

Japan's FDI-Promoting Systems and Intra-Asia Networks: New Investment and Trade Systems Created by A Borderless Economy

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JAPAN'S FDI-PROMOTING SYSTEMS AND INTRA-ASIA NETWORKS

New Investment and Trade Systems Created by A Borderless Economy

Shojiro Tokunaga

1. *Introduction : Japan as a Mature Economy*

1.1 A Mature Economy Without Unemployment

One of the important key-phrases in Keynes' *The General Theory* is the "paradox of poverty in the midst of plenty," which implies the gap between actual and potential gross domestic production (GDP) as follows :

"The richer community, the wider will tend to be the gap its actual and its potential production.....A wealthy community will have to discover much ampler opportunities for investment if the saving propensities of its wealthier members are to be compatible with the employment of its poor members. If in a potentially wealthy community the inducement to invest is weak, then, in spite of its potential wealth, the working of the principle of effective demand will compel it to reduce its actual output, until, in spite of its potential wealth, it has sufficiently diminished to correspond to the weakness of the inducement to invest." [1 ; p. 31]

Japan has already a mature economy. Figure 1 indicates that the rate of business income to compensation of employees has continued to decline since 1973, compared with what it had been. The growth rate of GNP, factor supplies and factor productivity during 1980-1985 were much lower than before (see Figure 2). These facts attest that Japanese economy has been perfectly full-fledged since in the middle of 1970s, when the days of the galloping growth was over in Japan as well as in other advanced economies.

Another interesting phenomenon is a rapid increase of propensity to save. The Japanese economy nominally expanded the values of financial and stock assets and land in 1980s, in spite of not increasing the values of net capital assets and housing in the same time (Fig. 3).

Japan has undoubtedly a kind of excess savings. The current "excess savings" in Japan,

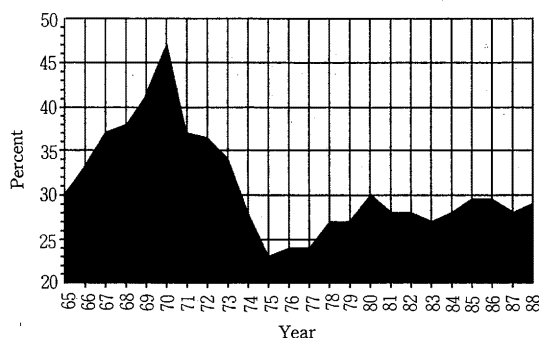


Fig. 1 Changed Pattern of Business Profit Share
(Ratio of Returns on Assets & Business Income to Wage Income)

Source: Based on *KOKUMIN KEIZAIKEISAN*
(National Accounts), each year, Tokyo.

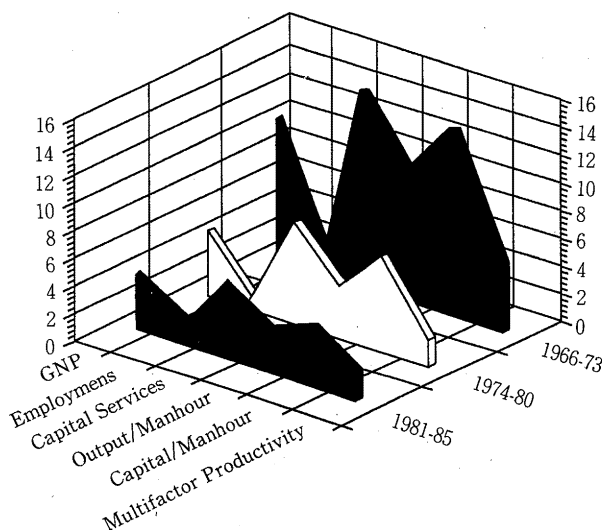


Fig. 2 General Indicators of Japanese Economy

Source: OECD, Figure by Seper

however, has not meant “the weakness of the inducement to invest,” because during 1980s and early 1990s Japan’s unemployment rate has been at much lower level than any other advanced or mature economy.

Why has it maintained a prosperous conditions with excess savings? One of the main reasons, of course, comes from the nature of an “export-led” economy. It is noticeable, however, the Japanese economy has managed to maintain a high rate of growth despite the upsurge in the value of the yen following the Plaza Accord in September 1985. In turn, it transformed its

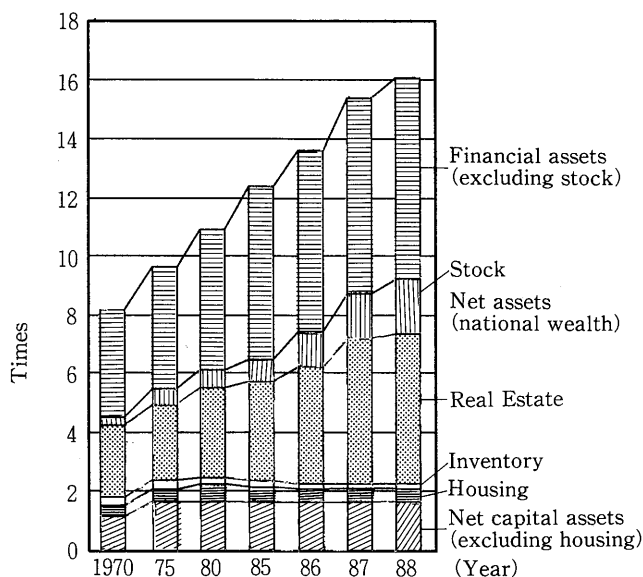


Fig. 3 National Assets Balances As Ratio of GNP

Source: *White Paper on Japanese Economy 1990*, BII, Tokyo 1990.

structure from an export-led base to a domestic-demand-led one accompanied with aggressive foreign direct investment (FDI).

1.2 Heavy Reliance on the U. S. Market : First Half of the 1980s

Japan has an economic structure which mainly relies on export rather than the domestic consumption in comparison to that of the United States. For five years from 1982 to 1986, the productivity of Japanese manufacturing sector rapidly rose when compared with the United States. In the same period, its balance of trade surplus greatly increased while the deficits accumulation on the U. S. side. The rate of Japan's export reliance on U. S. market (ratio of Japan's export-to-U. S. to the total export) increased surprisingly by 14 points to approximately 39% in 1986 up, from 25% in 1980.

The differences between Japan and U. S. appeared in the figures both of government expenditure and of individual savings. During the first half of the 1980's, the U. S. had vast public finance and trade deficits and a small size of private savings as well as huge values of trade deficits. In other words, U. S. expanded the domestic market in the facet of government expenditure in addition to individual consumption.

The excess consumption over GDP in U. S. was enabled by the so-called international dollar

standard system. As long as U.S. dollar functions as the international key currency, which operates a vehicle currency in the international inter-bank exchange markets [2] and which the economic powers excluding the U.S. hold as external reserves, the U.S. external deficits are automatically corrected. The external surpluses of the rest of the world come back to the U.S. as private capital and/or official dollar exchanges. For example, when the capital flight from the U.S. took place after the sudden dollar depreciation following the worldwide slump in the stock markets in October 1987, the official money (external reserves) from the currency-revaluating countries such as Japan and Germany flowed in as the replacement. This situation has made it possible for the U.S. to consume over her own GDP.

On the other hand, until the middle of 1980s, Japan had been strengthening its export reliance structure by channeling the improvement in productivity forwards cost reduction instead of the expansion of domestic demand. This, backed up by the relative decrease of the government expenditure, made the ratio of savings to the domestic demand raise. The excess savings was absorbed mainly in the two ways: i.e., (1) in the rapidly increasing (nominal) values of domestic financial assets and real estates and (2) in the increase of Japanese foreign investment, especially portfolio investment.

1.3 Domestic-Demand-Led Growth and FDI: Since the Plaza Accord

In September 1985 Ministers of Finance of the Group Five (U.S., Japan, West Germany, U.K. and France) agreed to the devaluation of the U.S. dollar, especially to Japanese Yen and German Mark, to strengthen U.S. competitiveness and reduce her cumulative deficits of current balance. It is the so-called Plaza Accord.

Since the middle of 1980s, economic frictions between the U.S. and Western Europe and Japan have simmered. The United States has reserved its ability to act unilaterally against "barriers to U.S. exports" under Section 301 of the Trade Act of 1974, which empowers the President to retaliate unilaterally against foreign practices perceived as detrimental to U.S. commercial interests and established free trade norms. The regular section 301 procedures and remedies were substantially strengthened as "Super 301" by the Omnibus Trade and Competitiveness Act of 1988 ("1988 Trade Act"). Japan has been compelled to make voluntary restrains on exportable goods with comparative advantages such as automobiles, VCR, semiconductors, etc.

In addition, the Structural Impediments Initiative (SII) talks between Japan and U.S. was launched in 1989 to solve structural problems in Japan that stand as impediments to trade and to balance of payments adjustment, outside of Section 301 of the U.S. Trade Act. As a result of SII, Japan has been pursuing appropriate policies to sustain solid economic growth led by strong

domestic demand, especially promoting accumulation of social overhead capital [3].

With rising incomes and shifts in exchange rates, labor costs in Japan also have been much closer to, or almost even with those in the United States. Moreover, since 1988 "labor shortage" issues have seriously taken place. According to the "short-term Economic Survey of All Enterprises" (Bank of Japan), the employee judgement diffusion index (the ratio of those industries reported having a "surplus" against those reporting an "insufficiency" of labor) shows that the excess outlook in the manufacturing industry as well as the non-manufacturing, changed to one of insufficiency in February 1988 [4, p. 37]. (See Figure 3A).

According to the Economic Planning Agency of Japan (EPA), which administered a question-

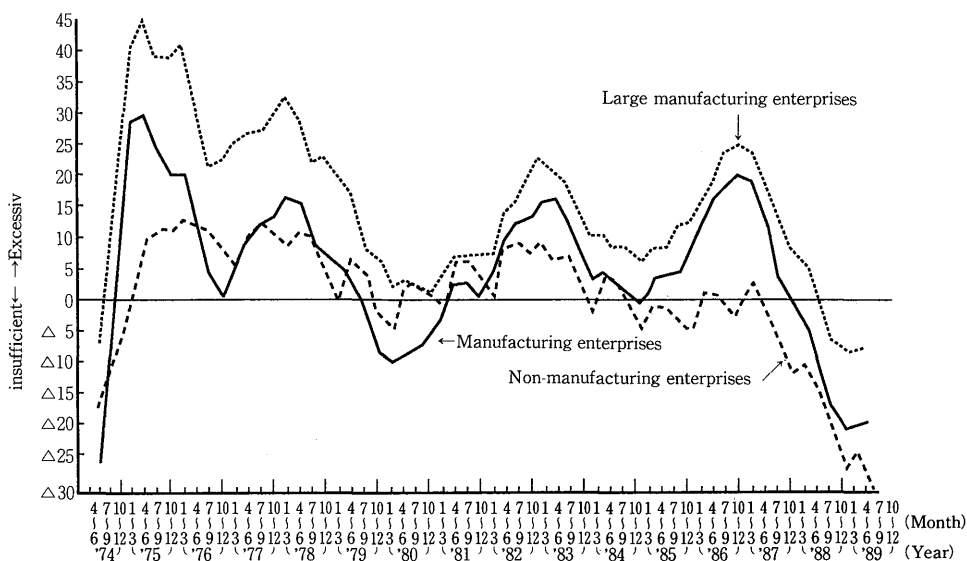


Fig. 3A Transition in Judgement D.I. on Number of Employee
Source: EPA, *Economic Survey of Japan 1988-89*, Tokyo 1990

naire in 1990 to the manufacturing sector, over 40% of the responded corporations gave reasons of diversified production and entrance to different industry or manufacturing, development of new products, and R&D as well as one of ordinary labor demand during times of the economic prosperity [4]. This implies that Japanese manufacture has been transforming itself to becoming ever more sophisticated.

