"Keiretsu" in Asia

by

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Abstract

After the appreciation of the yen since 1985, the strategy of Japanese foreign investment changed. While, in the earlier period, foreign investment had largely functioned as a means to capture markets for goods made mainly with parts and components manufactured in Japan, after 1985 foreign investment functioned as a means to structure production in the face of the increased international competition. Japanese firms needed to relocate production to low-cost sites in order to compete in international markets against new low-cost producers, particularly the Asian NICs. Whereas the earlier strategy had been designed to increase production in Japan, the new strategy could entail an actual transfer of production out of Japan as firms sought to preserve their comparative advantages.

This paper first describes the foreign direct investment by Japanese electronics industry to other Asian countries. After reviewing the history of Japanese direct investment in the region, it discusses the theory of foreign direct investment including western, Japanese, and other Asian countries' approaches. Then it outlines the globalization of three Japanese electronics giants - Toshiba, Hitachi, and Matsushita.

In the next part, it discusses the significance of "keiretsu" (enterprise groups) in Japanese electronics industry with theoretical analysis. It also describes the group structure of Hitachi and Matsushita.

Finally, it examines the transfer of keiretsu. While the environmental changes require restructuring of keiretsu groups, significance of such group structure is likely to continue. Thus, both group and individual firm level of analysis is necessary to understand the Japanese patterns of foreign direct investment.

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I. Introduction

After the appreciation of the yen since 1985, the strategy of Japanese foreign investment changed. Whereas, in the earlier period, foreign investment had largely functioned as a means to capture markets for goods made mainly with parts and components manufactured in Japan, after 1985 foreign investment functioned as a means to structure production in the face of the increased international competition. Japanese firms needed to relocate production to low-cost sites in order to compete in international markets against new low-cost producers, particularly the Asian NICs. Whereas the earlier strategy had been designed to increase production in Japan, the new strategy could entail an actual transfer of production out of Japan as firms sought to preserve their comparative advantages.

In the next chapter, this paper describes the foreign direct investment by Japanese electronics industry to other Asian countries. After reviewing the history of Japanese direct investment in the region, it discusses the theory of foreign direct investment including western, Japanese, and other Asian countries' approaches. Then it outlines the globalization of three Japanese electronics giants - Toshiba, Hitachi, and Matsushita.

In the third chapter, it discusses the significance of "keiretsu" (enterprise groups) in Japanese electronics industry with theoretical analysis. While the existence of keiretsu is a common assumption in understanding Japanese industries, the word "keiretsu" is used in various ways. Thus, this chapter first reviews the representative arguments about keiretsu. Then it outlines the typical keiretsu groups - Hitachi group and Matsushita group.

Finally, it examines the transfer of keiretsu. Teramoto (1992) found indications of the long-term structural transformation of keiretsu as a result of the
environmental changes. The transformation, however, is not an effort to remove
group structures from Japanese economy. Therefore, the significance of keiretsu
groups in Japanese economy is likely to continue. Against this backdrop, both
group and individual firm level of analysis is necessary to understand the Japanese
patterns of foreign direct investment.
II. Globalization of Japanese Electronics Industry

1 Globalization of Japanese Electronics Firms

Japanese electronics companies first invested in other Asian countries in the 1950s, but the first real rush of Japanese electronics investment southward did not take place until the mid-1970s, when rising Japanese wages and the oil shock of 1974 hit the economy. Since then, Japanese electronics companies have invested in successive waves, the latest coming in the past few years following the yen explosion of 1985. At the end of 1988, Japanese companies operated 413 factories in the crescent-shaped belt from India to South Korea and employed more than 270,000 Asian employees. The numbers are still rising quickly.1

Products with a relatively high labor cost content - washing machines, air-conditioners, and small audio equipment - were the first to be made offshore. The second wave of Japanese investment, which began in the late 1970s, was aimed at slipping under the rising wall of protectionism in the United States and, to a larger extent, in Europe. As quantitative controls (quotas and voluntary restraint agreements) on Japanese products were progressively applied by Europe and the United States, Japanese companies set up new plants in places such as Taiwan, Singapore, and Malaysia. Although most of these early Japanese factories were

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1“Between June 1990 and June 1991 Japanese electronics firms opened 71 new firms and 31 new research and development centers abroad, according to figures published on October 30 in Tokyo by the Electronics Industry Association of Japan (EIAJ). North America, Europe but especially Asia were the targets of the Japanese electronics industry, reports the EIAJ which, with 467 firms, groups together virtually all Japanese electronics firms. By the end of June, they were operating abroad 840 production plants in 41 countries. Of those 840 relocated Japanese electronics hardware plants, 492 (58.6%) are in Asia, 170 (20.2%) in North America and 136 (16.2%) in Europe. They employ more than a half million people, i.e. 516,000, that is 68,000 or 15% more than in June 1990, including 5,000 Japanese expatriates,” Tech Europe, December 10, 1991.
really just assembly shops, where high-value components from Japan were put together, Europe and the United States initially did not object\(^2\). Thus Japanese companies kept increasing market shares in their key markets and precipitated the demise of all but a handful of the strongest American and European consumer appliance companies.

To this day, the appliance industries in Asia exist mostly as offshore export bases for the Japanese thrust into Europe and the United States. For the majority of Japanese plants in Asia, exports to the two largest world consumer goods markets account for 80-90 percent of sales. Without a doubt, the Japanese electronics industry's investment push has been the largest single contributor to the rapid industrialization of Asia. Importantly, booming electronics exports from Asia to Europe and the United States have given the developing economies massive injections of foreign exchange earnings that have helped repay foreign debt and given local governments extra cash for the development of other industries.

Between 1975 and 1988, annual exports of the four NIEs - South Korea, Taiwan, Hong Kong and Singapore - surged from less than US$25 billion to more than US$250 billion. The biggest cause of that growth - with the exception of South Korea - was Japanese investment in offshore electronics manufacturing. Although Japanese "transplant exports" to America and Europe will continue to grow quickly, there are big changes in the way that Japanese companies operate their Asian activities. First, local content of made-in-Asia Japanese electrical goods is set to grow rapidly. This will require large sums of new investment capital, which will keep Asian economic growth ahead. Second, increasingly larger shares of Japanese factory output in Asia will go towards meeting rising local demand.

Pressure for rising local content is coming from several areas. Europe, in particular, is getting tougher on imports from "screwdriver" plants that assemble Japanese parts offshore. And local Asian governments, most of which impose very stiff controls on electronics imports, are stepping up pressures for the use of more local parts. Also the high yen has made Japanese components expensive. By the mid-90s, many Japanese plant in Asia will be taking more than 80 percent of their parts from local suppliers.

The bonus for Japan's home electronics giants in Asia is the small but rapidly developing market for consumer goods in these countries. The Japan Electrical Manufacturers Association, which estimates that the Asian appliance market outside Japan is growing at about 19 percent a year, reported that appliance sales in 10 Asian countries leapt from US$3.3 billion in 1985 to US$4.7 billion in 1987.

**Figure 1: Change of Production in Asia**

![Diagram showing the shift from Japan to NIEs and ASEAN in electronics production](image)

**Source:** Nikko Research Institute
As a result of this rapid market growth, the Japanese electronics firms are aggressively building trade between their subsidiaries in the region. They are also making further investments to improve the logistics of this intra-regional trade, not only in terms of manufacturing but in distribution and other areas as well. For instance, in Malaysia manufacturing has advanced from simple small color TVs to VCRs, laser disk players and more sophisticated air conditioners. Electronics firms are also setting up design centers and regional headquarters to control distribution and improve marketing. The obvious strategy, at least among the large multinational companies (MNCs), is to establish strong business links throughout the region.

However, while known for their tightly-knit business groupings inside Japan, away from home Japanese firms are being more flexible in forming relationships. Concerned about the potential backlash should Japan appear to be dominating other Asian countries economically, Japanese firms are choosing two types of strategies.

First, some Japanese firms are now working to establish links with European and U.S. MNCs in the region. For instance, Victor Co. of Japan has tied up with Phillips in Malaysia to produce video recorders while Mitsubishi Electric Corp. is using the facilities of AT&T in Thailand to manufacture ICs.

Second, more and more Japanese MNCs in Singapore are showing interest in joining the Local Industry Upgrading Program (LIUP) to assist their local suppliers - small and midsize enterprises - to upgrade and improve the quality of their products. Matsushita joined the program in 1987 and it has provided help to 14 local vendors. Andrew Tan, LIUP manager, says the rejection rate at one of the local

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3*Business Asia, August 10, 1992.*

4"According to a survey by the Osaka Chamber of Commerce and Industry, an increasing number of Japanese affiliates in the region are planning to procure inputs from US and Europe." *Business Times, August 27, 1992.*
suppliers fell by 50 percent while another has reached a "non-checking status" after obtaining a zero-rejection rate\(^5\).

The availability of parts and components in the region has made it much easier for investors to buy products locally. According to the latest survey by Japan's Ministry of International Trade and Industry (MITI) on Japanese Business Activities Abroad (January 1991), Japanese companies overseas buy 50 percent of their products from local suppliers, 40 percent from Japan, and 10 percent from third markets. Japanese corporations in Asia buy the same percentage of their products from local suppliers (50 percent), but they purchase 15 percent from third markets. Regarding sales, the same survey indicates that Japanese-affiliated corporations in Asia have been selling over 60 percent of their products to local markets and exporting the remaining 40 percent (about 16 percent to Japan, 10 percent to other Asian countries, and 6 percent to North America during 1990)\(^6\).

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2 Theory of Foreign Direct Investment

The post war period of Japanese investment abroad began in the mid-1950s and rapidly grew in volume through the 1960s, especially within the Asian region. By the mid-1970s it had become large enough to become a political issue in several Asian countries. By the end of the decade, the amount of investment from Japan to Asia exceeded that from the United States. Against this background, Japanese direct investment became a topic for academic study, both in the home and host countries.

In the 1960s and 1970s, analysis of overseas investment by Western economists had focused on the multinational firm, the major agent of overseas investment from the United States and other developed countries. On the other hand, the initial Japanese studies of Japanese overseas investment showed a different approach. They explicitly rejected the micro-economic study of the firm in favor of a framework based on comparative advantage.

This section reviews three approaches to overseas investment. First, it briefly summarizes the major theories of Western economists concerned with the multinational firm. Second, it reviews the Japanese studies mainly focusing on the work of Kojima (1978) as well as criticisms of this approach by other Japanese and non-Japanese economists. Third, it indicates the main trends of analysis in studies by economists from the host countries within Asia.

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7The information is from Institute of Southeast Asian Studies.
2 - 1 Western Approaches to Foreign Investment

*International Movement of Capital*

Traditional trade theory treated foreign direct investment as a form of international movement of capital (Ohlin 1933). Differences in the relative environment of capital and labor among countries caused differences in the rate of return to capital as represented in the level of interest rates. This led to flows of capital from capital-rich to capital-poor countries. This view of foreign direct investment as capital movement proved to be inadequate in explaining foreign investment by developed countries. Empirically it was found that the majority of foreign direct investment was not directed towards countries with poor financial capital, but rather towards developed countries. Besides, a large percentage of the capital expenditure of foreign subsidiaries was financed from local sources.

*Industrial Organization Theory*

As the key agent of recent Western foreign investment was the multinational firm, a number of Western economists in the 1960s and 1970s analyzed foreign investment by applying industrial organization theory to the actions of the multinational firm. Their studies are based on the assumption that a multinational firm operating in a foreign country was faced with certain costs which local firms did not face. These costs arose from cultural differences, difficulties in understanding local language and markets, problems with bureaucracy and political risks. To compensate for these disadvantages, multinational firms investing overseas had to have some advantages which compensated them to compete successfully against local firms. Thus the attention was turned on the specific advantages of the investing firms.

S.H. Hymer was the first to demonstrate that the central motive for direct investment was the firm's desire to control foreign operations. This direct control
was necessary in order to obtain the full returns on advantages of skills and abilities which that firm possessed over local and foreign competitors (Hymer 1976). These advantages include access to cheap capital or raw materials, access to larger markets which led to economies of scale, exclusive possession of intangible assets such as managerial skills and superior technology, or the information, Research and Development (R&D) and other infrastructure available in the multinational network. Of all these, Hymer concluded that knowledge or technological advantage over local firms was the most important.

However, Hymer recognized that possession of technological advantage might not be a necessary condition for direct foreign investment, and other economists elaborated the argument further, arguing that imperfections in the markets were important additional factors which ensured that firms could exploit their specific advantages through discriminatory pricing (Kindleberger 1969). R.E. Caves (1971) argued that "firms were induced to invest directly overseas when they possessed well-established brand names and other forms of product differentiation which created monopolistic advantages over local and other foreign firms". The marketing advantages of oligopolistic firms with differentiated products offset disadvantages associated with investing and operating overseas, and could explain why these firms invested abroad. Caves also argued that "large firms were in a better position to fund the large initial outlays involved in overseas operations", and thus he associated foreign direct investment with large oligopolistic firms.
Product Cycle Theory

The product cycle theory proposed by Raymond Vernon was developed from the industrial organization approach to foreign investment (Vernon 1966). It attempted to integrate the firm-specific advantages theory with the theory of international trade. It regarded technological innovation as the main determinant of the structure of world trade and of the distribution of production among different countries. Technological innovations were firm-specific advantages and the differentials in these assets gave rise to comparative advantage among firms in different locations. These comparative advantages explained patterns of trade and investment.

The product-cycle model comprised three stages. In the first stage a firm in an advanced country innovated a new product. As long as the technology for producing the product was not yet standardized, the production was located in the country of origin where there was a good supply of suitably skilled labor and easy access to the major market, and the originating firm enjoyed a monopolistic position in the market. In the second stage the production technology became more standardized, more firms entered the market, demand became price elastic, and firms competed with one another to improve productivity and realize economies of scale. With standardized technology, firms could mass-produce for export, or even relocate the production to countries with lower unskilled labor costs. In the final stage, firms were virtually obliged to relocate production to low-cost country, or face the prospect that competitors would relocate and steal the market. Thus according to the product cycle theory the move overseas was prompted initially by a desire to pre-empt other competitors from sharing in markets.

For the industrial organization theorists, the key determinants of foreign investment were thus firm-specific advantages and the imperfections in the markets.
More recent works attempted to give a more precise definition of these firm-specific advantages. Hennart argued that the key advantages arose from innovations in legal forms, organizational structure, management techniques and international communications. Firms which possessed these advantages found they could realize better profits by direct investment rather than by licensing ventures (Hennart 1982). P.J. Buckley and M.C. Casson (1976) added that there were certain advantages associated with the multinationalism of the multinational firm. Through transfer pricing, vertical integration of production, and similar techniques, multinational firms could generate economies which raised the profitability of direct investment versus licensing or similar arrangements.

Subsequently Casson (1983) identified the key advantage of the multinational firm as its ability to internalize the transaction costs associated with the development of R&D and the accumulation of knowledge. The more the firm could accumulate knowledge and R&D at low transaction costs, the greater would be the benefit it could realize from directly marketing the resulting products rather than simply selling the technology. In these circumstances, firms would choose to license technology only if host governments refused to allow direct investment.

New Forms of Investment

More recently, economists became interested in new forms of overseas involvement which differed from the conventional style of direct investment. These forms included technology contracts, management contracts, franchise arrangements, turnkey projects and production sharing. These have been labeled as "new forms of investment" (Oman 1984). Oman categorized these new forms of operation into two main types. In the first, the foreign-held equity was usually less than 50 per cent. In the second, the foreign firm contributed no equity capital at all, but provided technology, expertise or brand name franchise in return for some
management control and some long-term arrangement for compensation. This arrangement could be a long-term contract or grant of a minority equity share.

The new forms of investment involved some unbundling of the "package" of traditional foreign direct investment, which usually included equity or financial capital along with embodied or disembodied technology, management and even access to world markets. According to the industrial organization approach to overseas investment, these new forms appeared because multinational firms found them a more profitable way to optimize the return from their innovations and from their accumulated skills and knowledge in management and marketing compared to traditional equity participation (Lim 1989). Small and medium sized firms which accumulated firm-specific advantages in small-scale production, unique technology or organization know-how might prefer the new form of investment as a means to get an optimal return to their specific advantages because they had limited financial and managerial resources.
2 - 2 Japanese Model of Foreign Investment

The "organization", "transaction" and "product cycle" approaches to the analysis of foreign investment were all developed to help explain the behavior of multinational corporations, and particularly American multinational corporations. In the 1960s, these multinationals were the major agents for overseas investment. From 1969 onwards, foreign investment began to flow out of Japan at an ever-increasing rate until by 1980 Japan overtook the United States in terms of net annual outflow of investment. By the late 1970s, the analysis of foreign investment had became a topic of major importance for Japanese economists.

Their approaches to the theory of foreign investment diverged sharply from the micro-economic focus of Western theory.

Kiyoshi Kojima's Argument

Kojima argued that the product cycle theory and other approaches from micro-economic theory tended to explain the motivation to invest overseas in terms of the defense of monopolistic or oligopolistic advantages (Kojima 1978). He was concerned that this approach encouraged host countries to view foreign investment as exploitative and often directly antagonistic to the better interests of host country firms and the host economy as a whole. To counter this tendency, Kojima did not argue that the theory of monopolistic advantage was wrong, but rather that it was only one of a range of motivations for foreign investment. He went on to draw a contrast between American investments overseas, which often could be explained in terms of the defense of monopolistic or oligopolistic advantage, and Japanese investments which he claimed were differently motivated and more benignly complementary to the host country economy. To achieve this contrast, Kojima switched the approach away from the micro-economic perspective of organization
theory, and back to the macro-economic framework of comparative advantage and the international division of labor.

Kojima divided direct investment into four major types: resource-oriented, labor-oriented, market-oriented, and oligopolistic, and argued that each type had a different motivation, and a different impact on trade and on the host country economy.

(i) Resource Oriented Investment

Resource-oriented investment was undertaken to increase the production of natural resource products which the home country lacked. This type of investment generated trade, because it resulted from the home country's lack of comparative advantage and its desire to secure a supply of natural resource products from the host country. The investment thus increased exports of primary products from the host country to home and third countries. But where production and marketing were integrated within the same foreign multinational firm, host countries might receive small benefits in terms of returns because of the monopolistic position of the foreign multinational firm.

(ii) Labor Oriented Investment

Labor oriented investment was undertaken in labor-intensive industries (such as textiles, shoes, and toys) for which home countries had lost comparative advantage, usually due to rising labor costs. Such investment complemented less developed countries which have scarcity of capital but abundant labor. It assisted in the reorganization of the international division of labor and promoted trade between labor-scarce and labor-abundant countries. It increased the import of capital goods from developed to developing countries. And, as this type of investment aimed to established an export-base rather than import substitution, it increased export of
labor-intensive products from developing countries back to the home country or to the third countries.

(iii) Market Oriented Investment

Market-oriented investment in Kojima's scheme was direct investment induced by trade barriers in the host country. Often developing countries imposed differential tariffs, heavier on final consumer goods but lower on intermediate and capital goods. This cascading tariff structure induced foreign firms to import components and parts and assemble them into consumer goods for sale in the domestic market of the host country. This type of investment was trade-creating, but often one-sided. It increased export of components, parts and capital goods from the home to the host country. But since the original purpose of protection was to encourage import-substitution industries, foreign investment induced by this kind of protection rarely led to increased exports of manufactures. It could be even detrimental to the host country if the high degree of protection enabled the firm to produce and sell above the world market price. In the short term the lop-sided trade impact was likely to weigh on the host country's balance of trade. But if the import-substitution industry grew successfully towards export orientation, then direct foreign investment of this type could turn out to be labor-oriented investment and could generate trade from the host country.

(iv) Oligopolistic Direct Foreign Investment

Kojima's fourth type of direct investment was labeled "oligopolistic direct foreign investment". It was a variant of the market-oriented type, essentially similar to the direct investment described by Hymer and Vernon with respect to the United States, namely direct investment in products which commanded oligopolistic positions in the market because of product differentiation and other firm-specific
advantages. This type of investment, according to Kojima, was anti-trade creating in two different ways. First, from the point of view of the home country, the transfer of the production to a foreign location reduced exports and might eventually increase imports as products were imported back from the overseas subsidiary to the home country. In his words, "Both the loss of foreign markets and increase in imports then result in balance of payments difficulties and the 'export of job opportunities'". Second, from the point of view of the host country, the demand for inputs (foreign exchange, labor, skill) in the newly located industries tended to restrict the availability of such inputs for traditional industries in which the host country had a comparative advantage in world trade. As such it diminished the host country's capacity for export growth.

Kojima argued that American foreign investment was mainly of the fourth type. It had occurred mostly in products which involved high expenditure in R&D and advertising by large firms, and which as a result commanded highly oligopolistic positions in the market. By contrast, Kojima contended, Japanese foreign investment consisted mainly of the first three types. He argued that Japanese investment in Southeast Asia in the 1960s and 1970s was concentrated in product areas such as textiles, iron and steel, and agriculture. And he pointed out that these were traditional, price-competitive goods in which Japan and other developed countries had been losing their competitive advantage, largely on account of rising labor costs. Japanese investments were thus complementary to the factor endowments of developing countries, and tended to encourage trade, promote the international division of labor, and aid the industrialization of host developing countries.

In Kojima's analysis, foreign investment was usually induced by changes in comparative advantage within the framework of a competitive market. Yet he
admitted that there could be specific situations in which foreign investment was induced by imperfections in the market. These imperfections might be created by the oligopolistic advantages of firms, or by the price distortions of tariff policies. Yet Kojima placed more emphasis on the framework of comparative advantage because of its relevance to the bulk of Japanese overseas investment in the late 1960s and 1970s. His main contribution to the theory of foreign direct investment was to focus attention on the international division of labor resulting from changes in comparative advantage.

**Criticism against Kojima's Argument**

In the years following its publication, Kojima's approach was criticized from two angles. First, some economists disagreed with Kojima's view on the determinants of Japanese investment and his emphasis on comparative advantage. Second, others disputed the welfare implications of Kojima's model, particularly his argument that the Japanese style of foreign investment promoted trade, the international division of labor, and complementary development. Several writers argued that Kojima's sharp distinction between the motivation of Japanese and American investment was misleading. Sekiguchi and Krause (1980) pointed out that the Japanese pattern of foreign direct investment in the 1960s and 1970s reflected merely the stages of economic development of Japan and Asian countries at that particular period. As Japan moved up the technological scale and becomes more like the United States, they suggested, Japan would invest more in innovative products, and the pattern of Japanese direct investment would become more like that of the United States. In other words, the distinction which Kojima drew between "Japanese" and "American" motivations for overseas investment was really a distinction between countries in the early and later phases of industrial maturity. And as a result, it was likely to change over time.
In a study comparing American and Japanese direct investment in South Korea, Chung H. Lee (1984) confirmed this analysis. In the period 1962 to 1972, Japanese investment did tend to be a little more labor-intensive than American. But there was a change in pattern over the next six years, when both American and Japanese direct investment in South Korea became concentrated in skill-intensive, high-technology industries.

Building on this analysis, Lee argued that Kojima had underestimated the importance of micro-economic factors in his theory of foreign investment. Lee accepted that foreign investment took place within an overall framework of comparative advantage in which resource constraints and government policies (both home and host) played an important role. But Lee added that decisions to invest were taken at the individual firm level. Even when confronted by resource constraints and changes in comparative advantage, Japanese firms faced a range of options. They could switch product lines, concentrate on the home market, or even stop production and convert their capital to stocks. An adequate theory needed to explain why firms would choose to invest overseas. In Lee's opinion, this theory would need to return to the organization approach of Caves and Vernon.

Several writers suggested that Japanese investment in ASEAN in the 1980s had similarities to the American style described by the organization theorists, and which Kojima had disavowed. As Japanese firms faced strong competition from the Asian NICs particularly in markets such as consumer electronics, Japanese investment in ASEAN displayed many of the oligopolistic characteristics of American firms. And Japanese firms became as adept as any American multinational at developing brand names and other forms of product differentiation in order to reap oligopolistic advantages.

Several critics attacked the welfare implications of Kojima's theory. Fumio Komoda (1986) pointed out that the notion of maximization of global welfare
implicit in Kojima's comparative cost model presumed perfect competition and truly free trade, whereas in fact international trade and investment were characterized by oligopoly. Kojima's picture of "complementary" between Japanese investment and host country needs (particularly in ASEAN) has been severely attacked. In the 1960s and 1970s a major part of Japanese direct investment in ASEAN went into consumer goods industries supplying the domestic market of host countries. Much of this investment was induced by the import tariffs imposed on consumer goods. This kind of investment encouraged export of machinery, semi-processed raw materials, components and parts from Japan which were used to assemble final consumer goods for the host markets. The investment induced trade, as Kojima predicted, but it was mostly a one-way trade from Japan to ASEAN.

Others have pointed out that Japanese overseas investment has promoted the international division of labor, but often an intra-firm international division of labor with limited benefits for host countries. Japanese firms transferred abroad a part of their production system, but tended to use foreign investment to retain close management control. Through techniques such as transfer pricing, firms may be able to limit the financial benefit to host countries. And through restrictive practices they may be able to limit technology transfer and the dissemination of skills.
2 - 3 Japanese Investment from the Host Viewpoint

For several prominent economists writing on Japanese investment from the perspective of host countries in ASEAN, the "specific advantages" framework of the Western economists seemed more appropriate than the approach via comparative advantage. In his study of Japanese investment in ASEAN with special reference to Indonesia, J. Panglaykim (1983) switched the focus away from comparative advantage and back to the specific advantages of individual firms. Panglaykim discussed pull factors on the ASEAN side, including ASEAN's abundant natural resources and labor; strategic location close to Japan, and industrial policies which favored import-substitution investment. But Panglaykim's main emphasis lay on the advantages of Japanese firms which induced them to invest.

He classified these advantages into seven elements: a cohesive, disciplined and experienced management based on Japanese culture; possession of technology invented in Japan; availability of capital due to the high rate of savings; government support; international network; vertical and horizontal operation, and a sense of national mission. He argued that Japanese firms wanted involvement in equity participation and management of overseas production rather than merely licensing these specific advantages because these allowed them to make greater profits through exploiting their comparative advantages in management organization and other oligopolistic power. In essence, Panglaykim argued that Japanese direct investment in ASEAN could be explained with the same analyses which the industrial organization theorists applied to American multinationals two decades earlier.

In a study of Japanese firms in Thailand, Suvinai Pornavalai (1989) concluded that the Japanese firms' main advantage over local competitors lay in their control over technology and in their management style. And he went on to describe how Japanese firms actively preserved their control over technology by restricting the
ability of local staff to gain access to this technology. This was a theme echoed in studies from other countries. Studies in Singapore showed that compared to other multinationals, Japanese firms kept a close control over management, financing and technology transfer, were less advanced in recruiting local staff for managerial and professional positions, and had developed fewer backward and forward linkages with local firms. Similar findings surfaced in studies of Japanese direct investment in other ASEAN countries.
3 Japanese Direct Investment in Asia

3 - 1 The New Strategy of Relocation and Export-Orientation

After the appreciation of the yen since 1985, the strategy of Japanese foreign investment changed. Whereas, in the earlier period, foreign investment had largely functioned as a means to capture markets for goods made mainly with parts and components manufactured in Japan, after 1985 foreign investment functioned as a means to structure production in the face of the increased international competition. ASEAN again became the attractive location for Japanese investors, but for an entirely new set of reasons. Japanese firms needed to relocate production to low-cost sites in order to compete in international markets against new low-cost producers, particularly the Asian NICs. Whereas the earlier strategy had been designed to increase production in Japan, the new strategy could entail an actual transfer of production out of Japan as firms sought to "escape the influence of the yen".

The number of Japanese export-oriented investment projects in ASEAN increased sharply. In Indonesia, the number of new export-oriented projects established by Japanese firms had averaged 3.7 projects per year between 1970 and 1984. Between 1985 and 1987, the average jumped to fourteen a year. In Thailand, the Board of Investment approved 260 Japanese investment projects between 1986 and May 1988. Of these 206, or 79 percent, were classified as export industries, namely projects which exported at least 80 percent of their products. In late 1987, JETRO conducted a survey of Japanese subsidiaries in ASEAN. The majority of the firms surveyed reported increases in their export to Japan in the period since 1985.

The important strategic industries facing severe competition were consumer electronics and electrical appliances, automobiles, machinery, and chemicals. With Japan's increased capacity to import (due to the high yen), Japanese firms also had
Table 1: Destination of Sales by Japanese Overseas Factories

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>63.9</td>
<td>9.8</td>
<td>26.4</td>
<td>54.7</td>
<td>15.8</td>
<td>29.5</td>
</tr>
<tr>
<td>N America</td>
<td>84.9</td>
<td>7.8</td>
<td>7.3</td>
<td>92.8</td>
<td>3.3</td>
<td>3.9</td>
</tr>
<tr>
<td>Europe</td>
<td>96.4</td>
<td>0.3</td>
<td>3.3</td>
<td>95.9</td>
<td>1.2</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>74.2</td>
<td>10.9</td>
<td>14.9</td>
<td>81.1</td>
<td>7.8</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Source: Ministry of International Trade and Industry

Table 2: 1989 Sales of Japanese Firms in Asia

<table>
<thead>
<tr>
<th>Location</th>
<th>Local</th>
<th>Export</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Japan</td>
<td>U.S.A.</td>
<td>Asia</td>
<td>Europe</td>
<td>Others</td>
</tr>
<tr>
<td>ASEAN</td>
<td>31.6</td>
<td>13.8</td>
<td>16.3</td>
<td>26.2</td>
<td>9.5</td>
<td>3.0</td>
</tr>
<tr>
<td>NIES</td>
<td>45.0</td>
<td>21.1</td>
<td>11.2</td>
<td>14.4</td>
<td>3.7</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Source: Ministry of International Trade and Industry

more opportunities to invest in products designed for import into Japan such as food, other resource based products, and a variety of consumer goods. In these subsectors, Japanese firms often possessed no special technological advantages, but they had the marketing skills and ready access to Japanese and other markets through the existing distribution network of Japanese trading firms. In these cases foreign direct investment was a straight relocation of their entire production processes.

In high-technology industries such as electronics and automobiles, