

Hong Kong Investment in China and Income Distribution of Hong Kong

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Abstract

Since the Chinese government launched the economic reform and “open door” policies in late 1978, investment between Hong Kong and Mainland China has increased remarkably. In fact, Hong Kong has been the Mainland’s dominant supplier of FDI. Income distribution in Hong Kong was affected when investors, in search of a higher rate of return, moved their capital from Hong Kong to the Mainland. The empirical findings here show that Hong Kong’s investment in the Mainland led to an increase in the rate of return of capital. Regression analysis indicates that the income redistribution effect of Hong Kong’s investment in China has been biased towards skilled workers.

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I. Introduction

Since the Chinese government launched the economic reform and “open door” policies in 1978, China has experienced dramatic and persistent economic growth. A key factor in China’s economic growth and institutional change has been the significant increase in foreign investment in China. Foreign direct investment (FDI) has not only helped reduce China’s capital shortage problem but has also promoted its foreign export and accelerated technology transfer from the industrial world.

From 1979 onwards, the economic linkages between Hong Kong and Mainland China have accelerated at a remarkable speed.¹ During the last decade, investment from both sides has increased sharply. Hong Kong has, in fact, been the main “supplier” of or at least a “connector” for FDI in China. For example, at the end of 1998, out of the cumulative realized FDI of US\$267.5 billion used in China, Hong Kong contributed US\$141.5 billion, or about 56 per cent.

The purpose of this paper is to analyze the impact of Hong Kong investment in the Mainland on income distribution in Hong Kong for the period 1982 to 1998. Section 2 discusses the theoretical hypotheses in the neoclassical framework. This is followed by some background information and a description of the data used in this paper. Section 4 employs econometric methods that empirically test the hypotheses derived from the theoretical analysis. The empirical findings confirm the hypothesis that Hong Kong’s investment in China leads to an increase in the rate of return of capital. Regression analysis indicates that Hong Kong investment in China has led to an income redistribution effect biased towards skilled workers.

¹ According to United Nations statistics, Hong Kong-China bilateral trade has grown at an extraordinary rate. For example, in 1981 the trade volume between the two regions was only US\$9.14

II. Theoretical Background and Hypotheses

The basic logic of capital movements from a relatively rich economy to a relatively poor one is easily understood within the standard neoclassical framework. Neoclassical economic theory argues that in a perfectly competitive economy, the marginal product of capital determines the profit rate. Thus, the law of diminishing returns immediately implies that the profit rate is lower in capital abundant economies than in labour abundant ones (e.g., Krugman and Obstfeld, 1997).

In the context of Hong Kong and the Mainland, the latter is obviously labour abundant relative to the former. Since the launching of the economic reforms and “open door” policy in 1978, Hong Kong entrepreneurs have shifted most of their manufacturing activities to the Mainland in search of higher profits. On the basis of this it is hypothesized:

Hypothesis 1: The rate of return to capital increases as Hong Kong’s investment in Mainland China increases.

Meanwhile, capital movements from Hong Kong to the Mainland have had an adverse effect on the wages of less-skilled workers in Hong Kong. Industries that relocated to the Mainland hired primarily low skilled, manufacturing labour. High-skill jobs generally remained in Hong Kong (e.g., Sung, 1991). In fact, the outsourcing of production from Hong Kong to the Mainland effectively expanded the output of the manufacturing sector in “Greater China” due to the huge supply of

billion, ranking 11th in the world’s bilateral merchandise trade flows. By 1993, it reached US\$148 billion, ranking 3rd in the world and surpassing US-Mexico bilateral trade.

unskilled labour in the Mainland. Considering the complementarities between manufacturing and services, the opening up of China was the main factor behind the expansion of the services sector in the 1980s.²

Following the implementation of the open door policy in 1978, China's overseas trade and investment increased dramatically. In view of Hong Kong's efficient infrastructure, as well as its geographical and cultural proximity to the Mainland, a large portion of these trade and investment flows have been conducted through Hong Kong. This has created a big demand for a wide variety of business related services such as consultancy, telecommunications, data processing etc., as well as distribution services such as freight transport and wholesale trade. In addition, the local hotel and restaurant industries have benefited from the thousands of tourists stopping on their way to the Mainland. Increased economic integration between Hong Kong and the Mainland has raised the demand for skilled labour. This in turn has had the effect of widening the differential between wages paid to skilled workers and those paid to unskilled. This is what underlies the second hypothesis:

Hypothesis 2: The wage ratio between skilled and unskilled labour in Hong Kong increases as Hong Kong's investment in Mainland China increases.

There are several important factors that may affect the empirical analysis. First, the supply of skilled workers in the labour market clearly affects the relative wage ratio between skilled and unskilled labour. In this paper, "skilled labour" refers to workers with a college/university degree. Clearly, as the proportion of university

² The services sector includes wholesale and retail trade, import/export trade, restaurants and hotels, transportation and communications, finance and insurance, real estate, social and community services, and public administration.

graduates increases, the relative wage ratio between skilled and unskilled labour decreases.

