constructed to accommodate thousands of new residents. The transportation and the power supply systems were to be upgraded and expanded to provide the necessary support for industrial development in the zone.

In light of this ambitious urban development plan, the major objectives of this chapter are: first, to evaluate the extent to which the population and urban development targets as outlined in the SEZ Plan were achieved; second, to analyze its processes of migration and urbanization; third, to highlight the major urban development issues in the SEZ.

6.1 POPULATION GROWTH IN SHENZHEN

One of the most dramatic changes in the urban landscape of the Shenzhen SEZ during the 1979-1986 period was the growth of population.
Since the establishment of the SEZ, Shenzhen has reversed its earlier trend of continuous decline in population to become one of the fastest growing municipalities in China. The total population of Shenzhen, which includes both permanent and temporary residents\(^{160}\), increased almost seven-fold in the first eight years of its development. The population growth rate in Shenzhen was unsurpassed by any other Chinese cities during the same period. The great majority of this increase was contributed by migration which not only transformed the population structure of Shenzhen but also significantly affected population growth in other parts of Guangdong, particularly in Bao’an County and other parts of the Pearl River Delta Region.

The population of Shenzhen Municipality experienced abrupt changes before and after the establishment of the SEZ. Total population in Shenzhen Municipality (previously Bao’an County) increased by an annual average of only 0.3 percent during the period of 1970-1979, far below the provincial average of 1.9 percent (Liu 1984, 99; GSTJ 1984, 73). The slow population growth in Shenzhen was due to the continuous outflow of people throughout this period to other parts of China or even across the border to Hong Kong.

The exodus of young people from villages throughout the border county of Bao’an to Hong Kong began in the early seventies as a trickle and became a sudden flood in 1979. During the decade before 1980, Shenzhen Municipality suffered a net loss of over 40,000 people from out-migration, 60

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\(^{160}\)Permanent residents refer to those who hold permanent household registration (*changzhu hukou*) while temporary residents refer to those who hold only temporary household registration (*linshi hukou*).
percent of which occurred in 1979 alone. Population changes in Shenzhen Municipality (former Bao’an county) could be illustrated by the events occurring in Chen village where only about ten people had illegally crossed the border to Hong Kong in the decade since the Cultural Revolution. But, between May and October 1979, more than two hundred young people, or 20 percent of the total population of Chen village, crossed the border illegally (Chan, Madsen, and Unger 1984, 265-266). The large exodus from Chen and other villages from this border county in 1979 led to an absolute decline of its population by more than 6 percent in 1979 (Liu 1984, 99).

There were several reasons for the continual outflow of population, particularly amongst the young male peasants, from this farming community. The sluggish local economy, low personal income and the lack of non-agricultural employment opportunities, which prevailed also in many other parts of China during the 1970s, contributed to the "push" of large out-migration. In addition, the "pull" factors, such as higher income and better employment opportunities in Hong Kong encouraged people to leave this border region (Chan, Madsen, and Unger 1984, 7-8, 268).

Since 1980, the outflow of population from Shenzhen Municipality has been held back by two major developments. The first major

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161 Personal communication with Professor Graham Johnson indicated that Chen village is located in Bao’an County.

162 The big exodus to Hong Kong began in early 1979 with the erroneous news that the Chinese government would no longer stop people from moving across the border to Hong Kong.
development began in 1980 when the Hong Kong government stopped the practice of allowing illegal immigrants from China to stay even when they reached the urban areas and the entries of illegal immigrants were further blocked by denying them Hong Kong identity cards (Hong Kong Government Information Services 1983, 156; Chen, Madsen, and Unger 1984, 266). Another major development which helped to cut down the exodus of people from the Municipality was the establishment of the SEZ. The development of the SEZ not only dampened the trend of population decline in Shenzhen but also promoted a rapid in-migration.

During the 1979-1986 period, the total population in Shenzhen Municipality increased more than three-fold to reach almost a million, significantly higher than the annual average growth of 2 percent in other parts of Guangdong (SJTN 1987, 324; GSTJ 1987, 75). Most of the population increase was absorbed by the SEZ where permanent population increased by an annual average of 20 percent during the 1980-1986 period. When temporary residents were also included, the total population in the SEZ reached almost half a million, 75 percent higher than its planned population target (see Table 6-1). By the end of 1986, almost half of Shenzhen’s total population were classified as temporary residents.

The growth rate and the proportion of temporary migrants in Shenzhen far exceeded other Chinese cities. The temporary population in Weifang, for example, a medium-sized city in Shandong province, constituted only 3 percent of the total city population in 1982 (Goldstein and Goldstein 1985, 22). A 1985 survey conducted in Beijing showed that it had
<table>
<thead>
<tr>
<th>Year</th>
<th>Shenzhen SEZ</th>
<th>Bao'an County</th>
<th>Shenzhen Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Permanent</td>
<td>Temporary</td>
<td>Total</td>
</tr>
<tr>
<td>1979</td>
<td>70.9</td>
<td>0.5</td>
<td>71.4</td>
</tr>
<tr>
<td>1980</td>
<td>84.1</td>
<td>10.0</td>
<td>94.1</td>
</tr>
<tr>
<td>1981</td>
<td>98.3</td>
<td>33.0</td>
<td>131.3</td>
</tr>
<tr>
<td>1982</td>
<td>128.6</td>
<td>70.0</td>
<td>198.6</td>
</tr>
<tr>
<td>1983</td>
<td>165.0</td>
<td>120.0</td>
<td>285.0</td>
</tr>
<tr>
<td>1984</td>
<td>191.4</td>
<td>146.1</td>
<td>337.5</td>
</tr>
<tr>
<td>1985</td>
<td>231.9</td>
<td>237.9</td>
<td>469.8</td>
</tr>
<tr>
<td>1986</td>
<td>257.4</td>
<td>231.3</td>
<td>488.7</td>
</tr>
</tbody>
</table>

Sources: SJTN 1985, 43, 581-582; SJTN 1987, 324; SJTN 1990, 57.
660,000 temporary residents which constituted 12 percent of its permanent population (Du 1986, 13). In Guangzhou, the number of temporary residents doubled during the 1976-1986 period to a total of 880,000, or 26 percent of its permanent population (Wen Wei Po, Jan 25, 1988, 3). By comparison, Shenzhen’s temporary population increased from 10,000 in 1980 to over 230,000 in 1986, a 23-fold increase in six years (SJTN 1990, 57). Amongst all super-large cities\(^{163}\) in China, Guangzhou had the highest ratio of temporary to permanent population but remained far behind Shenzhen’s ratio of 90 percent in the same year. Temporary population in Shenzhen even overtook permanent population in 1985 but dropped slightly in the following year due to the economic downturn.

The high proportion of temporary population in Shenzhen was due to its large scale urban and industrial development and policy on population growth. In the eight years prior to 1986, thousands of new employment opportunities were created to support the expansion of the industrial, commercial, and urban development programs in the SEZ. However, not all of these jobs were intended to be created on a permanent basis, especially those in the construction sector. For example, there were 135,800 construction workers registered in Shenzhen at the end of 1985 but less than one-third of them were granted permanent residency (SJTN 1986, 251). Most of these construction workers were not expected to stay in Shenzhen permanently and were required to leave the SEZ once their work were completed.

\(^{163}\)Super-large cities are those with 1 million residents or more.
The presence of a large temporary population was also due to the hiring of large numbers of temporary workers in the expanding industrial and services activities of the SEZ. The hiring of temporary workers provided these enterprises greater flexibility in the hiring and the dismissals of workers according to their production needs. The fluidity of their employment also prevented them from qualifying as permanent residents.

In contrast to the large numbers of rural migrants who would like to seek urban residence status in the Shenzhen SEZ, a small number of those migrants who came from large cities, such as Beijing or Guangzhou, did not intend to transfer their household registration to Shenzhen permanently. By holding a temporary resident certificate in Shenzhen, these migrants could retain their residence registration in major urban centres and return immediately when their job assignments in Shenzhen were completed or when the economy of Shenzhen showed any sign of a downturn.164

Another major contributing factor to the high proportion of temporary population in Shenzhen was due to the population targets set in the SEZ Plan. As population was under a mandatory state plan,165 strong efforts were made by the Shenzhen government to keep the growth of permanent population within the targets (China Academy 1987c, 120). Some migrants who were qualified were denied permanent residence and had to accept

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164 In general large urban centres in China have better provision of better education, employment, and other urban services, and possibly even more urban subsidies available than in smaller cities.

165 This refers to the population target set for Shenzhen which is planned not to exceed 400,000 in 1990 and 800,000 by the end of the century (see Table 4-1).
temporary residency in Shenzhen as a result of the strict adherence to this population target. By contrast, temporary population is only under guidance planning and the criteria for registration are far more relaxed.

The actual number of people living in Shenzhen, however, far exceeded the total permanent and temporary population figures reported by the officials. Officials in Shenzhen also admitted that there were an estimated 60,000-70,000 illegal migrants staying in the SEZ at the end of 1985 (Shenzhen Tequbao, Dec 15, 1985, 1). Population data reported from the local district authorities of Luohu, Shangbu, Nantou, and Shekou further confirmed that there were undercounts of 34,000 temporary residents (SJTN 1987, 270-276). An additional 8,000 children and retirees who moved into Shenzhen to stay with their relatives were also unrecorded in the official population count (SJTN 1987, 19). There was also a daily average of 141,589 people visiting Shenzhen for business and personal purposes (SJTN 1987, 18).

The undercount of Shenzhen's population was partly due to the problems in data collection and administrative requirements. In Shenzhen, as in other Chinese cities, non-residents who want to stay temporarily in the city for business, a family visit, entertainment, or education, are required to register with the local Public Security Bureau. Article 15 of the "Regulations Governing Household Registration" adopted by the Standing Committee of the NPC on 9 January, 1958 stipulates that:

A citizen who temporarily resides for three days and more in a city outside the municipal and xian areas in which he or she permanently resides, ...shall within three days report to the household registration organ for temporary registration and for
his or her registration to be annulled before departure (Tien 1973, 382).

Despite such requirements, large numbers of "visitors" failed to register with the local police in the SEZ and other Chinese cities (Goldstein and Goldstein 1985, 15). As temporary residents were considered as only staying on a "temporary" basis, even if they might reside there for years, local governments, including Shenzhen, did not usually take them into account as part of the city population. Consequently, they did not enforce the registration of temporary residents and an accurate population count is difficult to obtain. Moreover, the authorization and registration of the temporary residents were the responsibilities of not one but several different government offices, including the Labour Service Bureau, the Public Security Bureau, the Industry and Commerce Bureau, and the Education Committee which led to further confusion on the size of the temporary population. This was particularly problematic in Shenzhen as there were several different administrative authorities who were responsible for their own hiring of labour and the granting of temporary residency permits. A further difficulty in the data collection was that these residents were comparatively mobile and their length of stay was uncertain.

The undercount of temporary population in Shenzhen was also due to the fact that not all migrants who wanted to stay in Shenzhen on a "temporary" basis could be registered as temporary residents. Only those migrants who had been hired by an enterprise, a collective, or government agency would be granted a temporary registration certificate. A temporary registration was usually valid for three to six months and the individual had
to re-apply after its expiry date (Goldstein and Goldstein 1985, 15; Solinger 1985, 99). In Shenzhen, a temporary worker could acquire a temporary residence certificate which was valid for one year.\textsuperscript{166} Those who came to Shenzhen for visits, business, or without a job offer would not qualify as legitimate temporary residents.

The temporary population was under reported also because some migrants failed to apply for a temporary resident permit due to the cumbersome procedure and the costs involved. In order to become an authorized temporary worker in Shenzhen, it was necessary to submit a letter of appointment from the employer, a residence document from the public security bureau, a valid "frontier area" permit\textsuperscript{167}, and the work identity card (China Academy 1987a, 61). Moreover, the enterprises which hired these workers were required to have valid enterprise registrations in Shenzhen and approvals from the supervising department to hire temporary workers. Consequently, large numbers of illegal migrants, or "blind influx migrants" (\textit{mengliu renyuan}), were present in the SEZ.

