

## 2 JAPAN'S MANUFACTURING FDI IN CHINA – ITS CHARACTERISTICS IN COMPARISON

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### JAPAN'S MANUFACTURING FDI IN CHINA

#### TRENDS OF GLOBAL FDI TOWARDS CHINA

One prominent characteristic of global FDI flows in the 1990s was the accelerated mutual FDI among developed countries, mainly through cross-border mergers and acquisitions. On the other hand, the share of developing countries within the world total of FDI inflows stagnated, after reaching its recent peak in 1994 (41 per cent), although annual FDI flow itself to developing countries continuously increased in terms of current US dollars (Table 2.1).<sup>1</sup>

Another prominent characteristic of the 1990s was the concentration of inward FDI to the developing world in some specific countries. In Asia, global FDI concentrated on China. Whereas in the 1980s Singapore's and Malaysia's inward FDI alone often exceeded the FDI flow to China, in the 1990s global FDI to China skyrocketed, leaving other countries at a relatively stagnant level. In the late 1990s China received more than USD 40 billion per year while the country's share of FDI in all developing countries considerably declined throughout the 1990s.

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<sup>1</sup> All years mentioned in this section are calendar years (from 1<sup>st</sup> January to 31<sup>st</sup> December respectively), unless otherwise indicated.

Table 2.1: Global FDI inflow by host region and economy (billion USD)

	1994	1995	1996	1997	1998	1999	2000
<b>World</b>	256.0	331.1	384.9	477.9	692.5	1075.0	1270.8
(*)	145.1	203.5	219.7	271.4	483.2	829.8	1005.2
(**)	104.9	113.3	152.5	187.4	188.4	222.0	240.2
(***)	<b>41.0</b>	<b>34.2</b>	<b>39.6</b>	<b>39.2</b>	<b>27.2</b>	<b>20.7</b>	<b>18.9</b>
<b>L. America</b>	30.1	32.3	51.3	71.2	83.2	110.3	86.2
<b>Asia</b>	68.6	75.3	94.4	107.2	95.6	99.7	143.5
<b>China</b>	33.8	35.8	40.2	44.2	43.8	40.3	40.8
(****)	<b>32.2</b>	<b>31.6</b>	<b>26.4</b>	<b>23.6</b>	<b>23.2</b>	<b>18.2</b>	<b>17.0</b>
<b>Hong Kong</b>	7.8	6.2	10.5	11.4	14.8	24.6	64.5
<b>Korea</b>	1.0	1.8	2.3	2.8	5.4	10.6	10.2
<b>Singapore</b>	8.6	8.8	10.4	13.0	6.3	7.2	6.4
<b>Thailand</b>	1.3	2.0	2.3	3.6	5.1	3.6	2.4
<b>Malaysia</b>	4.6	5.8	7.3	6.5	2.7	3.5	5.5
<b>Indonesia</b>	2.1	4.3	6.2	4.7	-0.4	-2.7	-4.6

Notes: (\*) All developed countries, (\*\*) All developing countries

(\*\*\*) Share of developing countries in the world

(\*\*\*\*) Share of China in developing countries

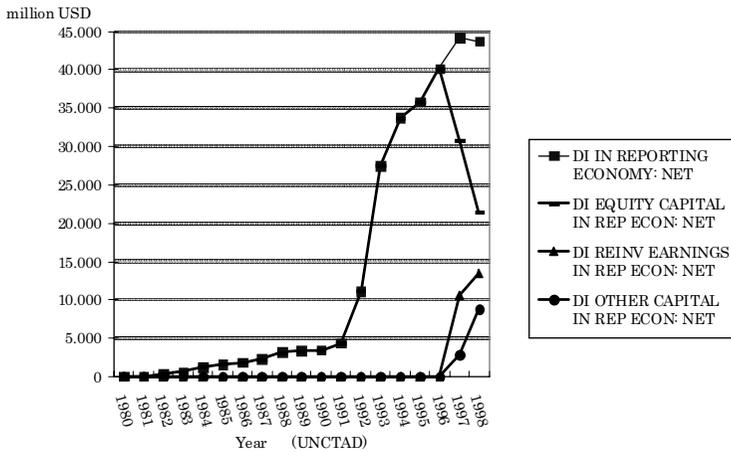
Source: (UNCTAD) WIR2001 for 1995–2000, WIR2000 for 1994

WIR: World Investment Report

Figure 2.1 shows that global FDI inflow in China increased rapidly in the 1990s and most of it was disbursed in the form of new equity capital investment up to 1996. However, since 1997 the amount of new equity has declined to some extent, and reinvested earnings and 'other FDI flows', i.e. parent companies' lending to their affiliates, have considerably increased. Enlarged reinvestment through retained earnings by overseas affiliates means that the affiliates' business has become successful and profitable. This general change for the better is an interesting indication of global FDI trends in China, while Japanese affiliates in China are showing continuously unsatisfactory profit performances, a pattern that will be referred to later.

It is noteworthy that the economic growth rate of GDP in China and the FDI inflow into China went through a similar trend in the 1980s and the 1990s. They were especially close in the period from 1995 to 1997, but they diverged exceptionally in the years 1990 and 1994 when China's GDP growth declined sharply. The recent high level of FDI inflow into China seems to have spurred the domestic economic growth rate of the host country.

