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Comparison of Investment Behaviour of Source Countries in China

by

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1 Introduction

Since China launched the economic reforms and called for direct foreign capital participation in boosting its economic growth and upgrading its overall production technology, China has become one of the world most important countries to host foreign direct investment (FDI). On the one hand, FDI inflows into China increased rapidly after 1979, and particularly during the early 1990s. On the other hand, more than 100 countries have invested in China. As a result, since 1993 China has become the second largest FDI recipient in the world (following the United States) and the single largest host country among the developing countries (United Nations, 1995, p. 54). However, what is the composition of the source countries of FDI in China? Do the source countries differ in their investment behaviour? This paper will discuss and answer these questions.

There are two basic reasons for the study of the sources of FDI. First, from the host country's point of view, a diversity of the sources of FDI can provide more opportunities for the host country to obtain and to absorb diversified information, technology, management skills and access to international markets, thus enhancing the gains to the host country. This reason has special implications for China. As we will see in the following section, there has been an overwhelming dominance of Hong Kong investment in China, and its pattern of investment to a certain extent has determined the general pattern of FDI in China. Second, since the source countries are different in economic and technological development levels, the enterprises funded by different source countries should have differences in their behaviour, such as the propensity to enter into joint ventures or to set up wholly foreign-owned enterprises, the propensity to export, the type of production technology, and the propensity to transfer and modify technology. FDI in China provides a very valuable case study of the differences between developing country investors and developed country investors.

The paper is structured as follows. In section 2 we analyse the source country composition and identify the major investors in China. From section 3 to section 7, we compare and analyse the differences between the major investors in terms of regional investment bias, patterns of investment, type of entry, market orientation, factor intensity and factor productivity. Finally, section 8 summarises the main findings and concludes the paper.

2 Who Are the Major Investors in China

Since 1979 more than 100 countries have invested in China. However, who are the major investors? In this section we will address this question from two aspects. First, we compare the annual realised FDI flows into China from various source countries and economic groupings, and second, we compare the accumulated realised FDI in China by various source countries and economic groupings for the period 1983 to 1995. Because FDI inflows into China increased dramatically after 1992, we will also

compare the share changes of various source countries and economic groupings in terms of the accumulated FDI for the two sub-periods of 1983-91 and 1992-95.

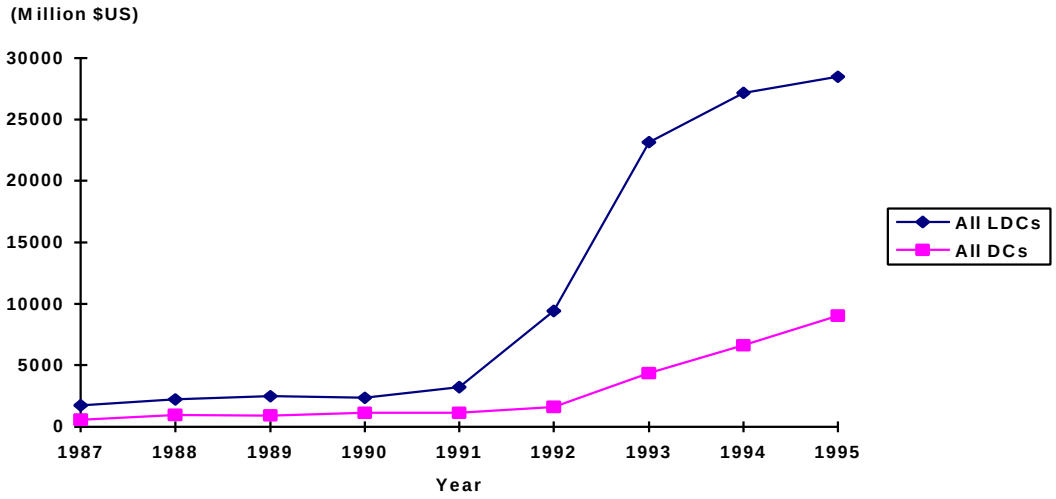
First, Table 1 shows the annual realised FDI flows into China from various source countries and economic groupings. The table reveals several important characteristics. First, since 1983 Hong Kong has been the single largest and the most important investor in China among all sources, both in terms of the annual amount and in terms of the growth rate of FDI. Second, Taiwan started to invest in mainland China relatively late compared with other major investors, however, its annual FDI outflow to mainland China increased very rapidly and has exceeded both that of the United States and Japan since 1992. Third, the United States and Japan have been by far the largest foreign investors among the developed source countries investing in China. The annual FDI outflow of the United States and Japan to China far exceeded that of any other developed source countries and ranked the third and the fourth places after Hong Kong and Taiwan. However, the United States and Japan have both increased their investments in China substantially since 1993, compared to their annual investments in China from 1983 to 1992. Fourth, as compared with the 1980s, the annual FDI flows into China from all source countries and economic groupings in the early 1990s have increased remarkably. However, comparing the two groups of developing and developed source countries, as shown in Figure 1, the surge of FDI flows into China from developing source countries started in 1992 with a very high growth rate, and the surge of FDI flows into China from developed source countries actually occurred in 1993, with a relatively mild growth rate as compared with that of the developing source countries. As a result, the gap in the annual FDI outflows to China between the developing and developed source countries has enlarged.

Table 1 FDI inflows into China by source country and economy 1983-95 (millions of US dollars at current prices)

Source country	1983-86	1987	1988	1989	1990	1991	1992	1993	1994	1995
NIEs	**883**	**1610**	**2095**	**2121**	**2153**	**2961**	**8799**	**21277**	**24959**	**26258**
Hong Kong	876	1588	2068	2037	1880	2437	7507	17275	19665	20185
Taiwan	0	0	0	0	222	466	1051	3139	3391	3165
Singapore	7	22	28	84	50	58	122	490	1180	1861
South Korea	0	0	0	0	0	0	119	374	723	1047
ASEAN	**8**	**15**	**11**	**16**	**10**	**30**	**144**	**513**	**692**	**765**
Thailand	6	11	6	13	7	20	83	233	235	288
Philippines	2	4	4	2	2	6	16	123	140	106
Malaysia	0	0	1	0	1	2	25	91	201	259
Indonesia	0	0	0	1	1	2	20	66	116	112
Japan	**247**	**220**	**515**	**356**	**503**	**533**	**710**	**1324**	**2075**	**3212**
USA	**256**	**263**	**236**	**284**	**456**	**323**	**511**	**2063**	**2491**	**3084**
West Europe	**151**	**55**	**195**	**218**	**151**	**264**	**277**	**714**	**1634**	**2233**
UK	54	5	34	28	13	35	38	221	689	915
Germany	19	3	15	81	64	161	89	56	259	391
France	33	16	23	5	21	10	45	141	192	287
Italy	20	16	31	30	4	28	21	100	206	270
Other WE	26	15	93	73	48	29	85	196	288	370
Other DCs	**29**	**20**	**10**	**61**	**42**	**26**	**96**	**256**	**413**	**511**
Australia	25	5	4	44	25	15	35	110	188	233
Canada	4	10	6	17	8	11	58	137	216	257
New Zealand	0	5	0	0	9	1	3	9	9	21
Other Asia	**0**	**10**	**31**	**41**	**58**	**50**	**229**	**718**	**627**	**513**
East Europe	**1**	**21**	**1**	**0**	**0**	**1**	**21**	**54**	**49**	**27**
Latin America	**3**	**2**	**0**	**1**	**7**	**4**	**24**	**59**	**165**	**336**
Africa	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**38**	**14**	**15**
Others	**55**	**98**	**96**	**293**	**107**	**174**	**193**	**499**	**648**	**567**
All LDCs	**950**	**1756**	**2237**	**2473**	**2335**	**3220**	**9413**	**23158**	**27153**	**28481**
All DCs	**684**	**558**	**957**	**920**	**1152**	**1146**	**1595**	**4357**	**6614**	**9040**
Total	**1634**	**2314**	**3194**	**3393**	**3487**	**4366**	**11008**	**27515**	**33767**	**37521**

Source: Various issues of the Editorial Board of the Almanac of China's Foreign Economic Relations and Trade, *Zhongguo Duiwai Jingji Maoyi Nianjian* [Almanac of China's Economic Relations and Trade], Zhongguo Shehui Chubanshe, Beijing.

Figure 1 FDI inflows into China by Developing and Developed Source Countries 1983-95



Source: As Table 1.

Second, in terms of the accumulated FDI (at 1980 constant US dollar prices) by source countries and economic groupings, as shown in Table 2 and Figure 2, during the period from 1983 to 1995, as a group the NIEs has been the largest investor, accounting for 71.55 percent of the total. Within the NIEs, Hong Kong has held the dominant position, accounting for 58.78 percent of the total, followed by Taiwan, accounting for 8.31 percent, Singapore, accounting for 2.84 percent and South Korea, accounting for 1.62 percent respectively. Even if we subtract Hong Kong from the NIEs' total accumulated FDI, the remaining economies still account for 12.77 percent of the total accumulated FDI in China.