The rapid increase of population in the SEZ had significant regional implications, particularly on the growth of population in Bao’an County. The economic and urban growth in the SEZ attracted a large number of migrants from all parts of China but a substantial number of them came from the neighboring county of Bao’an. As showed in Table 6-1, the population of

\textsuperscript{166}Information from interviews with the Shenzhen Labor Service Bureau in December 1987.

\textsuperscript{167}As Shenzhen is located in the frontier area, all travellers and residents are required to have a "frontier area" permit before they are admitted into Shenzhen.
Bao'an experienced an absolute decline by more than 15,000 people during the period from 1980 to 1982. During this period, Bao’an maintained a natural growth rate of 17 per thousand. The net out-migration was estimated to be over 27,000 people, the majority of them probably moved to the SEZ which was no more than 50 km. from most parts of Bao’an. The flow of migrants was largely unchecked as no border checkpoints were set up until late 1985. Data for 1985 and 1986 further showed that out-migration from Bao’an County continued at an average of 6,000 people per year (SJTN 1987, 16). Bao’an was able to maintain a modest population growth only because of its recent active recruitment of new migrants at a rate of 10,000 per year. Nevertheless, its population growth rate during the 1979-1986 period was conspicuously below the provincial average.

The temporary population in Bao’an county, on the other hand, increased dramatically during the 1980-1986 period. The increase in population was largely attributed to the development in the SEZ. Many of the new employment opportunities created in Bao’an was a result of the spill-over effect from the SEZ where wages were comparatively higher. The setting up of a “second border” between the SEZ and Bao’an since late 1985 physically prevented many potential migrants from entering the SEZ. The less stringent household registration and employment policies in Bao’an also encouraged some of these migrants to settle in Bao’an instead of in the SEZ.
6.2 MIGRATION

In many of the Asian EPZs, a large number of workers are recruited as most of the industries are labour-intensive operations. The high turnover rate of workers and the hiring of a particular type of labour, particularly young females, often leads to local labour shortage. Migrant workers, especially those from the rural areas, are therefore recruited in substantial numbers in many EPZs, including those in Malaysia and the Philippines (Datta-Chaudhuri 1984, 82; Warr 1985, 9; Castro, 1984, 175). The migration patterns of these zone workers thus indicate that the availability of employment opportunities in the EPZs is attractive to many rural migrants.

As in many other Asian EPZs, most of the new workers in Shenzhen were migrants. Of the 400,000 new residents added to Shenzhen Municipality during the 1979-1986 period, 90 percent came from other parts of China (see Table 6-2). What then was the major impetus behind such a large influx of people into Shenzhen? Since China had a strict population movement control policy, how could such large scale migration to Shenzhen occur?

One of the major contributing factors to the high tendency for rural-urban migration in China is the large income differences in rural and urban areas. Despite the strong efforts initiated by the CCP to reduce rural-urban differences, it was estimated that in 1981 each urban resident received, on

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168 In Malaysia's EPZs, Datta-Chaudhuri in 1980 found that only 30 percent of the zone workers were born in the cities adjacent to the zones (Datta-Chaudhuri 1984, 82). In the Philippines' Bataan EPZ most of the workers were also recruited from outside Bataan province (Warr 1985, 9; Castro, 1984, 175).
Table 6-2. Population Increase by Migration and Natural Growth in Shenzhen, 1980-1986 (In Thousands)*

| Year | Shenzhen SEZ | | Bao'an County | | Shenzhen Municipality | |
|------|--------------|-----------------|-----------------|-----------------|------------------|
|      | Net Migration | Natural Growth | Total Population Change | Net Migration | Natural Growth | Total Population Change | Net Migration | Natural Growth | Total Population Change |
| 1980 | 12.0          | 1.2             | 13.2            | -8.7           | 3.8             | -4.9               | 3.3          | 5.0             | 8.3               |
| 1981 | 12.4          | 1.8             | 14.2            | -5.2           | 4.0             | -1.2               | 7.2          | 5.8             | 13.0              |
| 1982 | 28.3          | 2.0             | 30.3            | -12.9          | 3.2             | -9.7               | 15.3         | 5.3             | 20.6              |
| 1983 | 34.9          | 1.5             | 36.4            | 12.3           | 2.0             | 14.3               | 47.2         | 3.5             | 50.7              |
| 1984 | 24.9          | 1.5             | 26.4            | 1.7            | 1.9             | 3.6                | 26.6         | 3.4             | 30.0              |
| 1985 | 38.2          | 2.3             | 40.5            | 1.1            | 1.8             | 2.9                | 39.3         | 4.1             | 43.4              |
| 1986 | 23.1          | 2.4             | 25.5            | 8.5            | 1.9             | 10.4               | 31.6         | 4.3             | 35.9              |
| Total| 173.8         | 12.7            | 186.5           | -3.3           | 18.7            | 15.4               | 170.5        | 31.4            | 201.9             |

Notes:
*Data included only permanent population.

average, Rmb 226 yuan worth of financial subsidies from urban grain and oil rations, rent, and medical care (Henderson 1986, 70). Some authors even suggested that in some parts of the country the urban-rural income gap probably grew wider in the twenty years after 1958 (Kirby 1985, 22). The urban-rural disparity in China was attributed to the over-emphasis on rapid expansion of the industrial sector which was chiefly financed by the agricultural sector, the high urban living standards, and the prevention of the peasantry from supplementing their income through traditional handicrafts, small-scale livestock rearing, and petty trading (Kirby 1985, 22) The significantly higher standards of living in urban China, the locus of political power, and the relatively greater opportunities for social and economic mobility further encouraged the flow of migrants from rural to urban areas (Blecher 1985, 732-733).

In Guangdong Province urban-rural differences remained far apart in the late 1970s and early 1980s. The average income of urban residents in 1981 was 75 percent higher than the average rural net income. Rural employment also grew at a much lower rate than in the urban areas. For example, urban employment grew by an average of 4.7 percent per year as compared to an average of only 1.6 percent in the rural area during the 1970-1980 period (GSTJ 1984, 86).

Despite such strong incentives for potential migrants to move into the SEZ, the existing household and employment registration regulations and

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169 These efforts included the promotion of mass literacy, the provision of the safety net of the "five guarantees", and the establishment of a basic collective medical system in the countryside.
the presence of a food ration system should have stopped most if not all the migrants from entering Shenzhen. The household registration system was introduced in the late 1950s to control the flow of migration, or "blind influx", to urban places. The registration system divided the entire population into those with "urban residence" (chengshi hukou) and those having "rural residence" (nongcun hukou). The major objectives of registration system was to prevent unauthorized movement of people from the countryside to the city and to ensure the orderly economic development of the nation by keeping population distribution in balance with labor needs and available resources, including an adequate supply of grain (Kirby 1985, 25; Goldstein and Goldstein 1985, 12). The household registration system was supplemented by registration of employment in the control of population movement. Every employed person was issued with a "work identity document" (gongzuo zheng) containing his or her personal details as well as the name of the employing unit (danwei). The transfer of jobs from one unit to another was subject to strict scrutiny and required approvals from the labour bureau and the employing units.

In addition to the household and employment registrations, the rationing system instituted in the 1950s was a highly effective measure of preventing rural-urban migration throughout the Mao period. The ration covered most foodstuffs and other consumer goods at various points in time, but the allocation of two essential items, edible oil and grain, in particular, was the major instrument in physically preventing prolonged illicit residence in the towns and cities. The overall grain surplus available for
distribution to the non-agricultural population had been extremely limited before 1978 and the free market was almost completely disbanded. Thus, grain rationing has proved to be an extremely powerful instrument of control over migration (Kirby, 1985, 26).

Population mobility in China began to increase rapidly after 1978 when the rationing of grain and other foodstuffs, and the employment and residence registrations began to diminish after 1978. Shenzhen was one of the earliest cities to discontinue the use of grain and oil ration coupons. The food rationing system was no longer a major hurdle for rural peasants who wanted to move to Shenzhen and stay "temporarily" to look for work or other economic opportunities. Since the mid-1970s, the private peasant market for foodstuffs in the urban areas was revived and provided the basic resources for large-scale illegal residence. The new fluidity of China's population was further increased by the sudden growth of tourism and long distance trading (Kirby, 1985, 31-32).

The specific motivations for migrants from both urban and rural areas to work in Shenzhen were diverse. However, the availability of employment, higher wages, better urban services, and more liberalized economic and social climates were the most important "pull" factors.

The availability of employment opportunities in the Shenzhen SEZ's expanding industrial and services sectors was unquestionably one of the most important pull factors for the large number of unemployed urban and rural youths. The total number of employment opportunities in the SEZ increased by more than 400,000 during the 1979-1986 period. Even the large
increase of permanent migrants was not able to keep pace with the high demand for new workers. Tens of thousands of temporary workers therefore had to be hired from places outside the SEZ (SJTN 1987, 236). As a rapidly expanding city, Shenzhen offered a wide range of employment opportunities. Moreover, over 90 percent of the new jobs were created in the secondary and tertiary sectors, which were particularly attractive to the 400,000 unemployed urban youths in other parts of Guangdong (Zhongguo Shehui Kexueyuan 1986, 675).170

Even for those who already had jobs in their hometowns, higher wages and more flexible employment practices in Shenzhen provided strong incentives for them to move to this southern border city. The average wage level in the SEZ was more than double the average in other Chinese cities (GTJZS 1987, 531-534). The higher wage level in Shenzhen was due partly to the reform of the wage system in which the old "fixed" wage system was replaced with a "floating" system. Workers in the SEZ thus had better opportunities to increase their earnings by raising their productivity instead of being paid a fixed wage as practiced in other cities. A more flexible personnel policy also encouraged migrants to work in the SEZ. An increasing number of workers and cadres were hired directly by the enterprises according to their abilities. Workers also had the opportunities to choose the jobs that they interested in rather than being assigned to any jobs by the local labour services bureau. After 1980, an increasing number of workers in

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170 The unemployment data were based on the 1982-Census. Other reports showed unemployment figures of 125,000 in Guangdong Province in 1983 (GTS] 1985, 40).
the SEZ were hired on a contract basis which also allowed workers greater flexibility to move from one enterprise to another (SJTN 1986, 203).

Consequently, one of the major channels of entering Shenzhen was through the recruitment drive of urban enterprises. In addition to the local unemployed youths, more than 20,000 urban unemployed youths from other cities and towns of Guangdong province were hired by Shenzhen’s various industrial and commercial enterprises during the 1984-1986 period. Data in Table 6-3 presented incomplete reports of different types of migrants and their migrating channels and geographical origins. While most of the new migrants came from within Guangdong, a small number of the administrative cadres, professional staff, and technicians had to be hired from major cities outside the province, such as Beijing, Shanghai, and Tianjin. Thousands of skilled workers from other provinces were also transferred to Shenzhen as many domestic joint enterprises were set up in recent years. Approximately 30,000 administrative staff were also recruited, assigned, or transferred to the SEZ (Zhang 1986b, 33). Some university graduates from different cities were also assigned or recruited to work in the SEZ.