In the changing circumstances of the yen-appreciation, economic frictions and labor shortage (including rising labor costs), Japan has been converting a traditional pattern of growth and investment to a new one that is domestic-demand and FDI-led base.

The transformation of an export-led economy to a domestic-demand-led one implies three immediate issues: i. e., (1) reduction of the massive external imbalances especially to the U. S., (2)

creation of diverse life style for a better quality of life and (3) promotion of social infrastructure capital improvement for the smooth facilitation of industrial restructuring.

Japanese firms are pursuing various business strategies to adapt to adverse the above-mentioned environmental changes. Among the major elements of these strategies are higher added value to products, sophistication and centralization of production technology (high-tech orientation), full use of information intensification, and diversification of business operations (rationalized operations). The concept of industry sophistication has been prevalent since the period of high-level economic growth, but at that time, the emphasis in industry sophistication was mainly toward lowering cost through mass production. At present, however, the emphasis is on achieving a variety of orientations, such as small volumes or new types of products with high added values, so as to satisfy a growing diversity of needs. [5]

A large number of FDIs by Japanese firms have no conflict with a sophisticated or domestic-demand-led economy, because FDI causes to make new kinds of value-added products and, therefore, to establish sophisticated social and economic infrastructures in Japan. This FDI can also the effect of transferring Japan's mature industries to the industrialized countries where these industries still have competitive advantages and the newly industrializing nations.

In fact, in the changing economic circumstances as mentioned above, Japanese manufacturers' foreign investments have been accelerating since 1986. Since 1985, the ratio of Japan's export to the gross national products (GNP) has been rapidly declining and, on the contrast, the ratio of Japan's FDI to GNP has been rising. Japan is on the way or turning point to FDI-led and domestic-demand-led economy from the export-led one. (See Figure 4)

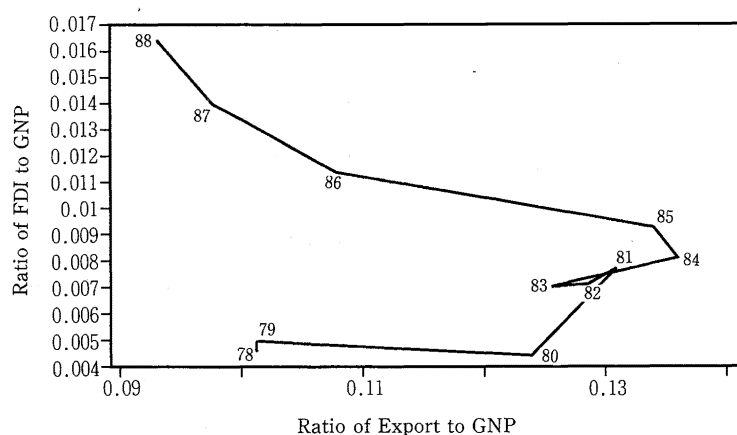


Fig. 4 Ratio of FDI and Export to GNP

Source: EAG, *NIHON TO SEKAI WO KAERU KAIGAI CHOKUSETSU TOSHI*, p. 33, Tokyo 1990.

JAPAN'S FDI-PROMOTING SYSTEMS AND INTRA-ASIA NETWORKS

2. Japanese Manufacturer's FDI : Its Characteristics and Forms

2.1 Production Facilities Abroad : Its Concept and Implications

Table 1 indicates the trends of Japan's FDI from 1981 to 1986 by three business types (manufacturing, developing of natural resources and trade and services) and by its forms (acquisition of securities and money-lending).

Why does FDI include "money-lending" as one of the categories? Because FDI is for the purpose of "establishing lasting economic relation which give the possibility of exercising an effective influence of the management." For example, according to the code of liberalization of capital movements of the Organization for Economic Co-operation and Development (OECD) [6, p. 25], "Overseas direct investment" is defined as follows :

Investment for the purpose of establishing lasting economic relations with an undertak-

Table 1 Japan's Overseas Direct Investment 1981-86 (By Industry and By Form)
(Legend : Amount in)

year			1981		1982		1983		1984		1985		1986	
Industry and Form			Amount	Share	Amount	Share	Amount	Share	Amount	Share	Amount	Share	Amount	Share
Manufacture	Acquisition of Securities	New	298 (240)	13.1	343 (226)	16.5	340 (246)	13.1	817 (303)	32.6	489 (363)	20.8	1,185 (597)	32.7
		Existing	1,102	48.3	899	43.3	1,180	45.6	962	38.4	1,124	47.8	1,556	42.9
		sub-total	1,400	61.4	1,242	59.8	1,520	58.7	1,779	71.0	1,614	68.6	2,741	75.6
		Money-Lending	880	38.6	833	40.2	1,064	41.1	725	29.0	738	31.4	887	24.4
	Total		2,280	100	2,075	100	2,588	100	2,505	100	2,352	100	3,628	100
Natural Resources Development	Acquisition of Securities	New	50 (43)	1.9	25 (15)	3.4	26 (22)	6.1	12 (17)	2.2	73 (32)	11.2	117 (33)	16.6
		Existing	120	4.5	109	14.6	84	20.1	66	12.4	96	14.7	134	19.1
		sub-total	171	6.5	134	18.0	109	26.2	78	14.6	168	25.8	251	35.7
		Money-Lending	2,474	93.5	612	82.0	308	73.8	458	85.4	484	74.2	452	64.3
	Total		2,645	100	746	100	418	100	534	100	652	100	703	100
Commerce and other Services	Acquisition of Securities	New	474 (465)	12.2	428 (524)	9.0	1,071 (600)	21.7	1,504 (508)	21.8	1,436 (627)	16.2	3,507 (789)	20.1
		Existing	1,178	30.4	1,571	33.2	1,053	21.3	1,233	17.9	2,745	30.9	6,047	34.7
		sub-total	1,651	42.7	1,999	42.2	2,124	43.0	2,737	39.7	4,181	47.1	9,554	54.8
		Money-Lending	2,220	57.4	2,734	57.8	2,820	57.1	4,157	60.3	4,702	52.9	7,869	45.2
	Total		3,861	100	4,733	100	4,940	100	6,895	100	8,883	100	17,423	100
New Securities	Amount	822		796		1,437		2,333		1,998		4,809		
GrandTotal of Acquisition	(Cases)	(748)		(765)		(868)		(828)		(1,023)		(1,419)		

Note : The author regrets not being able to obtain the data which shows both "industry by industry" and "form by form" since 1987.

Source : Nakai, K., "1986 NENDO NO WAGAKUNI NO KAIGAI CHOKUSETSU TOSHI DOKO" KAIGAI TOUSHI KENKYUHO, (EXIM Bank of Japan), October 1987

ing such as, in particular, investments which give the possibility of exercising an effective influence of the management thereof :

Abroad by residents by means of :

1. creation or extension of a wholly-owned enterprise, subsidiary or branch, acquisition of full ownership of an existing enterprises ;
2. participation in a new or existing enterprises ;
3. a long-term loan (five years and longer).

Japan maintained extensive restrictions when it joined OECD in 1964. The liberalization of FDI had been progressing during the period of the high economic growth in Japan as Phase I (October 1969), Phase II (September 1970), Phase III (July 1971) and Phase IV (July 1972). During this period, the meaning of the concept of a foreign judicial person substantially controlled by Japanese corporation (in OECD's code, non-residents who "exercise an effective influence on the management"—the influence being a key-word in FDI) had been remarkably changed.

Before Phase I, the above-mentioned judicial person meant a Japanese majority-owned (50% or more) corporation. In the case of joint ventures in the developing countries, this meaning was construed as 25% or more and dispatching one or more of full-time directors. As the result of Phase I and II the concept of overseas firms substantially controlled by Japanese corporations by means of dispatching one or more of full-time directors and keeping a certain investment balances, but also to majority-owned ones without dispatching any director.

After the Phase III liberalization step, the limit regarding the investment amount was removed and the definition of the overseas corporation also greatly relaxed to (1) a 10%-or-more Japanese owned corporation accompanied by one of the following six requirements: i. e., dispatch of one and more of full- or part-time directors, furnishing of technology, supply of raw materials and parts, purchasing of products, financial assistance, and execution of the exclusive agency agreement, and (2) a 25%-or-more Japanese owned corporation. As the Phase IV liberalization took place in June 1972, the criteria of the approval of FDI was even further refined.

The foreign exchange and foreign trade control law of Japan, which dramatically changed the direction concerning capital movements from "prohibition in principle" to "liberalization in principle" in October 1980, follows the above-mentioned OECD's concept of FDI. Under the new foreign exchange law, a "direct foreign investment" means "acquisition of any securities issued by a juridical person established under foreign legislation, or any money lending to such a judicial person...as an act purporting to establish a long-term economic relationship therewith, or any payment of funds for establishment or expansion of a branch, factory, or other place of business in a foreign country, by a resident."

The acquisition of securities falling under FDI is as follows: i. e., (1) a transaction to acquire

10% or more of foreign judicial person's equity, (2) a transaction to acquire less than 10% of the equity while dispatching one or more directors, furnishing technology, supplying raw materials or products, executing a sole agency contract, or establishing other lasting economic relations.

Money-lending which falls under FDI is defined as long-term (over one year) loans for (1) foreign firms possessing more than 10% of equity, (2) foreign firms possessing less than 10% of its loan portfolio long-term loans to foreign firms having the above-mentioned lasting economic relations.

Under the new foreign exchange law, the new category of "FDI without the so-called ownership" has been created. Providing loans exceeding one year to a foreign firm, the management of whom a Japanese firm exercises an effective influence on only through one or more of the lasting economic relations, is construed to be a foreign direct investment from Japan. Acquiring equity is a form of the effective management control of a foreign corporation. The essence of FDI, therefore, is related not necessarily to acquiring the so-called "ownership" of a foreign-located firm but to exercise an effective influence on the management of that firm.

2.2 Production Facilities Abroad: Their Classification

When a production facility abroad is categorized as a part of an international intra-company network, the "equity-only participation" is not an absolute or direct criteria or concern. Even if equity participation does exist, unless there is a way for the Japanese firm to share in the management or marketing, it is not at all different from the security investment made receiving for dividends or capital gains. On the contrary, if it is possible to have local firms substitute production for Japan-located plants or to incorporate these foreign firms in a Japanese corporation's intra-company production network by means of furnishing technology, capital equipments, parts and so on, these local corporations are obviously production facilities abroad of Japanese firms.

More specially, the criteria to determine whether a foreign firm can be classified as an overseas production facility or not is to see if it supports a wing for research and development (R&D), production, or marketing and physical distribution systems of a Japanese firm as a base for taking charge of the production activity or as one process in the intra-company production networks. If such a sector abroad has importance as a segment in the business activities and, further if it has strong possibility of bargaining power in the aspect of technology or other matters, the securing of management control has to be sought inevitably by the Japanese firm "Equity sharing" is an important measure to determine the relative position of overseas production base, the bargaining power to the local partner (or government) and/or the depth of

cooperative relationship, but it can not be the absolute criteria for making out if a local (foreign-located) firms is a production facility abroad or not.

