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International Competitiveness of the Japanese Firms

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Summary

This paper is the extended version which discusses the competitiveness of Japanese firms in the manufacturing sector (Inaba (2006)). The conventional analytical method in terms of a standard residency-based balance of trade is replaced by the idea of ownership-based net foreign sales introduced by DeAnne Julius (1990, 1991). In addition to the conclusion from the previous paper 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, the paper investigates the characteristics of Japanese corporate competitiveness by area, North America, Asia and Europe. The historical evidence of the Japanese foreign direct investment and inward investment with the change of the foreign exchange policy are also discussed.

Key Words

Foreign Direct Investment, Japanese firms, Competitiveness, Net exports, Net Foreign Sales

Contents

1. Introduction

The purpose of the paper is to examine the effects of the Japanese overseas corporate activities on their international competitiveness with considering the ownership of the companies[i]. They say that firms' competitiveness in their country brings welfare, and reflects attractiveness. Conventionally, discussions of firm's competitiveness have been largely based on the territory at which firms are located. As for the competitiveness based on territory, a country is attractive because the firms produce high quality of goods and services or because the county provides attractive business environment for the firms. The attractiveness due to goods and services firms produce in a county is appeared as trade balance. The attractiveness due to business environment can be seen as industry clusters or special economic zones the government of a county provides. Firms in a country are of course her residents irrespective of their nationalities of ownership. Trade surplus or positive current account in a country means that her attractiveness in terms of goods and services exceeds that of other counties[ii]. Let us denote this attractiveness as competitiveness based on residency. One may ask whether com-

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petitiveness based on residency in a country really indicates that of her domestic firms. A country may become competitive because of the profitable foreign owned firms, whereas most of the domestic firms have already been crowded out.

On the other hand, for some reason such as trade friction with the trading partners or the increasing domestic labor cost due to the appreciated foreign exchange rate, exporting firms decide to set production transplant abroad. After a certain gestation period, foreign affiliate's productions substitute ones of home country, the exports of home country decrease, and thus the parent companies lose their competitiveness. Instead of decreasing exports of home country, the productions of foreign affiliates increase. Can we say that competitiveness of a firm is weakened because of starting foreign production? Moreover, the foreign affiliates may need intermediate goods and import them from the parent companies of home country. In this case, the exports of home country increase, thus their competitiveness based on the residency is strengthened. Can we say that the increased exports of intermediate goods strengthen competitiveness of a firm? When one focuses on the ownership of a firm and the combined effects of production by both domestic parent company and its foreign affiliate, the result may be different from that based on residency. For example, if a firm invests abroad, its foreign affiliates start production, and the exports of a parent company is replaced by those of its foreign affiliates, competitiveness based on residency is deteriorated, but competitiveness based on ownership does not change because the combined production of both firms is the same as before.

Considering the overseas corporate activities

requires us to redefine the measurement on competitiveness of a firm. The organization of the paper is as follow. The next section discusses the analytical method of the competitiveness based on ownership. We begin with the measurement in two country case, and then extend to it in three areas. Before examining the competitiveness of the Japanese firms in three areas, we see the historical experience of the Japanese overseas direct foreign investment and the inward investment in section 3. Section 4 shows the competitiveness of the Japanese firms in three areas; Asia, North America and Europe, following the concluding remarks in section 5.

2．Analytical Method
2-1　Ownership Based Competitiveness
　　　　－in Case of Two Countries－

Following Julius method, the author used the concept net foreign sales－foreign sales minus foreign purchase－as a measure of competitiveness in stead of the standard measure, balance of trade (Inaba (2006))[iii]. This concept is based on firm's ownership. When we discuss trade between two countries in which overseas activities are considered, competitiveness based on ownership can be explained by the following diagram (Figure 1). Let donate H as a home country and F as a foreign country. In home country (H), firms consist of domestic firms A and foreign owned affiliates B. Similarly, in foreign country (F), firms consist of the local firms C and foreign affiliates of home country D.