Some migrants were also attracted to Shenzhen because of its better urban and social services. A selected number of social and urban services indicators in Appendix 6-1 showed that every household in Shenzhen had water and gas supply as compared to less than half of all households in other Chinese cities in 1986. The large scale urban construction in Shenzhen raised its per capita housing space to 10.3 m² in 1986, and it
Table 6-3. Geographical Origins and Channels of Migration to Shenzhen, 1979-1986 (Selected Years)

<table>
<thead>
<tr>
<th>I. Permanent Migrants*</th>
<th>Number of Migrants</th>
<th>Year of Migration</th>
<th>Geographical Origins</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Cadres</td>
<td>30,100</td>
<td>1979-1986</td>
<td>Various major cities and towns.</td>
</tr>
<tr>
<td>2 Demobilized Soldiers</td>
<td>25,659</td>
<td>1983, 1986</td>
<td>Various parts of China, both rural and urban.</td>
</tr>
<tr>
<td>4 Transferred Workers</td>
<td>19,385</td>
<td>1979-1984</td>
<td>Cities and towns of Guangdong and other provinces.</td>
</tr>
<tr>
<td>5 Commercial flats owners</td>
<td>1,689</td>
<td>1984, 1986</td>
<td>Mainly rural households from Guangdong.</td>
</tr>
<tr>
<td>6 Returned Youths</td>
<td>3,000</td>
<td>1979-1985</td>
<td>Original SEZ residents but returned from Hong Kong or Macao.</td>
</tr>
<tr>
<td>7 Female workers</td>
<td>4,000</td>
<td>1979-1980</td>
<td>Various state farms but mainly from other parts of Guangdong.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Temporary Migrant**</th>
<th>Number of Migrants</th>
<th>Year of Migration</th>
<th>Geographical Origins</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Enterprise Representatives</td>
<td>30,000</td>
<td>1979-1985</td>
<td>Counties and cities of Guangdong and other provinces.</td>
</tr>
<tr>
<td>9 Cadres and workers</td>
<td>20,000</td>
<td>1979-1985</td>
<td>Sichuan province.</td>
</tr>
<tr>
<td>10 Temporary Farm Workers</td>
<td>4,500</td>
<td>1979-1980</td>
<td>Shantou and Guangzhou municipalities.</td>
</tr>
<tr>
<td>11 Expatriate Professionals</td>
<td>900</td>
<td>1979-1986</td>
<td>Hong Kong, Macao, and other countries.</td>
</tr>
<tr>
<td>12 Construction Workers</td>
<td>61,982</td>
<td>1979-1986</td>
<td>Various counties from Guangdong and other provinces.</td>
</tr>
<tr>
<td>13 Dependent Population</td>
<td>8,715</td>
<td>1979-1986</td>
<td>Not available.</td>
</tr>
<tr>
<td>14 Undercounted Temporary Residents</td>
<td>33,903</td>
<td>1986</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. Unauthorized Migrants</th>
<th>Number of Migrants</th>
<th>Year of Migration</th>
<th>Geographical Origins</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Illegal migrants (mengliu)</td>
<td>65,000</td>
<td>1985</td>
<td>Mostly from rural areas.</td>
</tr>
<tr>
<td>16 Mobile Population</td>
<td>135,717</td>
<td>1986</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
Notes and Sources to Table 6-3:
*Not all of these migrants hold permanent household registrations but most of them qualify to apply for permanent residence.
**Most of these new migrants only entitled to temporary residence status.

1 Total number of cadres added to Shenzhen at the end of 1986 was 32,306. Adjustments for the recruitment of local candidates have been made based on migration rate. SJTN 1987, 233.

2 Included also their family members. SJTN 1987, 235; China Academy 1987a, 62.

3 SJTN 1987, 236; SJTN 1986, 203; SJTN 1985, 541.

4 China Academy 1987a, 62.

5 SJTN 1987, 235.

6 SJTN 1986, 222.


8 Zhang 1986b, 33.

9 Estimations only. Li 1987b, 24-28.

10 Chu 1985b, 134.

11 SJTN 1987, 233.

12 SJTN 1987, 193.

13 Included both children or retired persons who stay and support by their relative in Shenzhen. SJTN 1987, 18.

14 The total number of temporary residents reported by the local authorities of Luohu, Nantou, Shangbu, Shekou, and Shatoujiao was 265,203 in 1986. SJTN 1987, 270-274.

15 Shenzhen Tequ Bao, 15 Dec, 1985, p.1

16 Included those people who came to Shenzhen for visiting, sight-seeing, attend conference and business meetings. SJTN 1987, 18.
became the top city in Guangdong in terms of per capita housing space (GTJZS 1987, 334).\footnote{The average per capita urban housing space in Chinese cities was less than 6 sq. m. in 1986. In some large cities, such as Beijing, Shanghai, and Guangzhou, the average per capita housing space ranged from 6 m$^2$ to 6.9 m$^2$.} Some professionals and cadres from large cities moved to Shenzhen partly because of better housing provisions and other urban amenities. Other social and medical services, such as theatres, hospital beds, doctors, and telephones, were more readily available in Shenzhen than in other Chinese cities. However, we should note that not all residents had equal access to these amenities and services.\footnote{Data in Appendix 6-1 are estimated from the number of permanent residents only. If temporary and non-registered population are included, the ratio for most urban and social services would be significantly lower.} Moreover, data in Appendix 6-1 were estimated from the number of permanent residents only. If temporary and non-registered population were included, the ratio for most urban and social services would be significantly lower.

An additional bonus for those rural migrants to move to the SEZ was the gaining of urban residence status. To some cadres and professionals, it was also an important opportunity to transfer their spouse’s and children’s household registration from a rural to urban residence.\footnote{Under China’s household registration system, spouse and children of urban workers do not automatically qualify as urban residents.} With an urban residency registration, rural migrants could have access to the state supply of grain and other urban subsidies, a better education opportunity for their children, housing and employment. The move to the SEZ thus not only...
became an important opportunity to move up the social ladder and brought significant economic and social benefits to their families.

Another channel through which rural migrants could hope to become urban residents was by joining the army. Upon demobilization, an urban job was likely to be available. In Shenzhen, about 25,000 demobilized soldiers and their family members were granted permanent residency status (Chu 1985b, 132; SJTN 1987, 235; China Academy 1987a, 62).

The geographical proximity of Shenzhen to Hong Kong was another important consideration for some families who moved into the zone. A number of families moved to Shenzhen in order to be closer to their relatives who lived in Hong Kong. To encourage the development of the real estate sector, the Shenzhen SEZ also allowed rural families to purchase commercial residential units and stay in the zone. The proximity to Hong Kong also attracted a number of people who wished to enjoy a more vibrant way of life prevailing in Shenzhen due to its increasing influence by the Westernized lifestyle from Hong Kong.

An innovative but short-lived policy which allowed rural migrants to settle in Shenzhen was adopted by the local government to promote the sales of its commercial housing units. In order to develop the commercial housing sector, the Shenzhen government allowed up to four family members of those who purchased a commercial flat to settle in the SEZ. Most of the housing units were sold to rural migrants who received financial support from overseas relatives, as these flats had to be purchased with foreign exchange. Since mid-1982 a total of 1,600 people have moved into
Shenzhen through the purchase of these commercial housing units (Chu 1985b, 133; SJTN 1987, 236). This migration policy, however, raised concerns about the quality of migrants, the additional costs of social and urban services, and the provision of employment for these rural migrants. As a result of its controversial nature, the policy was disbanded in 1985.

Since the late 1970s, another major channel in which migration from rural to urban areas took place was the zhilikoulianghu - peasants who could supply their own food and housing needs. In the Pearl River Delta Region, there were about 100,000 of these zhilikoulianghu registered in thirteen different townships and cities by the mid-1980s (Xu and Li 1990, 55). However, Shenzhen did not accept these zhilikoulianghu peasants even if they could supply their own food and housing needs.

6.3 URBANIZATION

The establishment of the SEZ in Shenzhen not only encouraged a rapid rate of population growth but also led to its rapid transformation into a highly urbanized region. In the late 1970s, Shenzhen was predominantly a rural area with only one designated town (jianzhi zhen)\(^{174}\) and an urbanization level of 7 percent (Zheng, Chen, and Wei 1981, 20; Xu and Hu 1988, 202). As indicated in Table 6-4, the level of urbanization in Shenzhen

\(^{174}\)This refers to urban town settlement which has been approved by the appropriate provincial authority. Before 1984, town status was under a set of very stringent regulations. It generally required a population over 3,000, with 70 percent of them engaged in nonagricultural activities. For details on these regulations, see Zhonggong Zhongyang and Guowuyuan 1985.

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<td>TNPCT**</td>
<td>23</td>
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<tr>
<th>Urbanization Level (%)</th>
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<th>Guangzhou Mun.</th>
<th>Guangdong Province</th>
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<td>58.3</td>
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</tr>
<tr>
<td></td>
<td>51.4</td>
<td>45.2</td>
<td>21.6</td>
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</tbody>
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Notes:
TP = Total Population
TPCT = Total Population of Cities and Towns
TNPCT = Total Nonagricultural Population of Cities and Towns
TNP = Total Nonagricultural Population

*Town populations for Guangzhou Municipality in 1978 are estimated from the total population of towns in the 1982-Census and adjusted according to the growth of city population during the 1979-1982 Census period. Total town population is estimated to be 226,500 in 1978. Data for Shenzhen Municipality in 1978 are based on TNPCT and adjusted according to the proportion of nonagricultural population in the total urban population of Guangdong in 1978.

**Nonagricultural population data in the towns of Guangzhou Municipality are estimated to reach 102,000 in 1978. The data are estimated from the total town population as explained above and adjusted further according to the proportion of nonagricultural population in the municipality in 1978. Data for Guangdong are based on 1980 figures and adjusted according to the average growth rate during 1975-1980.

Sources: SJTN 1985, 43, 581-582; SJTN 1987, 324; SJTN 1990, 57.
GSTJ 1987, 75; Xu and Hu 1988, 202; GNBWH 1987, 523.
Municipality in the late 1970s was considerably lower than in other parts of the province.

The low level of urban development in Shenzhen during this period was partly due to its slow industrial growth, frontier location and the strict urban criteria adopted by the Chinese government. In the later 1970s, industry contributed less than 10 percent to the NMP and the total labour force in Shenzhen Municipality (Liu and Liang 1985, 50). The limited non-agricultural employment opportunities thus discouraged any large-scale rural to urban migration prior to the establishment of the SEZ. In fact, rural to urban migration had been strictly regulated in China through a number of administrative measures since the late 1950s.

The stagnation of urban population in Shenzhen was also due to the rigorous policy adopted by China to cut down the size of its urban population. The purpose was to reduce its commitment of supplying commodity grain to urban residents (Kojima 1987, 4). In a CCP Central Committee and State Council directive, the minimum population size and the proportion of non-agricultural population for cities and towns were raised in 1964 (Zhonggong Zhongyan and Guowu Yuan 1985, 465). In Guangdong Province, the number of designated towns dropped from 382 during the 1953 Census to 157 in 1978. Its level of urbanization also stagnated at 17 percent throughout the period from 1965 to 1978 (GSTJ 1984, 77). The narrowly defined urban criteria also significantly affected urban development in Shenzhen. About 10,000 non-agricultural population

175 The number of towns in China dropped from 4,219 in 1963 to 3,228 in 1979 while the number of cities increased from 177 to 216 during the same period.
in 20 commune-level market towns (jizhen)\textsuperscript{176} were considered rural as they were not officially designated towns (Zheng and Wang 1984, 25).

The changes in the administrative, spatial and statistical criteria of Chinese cities and towns since the early 1980s have significant impact on the growth of Shenzhen’s urban system and urban population. In order to promote a city-based economic system, the administrative criteria for designating cities and towns in China were substantially relaxed.\textsuperscript{177} As approved by the State Council in 1986\textsuperscript{178}, major towns with over 60,000 nonagricultural population and gross national product (GNP) over Rmb 200 million Yuan could become designated cities (Guowu Yuan 1986b, 471-472).\textsuperscript{179} Under the new system of “abolishing County and establishing city” (chexian jianshi), counties with over 120,000 nonagricultural population in the towns where the government seats were located and with a GNP of Rmb 400 million Yuan could also become designated cities (Guowuyuan 1986b, 472). In 1979, Bao’an County was abolished and it was replaced with the establishment of Shenzhen Municipality. However, with a nonagricultural

\textsuperscript{176}These are settlements which do not have official town status.