Production facilities abroad are foreign judicial persons who are incorporated as a ring in Japanese corporations' R&D, production, marketing, and physical distribution systems. Be doing

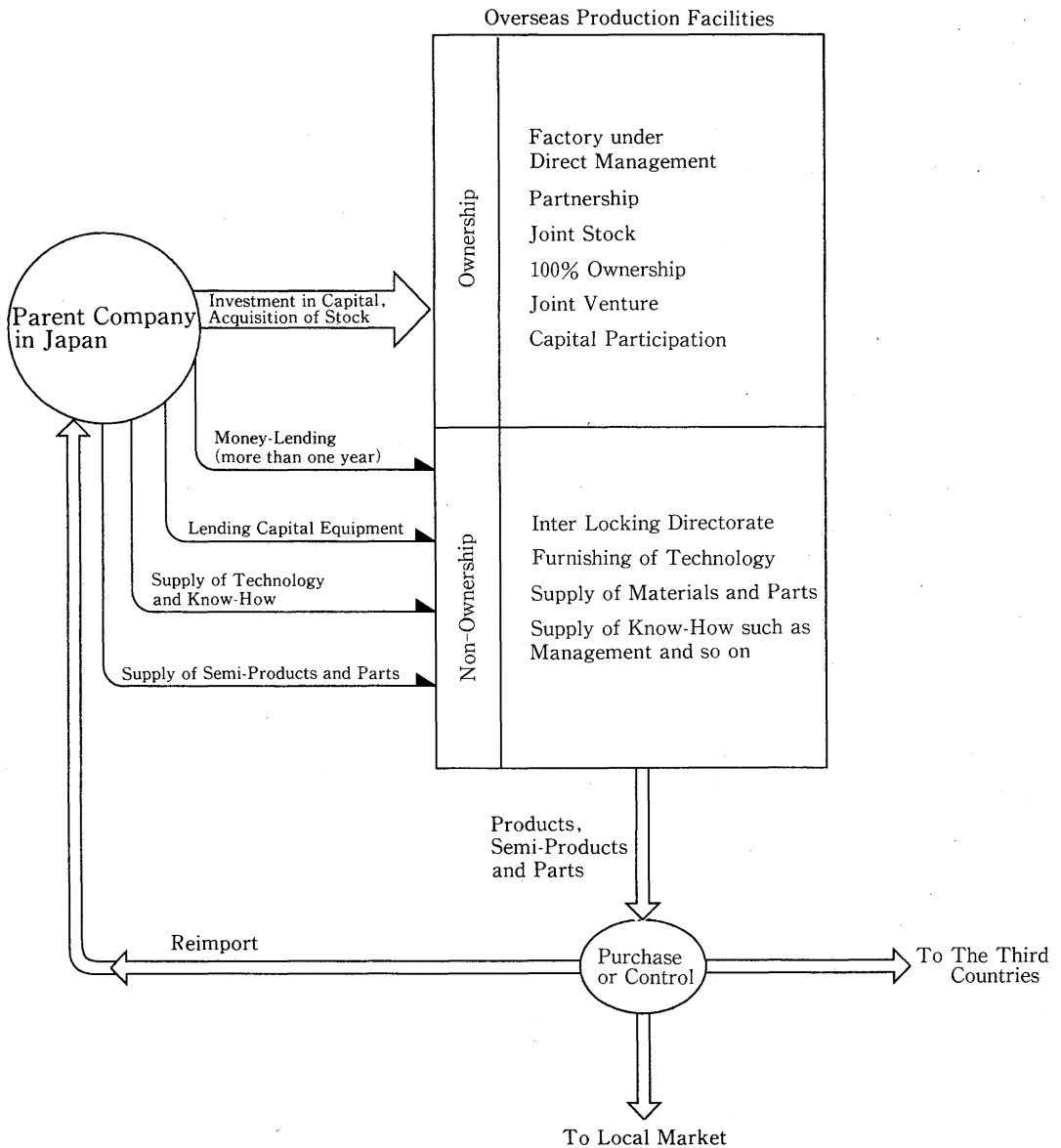


Fig. 5 Methods of Establishment of Overseas Production Facilities

so, foreign subsidiaries, therefore, support the latter's international or borderless production processes. Parts and semi- and final- products manufactured by local corporations are all subject to the control of the firms who share equity or money lending in line with establishment of lasting economic relations such as dispatching one or more directors, furnishing technology, supplying capital goods, etc. .

If production facilities abroad are defined as mentioned above, FDI in the manufacturing sector is basically or essentially the internationalization of the production process. Acquisition of ownership is one of the methods to achieve an international production system. It is a key-point to pay attention to the visible and invisible intra-company networks such as the international R&D, production and physical distribution systems of parent firms.

Figure 5 illustrates the methods of establishing of production facilities abroad. They are divided broadly into two categories: i. e., (1) acquisition of ownership and (2) non-ownership relations. The former consists of a branch factory (expansion of a factory in a foreign country by a Japanese corporation), a partnership with local residents, a local stock company (foreign judicial person as a joint-stock company, including a wholly-owned subsidiary), a joint venture, and capital participation by means of stock acquisition. The latter, non-ownership relations, is based on lasting economic relations such as despatching directors, furnishing technology, supplying raw materials, parts and semi-products. The forms of non-ownership relations include production sharing or co-operative production, production consignment or compensation trade (providing capital equipment and materials as rental items and then buying the products back), processing with supplied materials, processing on order, etc. .

2.3 Asianization of Production and Forms of FDI

The Japanese-yen appreciation, the economic frictions with the U. S. and the EC, and the blue-colored workers shortages have impelled Japanese businesses to pursue the global process of horizontal specialization particularly in assembling and processing industries.

Let us examine the current situation of Japanese manufacturers' foreign direct investment (FDI) on the basis of the "18th and 19th Survey on Japanese Business Activity Abroad," which was conducted in 1988 and 1989 by the Ministry of International Trade and Industry (MITI).[7]

As of the end of March 1989, there were 7, 554 Japanese overseas subsidiaries in which Japanese corporations held more than 10 percent of the equity. 3, 243 firms of the total abroad engaged in business activities were manufacturers, of which about 33 percent or 1, 028 firms had been established only for the three years since fiscal 1986. It is surprising that in the same three year period, 53 percent or 546 manufacturing subsidiaries were located in Asia. (See Table 2 and

Table 2 Japanese manufacturers' FDI in Asia

Unit : cases, ¥ million

	Food		Textile		Wood・Pulp		Chemical		Iron		Machine		Electronics		Transport		Others		Sub-total	
	Cases	Amount	Cases	Amount	Cases	Amount	Cases	Amount	Cases	Amount	Cases	Amount	Cases	Amount	Cases	Amount	Cases	Amount	Cases	Amount
1951~70	43	23	170	107	23	15	122	19	70	34	85	15	152	45	20	14	230	48	915	320
1971	5	3	37	53	10	4	26	13	11	5	17	5	23	19	2	0	65	22	196	124
1972	24	9	46	132	24	14	20	9	48	31	23	10	86	36	9	19	76	17	356	277
1973	25	12	117	191	58	38	45	32	60	29	66	19	156	83	22	44	132	38	681	486
1974	23	21	46	118	38	23	54	34	41	38	26	18	43	30	15	19	78	57	364	358
1975	25	24	18	71	16	13	44	49	24	66	28	18	34	36	16	32	38	57	243	367
1976	23	7	16	47	10	6	32	44	26	67	31	12	38	44	14	8	29	51	219	285
1977	20	8	21	83	10	8	26	75	26	29	27	16	33	32	10	24	60	57	233	334
1978	26	14	25	35	9	2	32	189	41	389	62	64	95	93	16	43	58	28	364	858
1979	33	17	29	34	15	9	47	63	44	43	59	65	72	55	13	36	63	116	375	437
1980	40	10	30	50	11	10	53	193	50	299	43	31	37	71	11	29	46	32	321	724
1981	28	19	45	42	8	10	67	136	39	312	48	42	48	57	13	39	58	31	354	688
1982	20	9	35	40	20	9	69	132	30	144	30	52	42	43	19	45	57	68	322	542
1983	33	19	24	132	18	17	66	207	29	63	34	74	53	45	22	123	67	59	346	738
1984	33	27	24	39	11	8	35	56	20	111	35	63	65	93	30	66	57	54	310	516
1985	42	34	22	8	7	4	42	39	23	36	39	76	47	51	27	151	73	60	322	460
1986	50	28	18	21	13	9	43	47	32	61	52	95	111	262	36	130	107	150	462	804
1987	63	142	45	28	25	13	80	246	95	306	76	102	184	467	61	206	161	169	790	1,679
1988	78	90	106	149	53	177	88	200	102	205	118	259	164	852	35	155	191	284	935	2,370

Figure 5) These consisted of 165 manufactures for electrical machinery and appliances, 63 for chemical, 57 for transportation equipment and parts and others.

Today, Japaneses manufacturers seeking comparatively-low-cost production bases are attracted by ASEAN countries as substitutes for Asian NIEs, which have been becoming less competitive than before both in the wage levels and in exchange rates. For example, of 546 Asian production bases newly established in fiscal 1986, 261 ones were located in Asian NIEs. In fiscal 1989, however, 104 Japanese manufacturing facilities were set up in the ASEAN countries excluding Singapore, which were one and half times as many as the ones in Asian NIEs (74 units).

Another interesting trevil emerges if we consider the manufacturers' expanded FDI including industrial-cooperation and technology-transfer, joint ventures with minority-ownership, and majority-owned subsidiaries. According to a survey conducted by Japan External Trade Organization (JETRO), the number of industrial-cooperation and technology-transfer agreement without ownership amount to 1, 958 cases, more than that of joint ventures, 1, 354, and the third fourths of 2, 636 majority-owned subsidiaries (See Appendix A at the end of this chapter).

In 1989 the ASEAN Promotion Center on Trade in Tokyo, with the cooperation of the Small Business Finance Corporation, sent questionnaires to 34, 925 small-and medium-scale firms in Japan, centering on manufacturing firms, with work forces of 30 to 1, 000 and capital of 10 million yen to 300 million yen. The survey was conducted by mail, and 9, 060 firms of them responded.

60 percent of Japanese small- and medium-scale businesses covered by the survey are

thinking of investing abroad, especially in the ASEAN area, and almost 30 percent are planning to do so within five years. In addition, a total of 1,141 companies or about 13 percent of the responded have already set up business abroad, and 411 firms or 36 percent have invested in the ASEAN countries. Moreover, the businesses investing in the ASEAN area are all manufacturers of electrical machinery, appliances, and other machinery.

Of the firms which have already invested in the ASEAN area, 61.2% cite the use of low-cost labor as their main investment reason, higher than any other area. The number-two purpose in the same area was the cultivation and maintenance of the local market (cited by 40.1 %).

Among the firms planning or interested in investing in the ASEAN area, the use of low-cost labor is also the number-one purpose (58.8 %) for investing. However, export back to Japan is the second most cited reason for firms planning on investment in the area (36.9 %), followed by the cultivation and maintenance of the local market (33.6 %) and the securing of inexpensive raw materials (27.2 %).

3. *Japan's ODA and Establishment of FDI-Promoting Systems*

3.1 Asia-Shifted ODA and the Role of OECF

According to Economic Cooperation Bureau (ECB), Ministry of Foreign Affairs of Japan, the net outflow of official development assistance (ODA), other official fund (OOF) and private fund (PF) amounted to \$ 8,965 million, \$ 1,544 million and \$ 13,502 million respectively in 1989. The amount of the net official outflows, ODA and OOF, was almost equal to that of FDI in the private sector.

The total Development Assistance Committee (DAC) country ODA in 1989 amounted to \$ 46,498 million, of which the share of Japan's ODA was about 19%, ranking first in the world ODA contributors for the first time. Three-fourths of Japan's ODA was bilateral ODA and, over 60% of this assistance was concentrated on Asia.

Since 1966, the Overseas Economic Cooperation Fund of Japan (OECF) has supplied loans mainly for the development of developing countries' infrastructure. The OECF makes virtually all bilateral ODA loans, which in 1989 amounted to \$ 3,943 million. That year, OECF accounted for 44.0% of Japan's total ODA and 58.2% of Japan's total bilateral ODA.

The reason why OECF loans to foreign governments constitute a significant part of Japan's ODA is attributable to the nature of loans themselves. Since 1975, loans to foreign governments with grant elements of 25% or more have been the business of the OECF. Today, there is a clear demarcation between OECF loans and loans by the Export-Import Bank of Japan. The purpose

of OECF loans to foreign governments is to provide assistance for the social and economic development of the developing countries, and, therefore, the loans are made on very concessional terms with the above-mentioned grant element.

It is noticeable that in 1989, OECF loan commitments to Asian governments as a percentage amounted to 77.5%. For the six Asian countries of Indonesia, the Philippines, Thailand, Myanmar, Sri Lanka and South Korea, the OECF became a top assistance donor among non-private financial institutions (including the World Bank, Asian Development Bank) on a net-disbursement basis in 1988. Furthermore, the OECF, though not the largest aid donor, provided the same volume of aid as the top donor institutions to Bangladesh, China and Pakistan [8, p. 12].

The OECF administers another province related to private loans and equity investment; specially, there are, loans to and equity investment in corporations registered both in Japan and in developing countries. In 1989, 79% of total loans to and equity investment in corporations were distributed in Asia.

3.2 Export-Import Bank of Japan as a FDI-Promotor

As mentioned above, the OECF is a governmental financial institution established to promote Japan's economic cooperation with developing countries through the provision of loans usually referred to as ODA. The Export-Import Bank of Japan (EXIM Bank) is also a governmental financial institution. Today, its lending schemes fall into two main categories: that is, (1) loans to domestic corporations in the form of supplier credits, technical service credits and import credits, and overseas investment credits and (2) loans to foreign government and corporations in the form of buyer credits, overseas investment credits, united direct loans, public bond purchase, refinancing loans.

Since the Export-Import Bank Act was amended in the latter half of 1980s, the Bank's operational framework has fundamentally changed into encouraging foreign investment instead of promoting export. In other words, the Bank works as a FDI-promoting financial institution rather than as a export-promoting one.

Official export credits are divided into two categories, i. e., supplier credits and buyer credits. Supplier credits are extended to Japanese corporations for their deferred-payment exports of plant, equipment, and technical services, and buyer credits are extended to foreign importers for their imports of plant, equipment, and technical services from Japan. The latter is called "bank-to-bank" loans when lending is channeled through intermediary financial institutions in the buyer countries. Today, these official credits are also considered part of the expanded concept of FDI such as joint ventures, co-operative production, and buy-back partnership on the basis of

technology transfer or processing with supplied capital goods.

Official import credits are primarily extended to Japanese corporations for their development and import of natural resources and other items deemed essential to the Japanese economy. Credits for the same purpose can also be extended to foreign corporations. Following the Japanese government's announcement of its Comprehensive Economic Measures in 1983, however, the Bank launched a finance scheme for promoting the import of manufactured goods from abroad. This scheme was formulated to provide incentives for doing business with production facilities abroad and specially with Japanese subsidiaries, joint ventures, production cooperation and buy-back partners.

Under the amended Export-Import Bank Act of 1986, the Bank extends overseas investment credits to Japanese entities to provide them with funds as follows:

- (a) Credits to Japanese corporations for their equity participation in foreign corporation.
- (b) Credits to Japanese corporations for loans to foreign governments or corporations which will provide them with long-term funds for venture operating outside Japan.
- (c) Credits to Japanese corporations extended as loans to foreign governments or corporations for equity participation in foreign corporations in which the Japanese corporations have equity shares.
- (d) Credits to Japanese corporations for their equity participation in corporations established in Japan for the sole purpose of making overseas investment in the above-mentioned items (a), (b) and (c).
- (e) Credits to Japanese corporations providing them with funds required for projects operating abroad.

These credits are principally extended in Japanese yen, but major foreign currencies such as the U. S. dollar can also be expected when justified.

The Bank, of course, extends those credits to foreign governments and foreign governmental institutions, and similar agencies for funds for equity participation in or loans to foreign corpora-

Table 3 Disbursements by Purpose of Financing
(¥ billion) (%)

	1985	1986	1987	1988	1989 (Share)
Export Credits	394.0	259.1	224.3	175.6	148.0 (12)
Import Credits	103.6	182.5	219.5	159.9	140.4 (12)
Overseas Investment Credits	190.8	116.2	230.5	374.2	451.1 (37)
Untied Direct Loans (Bonds)	79.6	124.2	192.5	277.1	474.4 (39)
Governmental Loans	7.9	10.0	7.5	—	0 (0)
Total	775.9	692.0	874.3	986.9	1,213.9 (100)

Source: OECF, *Annual Report 1990*

tions where Japanese corporations has an equity share. When the Bank extends credits to foreign corporations indirectly through foreign governmental financial institutions, these credits are called "two step loans."

Currently, the EXIM Bank primarily operates foreign investment schemes such as overseas credits and overseas project loans, rather than original official export credits. As shown in Table 3, the share of overseas investment credits to disbursements of the Bank's financing rose to 37% in 1990 from 25% in 1985, while the share of export credits to disbursements had declined to 12% from 51% in the same period. As of the end of March 1990, loans outstanding to East and Southeast Asia presented 12% and 25% of this total, respectively.

3.3 The New Trade Insurance System for Promoting FDI

In 1987 the Export Insurance Act was amended and renamed the Trade Insurance Act, under which the Ministry of International Trade and Industry (MITI) had established a new trade insurance system. Under the new system MITI provides protection against risks or losses caused from overseas investment, intermediary trade outside Japan, and pre-paid imports and exports.

General Export Insurance is mainly operated for protection against pre-shipment losses. In cases such the exports of plants, ships and technical services, Export Proceeds Insurance (Medium and Long Term Export Credit Insurance) or Technical Services Supply Insurance is provided, in practice, when export bills are settled on a deferred payment basis or when Japanese banks provide foreign importers with buyer credits in conjunction with the EXIM Bank. Export Proceeds Insurance is, of course, provided to cover any possible losses due to commercial risks such as bankruptcy as well as to political risks.

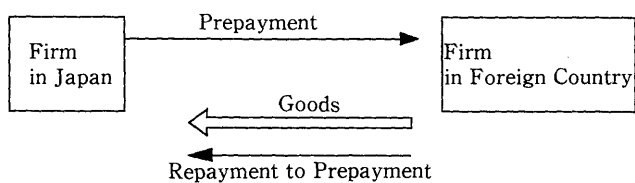
With the recent increase in the number of international consortia formed for plant exports, it has become necessary for export insurance agencies of the countries of the participating corporations to make joint insurance arrangements for assuring the appropriate coverage for both main contractors and subcontractors forming these consortia. Japan concluded agreements for this purpose with eight countries — Belgium, France, Singapore, the United Kingdom, the Netherlands, Austria, Spain and Canada—as of April 1989 [9].

It is natural that these export insurance schemes are used for Japanese corporations to supply plants, capital equipment and so on to their overseas subsidiaries, joint ventures, production sharing projects (including project financing and co-operative production), and technology transfer partnerships. In other words, the traditional export insurance schemes are also strong components of the expanded concept of Japan's FDI.

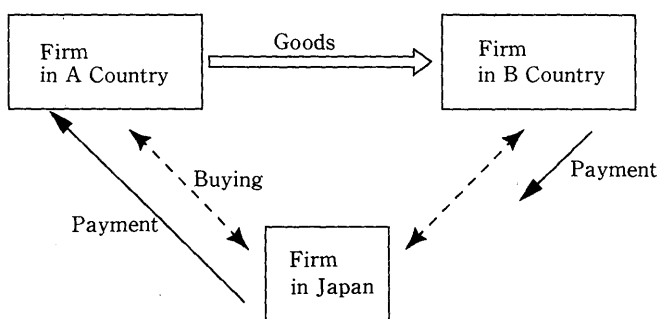
As Figure 6 demonstrates, MITI operates three new types of insurance schemes to provide

JAPAN'S FDI-PROMOTING SYSTEMS AND INTRA-ASIA NETWORKS

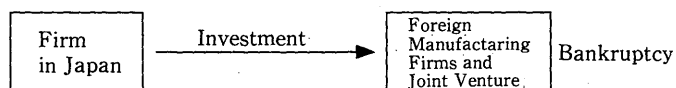
Import-Prepayment Insurance System



Intermediary Insurance System



Expanded Insurance System for Foreign Investment



Multilateral Investment Guarantee Agency (MIGA)

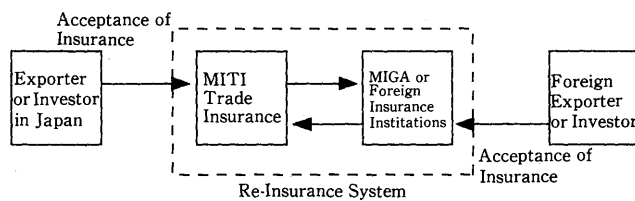


Fig. 6 MITI's New and Expanded Trade Insurance System
 Source: Tokunaga, S., *GENDAI NO BOEKI TORIHIKI TO KINYU*, p. 37, Yuhikaku Tokyo 1988

protection against risks associated with FDI. Pre-Paid Insurance was created mainly for the purpose of providing protection against risks associated with pre-paid manufactured imports. These manufactured goods can be used as a means of repayment for already-supplied capital goods to offshore joint ventures, production participation agreements and the like.

Intermediary Insurance aims at coping with non-payment risk intermediary trade between Japan and third countries. Japanese small and medium manufacturers, who establish production facilities abroad for exporting products to third countries, play the intermediary role for trade between third countries, by operating as headquarters for subsidiaries, joint ventures, co-operative productions in these third countries. Intermediary Insurance promotes establishing these kinds of overseas production bases.

Before 1987 Overseas Investment Insurance was provided only to cover possible losses due to certain political risks such as war or internal disorder. New and expanded Overseas Investment Insurance now assures commercial risks such as bankruptcy are linked with FDI as well. The new Overseas Investment Insurance goes a long way toward promoting the establishment of production facilities abroad for Japanese small and medium firms.

In addition, MITI participates in a new type of multinational re-insurance system which provides incentives corporations of advanced countries to perfect FDI in developing countries. The Multinational Investment Guarantee Agency (MIGA), which started in 1988, is an international organization which re-assures losses from exports and overseas investment that governments themselves are not able to cover. The result, effectively, is the formation or organization of multinational official supporting system for FDI.

3.4 Hybrid of Official Aid and Private Investment

The OECF and the EXIM Bank, as above mentioned, may carry out equity investment to assist development projects. Japan International Development Organization (JAIDO) was established in 1989 for the purpose of making equity investments in industrial-cooperation-related projects in the manufacturing sector of developing countries. JAIDO is a corporation owned by OECF (one-third equity shares) and eighty private corporations (two-thirds). JAIDO's purpose is to reinforce ODA-related projects that contribute mainly to the development of developing countries' infrastructure. The Federation of Economic Organizations in Japan (KEIDANREN), which originally promoted the establishment of JAIDO, is currently planning to launch a new organization, the Japan-China Investment Promoting Organization, in the near future.

It is important to note that the OECF has an equity investment with another type of an investment corporation, Japan ASEAN Investment Company (JAIC). JAIC was founded in 1981

with 137 member corporations of the Japan Association of Corporate Executives (KEIZAI DOYUKAI) as shareholders. The JAIC-1 Investment Fund, amounting to 7 billion Japanese yen, was established in 1988. As of July 1990, the amount of the five JAIC investment funds (JAIC 1-3 and JAIC P1-2) totalled 71.6 billion Japanese yen.

