

**FOREIGN INVESTMENT, ECONOMIC GROWTH, AND  
TEMPORARY MIGRATION:  
THE CASE OF SHENZHEN SPECIAL ECONOMIC  
ZONE, CHINA\***

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*This paper examines the flow of foreign investment and the rise of temporary migration in Shenzhen Special Economic Zone, China, during 1979-1994. I show that the unprecedented growth of Shenzhen's economy is closely linked to both foreign investment and growth of temporary migrants. I also explore factors that led to the large increase of foreign capital investment and highlight Shenzhen's geographic proximity to Hong Kong and the availability of abundant migrant labor. Finally, based on the experience of temporary worker programs in Western Europe and the United States and the experience of Shenzhen, I examine several conditions which either facilitate or hinder the likelihood of integration of temporary migrants.*

INTRODUCTION

In October 1992 during the 14th Congress of the Chinese Communist Party (CCP), President Jiang Zemin officially announced that China was moving toward a "socialist market economy" (*Beijing Review*, 1993). Although similar slogans (yet more ambiguous) were used before, this was the first time that a CCP leader explicitly chose the term "market economy." Subsequently in March 1993, less than half a year since the official announcement by President Jiang, the concept of "socialist market economy" was adopted into the Chinese constitution (SSRCSZ, 1994).

The official declaration came after China's strong economic performance (GNP growth about 10% per year) during the years of economic reform

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since 1979 (Qian, 1993; Xie and Hannum, 1996). The decision was also reached after China's paramount leader Deng Xiaoping's 1992 visit to Special Economic Zones in Southern China. In fact, long before other parts of China began to employ market mechanisms, one of China's most well-known special economic zones — Shenzhen — had already practiced capitalism for quite some time. Attracting foreign capital investment, establishing a labor market, and creating a stock market are some of goals of Shenzhen's market economy. In a matter of 16 years, Shenzhen was transformed from a small town in remote Southern China with a population of about 30,000 in 1978 to a modern industrial city with a population of 3.3 million in 1994. Shenzhen's total value of Gross Domestic Product reached 56 billion yuan in 1994 and has grown at an average of 15.6% during 1979-1994 (SZSB, 1995).

The miracle of Shenzhen's economic growth depends on many important factors such as special economic policies (i.e. tax benefits), Shenzhen's unique geographic propinquity to Hong Kong, a huge amount of foreign capital, and the availability of a large number of temporary and cheap migrant labor (Wong et al, 1992).

The experience of Shenzhen also raises a number of interesting research questions. To what extent did large amount of foreign capital contribute to Shenzhen's phenomenal growth in its economy and large size of temporary migrant population? Dealing with foreign capital investment and international migration, Sociologist Saskia Sassen (1988) argued that mobility of labor and capital must go hand in hand. However, empirical testing of her theory is primarily done in the context of international migration, the impact of foreign investment on internal migration is less well-understood. What is also important is to examine whether or not Shenzhen's temporary migrants are really temporary. We shall consider both factors that facilitate and hinder the permanent settlement of temporary migrants. Moreover, though the large volume of temporary migrants in Shenzhen provides indispensable labor force for the booming economy, especially in the manufacturing sector, it also presents new challenges to policy makers and Shenzhen's system of household registration. The reform of household registration system is by no means simple and Shenzhen has taken a first step to handle this issue (Wong and Huem, 1998). Its success or failure has implications not only for the future of temporary migrants in Shenzhen but also in other parts of China.

This paper proceeds in the following way. First, I demonstrate the importance of foreign investment and joint venture enterprises in Shenzhen's economic growth. Second, I argue that it is the joint-venture companies associat-

ed with foreign investment that created a large demand for the army of migrant labor. They together contributed significantly to Shenzhen's dramatic economic performance between 1979 and 1994. Finally, I examine the future prospects of Shenzhen's temporary migrants and identify factors that facilitate or hinder the long term integration of temporary migrants. Given the large de facto population with no permanent household registration status in Shenzhen, a reform in Shenzhen's household registration system is urgently needed. In light of the tidal wave of temporary migrants in urban China, such a reform in Shenzhen will have important implications for the future of China's household registration system and urban-rural hierarchy.

## FOREIGN INVESTMENT AND ECONOMIC GROWTH IN SHENZHEN SEZ

Shenzhen is located in Southern part of Guangdong Province and is adjacent to Hong Kong. In 1979 Shenzhen was designated as a Special Economic Zone (SEZ) along with three other cities (Zhuhai and Shantou in Guangdong Province and Xiamen in Fujian Province), all located in the southeast coast of China (Vogel, 1989). The rationale of establishing a SEZ is similar to Export Processing Zones found in other developing countries in that it uses foreign capital to stimulate export and national development (Sassen, 1988; Woon, 1994), even though Shenzhen is much larger in scale. Crane (1991) succinctly summarized the major objectives of SEZ as follows: "technology transfer and capital investment; regional development and employment; foreign exchange earnings and export promotion, and management upgrading and training" (p. 31).<sup>1</sup> These objectives coincide with a trend of internationalization of production in the world economy and China's strive to gain access to global markets (Nee, 1994; Sassen, 1988). As advanced economies in the world become more and more capital-intensive and technology-intensive, multinational companies look into developing countries for labor-intensive manufacturing. The open door policy that started in 1978 assures a positive political environment for foreign investors.<sup>2</sup> Areas along China's "gold coast" and Pearl River Delta Region

<sup>1</sup> According to SZSB (1994), there are two ways of measuring amount of foreign investment in a specific year. One way is to measure the amount of foreign investment actually used in that year. The other way is to measure the amount of foreign investment promised (by contract). The later is always no less than the former in value. Here I confine my use of foreign investment to the former.