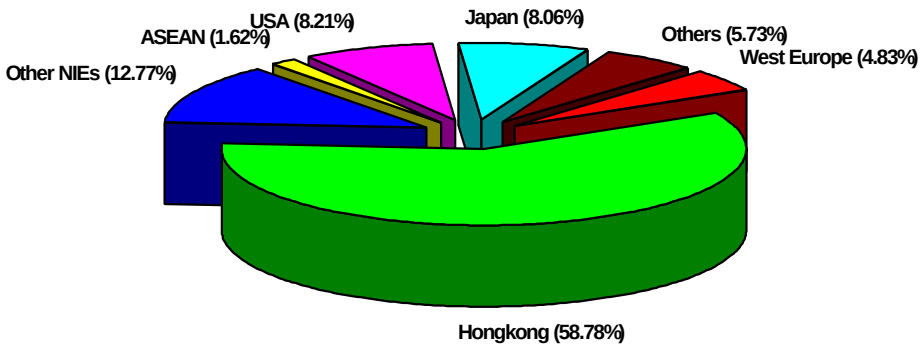
The FDI inflows into China from ASEAN countries are also very impressive compared with these countries' economic size and their ability to invest abroad. As a group the four ASEAN countries accounted for 1.62 percent of the total accumulated FDI inflows into China.

Table 2 Accumulated FDI stock in China by source countries 1983 - 1995 (1980 constant US$ prices)

Source Countries	Year 1983-91		Year 1992-95		Year 1983-95	
	US$ (million)	(%)	US$ (million)	(%)	US$ (million)	(%)
NIEs	**9920**	**61.75**	**45372**	**74.12**	**55292**	**71.55**
Hong Kong	9319	58.01	36105	58.98	45424	58.78
Taiwan	422	2.62	6003	9.81	6425	8.31
Singapore	179	1.12	2013	3.29	2193	2.84
South Korea	0	0	1251	2.04	1251	1.62
ASEAN	**79**	**0.49**	**1175**	**1.92**	**1254**	**1.62**
Thailand	54	0.34	468	0.76	522	0.68
Philippines	19	0.12	215	0.35	234	0.30
Malaysia	3	0.02	318	0.52	322	0.42
Indonesia	3	0.02	174	0.28	177	0.23
Japan	**2166**	**13.48**	**4062**	**6.64**	**6228**	**8.06**
USA	**1817**	**11.31**	**4529**	**7.40**	**6346**	**8.21**
West Europe	**1047**	**6.51**	**2686**	**4.39**	**3732**	**4.83**
UK	243	1.51	1026	1.68	1269	1.64
Germany	263	1.64	440	0.72	702	0.91
France	153	0.95	369	0.60	522	0.68
Italy	134	0.83	330	0.54	464	0.60
Other WE	253	1.57	522	0.85	774	1.00
Other DCs	**193**	**1.20**	**708**	**1.16**	**901**	**1.17**
Australia	136	0.84	314	0.51	449	0.58
Canada	47	0.29	371	0.61	418	0.54
New Zealand	11	0.07	23	0.04	35	0.04
Other Asia	**124**	**0.77**	**1170**	**1.91**	**1293**	**1.67**
East Europe	**21**	**0.13**	**85**	**0.14**	**106**	**0.14**
Latin America	**17**	**0.11**	**321**	**0.52**	**338**	**0.44**
Africa	**2**	**0.01**	**39**	**0.06**	**41**	**0.05**
Others	**676**	**4.21**	**1065**	**1.74**	**1741**	**2.25**
All LDCs	**10840**	**67.48**	**49227**	**80.42**	**60067**	**77.73**
All DCs	**5223**	**32.52**	**11986**	**19.58**	**17209**	**22.27**
Total	**16063**	**100**	**61213**	**100**	**77276**	**100**

Source: As Table 1.

Figure 2 Shares of accumulated FDI by source countries in China (1983-95)



Source: As Table 2.

Among the developed countries, the United States and Japan are the most important investors in China, accounting for 8.21 percent and 8.06 percent of the total accumulated FDI inflows into China respectively, while the combined share of the other developed countries is only 6 percent. Apart from the UK, whose share is 1.64 percent, no other individual developed country has contributed more than 1 percent of the total accumulated FDI inflows into China. This is particularly apparent for the Western European countries, though they are the main source countries for FDI in the world.

Investments by other countries in China are very small: 1.67 percent for other Asian countries, 0.14 percent for Eastern European countries, 0.44 percent for Latin American countries, and 0.05 percent for African countries.

Comparing the two sub-periods of 1983-91 and 1992-95, the shares of FDI in China from various source countries and economies changed greatly. The share of investment from the NIEs increased substantially from 61.75 percent to 74.12 percent.

This large increase of the share of the NIEs investment in China was mainly caused by the growth of investment from Taiwan and South Korea. Taiwan's direct investment in mainland China began being listed in China's official statistics in 1990. Therefore, in the period of 1983 to 1991, Taiwan's share only accounted for 2.63 percent of the total accumulated FDI in China. However, in the period 1992-95, the share of Taiwan's direct investment in mainland China surged to 9.81 percent. This exceeded both the United States and Japan, and made Taiwan the second largest investor among all the source countries investing in China. For South Korea, direct investment in China was first listed in the Chinese official statistics in 1992. In the four years 1992 to 1995, South Korea's accumulated FDI in China reached US$1,251 million, accounting for 1.62 percent of China's total accumulated FDI inflows from 1983 to 1995.

Another significant increase in the share of accumulated FDI in China was made by the ASEAN countries. Their combined share increased from 0.49 percent in 1983-91 to 1.92 percent in 1992-95. Among the ASEAN countries, Thailand has taken the leading position in investment in China, followed by Malaysia, the Philippines and Indonesia.

In contrast, except UK and Canada, the shares of accumulated FDI in China for all other developed source countries declined. From the period 1983-91 to the period 1992-95, the Japanese share declined from 13.48 percent to 6.64 percent, the United States' share declined from 11.31 percent to 7.40 percent, and Western European countries declined from 6.52 percent to 4.39 percent.

The reasons for the decline of the shares of accumulated FDI in China for the developed source countries are twofold. First, though the developed source countries increased their investment in China in the early 1990s, particularly in 1993-95, the growth rate of their investment has been lower than that of the developing source countries. Second, since the early 1990s and especially since 1992 a lot of previously non-participant developing countries have begun to invest in China, which undoubtedly would tend to reduce the share of accumulated FDI of the developed source countries. Consequently, the share of accumulated FDI in China for the

developing source countries increased from 67.48 percent at the year end of 1991 to 77.73 percent at the year end 1995. In contrast, the share of accumulated FDI in China for the developed source countries declined from 32.52 percent at the year end of 1991 to 22.27 percent at the year end of 1995.

Obviously, foreign direct investment in China by country of origin, on the one hand, presents significant diversification in terms of the total number of investing countries; on the other hand, it also reveals great concentration in terms of the magnitudes invested by the source countries. However, analysis of source countries in China's FDI requires caution. This is especially important in explaining the dominance of Hong Kong in China's FDI, because of the "round-tripping" and "two-stage" investment issues.

Round-tripping involves the circular flow of capital out of China (in most cases to foreign affiliates of Chinese transnational corporations) and the subsequent "re-investment" of this "foreign" capital in China for the purpose of benefiting from fiscal entitlements accorded to foreign investors. One estimate made by Harrold and Lall (1993) suggested that round-tripping inward FDI accounted for 25 percent of China's FDI inflows in 1992. Recent studies such as Lever-Tracy, Ip and Tracy (1996) and EAAU (1995) suggest that a large volume of the inflows from Hong Kong and Taiwan are due to the round-tripping issue. The round-tripping not only inflated China's total FDI inflows but also inflated the FDI inflows from some source countries especially from Hong Kong, Taiwan and also some South-East Asian developing countries.

"Two-stage" investment happens when some of the investment is undertaken by subsidiaries of multinational corporations. This problem is caused by recording the source country as being that of the country where the subsidiary is located rather than the head office country. In the case of China this problem is most likely to happen when FDI is carried out by the developed countries' multinational corporations' subsidiaries based in developing countries, particularly in Hong Kong. This will tend to increase the share of developing countries in China's total FDI inflows.

However, it also should be noted that these problems have been reduced in recent years. First, in 1993 China decided to introduce national treatment for foreign affiliates in order to establish a level-playing field for both domestic and foreign firms. This policy reform has substantially reduced the incentive for round-tripping. Second, China has been improving its overall investment environment, particularly its legal framework governing FDI, which will reduce the transactions costs to the developed countries to conduct FDI in China. This will greatly help to solve the problem of two-stage investment.

Therefore, when we interpret the composition of source country investment in China, we should acknowledge the data problems. However, since Hong Kong's investment is so dominant, even when we deduct the estimated 25 percent from Hong Kong's investment, it is still as high as 51 percent of the adjusted total FDI stock, far ahead of any other source country. As a result, we argue that despite the above problems, the general findings of FDI in China by country of origin are still valid.