To begin with, we start discussing the trade balance of home country. Using the terms in Figure 1, exports E_h and imports M_h are expressed as follows.

$$E_h = E_{AC} + E_{AD} + E_{BC} + E_{BD} \tag{1}$$

$$M_h = M_{CA} + M_{DA} + M_{CB} + M_{DB} \qquad (2)$$

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

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

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

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

$\quad M_{CA}$: imports by the domestic companies from the local firms of foreign country

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

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

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

As the trade balance $E_h - M_h$ includes the intra-firms and intra-industry trades across the border, it does not necessarily reflect the competitiveness of the firms or the industry concerned. The competitiveness of firms can be expressed in terms of foreign sales S_h and foreign purchases P_h instead of standard measure net exports (exports minus imports).

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

Where S_{AB} : sales by domestic companies to the affiliates of foreign companies

$\quad S_{DC}$: sales by affiliates abroad to the local firms of foreign country

$\quad P_{BA}$: purchases by domestic companies from the affiliates of foreign companies

$\quad P_{CD}$: purchases by affiliates abroad from the local firms of foreign country

Plugging (1) and (2) into (3) and (4) respectively leads to the following relations (5) and (6).

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

Based on the formula in (5) and (6), Inaba (2006) estimated net foreign sales to the world ($S = S_h - P_h$)[iv].
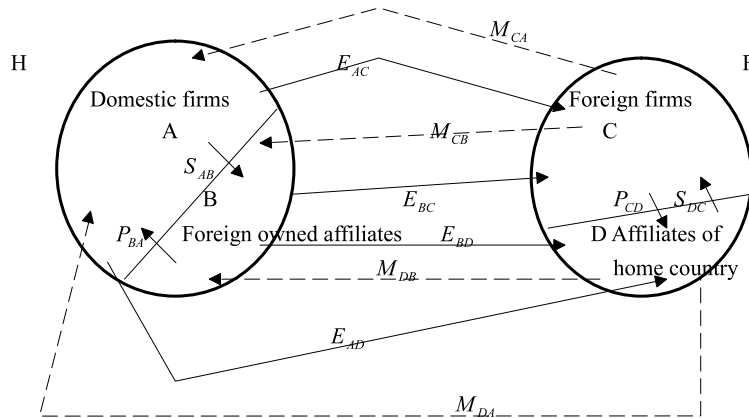
(Source) Inaba(2006).

Figure 1

2-2 Estimation of Net Foreign Sales

To calculate the net foreign sales we have to use two different sources of the data. As trade data, we use balance on goods provided by the Ministry of Finance (MOF). The Ministry of Economy, Trade and Industry (METI) provides two kinds of data; Basic Survey of Overseas Business Activities and Survey in Trends in Business Activities of Foreign Affiliates. 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.

The idea of net foreign sales raises different aspects of overseas activities of multinationals. Table 1 shows the net foreign sales in 2004 which is derived as follow. As for the foreign sales (¥102.7 trillion), FDI related intra firms' trades (Exports to the foreign affiliates abroad E_{AD} ¥16.7 trillion and exports by the Japanese affiliates E_{BC} ¥4.4 trillion) are deducted from the exports of goods E_h (¥60.3 trillion), and lo-cal sales to the Japanese affiliates S_{AB} (¥6.2 trillion) and local sales to the foreign affiliates S_{DC} (¥57.4 trillion) are added. Foreign purchases (¥62.9 trillion) were derived by deducting FDI related trades (imports from foreign affiliates M_{DA} ¥7.1 trillion and imports by foreign affiliates by the Japanese affiliates M_{CB} ¥2.4 trillion) from imports of goods and adding local purchases (local purchases from the Japanese affiliates P_{BA} (¥10.8 trillion) and local purchases by foreign affiliates P_{CD} (¥31.3 trillion)[v]. In 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[vi]. As the net foreign sales ¥39.8 trillion (¥102.7 trillion-¥62.9 trillion) are larger than the net exports ¥30.1 trillion (¥60.3 trillion-¥30.2 trillion), the Japanese firms have acquired the competitiveness through their overseas activities[vii].

Table 1   Japanese Trade Balance versus Net Foreign Sales of Manufacturing, 2004

Foreign Sales		¥trillion	(US$ billion)
Exports of goods E_h		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 S_h		102.7	(950)
Foreign purchases			
Imports of goods M_h		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 P_{BA}		10.8	(101)
local purchases by the foreign affiliates P_{CD}		31.3	(289)
Total foreign purchases		62.9	(581)
Net exports $E_h - M_h$		30.1	(278)
Net foreign sales $S_h - P_h$		39.8	(368)

(Source) Inaba (2006) p.19, Table 7.