\textsuperscript{177}As a result of these relaxed criteria for the designation of cities and towns, the number of cities in China increased from 216 in 1979 to 353 in 1986 while the number of towns jumped sharply from 3,228 to 8,464 during the same period (Ma and Cui 1987, 376-378; Gonganbu 1987, 9).

\textsuperscript{178}The Ministry of Civil Affairs reported that the scheme started on an experimental basis in 1983 but Ma and Cui cited examples which started in 1979.

\textsuperscript{179}Some major towns with less than 60,000 nonagricultural population or less than Rmb 200 million Yuan in their gross national product but are located in minority population regions, major industrial, mining, and scientific research bases, famous scenic areas, transportation centres, major border towns can also become designated cities if considered necessary.
population of only 35,000 people, Shenzhen should not be eligible to become a designated city under either the 1964 regulation or the more recently liberalized criteria. The designation of Shenzhen as a city was therefore a result of its becoming an SEZ. These administrative changes in Shenzhen increased its urban population from less than 25,000 to over 70,000 almost overnight.

Parallel to the relaxed criteria for the designation of cities, the establishment of towns was also liberalized. The new criteria stipulated that all county government seats, all townships where the government seats were located and which had at least 10 percent of their total population or a minimum of 2,000 nonagricultural population might be granted town status (Guowuyuan 1986a, 470). Under the strict urban criteria of 1964, there was only one township in Shenzhen Municipality. When the newly liberalized criteria for the designation of towns came into effect in 1986, 17 towns were hastily established in the Municipality.

In addition to the administrative criteria, the spatial extent of some cities was also expanded in recent years. Since 1979, the system of city-administered county (shixiaxian) was widely instituted to facilitate regional economic growth (Ma and Cui 1987, 379-380). In a report approved by the State Council in 1986, those cities which had nonagricultural

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180 Town status can also be granted to some settlements which have less than 2,000 nonagricultural persons, including areas such as minority population regions, small industrial and mining districts, ports, tourist places, sparsely populated remote border regions, and mountainous regions, if deemed necessary by the provincial authorities.

181 The system is also known as city-leading county (shidaixian) or city-controlling county (shiguanxian).
population over 250,000 in their city proper area as well as an annual GNP of over Rmb 1 billion Yuan could adopt the city-leading county system (Guowuyuan 1986b, 472). Since 1983, the areal extent of some cities increased through the process of "combining city with county" (shixian heyi) (Ma and Cui 1987, 382-383). Under this system, the city would extend its jurisdiction into its adjacent counties and incorporated the whole county area and population under its administration. In 1981, after Bao’an County was revived to administer the rural area outside the SEZ, Shenzhen incorporated Bao’an County as its shixiaxian. Again, Shenzhen did not fully meet all the requirements as stipulated in the regulations for incorporating the county of Bao’an. Administratively, Shenzhen Municipality now consisted of two components: the city (the SEZ) and the rural county (the Bao’an County). As a result of these administrative changes, the urban area of Shenzhen was expanded more than 100-fold from 3 sq. km. to 350 sq. km. When Bao’an County also came under its administration, the spatial extent of Shenzhen was further extended to cover more than 1,800 sq. km. in area.

In addition to its administrative and spatial expansion, the urban population increased dramatically by the inclusion of a large nonagricultural population. Since 1983, official urban population (chengzhen renkou) data included both nonagricultural and agricultural population in all designated cities and towns within the municipality. As pointed out by Ma and Cui, this series of urban population data over-estimated the level of urbanization as it

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182By the end of 1986, 42 percent of all cities had one or more counties under their administration (Zhu and Zhang 1987, 47).
included a large number of agricultural households in the rural areas of the designated municipalities (Ma and Cui 1987, 388). This broad definition would have implied that China had an urban population of 41.4 percent at the end of 1986, but close to 71 percent and 47 percent of the total town and city populations respectively were agricultural population (Gonganbu 1987, 3-8).

Under the new urban definition, the total urban population of Shenzhen Municipality dramatically jumped from less than 35,000 to almost half a million, a 14-fold increase in eight years (see Table 6-4). The level of urbanization thus increased from 10 percent in 1979 to an extremely high level of 97 percent in 1986. However, almost half of its urban population were classified as agricultural, so the level of urbanization in Shenzhen was far overstated. The urban population in Shenzhen Municipality was inflated by the inclusion of a high proportion of agricultural population in the town population. For example, the total population of Gongming Town increased from 1,300 in 1985 to 17,000 in 1986 but 99.8 percent of the increase was accounted for by the agricultural population. Altogether, about 80 percent of the town population in Shenzhen Municipality were agricultural population.

As suggested by Ma and Cui, an urbanization indicator based on the total non-agricultural population in cities and towns provided a more realistic and consistent series of urbanization levels in China than the official

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183 The total population of a municipality includes population in both the city area and the suburban counties. As the suburban counties included a large agricultural population, and are neither part of the labour market nor of the commuting zone of the urban core, population in the suburban counties should not be accepted as urban population (Chan and Xu 1985, 590).
criteria (Ma and Cui 1987, 389). One of the major advantages of this method was that the data will include only those nonagricultural households who mainly reside in the urban built-up area where they enjoy an urban way of life. However, this indicator also has several deficiencies as it does not include temporary workers in either cities or towns, those engaged in nonagricultural work in cities and towns but registered as agricultural households, farming households within the city and town limits which enjoy almost the same urban life as other urban residents, or nonagricultural workers in the market towns. Until better data are available, the nonagricultural population of cities and towns provide an indication of the minimum level of urbanization in Shenzhen and other parts of China.

Under these criteria, Shenzhen Municipality's level of urbanization was much lower than the official data suggest. In 1986, slightly over half of Shenzhen Municipality's population were classified as urban residents. However, we should note that the data did not include the large number of temporary residents who lived and worked in the SEZ and towns of Bao'an County. As over 85 percent of these temporary workers were employed in the secondary and tertiary activities, Shenzhen Municipality's actual level of urbanization would have been higher.

By adopting Ma and Cui's more stringent urban criteria, Shenzhen Municipality experienced a higher growth rate of urban population than the provincial average. During the 1978-1986 period, the urban population in Shenzhen Municipality increased by an annual average of 35 percent, far above the average of 7.7 percent in the Pearl River Delta Region and the
provincial average of 8 percent (Xu and Li 1990, 55; GSTJ 1987, 78-79). As a result of this high growth rate, the level of urbanization in Shenzhen Municipality reached a much higher level than the provincial average of 19 percent. Even the urbanization level of Guangzhou Municipality was overtaken by Shenzhen at the end of 1986 (GSTJ 1987, 78-79).

Despite the controversial definitions on the actual level of urbanization in Shenzhen, it was unequivocal that Shenzhen achieved a high rate of urban growth in the eight-year period prior to 1986. In addition to the relaxed urban and administrative criteria, the growth of urban population in Shenzhen was a result of its changing economic and employment structures. The rising urbanization also brought about important changes in its urban development strategy and the associated problems of large scale development in many new towns.

6.4 URBAN DEVELOPMENT IN SHENZHEN

In order to transform Shenzhen from a rural county into a city, the SEZ Plan was adopted as a guidance for Shenzhen's economic and urban development. However, the adoption of this plan was not without its controversies in regard to the population size, scale of development, and the costs of providing the necessary urban and social services.

Shortly after its designation as a municipality in 1979, Shenzhen set up its own planning agency and began to formulate its master plan. The earliest

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\(^{184}\) However, this should be interpreted in the context of much larger rural areas under the administration of Guangzhou Municipality.
urban plan of Shenzhen suggested that the SEZ would have a total urban population of between 200,000 to 300,000 by the end of the century and a built-up area of 10.65 sq. km. (Zhou 1987a, 12). The designation of Shenzhen as a comprehensive SEZ in 1980 doubled the planned population to 600,000 and increased the urban land area to a total of 60 sq. km. (Xu and Cai 1983, 21). Shortly after property developers from Hong Kong indicated their intentions to develop large tracts of land in Shenzhen, the SEZ government was persuaded to expand the population size and urban land area to a projected total of 1 million and 98 sq. km. respectively in 1982. After extensive criticism of the financial costs involved in such a large scale development scheme, the projected population was lowered to 800,000 and the built up area was adjusted to 110 sq. km. (Xu and Cai 1983, 20-21). The size of Shenzhen is far larger than most other EPZs in Asia which are generally very small in size. Even the Bataan EPZ in the Philippines which is the largest in Asia has a total area of only 345 ha. (Currie 1979, 67).

The planned population size and development scale of Shenzhen was one of the most heated subjects of debates amongst Chinese scholars. Some of them argued that the scale of development in Shenzhen should be larger as it would be developed as a comprehensive SEZ, attracting foreign investment in the industrial, real estate, and other services sectors. They also estimated that 1,500 factories could be built with a total industrial employment of 160,000. Based on the estimated proportional share of industrial employment, total employment would increase to 500,000 and the total population could reach between 0.8 and 1 million by the end of the
century. They pointed out that a larger development scale would be more attractive to foreign investors, especially those from Hong Kong. It would also be more economical to have a larger population as the per capita cost of land development would then be lower (GDYS 1986, 317). Moreover, the larger scale of development would also have a stronger case to show the successful economic and urban development of a socialist city to the outside world (Sun 1982, 24; Xu and Cai 1983, 21).

Other scholars, however, argued that the attractiveness of an SEZ did not depend on its size but rather on its investment conditions. Moreover, the cost of developing a million size city would be exorbitant, conservatively estimated to be about Rmb 20 billion Yuan, which was beyond the financial capacity of Shenzhen (GDYS 1986, 317; Xu and Cai 1983, 21-22). In addition to the necessity of providing thousands of new employment opportunities, the provision of housing, education, medical and other services would also be an immense task for Shenzhen (GDYS 1986, 317; Xu 1987, 78). Moreover, the elevation of Shenzhen into a million size city would put severe pressure on the food, water and power supply and other resources of the Pearl River Delta region. The large scale development plan of Shenzhen also led to several major planning issues, including the development of large tracts of land, the administrative intervention, the fluidity of foreign capital, the shortages of urban services and loss of farmland.

185 Each additional resident is estimated to cost Rmb 20,000 Yuan for the provision of employment and urban services.
In order to speed up the development of Shenzhen, large tracts of land in Shekou, Futian, Nantou, and other districts were allocated to different enterprises for development. The leasing of these lands to major developers would help to reduce the financial burdens of Shenzhen in developing these areas. However, the planning control over these districts was also weakened as the developers could have a fair degree of autonomy in their economic and urban development plans. This would not only limit the coordination and linkages between different districts but could also lead to duplication of services and waste of resources (Lam 1983a, 35). For example, despite the availability of large numbers of hotels, shopping and other tourist facilities nearby, the Shekou IZ also set up its own commercial and tourist facilities. Each of the industrial districts, for example, the NOSDS in Nantou District and the Shekou IZ, were required to develop their own water and power supply systems without overall planning and coordination by the municipal government. Moreover, the SEZ planners also faced difficulties of preventing some of the development projects proposed in these districts even if they do not fully meet the environmental or planning guidelines, especially large investment projects.

Another new approach to the development of real estate in Shenzhen was to involve foreign capital rather than relying entirely on domestic funding. In addition to the granting of large tracts of land to domestic enterprises, foreign developers were also invited to develop large tracts of land in the 1980s. As early as 1981, several major developers from Hong Kong signed agreements to develop large tracts of land in Futian,
Houhaiwan, and Wenjindu (Chu 1983, 88-89). Planned investment amounted to HK$4.4 billion for developing 30 sq. km. of land in Futian and 8.4 sq. km. of land in Wenjindu and Houhaiwan. Under these large land development plans, the land would be leased to the foreign investors for 30 years upon payment of a small land use fees. The foreign investors would be responsible for the development of a self-contained industrial, commercial, and residential new town with all necessary public utilities and infrastructures (Lam 1983b, 136). The scheme was considered desirable in view of the shortage of domestic funds for the construction of 100 sq. km. of land by the end of the year 2000. These projects, however, were criticized for their weak planning control by the city government, high population density, inadequate linkages with other parts of Shenzhen, and the lack of coordinated development (Yeh 1985, 125; Lam 1983a, 34-35; Lam 1983b, 140-141). Most of these large land development projects fell through due to the collapse of the property market in Hong Kong. The failure of the projects not only led to the sudden halt of development in Futian and other areas but also froze up the land for other uses.

Despite the collapse of these land development projects, foreign capital continued to be encouraged in the joint development of residential housing and commercial buildings. In the construction of these residential housing and office units in Shenzhen, various forms of cooperation with foreign investors were evolved. In some projects, the Chinese partners contributed the land as their share of the capital while the foreign partner was responsible for the costs of construction. The profit from the sales of
the housing units was to be shared between the partners according to an agreed ratio. In other projects, the Chinese partners would simply receive a fixed amount of land use fees from the foreign investors without a share in the profit (SJTN 1987, 174). Yet other housing projects were built entirely by the Chinese partner but the housing units were sold by a foreign agent. From 1982 to 1986, 8,215 hectares of land were allocated for such housing development projects and received land use fees in the amount of Rmb 38.48 million Yuan. These investment ventures, however, generated much criticism in relation to the high profits received by foreign investors, the monopoly of sales by the foreign partner, and the lack of control by the local government. Consequently, the extent of foreign participation in residential projects was reduced. However, the participation of foreign capital in commercial buildings and other real estate and tourism projects continued.

The participation of foreign investors in various land and real estate development also significantly affected Shenzhen's urban development. By having access to higher administrative authorities, some foreign investors were not hesitant to request administrative intervention on their behalf to maximize their benefits. One of the most notable examples was the development of Futian District which originally was not planned as a major urban district. However, after a developer approached the higher authorities in Beijing, the planned population of Futian district jumped to 300,000 which was to make it the most populous region in the zone with an average
population density of 10,000 people per sq. km. The same developer also convinced the Chinese government to approve the building of an expressway between Guangzhou and Hong Kong after the local planner rejected the proposal. The plan for the expressway was later imposed on the master plan without a full review of the impact on the local economy and urban development (Yeh 1985, 124-125).

Despite these challenging issues facing Shenzhen’s urban development, major reforms in land allocation, housing, and planning took place in the SEZ. One of the major reforms in the land allocation system adopted in Shenzhen was to lease land to different enterprises according to a set fee. In other Chinese cities, all urban land was owned by the government while rural land came under collective ownership. For those enterprises and institutions which required land for development, most city governments would allocate according to their needs without charge. Under the "Regulation on the SEZs", foreign firms were allowed to participate in land development projects and to lease lands for development purposes (Foreign Language Press 1982, 194-196). Under the "Interim Provision of the Shenzhen Special Economic Zone for Land Management" adopted by the provincial government in November 1981, foreign enterprises could apply to the Shenzhen Municipality government for the use of land and pay a fixed land use fee. The land would be on a leasehold system with the lease period varying according to the types of economic

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186 The original proposal of the developer was to have 700,000 people in Futian but it was strongly opposed by local planners.
ventures, the amount of investment and practical needs (Yeh 1985, 118). The maximum lease period for different types of land use varied from 20 to 50 years and the lease could be renewed with the approval of the municipality government. An important stipulation in the regulation prevents land speculation by prohibiting private land transactions. The regulation specified that the foreign parties only had the right to use the land but no rights to buy and sell land. Even a change in the use of land by the leaseholders was not allowed under the regulation (Foreign Language Press 1982, 215-219).

The commercialization of land was also extended to residential housing in the SEZ. Instead of continuing the old practice of administrative allocation of housing and heavily subsidizing the rents, housing in Shenzhen became commercialized and rents were raised to a much higher level than in other Chinese cities to better reflect construction and management costs. In Shenzhen, the monthly rents varied according to quality, location, size, and the ownership of the housing units but could be as much as 0.35 Yuan per sq. m. Although the monthly rent could hardly cover the construction cost which was estimated to be Rmb 345 Yuan per sq. m., the rent was already over three times the average in other Chinese cities (Phillips and Yeh 1987, 462; SJTN 1987, 194). In the Shekou IZ, the monthly rent was raised to 0.9 Yuan per sq. m. - possibly the highest amongst all Chinese cities (SJTN 1986, 146-147). It was estimated that the new rent constituted about 10-15 percent of the average household income. Shekou further proposed to increase its rents at a rate higher than wage increases to reduce further the subsidies by the state (SJTN 1986, 147).
An increasing number of housing units were also sold to the residents instead of being allocated administratively. Most of the housing units were now built with the intention of selling to enterprises, residents, and migrants. Of the 1.16 million sq. m. of residential floorspace completed, over two-thirds were to be sold in the market. In the Shekou IZ, the commercialization of housing began as early as 1981. Workers were encouraged to purchase their own housing units which were built by the CMSNC and were sold at cost (Hung and Xu 1987, 55). By the end of 1985, about 700 families had purchased their own housing units (SJTN 1986, 148). This was considered an important step towards reducing the state subsidies to urban residents.

With the adoption of these reform measures, dramatic improvements in the urban infrastructure had been made in Shenzhen during the 1979-1986 period. Shenzhen was no longer a backward frontier town but had emerged as a city of half a million people. It had a built up area of almost 50 sq. km., almost 15 times its original size. Population density also increased dramatically to almost 1,500 persons per sq. km. (GTJZS 1987, 40). More than 40,000 vehicles were now operating on 202 km. of paved road, a 150-fold and 25-fold increase respectively from 1978. Total water and electricity supply also jumped to 7.3 billion tons and 794 million kwh in 1986 (SJTN 1987, 352). Shenzhen undoubtedly became one of the most modernized cities in China.

Even with such improvements in urban infrastructure the provision of housing and other urban services remained far behind population growth. In
addition to housing, the provision of urban transportation, medical services, schools, and other social services also lagged behind demand as there was not only a large number of permanent residents but also an increasing and even larger number of temporary residents and unregistered residents (Phillips and Yeh 1987, 465). This was why a leading geographer in Guangzhou persistently argued for a smaller SEZ to ensure development at a more manageable pace and within the financial capability of China (Xu 1987, 78).

The rapid urbanization also led to the criticisms of the substantial loss of farmland. During the 1979-1986 period, farmland in the zone decreased at a rate of 12 percent per year. In the municipality as a whole, almost 40 percent of the farmland had been lost. Although Guangdong was one of the provinces in China with the highest rate of farmland decline, Shenzhen was far above the provincial average of 2 percent per year (GSTJ 1987, 121). Data for 1985-1986 indicated that about 27 percent of the total lost farmland was due to urban construction and housing development, more than double the provincial average of 12 percent during the same period. Consequently, the explosion of population, combined with a rapid loss of farmland, imposed a severe pressure on the food supply in the region.

CONCLUSION

One of the most dramatic changes that took place in Shenzhen during the 1979-1986 period was the rapid growth of population. The availability of

187 Data for Guangdong province refer to sown acreage only.
employment opportunities, flexible hiring practices, higher wages, better urban and social services, access to urban residence status, and proximity to Hong Kong all contributed to the large influx of migrants to Shenzhen. The great majority of these migrants were employed in the industrial and services sectors and resided in the city although not all of them received permanent residence status. In addition to migration, the administrative upgrading and the geographical expansion of the SEZ also contributed to its rapid rate of urbanization. Such rapid urbanization in Shenzhen not surprisingly brought about major development issues in related to its granting of large tracts of land to several developers, the administrative intervention, the fluidity of foreign capital, the shortage of urban services, and the loss of farmland. Many of these urban problems were attributed to the large scale development plans adopted by Shenzhen. Nevertheless, Shenzhen has undoubtedly made important achievements in the development of its housing, transportation and other infrastructural development during the 1979-1986 period.
CHAPTER 7. CONCLUSION

In its efforts to modernize, China has adopted an economic reform program since 1979 to increase economic efficiency, upgrade technological structure, and improve living standards (Wong and Chu 1985b, 212). Various reforms in the planning, pricing, enterprise management, and labour and wage systems were initiated in both the rural and the urban sectors. The new policy further encouraged regional comparative advantage and international cooperation, replacing the self-sufficiency policy under Mao (Cannon 1990, 40). Although China was far from taking an "unqualified support" on FDI as in other developing countries (Moran 1986, 3; Edgington 1991, 65), the new political leaders departed from the dependency school’s insistence that FDI would lead to economic dependency and under-development. In its formulation of policy for Shenzhen and other SEZs, China took the view of the bargaining school that FDI could benefit both the host country and the investors. To accomplish the objectives of introducing foreign capital, transferring advanced technology, and promoting exports under the open door policy, the participation of the coastal region, in particular the coastal cities, was believed to be essential. They were considered not only to have better infrastructure and technological capability but also the necessary linkages to the outside world. Consequently, both Guangdong and Fujian Provinces were granted the powers to adopt flexible policies in their dealings with international trade, investment, and technology and to create SEZs, one of which is located in Shenzhen.
One of the major reasons behind the establishment of Shenzhen as China’s first SEZ was its geographical location. By locating Shenzhen at the doorstep of Hong Kong, China hoped to gain access not only to the financial resources of Hong Kong but also to its technology, management skills, transportation, communications, and marketing networks. The extensive kinship connections between Hong Kong and Shenzhen and other parts of the Pearl River Delta Region was considered essential to this flow of technology and investment (Johnson 1990). Through the introduction of investments from Hong Kong and other countries, Shenzhen and other SEZs in China were expected to acquire advanced technology and Western management techniques, to increase manufacturing exports, foreign exchange earnings, and to promote regional development. Shenzhen was also considered an important experimental base for carrying out some of the economic and urban reform measures and to serve the political role of facilitating the re-unification of Hong Kong to China.

Shenzhen was thus an important “experiment” for China’s open door and coastal development strategies. As the fourteen coastal cities and the open economic zones also adopted similar development strategies, an evaluation of Shenzhen’s performance and shortfalls becomes critical as it will have significant implications for the economic and spatial development of China. Based on the findings of previous chapters, this concluding chapter discusses the role of foreign investment in Shenzhen, outlines its economic and urban changes, and provides an analysis of its major issues in development.
7.1 ROLE OF FOREIGN INVESTMENT IN SHENZHEN

Similar to other EPZs, the primary objective of creating Shenzhen and other SEZs in China is to attract foreign investment. The neoclassical economists suggest that the EPZs which are established to reduce import and export restrictions, to minimize administrative interference, and to provide an adequate supply of labour, infrastructure, and other services will facilitate the introduction of foreign investment. Modelled after the EPZs, Shenzhen not only shared many of their objectives but also adopted similar policies by offering investors generous tax incentives, lowering land and labour costs, and waiving most import and export duties. The local government also endeavoured to improve its basic infrastructure, legal framework, and administrative procedures in its efforts to encourage the flow of FDI. Shenzhen further fostered a comprehensive development strategy by encouraging investment in almost all economic activities. Nevertheless, the most important step taken was the initiation of various economic reform measures and flexible management practices to allow foreign investors greater control over their operations and to increase economic efficiency and labour productivity.