JAIC invests its funds, which are procured by the JAIC Investment Funds, usually as venture capital in unlisted companies in the member countries of ASEAN (Indonesia, Malaysia, the Philippines, Singapore, Thailand and Brunei) to assist their economic development and growth. As of January 1991, JAIC had invested in 50 ASEAN corporations.

The investment fund's assets are jointly owned by its members based on the ratio of the 'members' initial investments in the investment fund. The investment fund exists for a duration of ten years from the date of its establishment. Investment in the fund is normally made on a basis of the face value of the shares of the company. However, in the case of some existing companies, investment is made at a value exceeding share face value.

These new types of investment companies act as a "go-between" for ODA and private investment and, therefore, as an accelerator both for Japan's FDI and for the economic development of Asian countries.

4. International Logistics and the Transformation of a New Asian Trading System

4.1 International Multimodal Transportation and Rapidly Increasing Transactions in the Asian Waters

4.1.1 "NVOCC" and Overseas Activities of Japanese Forwarders

At the end of 1989, on December 14th, the National Diet of Japan established two laws related to physical distribution (Commercial Law for Cargo Shipping and Commercial Law for Automobile Cargo Shipping). This legislations eradicated old transportation laws and, for the first time in forty years, revolutionizes physical distribution in Japan.

International and domestic integrated intermodal transportation, which has advanced with the development of containerized cargo, established itself as the major method of international physical distribution at the beginning of the 1980s. For integrated intermodal transportation to be smoothly conducted, it must be part of a total physical distribution system where all the elements constituting the distribution system—warehousing, forwarding (harbor and custom-house brokage), truck transport, shipping, etc. —work in tandem. The new law is revolutionary in that it gives a legal foundation to the international and domestic integrated intermodal transportation system. In other words, it provides a large basis of the total distribution system,

and thereby furthers its progress.

With this total physical distribution system, barriers between different industries in the distribution system will be eliminated. Shipping and air freight will move into the land transport business and perform operations such as warehousing, forwarding and trucking. The warehousers and forwarders will themselves seek to control shipping, air freight and trucking. The word which clearly stands for the broken barriers of the distribution system is the unfamiliar NVOCC (Non-Vessel Operating Common Carriers). NVOCC means "common carriers that does not operate the vessels by which the ocean [and air] transportation is provided, and is a shipper in its relationship with an ocean [and air] common carrier" (according to Section 3 (Definitions), "Shipping Act of 1984", U. S. A.). Examples of NVOCC firms would be warehousers or forwarders or trucking operators who rent space from shipping firms which operate vessels.

These businesses are "common carriers" who do not possess vessels (NVOCC) but are responsible for international multimodal transport.

According to "United Nations convention on International Multimodal Transport of Goods of 1980," international multimodal transport means the carriage of goods by at least two different modes of transport on the basis of a multimodal transport contract. A multimodal transport contract is an agreement whereby a multimodal transport operator (including NVOCC) undertakes, against payment of freight, to perform or to procure the performance of international multimodal transport.

International multimodal transport has been developing in line with containerization. In the period between 1950 and 1970, liner shipping was profitable operation which greatly utilized its last evolution: that is, a port-to-port operation. A totally new era started with containerization. Started in the 1970s, containerization is a combined system of multimodal transport (door-to-door). In the system marine or air transport act as the nucleus; the other operations of road transport, forwarding, or warehousing for physical distribution act as the periphery. This new system has basically changed the characteristics of the physical distribution industry.

The container gave forwarders the opportunity to develop their two basic and traditional functions: (1) land arrangements to a port and (2) port forwarding operations of looking after documentation, etc. in connection with shipments. Once forwarders could avail themselves to a piece of shipping space in the form of a container, they soon become operators of the total physical distribution or international multimodal transport system as a house-to-house concept. Today, warehousers and trucking operators conduct the same business as NVOCCs.

According to a 1989 survey conducted by the Japan International Freight Forwarders Association (JIFFA), by the end of 1988 72 (51.8%) out of the 139 Japanese forwarders surveyed had business bases of some kind or another in foreign countries. A freight forwarder generally

establishes its overseas base in the form of a local subsidiary, a joint venture with local interests, and/or as a representative's office. When classified by the method of setting up an overseas facilities, 49 of the 72 Japanese forwarders operated local subsidiaries, 15 more than the 34 ones found to be operating by a previous survey conducted in 1987. In a regional breakdown, nine local subsidiaries had been newly established in the U. S., followed by five each in Singapore and Hong Kong, both increasing in importance as relay points for physical distribution.

In 1989, forwarders participating in joint ventures overseas numbered 28, 7 more than at the time of the previous survey. These 28 companies had altogether 57 joint ventures. Thus, a rather limited number of forwarders had tie-up arrangements abroad, averaging two per Japanese company. In the regional classification, 49 of the joint ventures were concentrated in East Asia. [10]

4.1.2 Rapid Development of Asian Container Transactions

In fact, container transactions in Asian waters have surprisingly increased recently. According to Containerization International Yearbook 1990, six of the ten largest container ports in the world exist in the West Pacific countries such as Singapore, Hong Kong, Taiwan, Japan and South Korea.

The rapid development of Asian container transactions has been assisted by the depth of Asian economic interdependence as well as by the development of Asian export-oriented economies targeting North America and Europe markets.

However, Table 4, which is the contribution of North America and Asia to the development of intra-Pacific trade, suggests us a different fact. In the first half of 1980s, the interdependence between North America and Asia contributed to the rapid increase of the intra-Pacific trade, but their situation has been changing since 1986. Japan and Asian NIEs have been weakening the degree of dependence on the other side of the Pacific. In other words, Asian countries have been developing their own markets interdependent.

The same fact is verified through cargo traffic statistics. According to Table 4, which shows the recent trends of container cargo traffic (on a TEU basis) from Asia to North America, cargo flow which had been increasing for many years, registered the first year-to-year decrease in 1988. Shinoda [11] provides the following individual salient points:

(1) Japan-originating traffic, which had been increasing until 1986, decreased for two straight years, in 1987 and 1988.

(2) Taiwan-originating volume continued to increase until 1987, when it surpassed the Japan-originating volume and was greater than the cargo flow from any other Asian country. In 1988, however, even this Taiwan-originating volume fell off sharply, registering a greater year-to-

Table 4 Recent Trends of Contrainer Cargo Traffic From Asia to North America
(carried by contalnerships on a TEU basis), Classified by Geographical Origin

	1982	'83	'84	'85	'86	'87	'88
Japan							
Growth rate (%)		10.0	29.0	14.5	4.1	-6.8	-13.8
Share (%)	(37.7)	(35.5)	(36.7)	(37.2)	(33.6)	(29.4)	(27.8)
NIEs							
Growth rate (%)		26.2	24.3	12.4	21.4	10.2	-15.3
Share (%)	(46.9)	(50.7)	(50.5)	(50.2)	(52.9)	(54.6)	(50.9)
Taiwan							
Growth rate (%)		33.9	24.9	17.7	26.0	8.8	-20.9
Share (%)	(24.2)	(27.8)	(27.8)	(29.0)	(31.7)	(32.3)	(28.1)
ASEAN							
Growth rate (%)		5.9	11.7	12.8	11.6	17.8	12.3
Share (%)	(12.2)	(11.1)	(9.8)	(9.8)	(9.5)	(10.5)	(12.9)
Thailand							
Growth rate (%)		12.9	25.0	29.2	26.9	14.5	24.2
Share (%)	(2.2)	(2.1)	(2.1)	(2.4)	(2.6)	(2.8)	(3.9)
Growth rate of total		16.7	24.5	13.0	15.1	6.7	-9.0

Source : Shinoda's Article in *Shipping and Trade News*, October 5, 1989 (Special Issue)

year decrease rate than did Japan-originating volume.

(3) Though not indicated in the table, Hong Kong-originating cargo traffic also suffered a steep fall in 1988, resulting in a downturn in the combined cargo volume from all the Asian NIEs that year. This rate of decrease rate also was greater than that of the Japan-Originating volume.

(4) On the other hand, the ASEAN-originating cargo flow has been constantly growing, even in 1988. In that year, when cargo volumes from Japan and Asian NIEs markedly decreased, ASEAN-orienting cargo registered a two-digit growth rate, led by the particularly high growth of Thailand-originating traffic.

Shinoda [11] broke down cargo traffic to and from Asia into three routs : In predicting future trends, (A) from Asia to North America, (B) from North America to Asia and (C) between different points in Asia. In terms of the volume of cargo traffic in 1988, (A) was greater than (B) and (B) was greater than (C). Regarding the growth rate since 1984, however, (B) has been above (C), and (C) above (A). Thus the share of North America-bound cargo flows in the total is quickly shrinking. This phenomenon is mainly due to the appreciation of Japanese yen and Asian NIEs currencies vis-avis the U. S. dollar and to U. S. -Asia trade and investment frictions. "Daring to try to forecast the relative propositions of the three routs in 1993," Shinoda said, "is an exact reverse of that in 1988, i. e. (C) greater than (B) and (B) greater than (A), is very likely. Thus the cargo traffic on (C) will quickly expand and the growth of that on (A) will slow down."

According to a survey of Japan's import container-cargo traffic, the share of Asia-originating

cargo to the total sharply rose to 47.1% in 1989 from 35.9% in 1985, while that of the North America-originating decreased from 36.8% to 30.8% in the same time.

The countries and regions of Asia are strengthening their mutually complementary relationships in industrial production, while Japan in particular is absorbing Asian-made products. In this way, the formation of a new Asian trading system reflects the existence and deepening of interdependence of production and consumption in Asian economies.

4.2 Overseas Production and Two Types of International Logistics

Manufacturers may pursue overseas production, as mentioned above, in three ways on the basis of two different categories, ownership and non-ownership relations.

Industrial co-operation without ownership such as licensing, production sharing or co-operative production, production consignment or compensation trade, etc. permits foreign companies to produce Japanese manufacturers' products.

Japanese manufacturers can launch overseas production through joint venture agreements with local partners, who not only contribute a portion of equity, but also provide valuable knowledge of local customs, markets and business practices and, at times, technical skills.

Perfect ownership of foreign subsidiaries is a third method of obtaining overseas production. It permits maximum control of Japanese corporations' production, quality, and distribution activities in regional and/or global aspects of operations.

Today, Japanese large-scale corporations, especially those in the electronic and appliance industries operate transnational production, marketing and financing activities. These worldwide functional activities and investments are supervised and coordinated at the Japanese headquarters (including approval of major investments in capacity). In addition, international intra-company product movements are centrally controlled, on a day-by-day or even hourly basis, by a central group, variously termed "distribution, transport, or coordination". Consequently, systems for coordinated management and planning of logistics on a regional or global level are developed. Multinational corporations, in other words, pursue intra-company logistics from the viewpoints of global production and marketing.

Small and medium-scale Japanese businesses also have been establishing overseas production facilities in Asia for the purpose of exporting products to the third countries or Japan. These facilities especially, have taken the form of joint ventures and industrial cooperation without ownership. Therefore, these small and medium-scale Japanese businesses also need an efficient physical distribution system to manage the international flow of products from source to user. Physical distribution is concerned with the outward movement of products from the seller or

producer to customer or consumer as a portion of business logistics by distribution-related firms. Above all, these firms seek economical rationality on the door-to-door (from source to user) service, damage-proofness, continuity, consolidation and cost consciousness.

International logistics are classified, in to two categories: (1) intra-company logistics basically controlled by a multinational corporation and (2) business logistics managed by distribution-related corporations such as forwarders, warehouses and shippers.