Also, it is assumed that an individual's human capital includes both his/her general human capital and specific human capital (Becker, 1993). An individual's skills can be largely specific to a certain industrial sector, while the skills required by different sectors of production can be very different. For example, a textile industry technician may find his/her skills much less useful, or even useless if he/she tries to find employment with an insurance company.

In this regression analysis, workers are divided into five industrial sectors. The skill-level of each sector affects the demand for skilled and unskilled labour in that industry, which in turn affects the relative productivity of each industry. In the empirical analysis, the relative productivity of each industry is defined as the ratio of the share of output contribution of each sector to Hong Kong's GDP to the employment share of that industry.

The unemployment rate in Hong Kong is used as a proxy variable for economic environment in the regression analysis for two reasons. First, it is an important indicator of the business cycles in Hong Kong. Second, it is well known that business cycles affect skilled and unskilled workers differently (e.g., Rosen, 1968).

Finally, it is assumed that rate of return to capital is influenced not only by the capital outflow from Hong Kong, but also capital accumulation in Hong Kong. On one hand, the law of diminishing marginal productivity implies that the profit rate is negatively correlated to capital accumulation. On the other, the existence of

increasing returns to capital implies that there might be a positive correlation between profits and the amount of newly accumulated capital (e.g. Lucas, 1988 & Weil, 1989).

III. Background Information and the Data Set

1. Hong Kong's Investment in China

Table 1 shows China's utilization of foreign capital from 1979 to 1998. Hong Kong is by far the largest investor in China, accounting for 56 per cent of China's total FDI -- both approved and realized -- as well as the total number of foreign-invested enterprises. In the early 1980s, the most prevalent mode of Hong Kong investment in China was contractual joint ventures. In the late 1980s and early 1990s, the main forms were equity joint ventures and wholly owned enterprises.

Most of Hong Kong's FDI projects in China were relatively small in size. The average value of Hong Kong's equity joint ventures was about US\$1 million. In the early 1980s, most of the investment was concentrated in hotels, real estate and other services. Since the mid-1980s, however, there has been a significant shift toward the industrial sector.

According to Mainland statistics, from 1979 to 1998, Hong Kong's cumulative utilized FDI in China totalled US\$141.5 billion. Most went to Guangdong, the province immediately north of Hong Kong. While Guangdong accounted for about a third of China's total realized FDI, Hong Kong accounted for 75 per cent of Guangdong's realized FDI. In the late 1980s, Hong Kong FDI became more geographically dispersed. There was a significant shift in FDI away from Guangdong towards northeast China, especially to cities like Shanghai, Beijing and Wuhan.

Hong Kong investment in Guangdong transformed not only Hong Kong's manufacturing sector³, but its entire economy. Hong Kong manufacturing firms employ up to three million workers in Guangdong, about seven times the manufacturing labour force in Hong Kong. The transferal of labour-intensive processes to Guangdong has allowed Hong Kong to concentrate on more skill-intensive processes such as product design, production management, quality control, marketing, shipping, insurance, business and financial services. Hong Kong has become the service and financing centre for an industrializing Guangdong area. The shift from Hong Kong to Guangdong has had a significant, adverse effect on less-skilled workers in Hong Kong.

2. The Impact on Productivity

The restructuring of the Hong Kong economy began in the early 1980s. In the eight-year period from 1980 to 1987, the manufacturing sector shed a total of 40,000 workers. With the further relocation of manufacturing firms to China between 1988

and 1994, more workers were displaced from the manufacturing sector. The sector lost on average 60,000 jobs each year, and now employs just over 257,000, or 11 per cent of the total workforce, compared to more than 990,000, or 47 per cent in the early 1980s.

The decline of the manufacturing sector occurred as the importance of the services sector grew. The employment shares in financing, insurance, real estate and business services increased more than twofold. As the services sector is more labour intensive, its expansion created enough labour demand to help maintain the economy at full employment during the 1980s.

Although the relocation resulted in a declining share of GDP (from 24.3 per cent in 1984 to 6.2 per cent in 1998) and employment shares (from 45.7 per cent in 1984 to 11.55 per cent in 1998) of the manufacturing sector, the sector's productivity has increased. For example, between 1982 and 1998, the share of output has declined on at an average rate of 8.2 per cent per year, compared with 9.1 per cent for employment, implying a steady increase in the relative productivity of the manufacturing sector.

In other words, the overall level of skills in Hong Kong's manufacturing sector has generally higher after most of the manufacturing shifted to the Mainland. Although Hong Kong may have lost its cost advantage, it has also upgraded considerably other aspects of its competitiveness. A better-educated work force, for example, has served to increase the pool of skills available. This has facilitated the adoption of more efficient production processes.

³ Hong Kong's FDI has been concentrated in labor-intensive sectors such as textiles, apparel, plastic products, non-ferrous mineral products, and electrical appliances.

The services sector has become more labour intensive. This is apparent from the fact that, for example, employment in the finance, insurance, real estate and business service industries together increased 10 per cent between 1980 and 1998. Its share of GDP, however, increased only 3 per cent. This implies that the relative productivity of the services sector (finance, transportation, wholesale and personal services) decreased at an average annual rate of 2.6 per cent over the period. Despite a fall in the relative productivity of Hong Kong's services sector, the sector's relative productivity is still about 200 per cent higher than that of the manufacturing sector (see Table 2). The service activities will continue to be labour-intensive and demand highly skilled labour. For example, the level of skills required by the banking industry is now much higher. The range of services offered is more sophisticated and there is much wider use of computers. Consequently the more labour the services sector as a whole absorbs relative to other sectors, the higher the demand for relatively skilled workers.