The new measures and policies adopted in Shenzhen facilitated its emergence as the leading recipient of foreign investment amongst all Chinese cities. It is true that the actual FDI that Shenzhen received was considerably less than the investment figures suggested due to China’s very liberal definition of what FDI constitutes. Moreover, foreign investment in Shenzhen experienced a highly fluctuating pattern of growth, a low ratio of
paid-up capital, and a disproportionate share of investment in non-industrial projects. In contrast to the earlier investment patterns in other EPZs, the major source of investment in Shenzhen came from NICs, particularly Hong Kong. Partly due to the characteristics of MNCs originated from NICs and partly due to the infrastructural problems in Shenzhen, most of the investment ventures were small in scale. Many of them were in some form of joint venture with Chinese partners. A UNCTC and ILO report suggests that joint ventures have a better potential for technology transfer and foster a more stable employment pattern than wholly foreign-owned ventures (UNCTC and ILO 1988). However, most of the joint ventures in Shenzhen were in contractual agreements which were loosely defined in their form and degree of cooperation. Their potential for technology transfer is therefore probably more limited than in equity joint ventures.

The total amount of foreign investment in Shenzhen was not considered as very large in the context of the total investment in the SEZ. In fact, by comparison to other Asian EPZs, Shenzhen had a substantially higher proportion of investment from domestic sources. However, foreign investment provided Shenzhen not only an additional source of capital for development but also a strong stimulus to transform its economic system, production structure, and urban landscape. With the infusion of foreign investment, Shenzhen’s economy experienced a swift transformation in its ownership structure. By the end of 1986, foreign capital, including loans and investment, contributed about one-quarter to the total CCI of Shenzhen. Data for 1985 also indicated that foreign enterprises comprised more than
two-fifths of the registered capital of all industrial and commercial enterprises in Shenzhen (SJTN 1986, 212). Although complete data were not available, foreign enterprises probably employed about one-third of the total labour force in the SEZ.

Data on the industrial sector further showed that foreign enterprises contributed significantly to the growth of Shenzhen's industrial employment, output, and exports. In 1986, over two-thirds of the GVIO came from foreign enterprises which played a critical role in the rapid growth of the industrial sector in Shenzhen. By hiring more than one-third of the industrial workforce, they also offered training opportunities for thousands of workers and management personnel. Moreover, some foreign firms provided valuable marketing techniques and information for the promotion of industrial exports from Shenzhen. The higher ratio of exports from foreign firms than domestic enterprises was partly due to the requirements specified by the local government through negotiations with foreign investors.

Foreign capital also played a critical role in the urban development of Shenzhen. In the early 1980s, several foreign developers successfully lobbied Shenzhen to expand its population size and scale of development in order to accommodate their proposals to develop large tracts of land. While most of these land deals fell through, others continued to exert their influence on the spatial structure of the city by participation in the construction of residential housing and other real estate projects. Consequently, the residential housing sector became highly commercialized. In the SEZ, an increasing number of residential housing units were sold to residents and
enterprises which required accommodation facilities for their employees. In Shekou and other parts of the SEZ, rents for residential housing were raised to reduce financial subsidies by the local government.

As the major source of FDI in the SEZ, Hong Kong unquestionably played a key role in the economic and industrial expansion of Shenzhen during this early period of development. Similar to other Asian NICs, manufacturing industries in Hong Kong faced increasing difficulties during the late 1970s and early 1980s due to rising costs of labour and land. Shenzhen's cheaper labour and low cost of land provided an attractive alternative production site for many Hong Kong investors. Some of the labour intensive production processes were subsequently relocated from Hong Kong to Shenzhen to take advantage of its lower cost of production and a less stringent environmental protection laws. By the mid-1980s, Hong Kong not only provided the bulk of foreign capital to Shenzhen but supplied most of the imported machines, offered applicable production technology and management techniques, and conducted industrial training for Shenzhen's workers. It may be argued that the type of technology transferred through Hong Kong was not advanced but it might be appropriate for the level of technology and absorption capacity in Shenzhen.

In addition to ply a key role in Shenzhen's economic development, Hong Kong also served as an important linkage to the outside world for Shenzhen. Hong Kong not only was the major export market for Shenzhen's products but also provided essential market information, technical expertise, and transportation and communication services for Shenzhen. Tourists from
Hong Kong further contributed directly to the foreign exchange earnings of Shenzhen by purchasing local products, visiting its restaurant and recreational facilities, and using its transportation services en route to other parts of China.

Perhaps, the most important contribution of Hong Kong was its serving as a role model for Shenzhen. Through frequent contacts, visits, and consultations, an increasing number of Chinese officials and entrepreneurs enhanced their understanding of the behaviour, business practices, and the mechanisms of Hong Kong's economic, urban and industrial systems. Some of the reform measures implemented in Shenzhen were unequivocally adapted from practices in Hong Kong, such as the open bidding for construction projects, the selling of residential housing units, and the hiring of temporary and contract workers. Some of these innovative practices have been further transferred outside of the SEZ and were being adopted or in trial use in other parts of China (Wong and Chu 1985b, 217).

7.2 ECONOMIC AND URBAN GROWTH

To accelerate the flow of foreign investment and the growth of the economy, an ambitious urban and economic development plan was adopted in Shenzhen in 1982. To achieve these very ambitious targets, Shenzhen planned to invest Rmb 21 billion Yuan during the 20-year period and

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188In other parts of China, the construction projects were mostly assigned to a state construction company, housing units were built by either the government or enterprises for allocation to individuals with low rents, and the labour system remained a life tenure permanent employment system.
recruited half a million workers. Various economic reform measures were also initiated to facilitate the attaining of these goals. The planning and the pricing systems were restructured, the wage and labour systems were reformed, the enterprise management and administrative system were improved, and the trading and taxation system were revamped to increase the efficiency of enterprises and the productivity of workers.

By the end of 1986, Shenzhen achieved almost all of its economic and production targets well ahead of schedule as specified in its SEZ Plan. Both the GDP and NMP increased at very high rates, quadrupling the provincial averages. The most notable output growth was achieved by the industrial sector which expanded 100-fold during this period. Shenzhen became the fastest growing city in Guangdong Province in almost every economic sector except agriculture. The high rate of economic growth brought about significant increase in the income and standards of living of its residents. Workers in Shenzhen received substantially higher wages than in other parts of China while both urban and rural incomes were also 50 percent higher than in other Chinese cities.

The rapid economic growth in Shenzhen also led to its dramatic transformation from an agricultural region to a highly commercialized economy. The importance of agriculture in Shenzhen’s economy dropped sharply due to a lack of investment, a rapid loss of farmland and a declining workforce. On the contrary, the share of the GDP and employment by the tertiary sector increased remarkably and became the mainstay of the economy. The tertiary sector was strongly supported by a large influx of
migrants, visitors from both inside and outside of China, and a booming retail trade.

The rapid growth and the structural changes of the economy led to a large increase in employment opportunities, particularly in non-agricultural activities. In 1986, Shenzhen employed about 400,000 workers in various construction, industrial, and commercial establishments. Many of these workers were recruited from other parts of Guangdong but some came from other provinces. Shenzhen not only contributed significantly to alleviate the urban unemployment problems in some of the cities and townships of Guangdong but also provided jobs for many of the rural surplus workers.

Another major achievement of Shenzhen was its phenomenal growth of industrial exports during the 1979-1986 period. More than half a billion dollars worth of industrial products were exported in 1986, a 400-fold increase in eight years. The growth of exports was attributed to the rapid expansion of industrial output, the establishment of foreign manufacturing ventures, and the adoption of various reforms in taxation, profit sharing, and trading systems to promote exports. In 1986, Shenzhen emerged as the leading exporter in Guangdong, contributing more than one-fifth to the total industrial exports of the province. Undoubtedly Shenzhen played a key role in expediting the growth of Guangdong as China's top province in exports.

The performance of Shenzhen in meeting the objectives of introducing advanced technology was, however, below expectations. Shenzhen imported a large quantity of machines during this period but only a small percentage of them was considered as advanced. In fact a good
proportion of them were evaluated as of low technology and in some cases they were obsolete. However, there were indications that some basic production technology had been introduced, and that some adaptations of the imported machines were probably undertaken. An important benefit was perhaps the training of its industrial workforce even though it was far from being called extensive.

The rapid economic and income growth in Shenzhen led to an influx of migrants during the early 1980s. Shenzhen’s population experienced a record rate of growth during the 1979-1986 period, unsurpassed by any city. Total population in the SEZ increased seven-fold to almost half a million as a result of the availability of large numbers of employment opportunities, higher wage levels, flexible hiring practices, and the provision of better social and urban services. The offer of a vibrant urban life and urban residence status further attracted large numbers of rural workers from other parts of Guangdong and other provinces to migrate into the SEZ.

The large flow of migrants into Shenzhen during the early 1980s also accelerated its rate of urbanization. The spatial expansion, administrative upgrading, and relaxed urban criteria all contributed to the rise of Shenzhen as one of the most urbanized municipalities in Guangdong. The urbanization process was further accentuated by the large infusion of investment in the secondary and tertiary activities, the creation of non-agricultural employment opportunities, and rapid rural changes. By the end of 1986, Shenzhen not only became the second largest city in the province with a large built-up
area but also one of the most developed cities in telecommunications, transportation, housing and other urban services.

7.3 CRITICAL DEVELOPMENT ISSUES

Despite such remarkable achievements in economic and urban growth, there are several critical issues confronting Shenzhen’s development, including the high cost of development, unstable economic growth, structural deficiency, low productivity, and declining comparative advantage in production.

One of the major issues confronting Shenzhen is its high cost of development. During the 1979-1986 period, the rapid rate of economic growth in Shenzhen was achieved with large inputs of investment and labour. Shenzhen received a disproportionate share of CCI, more than ten times the per capita average in other parts of the province. The ratio of investment to output was considerably higher than most other municipalities, indicating its high dependency on investment. Some of the major contributing factors to Shenzhen’s high cost of development included the large scale urban development plans, a lack of coordinated planning, and a poor infrastructure. During the late 1980s, the economic growth of Shenzhen continued to be heavily supported by CCI. In 1989, Shenzhen spent close to Rmb 5.0 billion Yuan or 34 percent of the provincial total on capital construction projects (GSTJ 1990, 238; SJTN 1990, 643). Despite repeated calls by the government for reducing CCI, there was no indication that such efforts were yet successful.
In addition to the large capital input, a substantial number of workers were recruited to support the large scale and high pace economic growth in the past eight years. The large scale recruitment of workers led to a sevenfold increase in population in eight years. The population explosion in turn exerted heavy pressure on the provision of housing, transportation, and other urban services, accentuating the need for additional capital investment. As most of the urban and social services were heavily subsidized by the local government and Shenzhen was planned to be a city of high living standards, the cost of financing these urban services was exorbitant.

The cost of financing these urban services continued to rise in the late 1980s as population in Shenzhen failed to slow down as planned. By the end of 1989, total population reached 1 million and almost 2 million in the SEZ and the Municipality respectively (SJTN 1990, 647). The large influx of migrants into Shenzhen led to an upward revision of the planned population target for the SEZ from 1.1 million to 1.3-1.5 million by the year of 2000 (SJTN 1990, 180).\textsuperscript{189} The high rate of in-migration further raised the urbanization of Shenzhen to 60 percent in 1989, significantly higher than the provincial average of 23 percent (SJTN 1990, 57; GSTJ 1990, 105-109).

Closely related to this "extensive development strategy" is the fluctuating patterns of economic growth in Shenzhen. Shenzhen's economy was not only highly sensitive to the changing world market but also domestic credit and fiscal policies. The economic recession experienced by Shenzhen in late 1985 and early 1986 clearly demonstrated its vulnerability

\textsuperscript{189}The total municipality population was forecasted to reach a total of 3 million at the end of this century.
to such policy changes brought by the central and provincial governments. In 1986, per capita GDP dropped by 8 percent over the previous year. Many industrial and commercial establishments incurred heavy losses. More than 50,000 workers were also dismissed in 1986. The temporary workers suffered the hardest hit as they no longer enjoyed job security as workers in other parts of China. By the late 1980s, total GDP of Shenzhen expanded to Rmb 9.8 billion Yuan or 7.5 percent of the provincial total (SJTN 1990, 648; GSTJ 1990, 60). However, per capita GDP in Shenzhen suffered a decline of 22 percent in 1989 due to high rates of population growth and inflation (SJTNB 1990, 642-644). Workers in Shenzhen thus faced similar fates as those in other EPZs where income and employment fluctuations are common.