Now we can answer the question raised in the beginning of this section. The largest single investor in China is Hong Kong followed by Taiwan, the United States and Japan. As a group the Newly Industrialising Economies (NIEs) are the largest investor in China followed by the group of Western European Countries (WECs) and the ASEAN group (Indonesia, Malaysia, the Philippines and Thailand).

3 Regional Bias of the Major Investors

Is there any regional preference or bias when the major investors make their investments in China? Table 3 shows the provincial distribution of FDI made by the major investors. Data on contracted FDI are only available for Hong Kong & Macau, Taiwan, Japan and the United States from 1987 to 1993. The information provided by the data, however, is enough for us to paint the general picture of the regional investment location of the major investors and to make some comparisons. When

comparing the changes in the major investors' investment location within China over time, the data are divided into the two sub-periods of 1987-91 and 1992-93.

For the period 1987-91, the top three host provinces for the major investors were Guangdong, Fujian and Jiangsu for Hong Kong and Macau; Fujian, Guangdong and Jiangsu for Taiwan; Liaoning, Guangdong and Shanghai for Japan; and Guangdong, Shanghai and Beijing for the United States. The shares of the top three host provinces in the total investments of the major investors were 68 percent for Hong Kong and Macau, 67 percent for Taiwan, 55 percent for Japan and 56 percent for the United States. It is clear that in this period the investments of the major investors in China not only had strong regional biases but also had a very high degree of regional concentration.

Since 1992 all the major investors have spread investments from their initial concentrated provinces to other regions of China. The new and increasingly important host regions for all the major investors are the "Yangzi River Delta", comprising Shanghai, Jiangsu and Zhejiang, and the "Bo Hai Gulf" including Shandong, Hebei, Tianjin, and Liaoning. Consequently, the order of the top three host provinces for the major investors have changed. For Hong Kong and Macau, Guangdong is still the top host province, but its share has declined from 53 percent to 40 percent. In contrast, Jiangsu's share nearly doubled from 4.4 percent up to 8.5 percent. For Taiwan, the shares of Guangdong and Fujian have both declined by more than twofold, while Jiangsu's share increased by more than three times from 6.3 percent up to 20.3 percent, making it the top place for hosting Taiwan's investment. Jiangsu also has become the top host province for the investments of Japan and the United States. Guangdong has dropped out of the top three host provinces for Japan's investment and fallen to the second place for hosting the investment of the United States. Another change has been the decline of the extent of investment concentration. The shares of

Table 3 Shares of FDI by major investors by provinces (%)

Province	Hong Kong & Macau		Taiwan		Japan		USA	
	87-91	92-93	87-91	92-93	87-91	92-93	87-91	92-93
Beijing	2.44	4.24	2.81	4.59	9.75	6.03	9.54	9.75
Tianjin	1.27	1.45	1.4	2.48	3.8	4.03	3.15	5.6
Hebei	1.81	1.44	1.66	1.91	1.27	8.06	3.13	2.63
Shanxi	0.28	0.4	0.09	0.48	0.01	0.3	0.27	0.57
Inner Mongolia	0.24	0.25	0.13	0.35	0.03	0.32	0.78	0.65
Liaoning	3.68	2.58	1.92	2.97	28.95	13.02	5.42	6.3
Jilin	0.26	0.53	0.49	0.57	0.61	1.09	0.72	1.22
Heilongjiang	1.07	0.76	0.63	1.06	0.48	1.44	0.78	1.1
Shanghai	3.35	5.47	5.31	5.12	11.61	12.9	14.93	10.51
Jiangsu	4.38	8.46	6.27	20.31	8.16	15.76	7.72	16.25
Zhejiang	2.02	3.92	3.41	5.45	1.99	2.8	4.66	3.86
Anhui	0.23	0.74	0.47	0.76	0.32	0.22	0.18	1.29
Fujian	10.89	10.88	36.93	15.99	3.33	3.62	2.87	3.48
Jiangxi	0.41	0.99	0.93	0.95	0.07	0.33	0.45	0.55
Shandong	3.62	5.09	5.05	8.7	5.83	9.97	7.73	11.31
Henan	1.23	0.47	0.69	1.75	0.37	1.39	0.46	1.06
Hubei	0.97	1.89	1.14	2.45	0.1	1.03	0.44	1.13
Hunan	0.4	0.98	0.3	1.35	0.15	0.37	0.53	0.58
Guangdong	52.97	39.7	23.73	11.82	14.37	10.08	31.58	13.13
Guangxi	1.58	3.37	1.29	2.58	1.42	1.2	0.47	1.75
Hainan	4	3.4	3.07	4.46	5.92	3.38	2.34	4.06
Sichuan	1.05	0.74	1.09	1.32	0.3	0.78	1	0.88
Guizhou	0.22	0.49	0.37	0.5	0.01	0.06	0.33	0.5
Yunnan	0.04	0.36	0.39	0.7	0.06	0.09	0.14	0.38
Shaanxi	1.35	0.86	0.13	0.99	0.22	1.36	0.13	0.86
Gansu	0.13	0.24	0.1	0.25	0.58	0.24	0.03	0.26
Qinghai	0	0.01	0	0.03	0	0.01	0	0.02
Ningxia	0.05	0.06	0	0.03	0	0.09	0.05	0.09
Xinjiang	0.08	0.22	0.19	0.07	0.27	0.04	0.15	0.24
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Sources: Data for 1987-91 are calculated from the State Statistical Bureau (1992), *Zhongguo Duiwai Jingji Tongji Daquan 1979-1991* [China Foreign Economic Statistics 1979-1991], China Statistical Information & Consultancy Service Centre, Beijing.

Data for 1992-93 are calculated from the State Statistical Bureau (1995), *Zhongguo Duiwai Jingji Tongji Nianjian 1994* [China Foreign Economic Statistical Yearbook 1994], Zhongguo Tongji Chubanshe, Beijing.

Note: The shares are calculated at 1980 constant US dollar prices.

the top three host provinces in the total investment of the major investors in the second period had dropped to 59 percent for Hong Kong and Macau, 48 percent for Taiwan, 42 percent for Japan and 41 percent for the United States.

The above analyses have revealed that the investment of the major investors in China do have regional biases. These investment biases are presented in two ways. First, all major investors have invested the bulk of their capital in a small number of provinces, which is reflected by the large shares of the top three host provinces. However, since 1992 this kind of regional investment bias has gradually reduced as the major investors have extended their investments to other regions of China, which is also reflected by the decline of the investment shares of the top three host provinces.

Second, in addition to the common regional investment bias, each of the major investors also presented a different specific regional investment preference or bias. This bias was particularly prominent for the major investors in the period 1987-91. The evidence for this regional investment bias was found by the high concentration of Hong Kong and Macau's investments in Guangdong, Taiwan's investment in Fujian, and Japan's investment in Liaoning. The explanation for this regional investment bias of the investors is the level of "economic proximity" between the host provinces and the investors. Economic proximity is a comprehensive conceptual measure of the overall similarities among countries in the world. The factors affecting economic proximity include the geographic distance, cultural difference, and regulatory barriers. Economic proximity is higher the lower the costs arising from geographic distance (mainly transport and communication costs), cultural difference (differences in culture, language, business practices etc.) and regulatory barriers (both border and non-border measures) that hamper the international movements of goods, services and factors of production (Braga and Bannister, 1994). Economic proximity works to facilitate investment and tends to reduce the transaction costs of investment. As Caves said (1982, p. 64): "Casual evidence ... confirms the general impression that the bulk of their [source countries] foreign investments go where the transactional and information-cost disadvantages are least." Obviously, Hong Kong and Macau with Guangdong, and Taiwan with Fujian have more economic proximity, and Japan is relatively more close and familiar with Liaoning compared with other regions of

China. Therefore, in addition to the general location factors affecting the FDI inflows into China, economic proximity is an important factor affecting the investors' investment location decision.

4 The Investment Patterns of the Major Investors in Manufacturing

The analysis of the pattern of investment in manufacturing in China by the major investors requires more complete data by source of origin and by manufacturing sectors. Unfortunately, data for all FDI in manufacturing in China by country of origin and by manufacturing sectors are not available. However, for the purpose of a general understanding of the pattern of investment in manufacturing in China by the major investors, we can use data for China's 3000 largest foreign-funded enterprises (Huang Zhengshen, Xie Wenxia and Chen Xianjing, 1994). Foreign-Funded Enterprises (FFEs) are Contractual Joint Ventures, Equity Joint Ventures and Wholly Foreign-Owned Enterprises. The data included in the 3000 largest FFEs are mainly enterprises with total investment at or above US$10 million and some with total investment between US$5-10 million. It should be noted that since the data are for the 3000 largest FFEs which are more capital intensive than small enterprises, the interpretation of the findings based on this biased information requires caution.

Among the 3000 largest FFEs, there are 1,940 manufacturing enterprises owned by the major investors. According to the Chinese industrial classification, the 1,940 manufacturing enterprises can first be classified into 29 manufacturing sectors. We can then classify them into three groups - namely labour intensive (L), capital intensive (K), and technology intensive (T) manufacturing sectors.[1] To avoid

[1] Labour-intensive sectors include Food processing, Food manufacturing, Textiles, Clothing & other fibre products, Leather & Fur products, Timber processing, Furniture, Paper & Paper products, Printing, Cultural, Education & Sports goods, Rubber products, Plastic products, Non-metal mineral products, Metal products, and Others.

problems associated with differences in valuations by the date of the investment, we use the number of enterprises instead of the reported value of the capital invested.

According to Dunning's "OLI" theory of FDI, the investment patterns of foreign investors are mainly decided by their specific ownership advantages, and further the specific ownership advantages are very much influenced by the economic and technological development levels of source countries. Therefore, for comparison, we grouped the major investors into the NIEs (Hong Kong, Taiwan, Singapore, South Korea), ASEAN (Thailand, the Philippines, Malaysia, Indonesia), WECs (Western European Countries), Japan, and the United States according to their economic and technological development levels.

Table 4 provides us the information of the largest FFEs in manufacturing by the major investors and by manufacturing sectors. First let us examine the general pattern of investment in manufacturing in China by all of the major investors. As shown in column 1 and 2 in Table 4 and especially in Figure 3, the shares of investment in manufacturing by all of the major investors are 51.81 percent in labour intensive sectors, 25 percent in capital intensive sectors and 23.19 percent in technology intensive sectors. It is very clear that, even using the information on the largest

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Capital-intensive sectors include Beverage manufacturing, Tobacco processing, Petroleum refining & Coking, Chemical materials & products, Chemical fibres, Ferrous metal smelting & pressing, Non-ferrous metal smelting & pressing, and Transport equipment.

Technology intensive sectors include Medical & Pharmaceutical products, General machinery, Special machinery, Electrical machinery & equipment, Electronics & Telecommunication equipment, and Instruments & Meters.

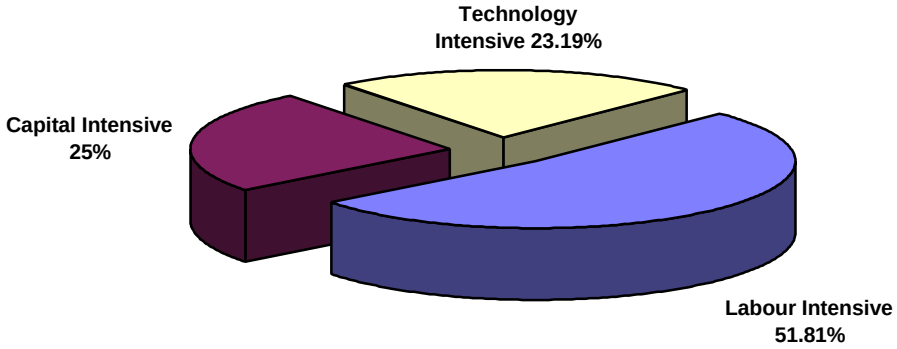
Details for the classification of China's industries into labour intensive, capital intensive, and technology intensive categories are in Zhang Xiaohe (1993), *Economic Liberalisation, Dualism and the International Trade Pattern of China: Theory and Evidence*, Ph.D Thesis, The University of Adelaide.

Table 4 Composition of the major investors by manufacturing sectors

Manufacturing sectors	Sector shares	Percentage composition of the top 5 major investors in that manufacturing sector				
Textiles	13.14	Hong Kong (76.1)	Taiwan (7.1)	USA (4.7)	WECs (3.9)	Japan (3.1)
Non-metal mineral products	9.28	Hong Kong (68.9)	USA (7.8)	WECs (6.7)	Taiwan (6.1)	Japan (3.3)
Electronics & Telecommunication Equipment	8.81	Hong Kong (62.6)	Japan (11.1)	USA (9.9)	Taiwan (7.0)	WECs (3.5)
Chemical materials & products	6.44	Hong Kong (64.0)	USA (12.8)	Taiwan (8.8)	WECs (8.0)	Japan (3.2)
Plastic products	6.19	Hong Kong (71.7)	Taiwan (13.3)	ASEAN (3.3)	WECs (3.3)	USA (3.3)
Electrical machinery & equipment	5.57	Hong Kong (56.5)	Japan (11.1)	Taiwan (10.2)	USA (9.3)	WECs (4.6)
Transport equipment	5.36	Hong Kong (57.7)	USA (13.5)	WECs (8.7)	Taiwan (8.7)	Japan (4.8)
Metal products	5.00	Hong Kong (50.5)	Taiwan (14.4)	USA (11.3)	WECs (10.3)	Japan (5.2)
Food manufacturing	4.02	Hong Kong (46.2)	Taiwan (17.9)	USA (12.8)	WECs (9.0)	Singapore (5.1)
Chemical fibres	3.61	Hong Kong (74.3)	Taiwan (7.1)	WECs (5.7)	ASEAN (4.3)	USA (2.9)
Ferrous metal smelting & pressing	3.20	Hong Kong (74.2)	USA (11.3)	Taiwan (6.5)	Singapore (3.2)	Japan (1.6)
Special equipment	2.99	Hong Kong (53.4)	Taiwan (12.1)	Japan (10.3)	WECs (6.9)	USA (3.4)
Non-ferrous metal smelting & pressing	2.89	Hong Kong (82.1)	Taiwan (10.7)	WECs (1.8)	Japan (1.8)	USA (1.8)
General machinery	2.63	Hong Kong (60.8)	USA (13.7)	WECs (5.9)	Japan (5.9)	Taiwan (5.9)
Food & Feed processing	2.53	Hong Kong (40.8)	ASEAN (32.7)	Singapore (14.3)	Japan (8.2)	USA (4.1)
Beverage	2.47	Hong Kong (54.2)	USA (16.7)	Taiwan (10.4)	Singapore (4.2)	WECs (4.2)
Paper & Paper products	2.22	Hong Kong (79.1)	USA (7.0)	ASEAN (4.7)	WECs (2.3)	Taiwan (2.3)
Medical & Pharmaceutical products	2.16	Hong Kong (52.4)	USA (19.0)	WECs (11.9)	ASEAN (7.1)	Taiwan (4.8)
Clothing & other fibre products	1.80	Hong Kong (54.3)	Taiwan (22.9)	USA (8.6)	Japan (5.7)	ASEAN (2.9)
Cultural, Education & Sports goods	1.44	Hong Kong (75.0)	USA (10.7)	Taiwan (7.1)	WECs (3.6)	---
Printing	1.44	Hong Kong (64.3)	Japan (17.9)	Taiwan (14.3)	ASEAN (3.6)	---
Leather & Fur products	1.24	Hong Kong (70.8)	Taiwan (16.7)	WECs (8.3)	USA (4.2)	---
Timber	1.13	Hong Kong (50.0)	Singapore (22.7)	WECs (13.6)	Taiwan (9.1)	ASEAN (4.5)
Rubber products	1.13	Hong Kong (72.7)	Taiwan (13.6)	ASEAN (4.5)	USA (4.5)	---
Instruments & Meters	1.03	Hong Kong (55.0)	USA (25.0)	WECs (10.0)	Japan (5.0)	Taiwan (5.0)
Petroleum refining & Coking	0.72	Hong Kong (78.6)	WECs (14.3)	Taiwan (7.1)	---	---
Furniture	0.67	Taiwan (38.5)	Hong Kong (30.8)	Singapore (7.7)	WECs (7.7)	Japan (7.7)
Others	0.57	Hong Kong (81.8)	Taiwan (18.2)	---	---	---
Tobacco	0.31	Hong Kong (50.0)	USA (33.3)	WECs (16.7)	---	---
Total	100.00	Hong Kong (64.2)	Taiwan (9.3)	USA (8.5)	WECs (5.4)	Japan (4.5)

Source: Calculated from Huang Zhengshen, Xie Wenxia and Chen Xianjing (1994), *China 3000 Largest Foreign-Funded Enterprises 1994*, China Reform Publishing House, Beijing.

Figure 3 Sectoral composition of the largest FFEs in China's manufactirng (end 1993)

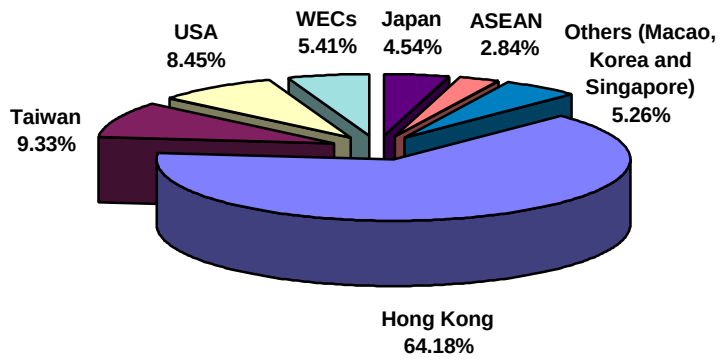


Source: As Table 4.