Figure 2.1: China



## TRENDS OF JAPAN'S FDI INTO CHINA

China is one of the most important destination countries for Japanese firms. China figured as the largest recipient country of Japan's FDI flows among all Asian host countries from 1993 to 1996 according to the notification statistics provided by the Japanese Ministry of Finance (MoF; see Table 2.2).<sup>2</sup> The peak was reached in 1995 when the annual flow amounted to JPY 432 billion. The relative importance of ASEAN countries as the destination of Japanese outward FDI for building up regional manufacturing networks weakened in the beginning of the 1990s, while China's importance as a recipient country increased. However, after 1995, Japan's FDI flows to China decreased year by year and were surpassed by Japan's flows to Thailand, Korea and Indonesia for some or all of three years (1997, 1998 and 1999), according to the MoF statistics (Table 2.2). It is noteworthy that these three countries, which were severely hurt by the Asian crisis, received a higher volume of FDI from Japanese firms than China, which was only slightly affected. In comparison to the global FDI inflows to China, Japanese FDI to China shows some obvious differences (Table 2.2 and Figure 2.2):

<sup>2</sup> All years mentioned in Table 2.2, 2.3, 2.4 and 2.6 and in Figure 2.2 are fiscal years (from 1<sup>st</sup> April to 31<sup>st</sup> March respectively), unless otherwise indicated.

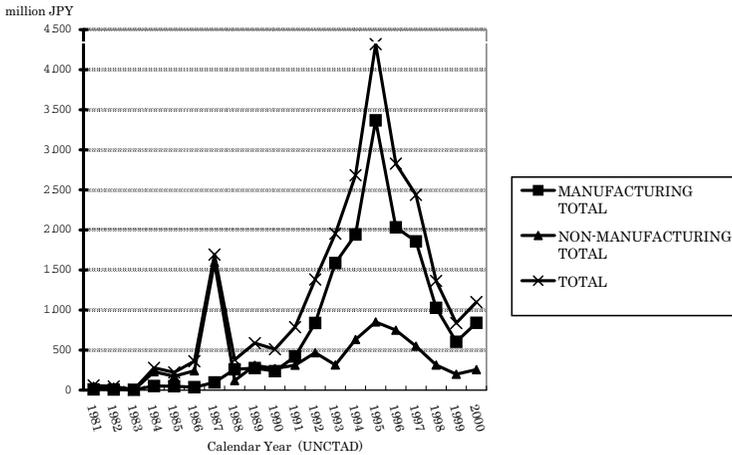
**Table 2.2: Japan's outward FDI flow to the world**  
(unit: one hundred million JPY)

	1989	1990	1991	1992	1993	1994	1995
China	587	511	787	1381	1954	2683	4319
Indonesia	840	1615	1628	2142	952	1808	1548
Thailand	1703	1696	1107	849	680	749	1196
Malaysia	902	1067	1202	919	892	772	555
Philippines	269	383	277	210	236	683	692
Singapore	2573	1232	837	875	736	1101	1143
Hong Kong	2502	2610	1260	966	1447	1179	1106
Taiwan	662	653	554	376	343	292	439
Korea	799	419	357	291	289	420	433
<b>Asia</b>	<b>11003</b>	<b>10343</b>	<b>8107</b>	<b>8316</b>	<b>7672</b>	<b>10084</b>	<b>11921</b>
USA	43691	38402	24671	17993	16936	18016	21845
<b>North A.</b>	<b>45485</b>	<b>39958</b>	<b>25763</b>	<b>18972</b>	<b>17591</b>	<b>18525</b>	<b>22394</b>
UK	6989	9959	4945	3853	2946	2259	3332
<b>Europe</b>	<b>19727</b>	<b>20975</b>	<b>12832</b>	<b>9176</b>	<b>9204</b>	<b>6525</b>	<b>8281</b>
<b>Latin A.</b>	<b>6991</b>	<b>5289</b>	<b>4547</b>	<b>3525</b>	<b>3889</b>	<b>5499</b>	<b>3741</b>
<b>Total</b>	<b>90339</b>	<b>83527</b>	<b>56862</b>	<b>44313</b>	<b>41514</b>	<b>42808</b>	<b>49568</b>
	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>		
China	2826	2438	1363	838	1099		
Indonesia	2720	3086	1378	1024	457		
Thailand	1581	2291	1755	910	1034		
Malaysia	644	971	658	586	256		
Philippines	630	642	485	688	506		
Singapore	1256	2238	815	1073	468		
Hong Kong	1675	853	770	1083	1034		
Taiwan	587	552	287	318	563		
Korea	468	543	387	1093	899		
<b>Asia</b>	<b>13083</b>	<b>14948</b>	<b>8357</b>	<b>7988</b>	<b>6555</b>		
USA	24789	25486	13207	24868	13413		
<b>North A.</b>	<b>25933</b>	<b>26247</b>	<b>14011</b>	<b>27629</b>	<b>13562</b>		
UK	3873	5054	12522	13070	21155		
<b>Europe</b>	<b>8305</b>	<b>13749</b>	<b>17937</b>	<b>28782</b>	<b>26974</b>		
<b>Latin A.</b>	<b>5008</b>	<b>7775</b>	<b>8274</b>	<b>8295</b>	<b>5783</b>		
<b>Total</b>	<b>54094</b>	<b>66229</b>	<b>52169</b>	<b>74390</b>	<b>53690</b>		

Source: Ministry of Finance

First, Japan's FDI in China had two booms (Figure 2.2). The first one peaked in 1987 and the second one in 1995, while the global trend did not

Figure 2.2: Japan's FDI in China



indicate any boom in the 1980s. During the second peak, Japan's FDI to China reached its highest level so far. The first peak was heightened by non-manufacturing FDI and the second peak was mainly achieved by manufacturing industries (Figure 2.2). The occurrence of two FDI booms in that period means that Japanese firms have longer commitments and more experience in local operations in China than other countries.