The vulnerability of Shenzhen’s economy to large fluctuations was exacerbated by the high proportion of investment coming from bank loans. Instead of funding its capital projects mainly by foreign capital as stipulated in the SEZ Plan, most projects were financed by loans from Chinese state banks. The availability of bank credits, however, was highly volatile, depending on the fiscal policies of the central and provincial governments at any given time. The reliance on bank credits also undermined the growth of foreign investment ventures as the majority of them were in the form of joint ventures which required funding support from the Chinese partners.

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190 Data from Shenzhen Statistical Office reported total GDP of RMB 9.3 billion Yuan while both the SJTN and GSTJ reported total GDP of RMB 9.8 billion in 1989 at current prices.

191 Urban net income in 1989 was reported to reach Rmb 3,434 Yuan, a 15 percent increase from the previous year (SJTNB 1990, 646). However, the survey was limited to a small sample and included only households with permanent residence.
The reliance on bank loans also rendered Shenzhen as one of the most heavily indebted cities in China. Total bank debt accumulated was twice its total GDP while annual interest payments alone amounted to one-sixth of the GDP. Many enterprises were reported to be at the brink of bankruptcy as a result of their inability to repay the large bank debt.

Another major development issue facing Shenzhen is related to the deficiencies in its economic and industrial structures. The economic growth of Shenzhen was heavily dependent on the production and selling of large quantities of electronics consumer goods, especially TVs, to interior customers. The rapid growth of retail trade was due to the price differentials for some consumer goods, notably colour-TVs, between Shenzhen and the domestic market where high tariffs existed. Customers were attracted to the zone simply because they could make a substantial savings by purchasing these products in the SEZ rather than in the interior cities. The purchases were further facilitated by a relaxed control over SEZ goods brought back to the interior. By the late 1980s, the economic structure of Shenzhen remained strongly services oriented (SJTN 1990, 648).

The industrial enterprises also took advantage of this distorted price structures by concentrating their production the assembly of consumer electronics products. The industrial structure in Shenzhen was highly imbalance as supporting industries for electronics production were poorly developed. The electronics industry in Shenzhen depended heavily on the imports of parts and materials as domestic supplies were generally not available. Shenzhen thus shares similar characteristics to other EPZs which
also have mono-culture in their industrial systems and high dependency on imports. As Frobel and others strongly argue that such an industrial structure does not promote industrialization, fails to introduce technology, and has little linkage with the local economy (Frobel, Henrichs, and Kreye 1980).

A distinct departure of Shenzhen from other EPZs is that more than half of Shenzhen's manufacturing products were sold in the domestic market rather than exported. The high volume of retail sales to the interior indicated that linkages to the host economy are much stronger in Shenzhen than in other EPZs. To what extent these domestic sales will have important demonstration effects on other Chinese enterprises is not yet clear. However, the low export performance of Shenzhen's industrial products may reduce their chances to improve their product quality and lower production costs through competition in the world market. The low export ratios of many industrial enterprises and the high proportion of entrepot trade also exacerbated the balance of payments problems in Shenzhen. As a high proportion of the equipment, materials, parts, and even packaging materials were imported, many of those enterprises which had low export ratios faced immense difficulties in meeting their foreign exchange needs. Despite the recent establishment of a Foreign Exchange Centre, the demands for foreign exchange far outstripped supply. As pricing structures can be adjusted at any time and customs control can also be

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192 The Foreign Exchange Centre opens only to a selected number of enterprises and the exchange rates are limited to a certain range by the government.
tightened without warning, the structures of Shenzhen’s industry and the economy as a whole are far from considered stable.

The fourth major issue facing the development of Shenzhen is related to its low economic efficiency. Although we do not have detailed data to estimate its total factor productivity growth, partial indexes of labour and capital productivity both suggested that the economy of Shenzhen was far from being efficiently operated. The labour productivity in the industrial sector showed a higher rate of growth than in other parts of Guangdong during the early 1980s. However, this could be partially explained by its low production level in the late 1970s and the increase in the use of capital since then. A more than 10 percent decline of GVIO per "staff and worker" in 1986 over the previous year might be an indication that further growth of industrial labour productivity would be much more difficulty to attain than previously.

The low productivity growth may be partly explained by the limited technology transfer to Shenzhen during this period. As most industrial output were concentrated in the low-end assembly of consumer electronics products, these labour intensive operations limited the type of technology that it introduced. Thousands of machines were imported during the eight year period since 1979 but relatively few of them were considered as advanced. Moreover, the imports of "know-how" were far more limited than the imports of "hardware".

The transfer of technology to Shenzhen was further impeded by the low technology level of most Hong Kong MNCs, their lack of on-site
research and development, and the vertical integration of the industrial processes. The technology transfer process was also weakened by the lack of skilled workers and the low absorption capacity in Shenzhen. It may be argued that eight years was too short a period for any extensive technology transfer to take place. However, the experience in other EPZs which also developed similar industries and operations tends to show that this is not the best channel for transfer of advanced technology.

The last, but not the least important, issue facing Shenzhen’s development is its declining comparative advantage of being a low cost production base and its geographic proximity to Hong Kong. The high wage level set by the government was partly an effort to dampen the critique of the existence of capitalist exploitation and partly to build up Shenzhen as a city with high standards of living. Although the wage levels in Shenzhen remained far below those in Hong Kong, Shenzhen’s competitiveness with other cities and townships in the Pearl River Delta Region were increasingly challenged. An increasingly number of cities and counties with substantially lower wage levels are now competing directly with Shenzhen for investments from Hong Kong. Shenzhen’s geographical advantage to Hong Kong will be further undermined with the construction of a new freeway between Hong Kong and Guangzhou. Many of the towns along this new transportation route will find their production and transportation costs reduced and become competitive for new investment ventures. During the late 1980s actual investment in Shenzhen declined by 26 percent while its share of the provincial total dropped from 35 percent during the 1979-1986
period to 23 percent in 1989 (GSTJ 1990, 390; SJTN 1990, 660-662). Shenzhen’s declining share of foreign investment during the late 1980s clearly pointed to its declining comparative advantage over other parts of Guangdong. In view of the high mobility of FDI and the footloose characteristics of many labour intensive industries, Shenzhen’s prominence in the share of foreign investment will be difficult to maintain unless it has more to offer than at present.

It is clear from the above analysis that Shenzhen has achieved many of the short-term economic objectives but some of the long term goals as stipulated under the open door policy have not been fully met. By the mid-1980s, Shenzhen not only reached the targets of employment, GVIO, GDP, exports, and retail trade well ahead of schedule but also transformed from a rural agricultural community to an industrial and services-oriented city. However, the performance of Shenzhen in the promotion of technology transfer, manufacturing exports, and foreign exchange earnings was below expectations. Shenzhen further faced problems of fluctuating economic growth, structural deficiency, and low productivity. Some of these structural problems had been clearly pointed out by Frobel, Heinrichs, and Kreye (1980) in their analysis of the processes of the NIDL.

Despite its structural problems, there is little doubt that Shenzhen has contributed significantly to the emergence of the new spatial economy of China. While Shenzhen’s share of Guangdong Province’s population was less

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1 Actual foreign investment was US$278.48 million in 1989. Percentage change was based on the period of 1986-1989.
than 1 percent, Shenzhen’s contributions to the provincial economy, employment, exports, and foreign investment were substantially higher. In 1986, Shenzhen led all cities in Guangdong in its absorption of foreign investment and the exports of industrial products. It also contributed more than 4 percent and 5 percent to the total provincial GDP and GVIO respectively. It also ranked above all cities in the province except Guangzhou in retail sales, industrial output and numbers of factories. Although detailed data on other cities were not available, Shenzhen also probably attained the highest rates of growth in GDP, GVIO, foreign investment, exports, and urban employment amongst all cities in Guangdong during the early 1980s. The rapid economic growth of Shenzhen undoubtedly enabled Guangdong to achieve significant higher growth rates in GVIO, exports, NMP, and total retail sales than the national averages during the 1980-1986 period (GTJ 1987, 29-31; GSTJ, 1987 39-41).

During this period of rapid growth, Shenzhen not only offered employment opportunities to thousands of migrant workers from the Pearl River Delta region and other parts of China but also provided them with basic technical training. Remittance from these migrant workers further enhanced household income and consumption levels of many families in the interior. Moreover, Shenzhen accelerated economic growth in Guangdong and other parts of China by increasing its demands of construction and industrial materials, agricultural products, and transportation services. The development of transportation, communications, customs, banking, and tourist services in the SEZ also facilitated the transfer of international capital,
technology, and commodities to the Delta region and beyond. The economic and employment growth in Shenzhen further encouraged a large influx of migrants into the SEZ and neighbouring counties and facilitated its emergence as one of the major urban centres in Guangdong. The high rate of urban growth in Shenzhen further transformed the urban structure and bolstered the level of urbanization in the Pearl River Delta (see Xu and Li 1990).

The spatial and economic transformation of Shenzhen not only has a direct impact on the regional development of the Pearl River Delta region but also has a demonstration effect on the development patterns of other coastal cities. With the opening up of the fourteen coastal cities, the three economic regions (the Pearl River Delta Region, the Changjiang Delta Economic Region and the Southern Fujian Economic Region), and Hainan Island, Shenzhen has become an apparent model for many of these coastal cities and regions. In some of these open coastal cities, Economic and Technological Development Zones were established to attract foreign investment, promote manufacturing exports, and technological transfer - a replicate of Shenzhen's model of development. By promoting foreign investment and expanding economic production, many of these coastal cities will attract a large influx of migrant workers and accelerate the process of urbanization. Some geographers are convinced that these coastal cities, together with the SEZs, will become agents to speed up development in the coastal region, accelerate the formation of the extended metropolitan regions, and lead to the emergence of a new spatial-economic pattern in the

While the preceding analysis has indicated that the economic and urban development of Shenzhen has not been without its problems. In the broad context of the "modernization of China" by focussing upon the economic growth of the coastal region, it can be suggested that Shenzhen has made an important contribution to the development of China. Shenzhen no doubt plays an essential role in accelerating China's opening up to the outside world through the increasing flows of foreign capital, trade, Western technology and management techniques. Shenzhen has achieved remarkable economic and urban growth unsurpassed by any other Chinese cities during this period. In the short period of eight years it has grown from less than 80,000 to half a million in size and its per capita GDP is the highest in Guangdong. However, rapid economic and urban growth has posed major infrastructural and inflation problems in Shenzhen. Its goals of raising productivity, introducing advanced technology, promoting industrial exports and earning foreign exchange are also far below expectations. Yet, in the broad context of adopting new reform measures, introducing foreign investment and Western ideas, the promotion of regional economic growth and the development of a modernized city, Shenzhen is an important step towards facilitating the transfer of Hong Kong to China in 1997.

194 However, the Tian'anmen Square incident in June 1989 led to a slow down in the pursuance of the open door program and that the coastal development strategy was in limbo (Yang 1991, 61).
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Zhong, Xin. 1987. Guangyu gaishan Shenzhen Tequ ‘yi-xian’, ‘er-xian’ guanli di yijian (A view of improving the management of ‘first line’ and

Zhou, Qinghui. 1987b. Tequ fazhan shipin jiangong ye di abc (The ABC of developing Shenzhen Special Economic Zone's food processing industry). *Tequ jingji* (Special zone economy) 3:30-32.