The word logistics was originally a military term meaning the art of transport, supply, and quartering of troops. It has come to have a broader meaning in the industrial sense. According to the National Council of Physical Distribution Management (U. S. A.), the term, logistics, is defined as "the integration of two or more activities for the purpose of planning, implementing and controlling the efficient flow of raw materials, in-process inventories, and finished goods from point of origin to point of consumption." International logistics whether intra-company or business ones, is the art or method of managing the international flow of materials and products from source to user. This logistics system includes the total flow of materials, from the acquisition of raw materials to delivery of finished products to the ultimate users, and related counter flows of information that both control and record material movement.

Technological innovation of telecommunication and transportation has been creating opportunities for the further integration of Japanese multinational manufacturers and distribution-related corporations.

4. 3 The Increasing Asian Orientation of the Japanese Economy

Not only in North America and Europe, but also in the Asian region, there is a marked increase towards regional unification and management of production, physical distribution and capital. In Asia, this increase is central amongst the ASEAN countries.

Japanese corporations are establishing operational headquarters in Singapore and actively establishing international procurement centers and central distribution centers linking Japan, the Asian NIEs and ASEAN. In addition, land transportation, warehousing, marine transportation and other companies engaged in physical distribution and related activities are also building comprehensive physical distribution networks in Asia, centered on Singapore, which are designed to link with global networks encompassing Japan, Asia, Europe and North America. All of these help to form comprehensive international distribution system and are designed to make possible the centralized management of multipolar (multinational) production and production processes.

Behind this revolution in Asian distribution is the increasing tendency of the Japanese economy to transcend national borders and to orient itself increasingly towards Asia.

Table 5 Electronic Products by Country and by Product

	Consumer electronic and electrical machinery										Industrial electronic products										Electronic parts																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	TV sets	VTR	Radio stes	Headphone stereo	Radio sets with tape recorders	Other telecom	Stereophone	CD players	Hifi speaker system	Car stereo	Electronic range	Room fan	Refrigerators	Washing machines	Other household appliances	Total of Household Appliances	Line telecommunications equipment	Wireless telecommunications equipment	Automobil telephone	Pocket bell	Facsimiles	Other carrier telecommunications equipment	Broadcasting equipment	Electronic Computer	External memory equipment	Printer	Other electronic computer equipment	Medical electronic equipment	Electronic calculator	Copying machine	Electrical measuring instrument	Other industrial electronic equipment	Industrial electronic machin and equipment	Resister	Capacitor	Condenser	Acoustic parts	Small type of motor	Connector	Switch	Small parts for machine	Compound parts	Magnetic type	Semiconductor chip	IC	Cathode-ray tube for TV	Other parts for household electronic and electrical equipment	Other parts for industrial electronic and electrical equipment	Other electronic parts	Total																																																																																																																																																																																																																																																																																																																																																																																																																																																								
S. Korea	1	1	1	1	2	2	3	1	2	2	1	1	1	1	3	8	1	1	1	2	1	2	1	2	1	1	1	1	1	1	1	2	3	11	4	15	15	4	7	5	5	9	3	9	3	6	8	6	9	57	71																																																																																																																																																																																																																																																																																																																																																																																																																																																							
China	2	1	1	1	1	1	1	1	1	1	1	1	1	1	4	7	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	2	7	1	2	2	1	3	2	1	2	1	2	2	3	17	26																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Taiwan	6	3	5	1	1	3	4	8	1	2	2	3	3	2	9	19	5	1	1	1	1	1	1	1	1	1	1	1	1	2	10	13	14	16	6	6	7	5	12	8	9	4	2	12	3	13	76	102																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Thailand	7		2	1	1				1	1	1	6	7	3	11	16	2												2	5	10	1	4	1	1	1	1	1	1	1	1	1	1	4	2	4	19	39																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Singapore	5		3	2	4	3	6	4	5	1			1	10	18	2							1	1					3	7	3	7	7	3	1	2	1	2	5	2	4	1	14	5	6	42	61																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Malaysia	10	4	4	2	3	2	5	2	5			2	3	2	8	26	1						1						3	5	4	6	10	1	2	3	4	7	5	2	4	4	14	7	5	49	75																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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North America	18	5	4		4		4		4	6	4	2	1	21	45	2			6	3	3	1							3	2	24	48	3	8	6	5	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Source: *DENSHI* (eLECTRONICS), November 1989

In part, Japanese invest in the Asian NIEs and ASEAN in order to counter trade frictions and rises in currency values. Investment in Asia has been pushed up rapidly as a result of corporate strategies aimed at establishing international production facilities targeting the markets of Europe and North America and reverse imports to Japan.

The transfer of production facilities to other parts of Asia is making Japan's economic structure increasingly borderless. Since 1986 in particular, as investment in ASEAN has become increasingly brisk, Japan's traditional production and trading systems have been undergoing radical changes.(For an example of the electronics industry, see Table 5.)

The Japanese economy has long been described as being led by the processing trade or by exports. Related industries were concentrated together in major domestic industrial areas, and production processes were systematized through interdependent structures embracing domestically based industries. However, the appreciation of the yen since 1985 and parsistent trade friction have changed this system. Since the beginning of the 1980s, international production facilities targeting North American, European and Japanese markets have been established in the Asian NIEs and the nations of ASEAN, primarily encompassing divisions producing parts and materials. This system has grown increasingly multinational in character. The appreciation of the yen, the comparative advantage of the price of labor and other factors of production, and measures taken by recipient countries to encourage investment have led to the spread of facilities for manufacturing parts, materials and manufactured goods from Japan to the Asian NIEs and then from the Asian NIEs to the ASEAN countries. Thus, Japanese production systems have become increasingly Asia-oriented.

That is, the ability to spread of production and manufacturing processes throughout Asia also exists in the recipient countries as well. Amid the active efforts by ASEAN countries to attract export-oriented investment, Japanese companies in the Asian NIEs are today dispersing production facilities throughout Asia.

Moves to form networks among Japan, the Asian NIEs and ASEAN countries based on the international division of labor for mutual complementation in respect to parts and materials production is consistant. However, at this time, moves to establish facilities in ASEAN countries for product assembly and manufacture would be inconsistent with the optimal structure and continuation of manufacturing processes. This is, if there is to be a multinational spread of industries based on technological superiority and comparative advantage in the prices of factors of production as well as in the production of parts and materials and in processing, then the more disjointed and unravelled these production and processing functions become, the more the multi-polarization of these production processes will accelerate. Production processes spread haphazardly throughout Asia would have to be, as a matter of course, once again coordinated into

a cohesive system.

Comprehensive physical distribution systems managed by computers have the power to coordinate widely spread production systems. The formation of integrated sea and land (air and land) transportation and cargo-tracing systems within the framework of intra-Asian trade is actually transforming transportation processes into inventory-management systems. Indeed, the goal of the Japanese business community, is precisely for production systems to be managed in such an integrated manner. Within this aim lies the foundation of the revolutionary transformation of Asian distribution.

4.4 Penetration of the Borderless Phenomenon

The revolutionary transformation of the Asian distribution system is a phenomenon resulting from the "Asianization" of the Japanese economy. The assembly industries of Japan, such as for electrical products and automobiles, were developed in the Tokyo-Yokohama, Nagoya-Tokyo and Kobe-Osaka industrial belts. A network of related industries which had suppliers for parts and materials was created centered around the assembly manufacturers. It was a vertically integrated industrial structure which acted as a unit from source to finish. The major channels in the regional industrial network — Yokohama, Nagoya and Kobe — were also the major trade ports for importing raw materials and exporting products.

Japanese firms had been designing and manufacturing parts in Japan and then exporting them; however, recently production abroad, including especially in-parts, has increased rapidly. Along with the move of production facilities abroad, the vertically integrated industrial structure as a unit has come apart.

An interesting phenomenon is appearing in this borderless economy. In North America and Europe the trend toward local development and production for the local consumer is intensifying. However, in Asia the situation is different. The production structure is not being created for strictly local consumption area rather production sites are taking a regional form which includes Asia NIEs and ASEAN countries and are being directed toward Europe and the U. S. .

Indeed, the shift in investments from Asia NIEs to ASEAN countries is mostly a result of the intent to target Japanese corporation's exports for North America, Europe and Japan. Parts are procured throughout Asia including Japan, and the assembly of products is carried out among various countries. In South-Eastern Asia, a network for a standard division of labor is proceeding for not only finished goods, but also for parts production as well.

It is remarkable how production activities in the Asian region, although its international division of labor system which had evolved from targeting markets abroad such as Europe and

the U. S., are truly becoming boarderless. The reasons for this are (1) geographically distant marketplaces and (2) a borderless production process which by its very structure must procure parts from various areas in Asia.

The further the production process and the marketing routes expand geographically, the more Japanese firms have to deal with production and marketing dilemmas. Previously, business activities such as orders, production, inventory and supply were centralized in one location and it was possible to keep rigorous and timely production sequency — as with Toyota's "Kanban (just-in-time)" method. However, for example, with parts production and assembly factories spread across international borders, the space and timing of shipping parts and products begins to impact the business operations. Due to the unexpected, increasing the amount of freight in the distribution process (distribution inventory) or the amount of parts and product in warehouses becomes almost unavailable. Also, fluctuations in exchange rates have a direct and unpredictable impact on the production and sales activities of the corporations.

Corporate strategy has also changed with the new wave of borderless business activity (multinationalization). Logistics have necessarily become strategic; for example, global parts procurement and product collection and delivery, international procurement of facilities, international use of personnel for R & D and maintenance, internationalization of capital procurement and hedging of exchange risks are all now being utilized as sources of competitive advantage. It is only natural for corporations that have established production facilities throughout the Asian region to place OHQ's, or integration centers, in Singapore or Hong Kong and to be involved in International Procurement Office (IPO) or Central Distribution Center (CDC), capital procurement, or exchange risk management functions.

4.5 Logistics for Action: The Case of Sony International Singapore

4.5.1 Regional OHQ and CDC

With Asia becoming the international production focal point targeted at the entire world market, Singapore has become an active focal point of logistics. A symbol of this is operational headquarter (OHQ: Regional General Office).

The OHQ is the status given by the Singapore Economic Development Bureau (EDB) to corporations operating in that country and which manage affiliated companies in countries in the surrounding region. This status grants these firms, preferential tax procedures for a period of 10 years. Moreover, management can conduct planning, procurement, technical assistance, marketing and sales promotion, training/personnel, finance/accounting and capitalization, investment sdvice as well as various types of service businesses and international aid activities all within

JAPAN'S FDI-PROMOTING SYSTEMS AND INTRA-ASIA NETWORKS

centralized corporate setting. Since its start in February of 1988 and through June of 1989, twenty-two companies have attained OHQ status. Japanese companies such as Sony, Fujikura Densen, Omron, Matsushita and Hitachi are included in the list.

Sony has factories for audio, T. V. and video products and parts throughout Asia, two each in Taiwan, Korea and Thailand, three in Malaysia, and one in Singapore. In 1990, Sony opened a new semiconductor factory in Thailand and two factories in Malaysia—, one for floppy disks and the other for videos.

The OHQ for Matsushita Electric Industrial Co., Asia Matsushita Electronics Singapore (AMS), manages twenty-two group factories and trading companies in the South-East Asian region. The OHQ for Fujikura Densen Ltd., Fujikura International Management Singapore (FIMS), controls fifteen affiliated companies in the NIEs, including South Korea and the ASEAN region.