Second, Japan's FDI to China sharply declined in the period from 1996 to 1999. Japanese firms seem to have become rather cautious, after the huge investments in the mid-1990s. A substantial amount of (Japanese) manufacturing capacities had already been built up, and Japanese investors continuously suffered from the unsatisfactory profit performances of their affiliates in China, as will be argued in the next section. On the other hand, global FDI into China did not show such a sharp decline in the late 1990s, and the volume of reinvested earnings has increased since 1997, as mentioned above. Additionally, the policy change by a Chinese government oriented toward 'more national treatment', or 'equal treatment' for both foreign and Chinese firms, as well as China's unclear procedure for repayment of value added taxes, prompted lower Japanese FDI in China. Furthermore, the stagnation of the Japanese economy and the weak Japanese yen has to some extent discouraged Japanese FDI in China.

## PROFIT PERFORMANCE AND FDI FLOW

Compared to other Asian host countries (Table 2.3), the Japanese manufacturing companies' Chinese affiliates show an exceptionally unsatisfactory profit performance. Generally speaking, Japanese partners in other Asian countries, both ASEAN countries and NIEs, have achieved better profit performance than non-Asian host countries. Only the profit performance in China was worse than the performance in non-Asian host countries.

Table 2.3: Profit performances of Japanese affiliates by region

	NIEs	ASEAN	China	USA/Canada	EU	Latin America
1991	3.12	3.15	–	2.93	–	–
1992	3.34	3.19	–	2.55	–	–
1993	3.31	3.15	2.88	2.29	2.61	–
1994	3.04	3.2	2.83	2.35	2.65	–
1995	3.17	3.15	2.75	2.52	2.91	–
1996	3.24	3.2	2.55	2.88	2.81	2.89
1997	3.31	3.21	2.65	3.07	2.99	3.16
1998	3.29	2.76	2.67	3.14	2.99	3.05
1999	3.07	2.74	2.61	2.97	2.78	2.67
2000	3.11	2.99	2.73	3.04	2.75	2.68
2001	3.06	2.82	2.85	2.8	2.67	2.7

Notes: Five-stage evaluation 1: unsatisfied 2: slightly unsatisfied 3: average 4: slightly satisfied 5: satisfied

Source: JBIC

Unfortunately, after the Asian crisis, the profit performance of Japanese affiliates in other Asian countries also deteriorated, although it was still better than in China up to 2000. One compelling reason for the unsatisfactory profit performance in China lies in the motives of Japan's manufacturing FDI in China. Japanese firms in China are more concerned about preserving or increasing their local market share in China than in other Asian countries. With that objective, Japanese firms are relatively less sensitive to their Chinese affiliates' current profitability than elsewhere in Asia, where they have become even more export-oriented after the Asian crisis. Preserving the local market in China can be a more important target for Japanese parent companies over the medium- and long-term than the current profit performance of local affiliates in the host country over the short-term period.

However, even if their Chinese businesses are much more concerned with market expansion than profitability, Japanese investors do respond to the profit performance of their affiliates in host countries, albeit with some time lag. Thus, one reason for the shrinking FDI flow of Japanese firms to China in the years 1997 to 1999 was the continuous unsatisfactory profit performance of their local affiliates in the late 1990s. The same situation occurred in North America in the late 1980s and early 1990s: first Japanese FDI flows expanded drastically (in the late 1980s), then the profit performance of the local (US) affiliates deteriorated, and finally the FDI flow dropped suddenly and sharply in the early 1990s as a result of unsatisfactory profit performances. Since FY 1995 the Japanese FDI in North America has shown an upward trend after the recovery of Japanese affiliates' profitability.

It is noteworthy that profitability in China improved in both 2000 and 2001. In fact, profitability in China was slightly better than that of ASEAN countries in 2001. The improved profitability in those years may stimulate more FDI in China than ASEAN countries in the near future.

#### JAPAN'S FDI IN ASEAN COUNTRIES IN COMPARISON TO CHINA

In some cases, China competes with ASEAN countries as a location for manufacturing and exporting networks serving local markets, Japan and third countries. China has an advantage in manufacturing costs due to abundant human resources, a substantial accumulation of supplier industries and a rapidly developing local market. However, the Japanese manufacturing industry has already accumulated a substantial FDI stock in the ASEAN countries, which also have specific local advantages. Therefore, sometimes FDI in China may be substitutive to FDI in ASEAN countries. In the global perspective, throughout the 1990s, China firmly established its position as the dominant host country in Asia and surpassed the ASEAN region in the mid-1990s (Table 2.1). This general picture is mirrored, to some extent, by the pattern of Japan's FDI flow in Asia as well. However, as argued before (Figure 2.2), in the late 1990s the leading position of China as the recipient of Japan's FDI was regained by some ASEAN countries, although in 1999 and 2000, Japan's FDI in China surged again.