Zhou, Xiwu. 1985. Jiaqiang neibu jingji lianhe, chujin Shenzhen gongye xiang waixiang xing fazhan (Strengthen the internal economic linkages; promoted the development of export-oriented industry in Shenzhen). *Tequ jingji* (Special zone economy) 2:12-16.

Zhou, Xiwu. 1987c. Zengchan jieyao, zengshou jiezhi, tuidong tequ waixiang xing fazhan (Increase production but be thrifty, increase income but decrease expenses, promoted the outward-looking trend of Shenzhen’s economy). *Tequ jingji* (Special zone economy) 2:10-12.

——. 1987d. Luli kaituo ba jingji gongzuo xiang qian tuijin yi bu (Work hard to develop and push the economic work a step ahead). *Tequ jingji* (Special zone economy) 6:4-9.


APPENDIX 3-1. REGULATIONS AND LAWS ON THE SHENZHEN SPECIAL ECONOMIC ZONE, 1980-1986

"Regulations on Special Economic Zones in Guangdong Province." (1980)


"Provisions on the Accounting System of Enterprises with Foreign Interests in Guangdong Province’s Special Economic Zones." (1985)

"Regulations on the entry and exit of Personnel between the Shenzhen Special Economic Zone and the Interior." (1986)

"Governing Regulations by the General Customs Administration on Goods, Transport Equipment, Luggage, and Materials by Mail to and from the Special Economic Zones." (1986)


"Regulations on Bankruptcy of Enterprises with Foreign Interests." (1986)

"Regulations on Enterprises with Foreign Enterprises in Guangdong Province's Special Economic Zones." (1986)
Appendix 3-2. Potential Benefits of Some Forms of Foreign Investment

<table>
<thead>
<tr>
<th>Forms of Investment</th>
<th>Advanced Machinery</th>
<th>Management Training</th>
<th>Export Channels</th>
<th>Foreign Capital</th>
<th>Automatic Foreign Exchange Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholly Foreign-owned</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Equity Joint Venture</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Contractual Joint Venture</td>
<td>yes</td>
<td>weak</td>
<td>yes</td>
<td>some</td>
<td>no</td>
</tr>
<tr>
<td>Compensation Trade</td>
<td>weak</td>
<td>no</td>
<td>some</td>
<td>weak</td>
<td>yes</td>
</tr>
<tr>
<td>Processing and Assembling</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>weak</td>
<td>yes</td>
</tr>
<tr>
<td>International Leasing</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>weak</td>
<td>no</td>
</tr>
</tbody>
</table>

Appendix 5-1. Incremental Output-Capital Ratios of Industry in Shenzhen and Guangdong, 1982-1986

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of Investment to Output</td>
<td>Net Output Growth Rate (%)</td>
<td>Incremental Output-Capital Ratio</td>
</tr>
<tr>
<td><strong>Shenzhen Municipality</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>135.6</td>
<td>49.1</td>
<td>0.36</td>
</tr>
<tr>
<td>1983</td>
<td>48.2</td>
<td>99.2</td>
<td>2.06</td>
</tr>
<tr>
<td>1984</td>
<td>37.7</td>
<td>121.6</td>
<td>3.22</td>
</tr>
<tr>
<td>1985</td>
<td>44.9</td>
<td>50.4</td>
<td>1.12</td>
</tr>
<tr>
<td>1986</td>
<td>84.5</td>
<td>30.0</td>
<td>0.35</td>
</tr>
<tr>
<td>1982-1986</td>
<td>70.2</td>
<td>64.1</td>
<td>0.91</td>
</tr>
</tbody>
</table>

| **Guangdong Province** | | | |
| 1982  | 10.7         | 8.1          | 0.76          |
| 1983  | 11.5         | 9.6          | 0.84          |
| 1984  | 8.8          | 17.2         | 1.96          |
| 1985  | 10.0         | 25.1         | 2.52          |
| 1986  | 13.3         | 15.5         | 1.17          |
| 1982-1986 | 10.8        | 14.9         | 1.38          |

Notes and Sources:
I - Measured as the percentage of capital construction investment in the industrial sector to the net industrial output. Net industrial output are based on industry's share of net material product. Both investment and output are in current prices but assumed a year lag between investment and output. Liu and Liang 1985, 50-51; SSTJ 1987a, 2; GSTJ 1987, 44; SJTN 1987, 188; Guojia Tongjiju Guomin Jingji Pengheng Tongji Si 1987, 322-324.


III - Measured as II/I.
## Appendix 5-2. Sectoral Distribution of Industry in Shenzhen Municipality, 1986

<table>
<thead>
<tr>
<th>Item</th>
<th>Industry</th>
<th>Shenzhen Municipality Percentage of Total</th>
<th>Shenzhen's Percentage Share of Guangdong Province</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Industrial Enterprises*</td>
<td>Gross Output**</td>
</tr>
<tr>
<td>1</td>
<td>Coal Extraction</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>2</td>
<td>Oil &amp; Gas Exploration</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>Black Metal Extraction</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>4</td>
<td>Metal Extraction</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>5</td>
<td>Building Materials</td>
<td>2.28</td>
<td>0.76</td>
</tr>
<tr>
<td>6</td>
<td>Salt</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>7</td>
<td>Other Minerals</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>8</td>
<td>Lumber</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>9</td>
<td>Water Supply</td>
<td>0.46</td>
<td>0.33</td>
</tr>
<tr>
<td>10</td>
<td>Food Processing</td>
<td>4.74</td>
<td>2.16</td>
</tr>
<tr>
<td>11</td>
<td>Beverage</td>
<td>2.09</td>
<td>2.09</td>
</tr>
<tr>
<td>12</td>
<td>Tobacco</td>
<td>0.09</td>
<td>0.40</td>
</tr>
<tr>
<td>13</td>
<td>Feedstuff</td>
<td>0.55</td>
<td>3.84</td>
</tr>
<tr>
<td>14</td>
<td>Textiles</td>
<td>4.64</td>
<td>5.36</td>
</tr>
<tr>
<td>15</td>
<td>Garment</td>
<td>8.93</td>
<td>1.93</td>
</tr>
<tr>
<td>16</td>
<td>Leather</td>
<td>5.56</td>
<td>1.31</td>
</tr>
<tr>
<td>17</td>
<td>Wood Processing</td>
<td>0.27</td>
<td>0.03</td>
</tr>
<tr>
<td>19</td>
<td>Paper</td>
<td>1.28</td>
<td>1.05</td>
</tr>
<tr>
<td>20</td>
<td>Printing</td>
<td>1.91</td>
<td>1.31</td>
</tr>
</tbody>
</table>

**Notes:**

* Data do not include village and individual enterprises. **Based on 1980 price level.
*** Net output are estimated from the net to gross output ratio for different industrial sectors in Guangdong Province. Net output in Guangdong is based on current price while gross output is based on 1980 price level.

*Continued on next page*
<table>
<thead>
<tr>
<th>Item</th>
<th>Industry</th>
<th>Shenzhen Municipality Percentage of Total</th>
<th>Shenzhen's Percentage Share of Guangdong Province</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Industrial Enterprises*</td>
<td>Gross Output**</td>
</tr>
<tr>
<td>21</td>
<td>Stationery &amp; Sport</td>
<td>7.83</td>
<td>4.74</td>
</tr>
<tr>
<td>22</td>
<td>Handicraft</td>
<td>5.65</td>
<td>0.71</td>
</tr>
<tr>
<td>23</td>
<td>Electricity, Steam</td>
<td>0.82</td>
<td>0.93</td>
</tr>
<tr>
<td>24</td>
<td>Petroleum</td>
<td>0.09</td>
<td>0.45</td>
</tr>
<tr>
<td>25</td>
<td>Coal</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>26</td>
<td>Chemicals</td>
<td>2.82</td>
<td>3.98</td>
</tr>
<tr>
<td>27</td>
<td>Medical Supplies</td>
<td>1.00</td>
<td>0.72</td>
</tr>
<tr>
<td>28</td>
<td>Polyester</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>29</td>
<td>Rubber Products</td>
<td>0.27</td>
<td>0.67</td>
</tr>
<tr>
<td>30</td>
<td>Plastics</td>
<td>5.37</td>
<td>3.46</td>
</tr>
<tr>
<td>31</td>
<td>Construction Materials</td>
<td>4.83</td>
<td>1.49</td>
</tr>
<tr>
<td>32</td>
<td>Black Metals</td>
<td>0.09</td>
<td>0.67</td>
</tr>
<tr>
<td>33</td>
<td>Metallurgy</td>
<td>0.36</td>
<td>1.12</td>
</tr>
<tr>
<td>34</td>
<td>Metal Products</td>
<td>7.38</td>
<td>2.33</td>
</tr>
<tr>
<td>35</td>
<td>Machinery</td>
<td>5.46</td>
<td>5.14</td>
</tr>
<tr>
<td>36</td>
<td>Transport Equipments</td>
<td>2.73</td>
<td>1.24</td>
</tr>
<tr>
<td>37</td>
<td>Electrical Goods</td>
<td>4.28</td>
<td>3.19</td>
</tr>
<tr>
<td>38</td>
<td>Electronics</td>
<td>11.29</td>
<td>45.89</td>
</tr>
<tr>
<td>39</td>
<td>Instruments</td>
<td>1.00</td>
<td>0.32</td>
</tr>
<tr>
<td>40</td>
<td>Others</td>
<td>2.09</td>
<td>0.78</td>
</tr>
</tbody>
</table>

**Total** | 100.00 | 100.00 | 100.00 | 4.07 | 6.86 | 5.14

Notes:
* Data do not include village and individual enterprises. **Based on 1980 price level.
*** Net output are estimated from the net to gross output ratio for different industrial sectors in Guangdong Province. Net output in Guangdong is based on current price while gross output is based on 1980 price level.

### Appendix 6-1. Urban and Social Services Indicators in Shenzhen and Selected Chinese Cities, 1986

<table>
<thead>
<tr>
<th></th>
<th>Shenzhen SEZ*</th>
<th>Shanghai</th>
<th>Guangzhou</th>
<th>Xiamen</th>
<th>All Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>% of Household</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Water Supply</td>
<td>100.0</td>
<td>100.0</td>
<td>78.9</td>
<td>57.3</td>
<td>47.2</td>
</tr>
<tr>
<td>With Gas Supply</td>
<td>100.0</td>
<td>51.9</td>
<td>7.1</td>
<td>6.9</td>
<td>16.7</td>
</tr>
<tr>
<td><strong>Per Capita (sq. m.)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing Space</td>
<td>10.3</td>
<td>6.0</td>
<td>6.9</td>
<td>5.5</td>
<td>5.9</td>
</tr>
<tr>
<td>Paved Road Area</td>
<td>17.1</td>
<td>1.9</td>
<td>1.6</td>
<td>2.4</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>No. of Units Per 10000 Residents</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Transport Vehicles</td>
<td>8.2</td>
<td>7.9</td>
<td>3.9</td>
<td>3.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Cinemas &amp; Theatres</td>
<td>0.4</td>
<td>0.1</td>
<td>0.1</td>
<td>0.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Hospital Beds</td>
<td>53.7</td>
<td>51.8</td>
<td>48.3</td>
<td>75.4</td>
<td>44.3</td>
</tr>
<tr>
<td>University Enrollment</td>
<td>135.0</td>
<td>152.0</td>
<td>164.0</td>
<td>195.0</td>
<td>78.0</td>
</tr>
<tr>
<td>Scientific Research Positions</td>
<td>428.0</td>
<td>954.0</td>
<td>337.0</td>
<td>425.0</td>
<td>630.0</td>
</tr>
<tr>
<td>Telephones</td>
<td>690.0</td>
<td>450.0</td>
<td>390.0</td>
<td>250.0</td>
<td>190.0</td>
</tr>
</tbody>
</table>

**Notes:**
*Data are based on permanent population only.

**Sources:** GTJZS 1987, 323-338; 491-498.