2-3 Data Constraint

The following data constraint for the estimation of net foreign sales should be considered to allow some error of measurement.

(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[viii]. 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 1 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 4,377 domestic firms of which 2,856 firms (65.3%) replied, which established 14,966 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. To avoid these problems we have weighted the activities of the affiliates by the percentage of ownership[ix]. 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 than that with it.

2-4 Extension to Three Areas' Case

The activities of multinational firms are not confined to a specific country or a specific area.

The firms which invested in some countries or area also have trades with the third countries or the third area. Figure 2 indicates the nationality of firms in each area. In the home country firms consist of domestic firms A, affiliates of host area (F) B, and affiliates of the third area (T) C. In the host area, firms consist of local firms D, affiliates of home country E, and affiliates of the third area F. Similarly, in the third area firms consist of the local firms of the third area G, affiliates of home country H, and firms of host area I.

The picture of the trade flow of firms is much more complicated than the two country case which we discussed in the previous sub-section 2-1. Since we focus on the competitiveness of the firms in the home country against the firms in the host area, the trades of home country with the third area or those of the host area and with the third area are not considered. The exports to the host area E and the import from the host area M are expressed as follows.

$$E_{ij} = E_{AD} + E_{BD} + E_{AE} + E_{CE} + E_{BE} + E_{AF} \quad (7)$$

$$M_{ij} = M_{DA} + M_{DB} + M_{EA} + M_{EC} + M_{EB} + M_{FA} \quad (8)$$

E_{ij} and M_{ij} indicates the exports and imports flow from the firms' group i to the firms' group j respectively. For example, E_{AD} shows exports from the domestic firms of home country to the local firms in the host area and M_{EA} shows imports by the domestic firms from the affiliates of home country.

Foreign sales to host area S and foreign purchases from host area P are defined as follows.

$$S_{ij} = E_{AD} + S_{AB} + S_{AC} + S_{ED} + S_{EF} + E_E - S_{EH} \quad (9)$$

$$P_{ij} = M_{DA} + P_{BA} + P_{CA} + P_{DE} + P_{FE} + M_E - P_{HE} \quad (10)$$

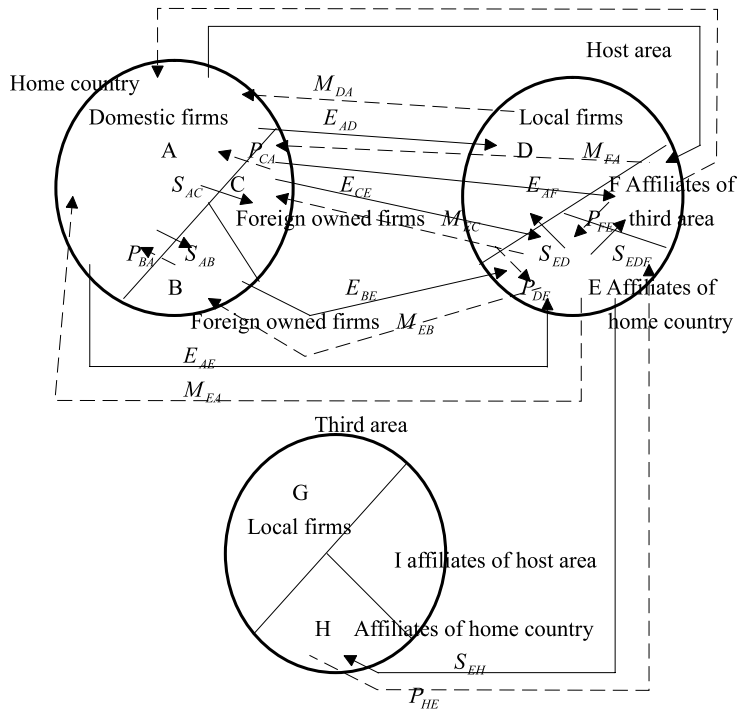S_{ij} and P_{ij} indicates the foreign sales and foreign

Figure 2

purchases from the firms' group i to the firms group j respectively. In addition to the trades to host area, we consider the affiliates' trades between host area and the third area; exports to the third area by the affiliates of home country E_E) and the imports from the third area M_E. Thus, S and P include S_{EH} and P_{HE} as intra industry trades.