<sup>2</sup> However, there is something beyond economic reasoning. Since Shenzhen is geographically close to Hong Kong, Macao, and Taiwan, Chinese leaders intend to show that China can

**TABLE 1.** GROWTH OF ACTUAL FOREIGN INVESTMENT IN SHENZHEN, 1979-1994 (in million US dollars)

Year	Loan	Direct Invest.	other	Total
1979	5.48	9.89	15.37	
1980	27.55	5.09	32.64	
1981	86.18	26.64	112.82	
1982	57.71	16.08	73.49	
1983	113.16	30.78	143.94	
1984	19.62	186.40	24.11	230.13
1985	135.85	179.89	13.51	329.25
1986	108.60	364.50	16.23	489.33
1987	124.36	273.79	6.34	404.49
1988	144.30	287.16	12.83	444.29
1989	155.63	292.52	9.94	458.09
1990	123.60	389.94	5.03	518.57
1991	171.84	398.75	9.29	579.88
1992	258.08	448.79	8.52	715.39
1993	437.62	989.00	5.55	1432.17
1994	473.67	1250.46	5.46	1729.59

Sources: 1. *Statistical Yearbook of Shenzhen* (1994); 2. *Handbook of Shenzhen Statistics* (1995).

have been the front runners in taking advantages of the opportunities for export-oriented production (Woon, 1994). Entrepreneurs from Hong Kong and other countries quickly opened plants in Southern China, Shenzhen in particular. As a result, foreign capital began to flow into Shenzhen.

Table 1 shows the growth of foreign investment in Shenzhen between 1979 and 1994. The increase of foreign investment over the 16 years is very striking. In 1979 when Shenzhen first became SEZ, only \$15 million foreign capital was received and by 1994, foreign capital investment soared to \$1.7 billion. However, the trend of foreign capital investment seems to be quite sensitive to the political swings in China. For example, 1989 and 1990 were slow years in foreign investment probably because of what happened in Tiananmen Square in 1989. Also evident is the impact of Deng Xiaoping's visit to Shenzhen SEZ in January 1992 in reassuring that "Shenzhen belongs to socialist, not capitalist, and socialist country can also practice a market economy (SSRCSZ, 1994)." Consequently, foreign investment doubled from \$715 million in 1992 to \$1.43 billion in 1993 and the momentum continued into 1994.

comfortably co-exist with and even welcome capitalism. This, it is hoped, will pave the way for reunification in the future.

**TABLE 2.** ACTUAL FOREIGN INVESTMENT IN SHENZHEN BY COUNTRY OF ORIGIN, 1986-1993 (in million US dollars)

Year	Country					
	Hong Kong	Taiwan	Japan	USA	France	Holland
1986	386.87	70.09	25.60	4.99		
1987	256.32	92.91	31.01	11.94		
1988	281.98	3.16	145.67	2.94	5.01	
1989	287.29	10.06	100.04	11.43	33.99	
1990	262.91	3.71	172.57	40.11	11.12	3.37
1991	323.75	2.16	142.65	69.63	16.68	8.19
1992	461.34	4.75	158.06	20.29	32.25	6.33
1993	924.55	45.32	208.22	145.31	31.52	35.11

Sources: *Statistical Yearbook of Shenzhen* (1994).

Table 2 shows the distribution of foreign investment by country or region for the period of 1986-1993.<sup>3</sup> Hong Kong tops the list with about 66% of the overall foreign direct investment in 1993. Second on the list is Japan which accounts for 15% of the total foreign investment, followed by the United States with 11% of the total foreign investment. Interestingly, most of the countries increased their investment in China in 1993 one year after Deng Xiaoping's visit to Shenzhen. For example, companies from the United States increased their investment seven times between 1992 to 1993.

An alternative way to examine the distribution of foreign investment by country of origin is to look at the cumulative actual foreign investment during 1986-1993. Hong Kong accounted for 64.2% of the cumulative foreign investment, Japan 20%, and the United States 6.3% (SZSB, 1994; 1995). By far, Hong Kong and Japan were the most important foreign investors in Shenzhen's economic development. This is also similar to patterns of foreign investment at the national level. For instance, investments from Hong Kong accounted for 60.5 percent of the total foreign investment in China from 1979 to 1990 (Sung, 1992). However, there are interesting differences in

<sup>3</sup> Similar data are not available for earlier years. Technically speaking, with Hong Kong's return to China on July 1, 1997, Hong Kong's investment in Shenzhen should no longer be counted as foreign investment. However, in this paper I treat Hong Kong's investment in Shenzhen as part of foreign investment for several reasons. One is that during the period of 1979-1994, Hong Kong was still a colony of Britain. Second, with the principal of "one country and two systems", Hong Kong differs from China in its political and economic systems. Third, although no new policies regarding Hong Kong investors have been announced, it is very likely that Hong Kong investors will continue to enjoy the previous privileges after the 1st of July 1997.

terms of the size of the investment by country if we examine the distribution of cumulative number of foreign investment contracts. Hong Kong accounts for 90% of the total number of foreign investment contracts, followed by Taiwan 2.6%, United States 2.2%, and Japan 1.6% (SZSB, 1994; 1995). This suggests that Hong Kong and Taiwan are more likely to invest in small scale projects (sometimes family owned business) while other countries such as Japan are more likely to invest in large projects, which has been observed by other researchers (Nee, 1994).

What makes Shenzhen so attractive to Hong Kong's entrepreneurs? The most important fact is Shenzhen's unique geographical location to Hong Kong. With about 40 minutes to one hour bus ride from Shenzhen, one can easily get to the center of the commercial district of Kowloon and central business and financial district in Hong Kong Island (Hong Kong's Manhattan). This geographic proximity has many advantages such as low cost of shipping raw materials and products, easy supervision of the production process, and easy coordination with the headquarters in Hong Kong. Of course, by and large the final finished goods are shipped to overseas through Hong Kong. Having conducted ethnographic work both in Shenzhen and Hong Kong, Lee (1995) candidly characterizes this arrangement of production as "store in front and factory in the back." It is mainly this geographic proximity and Shenzhen's SEZ status that binds Shenzhen and Hong Kong together.

Second, the supply of abundant cheap migrant labor makes it more profitable to manufacture in Shenzhen than in Hong Kong. Moreover, similar culture and traditions also make things easier. In addition to being Chinese descent, people in Shenzhen and Hong Kong also share the same Cantonese dialect which greatly facilitates communication. We note that nearly 70% of the migrants in Shenzhen are from other part of Guangdong province where Cantonese is the main local dialect (Liang and Chen, 1999). The Shenzhen region is a "overseas Chinese community" (*qiao xiang*) and many Hong Kong investors can find local connections directly or indirectly. These connections and networks are used to gain favorable terms of tax and rent of land and facilities.

The increasing flow of foreign investment provides an impetus for Shenzhen's unprecedented economic growth. As Table 3 reveals, the gross value of industrial output (GVIO) in Shenzhen has grown at an average rate of 60 percent.<sup>4</sup> In contrast, during the similar period, China's GVIO grew at

<sup>4</sup> As Xie and Hannum (1996) argue that gross value of industrial output is "least likely to be misreported while being indicative of real economic growth (p. 963)."

**TABLE 3.** SHENZHEN'S ECONOMIC GROWTH (GROSS VALUE OF INDUSTRIAL OUTPUT), 1979-1994 (in millions 1990 yuan)

Year	GVIO	Light Industry	Heavy Industry
1979	83.40	73.79	9.61
1980	124.39 (49.15%)	108.40	15.99
1981	312.30 (151.11%)	294.51	17.79
1982	454.35 (45.49%)	403.10	51.25
1983	889.12 (95.69%)	719.70	169.42
1984	2013.95 (126.51%)	1611.07	402.88
1985	3188.32 (58.31%)	2616.73	571.59
1986	4276.58 (34.13%)	3474.88	801.70
1987	6866.04 (60.55%)	5477.86	1388.18
1988	10612.74 (54.57%)	8177.17	2435.57
1989	14014.86 (32.06%)	10107.67	3907.19
1990	19526.26 (39.33%)	14113.73	5412.53
1991	26546.75 (35.95%)	18434.49	8112.26
1992	37138.00 (39.90%)	24269.19	12868.81
1993	51768.00 (39.39%)	34202.00	17566.00
1994	71697.29 (38.50%)	43480.03	28217.26

Source: *Handbook of Shenzhen Statistics* (1994).

Note: Growth rate in parenthesis.

14.7 percent and Guangdong's GVIO grew at the rate of 22.3 percent (SZSB, 1995). The earlier and mid-1980s witnessed the highest growth rate in Shenzhen's industrial production. The growth rate seems to lose some momentum in 1989 with a growth rate of 32% (between 1988 and 1989). Also worth noting in Table 3 is that most of Shenzhen's industrial output comes from the light industry rather than heavy industry. In almost all years

during 1979-1994, light industry contributes more than two third of the total industrial output.

Joint venture enterprises are the backbones of Shenzhen's industrial economy. In 1993, joint venture enterprises (*san zi qi ye*) accounted for 63.13 percent of the GVIO and state-owned enterprises accounted for only 16.12 percent of the GVIO. Another 13 percent of GVIO was from share-holding enterprises (*gu fen zhi jing ji*) (SZSB, 1994). Most of these share-holding enterprises are former state-owned companies whose ways of management and production have been transformed into something similar to the share-holding companies in a market economy.

Overall, we argue that the role of foreign investment in the functioning of Shenzhen's economy and in making Shenzhen a market economy cannot be overstated. This can be seen in terms of the amount of foreign investment over time, number of countries involved, and the proportional share of industrial output by joint-venture enterprises. Moreover, joint venture enterprises are perhaps the best place in China to learn the nuts and bolts of a market economy. Thus it is for those reasons that Shenzhen has been called the "window to the world" in China's transition to a market-oriented economy (Chen et al., 1991).

## FOREIGN INVESTMENT AND TEMPORARY MIGRATION

Unlike temporary migrants in other countries, the concept of temporary migrants is not about the duration of stay for migrants rather it is about the household registration status of temporary migrants. In the Chinese context, temporary migrants (*zhazhu renkou* or *liudong renkou*) in Shenzhen are defined as individuals who do not have Shenzhen permanent household registration (*changzhu hukou*) certificates. This includes two groups of people: 1) individuals who have Shenzhen temporary registration certificates; 2) individuals who do not have Shenzhen temporary registration certificates.

