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**Dual-track urbanization in a transitional economy: the case of Pearl River Delta in south China**

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**Abstract**

There has been a significant transformation in the model of urbanization in post-reform China, a society dominated by a large rural population but with accelerated industrialization and development. This paper argues that a comprehensive dual-track urbanization approach is more realistic for the study of urbanization in the transitional economy of post-reform China with mixed characters of an old planned economy and an emerging market economy. The dual track model of urbanization is a significant departure from the Maoist model of Chinese urbanization. This paper discusses the emerging political economy of dual track urbanization in post-reform China. This is followed by an examination of the development and urbanization in the Pearl River Delta (PRD) region. The trend of dual track urbanization and its implications on spatial development in the PRD are analysed by making use of the population data from 2000 census. A dispersed urbanization process with selective concentration in new growing SEZ cities in the 1980s and 1990s is revealed. But a new trend of concentrated state sponsored urbanization towards major urban centres has emerged in the PRD since the late 1990s. The complicated realities revealed in this analysis challenge the existing

theories of city-based or town-based urbanization.

*Keywords:* dual-track urbanization; rural urbanization; economic transition; Pearl River Delta.

## **1. Introduction**

The Pearl River Delta (PRD) region in south China has been a leader in the economic reform, economic development and urbanization in Guangdong and China since 1978 (Weng, 1998; Shen, 2002a; Wong & Shen, 2002; Yeung et al., 2005). The PRD region has become one of the most developed and urbanized regions in China. According to the recent census in 2000, PRD's population reached 40.78 million. The urban population was 29.20 million with a level of urbanization of 71.59 percent in 2000. The total population of Hong Kong-PRD region, the Great PRD, already surpassed that of Tokyo Greater Metro (32 million), New York Greater Metro (18.7 million) and Los Angeles Metro (10.5 million) (Rohlen, 2000). This paper focuses on the PRD region in the mainland where dramatic transformation and urbanization are taking place.

There have been a considerable number of studies on economic development and urbanization in the delta. Three significant advancements have been made. First, the positive link between the economic transformation and urbanization has been identified. The impact of the agricultural reform and open door policy on economic and urban transformations in the PRD in the 1980s has been revealed (Lo, 1989). However, the level of urbanization has never been estimated satisfactorily until recently due to particular problems of defining urban population in China (Shen, 1995; 2005a; Zhang & Zhao, 1998). Second, a new form of urbanization, "urbanization from below", "deagriculturization" or simply "rural urbanization", has been identified (Ma & Fan, 1994; Guldin, 1997; Yan, 1998). The arbitrary distinction of urban and rural areas has also been questioned. The Asian model of urbanization, conceptualised as *desakota* by McGee, was considered as more appropriate to describe the urbanization process in the PRD region

(McGee, 1991; Lin, 1997). Third, it has been argued recently that dual-track urbanization has been going on in the post-reform China and that both the state sponsored urbanization (the growth of non-agricultural population) and spontaneous urbanization (TVE-based rural urbanization and the migration of temporary population) have been significant (Shen, 2000). Earlier studies have focused overwhelmingly on rural urbanization while the state sponsored urbanization is largely ignored with a few exceptions (Wu & Treiman, 2004). A comprehensive dual-track urbanization approach is more realistic for the study of urbanization in the transitional economy of post-reform China with mixed characters of an old planned economy and an emerging market economy.

Based on previous theoretical and empirical studies, this paper provides a concise discussion of the concept of dual track urbanization and updated empirical evidences of such urbanization in the Pearl River Delta. The paper is organized as follows. The next section will discuss the political economy of dual track urbanization in post-reform China. This will be followed by an examination of the development and urbanization in the PRD. The trend of dual track urbanization and its implications on spatial development in the PRD will then be analysed. Some conclusions are reached in the final section.

## **2. The political economy of dual track urbanization in the transitional economy of China**

The term, political economy, refers to the political/economic relationships among the economy, the state, the employers, and the urban and rural residents in China. The path of Chinese urbanization has been influenced significantly by the political economy in China (Shen, 2000; 2005b).

The heritage of the controlled urbanization in the pre-reform period has a strong impact on the urbanization in post-reform period, producing a new model of dual-track urbanization in an emerging market economy. The anti-urban regime in pre-reform China was formed as a response to rapid rural to urban migration in excess of the pace of

industrialization in the early years of the People's Republic of China when there was no control on migration (Ma, 1976). The household registration (hukou) system was formally introduced nationwide in 1958 to control rural to urban migration (Cheng & Selden, 1994; Chan & Zhang, 1999). Population was registered either as agricultural population or non-agricultural population. Only non-agricultural population was granted food token and access to housing, jobs and education facilities in cities. Majority of such population constituted the state sponsored urban population in the pre-reform period (Wu & Treiman, 2004). The increase in the non-agricultural population is called state sponsored urbanization in this paper.

The hukou system has been in operation since 1958 and was regarded as an efficient tool of central planning up to 1978. Urbanization was largely a result of state planning. Only a single track of state sponsored urbanization prevailed in the pre-reform period (Sit, 1995; Gu & Shen, 2003). This forms the basis of the Chinese urbanization model in that period. As the state was also the major investor in both urban economy and urban construction, the pre-reform model of urbanization was also called "urbanization from above" which has been largely replaced by "urbanization from below" in the reform period (Ma & Fan, 1994). For example, only RMB 5.40 billion out of the total investment of RMB 323.37 billion in Guangdong was from the state budget in 2000 (Guangdong Statistical Bureau, 2001). Local government, private sector and foreign investment have become important players. Foreign investment is especially important in PRD's economic growth and it affects the process of urbanization indirectly. But the state continues to sponsor non-agricultural population in terms of housing, employment and social welfare although such benefit has been reduced in the reform period.