The location advantages of China – supplying favourable manufacturing and exporting conditions – are connected with its recent WTO membership. Moreover, China is attracting Japan's FDI with its improving profit performances. Concurrently some other Asian host countries, such as Thailand, Taiwan and Korea, have had recent increases in Japan's FDI in either 1999 or 2000.

What are the future prospects of Japan's FDI in China? According to the periodical questionnaire of the Japan Bank for International Cooperation (JBIC), China has always been considered promising. In the most recent survey of 2001, China preserved her position as the most promising country in the world for Japanese manufacturing firms over both the medium-term and long-term period (Table 2.4). The location advantages of China include its potential for high economic growth in the future and low costs of production, raw materials and intermediate goods.

*Table 2.4-1: Most promising countries over the medium-term (up to three years)*

	1995	1996	1997	1998	1999	2000	2001
Rank							
1	China	China	China	China	China	China	China
2	Thailand	Thailand	USA	USA	USA	USA	USA
3	Indonesia	Indonesia	Indonesia	Thailand	Thailand	Thailand	Thailand
4	USA	USA	Thailand	Indonesia	India	Indonesia	Indonesia
5	Vietnam	Vietnam	India	India	Indonesia	Malaysia	India
6	Malaysia	Malaysia	Vietnam	Philippines	Vietnam	Taiwan	Vietnam
7	India	India	Philippines	Malaysia	Malaysia	India	Taiwan
8	Philippines	Philippines	Malaysia	Vietnam	Philippines	Vietnam	Korea
9	Singapore	Singapore	Brazil	Brazil	UK	Korea	Malaysia
10	UK	UK, Taiwan	Taiwan	UK	Brazil	Philippines	Singapore

*Table 2.4-2: Most promising countries over the long-term (up to ten years)*

	1995	1996	1997	1998	1999	2000	2001
Rank							
1	China	China	China	China	China	China	China
2	Vietnam	India	India	USA	USA	USA	India
3	India	Vietnam	USA	India	India	India	USA
4	USA	USA	Vietnam	Indonesia	Thailand	Thailand	Thailand
5	Indonesia	Indonesia	Indonesia	Thailand	Vietnam	Indonesia	Vietnam
6	Indonesia	Thailand	Thailand	Vietnam	Indonesia	Vietnam	Indonesia
7	Myanmar	Malaysia	Brazil	Brazil	Brazil	Malaysia	Brazil
8	Malaysia	Myanmar	Philippines	Philippines	Malaysia	Brazil	Taiwan
9	Philippines	Philippines	Malaysia	Malaysia	Philippines	UK	Malaysia
10	UK	Mexico	Myanmar	UK	Mexico	Taiwan	Philippines

Source: JBIC

In the same JBIC survey of 2001, other Asian countries, such as Thailand, Indonesia, Malaysia, Taiwan, India, Vietnam, Korea, Singapore and Philippines, were ranked among the top ten promising destinations of Japan's FDI flows. Those countries also have local markets with considerable potential for the future, low production cost (excluding Taiwan, Singapore and Korea), as well as export bases to third countries and part supply bases to assembling companies in the Asian region. Those Asian countries are competing with China as a host country for Japan's FDI.

Moreover, according to this author's interviews in January 2002 with the managers of Japanese affiliates, officials of the Japan Chamber of Commerce, Japanese and Western city banks, governmental agencies and research institutes in Singapore, Malaysia, Thailand, Hong Kong and China,<sup>3</sup> there is considerable optimism about the competitiveness of their own industries, their competitive power as host countries to attract inward FDI and expanding business opportunities between China and ASEAN.

On the other hand, managing directors of Japanese affiliates in ASEAN countries are seriously worried about future potential competition between their products – both final goods and spare parts – made in ASEAN countries and those made in China. As argued above, Japanese firms have already built up their international (intra-regional) production networks in ASEAN countries, especially in the electric and the electronic industries and automobile industries. Japanese affiliates in ASEAN are confident of their competitiveness in the automobile industry and also in more capital intensive and technology intensive fields of the electric and electronic industries. However, they are cautious, especially in the electric and the electronic industries, in respect of three issues. First, they are struggling in competition with labour-intensive parts and final goods with China. Second, in the near future they may also be struggling in capital and technologically intensive parts and final products because of China's growing competitiveness. Third, the Japanese parent companies may invest more in China and less in ASEAN countries in the future because of better business opportunities in China.

Interestingly, Japanese affiliates in Hong Kong and China have largely similar ideas regarding these three issues. In fact, Japanese parent companies must develop some kind of comprehensive policy of reallocation or

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<sup>3</sup> These interviews were conducted in January 2002 with the managing directors of Japanese affiliates in Singapore, Malaysia, Thailand, Hong Kong and China and with experts in the research institutes, governmental agencies, Japanese and Western commercial banks as part of the research regarding the effects of a growing China on Southeast Asia.

reorganisation of their Asian networks in both ASEAN regions and China to avoid economic and political risks in both areas and to minimize the huge 'sunk costs', which have already accumulated by heavily investing in ASEAN regions in the past.