FFEs which might be expected to be biased towards more capital-intensive sectors, foreign direct investment in China's manufacturing is concentrated in labour-intensive sectors. Taking advantage of China's cheap labour is one of the main motives of foreign investors in China.

What is the aggregate investment composition of the major investors in manufacturing? As shown in the last row in Table 4 and in Figure 4, the shares of the major investors in manufacturing based on the 3000 largest FFEs are broadly similar to those in aggregate FDI. Hong Kong still dominates investment in manufacturing with a share as high as 64.2 percent, followed by Taiwan with 9.3 percent, the United States with 8.5 percent, the WECs with 5.4 percent, Japan with 4.5 percent and ASEAN with 2.8 percent. The only exception as compared with the source country composition in aggregate FDI is that Japan's position drops to fifth place while that of the WECs rises to fourth place. This may imply that the WECs invested more in large scale projects in manufacturing in China compared with Japan, such as the several large scale investments in automobiles by Germany and France.

Figure 4 Composition of the largest FFEs in manufacturing by the major investors (end 1993)



Source: As Table 4.

Is the high share of Hong Kong's investments explained by concentration in several large sectors, or does it reflect dominance across all manufacturing sectors? Table 4 shows the sectoral composition of the major investors in each of the 29 manufacturing sectors. It is very clear that Hong Kong's dominant position is across all manufacturing sectors. In fact, with the exceptions of furniture-making in which Taiwan holds the largest share of 38.5 percent, and food-manufacturing and food and feed-processing in which Hong Kong's shares are below 50 percent, there is hardly a manufacturing sector in which Hong Kong has not been the largest investor and its shares are above 50 percent and mostly above 60 percent. This is not surprising given Hong Kong's total dominance in FDI in China.

Another way to look at the investor and sector breakdown is to determine the five largest sectors of manufacturing investments of the major investors. Table 5 shows the composition of the five largest manufacturing sectors by the major investors. The table indicates that except for ASEAN in food and feed-processing and Japan in electronics and telecommunication equipment in which the sectors' shares in the countries' total investments in manufacturing are above 20 percent, there is no obvious

Table 5 Composition of the five largest manufacturing sectors by the major investors

Country	Composition of the five largest manufacturing sectors (%)				
Hong Kong	Textiles (15.6)	Non-metal mineral products (9.5)	Electronics & Telecom. equipment (8.3)	Plastic products (7.1)	Chemical materials & products (6.2)
Taiwan	Textiles (9.9)	Plastic products (8.8)	Food manufacturing (7.7)	Metal products (7.7)	Electronics & Telecom. equipment (6.6)
Singapore	Food & Feed processing (16.3)	Timber (11.6)	Non-metal mineral products (11.6)	Food manufacturing (9.3)	Electronics & Telecom. equipment (9.3)
ASEAN	Food & Feed processing (29.1)	Food manufacturing (7.3)	Plastic products (7.3)	Electric machinery & equipment (7.3)	Non-metal mineral products (5.5)
WECs	Non-metal mineral products (11.4)	Chemical materials & products (9.5)	Metal products (9.5)	Textiles (9.5)	Transport equipment (8.6)
Japan	Electronic & Telecom. equipment (21.6)	Electric machinery & equipment (13.6)	Textiles (9.1)	Special equipment (6.8)	Non-metal mineral products (6.8)
USA	Electronic & Telecom. equipment (10.3)	Chemical materials & products (9.7)	Transport equipment (8.5)	Non-metal mineral products (8.5)	Textiles (7.3)
LDCs	Textiles (14.2)	Non-metal mineral products (9.3)	Electronics & Telecom. equipment (8.1)	Plastic Products (7.1)	Chemical materials & products (6.0)
DCs	Electronics & Telecom. equipment (11.8)	Non-metal mineral products (9.0)	Chemical materials & products (8.4)	Textiles (8.4)	Transport equipment (7.8)

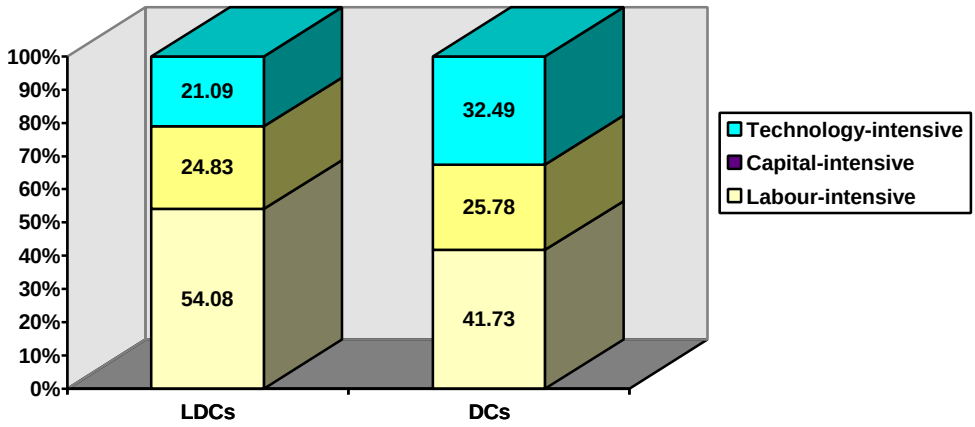
Source: Calculated from Huang Zhengshen, Xie Wenxia and Chen Xianjing (1994), *China 3000 Largest Foreign-Funded Enterprises 1994*, China Reform Publishing House, Beijing.

sectoral specialisation or concentration of investments for any of the major investors. However, if we group the five largest sectors for each major investor into labour-intensive and capital-intensive sectors and then compare the investment pattern of the major investors, we can find that for Hong Kong the first two largest sectors and three out of the five largest sectors are labour-intensive, for Taiwan, Singapore and ASEAN the first three largest sectors and four out of the five largest sectors are labour-intensive, for the WECs the largest sector is labour-intensive and the second largest sector is capital-intensive, for Japan the first two largest sectors are capital intensive, and finally for the United States the three largest sectors are all capital-intensive sectors. The above comparison reveals that the patterns of investment in China's manufacturing of the developing country investors are relatively more concentrated in labour-intensive sectors, while those of the developed country investors are relatively biased to capital-intensive sectors.

The differences in the patterns of investment in China's manufacturing between the developing country investors and the developed country investors are illustrated in Figure 5 and Figure 6.

Figure 5 illustrates the composition of the three manufacturing sectors of the developing country investors and the developed country investors. For the developing country investors, investments are 54 percent in labour-intensive sectors, 25 percent in capital-intensive sectors and 21 percent technology-intensive sectors. While for the developed country investors, investments are 42 percent in labour-intensive sectors, 26 percent in capital-intensive sectors and 32 percent in technology-intensive sectors. In other words, more than half (58 percent) of the total investments in China's manufacturing from the developed source countries are in capital-intensive and technology-intensive sectors, and more than half (54 percent) of the total investments in China's manufacturing from the developing source countries are in labour-intensive sectors.

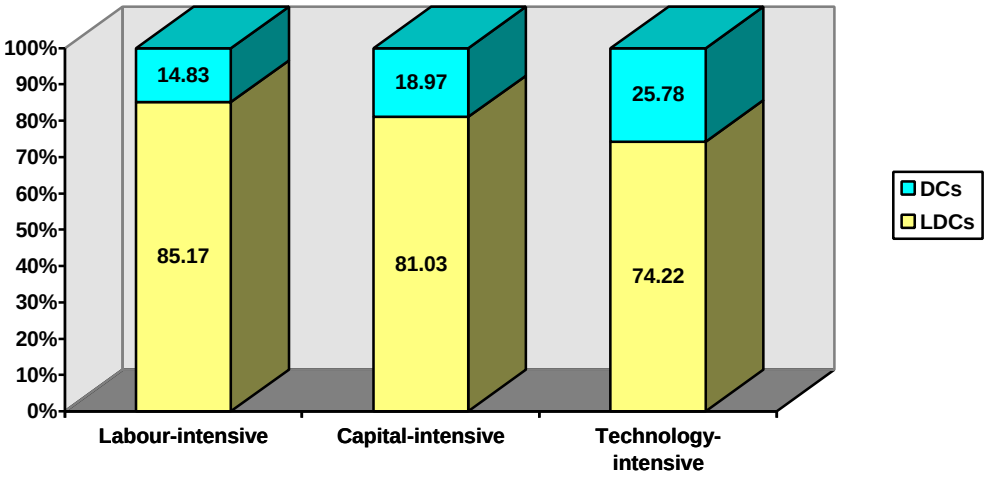
Figure 5 Sectoral composition of the largest FFEs in manufacturing by Developing and Developed source countries



Source: Calculated from Huang Zhengshen, Xie Wenxia and Chen Xianjing (1994), *China 3000 Largest Foreign-Funded Enterprises 1994*, China Reform Publishing House, Beijing.