The economic reform and open policy have been introduced since 1978. A large number of surplus labourers have emerged in rural areas (Banister & Taylor, 1989; Shen, & Spence, 1995). Rural industrialization and township and village enterprises (TVE) are

encouraged to develop in rural areas to absorb escalating number of surplus rural population. TVEs have become the major force of manufacturing in coastal provinces reflecting a dramatic industrial shift from core urban areas to vast rural areas.

Rural industrialization has become a major driving force of rural urbanization (Guldin, 1997; Yan, 1998). Thus a new track of spontaneous urbanization has opened to rural residents. The most active urbanization takes place in rural areas where there is a transformation of market towns into urban centres along with demographic migration of villagers to towns, and a shift of employment out of agriculture into non-agricultural sectors. Such rural urbanization has been called “urbanization from below” (Ma & Fan, 1994). But the track of spontaneous urbanization, the increase of population with the status of agricultural population in towns and cities, also includes the migration of temporary population to urban areas.

The migration of rural residents to urban areas with or without permission is more controversial while the rural urbanization has been encouraged by the state. A political economy perspective focuses on the interactions among migrants, local urban residents, the state and its migration policies (Solinger, 1999; Shen, 2002b). The outcome of the intense contesting in this arena determines the status of rural migrants in urban China. Two major measures have been adopted by the state in response to new demands and circumstances of the evolving market economy. First, most migrants who move from rural areas to urban areas have been allowed to register as temporary population in urban areas since 1985 (Shen, 2002b). This constitutes an important component of spontaneous urbanization by which the urban population is increased through the growth of population with the status of agricultural population. Second, some quasi non-agricultural population statuses were established in the 1980s so that some rural migrants could get better status in cities even without formal non-agricultural status. Such quasi non-agricultural population was counted as non-agricultural population in official statistics constituting

part of the reconfigured state sponsored urbanization. As further hukou reform has been carried out to facilitate the conversion of hukou status from agricultural population to non-agricultural population since 1997, most holders of quasi non-agricultural population status have acquired a formal status of non-agricultural population. However, most rural migrants have not been able to acquire such formal status of non-agricultural population especially in large cities.

The migrants with temporary population status are not treated as ordinary urban residents in Chinese cities. These migrants have formed a special group of non-local residents. They have less right of access to employment, housing, medical service and social welfare in Chinese cities although urban governments have been requested by the central government to provide public education to the children of rural migrants since the early 2000s. According to the perspective of political economy, the formation of such divided urban society is not just the result of a natural urban process under the regime of market economy. Rather, it is constructed by the particular articulation of the political economy in China that determines migration, labour market and government policy. Other than the state policy, the market behaviours of employers and rural migrants in the emerging market economy are also important. They are the fundamental forces of spontaneous urbanization especially the migration of temporary population.

The track of state sponsored urbanization has been reconfigured in the post-reform period. First, a pro-urban regime has emerged in the reform period and the state is able to support more non-agricultural population as a result of economic development. Second, the urban economy has been transformed. Much non-agricultural population has been employed in private sector or foreign invested enterprises. The State Owned Enterprises (SOE) have also been reformed to become independent companies or privatised. Third, the state benefit for the urban non-agricultural population has been reduced after urban reform. The “iron rice bowl” has been broken and the employment is

no longer guaranteed. Grain rationing has also become unnecessary. Thus the tight control on the scale of non-agricultural population has been relaxed by the state, allowing much agricultural population to acquire non-agricultural population status. As mentioned before, the urban authority also created many quasi non-agricultural population statuses such as “households who supply their own grain” and “blue household registration” to accommodate the needs of some rural migrants. An experiment was started in May 1997 in 450 small towns to grant full permanent resident rights, valid only locally, to migrants who have had stable employment, income and housing for two years. It was extended to the whole nation in March 2001 but was suspended in mid-2002 waiting for policy adjustment (Wang, 2004: 120). Provisions were also made by the State Council in 1998 to allow "qualified investors" and the spouse, parents and children of a permanent urban resident to get permanent residence rights (China Daily, 1998). As a result, the state sponsored urbanization has proceeded rapidly in the reform period that has been overlooked in the literature focusing on rural urbanization.

### **3. Development and urbanization in the PRD**

There are several definitions of PRD. It refers to the Pearl River Delta Economic Region formally designated by the Guangdong government in 1994 in this paper (Shen, 2002a). It consisted of 28 area units in early 2000 (Fig. 1). Huadu and Panyu cities became two urban districts of Guangzhou in 2000. To keep consistency for the period 1980-2000, they are treated as independent units in this paper. The region had a total area of 41698 square kilometres and a population of 40.78 million according to 2000 census (Population Census Office of Guangdong Province, 2002).

(Figure 1 about here)

PRD has been a major agricultural region with the production of a variety of grain and cash crops for a long time. Situated in the vicinity of the estuary of the Pearl River and contiguous to Hong Kong and Macao, the delta has been the southern gateway of

China for international trade and one of the earliest regions open to the outside world. Some urban centres like Guangzhou have been famous in the delta since the middle of nineteenth century.

The situation was changed after 1949 when the People's Republic of China was established. The new Chinese government made major investment initially in the northern and eastern China and later in the western and central China to push for rapid industrialization regarding south China as vulnerable by military attacks (Fan, 1995). Between 1957 and 1978, the annual growth rate of the non-agricultural population was only 0.75 percent in the delta region, lower than the national average of 0.89 percent (Xu, 1988). No new large and medium cities were developed between 1949 and 1978. Guangzhou was the only extra-large city. There were only three small cities, Foshan, Jiangmen and Zhaoqing, and thirty-two designated towns. Only one-fourth of the population lived in cities and towns in 1978.