Plugging (7) and (8) into (9) and (10) respectively lead to the relations (11) and (12).

$$S = E + S_{AB} + S_{AC} + S_{ED} + S_{EF} + E_E$$
$$\quad - (E_{BD} + E_{BE} + E_{CE} + E_{AE} + E_{AF} + S_{EH}) \quad (11)$$
$$P = M + P_{BA} + P_{CA} + P_{DE} + P_{FE} + M_E$$
$$\quad - (M_{DB} + M_{EA} + M_{EC} + M_{EB} + M_{FA} + P_{HE}) \ (12)$$

As we have already discussed in section 2-2, the data constraint makes it impossible to get every data in (11) and (12)[x]. Before discussing the competitiveness of the Japanese firms we overview the Japanese foreign trade and FDI of the Post War Period.

3．History of the Japanese FDI and Competitiveness

The discussion on the relationship between the foreign trade and the FDI in Japan makes us to divide the Post War Period since 1955 into 3 three sub-period, export promoting activities era (mid 1950s to 1970), expanding overseas production era (early 1970s to mid 1990s), and foreign penetration in Japan (late 1990s to present).

3-1 Export Promoting Activities
—high economic growth era—

The economic goal of the Japanese government in the 1950s was to catch up the economic level of the Western industrial countries. Although the Japanese economy enjoyed high economic growth from 1955 to 1970 with annual

average 10%, it suffered from the perpetual shortage of foreign reserves by the mid 1960s. Use of the scarce foreign reserves was only directed to introduction of new technology and new equipments for productivity increase and international competitiveness. Both outward and inward foreign investment was strictly controlled for protection from foreign reserve reduction and infant industries. Thus, industrialization required enough foreign reserve to import raw materials and made the Japanese government to adopt various export promoting policies to create the competitiveness of the firms in heavy industry such as iron & steel, chemical, and machinery[xi]. The government implemented infrastructure of roads, sea ports, and electric facilities as public investment. The preferential tax reduction system was introduced to promote exports of manufacturer goods and new investments. The low interest policies by the Bank of Japan enabled the main banks to lend money to the firms of the targeted industries at low interest rate. The government owned banks also supported the firms. On the other hand, during the 1950s the import restriction of manufacturing products in the key industries was imposed. Although joining the member of IMF in 1959 forced the government to ease the import restriction gradually, it was not until 1965 that the restriction on passenger car was removed. Around the mid 1960s, the trade balance began to improve due to acquiring competitiveness of the Japanese firms of the key industries such as automobile and electric machinery and the Japanese economy could get rid of so-called the balance of payments ceiling which set the restriction on the fiscal and monetary policies in Japan because in boom increased demand caused inflation, import increase and deteriorated balance of payments.

The Japanese general trading companies had great role for developing and promoting export markets. Due to the lack of the financial resources, most of the Japanese firms had to rely on the activities of the general trading companies. Creating the competitiveness made it possible for the major exporting companies to establish their own trading companies abroad. After joining the member of OECD Japan faced the criticism that she still restricted outward and inward foreign investment. Japan began to ease the capital control on foreign investment in 1967.

3-2 Expanding Overseas Production

The Japanese high economic growth era had to be over because of growing concern of public nuisance since the late 1960s and because of the appreciated yen in 1971 when the U.S. government announced to cease conversion of dollar to gold. The new regulation on environment forced the firms such as chemicals and steel to go abroad to seeking for the areas where there was no environment regulation and cheap labor cost. In addition to the expanded fiscal and monetary policies to protect recession during 1972-73, the first oil shock caused inflation and negative economic growth in 1974. Some of the Japanese companies established their affiliates abroad in mining for stable supply of natural resources.

The Japanese firms, which were successful in introducing saving natural resources for their production, could enjoy export increase in the late 1970s. However, large amount of export products caused Japan to face the criticism from the countries in North America and EC. Some of the exporting firms which produced steel, general machinery, electric machinery, and transport machinery had to set so-called volun-

tary export restraint. The restraint did not come into effect, so electric companies and car makers started to establish their transplant in the U.S. and EC to avoid trade frictions. The amendment of the Foreign Exchange Law in 1980 made it possible for the Japanese companies to invest abroad without taking examination and approval by the government. The Japanese FDI started to increase in the early 1980s.