Another way to look at the difference in the patterns of investment between the developing country investors and the developed country investors is to compare the source country composition by the three manufacturing sectors. Figure 6 shows the composition of the developing source countries and the developed source countries in the three manufacturing sectors. It is very clear that, although the developing source countries account for the majority shares of investments in all three manufacturing sectors, with the change of the factor intensity in the three manufacturing sectors from labour-intensive to capital-intensive and to technology-intensive, the share of the developing source countries declines from 85 percent to 81 percent and to 74 percent, while the share of the developed source countries increases from 15 percent to 19 percent and to 26 percent.

Figure 6 Composition of Developed and Developing source countries in the largest FFEs in manufacturing by sectors



Source: Calculated from Huang Zhengshen, Xie Wenxia and Chen Xianjing (1994), *China 3000 Largest Foreign-Funded Enterprises 1994*, China Reform Publishing House, Beijing.

In general, investments in China's manufacturing from the developing source countries are mainly concentrated in labour-intensive manufacturing sectors, such as textiles, clothing, non-metal mineral products, food and feed processing, food manufacturing, plastic products and metal products. We argue that this might be even more obvious if smaller investments were included. Hong Kong and Taiwan have dominated all other foreign investors in the textile industry. This is not surprising. On the one hand they both have well developed textile industries at home and large established international export markets for this kind of exported-oriented direct investments. On the other hand Hong Kong and Taiwan as well as the other NIEs are losing their comparative advantages in the labour-intensive end of the industry as they are upgrading their industrial structures at home. ASEAN countries' investments in China's manufacturing are concentrated in the sectors of food and feed processing and food manufacturing. This is mainly attributed to the large investments in feed processing of the Chia Tai Group of Thailand.

Investments in China's manufacturing from developed source countries are relatively concentrated in capital and technology intensive sectors, such as electronics

and telecommunication equipment, chemical materials and products, electrical machinery and equipment and transport equipment industries. Japan's concentration in electronics not only reflects the advanced technology owned by Japanese firms in that sector but also is consistent with the high reputation and high acceptance of Japanese electronic appliances by Chinese consumers. The largest share of investment in China's manufacturing of the United States is in the electronic and telecommunication equipment sector. This is well explained by the ownership advantages possessed by the firms of the United States, since they have the most superior technology in this industry in the world. In chemicals, high quality international brand name products based on high technology from the United States and Europe lead to the high shares of the United States and WECs in their investments in this sector.

Finally let us examine the patterns of investment in China's manufacturing of the major investors by using the indicators of relative sector investment intensity indexes. The index measures the relative importance of sector j as a host for country i's investment as compared to all manufacturing sectors. If the index is above 100 percent, it indicates that country i's investment in sector j is more than the amount of its share of investment in all manufacturing sectors.

The relative sector investment intensity is defined as follows:

$$SII_{ij} = \left(\frac{\frac{I_{ij}}{I_{i*}}}{\frac{I_{*j}}{I_{**}}} \right) \times 100$$

where:

SII_{ij} = relative sector investment intensity of source country i in sector j

I_{ij} = investment from source country i in sector j

I_{i*} = investment from source country i in all manufacturing sectors

I_{*j} = investment from all source countries in sector j

I_{**} = investment from all source countries in all manufacturing sectors

Table 6 and Table 7 present the relative sector investment intensity of the major investors and the developing and the developed source countries in the three manufacturing sectors.

Table 6 Relative sector investment intensity by source countries (%)

Sectors	ASEAN	NIEs	WECs	Japan	USA
Labour Intensive	130	104	94	72	76
Capital Intensive	59	101	110	60	122
Technology Intensive	78	91	103	205	128

Source: Calculated from Huang Zhengshen, Xie Wenxia and Chen Xianjing (1994), *China 3000 Largest Foreign-Funded Enterprises 1994*, China Reform Publishing House, Beijing.
Note: To avoid problems associated with differences in valuations by the date of the investment, we use the number of enterprises instead of the reported value of the capital invested in the calculations.

Table 7 Relative sector investment intensity by LDCs and DCs (%)

Sectors	LDCs	DCs
Labour-intensive	105	80
Capital-intensive	99	104
Human & Capital-intensive	91	140

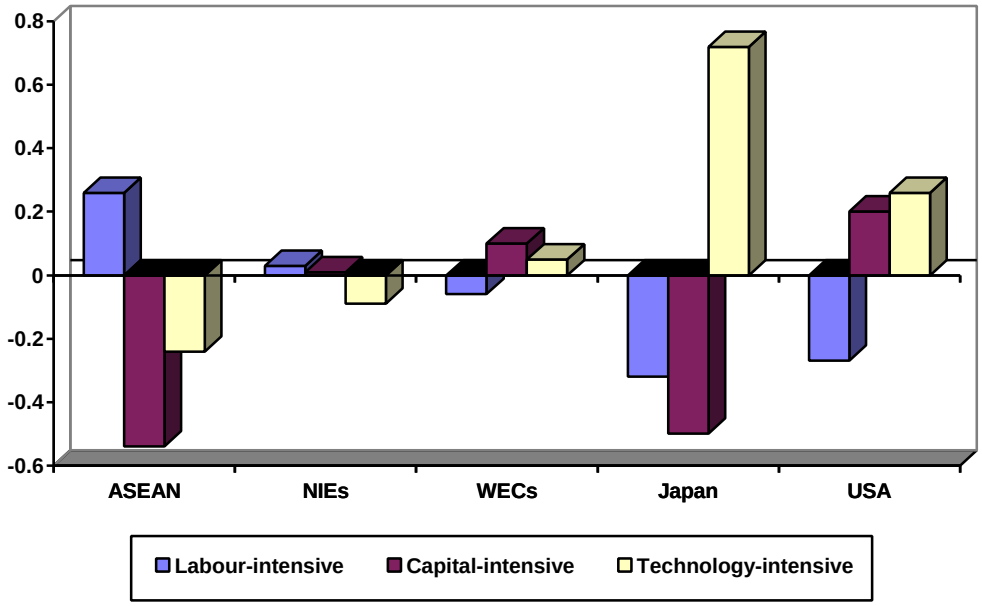
Source: As Table 6.

Figure 7 and Figure 8 are the logarithmic measures of the relative sector investment intensity of the major source countries. The logarithmic transformation is defined as:

$$LSII_{ij} = \ln (SII_{ij})$$

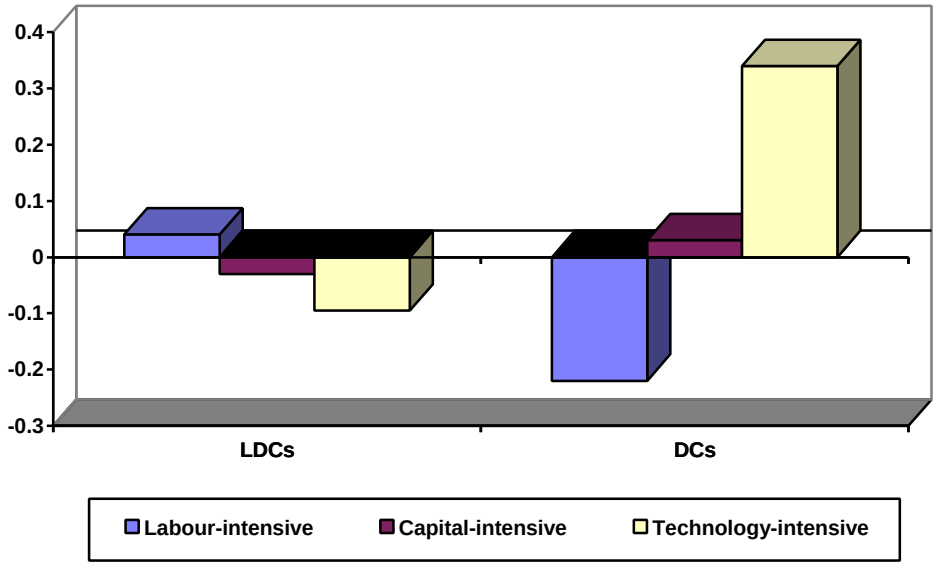
Where $LSII_{ij}$ is the logarithmic measure of the relative sector investment intensity of source country i in sector j.

Figure 7 Relative sector investment intensity of source countries (logarithmic measure)



Source: As Table 6.

Figure 8 Relative sector investment intensity of developing and developed source countries (logarithmic measure)



Source: As Table 7.

The tables and the figures illustrate several points. First, following the evolution of the economic and technological development level of various source countries, the relative sector investment intensity changes from the labour-intensive sectors (L) to capital-intensive sectors (K) and to human and capital-intensive sectors (T), indicating the investment sequence as countries change their proportion of factor endowments and their economic and technological structures. Second, among the major foreign investors, ASEAN countries are at the lowest level of economic and technological development. Their investments are mainly concentrated in the labour intensive sectors. The NIEs' economic and technological development level is in between the ASEAN countries and the developed countries. They are more capital rich than the ASEAN countries, but less endowed with human capital and technology. Therefore, their investment pattern in manufacturing in China is shared between labour and capital intensive sectors, which lies in between the investment pattern of ASEAN countries and that of the developed countries. The investment pattern of the developed countries of WECs, Japan and the United States reflects their comparative advantages in human capital and technology intensive sectors. Third, since the investments from ASEAN and the NIEs are mainly in labour intensive sectors, in which China has comparative advantages, therefore, we can say that the investments of ASEAN and the NIEs in China are mainly export oriented. On the other hand, since the investments from the developed countries are mainly in human capital and technology intensive sectors, in which China has comparative disadvantages, therefore, the investments of developed countries in China are mainly domestic market oriented.

5 Type of Entry of the Major Investors

Foreign direct investment in China can take four forms, namely contractual-joint ventures, equity-joint ventures, wholly foreign-owned enterprises and joint exploration. However, the term "*Sanzi Qiye*" or "Foreign-Funded Enterprises" (FFEs) only refers to the first three types of enterprises since they are "legal entities" and joint exploration is not included. To compare the type of entry of the major investors, our

concern here is to compare the investment choice between joint ventures and wholly foreign-owned enterprises by the major investors.

Do the major investors differ in the investment choice between joint ventures and wholly foreign-owned enterprises? Table 8 provides us with the information of the shares of wholly foreign-owned enterprises by the major investors and by the three manufacturing sectors based on the 3000 largest foreign-funded enterprises in China's manufacturing.

Table 8 Shares of wholly foreign owned Enterprises of the major investors by manufacturing sectors (%)

Source Country	Labour intensive	Capital intensive	Technology intensive	All manufacturing
ASEAN	5.26	11.11	0.00	5.45
Taiwan	17.54	21.43	32.00	20.44
Hong Kong	11.11	11.97	12.64	11.57
WECs	6.90	8.00	27.27	11.43
Japan	21.43	28.57	33.33	26.14
USA	8.11	15.69	23.08	14.02
LDCs	12.34	12.65	14.81	12.76
DCs	10.92	17.31	26.58	16.25
All countries	12.11	13.56	17.97	13.4

Source: Calculated from Huang Zhengshen, Xie Wenxia and Chen Xianjing (1994), *China 3000 Largest Foreign-Funded Enterprises 1994*, China Reform Publishing House, Beijing.

First let us examine the shares of wholly foreign-owned enterprises by the three manufacturing sectors for each of the major investors and investor groups. It is very clear that, apart from ASEAN countries, the shares of wholly foreign-owned enterprises for all other major investors and investor groups show a continuously increasing trend from labour-intensive to capital-intensive and to technology-intensive sectors, and this increasing trend is especially significant for the developed source

countries. In other words, the more technology intensive an enterprise is, the more likely it is to be wholly foreign-owned.

Second let us examine the shares of wholly foreign-owned enterprises by the major investors in each of the three manufacturing sectors. Among the major investors Japan has the highest shares and Taiwan has the second highest shares of wholly foreign-owned enterprises in each of the three manufacturing sectors. Following Japan and Taiwan, Hong Kong holds the third place in labour-intensive sectors, the United States holds the third place in capital intensive sectors, and the WECs holds the third place in technology intensive sectors. On average Japan has the highest share of wholly foreign-owned enterprises, followed by Taiwan and the United States. Comparing the two groups of developing and developed source countries, the shares of wholly foreign-owned enterprises of developed source countries are lower in labour-intensive sectors but are much higher in capital-intensive especially in technology-intensive sectors than those of the developing source countries. On average developed source countries have a higher propensity to set up wholly foreign-owned enterprises than developing source countries.

From the above analyses we can draw two main findings. First for a single source country or for the source country groups at the same economic and technological development level, the shares of wholly foreign-owned enterprises in different manufacturing sectors tend to increase with the level of the capital and technology intensity in the manufacturing sector. Second in the same manufacturing sector the shares of wholly foreign-owned enterprises for the various source countries and source country groups tend to increase with the increase of the economic and technological development level of the source countries and the source country groups.

Are these findings valid or consistent with the results based on other information? Table 9 provides us with the information of the equity share holdings of the developing and developed source countries based on the 999 approvals of foreign-funded enterprises in 1994. The table reveals that compared with the developing source countries, the developed source countries not only have a higher propensity to

hold majority equity shares in joint ventures, but also have a higher propensity to set up wholly foreign-owned enterprises. Thus the basic findings drawn from the two sources are consistent.

Table 9 Equity shares of the developing and developed source countries (based on the approvals of 1994)

Equity share of FFEs	Developing country FFEs (%)	Developed country FFEs (%)
under 25%	0.92	0.00
25-<50%	33.80	24.64
50-<75%	39.84	42.32
75-<100%	12.23	15.36
100%	13.21	17.68
Total	**100**	**100**

Source: Calculated from the Editorial Board of the Almanac of China's Foreign Economic Relations and Trade (1995), *Zhongguo Duiwai Jingji Maoyi Nianjian 1995/96* [Almanac of China's Economic Relations and Trade 1995/96], Zhongguo Shehui Chubanshe, Beijing.

What factors explain the above findings or what rationale is behind the foreign investors' choice between entering into joint ventures with local partners versus setting up wholly foreign-owned enterprises? The biggest advantage of entering into joint ventures for the multinational enterprises is to reduce the costs of doing business abroad. This is especially important for the multinational enterprises when they enter a new and unfamiliar foreign market. However, entering into joint ventures also incurs various transaction costs, especially when the multinational enterprises possess more advanced and high technology-intensive intangible assets as their ownership advantages. Therefore, the choice of multinational enterprises between entering into joint ventures and setting up wholly foreign-owned enterprises depends on the valuation and judgement of each of the individual multinational enterprises on the benefits and costs between the two modes of entry.

Blomstrom and Zejan (1991, pp. 53-56) in their studies on joint ventures found that multinational firms are less likely to seek a foreign partner when their firms' intangible assets are important. According to Morck and Yeung (1991, pp. 165-187), a firm's intangible assets are roughly the firm's market value less the value of tangible assets such as plant and equipment. These assets can generally be characterised as "knowledge capital" ranging from proprietary product or process know-how to reputations and trademarks (Markusen 1995, pp. 169-189). Since these knowledge-based intangible assets involve very high transaction costs due to market failure and are most likely to produce spill-over effects and externalities due to their nature as public goods, the multinational enterprises are most likely to set up wholly foreign-owned enterprises rather than entering into joint ventures whenever they value the costs of protecting their new and high technology and proprietary products higher than the benefits gained from entering into joint ventures. Therefore, the more the high-technology intensity of the intangible assets, the more important it is for the multinational enterprises to protect such assets, and the more likely it is for the multinational enterprises to set up wholly foreign-owned enterprises rather than to enter into joint ventures with local partners.

We would expect that multinational enterprises from different source countries and in different industries are likely to possess different specific intangible assets. It is reasonable to assume that multinational enterprises from developed source countries possess more new and high technological intangible assets than multinational enterprises from developing source countries, and multinational enterprises in the technology intensive sectors possess more new and high technological intangible assets than multinational enterprises in the labour-intensive sectors. That being the case, it is not very difficult to explain why the shares of wholly foreign-owned enterprises in China's manufacturing are higher in human capital and technology intensive sectors than those in labour intensive sectors for all the major investors, and why the shares of wholly foreign-owned enterprises in China's manufacturing are higher for the developed source countries than those for the developing source countries.

6 Market Orientation of the Major Investors

In the above analyses we have found that investments in China's manufacturing from the developing source countries are mainly concentrated in labour-intensive sectors and those from the developed source countries are biased towards capital-intensive sectors and technology-intensive sectors. Consequently, we also have inferred that since China has comparative advantages in labour-intensive manufacturing sectors and has comparative disadvantages in capital-intensive and technology-intensive manufacturing sectors, the investments of the developing source countries are mainly export-oriented while the investments of the developed source countries are relatively more domestic market-oriented. Are the affiliates of the developing source countries more export-oriented than the affiliates of the developed source countries?

Unfortunately detailed data for exports of foreign-funded enterprises by source countries are not available. Imai (1995), from the list of the "Largest 500 Foreign-Funded Industrial Enterprises in China in 1993", identified the top 100 foreign-funded industrial enterprises by grouping them into overseas-Chinese affiliates, Western affiliates, Japanese affiliates and the others whose source countries could not be identified. Based on the work of Imai, Table 10 shows the total sales, total exports and exports to sales ratios of the affiliates of developing and developed source countries in China in 1993.

Table 10 Comparison of market orientation of developing and developed country affiliates (1993)

	Overseas Chinese Affiliates	Developed Country Affiliates	Other Affiliates	Total
Number of enterprise (unit)	45	42	13	100
Sales (million yuan)	37944	52530	11526	102000
Exports (million yuan)	8679	7721	4000	20400
Export to sales ratio (%)	22.87	14.70	34.70	20.00

Source: Calculated from Satoshi Imai (1995), "Comparison of Western, Overseas Chinese, and Japanese Ventures", *JETRO China Newsletter*, No. 119, pp. 15-24.