The household registration system has been in China since 1958 and it is a way of controlling migration and especially restricting peasants to migrate to big cities (Cheng and Seldon, 1994). The basic idea is that if an individual wants to move to a place he or she must obtain permission from both places of origin and destination before migration takes place (Goldstein, 1990). It was a very effective way of stemming the tide of migration from rural areas. It used to be the case that without such permissions one could not get a job, housing and other subsidies, or even food rations and therefore would not be able to survive in the cities. However, with China's transition toward a market-oriented economy, functions of the household registration system

**TABLE 4.** POPULATION GROWTH AND TEMPORARY MIGRATION TO SHENZHEN, 1979-1994 (in thousands)

Year	Local Residents	Temporary Migrants	Total Pop.
1979	312.6	1.5 (.48%)	314.1
1980	320.9	12.0 (3.6%)	332.9
1981	333.9	33.0 (9.0%)	366.9
1982	354.5	95.0 (21.1%)	449.5
1983	405.2	190.0 (31.1%)	595.2
1984	435.2	306.1 (41.9%)	741.3
1985	478.6	402.9 (45.7%)	881.5
1986	514.5	421.1 (45.0%)	935.6
1987	556.0	598.4 (51.8%)	1,154.4
1988	601.4	930.0 (60.7%)	1,531.4
1989	648.2	1,267.8 (66.2%)	1,916.0
1990	686.5	1,332.9 (66.0%)	2,019.4
1991	732.2	1,653.1 (69.3%)	2,385.3
1992	802.2	1,806.8 (69.3%)	2,609.0
1993	876.9	2,073.0 (70.3%)	2,949.9
1994	939.7	2,415.4 (72.0%)	3,355.1

Source: *Handbook of Shenzhen Statistics* (1995).

have been significantly weakened over time and it is no longer a very effective way for controlling migration to cities (Liang and White, 1997). Nowadays one can purchase almost anything in a free market. In fact for many people, temporary migration in big cities is a way of life.

Similar to the increase of foreign investment and economic growth in Shenzhen, the number of temporary migrants has increased dramatically since 1979. Table 4 shows that the percentage of temporary migrants in Shenzhen's population rose from less than 1 percent in 1979 to 72 percent in 1994. This trend by no means happens in Shenzhen alone, other large cities such as Beijing, Shanghai, and Guangzhou all voiced concern for the issue of temporary migrants (also known as 'floating population') (Goldstein et al. 1991; Zou, 1996). Nevertheless, Shenzhen is a unique city in several ways. The fact that Shenzhen grew from a small town of 30,000 in 1978 to a city of 3.3 million in 1994 indicates that most of its people are migrants, either temporary or permanent. In fact even most of its permanent residents migrated from other places. Shenzhen is also the only city in China where the volume of temporary migrants are several times of its permanent resident population. The latest statistics show that in 1994 Shenzhen's population consists of 2.4 million temporary migrants and 939,700 permanent residents (see Table 4). My objective here is not to argue about the pros and cons

of having such a large number of temporary migrant population but rather to examine the causes for the formation of such a large temporary migrant population and to raise policy questions concerning temporary migration.

As far as the impact of foreign investment on migration is concerned, Saskia Sassen (1988) is one of the first to explore the relationship between foreign investment and international migration and concluded that foreign investment is a leading indicator of capital market penetration and the principal cause of emigration. She argued theoretically and demonstrated empirically that, in a system of global economy, the mobility of capital and labor goes hand in hand — countries receive foreign capital investment tend to have more international migrants as the result of capital penetration. More relevant to the current study is the effect of export processing zones on migration. Shenzhen is similar to export processing zones in that goods produced for export will be exempt from tariffs. Sassen (1988 and 1991) and other world system scholars argue that export processing zones contribute to international migration by producing goods that compete with those made locally; by feminizing the workforce without providing factory-based employment opportunities for men; and by socializing women for industrial work and modern consumption without providing a lifetime income capable of meeting these needs (Massey et al., 1994).

Substantial empirical support has been obtained so far. Ricketts (1987) has studied the impact of U.S. direct foreign investment on the rate of outmigration to the United States from 19 Caribbean countries. Controlling for size of the country, per capita income, and the rate of population growth, Ricketts (1987) showed that the annual rate of out-migration to the United States from 1970 to 1980 was significantly related to the growth in U.S. investment from 1966 to 1977. In another study, DeWind and Kinley (1988) showed similar effect of foreign investment on migration in Haiti.

So far few researchers have extended this line of research into the study of internal migration in the context of foreign direct investment. With a large flow of foreign investment and temporary migrants, Shenzhen offers an excellent opportunity for such a study. Even more interesting is that Shenzhen is in the middle of a struggle between the legacy of rigid household registration system and the existence of extremely large number of temporary migrants.

Shenzhen's temporary migrants are closely linked to the increase of direct foreign investment. To see this, we first examine the major economic sectors that foreign investment has been involved. For example, in 1993, 52% of the foreign investment went to industry and 22% went to real estate (SZSB, 1994). Both industry and real estate, closely related to construction of new

buildings, are labor intensive and have a high demand for workers. In the initial stage of its development, Shenzhen simply did not have sufficient number of workers for the booming industry and real estate development. Also interesting to note is that foreign investment in transportation has increased over time and reached the peak in 1993 with \$185 million (SZSB, 1994). A recent example is the construction of a major highway between Shenzhen and Guangzhou (the Capital of Guangdong Providence) which is mainly financed by a big Hong Kong based company.