Rapid economic development has taken place in the PRD since 1978, driven by forces of development from below and from outside (Xu & Li, 1990; Sit & Yang, 1997; Chan, 1998; Shen, 2002a). Local government has played a leading role as economic organizer and participant, particularly in promoting the TVEs, in the delta as well as elsewhere in rural China. This development from below approach has been called "Local State Corporatism" by Oi (1995). Development from outside refers to the global force of foreign direct investment (FDI) in the delta region that has become the hot spot of FDI activities in the last two decades (Wu, 1999).

As one of the most developed areas in China, PRD accounts for a substantial proportion of the industrial production, exports, foreign investment and retail revenue of Guangdong province and the mainland China as a whole. With 47.85 percent of the total population (including the temporary population) and 25 percent of the land area in Guangdong, the delta accounted for 76.37 percent of gross domestic product (GDP),



77.93 percent of the gross value of industrial output (GVIO), 92.19 percent of export revenue, and 86.04 percent of total amount of realized foreign investment in the province in 2000 (Guangdong Statistical Bureau, 2001). The delta with 3.28 percent of China's population also contributed disproportionately to China's economy, 8.25 percent of GDP, 34.00 percent of export revenue, and 36.18 percent of total amount of realized foreign investment in 2000.

When selected economic indicators are calculated on a comparable per capita basis, the delta stands out as one of the most advanced regions in the country, well ahead of the provincial and national averages on almost all indicators. For example, the per capita GDP in PRD, based on the 2000 census population, was RMB 18094 in 2000, 60 percent and 152 percent higher than the average in Guangdong and China. There is no doubt that PRD is a core economic region assuming a commanding position in Guangdong's economy.

The dramatic growth of the delta's economy has brought significant structural changes. Traditional agricultural production has gradually given way to manufacturing. The annual growth rate of the output value of manufacturing industry was around 20 percent while that of agriculture was only around 6 percent in the last two decades. Since 1990, the delta have also undergone rapid growth in the tertiary industry. The annual growth rate of the tertiary sector has been about 13 percent since 1990. PRD's GDP shares of primary industry, secondary industry and tertiary industry changed from 14.8: 46.4: 38.8 in 1990 to 5.8: 49.6: 44.6 in 2000.

The pace of urbanization has also sped up in the reform period. The number of cities in the delta increased from 3 in 1978 to 25 in 1994 and then to 23 in 2000. All areas in the delta were under the administration of either streets or towns in 2000 (Table 1) (Xu, 2000). Designated towns increased from 32 to 403 in the period 1978-2000. Among 403 towns in 2000, 121 towns were in 9 prefecture-level cities (excluding county-level units under

their administration), 228 towns in 16 county-level cities (including Panyu and Huadu which became districts of Guangzhou in 2000) and 54 towns in 3 counties. Some 368 towns, 106 in prefecture-level cities and 262 in county-level cities or counties, had a population of more than 10 000 each in 2000. Some 85 towns, 37 in prefecture-level cities and 48 in county-level cities or counties, had a non-agricultural population of more than 10 000 each in 2000. The density of cities and towns was over 10 per thousand square kilometres. Although most new cities and towns were different from the cities and towns in the pre-reform period and subject to the administrative procedures (Ma & Cui, 1987; Shen, 2004), they did indicate deepening urbanization in the region to some extent.

(Table 1 about here)

Due to increase in the economic capacity of the region and relaxed control of household registration, more and more population has acquired the status of non-agricultural population (China Daily, 1998; Wang, 2004). The growth of the total hukou population, i.e., people with local hukou, has been far exceeded by that of the non-agricultural population since 1978. For example, the annual growth rate of the total hukou population was 1.8 percent while that of the non-agricultural population was three percentage points larger in the period 1980-1998. In the period 1980-2000, non-agricultural population in PRD grew by 4.93 percent a year. In addition to the rapid increase in non-agricultural population through state sponsored urbanization, a substantial number of agricultural labour have transferred to non-agricultural sectors especially the township industry. Many temporary residents have also moved into cities and towns for employment (Woon, 1999; Liang, 1999). As a result, the total population in PRD grew rapidly, 4.70 percent annually in the period 1980-2000. Detailed patterns of the dual track urbanization and their spatial implications will be examined in the next section.

#### **4. Dual track urbanization: trend and its implications on spatial development in**

## **PRD**

The PRD region consists of three different kinds of administrative units, i.e., prefecture-level cities (excluding county-level units under their administration), county-level cities and counties. In early 2000, there were 9 prefecture-level cities (Guangzhou, Zhuhai, Huizhou, Jiangmen, Foshan, Zhaoqing, Shenzhen, Dongguan and Zhongshan), 16 county-level cities and 3 counties. As mentioned before, Huadu and Panyu districts of Guangzhou are treated as independent units in this paper. All areas in the PRD were under the administration of urban governments of cities, streets or towns. But the real level of urbanization differs among different cities, counties or towns. The 28 areas are divided into four area groups. They are the primate city, SEZ (Special Economic Zone) cities, other prefecture-level cities and county-level cities/counties.

The primate city, Guangzhou, and most prefecture-level cities except a few are old economic centres. Guangzhou was the only extra-large city with over one million non-agricultural population in 1980 while Foshan was the only medium-sized city with non-agricultural population just over 0.2 million in 1980. Population growth or decline in Guangzhou indicates the role of large city in the urbanization process. SEZ cities of Shenzhen and Zhuhai are emerging growth centres due to their special status as special economic zones in China. In the early 1980s, both SEZ cities were not large cities. County-level cities/counties are areas where local based development and urbanization have been rapid in the reform period. Urban population growth in such areas indicates the extent of urbanization from below. Analysis of urbanization among four groups of areas helps to assess whether concentration or dispersion of urbanization has taken place in the PRD region. Indeed, one keen debate about the Chinese urbanization in post-reform period is whether it is based on large-cities or towns and most previous studies have focused on the urbanization from below. Table 2 presents the distribution of non-agricultural population, TVE employment and temporary population in the four area

groups for selected years.