The Plaza Agreement in 1985, which corrected in the value of the yen, was the turning point in the Japanese overseas activities. Due to the U.S. high interest policy in the early 1980s, the Japanese yen was undervalued in spite of the growing trade surplus. The trade surplus against the U.S. increased from US$0.4 billion in 1970 to US$5.6 billion in 1985. With the yen's appreciation, the Japanese FDI was accelerated in the late 1980s and reached US$67.5 billion in 1989, five times that in 1985, US$12.2 billion. The increased overseas production was expected to reduce the Japan's trade surplus against the U.S. through export substitution. But it did not contribute to the trade surplus reduction because it was accompanied the increased exports of intermediate goods (Inaba (2007)). The local contents requirement by the U.S. and EU forced the Japanese supplier to invest abroad. The appreciated yen also made the Japanese companies to focus on the transplant in Asia to seek for cheap labor cost.

3-3 Foreign Penetration in Japan

The amendment of the Foreign Exchange Law in 1980, which aimed to free foreign capital transfer, did not induce foreign direct investment in Japan. The ratio of the Japanese FDI outflow to that inflow was around 10-15 during the 1980s and the early 1990s, and jumped to 23.7 in 1987. The U.S. government and busi-

nesses criticized the Japanese domestic law and the Japanese business customs as hindrance of FDI in Japan. Based on the Japan-U.S. Trade Initiative in 1991, the Japanese government started to deregulation in service, finance, insurance and telecommunication[xii]. The foreign FDI in Japan increased and the ratio of the FDI outflow to the FDI inflow dropped to 2-4 in the late 1990s. But the activities level of foreign owned firms in Japan, whose sales amounted for ¥32 trillion (US$ 1,503 billion) in 2004, is still much lower than those of the Japanese owned affiliates abroad, ¥162 trillion (US$ 296 billion)[xiii].

As the financial crises in Asia caused many Japanese affiliates in Asia to make big loss, they reconsidered their strategies to avoid risk and seek for business chance to China and Central and Eastern European countries. Most of the leading exporting companies in Japan have started so-called quadripole production system by setting transplants in Asia, North America, and EU.

4. Characteristics of Competitiveness of the Japanese Firms by Area

This section discusses whether the competitiveness of the Japanese firms differs by area. The host areas are Asia, North America, and Europe. After discussing the data treatment, historical changes of the competitiveness in manufacturing total and then that in major sectors of manufacturing are examined.

4-1 Historical Changes of Competitiveness

Table 2 shows the relation between net foreign sales and net exports by area in 2004. The foreign sales S and the foreign purchases P in three areas accounted for 92.1% and 96.9% of those in the total area respectively. The foreign

sales in three areas totaled 1.6 times the exports E and the foreign purchases 2.0 times the imports M. Thus the Japanese firms have had more business opportunities by the overseas production than export-import trade. The most dominant factors of the foreign sales and the foreign purchases are the local sales S_{ED} and the local purchases P_{ED} respectively. The local sales to the third area S_{EH} and the local purchases from the third area P_{HE} have had minor roles on the net foreign sales of the Japanese firms. It should be noticed that the foreign sales-exports ratio and foreign purchases-import ratio defers by area. While the foreign sales-exports ratio in Asia was only 1.4, those in North America and Europe recorded 2.4 and 2.3 respectively.

The similar picture can be seen in the foreign purchases-imports ratio. How about competitiveness of the Japanese firms? The net foreign sales $S-P$ in Asia, North America and Europe amounted for US$ 148 billion, US$ 126 billion, and US$ 37.1 billion respectively. Comparing the net foreign sales $S-P$ with the net exports $E-M$ by ratio shows that while the overseas activities in Asia and North America have made the firms more competitive, those in Europe have not.

Figure 3 shows that whereas the net exports of 3 areas have changed slightly over the two decade from US$ 211 billion to US$ 214 billion, the net foreign sales recorded US$ 311 billion in 2004, 1.45 times those, US$ 214 billion in 1986. The expansion of the overseas production increased the disparity between the net foreign sales and net exports. The Japanese firms have acquired competitiveness with location advantage. Looking at the movement of competitiveness by area, besides Asia the net foreign sales were smaller than the net exports in 1986. Although in North America the net foreign sales

Table 2   Net Exports versus Net Foreign Sales by Area, 2004 (US$ billion)