The major focus of foreign direct investment on industry and real estate is consistent with the results of a survey of Shenzhen's temporary migrants (Wu, 1994). This 1993 survey of temporary migrants reveals that overwhelming majority of temporary migrants (74.19%) are factory workers. In addition, business (8.5%) and service (7.15%) are also significant industries for temporary workers. A substantial proportion of temporary migrants work for joint venture enterprises.

The heavy concentration of temporary migrants in joint venture enterprises reflects the combination of the calculation of joint venture enterprises, vulnerable status of temporary migrants, and rural-urban and inter-regional inequality in China. From the point of view of joint venture companies, temporary migrants are good candidates for several reasons. First, not having permanent Shenzhen household registration status, temporary workers are happy to have a job and work hard for long hours, they do not complain for hard working conditions, and they are willing to take relatively low wages (SZRG, 1992). In general, most of the temporary workers are from rural areas and the working conditions and benefits in Shenzhen's plants are still much better than working in the field and face the sun everyday (Lee, 1995). Temporary workers have the reputation of being docile (female workers especially) and easy to manage.

Second, majority of temporary workers are young, single, and do not have children. A recent survey of migrants in Shenzhen shows that 42% of the migrants are in the age group of 15-24 (Wu, 1994). Similar to state-owned companies in China, most of the joint venture enterprises have responsibility for permanent employees' housing arrangement (especially for families with children) and to some degree access to child care facilities. Therefore hiring temporary migrants is a great reduction of cost for the companies because the companies do not have to provide housing for their families and child care facilities.<sup>5</sup> By the time when temporary workers

<sup>5</sup> Most of the joint venture enterprises provide only one bed for the temporary migrant worker in a dormitory. When I interviewed Shenzhen SEG Hitachi Color Display Device CO.

reach the age of marriage and having children, it is very likely that the contract will not be renewed.<sup>6</sup>

Most of the temporary migrants are from rural areas and about 70% of them are from Guangdong Province (Liang and Chen, 1999). There is a significant rural-urban and inter-regional inequality in China. Joint ventures companies in Shenzhen usually pay a much higher salary as compared to what can be made at home for temporary migrants, rural or urban. From 1979 to 1993, the gap in average yearly earnings between Shenzhen and China as a whole widened significantly. For example, in 1979, the earning differentials between Shenzhen and China is 101 yuan and peaked to 4910 in 1993 (SZSB, 1994; SSB, 1993, 1994). What about Guangdong Province which some consider a step ahead of the rest of China (Vogel, 1989)? Shenzhen and Guangdong Province did not differ very much at the beginning (769 vs. 702 yuan in 1979) but Shenzhen quickly surpassed Guangdong Province by a large margin in the middle of the 1980s and again reached the peak point in 1993 with a difference in average yearly earnings of about 3000 yuan (SSB, 1993; 1994). This is also supported by a recent survey of migrants in Shenzhen which documented that migrants make at least twice as much as what they made before migration (Wu, 1994).

Since most of the temporary migrants in Shenzhen are from rural areas in China, let us also compare Shenzhen with rural China in general. In fact, the picture becomes even more dramatic if we compare Shenzhen with rural China. Since comparable earnings for rural China are not available, I use per capita income instead.

For households in urban Shenzhen (where most migrants work), the per capita income in 1992 was almost 8 times that of rural China (5931 yuan vs. 784 yuan per year). Even rural Shenzhen's per capita income is four times that of rural China in general. One of the major migrant-sending provinces, Sichuan (located in Southwestern China), with a population of more than 100 million, has per capita income of 634, which is only about one tenth of Shenzhen urban per capita income. The income disparity between Shenzhen and the rest of China (especially rural China) provides a strong economic

Ltd in the summer of 1995, managers told me that only 15-20% of the employees are on permanent basis and most of the permanent employees are administrators, technicians, and engineers.

<sup>6</sup> Based on my interviews with managers at two joint venture companies in Shenzhen, normally the contract is for five years and after that only a small proportion (5%) of the temporary workers will be re-hired. These companies would rather hire new employees than renew the contracts with old workers. The exception is foremen for whom firm specific knowledge and skills have gained.

**TABLE 5.** TIME SERIES ANALYSIS OF FOREIGN INVESTMENT AND TEMPORARY MIGRATION FLOW TO SHENZHEN, 1979-1994

Independent variable	B	S.E.
Foreign Investment	.1634*	.057
Intercept	77.1128*	39.389
Durbin-Watson Statistics		
Order	DW	Prob<DW
1	1.7867	.2380
2	2.0489	.5735
3	2.0629	.7121

\*Statistically significant at .05 level.

incentive for peasants to migrate.

To further examine the impact of foreign investment on the flow of temporary migrants, I conducted a time series analysis of temporary migration between 1979 and 1994. Here I use the amount of foreign investment as the dependent variable and examine the extent to which foreign investment determines the flow of Shenzhen's temporary migrant population. Since both the size of temporary migrants and foreign investment are time series data, the possibility of auto-correlation has to be taken into account (Ostrom, 1990). I first conducted a Durbin-Watson statistic test to detect if there is significant autocorrelation. Results from Table 5 show that the auto-correlation is not statistically significant and may be ignored. I therefore decided to use OLS regression model for my analysis.<sup>7</sup> The results also suggest that the flow of temporary migrants is very responsive to the amount of foreign investment and the effect is statistically significant. To be more precise, for every \$1 million investment, there is an increase of about 163 temporary migrants in Shenzhen.

## TEMPORARY OR PERMANENT?

One of the major questions facing policy-makers in Shenzhen is whether or not Shenzhen's temporary migrants will really stay temporarily. Although the issue of temporary migrant workers is relatively new subject in recent Chinese history, it is not new to students of migration. In fact recent history saw a large flow of temporary migrants both in Western Europe and the United States. A careful examination of guestworker pro-

<sup>7</sup> See Ostrom (1990) for details.

grams in Europe and the United States is quite illuminating. After WW II, in several countries in Western Europe (primarily West Germany, France, Switzerland, Belgium, and the Netherlands), rapid economic growth created an intense demand for unskilled workers in many sectors of the European economy (Bohning, 1972). Instead of encouraging permanent international migration from neighbor countries, several countries in Western Europe had guestworker program where "temporary" workers were recruited to work in various industries.

The rationale for having guestworker program is quite simple and is most often known as the "buffer theory". When receiving countries need the labor they simply recruit foreign workers. When the foreign workers are no longer needed, they will be sent home. In total, approximately some 30 million foreign workers were recruited in Western Europe between 1950 and 1973 (Massey and Liang, 1989). However, the unintended consequence is that "foreigners did not return home as government theoreticians had planned" (Massey and Liang, 1989, p. 203). Subsequently, foreign workers become permanent part of the labor force in several countries (Heckman, 1985).

Similar program was launched in the United States in 1942. The program is known as the Bracero Accord, which arranged for the importation of Mexican workers (the "braceros") for a period no to exceed 6 months (Reichert and Massey, 1982). The program was supposed to terminate in 1946 but was extended through 1964 as a result of intense lobbying effort by agricultural growers. In a study of the long term consequences of Bracero Program using data collected in several Mexican communities and in California, Massey and Liang (1989) showed that bracero migrants were very likely to make repeated trips, both with or without legal documents; that they were quite likely to introduce their sons and daughters into the migratory process; and that they were likely to eventually settle in the United States in substantial numbers. Therefore, they concluded that "in a long run there is no such thing as temporary program (Massey and Liang, 1989, p. 223)."

The long-term consequences of temporary worker program reflect the "cumulative causation of migration" — the tendency of migration to perpetuate itself over time (Massey et al, 1994). Migrants' motivation, expectations, and even life style and consumption patterns changed in ways that encourage multiple trips of migration, longer duration, and settlement in the place of destination. The migration process is also a learning process whereby migrants learn how to form networks between migrant workers and employers, among migrants themselves, and between migrants and

institutions and people of the home communities. This manifold of social and economic ties is a valuable social capital that can be used to lengthen their duration of work and introduce more people into the migration career, and eventually settle down permanently (Massey and Liang, 1989).

Although the basic logic of migration drawn on the experience of Europe and the United States may work in the Chinese context, it is tempting but too simplistic to conclude that most temporary migrants in Shenzhen will stay permanently and assimilate into the local society. In the following, I will identify a set of critical conditions that could either facilitate or hinder the integration of temporary migrants.

From the perspective of temporary migrants, migration process changes migrants' aspirations and expectations in ways that encourage long duration and eventual settlement in Shenzhen. The "cumulative causation" of migration also suggests that as the size of migrant population increases, migrant network matures. This dependence on migrant networks greatly facilitates the process of getting a new job, job transfer, securing local permanent resident cards (through whatever means possible) and eventually settle in Shenzhen. In fact, as argued by Lee (1995), managers of joint venture companies "exploit this dependence to legitimize and facilitate the despotic control that is necessary to exact discipline from a nascent working class (P. 391)."<sup>8</sup> Thus current contracts may expire eventually, but with the help of network ties, the likelihood of getting another job is quite high.

Moreover, there are special characteristics of temporary migrants that make the settlement process even easier in Shenzhen. For example, temporary migrants are almost indistinguishable from permanent resident population in Shenzhen. As a matter of fact, as I indicated earlier, substantial number of Shenzhen's temporary migrants are from other parts of Guangdong Province and they speak Cantonese dialect and they look like local resident population even more than some of the permanent residents who migrated from Northern China. Finally, changes brought about by the transition to a market economy make it very easy for temporary migrants to stay (Liang and White, 1997). Recent reform in Shenzhen's household registration system indicates it is much easier for educated temporary migrants to stay permanently than for less educated migrants (see detailed discussion later). In sum, for migrants with long duration of Shenzhen residence,

<sup>8</sup> Managers at two joint venture companies all indicated their preference for hiring employees through introduction of employees already in the company because it is like an insurance. The person who did the introduction normally signs a contract with the company. If an employee breaks a machine or a tool and runs away, the person who introduced the employee is responsible for paying the damage.

migrants with network connections, or migrants with relatively high level of education, long term settlement in Shenzhen is a quite realistic and possible option.

Evidence so far suggests that a substantial number of temporary migrants in Shenzhen have stayed for quite a long time. A recent survey of Shenzhen's population reveals that among temporary migrants, 46.7 percent has already stayed in Shenzhen for more than a year (Wu, 1994). Accompanying this long duration of temporary migration in Shenzhen is the acceleration of the size of temporary migrant population over time. Table 4 reveals that between 1993 and 1994, temporary migrant population increased 20 percent and reached 2.4 million in 1994. However, this 2.4 million is a underestimate of the size of temporary migrants in Shenzhen because the 2.4 million temporary migrants all have temporary resident certificates and are therefore in the government's records. No one knows for sure how many temporary migrants in Shenzhen who do not have temporary residence certificates. Meanwhile, by definition, temporary migrants are supposed to leave after their contracts expire and have little or no claims on housing for their families and education for their children.

Against this backdrop of favorable conditions of making temporary migrants likelihood of permanent settlement is a list of unfavorable conditions that make their permanent stay rather difficult. First, their temporary household registration status puts them in a limbo situation and has implications for their job, housing, marriage, or even children (i.e. child care and education). Only certain jobs are available for temporary migrants and therefore their career mobility is limited. Without permanent household registration status, they are not entitled to have housing from employers and they are restrictions for them to purchase housing. Few people want to marry migrants without Shenzhen permanent household registration status because "wedding a migrant woman without urban hukou is considered to be a 'marrying down', and to the more practically minded, with good rea-

**TABLE 6.** SEX RATIOS FOR SHENZHEN TEMPORARY MIGRANTS, SHENZHEN RESIDENTS, AND CHINA, 1990

Age	S.Z. Temp. Migrants	S.Z. Residents	China
10-14	114	110	107
15-19	39	50	106
20-24	83	87	105
25-29	191	152	105

Source: SZPC (1992) and SSB (1991).

son (Chan, 1996, p.146)". Table 6 suggests that the unbalanced sex ratios in certain age groups (many more males than females) will also make this assimilation of temporary migrant workers difficult. Temporary workers (female workers in particular) will have hard time finding a spouse aside from the truly disadvantage of being temporary migrant. In the long run, however, whether substantial number of temporary migrants will stay or not depends largely on the demand for temporary workers and progress of reform in Shenzhen's household registration system.

## CONCLUSION AND DISCUSSION

To recapitulate, in this paper, I documented the importance of foreign capital investment and joint venture enterprises in Shenzhen's economic development since 1979 when China began to move toward a market-oriented economy (Chow, 1987). The story of Shenzhen's success depends on a large flow of foreign capital (especially from Hong Kong across the border) and sufficient supply of temporary migrants from Guangdong Province and other regions in China. Although foreign investment has been warmly welcomed everywhere in China, issues related for temporary workers frequently receive a cold tone in newspaper editorials and writings of some scholars. Too often people focus on the problems or troubles caused by temporary workers (such as blaming them for the rise of crime, traffic congestion, and environmental pollution) at the cost of ignoring the significant contribution they have made to Shenzhen's economy. One needs to realize that temporary migration is an integral part of Shenzhen's labor intensive development strategy and without sufficient supply of temporary migrants it is impossible that Shenzhen could develop at such a high speed. After all, Shenzhen is a city of migrants.

Shenzhen's case illustrates nicely the argument that foreign investment is a leading factor in migration and mobility of labor and capital must go hand by hand. This is not only true in the case of international migration (as demonstrated by other scholars) and it is true in the case of internal migration as shown in Shenzhen. Therefore policy-makers should anticipate to deal with issues related to temporary migrants when a region receives a large amount of foreign investment and joint venture enterprises begin to mushroom. Although I use Shenzhen as a special case study to show the

<sup>9</sup> Some scholars describe the current situation in urban China as "two class society": one class with entitlement of jobs, housing, and all kinds of benefits and one without" (Chan, 1996).

relationship between foreign investment and temporary migration, I think the argument goes beyond Shenzhen per se and can be generalized to other parts of China, especially other large cities where significant number of multinational companies concentrate.

From a development perspective, in a short run, Shenzhen's economy will continue to grow with its abundant supply of migrant labor and access to the world market through Hong Kong. However, in the long run, such development has its limitations particularly when labor becomes more expensive. Policy-makers should begin to think about transition from labor intensive to technology intensive development. In fact we have already seen the emergence of Shekou industrial high-tech district in Shenzhen. This way, Shenzhen can continue to be a leader in China's economic development and competitive in the global economy.

The rise of a large temporary migrant population is a dilemma as well as a challenge to policy-makers in Shenzhen and perhaps in rest of China. However, it creates opportunities for change. Results from the 1990 Chinese Population Census show that there are extremely unbalanced sex ratios in the prime age groups among temporary migrants. Table 6 shows that sex ratios in the age groups of 15-19 and 20-24 are 39 and 83 respectively. This means, for example, for age group 15-19, there are 39 men for every 100 women. Even among Shenzhen's local resident population (with permanent household registration status), we also observe a unbalanced sex ratios in major age groups. In contrast, the corresponding sex ratios for China's population as a whole are 106 and 105 respectively. Historically, Shenzhen did experience unbalanced sex ratios because large number of young males illegally migrated to Hong Kong (Chen et al., 1991; Tian, 1986). Nevertheless, this historical legacy does not explain the unbalanced sex ratios in the 1990s. The recent excessive number of young females in the 15-24 age group is in large measure the result of employers' (especially joint venture enterprises) preference for these unmarried female workers-*da gong mei* (maiden workers). If we recall from earlier discussion that Shenzhen's economic performance is dominated by light industry (such as toys, shoes, electronics...), it is not surprising that women are preferred workers. The feminization of Shenzhen's labor force associated with joint venture enterprises is consistent with what has been widely observed in other developing countries (Sassen, 1988).

Demographically speaking, the unbalanced sex ratios have the potential of creating a "marriage squeeze" for female temporary migrants if they were to stay permanently (Schoen, 1983). They will have hard time finding marriageable mates given the demographic constraints. One response to the

“marriage squeeze” is to delay marriage. There is a limit to this response, however. The excessive number of female temporary migrants in age group 15-24 also creates a potentially unintended “threat” to marital stability for other Shenzhen couples and gives rise to marital instability and high divorce rate. Indeed, a recent report of divorce statistics in Shenzhen shows that substantially high proportion of divorce cases involved affairs with female temporary migrants (Z. Yang, 1995). Interestingly enough, among married couples in recent years, the old fashioned Chinese greeting of “have you eaten yet?” has been replaced by “have you divorced yet?”, highlighting the prevalence of divorce in Shenzhen.

Ever since the emergence of temporary migrants in China, the Chinese government has always been concerned with fertility consequences of temporary migrants (such as violations of one child policy). Perhaps the Chinese government has yet realized that temporary migrants may be the source of marital instability given the unbalanced sex ratios in prime age groups.

This large group of temporary migrants is also challenging Shenzhen’s household registration system which presents a major hurdle for temporary migrants to join the mainstream of society. Being in temporary resident status, they face many uncertainties in their lives: dim prospect of finding a spouse, not eligible for housing, and their children are not eligible to be enrolled in local schools.<sup>10</sup> This may be a major social problem or source of unrest several years down the road when substantial number of temporary migrants decide to get married and have children.

One way to solve this dilemma is to reform the current household registration system. At a meeting on China’s Rural Reform and Development in December 1993 it was proposed that the household registration system “shall be gradually phased out” (quoted in Johnson, 1994).<sup>11</sup> There seems to be little disagreement among experts that in the long run, household registration system should be eliminated. However, in the short run, nobody is proposing the drastic measure of eliminating the household registration system entirely, primarily for fear of flood of large number of peasants into

<sup>10</sup> Cao (1997) cites statistics that show only 12% of the school age migrant children are currently enrolled in schools. Cao (1997) also reports that China’s State Education Commission recently has issued a document that encourages local schools to admit children of temporary migrants. However, very often parents of those children end up with paying very high fees, sometimes as high as 1,000 Yuan for elementary school and 10,000 Yuan for high school (Cao, 1997; Chan, 1996). Otherwise, parents of migrant children can send their children back to their home villages for education.

<sup>11</sup> Johnson (1994) further suggests that if rural to urban migration is allowed fertility level in China will be reduced even more.

cities (Gu and Jian, 1994). The issue is how to reform the current household registration system gradually and builds a bridge that leads to the final "phase out". Shenzhen has taken the first step. Starting March 1995, Shenzhen has been experimenting with a proposed change in household registration system in Buji county (Li, 1995; Wong and Hume, 1998).<sup>12</sup> If this social experiment proves to be successful, it will be implemented city wide. This experiment involves two steps for individuals to obtain Shenzhen's permanent resident status. First, one needs to obtain Blue Chop Registration Card and then apply for permanent resident status after several years. A person is eligible for permanent resident only under these conditions: 1) has lived in Shenzhen for 7 to 8 years; 2) has a good record of temporary household registration; 3) possesses Blue Chop Household Registration Card.

Several criteria are listed as necessary conditions for obtaining Blue Chop Household Registration Card: 1) people with no less than vocational school level of education and lived in Shenzhen for at least 4 years; 2) people with some years of college and lived in Shenzhen for at least three years; 3) people with college degree and have resided in Shenzhen for at least two years. In addition to educational requirement, there is a category of "investment Blue Cards", which is in principal similar to the "investment immigrants" in the United States (Jasso and Rosenzweig, 1990). Companies investing certain amount of capital or pay certain amount of tax are eligible to apply for Blue Chop Household Registration Cards on behalf of their employees.

Overall, the emphasis for this new initiative in Buji is clearly on educational credentials and years of working experience in Shenzhen. However, 1990 Chinese Census shows that 75.4% of male temporary migrants in Shenzhen have less than high school level of education and the corresponding proportion is even higher for female temporary migrants (87.5%) (SZPC, 1992). Thus the proposed moderate change in Shenzhen's household registration system clearly leaves out majority of the temporary migrants. Changes are always difficult especially in a country where the echoes of state socialism can still be easily felt. Overall, it is a welcome first step in the right direction.

<sup>12</sup> There are other new procedures being experimented to reform the household registration system in Beijing and Shanghai. In Beijing, for example, employers can pay the equivalent of \$11,600 for resident permits for migrant workers from countryside. Individuals can buy Beijing's resident permits at the cost of \$5,800 for central city and \$3500 on outskirts (MN, 1994). This fee seems to be extremely high knowing that income per capita for peasants was about \$215 in 1994 (SSB, 1996). In Shenyang, the capital of Liaoning Province in Northeast China, the fee for getting the "Blue Card" (*lan ka*) ranges between \$400 and \$1200 (Cao, 1993). For the case of Shanghai, see Wong and Hume (1998).

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