(Table 2 about here)

Consider the state sponsored urbanization in terms of non-agricultural population first. According to official statistics, the total non-agricultural population in the delta was nearly tripled in the period 1980-2000, increasing from 4.694 million to 12.296 million. The non-agricultural population of over ten million, with full residents right and high income and living standard, in the PRD was a significant economic force and market by itself. Fig. 2 shows the percentage distribution of non-agricultural population among area groups in PRD.

(Figure 2 about here)

According to table 2 and Fig. 2, Guangzhou was a dominant primate city accounting for 48.77 percent of the total non-agricultural population in PRD in 1980. But its primacy declined significantly in the period 1980-1995. By 2000, Guangzhou accounted for only 30.19 percent of the total non-agricultural population, a reduction of 18.58 percentage points from 1980. The share of other prefecture-level cities was stable in the period 1980-2000. On the other hand, the share of two SEZ cities increased by 17.38 percentage points in the same period. The growth of non-agricultural population in Shenzhen was the most dramatic especially in the late half of the 1990s. Its non-agricultural population reached 0.75 million in 1995 and 1.99 million in 2000.

The share of county-level cities and counties increased by 7.97 percentage points during the period 1980-1998 but it declined by 6.95 percent during the period 1998-2000, indicating the departure of non-agricultural population from many county-level cities and counties including Huadu, Conghua, Zengcheng, Huidong, Huiyang, Boluo, Xinhui, Taishan, Kaiping, Enping, Heshan, Gaoming, Gaoyao and Sihui. The total non-agricultural population in this area group declined from 3.89 million to 3.67 million in the period 1998-2000. This is the first time that many counties/county-level cities

began to experience negative growth of non-agricultural population indicating a dynamics of state sponsored urbanization towards a new spatial pattern. Only Panyu, Shunde, Doumen, Nanhai and Sanshui had positive growth in non-agricultural population. Except Sanshui, these areas were experiencing dramatic economic growth and urban expansion and they remained attractive to non-agricultural population.

The growth of SEZ cities was clearly at the expense of the primate city in the period 1980-2000 and the counties/county-level cities in the late 1990s. The concentration of non-agricultural population in SEZ cities indicates the role of new growth centres in PRD.

The level of state sponsored urbanization is represented by the percentage of non-agricultural population in the total population. Table 3 presents the shares of non-agricultural population, temporary population and TVE employment in total population in PRD. Only the data for 1980 and/or 2000 are presented as only the data on total hukou population were available for 1980-1998 that did not include temporary population. Using hukou population as total population would overestimate the level of urbanization. In 1980, there was only a small temporary population and the total population was close to total hukou population. According to table 3, the primate city Guangzhou had the highest level of state sponsored urbanization. But the level of state sponsored urbanization declined slightly in Guangzhou and other prefecture-level cities in the period 1980-2000 due to the inflow of temporary population. But the level of state sponsored urbanization in SEZ cities and counties/county-level cities increased significantly in the 1980s and 1990s. As mentioned before, the level of state sponsored urbanization in many counties/county-level cities declined in the late 1990s due to a decline in the non-agricultural population.

(Table 3 about here)

The spontaneous urbanization refers to the increase of population with the status

of agricultural population in towns and cities. It is difficult to measure the advancement of this track of urbanization. Generally, the TVE employment can be used to represent the trend of rural urbanization as the development of TVEs has been recognized as a major driving force of the invisible rural urbanization (Guldin, 1997). The migration of temporary population to urban areas also constitutes another important stream of spontaneous urbanization. The status of temporary population is significantly different from that of non-agricultural population (Fan, 2002; Shen, 2002b).

The growth of TVE employment will be examined first. Complete data set of TVE employment for all cities/counties in 1980 is not available. Here the focus is on the 1990s. The total TVE employment in PRD was doubled in the period 1990-2000, increasing from 2.957 million to 6.647 million. The percentage distribution of the TVE employment was shown in Fig. 3. This is significantly different from that of the non-agricultural population (Fig. 2). The TVE employment was concentrated in the area group of counties/county-level cities although its share was reduced by 5.14 percentage points in the period 1990-2000. The share of the primate city, Guangzhou, was also decreased steadily in the period. On the other hand, the share of SEZ cities was increased significantly by 8 percentage points. It is clear that the TVE-based rural urbanization occurred mainly in areas at the bottom of urban hierarchy. Thus it is a major force of balanced spatial development and urbanization in the region. As shown in table 3, the share of TVE employment in total population, indicating the level of spontaneous urbanization, was the highest of 20.65 percent in counties/county-level cities and the second highest of 17.81 percent in SEZ cities in 2000.

(Figure 3 about here)

Now consider another stream of the spontaneous urbanization, i.e., the increase in the temporary population in PRD. The data on the temporary population are available for 1982, 1990, 1995 and 2000. There was only a temporary population of 0.184 million in

1982 in the delta. But the number increased rapidly after 1985 with significant change in its distribution among four area groups (Fig. 4). The majority of the temporary population was in the primate city and counties/county-level cities in 1982. SEZ cities did not attract many migrants then. By 1990, the rapid growth of SEZ cities made them the main destination of rural migrants coming from Guangdong and elsewhere in China. With only 7.86 percent of non-agricultural population, two SEZ cities accounted for 42.15 percent of the temporary population in 1990. By 2000, other prefecture-level cities especially Dongguan also received a large temporary population, accounting for 33.24 percent of the total temporary population. According to table 3, the share of temporary population in the total population, another measure of spontaneous urbanization, was the highest of 84.48 percent in SEZ cities and the second highest of 64.07 percent in other prefecture-level cities in 2000. Unlike TVEs, the temporary population was not a strong force of decentralized urbanization in county-level cities and counties in the 1990s. The urbanization driven by TVEs was more dispersed than that by the temporary population.

