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Competitiveness - Residency Base versus Ownership Base - in Case of Japan

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WORKING PAPERS

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Competitiveness – Residency Base versus Ownership Base – in Case of Japan

Kazuo Inaba*

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Abstract

This paper examines the competitiveness of Japanese firms in the manufacturing sector since the middle of 1980s when the Japanese FDI outflow was accelerated. In stead of a standard residency-based balance of trade, we use the idea of ownership-based net foreign sales introduced by DeAnne Julius (1990, 1991). The calculated results show that the Japanese overseas activities have made the firms with foreign affiliates abroad become more competitive through selling their products in the local market of the foreign country. Major exporting sectors such as electric machinery and transport machinery have sustained strong competitiveness. The competitiveness of Japanese firms is also conformed by upward tendency of profit rate in foreign affiliates abroad. Using Dunning terminology the ownership advantages the Japanese firms acquired abroad would mainly come from their inherent management and production system.

Keywords: Japanese Direct Foreign Investment, International Competitiveness, Intra-firm Trade, Foreign Trade, Foreign Sales, Ownership Advantages

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1. Introduction

Growing overseas production often replaces that of home country for the local production of host countries and results in the export reduction. Whether it has overall negative effect on the trade balance of home country depends on the degree of complimentary effects such as the demand for capital goods and intermediate goods. As time goes on, the more overseas production would cause more export substitution and thus negative effect on the trade balance. One may argue that we should consider the direct investment income abroad such as dividends and patent fees as the positive effects on balance on goods and services based on location base (residency base). Although discussion with residency base describes the comparative advantage of a country, it cannot grapes the whole picture of the competitiveness of the firms in the concerned country. As Dunning (1988) points out, multinational firms maintain or increase their market share abroad based on the ownership-specific advantages of property rights and intangible assets.

Since the late 1970s the US had suffered from a huge trade deficit and there were discussions on competitiveness of the US multinational companies[1]. If we include the activities of the multinational firms abroad and calculate the trade with foreign firms, the net trade balance may defer from that of the standard measure of the export- import trade balance. As we see in the next section, DeAnne Julius (1990, 1991) introduced a concept of competitiveness, which incorporated the sales and purchases of the multinational firms, and based on her calculated results on trade balance stressed that the US multinationals contributed to the national economy in the 1980s.

Although Japan maintained huge trade surplus, the surplus dropped to ¥ 8.7 trillion (US$ 79.6 billion) in 2005 from the previous year's level ¥ 12.0 trillion (US$ 110.4 billion). The decrease was mostly due to the rise of imported oil price. If the trade of natural resources were excluded, the trade balance on manufacturing goods amounted for ¥32.3 trillion, 1.25 times that of in 1986 when the Japanese yen was adjusted towards appreciation based on the G5 Plaza Agreement. Facing the requirement of reducing the huge trade surplus, the major exporting Japanese companies had accelerated their investment abroad.

Now, the accumulated Japanese outward FDI, which reached US$ 372 billion at the end of March 2005, has had a big impact on the economy of the host countries as well as the Japanese economy[2]. When the Japanese companies rushed into their

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[1] Kravis and Lipsey(1992) discuss U.S. export competitiveness with the shares of the United States and the shares of the U.S. multinational enterprises in world manufacturing exports.

[2] Kiyota and Urata (2005) showed that in 2000 Japanese companies with foreign affilites (Japanese

transplants abroad, even the Japanese businessmen had worried about the de-industrialization with technology transfers from their companies and a loss of the competitiveness. As we have seen before, Japan has not lost its competitiveness in terms of the standard trade balance. If Japanese business activities abroad are considered, can we say that the Japanese companies have still maintained their competitiveness? If the trade balance of Japanese companies with foreign ones has been deteriorated, the current leading industries such as electric and transport machinery may become hollow in the future. To address this question, the next section describes the concept of the competitiveness introduced by Julius. Section 3 overviews the activities of the foreign affiliates of Japanese companies[3]. Section 4 examines the competitiveness of the Japanese firms, followed by concluding remarks in section 5.

2. Measurement of Competitiveness

2-1 Julius Approach

Instead of the standard trade of balance in goods and services based on residence, a National Academy of Sciences (NAS)[4] study panel and Julius (1990, 1991) proposed alternative measures of foreign trade based on ownership. Steven, Obie, and Lowe (1993) compared these two approaches with empirical data and raised several conceptual and empirical issues. They showed that that Julius' approach surpasses the NAS one in that hers overcome the difficulty of dealing with the statistical data. They also stressed that the net foreign sales Julius used conceptually is equal to the balance on goods & services and direct investment income[5].

Following the Julius' discussion on the trade of two countries including FDI related trade between parents and their affiliates abroad, we divide the firms of each country into domestic firms and foreign firms as Figure 1.

In home country (H), firms consist of domestic companies A and affiliates of foreign companies B. Similarly, in foreign country (F), firms consist of the local firms C and

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multinationals) accounted for 95.1% and 85.4% of Japanese exports and imports respectively, although in terms of number of firms their percentage share is only 13.8% of total Japanese firms.

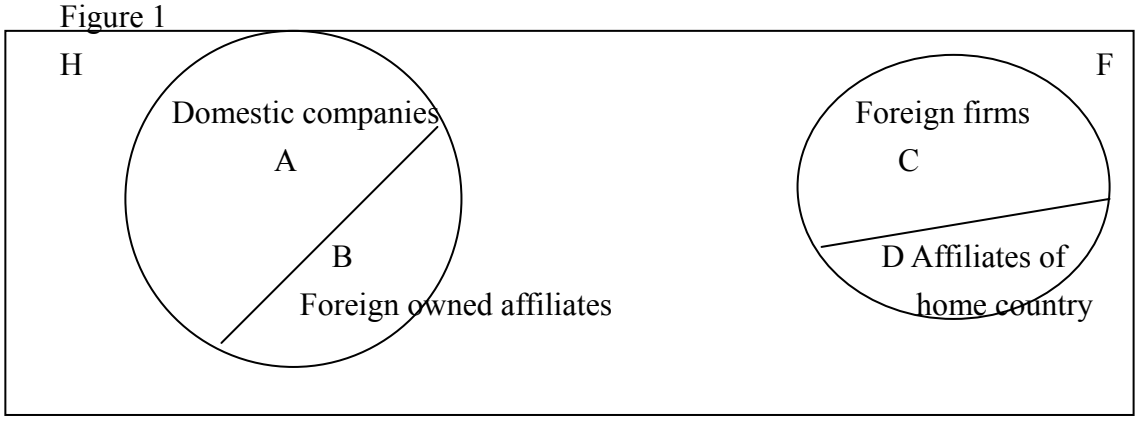
[3] The terms "the foreign affiliates of Japanese companies" and "the Japanese affiliates of foreign companies", which Bureau of Economic Analysis (BEA) of U.S. Department of Commerce uses in the Survey of Current Business, correspond to "Japanese affiliates" and "foreign affiliates", which METI usually uses. To avoid confusion, we follow the terms BEA uses.

[4] Anne Y. Kester ed.(1992).

[5] Steven, Obie, and Lowe, p.57-59. In the paper, they decomposed exports of goods and services into three components and proposed the new alternative residency-based balance, so-called U.S. cross-border exports of goods and service.

foreign affiliates of home country D. Let AC indicate commodity flow from domestic firms to the local firms of foreign country. Likewise, DC shows the sales of foreign affiliates of domestic companies (affiliates abroad) to the local firms of the foreign country. Using these terms, exports E and imports M of home country are expressed as follows[6].

Figure 1



$$E_h = E_{AC} + E_{AD} + E_{BC} + E_{BD} \qquad (1)$$
$$M_h = M_{CA} + M_{DA} + M_{CB} + M_{DB} \qquad (2)$$

Where E_{AC} :exports to the local firms of foreign country

E_{AD} : exports to affiliates abroad from domestic companies

E_{BC} :exports from the affiliates of foreign companies to the local firms of foreign country

E_{BD} :exports from the affiliates of foreign companies to affiliates abroad

M_{CA} : imports by the affiliates of foreign companies from the local firms of foreign country

M_{DA} :imports by domestic companies from affiliates abroad

M_{CB} :imports by the affiliates of foreign companies from the local firms of foreign country

M_{DB} :imports by the affiliates of foreign companies from affiliates abroad

The trade balance of home country $E_h - M_h$, which is based on the residency concept, includes the trade of the affiliates abroad in the domestic market E_{AD}, M_{DA} of home country and that of the affiliates of foreign companies in the local market E_{BC}, M_{CB}.

[6] The notation we use is different form that of the Julius'.

Thus, it seems to reflect the comparative advantage of the country. As we discuss later, these trades include intra-firm or intra-industry trade across the border, so they do not necessarily reflect the competitiveness of the firm or the industry concerned because they are only residency-based, but not based on firm's ownership. To indicate the competitiveness of the firms' ownership base, we need to introduce the concept of foreign sales S_h and foreign purchases P_h; the trade of the foreign affiliates with the domestic firms and the trade of the affiliates of foreign companies in the local market as follows:

$$S_h = E_{AC} + S_{AB} + M_{DB} + S_{DC} \qquad (3)$$
$$P_h = M_{CA} + S_{BA} + E_{BD} + S_{CD} \qquad (4)$$

Where S_{AB}:sales by domestic firms to the affiliates of foreign companies
S_{DC}:sales by affiliates abroad to the local firms of foreign country
S_{BA}:purchases by domestic companies from the affiliates of foreign companies
S_{CD}:purchases by affiliates abroad from the local firms of foreign country

Foreign sales and foreign purchases can be called as foreign trade based on ownership concept respectively. Using (1) and (2), (3) and (4) can be rewritten as (5), (6) respectively.

$$S_h = E_h - (E_{AD} + E_{BC}) + (S_{AB} + S_{DC}) - (E_{BD} - M_{DB}) \qquad (5)$$
$$P_h = M_h - (M_{DB} + M_{CB}) + (S_{BA} + S_{CD}) - (M_{DB} - E_{BD}) \qquad (6)$$

Starting overseas production creates the demand for parts and components by the affiliates abroad (E_{AD}) and thus exports of home country may increase. This complimentary effect may be greater than the substitution effect S_{DC}. As time goes on, the local components requirements may refrain E_{AD}, increase local purchases of parts and components S_{CD}, and with the expansion of overseas production local sales S_{DC} re-imports to home county M_{DA} increase. In terms of the residence base, E_{AD} reflects the exports of home country. Suppose that the foreign market does not increase. The demand for parts and components from the affiliates abroad does not change the competitiveness of home country because the demand in the domestic market is only transferred to that in the foreign market. As (3) and (4) shows, in terms of ownership base, net foreign sales do not change, so E_{AD} does not indicate the competitiveness of the firms concerned. Although export substitution by overseas production may decrease

the exports of home country, the competitiveness of the firms does not change if the affiliates sale the same amount of their production to the foreign market. Taking into account the foreign sales and foreign purchases makes us to use the ownership based trade balance $S_h - P_h$ as an indicator of the firms' competitiveness. For the discussion of competitiveness of the Japanese firms, the ownership-based approach is preferable to the residency-based approach.

2-2 Net Foreign Sales in U.S.

Using this concept tells us another aspect of the competitiveness of US multinational firms in the 1980s and justifies their activities in spite of the seriously deteriorated trade balance in the US. Table 1 shows that while U.S. net exports in 1986 amounted to minus US$ 144.4 billion, the net foreign sales recorded a plus of US$ 56.7 billion. To get foreign sales, FDI related trades (exports to foreign affiliates of US companies E_{AD} and exports by US affiliates of foreign companies to home country E_{BC} [7]) were deducted from exports of goods and services, and local sales (local sales to foreign affiliates of US companies S_{AB} and local sales by foreign affiliates of US companies S_{DC}) were added. Foreign purchases were derived by deducting FDI related trades (imports from foreign affiliates of US companies E_{BD} and imports by foreign affiliates of US companies M_{CB}) from imports of goods and services and adding local purchases (local purchases from foreign affiliates of US companies S_{BA} and local purchases by foreign affiliates of US companies S_{CD}). In the table 1 exports from foreign affiliates in home country to the affiliates abroad E_{BD} and imports by the affiliates from the affiliates abroad M_{DB} are excluded due to a lack of the data. Julius assumed that E_{BD} and M_{DB} trade were negligibly small. As already shown, Steven, Obie, and Lowe calculated the net foreign sales in 1991, in which E_{BD} and M_{DB} were included. The percentage share of E_{BD} to total sales of the US affiliates of foreign companies and the share of M_{DB} to total sales of foreign affiliates of U.S. companies are 0.4% and 0.8% respectively. Both are very small as Julius expected. Julius also calculated the net foreign sales for Japan in 1983. In that year Japan reached trade surplus US$ 31.4 billion and net foreign sales amounted to US$ 41.7 billion. If comparison of both calculations was allowed without considering the three years time deference, US firms were more competitive than the Japanese ones in terms of

[7] Julius originally used the terms "US-owned firms abroad" and "Foreign-owned affiliates in US" in stead of the BEA terms "foreign affiliates of US companies" and "US affiliates of foreign companies".

ownership base[8].

Table 1 US Trade Balance versus Net Foreign Sales, 1986

Foreign Sales	US$ billion
Exports of goods and services	304.0
Less: exports to foreign affiliates of US companies E_{AD}	71.3
exports by US affiliates of foreign companies E_{BC}	50.7
Plus: local sales to US affiliates of foreign companies S_{AB}	400.4
local sales by foreign affiliates of US companies S_{DC}	865.2
Total foreign sales	1,447.6
Foreign purchases	
Imports of goods and services	439.4
Less: imports from foreign affiliates of US companies E_{BD}	65.6
import by US affiliates of foreign companies M_{CB}	124.5
Plus: local purchases from US affiliates of foreign companies S_{BA}	616.5
local purchases by foreign affiliates of US companies S_{CD}	558.5
Total foreign purchases	1,424.3
Net exports	-135.4
Net foreign sales	+23.3

(Source) Julius(1991), p.25 Figure10.
(Note) Notations are added by the author.

The idea of net foreign sales raises different aspects of overseas activities of multinationals. Now, what has happened to the competitiveness of the Japanese firms since the middle of the 1980s when the Japanese FDI accelerated? Except Julius' calculation of the net foreign sales of Japan in 1983, the above preceding analyses dealt only with the U.S. case. Our main concern is to discuss the competitiveness of major industries in Japan, but not industry total. Before discussing the competitiveness of the Japanese firms we overview the main features of the activities of the foreign affiliates of Japanese companies and the Japanese affiliates of foreign companies in the next section.

3. Japanese Owned Firms Abroad versus Foreign Owned Firms in Japan

3-1 General features

As Table 2 shows, there exists a huge gap between the activities of the foreign affiliates of Japanese companies and those of the Japanese affiliates of foreign companies. By the end of March, 2005, the Japanese firms established 14,955 affiliates

[8] Based on the calculation by Lowe (1995, 2006), the U.S. net foreign sales recorded $US 26.2 billion in 1991 and $US -489.7 billion in 2004. Although the U.S. net foreign sales have been deteriorating, they are better than the balance goods and services.

abroad, 6.7 times higher than the number of the Japanese affiliates 2,230. The 2004 overseas sales totaled ¥162 trillion (US$ 1,503 billion), 5 times the sales of the Japanese affiliates ¥32 trillion (US$ 296 billion). The overseas sales in manufacturing were ¥79 trillion (US$ 732 billion), which accounted for one fourth of those by the US companies and the sales of the Japanese affiliates amounted ¥19 trillion (US$ 173 billion), one fourth of the overseas sales of the foreign owned affiliates in Japan. Nearly 90% of the overseas manufacturing products by the foreign affiliates of Japanese companies were directed to the local sales and one tenth to exports to Japan. The Japanese affiliates of foreign companies sold nearly 80% of their manufacturing products in Japan, and exported 20%. The total purchases of the foreign affiliates of Japanese companies were ¥132 trillion (US$ 1,126 billion), 80% of the sales of total industry. Out of the purchases of the Japanese owned affiliates in manufacturing ¥59 trillion (US$ 545 billion), two thirds were from the local market, and 35% were from Japan. The total purchase of the Japanese affiliates of foreign companies amounted ¥20 trillion (US$ 190 billion) and accounted for 62% of the total sales. The Japanese affiliates in manufacturing purchased 73% in Japan and 27% from outside Japan. As to employment, the foreign affiliates of Japanese companies employed about 4.1 million regular workers and the Japanese affiliates employed 431 thousand which accounted for only 0.9% of the total regular workers in Japan. The overseas rate of profits to the sales was 3.7 % slightly higher than that of the Japanese affiliates of 3.4%.

Table 2 Activities of the Japanese Owned Firms and Foreign Owned Firms in Japan 2004 (¥ billion, in parenthesis US$ billion)

	Japanese owned firms		Foreign owned firms	
Number of firms	14,955		2,230	
Sales, industry total	162,638	(1,503)	32,045	(296)
Sales in manufacturing	79,155	(732)	18,765	(173)
Local sales	70,482	(652)	14,696	(136)
Exports to home country	8,674	(80)	4,069	(38)
Purchases, total industry	131,599	(1,216)	19,883	(183)
Purchase in manufacturing	58,969	(545)	10,563	(98)
Local purchases	38,408	(355)	7,671	(71)
Imports from home country	20,561	(190)	2,892	(27)
Number of regular employees (thousands)	4,055		431	
Profit	6,079		1,100	
Profit rate per sales (%)	3.7		3.4	

(Source) METI (2006), The 35th Survey of Overseas Business Activities. METI (2006), The 2004(38th) Survey of Trends in Business Activities of Foreign Affiliates.

3-2 Overseas Activities of the Foreign Affiliates of Japanese Companies

Although the deregulation of the Foreign Exchange Law in 1980 enabled the foreign firms to set up transplants in Japan without any restriction, the domestic laws and the Japanese business customs hindered inward FDI. That resulted in the huge FDI outflow and the few FDI inflow in Japan. As an indicator of the gap between these FDI outward and inward flow, the ratio of the Japanese FDI outflow to foreign FDI inflow in Japan was quite large. It moved around 10-15 in the 1980s and the early 1990s and jumped to 23.7 in 1987 when the Japanese FDI outflow spurred. The US government criticized the business regulations in Japan and requested the deregulation of the laws and the reform of the social costumes. The deregulations in service, finance, insurance and telecommunication, which were mostly performed in the early 1990s, stimulated the foreign FDI in Japan since the latter half of 1999s. Thus, the ratio dropped to 2-4 in the late 1990s. As we saw in Table 2, the activities of the foreign owned affiliates in Japan is still far below those of the Japanese affiliates abroad. The activities of the Japanese companies have had dominant roles in the foreign sales and purchases which we will discuss in section 4. So, only the activities of the Japanese affiliates are overviewed in this subsection.

(1) Number of Firms Established

The number of the Japanese owned affiliates in Asia amounted to 8440, 56% of the total affiliates, followed by North America 2737, and Europe 2361. After easing the Japanese Foreign Exchange Law in the late 1960s, most of the labor intensive FDI such as textile was directed to Asia. The comparison of this figure with those in 1980 and 1990 makes us to notice the drastic change of the Japanese overseas activities. In 1980, the total number of the Japanese affiliates abroad was 3567, of which 1497 were in Asia, 829 in North America, and only 499 in Europe. In addition to cultural and geographical distance, as Dunning and Cantwell (1989) and Dunning (1992) pointed out, unit labor cost in was substantially higher than that in Japan and there were different regulatory environment among the European countries at that time, thus the entry cost for the Japanese firms in EU was high[9]. The Japanese economy in the 1980s experienced trade frictions with North America and the EU and the deregulation of the Foreign Exchange Law, which enabled the Japanese companies to invest abroad without any restriction, and resulted in a rapid increase of foreign investment to the areas of the advanced countries rather than developing countries. In 1990, the total foreign affiliates reached 7986, more than double as that of 1980. The number of the affiliates in North America

[9] See Dunning and Cantwell (1989), p.11 and Dunning (1992), p.25.

was 2287, 2.8 times higher than that of 1980 and in Europe the number accounted for 1461, 2.9 times the 1980s. The bubble crash in the late 1980s caused the Japanese companies to make serious losses and to focus on seeking for the business opportunities in Asia, such as the ASEAN and China take advantage of cheap labor cost in the first half of 1990s. The Japanese companies established 6213 affiliates in Asia by end of 1999. However, after the Asian crisis in 1998 the Japanese companies, which established transplants there, faced serious profit losses. Some moved their plants into China and other looked for the business opportunities in Central and Eastern Europe.

Table 3 Number of Overseas Affiliates Established as of March, 2005 by region and industry

	Total	North America	Asia	Europe
Total	14955	2737	8440	2361
Agriculture, forestry and fishery	116	15	37	14
Mining	117	21	17	15
Manufacturing	7765	1309	5116	914
Chemical	1039	189	641	166
Iron and metals	390	79	271	16
Machinery	4192	752	2676	553
Other manufacturing	2144	289	1528	179
Wholesales and retail trade	3953	784	1807	967
Transport & information	1199	193	594	196
Other services	1805	415	869	255
	Latin America	Middle East	Oceania	Africa
Total	778	72	448	119
Agriculture, forestry and fishery	23	0	22	5
Mining	14	2	46	2
Manufacturing	258	12	122	34
Chemical	25	2	12	4
Iron and metals	11	1	5	7
Machinery	151	8	37	15
Other manufacturing	71	1	68	8
Wholesales and retail trade	162	42	159	32
Transport & information	158	5	28	25
Other services	163	11	71	21

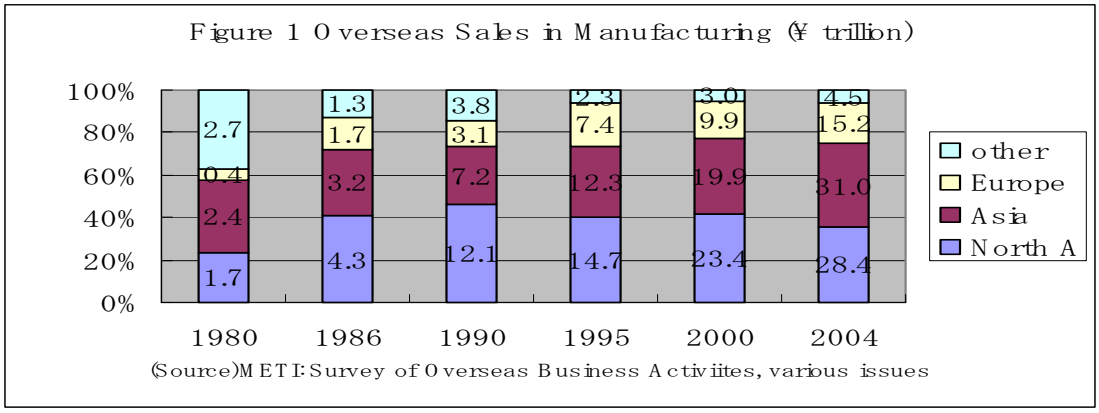
(Source) METI (2006), The 35th Survey of Overseas Business Activities.

Looking at the industry structure, the affiliates in manufacturing sector accounted for more than half of the total, and wholesale and retail trade for one fourth. Nearly two thirds of manufacturing affiliates were concentrated in Asia. Since the early 1950s, the

Japanese trading companies established their affiliates abroad and most of the Japanese manufacturing companies had relied on the activities of the trading companies for their export-import trade. During the 1970s, major exporting companies in Japan began to establish wholesales and retail trade subsidiaries abroad to create their own market. The wholesales and retail trade has had important roles on the trade in Japan. Especially, in Europe it accounted for 40% of the industry total.

(2) Overseas Production

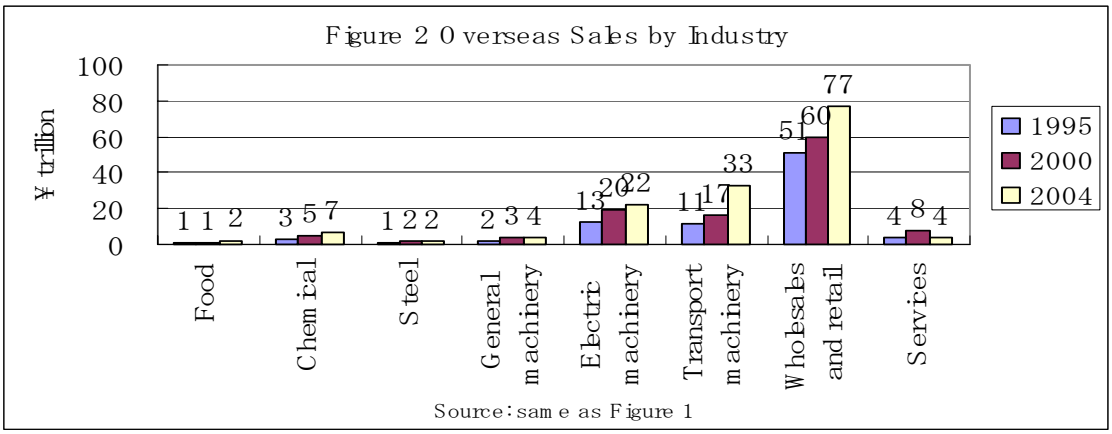
As we saw in the previous section, the Japanese overseas sales in manufacturing reached ¥79 trillion (US$ 732 billion) in 2004, eleven times higher than those in 1980, and the overseas production ratio[10], which was only 3.0% in 1985, recorded at 16.1%[11]. Especially, the ratios in transport equipment and electric machinery accounted for 36.0% and 21.3% respectively in 2004. If we focus on the firms with overseas operation, the ratio reached 30.0%. As Figure 1 shows, since 1995 overseas sales in the major three areas have surpassed 95% of the total sales. The sales by the affiliates in Asia accounted for nearly 40% in 2004, followed by North America 35%, Europe 19%. AS we discussed before, by the early 1980s the activities of the affiliates in Europe were negligible compared to those in North America and Asia. The trade frictions with some EU countries forced the major Japanese companies to set up transplants there. Starting local production would replace the production of exports from Japan for local production. But it did not help to reduce the huge trade surplus of Japan as we will see later.



[10] Overseas production ratio is defined as overseas affiliates' sales in manufacturing / (sales of the total domestic firms in manufacturing x 100 + overseas affiliates' sales in manufacturing).

[11] The ratio is still below that in the US and German. The overseas production ratio in US and German already reached 25.2% and 21.3% in 1993 respectively.

We find the important role of the Japanese trading companies in Figure 2. Their sales (¥77 trillion in 2004) accounted for 48% of the total sales, although their role lowered. In 1980, the wholesale and retail industry had dealt with 80% of the overseas sales, 92% of the exports by the affiliates to Japan, and 95% of the imports by the affiliates from Japan. The sales in the transport machinery recorded ¥33 trillion in 2004, three times as those in 1995. The sales of general machinery and chemical also experienced remarkable increase.



(3) Affiliates' Trade with Japan

The METI data on the Japanese overseas business activities provide information on sales destination (local sales, exports to Japan, and exports to the third countries), and origin of purchases (local purchases, imports from Japan, and imports from the third countries). Table 4 shows the destination of the foreign sales and foreign purchases in 1980 and 2004[12]. As a total, nearly 90% of the overseas products were sold at the local markets, and 10% of them were exported to Japan. In North America, while the ratio of local sales increased from 88% in 1980 to 92.5% in 2004, the ratio of exports to Japan decreased. On the contrary, in Asia the ratio of local sales decreased and the ratio of exports to Japan increased. In Europe most products were sold locally. The percentage share of exports in sales sent to Japan increased from 7.0% in 1980 to 19.1% in 2004. The ratio of local purchases accounted for two thirds to the total purchases in 2004. The ratio dropped to 47.0% in 1986 when the Japanese FDI accelerated. The Japanese affiliates abroad imported parts and components for their production more than amounts

[12] When we discuss the trade of two countries (Japan and the rest of the world), exports to the third countries and imports from the third countries can be included into the local sales and the local purchases respectively as on the Table 4.

of their local product, so the ratio of imports from Japan increased to 53% at that time.

The requirement of local contents in North America and EU forced the Japanese parts and components companies to invest abroad and the affiliates to seek for the local suppliers, and thus resulted in the gradual decrease of the ratio of imports from Japan. But the percentage ratio of imports from Japan is still high in Europe. On the other hand, as we can see from the remarkable change of the ratio of imports from Japan to the total exports in Japan (from 4.7% in 1980 to 35.0% in 2004), the role of the trade of the affiliates abroad with Japan increased.

Table 4 Sales and Purchases of the Foreign Affiliates of Japanese Companies
(¥ billion, in parenthesis ratio of each item to the total sales or total purchases, %)

	1980		2004	
Sales destination				
Local sales				
Total area	5564	(88.4)	70482	(89.0)
North America	1468	(88.0)	26243	(92.5)
Asia	1924	(96.4)	21306	(68.5)
Europe	344	(96.4)	14283	(93.7)
Exports to Japan				
Total areas	682	(11.6)	8674	(11.0)
North America	128	(7.7)	1042	(3.7)
Asia	271	(10.8)	5722	(21.8)
Europe	1	(0.3)	352	(2.3)
Ratio of the export to the total imports in Japan (%)	7.0		19.1	
Origin of purchases				
Local Purchases				
Total area	1855	(57.2)	38408	(65.1)
North America	396	(40.4)	13449	(64.9)
Asia	771	(50.7)	15221	(64.9)
Europe	66	(53.1)	5770	(51.2)
Imports from Japan				
Total areas	1388	(42.8)	20561	(34.9)
North America	482	(49.1)	6655	(31.7)
Asia	631	(41.5)	7871	(33.5)
Europe	56	(44.5)	5025	(44.6)
Ratio of imports to the total exports in Japan (%)	4.7		31.5	

(Source) METI (2006), The 35th Survey of Overseas Business Activities.

(4) Employment

The geographical distribution of the employees in Table 5 shows us that the affiliates in Asia employed 2,743 thousand workers and accounted for two thirds of the total, followed by those in North America (644 thousands and 16%), and those in Europe (437 thousands and 11%). In addition to the cultural and geographical similarities, most FDI was established by small and medium firms and labor intensive type. As for the industry structure, the workers in manufacturing accounted for 83%. Especially, the workers in machinery shared more than half of the total industry. The share percentage of the manufacturing defers by area. While in Asia the share reached nearly 90%, in Europe it was two third. On the other hand, in North America and in Europe wholesale and retail sales accounted for 21.5% and 20% of total industry respectively, more than double the average in the total area, 9.9%.

Table 5 Number of regular employees of the Foreign Affiliates of Japanese Companies of March, 2005 by region and industry (thousands)

	Total	North America	Asia	Europe
Total	4,055	644	2,743	437
Agriculture, forestry and fishery	8	1	3	1
Mining	11	2	2	0
Manufacturing	3,379	456	2,463	291
Chemical	167	31	99	30
Iron and metals	108	13	86	1
Machinery	2,434	317	1,795	205
Other manufacturing	670	95	483	55
Wholesales and retail trade	402	138	148	88
Transport & information	101	21	57	12
Other services	154	26	74	46

(Source) same as Table 3.

(5)Profit

The 2004 figure of Table 6 shows that the profit rate is highest in Asia 4.3%, and more than double of that in Europe 2.1%[13]. In general, the profit rate in manufacturing is higher than in non-manufacturing sector. Among manufacturing sector, the profit rate in chemicals is the highest, recording 11.3% in 2004, followed by general machinery (5.0%) and transport machinery (4.5%). Although the profit rate dropped in 1998 when the Asian crisis occurred, there is a tendency of the profit increasing over the decade.

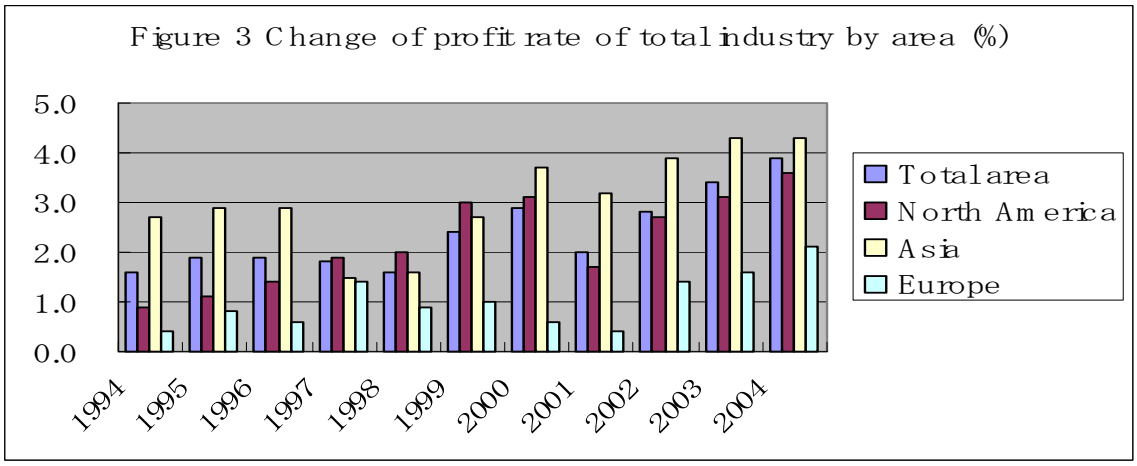
[13] Profit rate is defined as operation profit / sales x 100.

Table 6 Profit rate of the foreign affiliates in 2004 by area and industry (%)

	Total Area	North America	Asia	Europe
Total industry	3.9	3.6	4.3	2.1
Manufacturing	4.9	4.0	5.8	3.0
Non-manufacturing	2.9	3.2	2.9	1.4

(Source) same as Table 3.

Figure 3 tells us a much clearer picture of the upward tendency of the profit rate. At the beginning of the operation, most Japanese owned affiliates had a negative profit which was compensated by their parents. During the bubble period in the late 1980s, the profit rate of total industry was nearly zero. The profit loss after the bubble forced major Japanese companies to make more profit abroad. Japanese companies prefer green field FDI[14]. As expected, it takes time to make profit. Ten years ago, the profit rate of the total area was below 2%. Although the profit rate was still low in Europe, where most Japanese FDI were newly established since the late 1990s, it also gradually increased from the level of 0.4% in 1994. Profit rate increase may indicate some aspect of gaining competitiveness of the Japanese owned affiliates, although profitability should be based on the performance of their sales in the domestic moves and abroad.



[14] Most Japanese firms prefer green field investments. According the effective answers of the questionnaire survey by METI on 2001, among 7826 affiliates abroad 6898 were established as green field investments, which accounted 87% of the total.

4. Net Foreign Sales and Competitiveness

4-1 Data

To calculate the net foreign sales we have to use two different sources of the data. As for trade data, we use balance on goods provided by the Ministry of Finance (MOF). The Ministry of Trade and Industry (METI) provides two kinds of data; Survey of the Basic Survey of Overseas Business Activities and Survey of Trends in Business Structure and Activities. While the former deals with the activities of the foreign affiliates of Japanese companies, the latter with those of the Japanese affiliates of foreign companies. There are some problems to be discussed related to the data limitation.

(1) Inconsistency between MOF data and METI data

Every year, the Ministry of Economy, Trade and Industry (METI) conducts a questionnaire survey covering Japanese firms, which established their transplants abroad and have been doing business there. MOF also provides the data on Japanese FDI outflows and inflows as well as direct investment income, but is not consistent in METI data as BEA of U.S. Department of Commerce does. The commodity classification of trade data does not correspond to the industrial classification of METI data. Although the data on the trade balance in the next subsection are adjusted to industrial classification, some discrepancies are inevitable.

(2) Data coverage on METI data

The data of Table 2 are based on the survey conducted in July 2005, which examined the 2004 activities of the parents companies and their subsidiaries abroad. Questionnaires were sent to 4,337 domestic firms of which 2,651 firms (60.5%) replied, which established 14,955 affiliates abroad. Similarly, the number of the foreign owned affiliates 2,230 is based on the questionnaire survey conducted on July 2005 by METI in which rate of effective answers was 59.5%. Thus, the figures of both data are subjected to the ratio of effective answers every year.

(3) The percentage share of ownership of the affiliated companies

METI conducts a survey on the affiliates in which the parent companies invested at least 10% of the total fund. If we count all the survey results as activities of the affiliates, the calculated results will be overestimated, because the affiliates are not all fully owned. Some affiliates are fully owned by several Japanese parents. As the survey results are not adjusted according to the share of the ownership, there may be some

double counting. To avoid these problems we have weighted the activities of the affiliates by the percentage of ownership[15]. The percentage share of the ownership of the foreign affiliates of Japanese companies was 82% in 2004, so in general the foreign affiliates are mostly majority owned.

(4) Double counting of economic activities in the sales data

Overseas sales data are mostly used as activities of the affiliates because of the low coverage of the production data. If the sales data are added up without considering input of intermediate goods, we will face double counting which arises in intra-firm trade among the foreign affiliates. Specifically, as we have shown, the early stage of the Japanese overseas sales had heavily relied on the wholesales and retail trading affiliates whose sales also include the purchases from the foreign affiliates. As Julius' analysis in section 2 deals with the total sales of the foreign affiliates of Japanese companies, foreign sales tend to be overestimated. Excluding the sales of the non-manufacturing sector enables us to avoid most of the double accounting. Although there may be still some double accounting between the trades among the foreign affiliates, we guess the figure without non-manufacturing is much smaller that of with it.

4-2 The foreign trade since the middle of 1980s

After the second world-war, Japan succeeded in her industrialization by importing natural resources and exporting industrial products. During these twenty years the trade balance in Japan seems to be almost stable around ¥10-14 trillion as in Figure 1, but it experienced fluctuation with the foreign exchange rate of the yen against dollar. While the difference between the exports of total industry and those of manufacturing is negligible, there is a huge gap between the imports of total industry and those of manufacturing. The gap arises from imports of food, raw materials, and mineral fuels. The gap resulted in that of the trade balance between total industry and manufacturing. Since the production of natural resources in Japan had already lost in competitiveness, the trade balance of manufacturing would be a better indicator than that of total industry to discuss the issue of the competitiveness of the Japanese firms. Now, the trade surplus of manufacturing increased from ¥ 24.6 trillion in 1986 to ¥ 30.1 trillion in 2004, although it dropped to ¥22.3 trillion in 1995 due to the appreciated yen.

[15]Steven, Obie, and Lowe (1993) pointed out these issues on pp.56-57.

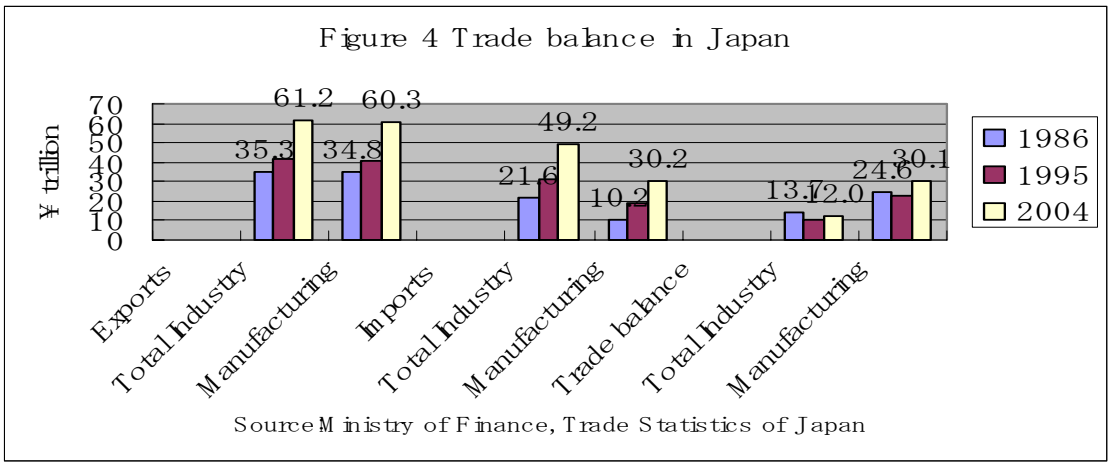
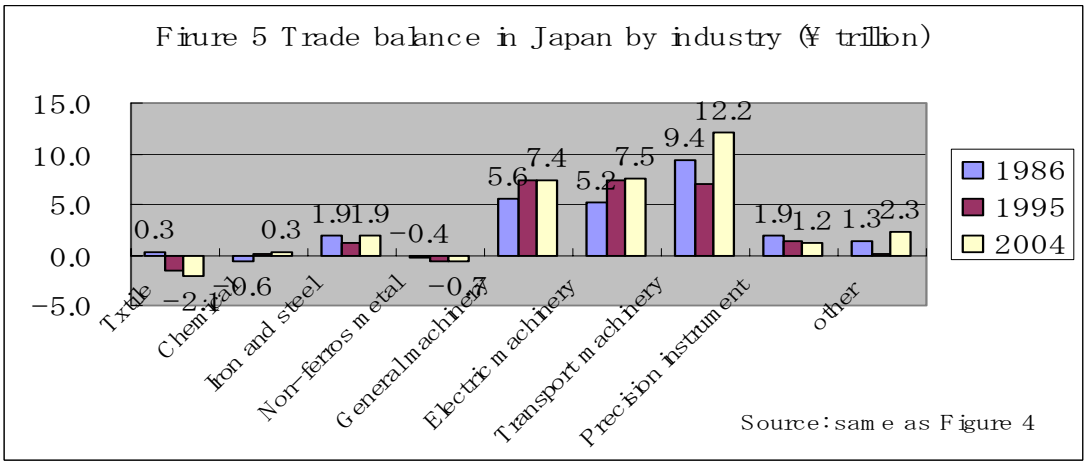


Figure 5 shows the trade balance of major sectors in manufacturing. Textiles and non-ferrous metals lost their comparative advantage. On the other hand, chemical gained it. Iron and steel and four machinery sectors still continue to have trade surpluses. Specifically, the trade surplus in general machinery, electric machinery and transport machinery increased and these three export-leading sectors accounted for 90% of the trade surplus of manufacturing in 2004.



4-3 Competitiveness of the Japanese firms

This section discusses how the Japanese companies have been competitive in terms of net foreign sales, which incorporate the activities of the Japanese affiliates abroad and the foreign affiliates in Japan.

(1) Trade balance versus net foreign sales

The net foreign sales (foreign sales minus foreign purchases) of manufacturing in

2004 amounted to ¥39.8 trillion (US$ 368 billion), 1.3 times the net exports of ¥30.1 trillion (US$ 278 billion). As to the foreign sales, the activities of the Japanese affiliates recorded ¥74.1 trillion (E_{AD} $+S_{DC}$), 1.2 times the exports. The foreign purchases, which recorded ¥62.9 trillion (US$ 581 billion), also were more than double of the imports of goods. Especially, the activities of the Japanese affiliates at the local market have had major role on the foreign sales and purchases. The local sales and purchases accounted for 60% of the total foreign sales respectively. As expected, the activities of the foreign affiliates ($E_{BC}, S_{AB}, M_{CB}, S_{BA}$) are much smaller those of the Japanese ones. These overseas activities have enabled the Japanese firms more competitive.

To inquire the relation between net foreign trade and net foreign sales much detail, we next discuss the calculated results from two aspects; movement of foreign sales and purchases, and net exports and net foreign by industry. Average values in a certain period are shown in Figure 6 and 7 to avoid yearly fluctuation of the data.

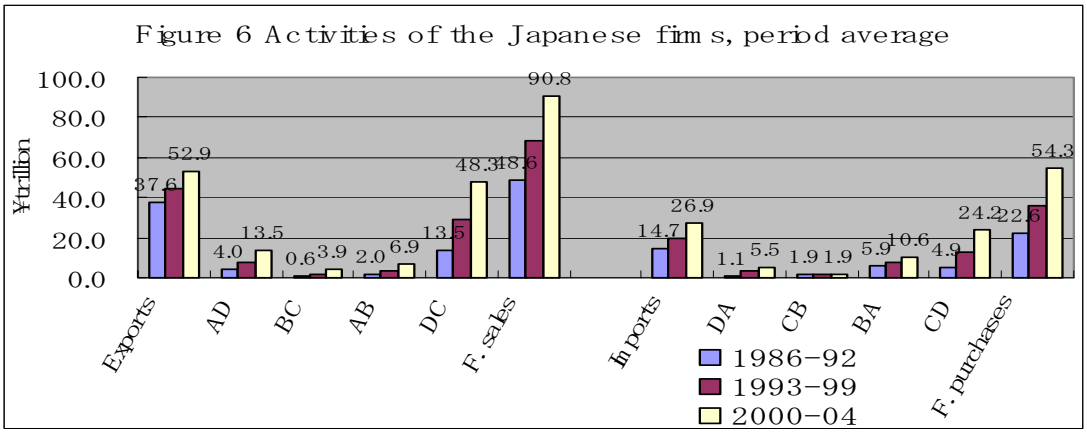
Table 7 Japanese Trade Balance versus Net Foreign Sales of Manufacturing, 2004

Foreign Sales		¥trillion	(US$ billion)
Exports of goods		60.3	(557)
Less: exports to the foreign affiliates abroad	E_{AD}	16.7	(155)
exports by the Japanese affiliates	E_{BC}	4.4	(41)
Plus: local sales to the Japanese affiliates	S_{AB}	6.2	(58)
local sales by the foreign affiliates	S_{DC}	57.4	(530)
Total foreign sales		102.7	(950)
Foreign purchases			
Imports of goods		30.2	(279)
Less: imports from the foreign affiliates	M_{DA}	7.1	(65)
import by the Japanese affiliates	M_{CB}	2.4	(22)
Plus: local purchases from the Japanese affiliate	S_{BA}	10.8	(101)
local purchases by the foreign affiliates	S_{CD}	31.3	(289)
Total foreign purchases		62.9	(581)
Net exports		30.1	(278)
Net foreign sales		39.8	(368)

(2) Change of the competitiveness of the Japanese firms

As Figure 6 shows how the competitiveness of the Japanese firms changed over the two decades. By the late 1980s, there was not such a much big difference in the activities between the foreign affiliates of Japanese companies ($E_{AD}, S_{DC}, M_{DA}, S_{CD}$) and the Japanese affiliates of foreign companies ($E_{BC}, S_{AB}, M_{CB}, S_{BA}$). Furthermore, the level of the activities of the foreign affiliates of Japanese companies was not comparable to that of the exports and imports. The sales and purchases of the foreign affiliates grew faster than those of the Japanese affiliates and export-import trade in

Japan, and the local sales of the foreign affiliates of the Japanese companies surpassed the exports in the late 1990s. The foreign sales, which amounted to ¥ 91 trillion during 2000-2004 average, reached one fourth of the Japanese GDP and is 1.9 times the Japanese exports. The increase of the local sales has enabled the activities abroad to become more profitable. As we discussed in the previous section, the roles of the FDI related trade such as export to Japanese affiliates abroad and imports from the Japanese affiliates have been increased. Although these trades not are regarded as the net foreign sales, the intra-firms trade supported creating and developing the foreign market.



(3) Net exports versus net foreign sales by industry

Figure 7 shows the differences of the competitiveness by industry. During 2000-2004 the net foreign sales are greater than the net exports in all sectors of manufacturing. The Japanese companies have sold their products by the activities abroad rather than only by exporting their products. In textile and non-ferrous metals the sales of their products at the local market have compensated their trade deficit, though the net foreign sales are still negative. The difference between the net foreign sale and the net exports may be used as an indicator of competitiveness. Even if the firms lose in comparative advantage, they can expand the market abroad through overseas production. It is the largest in electric machinery ¥3.5 trillion, followed by that of transport machinery ¥3.1 trillion. When we go back to the activities in the 1980s, the difference in each sector was small because most of the major manufacturing companies just started production or made decision to invest abroad. The machinery industries have led the foreign sales, which accounted for 85% of those of total manufacturing. Specifically, the foreign sales of transport machinery and electric machinery accounted for 62%. How did the Japanese firms acquire and enhance competitiveness? We see the

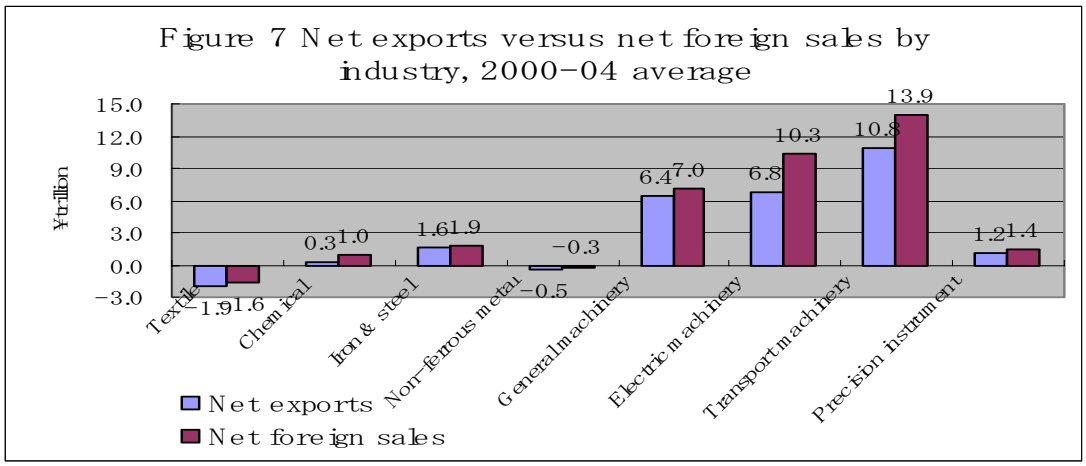
specific advantage of the Japanese firms using the terminology Dunning (1988) used.

(4)Ownership advantages of the Japanese firms

Whether the Japanese firms maintain the competitiveness in the future depends on how they can exploit their ownership advantages (O advantages). Except some cases such as Honda and Sony, through out the 1950s and the early 1960s, major Japanese companies had acquired competitiveness through the government intervention such as financial aid and tax exemptions for large scale investment, implementation of infrastructure, import restrictions and capital control[16]. The government policies under the infant industry scheme enabled the firms to gain the location advantages in Japan. When the foreign investment was restricted by the Japanese foreign exchange law, the Japanese trading companies had crucial roles on exploring the foreign market[17]. Since the late 1960s when the restriction of the law was eased, we see two kinds of FDI investment patterns in the 1970s with facing appreciated yen and rise of the labor cost. The first pattern was manufacturing FDI in Asia. The Japanese financial aid to the Japanese labor intensive industry made it possible to acquire the location advantages (L advantages). The second was wholesales FDI by manufacturing companies in Europe and North America. The activities of Japanese owned affiliates in wholesales explored the market there. The trade frictions with Europe and North America in the late 1970s and in the 1980s saw the rushed manufacturing FDI in the electric and automobile industry. The Japanese automobile makers have had strong relationship with the suppliers, known as the *keiretsu* (hierarchical) network. When the makers started overseas production, they relied on their suppliers for the intermediate goods. The requirement of local contents in the foreign countries induced the suppliers which have had strong tie with the auto makers to go abroad. The long termed relationship between the auto maker and their suppliers has made it possible to internalize the intermediate goods (Internalization (I) advantages). We have also seen the internalization process in cases of the Japanese automobile FDI in Central and Eastern countries since the late 1990s.

[16] Ozawa (1997) explains the background of the Japanese economic policies for protecting the Japanese industry after the Second World War. See Ozawa (1997) pp.382-389.

[17] The governmental agencies such as Japan External Trade Organization also played important roles to promote export-import trade.



It is worthwhile to note that transfer of the Japanese management and production system as the most important factor for acquiring and enhancing competitiveness, although the way of transplanting defers by host area. When the Japanese firms started production in South East Asia in the late 1960s and 1970s, they applied their management style. With the support by the governments in the host countries, the Japanese owned affiliates faced little resistance. In North America and Europe, they experienced some amendment of their management, application and adaptation, according to the socio-cultural environment. Abo (1994), based on research results of Japanese automobile and electric firms in the U.S., investigates how and why was the Japanese management style successful or not. Kumon and Abo (2004) investigate the Japanese owned manufacturers in Europe and evaluate the conditions for the international transfer of the Japanese system. In the U.S. and Europe, they stress "hybrid factories", which combine elements of Japanese and European management and production system. Ando (2005), based on case studies Japanese automobile and pharmaceutical industry, investigates how the affiliates overcome the difficulties of trading in Europe using a Dunning scheme OLI advantages[18]. When the Japanese owned affiliates were successful in transferring their management style with some adaptation, they could raise productivity and improve quality. The Japanese owned affiliates abroad being successful in their operation could possess net advantages which Hymer (1960) uses in an imperfect market. Whether Japanese owned affiliates can exploit their ownership advantages (O advantages) depends on how they are successful

[18] Over the past four years the author visited 20 Japanese owned automobile firms in Central and Eastern Europe to make questionnaire survey. Most of them were established after the late 1990s and three fourth of them are suppliers of the car makers in Japan. The affiliates applied the Japanese management and production system with some amendment. Although in a few firms the system met with resistance by the workers, the rest of them were successful in the transfer.

in their management in the local production in the host area.

5. Concluding Remarks

We have discussed the competitiveness of the Japanese firms with net foreign sales which incorporate the overseas activities. As Julius pointed out, the discussion required the amendment of the standard trade balance. Although Japanese FDI substituted the exports, the trade surplus of major exporting industries increased due to the complimentary effects such as exports for parts and components. Moreover, the overseas activities enabled textiles and non-ferrous metals to compensate part of their trade deficits. The industries, which maintain a trade surplus, have become more competitiveness by their foreign sales. Especially, the major leading exporting industries seem to have benefited through the intra company or intra industry FDI related trade. We also examined contents of ownership advantages as a factor of competitiveness of the Japanese firms.

The concept of ownership based trade enabled us to make clear how and to what extent the Japanese firms have been more competitive through overseas production. However, there are some limitations to our analysis. As we have seen in section 4-1, our results of net foreign sales may be overestimated somehow due to the overlapped ownership of the Japanese companies and double counting of sales among the trade of affiliates. On the other hand, data coverage based on survey questionnaires may cause underestimation of the overseas activities and those of the Japanese affiliates of foreign companies. Our analysis was confined to discuss how Japanese firms have become competitive over the two decades[19]. The next discussions will be to investigate determinants of competitiveness of the Japanese firms and to examine how competitiveness defers by major areas; North America, Asia, and Europe.

References

Abo Tetsuo ed. (1994), *Hybrid Factory: the Japanese Production System in the United States*, New York: Oxford University Press.

[19] To discuss the connection of the U.S. current account with U.S. multinational trade and their contribution to her national economy, Lowe (2006) showed the ownership-based disaggregation of cross border trade and net receipts or payments resulting from sales by affiliates from 1993-2004. We may have to try similar kind of diaggregation as they did to make clear the structure of the FDI trade in the balance of payments in Japan. For detailed explanation on ownership-based disaggregation, see Obie and Lowe (1995).

Ando Kenichi (2005), *Japanese Multinationals in Europe: A comparison of the Automobile and Pharmaceutical Industries*, Edward Elgar Publishing.

Hymer H. (1960), *The International Operation of National Firms: A Study of Foreign Investment*, Cambridge, Mass.: MIT Press (1966).

Dunning John H. (1988), *Explaining International Production*, London, Unwin Hyman.

___ (1992), "Japanese Multinational in Europe and the United States: Some Comparisons and Contracts," *Discussion Papers in International Investment and Business Studies*, Series B Vo4, no154, University of Reading, Department of Economics.

Dunning John H. and John A. Cantwell (1989), " Japanese Manufacturing Direct Investment in the EEC, post 1992: Some Alternative Scenarios," *Discussion Papers in International Investment and Business Studies*, Series B Vol.2 , no132, University of Reading, Department of Economics.

Julius DeAnne (1990), *Global Companies and Public Policy: The Growing Challenge of Foreign Direct Investment*, New York, Council of Foreign Relation Press.

___ .1991. *Foreign Direct Investment: The Neglected Twin of Trade,* Occasional papers No.33, Group of Thirty, Washington DC.

Kiyota Kozo and Shojiro Urata (2005), „The Role of Multinational in International Trade: The Case of Japan", *RIETI Discussion Paper Series* 05-E-012, March

Kravis Irving B. and Robert E. Lipsey(1992), "Sources of Competitiveness of the United States and of its Multinational Firms." Review of Economics and Statistics, Vol74, 193-201, May.

Kumon Hiroshi and Tetsuo Abo ed. (2004), The Hybrid Factory in Europe: the Japanese Management and Production System Transferred, Basingstoke: Palgrave Macmillan.

Jeffrey H. Lowe. 2006. "An Ownership-based Framework of the U.S. Current Account, 1993-2004." *Survey of Current Business*. January.

Obie G.. Whichard, and Jeffrey H. Lowe. 1995. "An Ownership-Based Disaggregation of the U.S. Current Account, 1982-93." *Survey of Current Business*. October.

Ozawa Terumoto (1997), "Japan", Dunnning John H. ed. Governments, Globalization, and International Business, chap. 13, 377-406, Oxford University Press.

Steven Landefeld, L., Obie G.. Whichard, and Jeffrey H. Lowe. 1993. "Alternative Frameworks for U.S. International Transaction." *Survey of Current Business*. December.

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