	Asia	North America	Europe	3 Areas Total
Foreign Sales				
Exports of goods E	265.8	125.8	86.8	478.4
Less : E_{AE}	50.4	60.6	36.0	154.7
E_{BD}	1.0	7.2	19.9	28.1
Plus : S_{AB}	1.0	10.8	45.0	56.9
S_{ED}	156.4	234.3	123.4	514.1
S_{EH}	3.7	2.9	1.3	7.9
Total foreign sales S	371.8	303.2	199.3	874.3
Foreign sales/Exports	1.40	2.41	2.30	1.57
Foreign purchases				
Imports of goods M	158.9	44.4	49.7	252.9
Less : M_{EA}	47.9	5.3	2.5	55.6
M_{DB}	0.2	8.9	12.3	21.4
Plus : P_{BA}	1.0	33.9	69.1	104.0
P_{ED}	111.9	113.1	58.2	283.1
P_{HE}	0.4	1.1	3.9	5.4
Total foreign purchases P	223.7	177.2	162.2	563.0
Foreign purchases/Imports	1.41	3.99	3.26	2.03
Net exports $E-M$	106.9	81.5	37.1	225.5
Net foreign sales $S-P$	148.1	126.0	37.1	311.3
Foreign sales/Exports	1.39	1.55	1.00	1.38

(Note) E_{AE} : exports to the Japanese owned firms in the host area, E_{BD} : exports by the foreign owned firms in Japan to the host area, S_{AB} : sales by the domestic firms to the foreign owned firms in Japan, S_{ED} : local sales by the Japanese owned firms in the host area, S_{EH} : local sales by the Japanese owned firms in the host area to the third area, M_{EA} : imports from the Japanese owned firms in the host area, M_{DB} : imports by the foreign owned firms from the local firms in the host area, P_{BA} : purchases from the foreign owned firms in the host area, P_{ED} : local purchases by the Japanese owned firms in the host area, P_{HE} : local purchases by the Japanese owned firms in host area from the third area.
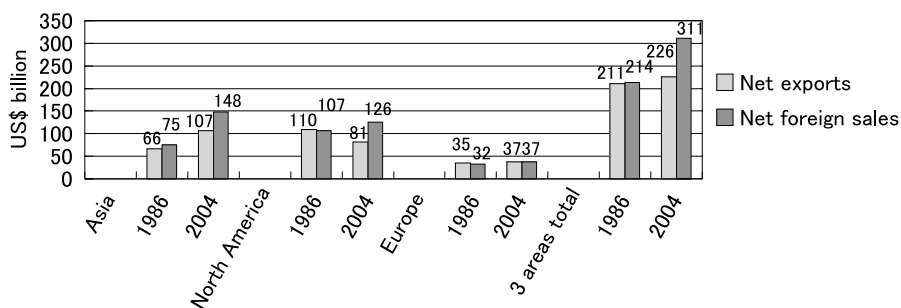

Figure 3   Net Exports versus Net Foreign Sales

surpassed the net exports during the 1990s, in Europe it took two decade for the net foreign sales to reach the level of the net foreign exports, US$ 37 billion. As we discussed earlier, the Japanese FDI in North America and Europe rushed during the late 1980s. Starting overseas production replaced the exports of concerned goods for local production in the host area somehow and at the same time increased the exports of intermediate goods. While the overseas production in Asia had already become established since the 1970s, most of the plants in North America and Europe started to increase[xiv]. As time went on, the overseas production has become more profitable and increased. The manufacturing profit rate per sales in 2004 was 4.9% in total area, 4.0% in North America, 5.8% in Asia, and 3.0% in Europe[xv]. If the profit rate in Europe continues to increase with the increased overseas production, the net foreign sales will surpass the net foreign exports.

4-3 Competitiveness by Industry

Industrial breakdown shows us the different aspects of competitiveness of the Japanese firms in Table 3. Textile industry had been export leading one during the 1950s and most of the exports goods were shipped to the U.S. With the export restraint corresponding to the criticism by the U.S. and rising labor cost, the competitiveness of the Japanese textile industry was deteriorated. The textile industry has mainly had trade deficit against Asia, especially most of it comes from China. While the net exports in 3 areas were minus US$ 20.1 billion, the foreign sales were minus US$ 16.0 billion, so textile firms recovered competition through overseas production. The Chemical industry, which had negative trade deficit in the 1980s, has acquired competitiveness as well as com-

parative advantage. The contents of the competitiveness defers by area. In Asia, both the net exports and net foreign sales are positive, and the latter is US$ 5.6 billion larger than the former. On the other hand, in North America and Europe the net exports are still negative and overseas production makes the firms more competitive.