(Figure 4 about here)

## **5. Conclusion**

This paper argues that a comprehensive dual-track urbanization approach is more realistic for the study of urbanization in the transitional economy of post-reform China with mixed characters of an old planned economy and an emerging market economy. This paper provides a concise discussion of the concept of dual track urbanization and updated empirical evidences of such urbanization in PRD using the population data from 2000 census.

Only a single track of state sponsored urbanization prevailed in the pre-reform period. This forms the basis of the Chinese urbanization model in that period. As the state was also the major investor in both urban economy and urban construction, the pre-reform model of urbanization was also called "urbanization from above".

In the post-reform period, rural industrialization has become a major driving force of rural urbanization. Such rural urbanization has been called “urbanization from below”. But the track of spontaneous urbanization, the increase of population with the status of agricultural population in towns and cities, also includes the migration of temporary population to urban areas. The migration of rural residents to urban areas with or without permission is more controversial. The outcome of the intense contesting in this arena determines the status of rural migrants in urban China.

In addition to a new track of spontaneous urbanization (TVE-based rural urbanization and the migration of temporary population), the state sponsored urbanization (the growth of non-agricultural population) has been reconfigured in the reform period but remains an important track of urbanization. Much non-agricultural population has been employed in private sector or foreign invested enterprises. The state benefit for urban non-agricultural population has also been reduced after urban reform. Despite of the recent hukou reforms relaxing the conditions for acquiring formal or locally valid non-agricultural population status, two hukou statuses of agricultural and non-agricultural populations continue to exist and shape the opportunities of people in China (China Daily, 1998; Wu & Treiman, 2004; Wang, 2004). Most rural migrants only have a low status of temporary population although urban governments have been requested by the central government to provide public education to the children of rural migrants. There is still a long way to grant equal rights to local people and migrants although some initial steps have been taken to reduce the gap between agricultural population and non-agricultural population and the gap between hukou population (people with local hukou) and non-hukou population (migrants without local hukou). In conclusion, dual track urbanization is clearly characteristic of the new model of urbanization in post-reform China especially for the period 1980-2000, a significant departure from the Maoist model of Chinese urbanization (Sit, 1995; Gu & Shen, 2003).



The PRD region in south China has been a leader in economic reform, economic development and urbanization in Guangdong and China since 1978. The region is chosen for a detailed case study of dual-track urbanization in post-reform China. It is found that both the state sponsored urbanization and spontaneous urbanization have been significant in the region. SEZ cities were leading both the state sponsored and spontaneous urbanization. Two SEZ cities were neither large cities nor small towns in the early 1980s. Due to rapid urban growth, Shenzhen became a large city in the late 1980s. Nevertheless, the pattern of SEZ growth was still different from large-city based urbanization that urban growth/sprawl took place in existing large cities such as Guangzhou. Urbanization in areas outside prefecture-level cities was also outstanding. These areas accounted for about half of the total TVE employees in PRD. As a result, the primacy of Guangzhou in PRD was significantly reduced. It seems that the Chinese policy of controlling the growth of large cities was partially successful, resulting in a dispersed urbanization process with selective concentration in new growing SEZ cities in the 1980s and 1990s.

However, one important finding of this paper is the declining of non-agricultural population in many county-level cities and counties in the PRD in the late 1990s indicating a new trend of concentration of state sponsored urbanization towards major urban centres. This new process is just unfolding. With further increase in population mobility and maturing of a market economy, a new spatial pattern of urban growth may well appear depending on the balance of various market forces and government policies. The dual track urbanization and the resulting spatial patterns of urbanization in PRD result from the transitional nature of Chinese society. The distinction between agricultural population and non-agricultural population has resulted in two tracks of urbanization. Decentralization and rural industrialization drives dispersed urbanization in county-level cities and counties. Relaxed migration policies and the rapid growth of SEZ cities have nurtured a growing temporary population with a concentrated spatial pattern.

Furthermore, economies of urban agglomeration and special SEZ policies have resulted in the concentration and rapid growth of non-agricultural population in SEZ cities.

It is clear that no existing theories of city-based or town-based urbanization can explain the complicated realities revealed in the above analysis (Zhu, 1999). It remains to be seen whether the on-going urbanization process in China will follow a dispersed or concentrated pattern of urban growth in other countries driving by the dispersion of labour intensive manufacturing and the concentration of financial and specialized services (Sassen, 2000). In the future, the dual track urbanization should and may converge towards a single track of urbanization with equal treatment of local people and migrants in urban China. Then the impact of institutional forces on Chinese urbanization will be reduced while the market forces such as agglomeration economies may become more important. Given further expansion of the service economy in PRD, a concentrated pattern of urban growth may occur focusing on three urban clusters of Guangzhou-Foshan, Hong Kong-Shenzhen and Zhuhai-Macao.