#### INDUSTRIAL AND REGIONAL CHARACTERISTICS OF JAPANESE FDI IN CHINA

##### *Geographic characteristics*

Geographically, Japanese affiliates in China used to concentrate in some specified areas in North and South China, but there has been a gradual shift from North China (Liaoning) and South China (Guangdong) to East China (Shanghai, Jiangsu). Table 2.5 indicates that the number of Japanese firms located in Shanghai increased in the period from 1994 to 1999 about six-fold from 404 to 2,553 firms, in Jiangsu about nine-fold from 158 to 1,326 firms. On the other hand, in Liaoning and Guangdong the increase of Japanese affiliates was less than three-fold in the same period.

*Table 2.5: Numbers of Japanese affiliates by region/city*  
(unit: numbers of firms)

	1994	1998	1999
Beijing	253	871	884
Tianjin	118	706	719
Shanghai	404	2305	2553
Chongqing	11	77	78
Jiangsu	158	1288	1326
Zhejiang	54	641	652
Shandong	83	951	971
Liaoning	698	2006	2016
Guangdong	307	770	806
Hubei	11	149	145
Henan	11	143	141
Sichuan	19	50	52

Source: Mitsubishi Research Institute

Within China, local governments compete severely for foreign investment. The attractiveness of Shanghai and Jiangsu for example stems, first, from having the largest local market for consumer goods in China, second, from their national and / or local development zones, which provide well-prepared economic and social infrastructure and, third, from well-trained human resources. They also have advantages because of their supporting

industries – a well-developed local machinery industry and many township and village enterprises (TVEs) which can support the local business of Japanese firms. Moreover, a recent accumulation of many affiliates of Taiwanese manufacturing firms and Western and Japanese enterprises has resulted in the formation of an effective production and sales network in the region, which is only behind in the Guangdong area but rapidly catching up. Therefore, many Japanese firms from the home appliance electronic industry, the personal computer and the semiconductor industry are operating in Shanghai and Jiangsu to serve local markets.

On the other hand, Guangdong is an advantageous location because of its huge accumulation of parts companies, both foreign and local, amounting to more than 40,000 companies and their networks spread over the Guangdong and Hong Kong area. These supplier networks, many of which are Taiwanese affiliates, offer a great variety of intermediate goods with high quality at a low cost. Their products are often the most competitive of all Asian products. Many Japanese affiliates in Asia, which have international procurement offices (IPO) in Singapore and in Hong Kong, have often found out that the parts procured in the Guangdong and Hong Kong area are of higher quality and cheaper than the products made in other Asian regions. As argued above, the recent situation brought about by China's growing economy may change the picture of the international (intra-regional) production sales networks throughout the entire East and Southeast Asian regions.

Research and development (R&D) activities are handled well in the Beijing area and in Eastern China (Shanghai, Jiangsu). New products suitable for the local markets are developed here using the local, highly qualified human resources.

#### *Industrial characteristics*

Japanese firms from several machinery industries, such as the electric and the electronic industry (electric machinery industry), as well as other types of industries, including the textile, the industrial machinery and the transportation equipment (automobile) industry have continuously invested in China (Table 2.6 and Figure 2.3). Especially the electric and the electronic industry invested heavily in China, reaching its peak in FY 1995. After FY 1995, the industry drastically reduced its FDI in China, but in FY 2000 they sharply increased their investments again. The textile industry's FDI in China typically reflects the location advantages of China: an abundant labour force at low cost and of high quality. Japanese FDI in the (industrial) machinery industry and the service industry also showed an increase in FY 2000, the most recent year under review.

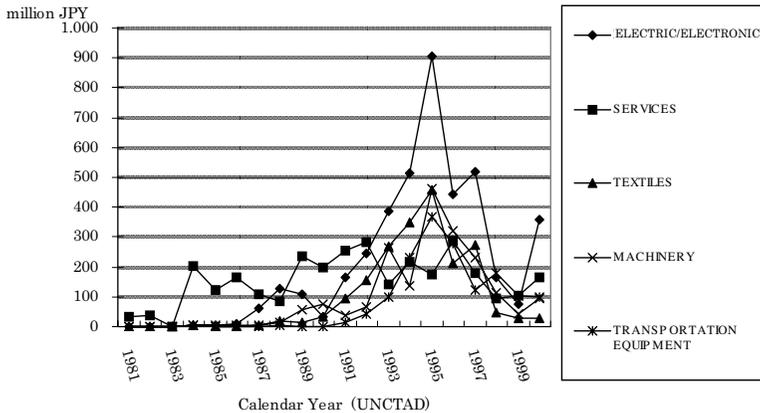
*Table 2.6: Japan's FDI flow in China by industry*  
(unit: one hundred million JPY)

	1991	1992	1993	1994	1995
Foodstuff	26	37	77	137	137
Textile	95	155	268	349	455
Timber & pulp	2	4	48	10	68
Chemical	15	25	110	106	138
Iron & non-iron	16	38	91	164	347
Machinery	39	65	265	137	463
Electric machinery	167	246	386	516	904
Transportation machinery	12	41	98	233	370
(Manufacturing)	420	838	1587	1942	3368
Commerce	9	31	64	156	249
Service	255	283	143	215	173
Real estate	22	85	47	146	261
(Non-manufacturing)	311	467	315	632	851
<b>Grand total</b>	<b>787</b>	<b>1381</b>	<b>1954</b>	<b>2683</b>	<b>4319</b>
	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
Foodstuff	207	118	105	29	23
Textile	212	274	47	31	30
Timber & pulp	44	36	10	4	6
Chemical	98	161	153	100	66
Iron & non-iron	203	180	94	48	46
Machinery	319	232	114	44	95
Electric machinery	445	518	163	74	357
Transportation machinery	280	122	178	104	99
(Manufacturing)	2032	1857	1027	603	840
Commerce	146	124	44	72	62
Service	287	179	97	102	167
Real estate	195	131	45	3	15
(Non-manufacturing)	749	549	313	198	256
<b>Grand total</b>	<b>2828</b>	<b>2438</b>	<b>1363</b>	<b>838</b>	<b>1099</b>

Source: Ministry of Finance

Quite generally the performance of Japanese affiliates in China depends heavily on the respective industry's characteristics. In some products of the home electronics industry, the Chinese market has already grown to one of the largest markets in the world, and the local Chinese firms in this industry have become internationally competitive. A typical example is the colour TV industry. Chinese firms were able to absorb effectively the know-how of Japanese manufacturing

Figure 2.3: Japan's FDI in China by industry



firms by means of direct or indirect technology transfer, and now they are competing with Japanese firms (and their affiliates) not only in the Chinese market but also in the Southeast Asian market. In addition to their good access to lower labour cost, Chinese firms can utilize lower priced spare parts than Japanese parts. Those Chinese parts are produced locally by Chinese firms and provide an acceptable quality to local markets because of direct or indirect technology transfer by Japanese firms. Therefore, a large-scale Japanese investment in China in this field cannot be expected.

Although China's personal computer market is still relatively small, it is growing rapidly. In this industry, Chinese firms are not yet as competitive as in the home appliances industry, but Western rivals are formidable competitors for Japanese firms. Therefore, also for this industry, a large-scale Japanese investment cannot be expected.

However, in 2000 and 2001 Japanese firms in the electric and the electronic industries invested in China in order to compete with their Chinese, Asian and Western rivals in many fields and also to reorganise and strengthen their production and sales networks in Asia.

Japanese automobile firms are still lagging behind Western firms in setting up local manufacturing plants in China. However, Toyota, Honda and other Japanese automobile firms have become more active recently to serve a potentially huge market of China. Some Japanese automotive parts makers have already invested in China and are prepared to supply parts to Japanese assembling firms in China.

## ADVANTAGES AND DISADVANTAGES OF CHINA AS A HOST COUNTRY IN COMPARISON WITH ASEAN COUNTRIES

### ADVANTAGES

In many cases, Japanese affiliates in Southeast Asian countries have realized that the production costs of parts and components in China are lower than in Southeast Asia and that the product quality is also better in China. Generally speaking, this situation is valid for labour-intensive industries but, as argued above, the same situation may develop in the capital and technology intensive industries in the near future. Furthermore, the actual and potential size of the local consumption market is also larger in China. All these advantages suggest that there will be more FDI in China than in Southeast Asia in the near future.

### DISADVANTAGES

However, there are also some disadvantages in the Chinese investment environment, namely the lack of flexibility, transparency and predictability of its economic policy, including its FDI policy. On the other hand, the ASEAN countries have made considerable efforts to stimulate inward FDI by taking a more liberalized FDI policy with bilateral and regional actions. For example, investment liberalization gained momentum along with the regional ASEAN Free Trade Agreement (AFTA) and the ASEAN Investment Agreement (AIA) schemes. Thus through the Japanese and Western firms' efforts to build up an exporting automobile industry in Southeast Asia, FDI flows to those countries increased. For example, the Mazda-Ford joint venture in Thailand is running a successful export operation. In China, Japanese firms can enjoy the advantage of low production costs, but they have to bear substantially larger policy uncertainty risks than Southeast Asian countries. China's participation in the WTO may decrease these risks to some extent. But if the accession to the WTO means trade liberalisation in the first stage, it may do more to stimulate trade than FDI into China. Only over the long term will China's WTO accession result in an increase in both trade and investment.

According to some Japanese firms, another disadvantage of China is the relatively long 'lead-time' from order to supply compared to Southeast Asia. This disadvantage may be serious in some specified industries.

Additionally, it is noteworthy that the international competitiveness of local Chinese firms has grown to be formidable for Japanese firms in both the Chinese and the Southeast Asian markets. Therefore, Japanese firms will have to rebuild their own networks in Asia, considering both

the advantages and the disadvantages of the different host countries as well as taking into account the positive effects from their technology transfer, which is indispensable for the success of the Japanese production system, and the risk of fostering rivals through technology transfer, as will be explained in the next section. The new possibility of integrating ASEAN markets with the Chinese, Korean and Japanese economy is the newest factor to be considered.

#### FIRM-SPECIFIC ADVANTAGES OF JAPANESE FIRMS AND ITS TECHNOLOGY TRANSFER

##### TECHNOLOGY TRANSFER AS AN ENGINE FOR DEVELOPMENT

Technology transfer through FDI is a major engine to stimulate the economic development of host countries. Technology transfer is indispensable for developing countries' industrial capacity over the long term, while FDI inflows seem to have a more direct relationship with GDP growth through domestic capital formation and export (promotion). On the other hand, FDI carries new technology and science for new products as well as managerial resources and financial resources. The effects of technology transfer on the economic development are realized over quite a long-term period.

##### QUESTIONNAIRE SURVEY ABOUT THE TECHNOLOGY TRANSFER THROUGH FDI

To consider the importance of the effects of technology transfer through FDI on the economic development, the author conducted a questionnaire survey at Japanese and European firms and their affiliates in ten Asian countries and regions (China, Vietnam, Thailand, Indonesia, Malaysia, Singapore, Philippines, Hong Kong, Taiwan and Korea) as a joint research work with Professor H. Mirza and his team at Bradford University. In the following, some major findings will be discussed along with a short explanation of the survey methodology.

##### THE THREE TECHNOLOGY CATEGORIES<sup>4</sup>

Traditionally, technology transfer refers to innovative new products and /or production process (in the chemical and pharmaceutical indus-

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<sup>4</sup> The World Investment Report 2001 (pp. 157–9) presented a little different but similar idea of the three concepts of technology transfer: product-related technology, process technology and organisational and managerial know-how.

tries), to related techniques used to operate and/or to utilize the new technology well, and to the basic capability of R&D to create new products and/or production processes. We define this technology transfer as the first technology category. This type of technology is realized when FDI is more profitable than the export of the same technology or the export of equipment including the same technology. Using overseas production, the parent company tries to yield a high enough return as quickly as possible so as to compensate for the R&D expenditure on the new products. Thus, the parent company expects to gain high enough profits by utilising the location advantages of the host country. In many cases, host countries are able to manufacture the new products at lower costs and/or provide large markets for them. Naturally the parent company tries to avoid the spillover of the technology before obtaining enough profit to compensate for their R&D expenditure. However, even in that situation, technology will spread to the host countries gradually through retired employees of the overseas affiliates and the partners of joint ventures. Therefore, even in this case, we can expect an impact from technology transfer.

However, it is noteworthy that there is another type of technology transfer having to do with managerial and organisational production systems in mature industries, such as the automobile industry and the electric and the electronic industry, which diminish transaction costs or problems arising in the mass-production system à la Henry Ford. This technology transfer is defined as the second technology category.

This type of technology is deeply related to the firm-specific advantages of Japanese manufacturing companies. Japanese firms in these mature manufacturing industries have developed and preserved a strong international competitiveness by fostering stable and long-term transactions in labour markets and the intermediate goods markets in order to minimise the sum of the market transaction costs and the intra-firm transaction costs (Tejima 2000a, 561–6). Quality control systems, stock (inventory) control systems and effective control systems of suppliers, supported by the lifetime employment system, job-rotation system and multi-functions of skilled labours are technical devices that effect the basic principle of preferring the long-term transaction to the short-term opportunistic profit.

The basic assumption is that Japanese manufacturing firms are relatively more advantageous in this second technology category than in the first technology category. Therefore, Japanese firms are assumed to be relatively more eager to transfer the second category than the first category. On the other hand, Western (European and American) companies are assumed to be more advantageous in the first technology category and relatively more eager to transfer the first category than the second category.

The third technology category encompasses personnel and employment systems and is quite different from the first and the second technology category explained above. This third category is important because it provides the basis to proceed in the first two technology categories. For example, a similarity in the personnel and employment systems may be the prerequisite for the technology transfer of the second category.

THE RESULTS OF THE SURVEY

The questionnaire was sent to 569 Japanese parent companies (90 Japanese firms responded), to 955 European parent firms (26 European firms responded) and to 1500 overseas affiliates owned by Japanese and European firms (46 affiliates responded, of which 38 firms were Japanese-owned). Table 2.7 shows a summary of the survey's results.

First, as Table 2.7 shows, Japanese firms are relatively more positive about transferring the second technology category than the first technology category (statistically significant by X test) and European firms are relatively more positive about transferring the first category than the second category (statistically insignificant by X test). Therefore, the author's assumption is confirmed at least as far as Japanese firms are concerned. The results for the European firms, however, may be unreliable, because of the extremely small sample.

Table 2.7: Technology transfer by evaluation of parent companies and their affiliates

	Japanese parent		European parent		Affiliates in Asia	
	No. of firms	Score	No. of firms	Score	No. of firms	Score
(1) Products / production process (category 1)						
Products/process	83	3.4	26	3.8	45	3.6
Adaptive technology/skill	83	3.2	26	3.8	45	3.5
Technology for innovation	82	2.3	26	2.8	43	2.9
others	0	0	0	0	1	5
	248	2.9	78	3.5	134	3.4
(2) Production / supply chain system (category 2)						
	Japanese parent		European parent		Affiliates in Asia	
	No. of firms	Score	No. of firms	Score	No. of firms	Score
Process control system	81	3.2	25	3.2	43	3.3
Quality control system	80	3.4	25	3.7	45	3.3
Inventory control system	81	3	25	3.4	45	3
Facilities maintenance	79	3.4	25	3.4	45	2.9

Facilities layout	80	3.2	25	3.1	45	2.6
Customer-supplier system	80	3	25	3.5	45	3.3
Sales/distribution system	81	2.8	24	3.6	44	0
Other	0	0	0	0	0	
Average	562	3.1	174	3.4	267	3.1

## (3) Human resource management system

	Japanese parent		European parent		Affiliates in Asia	
	No. of firms	Score	No. of firms	Score	No. of firms	Score
Recruitment system	87	2.4	25	2.3	45	2.1
Employment system	87	2.4	25	2	45	2.4
Promotion system	87	2.5	25	2.4	45	2.4
Payment system	87	2.4	25	2.4	45	2.2
Training schemes	87	2.6	25	2.7	45	2.6
Employee participation	87	2.6	25	2.8	44	2.6
Reporting system	87	2.7	25	3.8	45	3.2
	0	0	0	0	0	0
	609	2.5	175	2.6	314	2.5

Notes: Five-stage evaluation for (1) and (2)

1: Never transferred 2: Transferred on a case by case basis 3: Transferred if criteria met 4: Normally transferred 5: Always transferred

Five-stage evaluation for (3)

1: We only follow local HRM practices 2: Parent practice transferred on a case by case basis 3: Parent practices transferred if criteria met 4: Parent HRM practices normally transferred 5: Parent HRM practices always transferred

Source: Own survey and research

Second, Japanese and European parent companies and their affiliates commonly recognize that they are eager to transfer or to receive the first category and the second technology category but not the third category. Actually, the insufficient transfer of the third category may be especially problematic for Japanese firms, because the second category requires such a close relationship between Japanese management ways and local employees as is true for Japanese parent companies, as argued above. Third, those three parties (Japanese and European parents and their affiliates) also commonly recognise that parents companies are eager to transfer the technology of the innovative new products and /or production process (the first technology category) and related techniques to

operate and /or utilise the new technology, but are not so positive about transferring basic R&D capability for creating new products and /or production processes to local firms because of the lack of local capacity in host countries. The responding affiliates affirmed that they could realise a higher product quality, lower production costs, a more punctual delivery timing and more competitive new products because of their having received the technology transfer of the second technology category, but they still did not possess enough capacity in creating new products because of the insufficient technology transfer of the first technology category.

#### THE SURVEY'S IMPLICATIONS

Generally speaking, the effects of the transfer of the second technology category on the affiliates, local firms and local companies are excellent because the second category's nature is quite opposite to the first category. The technology of the second category has to be spread as far as possible to all related participants, including the employees of their affiliates and to the local parts suppliers because it is absolutely necessary to widely diffuse the technology for the success of the local operation. In some cases, Japanese firms do the training of local employees and send Japanese engineers to their affiliates and local suppliers with no or very little compensation. The process of the technology transfer is both very expensive for Japanese parent companies and very beneficial to local firms and host countries. Thus in some cases, Japanese firms have contributed to fostering rival firms in host countries. This in fact happened in the United States through the revitalisation of the US automobile firms and some electric and electronic firms after local manufacturing had been begun by Japanese firms.

Presently, similar things are happening in China. Japanese local production in China has contributed substantially to fostering competitive Chinese firms, especially in the field of the electric and the electronic industry. In other words, China is an exceptional example of the successful transfer of a second technology category in a developing country. In this sense, Japanese firms are facing the dilemma of choosing between their affiliates'success and promoting the local rivals through their technology transfer. This is an important issue for Japanese firms in their decisions regarding new investment destinations.

## FUTURE PROSPECTS

It will be absolutely necessary for Japanese firms to continue shifting their production bases from Japan to Asia, primarily to China and Southeast Asia. They will have to manufacture higher value-added products in Asia, while the Japanese headquarters will have to concentrate more on R&D. Japanese production and sales networks in Asia have to be reorganised by Japanese parent companies and their affiliates in Asia, taking into account the advantages and disadvantages of China, the ASEAN countries and the Asian NIEs. Those advantages and disadvantages are still changing, but China's participation in the WTO and ASEAN's acceleration of regional trade liberalisation, including the possibility of 'forging AFTA with Japan, China and Korea' will, no doubt, increase the competitive advantages of both parties. Japanese firms may have to reorganise and integrate their production and sales networks spread over the whole East and Southeast Asian regions, as argued above. Future networks will be quite different from the current networks in ASEAN countries, which mainly comprise Japanese affiliates, because the supporting industries in China, which are currently growing, include many other foreign affiliates, especially Taiwanese.

Finally, but nevertheless important, the recent acceleration of Japanese FDI in China may result in the hollowing out (*kudōka*) of the Japanese economy by shifting competitive industrial sectors from Japan to foreign countries. It is inevitable that Japanese firms will rely on international production and sales networks rather than on domestic production and sales networks in order to stay alive and competitive against their rivals under the accelerated pace of globalisation. However, if the pace of the shift of manufacturing sectors from Japan to Asia is too rapid, it may actually cause some difficulties for Japan's domestic sectors. In other words, in the worst case scenario, Japanese manufacturing sectors may lose their conventional advantages in mature industries through rapid change of the social and economic structure in Japan and through the accelerated shift of domestic manufacturing sectors to foreign countries while not being able to obtain new advantages in R&D capabilities in information, communication and other advanced technologies. In order to avoid such a disastrous situation, both Japanese firms and Japanese public sectors will have to follow a long-term strategy, which will allow Japanese companies to develop new competitive advantages without damaging their own firm-specific advantages. They should invite more inward FDI in Japan while positively achieving outward FDI in China, ASEAN and the rest of the world.

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