The 3 area total shows us the big difference between the net exports US$ 1.6 billion and the net foreign sales US$ 26.1 billion. The iron and steel sector was one of the major exports leading one during the late 1960s and the 1970s. Rising labor cost with the appreciated yen, increased price of natural resources due to the oil crises in 1973-74 and 1979-1980 made it difficult for the Japanese steel makers to expand the domestic production. They gradually shifted their plants to the developing countries such as Asia and Latin America. Although they have kept competitiveness, their gain is not so large. The competitiveness of non-ferrous has been deteriorated since the 1980s. While the net exports in 3 area total were US$ 1.8 billion, those in the total area minus −US$ 4.0 billion. We still see small negative values of the net exports in North America and Europe. Most of the competitive gains come from the activities in Asia.

The machinery industry has had huge trade surplus compared to the other industries. Especially, the percentage share of the net exports in electric machinery and transport machinery was more than two thirds of the 3 areas total. Similarly, the net foreign sales in these sectors accounted for more than half of the 3 area total. The other characteristic of the machinery industry is that except precision instruments their activities have been diversified in 3 areas, while those of the other sectors were mostly

Table 3　Net Exports and Net Foreign Sales by Area and Industry, 2004 (US$ billion)

	Asia	North America	Europe	3 Areas Total
Manufacturing				
Net exports	106.9	81.5	37.1	225.5
Net foreign sales	148.1	126.0	37.1	311.3
Textile				
Net exports	−18.2	0.0	−1.9	−20.1
Net foreign sales	−16.3	0.3	0.0	−16.0
Chemicals				
Net exports	12.1	−2.2	−8.2	1.6
Net foreign sales	17.7	9.5	−1.1	26.1
Iron and Steel				
Net exports	15.0	1.0	0.3	16.4
Net foreign sales	16.4	1.9	0.3	18.6
Non-ferrous metals				
Net exports	2.5	−0.1	−0.6	1.8
Net foreign sales	3.8	0.5	−0.5	3.7
General Machinery				
Net exports	27.8	18.0	13.7	59.5
Net foreign sales	30.2	22.4	15.9	68.5
Electric machinery				
Net exports	49.0	12.9	16.2	78.1
Net foreign sales	62.6	25.3	25.9	113.7
Transport machinery				
Net exports	16.4	40.7	15.5	72.0
Net foreign sales	25.1	67.2	38.8	131.1
Precision instruments				
Net exports	10.2	0.7	0.5	11.4
Net foreign sales	11.3	1.7	1.2	14.2

concentrated in Asia. We also see large difference between the net exports and the net foreign sales in electric machinery and transport machinery. These sectors have become more competitive by their overseas production.

5．Concluding Remarks

Our discussion of firm's competitiveness has been focused on ownership base rather than territory base since we are interested in firms' activities with their nationality. Net foreign sales is defined to measure competitiveness of a firms based on their ownership instead of conventional measure, net exports.

Review of the Japanese economic history after the World War Ⅱ enables us to guess the small difference between net foreign sales and net exports during the high growth era (1955-1970) due to the strict foreign capital control. Although the deregulation of capital control in 1968, the abolishment of the fixed exchange system in 1972, and the first oil crisis in 1973-74 had forced the Japanese companies to go abroad, the movement was confined to the

firms which had produced serious environmental problems as by-products, had relied on the imported materials such as mineral products, had lost international competitiveness due to labor intensive production system such as textiles. It was not until the amendment of foreign exchange law in 1980 that most domestic manufacturing firms had sought for the business opportunities abroad.

Of course, even during the high growth era, the Japanese corporate activities abroad had important roles to strengthen the competitiveness of the domestic Japanese firms in terms of net exports. Since before the World War II most of the Japanese firms had depended upon the Japanese general trading companies (Sogo Shosha) for their export-import trade. The overseas activities of the general trading companies had helped the domestic Japanese firms to explore the export market during the 1950s and the 1960s. Since the 1980s Japanese major exporting companies started to establish their own trading companies abroad to promote export-import trade for their products and to seek for new production sites. The discussion in section 4 shows that the Japanese overseas operation acquired and strengthened their competitiveness. At the beginning of the overseas production, there was little difference between net foreign sales and net exports. The increased overseas production the foreign affiliates enabled many of their activities to make more profitable and strengthen their competitiveness, which is reflected by widening the gap between net foreign sales and net exports since the late 1980s.

Whereas the distinction between foreign sales based on ownership and net exports based on residency is one of the useful measure for discussing the competitiveness of firms, we should notice there are a few remaining issues to be considered.

As we have already stressed, the concept of ownership is essential in our discussion of competitiveness. Nowadays, there are not so many companies which have been doing overseas activities and fully domestically owned. Looking at the foreign affiliates of the Japanese corporations makes us realize that they are mostly Japanese owned affiliates because Japanese corporations generally tend to prefer green field investments to brown ones. On the other hand, the equities of major Japanese parents are also owned by the foreign companies or foreign governments, and in some Japanese companies the majority of the stocks are owned by the foreign investors. If the Japanese companies, in which majority of the stocks are foreign owned, have their foreign affiliates abroad, who is the ultimate owner of the affiliates, the Japanese parents or foreign investors? The data constraint made us difficult to consider the issue. If we could overcome this constraint, our estimated results might have to be revised.

The discussion in Section 4 make us recognize the degree of the competitiveness defer by industry and area. The determinants of the competitiveness should be discussed empirically with relation to the export competitiveness.

From a nation's point of view, strong firms' competitiveness is expected to bring national welfare. When Julius introduced the idea of foreign sales instead of the conventional measure, net exports, she stressed that positive foreign sales of the US firms contributed to the national welfare in spite of huge trade deficit because the investment income by the multinational firms remitted to home country has a positive effect on the US gross national product. However, can we say the increased direct invest-

ment income by the overseas activities always benefits the people of a home country? The global level of fierce competition has forced the major exporting companies to lay off the workers and outsource their jobs with sacrificing them. Thus, strong competitiveness does not

mean enhancing the welfare of a home country. We should examine whether the increased competition in term of net foreign sales has a positive impact on it. These remaining issues will be left for future studies.

Notes

i   The paper is the extended version of Inaba (2006) which was provided in July 2006 when the author stayed at Österrechischen Institute für Wirtschfatsforshung (WIFO), Vienna, Austria. The first draft is based on the presentation at the Kainsai meeting of Japan Society of Economic Statistics held in the Biwako Kusatsu campus, Ritsumeikan University on October 2007. I very much appreciate the useful comments from Prof. Tadashi Yoshida, Prof. Katsushige Nagasawa, and Prof. Shin Ikeda. I would also like to thank Professor Karl Aiginger, Director of WIFO for giving me nice research environment from April to September, 2006. I am also grateful for the critical and constructive comments on my first paper from Dr. Michael Peneder, Dr. Yvonne Wolfmayr, the editing managers, two anonymous referees. A part of this research is financially supported by the Ministry Education, Culture, Science and Technology (Grand Number 20530225).
ii   Dunning (1988), (1992).
iii   Julius (1990), (1991).
iv   Inaba (2006), pp.18-19.
v   Trades between domestic parents and foreign affiliates, and those of Japanese owned firms and foreign owned firms are adjusted by the ownership ratio of the parent companies. For example, Actual values of exports to the foreign affiliates abroad (¥20.5 trillion) are multiplied by the ownership ratio (0.817) to get the exports to the forign affliates E_{AD} (¥16.7 trillion) in Table 1.
vi   Julius (1990) assumed that E_{BD} and M_{DB} trade were negligibly small. As already shown, Steven, Obie, and Lowe (1993) 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.
vii   Obie and Jeffery (1995) and Jeffery (2006) estimated the US current account balance based on ownership.
viii   Jefferey (2006).
ix   Steven, Obie, and Lowe (1993) pointed out these issues on pp.56-57.
x   As we discussed at footnote vi, E_{BE}, E_{CE}, M_{EB} and M_{EC} are treated as negligible.
xi   Sumiya (2000), pp.53-58.
xii   Flath (2005), pp.255-258, pp.277-282, pp.296-298.
xiii   Inaba (2006) p.8.
xiv   During the late 1980 the profit rate per sales was nearly zero in North America and Europe. See Dunning and Cantwell (1989).
xv   The Ministry of Economy, Trade and Industry (2006).

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