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Table 1 Number of streets and towns in PRD in 2000

| Area                                             | Number of streets | Number of towns | Towns with a population of 10000+ |                              | Towns with a non-agricultural population of 10000+ |                              |
|--------------------------------------------------|-------------------|-----------------|-----------------------------------|------------------------------|----------------------------------------------------|------------------------------|
|                                                  |                   |                 | Number                            | Percentage of total towns(%) | Number                                             | Percentage of total towns(%) |
| <i>Primate city: Guangzhou</i>                   | 77                | 22              | 22                                | 100.0                        | 14                                                 | 63.6                         |
| Shenzhen                                         | 26                | 19              | 14                                | 73.7                         | 3                                                  | 15.8                         |
| Zhuhai                                           | 7                 | 12              | 5                                 | 41.7                         | 5                                                  | 41.7                         |
| <i>Sub-total of SEZ cities</i>                   | 33                | 31              | 19                                | 61.3                         | 8                                                  | 25.8                         |
| Huizhou                                          | 5                 | 5               | 5                                 | 100.0                        | 2                                                  | 40.0                         |
| Dongguan                                         | 5                 | 28              | 28                                | 100.0                        | 4                                                  | 14.3                         |
| Zhongshan                                        | 5                 | 19              | 18                                | 94.7                         | 4                                                  | 21.1                         |
| Jiangmen                                         | 7                 | 4               | 4                                 | 100.0                        | 2                                                  | 50.0                         |
| Foshan                                           | 8                 | 4               | 4                                 | 100.0                        | 2                                                  | 50.0                         |
| Zhaoqing                                         | 8                 | 8               | 6                                 | 75.0                         | 1                                                  | 12.5                         |
| <i>Sub-total of other prefecture-level city</i>  | 38                | 68              | 65                                | 95.6                         | 15                                                 | 22.1                         |
| Huadu                                            | 0                 | 10              | 8                                 | 80.0                         | 2                                                  | 20.0                         |
| Conghua                                          | 0                 | 15              | 13                                | 86.7                         | 1                                                  | 6.7                          |
| Zengcheng                                        | 1                 | 15              | 15                                | 100.0                        | 2                                                  | 13.3                         |
| Panyu                                            | 6                 | 16              | 15                                | 93.8                         | 2                                                  | 12.5                         |
| Doumen                                           | 0                 | 10              | 10                                | 100.0                        | 4                                                  | 40.0                         |
| Huidong                                          | 0                 | 22              | 17                                | 77.3                         | 4                                                  | 18.2                         |
| Huiyang                                          | 0                 | 20              | 19                                | 95.0                         | 3                                                  | 15.0                         |
| Boluo                                            | 0                 | 22              | 21                                | 95.5                         | 2                                                  | 9.1                          |
| Xinhui                                           | 0                 | 18              | 16                                | 88.9                         | 2                                                  | 11.1                         |
| Taishan                                          | 0                 | 28              | 25                                | 89.3                         | 13                                                 | 46.4                         |
| Kaiping                                          | 7                 | 12              | 11                                | 91.7                         | 0                                                  | 0.0                          |
| Enping                                           | 0                 | 15              | 13                                | 86.7                         | 1                                                  | 6.7                          |
| Heshan                                           | 0                 | 12              | 19                                | 158.3                        | 1                                                  | 8.3                          |
| Nanhai                                           | 7                 | 13              | 12                                | 92.3                         | 4                                                  | 30.8                         |
| Shunde                                           | 4                 | 7               | 7                                 | 100.0                        | 6                                                  | 85.7                         |
| Gaoming                                          | 3                 | 7               | 6                                 | 85.7                         | 0                                                  | 0.0                          |
| Sanshui                                          | 4                 | 7               | 6                                 | 85.7                         | 0                                                  | 0.0                          |
| Gaoyao                                           | 0                 | 19              | 18                                | 94.7                         | 1                                                  | 5.3                          |
| Sihui                                            | 3                 | 14              | 11                                | 78.6                         | 0                                                  | 0.0                          |
| <i>Sub-total of counties/county-level cities</i> | 35                | 282             | 262                               | 92.9                         | 48                                                 | 17.0                         |
| <i>Total of PRD</i>                              | 183               | 403             | 368                               | 91.3                         | 85                                                 | 21.1                         |

Data source: Xu (2000)



Table 2 The distribution of non-agricultural population, TVE employment and temporary population in selected years in PRD (%)

| Area group                  | Primate city | SEZ cities | Other prefecture-level cities | Counties/county-level cities |
|-----------------------------|--------------|------------|-------------------------------|------------------------------|
| Non-agricultural population |              |            |                               |                              |
| 1980                        | 48.77        | 2.34       | 20.10                         | 28.79                        |
| 1990                        | 39.30        | 7.86       | 19.92                         | 32.93                        |
| 1995                        | 32.22        | 10.95      | 19.67                         | 37.17                        |
| 1998                        | 31.27        | 12.01      | 19.97                         | 36.76                        |
| 2000                        | 30.19        | 19.72      | 20.28                         | 29.81                        |
| Temporary population        |              |            |                               |                              |
| 1982                        | 38.40        | 3.70       | 19.10                         | 38.80                        |
| 1990                        | 14.55        | 42.15      | 26.29                         | 17.02                        |
| 1995                        | 20.60        | 41.17      | 16.87                         | 21.35                        |
| 2000                        | 13.82        | 30.66      | 33.24                         | 22.28                        |
| TVE employment              |              |            |                               |                              |
| 1990                        | 6.60         | 13.01      | 26.96                         | 53.43                        |
| 1995                        | 5.49         | 19.76      | 25.83                         | 48.93                        |
| 1998                        | 4.92         | 19.70      | 28.24                         | 47.13                        |
| 2000                        | 5.35         | 21.01      | 25.35                         | 48.29                        |

Data sources: Population Census Office of Guangdong Province (1991; 2002); Population Sampling Survey Office of Guangdong Province (1996); Guangdong Statistical Bureau (1981; 1992; 1995; 1996; 1999; 2001).