Even based on this very limited information, the findings from the table are also basically consistent with the findings obtained from the previous analyses. First, the overseas Chinese-affiliates do have higher export to sales ratio than the developed country affiliates. Second, the very low export to sales ratio of the developed countries' affiliates does confirm that the developed countries have invested in China mainly for the purpose of targeting the Chinese domestic market.

However, one point needs to be mentioned here. Though the export to sales ratio of the overseas Chinese affiliates is higher than that of the developed country affiliates, it is not as high as expected. This is mainly because that the samples are not only too small but also strongly biased to the largest foreign-funded enterprises. A relatively large survey (600 firms) of overseas Chinese-funded enterprises in China's three provinces of Guangdong, Fujian and Jiangsu, conducted in 1993 by the East Asia Analytical Unit of the Department of Foreign Affairs and Trade of Australia (EAAU, 1995, pp. 194-234), revealed the strong export preference of the overseas Chinese-funded enterprises and the important role they played in promoting exports in the three provinces. According to the survey, among the 600 overseas Chinese-funded enterprises 67 percent exported more than half of their output. Therefore, the export to sales ratios of the overseas Chinese affiliates should be much higher if we examine them with relatively large samples.

7 Factor Intensity and Relative Factor Productivity of the Major Investors

Does the production technology differ among the enterprises funded by different source countries? To answer this question we compare the factor intensities and the factor productivity of the overseas non-Chinese-funded enterprises and the overseas Chinese-funded enterprises. The overseas non-Chinese-funded enterprises are the enterprises funded by foreign investors other than overseas Chinese investors.

Table 11 shows the factor intensities of Overseas Non-Chinese-Funded Enterprises (ONCEs), Overseas Chinese-Funded Enterprises (OCEs) and the Chinese Domestic Enterprises (DOEs) in industry in 1994. First, both ONCEs and OCEs are larger in the average size of enterprise and have higher average capital-labour ratios or are more capital intensive than China's domestic enterprises. Second, between the two groups of foreign investors, ONCEs have much larger average scale of enterprise and have much higher average capital-labour ratio than OCEs. The above findings have revealed that the production technology and the factor intensity do differ not only between foreign enterprises and China's domestic enterprises, but also between overseas non-Chinese-funded enterprises and the overseas Chinese-funded enterprises.

Table 11 Comparison of factor intensity of Overseas Non-Chinese-Funded Enterprises, Overseas Chinese-Funded Enterprises and China's Domestic Enterprises (1994)

Type of enterprises	Number of enterprise	Total capital (million yuan)	Total labour (million)	Average size of enterprise (million yuan)	Average capital/labour ratio (yuan)
ONCEs	12713	359727	2.2387	28.30	160686
OCEs	16388	290836	2.594	17.75	112119
DOEs	436138	5428170	78.4627	12.45	69182

Source: Calculated from the State Statistical Bureau (1995), *Zhongguo Tongji Nianjian 1995* [China Statistical Yearbook 1995], Zhongguo Tongji Chubanshe, Beijing, and the State Statistical Bureau (1996), *Zhongguo Gongye Jingji Tongji Nianjian 1995* [China Industrial Economic Statistical Yearbook 1995], Zhongguo Tongji Chubanshe, Beijing.

Notes: ONCEs --- Overseas Non-Chinese-Funded Enterprises.
OCEs --- Overseas Chinese-Funded Enterprises
DOEs --- China's Domestic Enterprises

In order to have a further understanding of the difference between the two source country groups, we constructed Table 12 to compare their relative factor productivity. The first step is to compare the overseas non-Chinese funded enterprises and the overseas Chinese funded enterprises with the Chinese domestic enterprises,

and the second step is to compare overseas non-Chinese funded enterprises with overseas Chinese funded enterprises.

The indexes of relative factor productivity in Table 12 used to compare these enterprises are:

- average capital productivity measured by total value-added over total capital;
- average labour productivity measured by total value-added over total labour;
- average efficiency wage measured by average wage rate over average labour productivity.

Table 12 Relative factor productivity of Overseas Non-Chinese-Funded Enterprises, Overseas Chinese-Funded Enterprises and China's Domestic Enterprises (1994)

	K/N	K/L	V/K	V/L	W/(V/L)
ONCEs/DOEs	2.27	2.32	1.06	2.45	0.56
OCEs/DOEs	1.43	1.62	1.04	1.68	0.79
ONCEs/OCEs	1.59	1.43	1.02	1.46	0.70

Source: As Table 11.

Notes: K/N --- Average size of enterprise
K/L --- Average capital to labour ratio
V/K --- Average capital productivity (total value-added over total capital)
V/L --- Average labour productivity (total value-added over total labour)
W/(V/L) --- Efficiency wage (average wage rate over average labour productivity)

In each case a ratio equal to one implies that the productivity of the relevant enterprises are equal. Higher numbers imply that the enterprise that is on the numerator is more productive, and similarly a lower number implies a less productive organisational form. The one exception is the index of the efficiency wage which should be explained in the opposite way.

In addition, we also provide the indexes of the relative size of enterprise and the relative capital-labour ratio of these enterprises.

When we compare the ONCEs and OCEs with the Chinese domestic enterprises we find that both the ONCEs and OCEs are more capital intensive, have higher capital and labour productivity and have a lower efficiency wage of labour. These results are not surprising, since they confirm the generally accepted theoretical predictions that foreign enterprises, possessing a firm specific advantage, are usually more productive than domestic enterprises.

The interesting part of the comparison is between the ONCEs and OCEs. In terms of labour productivity, ONCEs are around 1.5 times as high as OCEs. Although ONCEs' absolute wage rate is higher than that of OCEs, the ONCEs' efficiency wage is considerably lower than that of OCEs, owing to the much higher labour productivity in ONCEs. The possible explanation of this result lies in the much higher capital intensity of ONCEs as compared with OCEs. In fact, the comparison between the capital-labour ratio yields, a figure of 1.43, indicates that the ONCEs are considerably more capital intensive than the OCEs. This makes sense to some extent, since we pointed out earlier that most of the investments from Hong Kong and Taiwan have been in the labour-intensive sector.

8 Conclusion

In this paper we compared the differences among the major source countries with respect to their investments in China. Several main findings are worth emphasising.

First, FDI in China by country of origin, on the one hand, shows significant diversification in terms of the total number of source countries, and on the other hand, it also reveals great concentration in terms of the magnitudes invested by the source countries. In general, Hong Kong as a single investor and the NIEs as a group have been the largest investors among all the source countries and source country groups.

The ASEAN countries as a group have increased their investments in China rapidly since the early 1990s. Among the developed source countries, the United States and Japan have been the most important investors in China. They have both shown their growing interest in investment in China since 1993 as they substantially increased their investments in China during 1993 to 1995 compared with their investments in China in the past. The other developed countries have invested very small amounts in China, both in terms of their shares in China's total FDI inflows and in terms of their total investments in the world.

Second, between the two major groups of investors, developing country investors and developed country investors, the developing country investors tend to invest in more labour-intensive industries while the developed country investors relatively tend to invest in more capital and technology intensive industries. This is clearly revealed by the relative sector investment intensity indexes. For the developing country investors, only the labour intensive sector index is above 100 percent, indicating that developing countries' investment in the labour-intensive sector are more than the amount of their share of investment in China's all manufacturing sectors. In other words, the labour-intensive sector is more important a host for developing countries' investments as compared to the capital-intensive and technology-intensive sectors in China's manufacturing. In contrast, for the developed country investors, the relative investment intensity indexes are above 100 percent both for the capital-intensive sector and the technology-intensive sector, indicating that capital-intensive and technology-intensive sectors are more important as host sectors for developed countries' investments as compared to labour-intensive sector in China.

Third, the developed country investors tend to have stronger incentives to secure control over the business than the developing country investors. This is reflected by the higher propensity to hold the majority shares in the joint ventures and to set up wholly foreign-owned enterprises of the developed country investors.

Fourth, developing countries' affiliates have higher export propensity than the developed countries' affiliates. This is consistent with the investment patterns of the

source countries, and this also implies that the developed countries have invested in China mainly for the purpose of targeting the Chinese domestic market.

Fifth, the developing country investors in China tend to adopt more labour-intensive technologies than the developed country investors. As revealed by the factor intensities and the factor productivity, the enterprises funded by the developing country investors not only have lower capital to labour ratios but also are much smaller than the enterprises funded by the developed country investors. As a result, the enterprises funded by the developing country investors have lower productivity both in capital productivity and particularly in labour productivity than the enterprises funded by the developed country investors.

Finally, the Chinese case has offered valuable evidence on the differences among foreign investors. The distinctive features of developing country investments as compared to the developed country investments are confirmed. The diversity of foreign investors suggests that there is considerable scope for China to introduce and absorb foreign capital, technology, and modern management skills in many industries.

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