The decrease in demand for labour in the manufacturing industry, however, has made it more difficult for some production workers, especially those who are older, to find work in the industry. Many face unemployment or the need to acquire new skills. Between 1989 and 1994, the share of unemployed among production workers increased from 43.9 per cent to 53.6. The proportion of unemployed workers between 40 and 59 years of age increased from 15.5 per cent in 1989 to 34.1 in 1998. In absolute terms the figures were 46,000 in 1989 and 53,700 in 1998 (see Table 3).

3. Changes in Occupations

Table 4 summarizes the changes in the share of employment in each occupation category between 1991 and 1996. The share of employment in each occupation in each sector is defined as the number of people employed in the job category to the total employment in the industry. The manager, professional and associate professional group in manufacturing industries increased 10.53 per cent between 1991 and 1996, the largest increase among all the sectors. Operation and elementary jobs in the manufacturing sector, however, suffered the largest decrease (16.75 per cent). This is due to the fact that Hong Kong's FDI in the Mainland has been mainly concentrated in labour-intensive manufacturing industries.

In the services sector, apart from the finance industry, it has been the personal service industry that has absorbed most of the former manufacturing production workers. The share of basic workers in the personal service industry increased 3.83 per cent between 1991 and 1996, the largest increase among all industries. There was a decrease in demand for assembly and production jobs in every sector. This might be

due to the fact that most of the production jobs are industry-specific and the particular skills learned are not required by other industries.

4. Changes in Household Income Distribution

The distribution of household income in Hong Kong became less balanced after 1976, especially between 1986 and 1996. Three indicators are used here to measure the income distribution in Hong Kong: (i) the GINI coefficient; (ii) the fraction of income received by the low-middle income groups, measured by the income share of the second and the third quintile (MID); (iii) the ratio between the incomes of the last and the first quintile (RAZ). Table 5 presents the distribution of family incomes ranked on the basis of per capita income for selected years between 1976 and 1996.

In general, the data shows that income distribution in Hong Kong was far from equal throughout the period analyzed. In 1996, the 40 per cent share of total households with the lowest incomes received about 12 per cent of national income, whereas the 20 per cent share of households with the highest incomes accounted for 56 per cent. This pattern of inequality has changed little, and has in fact worsened. The GINI coefficient increased from 0.43 in 1976 to 0.52 in 1996. The share of national income received by the highest income households rose from 9 times the income share received by the first quintile in 1976 to 15 in 1996. The low-middle income households saw their share shrink from 25 per cent to 21 over the same period.

Table 6 gives the income distribution of households according to the education level of the head of the family. In general, it can be seen that the number of household heads with higher education increased between 1982 and 1997. Those with university degrees accounted for only 3.6 per cent in 1982 and received an average labour income of HK\$12,298 (in 1990HK dollar) (or US \$1,890) that year. By 1997, the number of household heads with university degrees had more than tripled and their average income had increased 74 per cent to HK\$21,393 (in 1990HK dollar) (or US \$2,760). On the other hand, household heads who completed only primary education saw their share steadily fall over the same period. In 1982, this group represented 35.7 per cent of all households. Fifteen years later their share had fallen to just 19 per cent. The number of household heads who had completed secondary education increased from 43.4 per cent in 1982 to 53 in 1997.

The average monetary return to a household head with university education in 1982 was 3.76 times that of a household head with only primary education. By 1997 this ratio increased to 4.07 times. The return to those with university education and those with secondary education did not change much over the past 15 years, increasing only marginally from 3.05 times in 1982 to 3.13 in 1997. The same is true for those with secondary education and primary education. From Table 6, it can be seen that the gap increased only slightly during the sample period. The return to those who finished secondary education was on average 23 per cent higher than those with just primary education in 1982, and 30 per cent higher in 1997.

5. The Data

The regression estimates of the relative wage ratio between skilled and unskilled labour in each sector are based on the following explanatory variables: Hong Kong FDI in China (FDI), the relative productivities of each sector (RPROD), the percentage share of people who have a first degree out of the total population aged 15 and over (EDUL), and the unemployment rate in Hong Kong (UNEMP). All variables are in logarithmic form.

The impact of FDI on the manufacturing, finance, wholesale and retail trade, transportation, and community and personal services sectors is examined for the period 1983 to 1998. This period was chosen for estimation mainly because of the availability of data. Data on Hong Kong's FDI in China was not published until 1983. The relative productivity of each sector was calculated from the output share of GDP and share of total employment for each sector. In order to estimate the rental rate of return to capital, it was necessary to estimate the profit rate. This estimation was done in two steps: first, total profits were estimated, then the capital stock. The total profit in each year was estimated on the basis of corporate tax revenue collected by the government. The capital stock in Hong Kong was estimated from the gross domestic fixed capital formation in each year.⁴ In addition, for sensitivity analysis, three different depreciation rates (8, 10 and 12 per cent per annum) were used to calculate the capital stock. The profit rate was then obtained by dividing the total profit with the capital stock.

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⁴ For the estimation of the capital stock, see Cheung, 1997.

IV. Empirical Findings

The estimated results of the relative wage ratio between skilled and unskilled labour in each sector are summarized in Table 7. In the manufacturing sector, the estimated coefficients of Hong Kong FDI in China (FDI) and the relative productivity (RPROD) on the relative wage between skilled and unskilled labour were both positive (0.038 and 0.213) and statistically significantly different from zero at the 5 per cent level. This implies that Hong Kong investment in the Mainland increased the gap between skilled and unskilled workers in the manufacturing industries. The increase in the relative manufacturing productivity due to skill upgrading within the industry enlarged the wage gap between these two groups.

The estimated coefficient for the unemployment rate (UNEMP) was 0.017 and is statistically significant at only the 10 per cent level of significance. Many semi-skilled and unskilled manufacturing workers in Hong Kong who worked in manufacturing industries with close ties to China were replaced by much cheaper workers across the border. These people suffered a fall in real income, or even unemployment. Thus the increase in unemployment enlarged the wage gap between skilled and unskilled labour in the manufacturing sector.

The estimated coefficients for the percentage share of people with a first degree out of the total population 15 and older (EDUL) was found to be negative and statistically significantly different from zero at the 5 per cent level of significance. With the expansion of tertiary education in Hong Kong from the early 1980s, there have been more university graduates each year. The increase in the supply of skilled workers has relieved skilled worker wage pressure.

For the services sector, the estimated coefficients for FDI on the relative wage ratio between skilled and unskilled labour for various sectors were positive (see Table 7), but statistically significant only in the transportation and personal services industries. This confirms that Hong Kong FDI in China generally had a positive impact on the relative wage ratio between skilled and unskilled workers in these industries. The estimated coefficients for relative productivity and unemployment rates on relative wages are also positive. With the growing sophistication of services offered as well as the wider use of computers in the services sector, this sector will continue to demand highly skilled workers. Thus the increase in demand for upgrading of skills by skilled labour had a positive effect on the relative wage ratio between these two groups. The increase in overall unemployment reinforced the positive effect on the relative wage between skilled and unskilled labour in Hong Kong. The estimate coefficients of EDUL were negative in various industries and statistically significant at the 5 per cent level with the exception of the transportation sector. This implies, *ceteris paribus*, that the increase in the supply of skilled workers decreased the disparities in employment earnings between skilled and unskilled labour.

The impact of the investment in China on the overall rental rate of return to capital in Hong Kong for the same period is examined next. The results are shown in Table 8. The estimated coefficients of Hong Kong FDI in China (FDI) were positive and statistically significantly at the 5 per cent level, implying that an increase in investment from Hong Kong to China would increase the rate of rental return to capital by 0.23 percent. In addition, it seems that an increase in the growth rate of capital stock (PCCS) led to an increase in the rate of return to investment in Hong

Kong. The theoretical explanation is that the rate of return to capital is influenced not only by the capital outflow from Hong Kong but also the capital accumulation in Hong Kong. On one hand, the law of diminishing marginal productivity implies that the return to capital is negatively correlated to capital accumulation. On the other, the existence of increasing returns to capital implies that there might be a positive correlation between the profit rate and amount of newly accumulated capital (see Lucas, 1988).

In fact, the largest share of Hong Kong's investment in China is from the subsidiaries of foreign companies incorporated in Hong Kong. These multinational companies like to test the Chinese investment environment through their Hong Kong subsidiaries because Hong Kong has the required expertise and is the foremost centre for China trade and investment. It is reported that some of the Hong Kong investments in China are actually from Taiwan. This is done to avoid political problems with the Taiwanese government. Another component of Hong Kong investment in China is actually Mainland capital. Chinese enterprises invest in China from their Hong Kong subsidiaries to take advantage of the preferences given to foreign investors. There are no reliable estimates of the amounts of Taiwanese and Chinese capital routed via Hong Kong.

Increased FDI in China decreases the amount of investment in the local economy. Thus a higher rental rate attracts investors. As a result, increases in the change in capital stock (PCCS) boost rental rates before the diminishing marginal productivity of capital set in. However, the estimated coefficients of the share of university graduates (EDUL) and the overall unemployment rate (UNEMP) were negative, -1.46 and -0.166 respectively, and statistically significant at the 5 per cent

level. The increase in the share of university graduates raised the marginal product of labour with the fixed amount of capital, and had a negative effect on the rental rate of capital stock. The increase in the overall unemployment rate (UNEMP) had a negative impact on Hong Kong's economy. In a poor business environment, businessman would find it difficult to make a profit. Thus it has a negative effect on rental returns of capital. Table 8 also shows that the results do not show clearly the different rates of capital stock depreciation.

Apart from these, the change in population composition may also have had some effect on the relative wage ratio between the skilled and unskilled labour. Other than the natural increase in population, the entry of Chinese from the Mainland constituted a significant factor in population growth in Hong Kong over the study period. The number of one-way permit holders (OWPHs) entering Hong Kong rose from 27,976 in 1990 to 61,179 in 1996.⁵ In 1990, the ratio of OWPHs to the increase in population was 110 per cent. This ratio decreased to 40 per cent in 1996 despite the increase in the number of OWPHs due to the significant increase of returnees and foreigners coming to Hong Kong.

Based on the 1996 Population By-census, the median age of OWPHs rose slightly from 26 in 1990 to 27 in 1993, but dropped to 23 in 1996. On average, they were younger than the population as a whole (34). In 1990, 30 per cent of the OWPHs were under 15 years of age, compared with 41 per cent in 1996. There was a corresponding drop in the proportion of OWPHs aged 15-34, from 40 per cent in 1990

⁵ Under the present one-way permit quota system, under the Basic Law, the quota is allocated to persons born in the Mainland who have right of abode in Hong Kong by virtue of their Hong Kong resident parents, and long-separated spouses of Hong Kong residents who wish to attend family reunions. The OWPH quota was first introduced in 1950 to restrict people from China entering Hong Kong. In early 1983, the daily quota was 75. This was increased to 105 in November 1983 and to 150 in July 1995.

to 31 per cent in 1996. The proportion of OWPHs between 35 and 64 years, and 65 and over remained approximately constant (27 per cent and 1.5 per cent) during the period.

Of the OWPHs aged 15 and over, more than 50 per cent had secondary level education. This fluctuated only slightly from year to year, ranging from 54 per cent in 1990 to 63 per cent in 1996. The proportion of OWPHs with university/post secondary education rose from 11 per cent in 1990 to 15 per cent in 1992, before gradually declining to 9 per cent in 1996. On the other hand, the proportion of OWPHs with primary or below education declined from 34 per cent in 1990 to 25 in 1995, but rose again to 33 in 1996.

In 1996, there were 169,319 persons from the Mainland who had resided in Hong Kong for less than 7 years (PMRs). Of the 61,169 working PMRs that year, 93 per cent (or 56,596) were employees. This proportion was slightly higher than the 88 per cent in the entire working population of Hong Kong. Among the 54,996 economically inactive PMRs aged 15 and over, 61 per cent were housewives. The proportion was much higher than that in the economy as a whole (38 per cent).

The PMRs tended to take up the less skilled jobs in Hong Kong. In 1996, about 25 per cent of the working PMRs were in elementary occupations and another 22 were service workers and shop sales workers. The proportion of the working PMRs working as professionals and associate professionals (7 per cent) was lower than in the whole working population in Hong Kong (17 per cent).

Wholesale, retail and import/export trades, restaurants and hotels' and 'manufacturing' were the two largest sectors in which the PMRs were employed. About 43 per cent and 25 per cent of the working PMRs were in these two sectors

respectively. Compared with the whole population, the proportion of working PMRs in these two sectors was significantly higher. This is consistent with the fact that more PMRs took up the less skilled jobs. As for the monthly income in 1996 from main employment, 41 per cent of the working PMRs earned less than HK\$6,000 (or US\$770) a month. This proportion was double the corresponding proportion of the whole working population. It must be noted that the monthly income from main employment depends greatly on factors such as age, working experience and length of service. As PMRs stay in Hong Kong for a short time, their relatively lower income level might be related to their short length of service and limited local working experience.

Large numbers of people also left Hong Kong over the period. In the 1980s an average of 20,000 people left each year. This number began to rise after 1987 and peaked in 1992.⁶ In absolute terms, 40,000 left in 1988, increasing to 66,000 in 1992. It is estimated that some 30 per cent were professionals. After 1992 the number of leavers decreased gradually to 19,300 in 1998, due mainly to the economic downturn and reduced intake of some destination countries. These factors also resulted in about 12 per cent of the people who emigrated in the ten years before 1994 returning to Hong Kong. The majority of returnees were professionals. Some left their families behind in the destination countries. This accounts for Hong Kong experiencing its fastest ever population growth between 1993 to 1998 (see Table 9). The significant increase of returnees together with OWPBs increased the supply of both skilled and unskilled workers. This explains why the relative wage between the skilled and

⁶ The increase had been attributed to a combination of factors, including concern about Hong Kong's future after the change of sovereignty in 1997 and immigration opportunities in more popular destination countries.

unskilled workers was relatively stable during this period. However, between 1987 and 1992, the increase in population was the lowest ever recorded. During this period, Hong Kong experienced a net outflow of skilled workers. Some of the jobs were taken up by graduates from tertiary institutes, and others by the OWPHs. Thus the relative wage gap between these two groups widened between 1987 and 1992.

V. Summary and Conclusions

This paper analyzes the impact of Hong Kong investment in China over the past 16 years on income distribution in Hong Kong. Since the Chinese government launched the economic reform and “open door” policies in late 1978, investment across the border between Hong Kong and China increased dramatically. In fact, Hong Kong was the Mainland’s key “supplier” of or at least a “connector” for FDI. Income distribution in Hong Kong was affected by businessmen in Hong Kong moving their capital across the border to China in search of a higher rate of return. The empirical findings here confirm the hypothesis that Hong Kong investment in China leads to an increase in the relative wage ratio between skilled and unskilled labour in Hong Kong. In addition, increases in the relative demand for skilled workers in both the manufacturing and the service sectors to a large extent increased the disparity in the employment earnings between these two groups. Although Hong Kong may have lost its cost advantage, its industries have considerably upgraded other aspects of their competitiveness, for example, by taking steps to improve technology and productivity levels. By so doing, Hong Kong’s industrial structure is better matched with the current labour structure. In conclusion, the income

redistribution effect of Hong Kong investment in China has been biased towards capitalists and skilled workers.

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Table 1. China's Utilization of Foreign Capital, 1979-1998
(billion US\$)

<i>Year</i>	<i>Total FDI in China</i>	<i>FDI from Hong Kong</i>	<i>Percentage of HKFDI to Total FDI in China</i>	<i>Percentage of HKFDI to HKGDP</i>
1979-82	1.17	0.48	-	-
1983	0.64	0.49	77.0	1.79
1984	1.26	0.75	59.6	2.29
1985	1.66	0.96	57.8	2.76
1986	1.87	1.33	71.0	3.32
1987	2.31	1.80	77.8	3.63
1988	3.19	2.39	74.8	4.10
1989	3.39	2.58	76.1	3.84
1990	3.49	2.08	59.7	2.79
1991	4.37	2.58	59.1	3.00
1992	11.01	7.71	70.1	7.66
1993	27.52	17.44	63.4	15.01
1994	33.77	19.82	58.7	15.17
1995	37.52	20.19	53.8	14.40
1996	41.72	20.85	50.0	13.45
1997	45.26	21.55	47.6	12.70
1998	45.46	18.51	40.72	11.45
Average (1983-96)			55.83	7.34

Source: China Statistics Yearbook, various issues.

Table 2: Share of Output Contribution to GDP, Share of Employment to Total Employed Persons and Relative Productivity by Industry, 1982-1998

Year	Share of Output Contribution to GDP (%)					Share of Employment to Total Employed Persons (%)					Relative Productivity*				
	G1	G2	G3	G4	G5	G1	G2	G3	G4	G5	G1	G2	G3	G4	G5
1982	20.8	20	7.7	22.5	15.2	45.7	26.64	4.59	8.42	9.64	45.5	75.1	167.8	267.2	157.7
1983	22.9	20.4	8.2	17.6	16	45.3	27.24	4.64	8.61	9.9	50.6	74.9	176.7	204.4	161.6
1984	24.3	23.1	7.8	15.6	15.4	45.7	27.71	4.53	8.34	9.73	53.2	83.4	172.2	187.1	158.3
1985	22.1	22.8	8.1	16	16.7	42.9	29.76	4.73	8.68	10.08	51.5	76.6	171.2	184.3	165.7
1986	22.6	22.3	8.2	17	16	41.8	29.96	4.77	9.39	10.07	54.1	74.4	171.9	181.0	158.9
1987	22	24.3	8.6	17.9	14.5	40.5	30.69	4.94	9.9	10.04	54.3	79.2	174.1	180.8	144.4
1988	20.5	25.1	9.1	18.9	13.9	37.8	32.16	5.22	10.64	10.16	54.2	78.0	174.3	177.6	136.8
1989	19.3	25	9	19.5	14.1	35	34.19	5.57	11.25	10.44	55.1	73.1	161.6	173.3	135.1
1990	17.6	25.2	9.5	20.2	14.5	31.3	36.29	5.81	12.1	10.95	56.2	69.4	163.5	166.9	132.4
1991	15.4	25.9	9.6	22.7	14.9	27.7	38.41	5.91	13.04	11.78	55.6	67.4	162.4	174.1	126.5
1992	13.6	26.1	9.7	24.4	15.1	24.8	40.12	6.39	13.8	11.76	54.8	65.1	151.8	176.8	128.4
1993	11.1	26.9	9.5	25.7	15.6	21.3	41.77	6.79	14.88	12.26	52.1	64.4	139.9	172.7	127.2
1994	9.2	26.2	9.7	26.8	15.9	18	43.43	6.98	15.71	12.72	51.1	60.3	139.0	170.6	125.0
1995	8.34	26.6	10.1	24.4	17.3	16.2	43.75	7.4	16.25	12.98	51.5	60.8	136.5	150.2	133.3
1996	7.3	26.7	9.8	25.1	17.6	13.7	44.52	7.65	16.69	13.5	53.3	60.0	128.1	150.4	130.4
1997	6.54	25.40	9.28	26.20	17.90	12.60	43.76	7.77	17.93	13.86	51.9	58.0	119.4	146.1	129.1
1998	6.2	24	9.3	25.6	19.9	11.55	42.95	7.93	18.37	15.35	53.7	55.9	117.3	139.4	129.6
Average change (1982-1998)	-8.19	1.04	1.11	0.41	1.54	-9.13	2.91	3.33	4.72	2.83	0.96	-1.97	-2.34	-4.42	-1.30

Note: G1: Manufacturing, G2: Wholesale and Retail Trade, Restaurants and Hotel, G3: Transport, Storage and Communication, G4: Financing, Insurance, Real Estate & Business Services, G5: Community, Social and Personal Services.

$$*\text{Relative Productivity of industry } i = \frac{G_i^{\text{output}}}{G_i^{\text{employment}}} \times 100\%$$

Table 3: Unemployment rate by Age Group and by Sex, 1982-1998

Age group	1982		1986		1989		1992		1995		1998	
	Number ('000)	Rate (%)	Number ('000)	Rate (%)	Number ('000)	Rate (%)	Number ('000)	Rate (%)	Number ('000)	Rate (%)	Number ('000)	Rate (%)
15-19	18.7	9.2	14.9	10.3	5.5	4.4	6.8	6.6	10.7	12.7	16.9	20.5
20-29	34.7	3.9	31.7	3.3	14.5	1.6	22.3	2.7	32.2	4.0	48.0	5.7
30-39	12.3	2.3	11.9	1.7	4.4	0.6	12.0	1.4	22.7	2.3	36.4	3.3
40-49	10.5	2.7	6.2	1.6	2.4	0.5	7.4	1.3	18.1	2.7	34.6	4.1
50-59	11.1	3.6	8.8	2.7	2.2	0.7	4.9	1.7	9.6	3.2	19.1	5.1
≥ 60	3.8	2.3	2.9	1.9	0.6	0.4	1.3	0.8	2.3	1.7	2.8	2.3
Sex												
Male	63.5	4.0	51.3	3.0	19.1	1.1	35.3	2.0	62.3	3.4	105.0	5.1
Female	27.6	3.1	25.0	2.5	10.6	1.1	19.4	1.9	33.3	2.9	52.7	4.0
Total	91.1	3.6	76.2	2.8	29.7	1.1	54.7	2.0	95.6	3.2	157.6	4.7
As percentage of total unemployed												
15-19	20.5		19.6		18.5		12.4		11.2		10.6	
20-29	38.1		41.6		48.8		40.8		33.7		30.4	
30-39	13.5		15.6		14.8		21.9		23.7		23.1	
40-49	11.5		8.1		8.1		13.5		18.9		22.0	
50-59	12.2		11.5		7.4		9.0		10.0		12.1	
≥ 60	4.2		3.8		2.0		2.4		2.4		1.8	
Total*	100		100		100		100		100		100	

Source: Hong Kong Annual Digest of Statistics, various issues, Census and Statistics Department, Hong Kong.

* The sum may not round up to 100% due to rounding error.

Table 4: Changes in the Shares of Occupations within Each Sector
between 1996 and 1991 (%)

	<i>Manufacturing</i>	<i>Wholesale</i>	<i>Transportation</i>	<i>Finance</i>	<i>Personal</i>	<i>Others</i>
(C1) Manager	6.50	3.20	1.47	3.74	0.81	1.86
(C2) Professional	1.10	0.27	0.63	1.73	1.14	1.01
(C3) Associate Professional	2.93	0.67	1.95	0.56	-0.55	1.57
(C4) Clerk	5.11	0.25	0.48	-7.22	-0.24	1.44
(C5) Service	1.11	-2.24	1.81	0.26	-2.78	1.08
(C6) Craftsman	-0.38	-0.62	-1.33	-0.86	-1.15	-0.03
(C7) Operator	-13.53	-0.08	-2.48	-0.10	-0.17	-0.56
(C8) Elementary	-3.11	-1.60	-2.65	1.79	3.83	-4.90
(C9) Others	0.27	0.15	0.13	0.10	-0.90	-1.48
(C1)+(C2)+(C3)	10.53	4.14	4.05	6.03	1.40	4.44
(C6)+(C7)	-13.91	-2.86	-3.81	-0.96	-1.32	-0.59
(C8)+(C9)	-2.84	-1.45	-2.52	1.89	2.93	-6.38

Note: Changes in the employment share of occupation (SO) group i in industry j ,

$$\Delta SO_{i,t} = SO_{i,1996} - SO_{i,1991}$$

Source: Calculations of the author based on the *Population By-census, 1991 and 1996*, Hong Kong.

Table 5: Changes in Household Income Distribution in Hong Kong, 1976-1996

Income Group	Income Share (%)				
	1976	1981	1986	1991	1996
1st quintile	5.4	4.6	5.0	4.3	3.7
2nd quintile	10.1	9.8	9.8	9.0	8.2
3rd quintile	14.9	14.3	14.0	13.5	12.7
4th quintile	20.1	20.9	20.5	20.4	19.1
Highest quintile	49.5	50.4	50.7	52.8	56.3
Total	100.0	100.0	100.0	100.0	100.0
Gini Coefficient	0.43	0.451	0.453	0.476	0.518
1st and 2nd quintile	15.5	14.4	14.8	13.3	11.9
RAZ(5th quintile/ 1st quintile)	9.17	10.96	10.14	12.28	15.22
MID 2nd and 3rd quintile	25.0	24.1	23.8	22.5	20.9
2nd, 3rd and 4th quintile	45.1	45.0	44.3	42.9	40.0

Source: *Hong Kong Annual Digest of Statistics*, various issues, Census and Statistics Department, Hong Kong.

Table 6: Income Distribution of Households According to the Education Level of the Household Head

	1982	1985	1988	1991	1994	1997
Average labour income according to the education level of the head of the family in HK 1990\$						
Primary education	3269	3620	4466	5002	5104	5262
Secondary education	4028	4477	5604	6507	6648	6841
University education	12298	13699	17061	19706	20211	21393
Distribution of households according to the education level of the head of the family (in %)						
Primary education	35.7	32.3	29.3	25.1	22.3	19.0
Secondary education	43.4	46.9	48.9	51.5	53.8	52.8
University education	3.6	4.4	5.6	6.0	8.8	11.8
Average labour income ratio according to the education level of the head of the family						
University/primary education	3.76	3.78	3.84	3.94	3.96	4.07
University/secondary education	3.05	3.06	3.04	3.03	3.04	3.13
Secondary/primary education	1.23	1.24	1.26	1.30	1.30	1.30

Source: *Hong Kong Annual Digest of Statistics*, various issues and *Population By-census, 1991 and 1996*, Hong Kong.

Table 7: Regression Results of the Relative Wage Ratio between Skilled and Unskilled Labour for Various Sectors, 1983-98

$$\left(\frac{W_{skilled}}{W_{unskilled}} \right)_i = \beta_{0i} + \beta_{1i} Fdi(-1) + \beta_{2i} Prod_i(-1) + \beta_{3i} Edu + \beta_{4i} Unemp(-1) + \varepsilon_i$$

where i = Manufacturing, Finance, Wholesale, Transportation, Personal Services etc.

<i>Coefficients:</i>	C	FDI(-1)	RPROD (-1)	EDUL	UNEMP (-1)	ρ	Adj R ²	F-stat
<i>Manufacturing</i>	1.555	0.038** (6.894)	0.213* (2.789)	-0.064* (-2.902)	0.017+ (2.041)	-0.838	0.945	45.93
<i>Finance</i>	0.236	0.009 (0.915)	0.227+ (1.814)	-0.156* (-2.271)	0.050* (5.647)	-0.518	0.792	18.66
<i>Wholesales</i>	0.278	0.003 (1.403)	0.029 (1.321)	-0.112* (-2.890)	0.044* (3.494)	0.576	0.970	85.23
<i>Transportation</i>	2.693	0.033* (2.556)	0.422* (3.057)	-0.118 (1.719)	0.045* (3.859)	0.994	0.927	34.06
<i>Personal Services</i>	-1.257	0.026* (2.256)	0.276+ (2.198)	-0.236** (-5.920)	0.024 (1.259)	-0.805	0.876	19.34

All variables are in logarithmic form.

Figures inside parenthesis are t-statistics

** denotes significance at 1% level

* denotes significance at 5% level.

+ denotes significance at 10% level

Table 8: Regression Results and Sensitivity Analysis of the Rental Rate, 1983-98

$$R_t = \alpha_0 + \alpha_1 FDI_{t-1} + \alpha_2 PCCS_{t-1} + \alpha_3 EDUL_t + \alpha_4 UNEMP_t + \varepsilon_t$$

<i>Coefficients of</i>	$\hat{\alpha}_0$	$\hat{\alpha}_1$	$\hat{\alpha}_2$	$\hat{\alpha}_3$	$\hat{\alpha}_4$	ρ	Adj R ²	F-stat
$\delta = 8\%$	1.685	0.236* (3.410)	1.224 ** (5.488)	-1.029* (-3.362)	-0.148 * (-3.570)	-0.643	0.773	9.872
$\delta = 10\%$	2.151	0.226* (3.109)	1.022** (5.062)	-1.006* (-3.096)	-0.123 * (-3.071)	-0.630	0.751	8.828
$\delta = 12\%$	2.520	0.216* (2.799)	0.854 ** (4.617)	-0.973* (-2.809)	-0.099 * (-2.507)	-0.618	0.721	7.704

All variables are in logarithmic form.

Figures inside parenthesis are t-statistics

** denotes significance at 1% level.

* denotes significance at 5% level.

Table 9: Population Size and Components of Change, 1982-98

<i>Year</i>	<i>Population (millions)</i>	<i>Natural increase (births-deaths) (thousands)</i>	<i>Net balance of migration (thousands)</i>	<i>Growth rate (%) with migration</i>
1982	5.265	62.5	18.6	1.6
1983	5.345	58.6	22.0	1.5
1984	5.398	55.0	-2.2	1.0
1985	5.456	52.5	5.8	1.1
1986	5.525	49.5	18.9	1.3
1987	5.581	45.5	10.4	1.0
1988	5.628	42.5	4.6	0.8
1989	5.686	48.3	10.3	1.0
1990	5.705	42.0	-23.7	0.3
1991	5.752	41.1	6.4	0.8
1992	5.801	41.0	7.5	0.8
1993	5.901	42.6	57.9	1.7
1994	6.035	41.5	92.9	2.3
1995	6.156	40.9	79.8	2.0
1996	6.311	35.6	119.3	2.5
1997	6.502	27.3	107.7	2.1
1998	6.687	20.1	96.7	1.7

Source: Hong Kong Annual Digest of Statistics, various issues and Population By-census, 1991 and 1996, Hong Kong.