Table 3 Shares of non-agricultural population, temporary population and TVE employment in total population in PRD

| Area group                  | Primate city | SEZ cities | Other prefecture-level cities | Counties/county-level cities | PRD   |
|-----------------------------|--------------|------------|-------------------------------|------------------------------|-------|
| Non-agricultural population |              |            |                               |                              |       |
| 1980                        | 75.64        | 24.50      | 30.97                         | 13.84                        | 28.82 |
| 2000                        | 60.05        | 30.92      | 22.24                         | 23.58                        | 30.15 |
| TVE employment              |              |            |                               |                              |       |
| 2000                        | 5.75         | 17.81      | 15.02                         | 20.65                        | 16.30 |
| Temporary population        |              |            |                               |                              |       |
| 2000                        | 48.34        | 84.48      | 64.07                         | 30.98                        | 53.00 |

Data source: See table 2

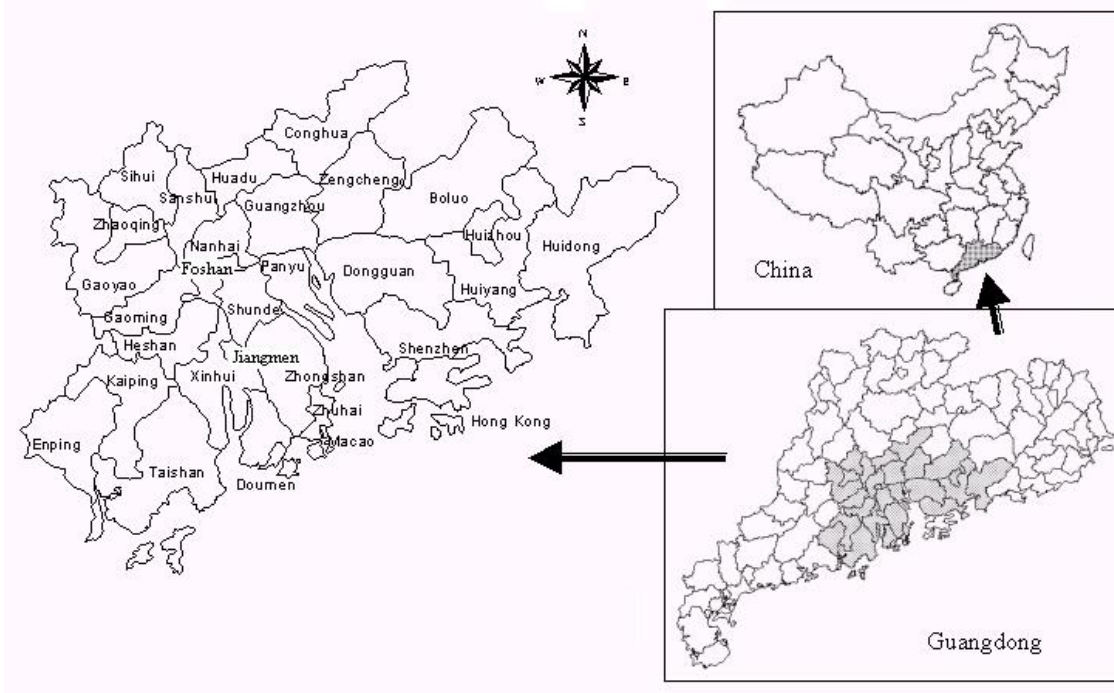


Fig.1. Location of cities/counties in Pearl River Delta

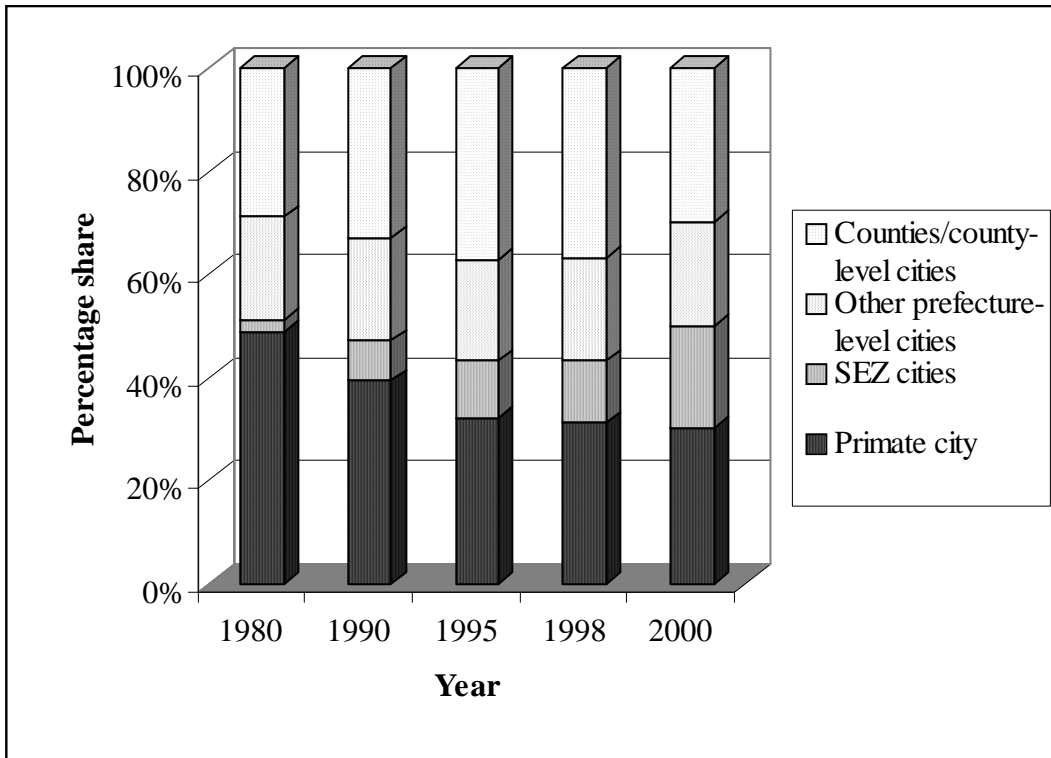


Fig. 2. Share of non-agricultural population in four area groups 1980-2000

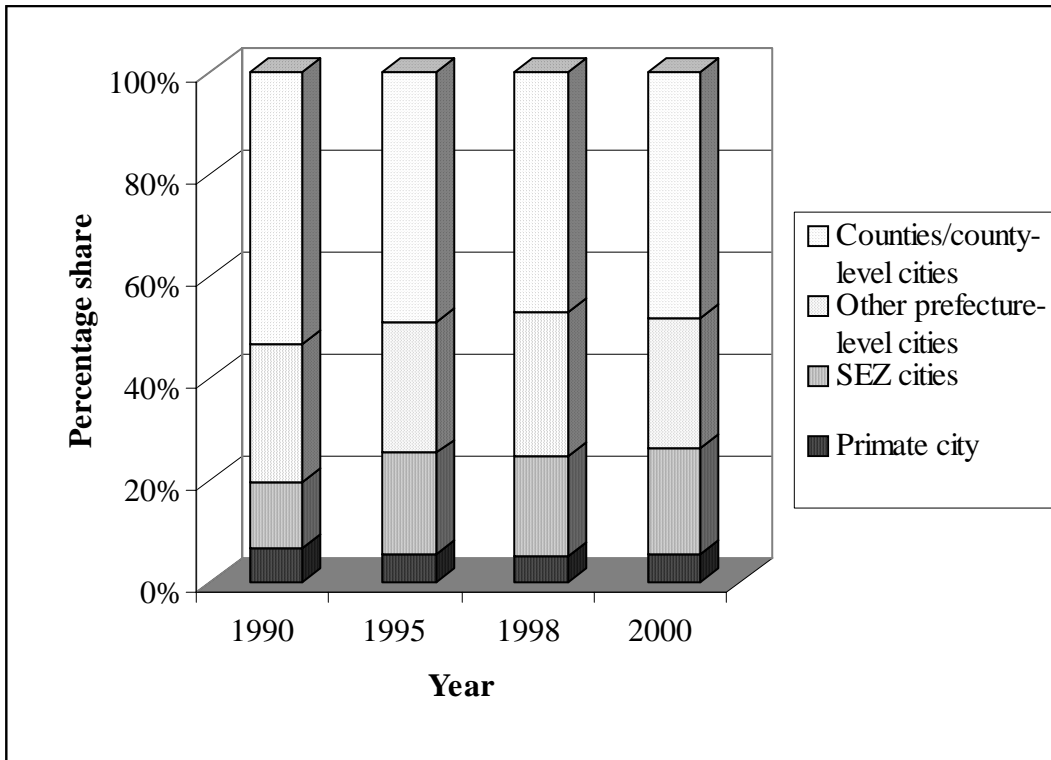


Fig. 3. Share of TVE employment in four area groups 1990-2000

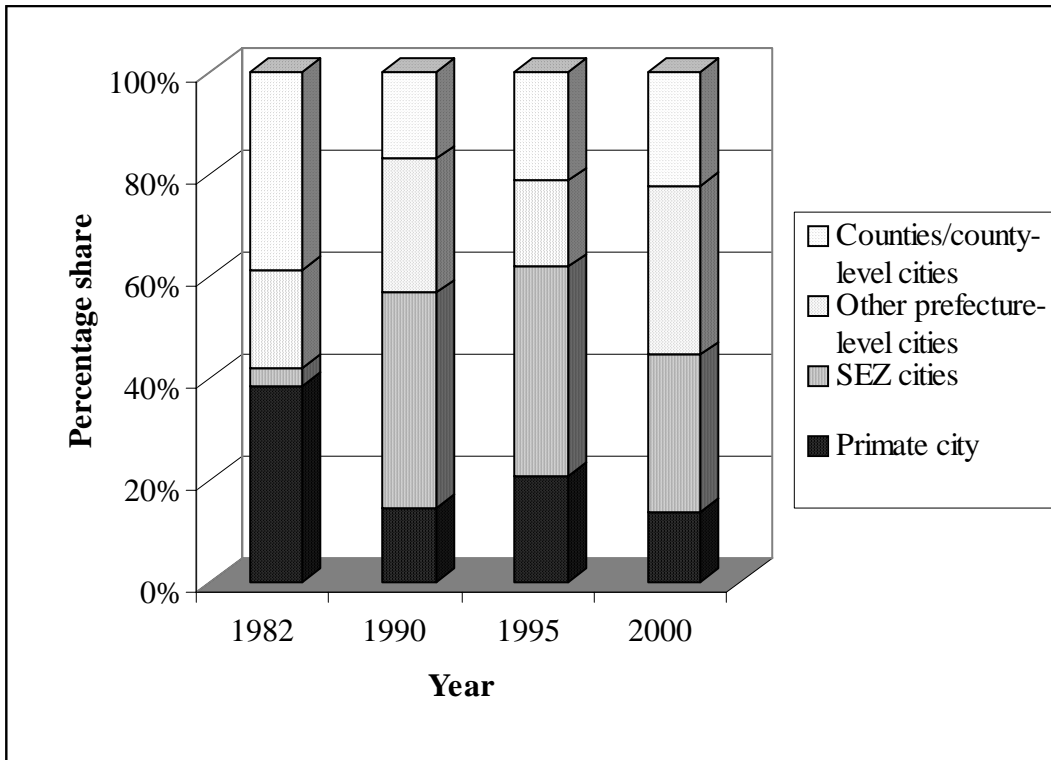


Fig. 4. Share of temporary population in four area groups 1982-2000