Whether or not they have received the Singapore Development Bureau OHQ status, the majority of Japanese corporations are interested in making Singapore the overall base for distribution and money management functions such as settlement of accounts for the Asian

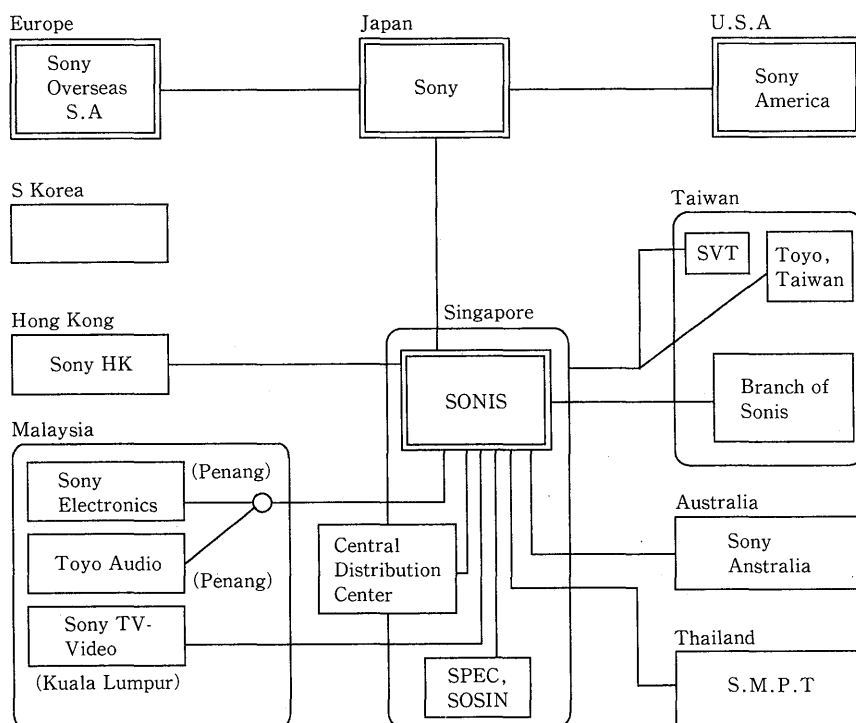


Fig. 7 Sony Integrated Information Network

Source : *Nikkei Computer*, May 22, 1989 (The author modified the figure based on the interview with SONIS)

operating.

This desire is well represented by the example of Sony International of Singapore (SONIS), Sony's general headquarters, factories and affiliated companies for the South-East Asian region are connected by the well integrated communications network shown in Figure 7. However, this communications network cannot be considered without taking into account the specialized distribution warehouses built by Mitsui-Soko Co. In order to develop an integrated international distribution business, a specialized work place is needed. For example, containerized freight must be packaged according to the destination of the end user and placed in a single container. It is also important to divide the contents of the opened containers according to the designated factory. This work is all done at the distribution warehouse. Numerous parts from different countries are gathered by centralized factories and assembled as a unit. In some circumstances, factories receive the parts for each assembled unit as a complete set.

The distribution warehouse for Sony in Singapore is the central distribution center (CDC) for procured parts used by Sony factories in the South-East Asian region from all over the world. It also collects the products manufactured within its control area for delivery throughout the world. The CDC functions similarly to the "heart" of the distribution system by connecting the "arterial system" which provides parts to the various Asian factories with the "veins" which collect the manufactured products or semi-finished goods.

SONIS is the International Procurement Office which directs and manages the CDC through its Asia information communications network, an information "nervous" system. It supervises and adjusts the flow of parts necessary to produce in this region as well as the flow of manufactured products "veins".

The new activity of Sony in South-East Asia is part of its global logistics which it extends throughout the world to Japan, North America, Europe and South-East Asia. Starting this year, Sony will introduce a general information communications system which will connect the four corners of the earth. Through this system, the headquarters will be connected on-line with its thirty-nine domestic companies, nine U. S. companies, eighteen European companies, five South-East Asian companies, as well as with their important cooperating firms. Production and sales planning, previously drawn up in monthly units, will change to weekly planning. After two years, this plan will reduce by one-half required inventory and will cut the time from receipt of orders to delivery by two-thirds.

The domestic and overseas subsidiaries (sale companies) will place orders for videos, T. V.'s and radio/cassette players based on demand estimated by the people in charge of each division at the Tokyo headquarters. Each of the division will draw up weekly plans for production and for the coming weeks based on these orders. After the orders are received, the details of the plans

will be communicated to the production factories, co-operating firms and parts manufacturers scattered throughout the world. Goods are then to be delivered a week later.

For example, if radio/cassette players are to be produced in a Malaysian factory (a local corporation), SONIS will promptly receive the parts sent from parts manufacturers and affiliated companies in various areas through the IPO, and then these parts will be sent immediately to the factory. When the Malaysian factory has completed assembly of the semi-manufactured products or products according to the plan, it sends them directly to SONIS. The radio/cassette players are then delivered through SONIS to subsidiary firms throughout the world.

SONIS, therefore, functions as a strategic unit for Sony's global logistics. The factories of ASEAN countries and Asia NIES are the focal points of production targeting the world export market ; however, but the parts and materials must be procured from Asia (including Japan) and other areas throughout the world. The various types of products that are made in the Asian region must be distributed throughout the world at the direction of headquarters.

The basic concepts of Japanese distribution management involve the unlimited challenge of Just-in-Time and POS (point of sale information control-system) as well as the Zero-Inventory System. These systems internationally-based production and sales operations as well. These concepts are being actualized by the IPO functions of SONIS. A subsidiary of SONIS, Sony Logistics Singapore actually manages the CDC for the Asian region as well as the global information communications network which connects "the four corners of the world". Like Sony, other major electronics manufactures such as Matsushita Electric are considering global logistics which integrate production, sales, and distribution. They are also planning global information communication networks which will connect Japan, North America, Europe and South-East Asia.

4.5.2 Toward "Account Settlements Without Currency Exchanges"

A flow of money always accompanies the flow of goods. How are account settlements to be handled when the exchange rate fluctuates and money flows through the countries which control the exchange ?

The attempt behind exchange rates and account settlements at SONIS is to create a system of "account settlements without currency exchange" at the factories in the Asian region. The ASEAN region excluding Singapore, is subject to exchange rate control. Exchange losses easily occur because it is not possible to take in foreign capital to hedge one's risks with the exchange rate.

SONIS procures parts and materials needed in factories scattered throughout the Asian region by receiving payment for the sale of finished goods first and then settling accounts with the local currency of the area, for example, the baht of Thailand or the ringgit of Malaysia. However, it

is possible to conduct “account settlements without exchange” with SONIS as its focal point by using local currencies when each of the factories purchase parts and materials from abroad and also sell finished goods abroad.

Although it is a matter of course, SONIS itself has an exchange account for local currencies. Actually, a large part of this exchange can be married (canceling out the foreign currency debits with the foreign currency payments). The portion that cannot be canceled out is hedged for risks by using the Singapore futures exchange or the international money markets. The SONIS “accounts settlement without exchange” which works with factories in the Asia region using local currencies, is connected to CDC in Singapore. SONIS controls exchange risks in order to maintain the Asian procurement office (IPO) functions which maintain its “Just-in-Time” and “POS” strategies developed on an international scale.

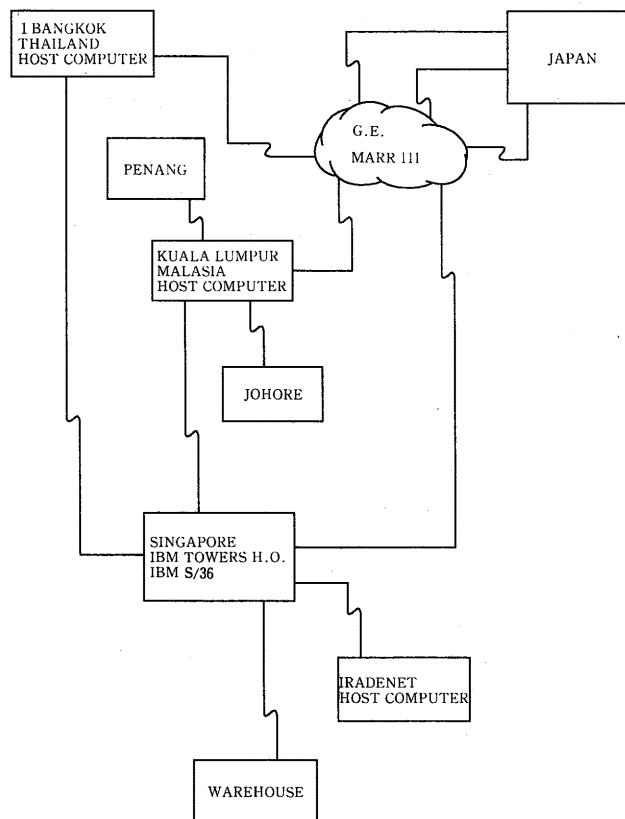


Fig. 8 The Asian Network of Mitsui-Soko Co.
Source: Mitsui-Soko Co.

4.6 Business Logistics in ASEAN : The Case of Mitsui-Soko Company.

Leading corporations which are expanding into the Asian region, normally process information and manage accounts settlements at their Japan headquarters—even if production is done locally. The local sites for Mitsui-Soko manages distribution of items by integrating tasks from the level of customer orders and production through shipment and delivery (Figure 8). In 1989, Mitsui Singapore International (MSI) constructed a second distribution center (the first being the distribution warehouse built for exclusive use by Sony), for manufacturers who were extending their businesses into South-East Asia. This warehouse will connect local corporations in Bangkok (Thailand) and Kuala Lumpur (Malaysia) by computer. This warehouse will be connected by computer with after bonded warehouses in Johor Baharu and Penang, Malaysia due to be completed in early 1990. This warehouse system will then be the foundation of a bonded truck and container shipping service in both directions between Singapore and Malaysia.

These warehouses will not only function as leased space but also as distribution (processing) warehouses which also will sort and locate goods as well as make up “kit assemblies.”

Mitsui-Soko Co. is an integrated distribution corporation which manages entire freight shipping processes. Let us suppose that a Japanese corporation (shipper) in Penang (Malaysia) wishes to ship parts or product via Singapore to a third location, for example, to Dallas (U. S. A.).

In this case, Mitsui-Soko Co. will truck the cargo which has been collected in Penang to a bonded warehouse along the border of Johor Baharu. (In Johor Baharu it is possible to pass through custom within the bonded warehouse, thereby reducing transit time to Singapore.) In Singapore, the goods that arrive at the distribution (bonded) warehouses are loaded, as a non-vessel common carrier (NVOCC), into container vessels destined for Los Angeles. Space is purchased at a discount on regular container vessels and, in the same way as ship owners do, they ship and deliver the freight. In Los Angeles, after custom procedures are completed, the container freight is transferred to cross continental railways. Finally, it is delivered by truck to the customer who placed the order.

Mitsui-Soko Co. takes responsibility for the complete shipping of the goods and, at the same time, will trace the goods and provide information. This is done to meet the needs of client for “Just-in-Time” and “inventory-less” distribution. If the flow of goods is delivered punctually, it is possible for the client to develop an inventory control system which brings the cost of inventory for parts and products close to zero. Therefore, the computerized international information communication system which can trace the goods that are in transit is indispensable to the total distribution corporation. Today, a distribution corporation which manages the total (door-to-door) distribution could also be considered as “an information carrier.”

Shippers like sea freight companies, air freight companies and truckers as well as forwarders and warehousemen are aggressively entering the Asian region because of the tremendous growth opportunities for the corporation's business activities in production and sales, whether it be extensive intra-company trade or trade between the above-mentioned three countries.

"Just-in-Time" and "POS" are key words for inventory-less production. If zero inventory is the objective, then it is best to have a continuum between the borderless production process and the marketplace by having them in the same space.

For Sony and other global firms, the global information communication systems which link the "four corners of the earth" are designed to create a stream of parts and products between the various parts of this world rather than a "inventory reservoir." With the global distribution network, the flow of goods is managed at all times; recently attempts have been made to establish the inventory-less production system on an international scale by speeding up the process (however, in doing so, there is a trade off in the cost).

The global corporations intergrate production, marketing and distribution by means of the international information and communications network yet the actual distribution business is more often conducted by specialists. It is not easy for small and mid-sized companies to create an information network at their own expense.

Distribution-business firms are, as mentioned above, creating total distribution systems — that is, an integrated distribution network within the Asian region inter-connected by computers and directly connected to a global network of sites in Japan, North America and Europe. The total distribution project, logisticly aimed at the foreign market, is attempting to create a distribution system within Asia and on an international scale. This project is motivated by none other than the imperative to solve the basic contradiction of "time and space" brought about by the borderless economy.

When an economy becomes borderless, the production or production process of a company within this company expands multinationally. On the other hand, inventory-less systems such as "Just-in-Time" and POS demand the continuity of time in the production process and unification of the time between production and marketing. With the Asian and global integrated distribution system constructed by global corporations and the distribution industry, MNCs are creating "timeless space."

The creation of world and/or region-wide "timeless space" is becoming an important segment of MNCs' strategies to establish and govern world- and/or region-wide production processes. In other words, in order to privately integrate borderless transportation of industries as intra-company production or production processes, multinational corporations drive themselves to bring world and/or region-wide "timeless space" in existence.

5. *Conclusive Remark : Region-Wide Production Networks vs. National Economy*

In the rapid process of industrialization of Asian developing economies, Japan has been strongly making commitment in terms of both trade and investment to Asian NIEs, ASEAN countries and China.

We are apt to define a firm's borderless or multinational production network on the basis of "ownership", especially majority-ownership. Without question, "ownership" is one of the important criteria in estimating the scope and power of an international intra-company production organization. General preference of "ownership" as a measure of the strength of production networks comes partly from readiness of perception, i. e. "visibility."

There are, however, tight but invisible (without ownership) production ties between Japanese firms and Asian local firms, especially if the former dominates the supply of materials, parts or semi-products, and/or supply of machinery and equipment. Capital goods shipped from advanced economies to developing ones usually embody absolutely or comparatively advantageous technologies. As long as these goods exclusively possess technological advantages, Japanese firms can build up international "intra-company" production networks without ownership in relation to Asian local firms.

To be sure, the sole export of capital goods to Asian local firms by Japanese firms does without ownership not create as strong of a tie between Japanese firm and Asian local ones than would occur under FDI with majority-ownership. If the transfer of technology or transplantation of production processes from Japan to Asian developing countries is a real possibility, Japanese firms generally aggressively attempt to acquire majority-ownership of their overseas (local) production facilities. In other words, FDI with majority-ownership may be a private company's crucial strategy in keeping local firms from competing in their home ground.

This is the first point in analyzing the economic interdependence between Japan and Asian developing countries.

Secondly, there appears to be a strict contradiction between (1) Japan's FDI-promoting systems tied with official or quasi-official aid and (2) Japanese MNCs' world- or region-wide integrated production and physical distribution systems. FDI-promoting systems related to aid drive Japan to transplant her existing industries to Asian countries, and to support the establishment of these countries economic and social infrastructures. As a consequence of the flood of Japanese (and Asian NIEs') FDI, Asia is, in reality, forming several nation wide and/or sub-regional industrial areas. In the circumstances of multi-polarization of the Asian industrial structure each developing country is naturally encouraged to build up their own national economy and to improve their bargaining power in relation to that of the developed countries.

In contrast, Japanese MNCs' borderless integrated production systems basically tend to reject a host country's nationalism or its government's independent national economic policies. These contradictory political realities could conceivably prevent MNCs from integrating borderless production or distribution networks.

The establishment of a national economy really traverses the formation of any private company's borderless network. However, this contradiction has been recently relaxed and harmonized by the outward economic policies of Asian developing countries, especially in their aggressive acceptance of export-oriented investment.

Furthermore, both Japan's mature economy and other Asian export-oriented economies drive to make "nationalism" into co-existence with "regionalism" in Asia. The more mature and sophisticated the Japanese economy becomes, the more other Asian developing countries will establish bases for industrialization. However, this is yet another topic suitable for further research.

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Appendix International private Industrial Cooperation of Japan
(January-December 1989 based on JETRO survey)
A. Joint Development and Technology-Transfer

Country & Region	Manufacture																	Finance	Construction & Reale Estate	Telecommunication & Information	Others	Total	
	High-technology								Electronics	Machinery	Auto mobiles	Iron and Nonfer- rus Metals	Chemicals	Textiles	Food	Others	Total						
	Semicon- ductors and IC	Computer	Bio & Chemicals	Telecom- munication Equipment	New Materials	Robots	Others	Sub-total															
U. S. A.	48	80	16	7	10	1	59	221	18	86	28	12	48	12	29	25	479	34	46	61	176	796	
Canada				1			1	2	2	6			2	2	1	4	1	20	3	4	1	15	43
Latin America										2	7	2			1		12		1		6	19	
Europe	6	20	4	5	7		23	65	12	91	33	8	42	43	16	46	356	21	15	19	125	536	
EC	6	20	4	5	7		23	65	12	89	33	8	40	42	16	45	350	21	14	19	124	528	
Oceania		2	1				1	4		2	3	1	4			2	16	1	8	1	8	34	
Australia		2					1	3		2	3	1	3			2	14	1	6	1	7	29	
New Zealand			1					1					1				2		1			3	
Asia	5	22	1	5	3	4	13	53	56	92	33	18	25	32	25	35	369	22	20	12	77	500	
China		4	1	1	1		2	9	17	29	9	7	10	11	7	11	110	9	5	4	15	143	
Taiwan	2	5			1			8	5	9	3	1	1	3	4	7	41	1	1		10	53	
Hong Kong										2		1		3		3	9	5	2	3	5	24	
S. Korea	2	7				4	9	22	29	35	9	3	9	3	3	6	119	7		1	29	156	
ASEAN	1	5		2				8	3	6	8	4	2	7	9	7	54		9	4	17	84	
Indonesia		1		1				2	2	2	3	1		3		2	15		4	1	8	28	
Thailand		1		1				2		2	3	1	2	3	4	5	22		1		5	28	
Philippines	2							2				2		1	1		6		1		1	8	
Singapore	1	1						2		2					2		6		1	3	3	13	
Malaysia									1		2				2		5		2			7	
Others		1		2	1		2	6	2	11	4	2	3	5	7	1	36		3		1	40	
Cental East & Africa		1						1		1	3	1	2		1	1	10		3		1	14	
U.S.S.R & East Earoep		1	1					2		3	3				1		9				7	16	
Total	59	126	23	18	20	5	97	348	88	283	110	44	123	88	77	110	1,271	81	97	94	415	1,958	

B. Joint Ventures

Country & Region	Manufacture																	Finance	Construction & Real Estate	Telecommunication of Information	Others	Total
	High-technology								Electronics	Machinery	Auto Mobiles	Iron and Nonferrous Metals	Chemicals	Textiles	Food	Others	Total					
	Semiconductors and IC	Computer	Bio & Chemicals	Telecommunication Equipment	New Materials	Robots	Others	Sub-total														
U. S. A.	10	16	6	3	15		11	61	13	20	65	16	30	4	11	18	238	15	33	14	88	388
Canada	2							2		1	6	2			1	8	20	1	1	1	4	27
Latin America		1			1			2	2	2				2	1	4	13	1				14
Europe	3	4	2	1	4		14	28	13	14	16	5	22	5	6	8	117	28	8	6	59	218
EC	3	4	2	1	4		14	28	13	14	16	5	22	5	6	8	117	28	8	6	58	217
Oceania		1		1	1		1	4		1	5	3	1	2	4	6	27	2	6		13	48
Australia				1	1		1	3		1	5	3	1	2	4	4	23		6		12	41
New Zealand		1						1			1					1	3	1			1	5
Asia	7	18	2	2	7		12	48	53	85	65	28	55	30	32	89	485	20	24		117	646
China	1	8	1	1			7	18	11	12	3	4	8	10	13	23	102	11	8		33	154
Taiwan	1	1	1		4			7	9	15	14	5	6		4	11	71		4		33	108
Hong Kong		1						1	4	1			2	1	1	3	13	4	3		10	30
S. Korea	2	1			1		5	9	10	24	14	4	13	3	4	8	89	2			6	97
ASEAN	3	7		1	2			13	15	31	31	15	26	16	10	41	198	3	9		35	245
Indonesia		1						1	5	9	2	2	4	1	5	30		4		6	40	
Thailand		3		1				4	12	19	17	9	14	9	8	27	119		5		18	142
Philippines	1	3						4		1	1	1		1	1	1	1	2			1	13
Singapore	1							1	1	3		2	4			1	12				5	17
Malaysia	1				2			3	1	3	4	1	6	2		7	27	1			5	33
Others									4	2	3					3	12					12
Ceutral East & Africa										1	1					1	3	3				6
U.S.S.R & East Eorope											1				3	3	7					7
Total	22	40	10	7	28		38	145	81	124	160	54	108	43	58	137	910	70	72	21	281	1,354

C. Direct Investment*

Country & Region	Manufacture																Finance	Construction & Real Estate	Telecommunication of Information	Others	Total	
	High-technology								Electronics	Machinery	Auto Mobile	Iron and Nonferrous Metals	Chemicals	Textiles	Food	Others						Total
	Semiconductors and IC	Computer	Bio & Chemicals	Telecommunication Equipment	New Materials	Robots	Others	Sub-total														
U.S. A.	44	56	4	13	10	1	41	169	49	108	138	25	61	5	32	56	642	30	109	28	366	1,226
Canada	1							1		2	5				1	3	12	4	5		11	32
Latin America		1		2			3	6	10	10	8		2	3	2	6	47	4	1		15	67
Europe	10	11	3	6	6		16	52	45	47	28	2	25	6	7	9	221	88	24	4	233	570
EC	10	11	3	6	6		16	52	45	47	28	2	25	6	7	9	221	88	24	4	232	569
Oceania		1		1			1	3		1	3	2			4	4	17	2	30		21	76
Australia		1		1			1	3		1	2	2			4	4	16	2	23		19	60
New Zealand											1						1		4		2	7
Asia	29	17		11	3	1	21	82	112	82	31	10	39	20	14	57	447	34	17	5	155	658
China	1	2		1			1	5	6	11	3			2	1	6	34		1		15	50
Taiwan	4	3		1	1		3	12	14	13	4	2	5	1	1	6	58		1	1	11	71
Hong Kong	1			1			2	4	5	6	1	1	2	9	3	6	37	21	5	2	34	99
S. Korea	4	1					3	8	4	2				1	1	4	20	4	1		14	39
ASEAN	19	11		8	2	1	12	53	83	50	21	7	32	6	8	35	295	9	8	2	80	394
Indonesia									1	4			1	2		2	10	1	1	1	7	20
Thailand	5	6		2	1		4	18	29	24	13	4	12	1	4	16	121	2	1		25	149
Philippines		2		3				5	1				4				10				4	14
Singapore	7	2		2	1	1	5	18	23	15	4	1	13		4	9	87	5	4	1	37	134
Malaysia	7	1		1			3	12	29	7	4	2	2	3		8	57	1	2		7	77
Others											2			1			3		1		1	5
Cental East & Africa														1			1	3			8	12
U.S.S.R & East Eorope															1		1					1
Total	84	86	7	13	19	2	87	313	216	250	213	39	127	35	61	135	1,389	215	186	37	809	2,636

*Majority-ownership

Source: JETRO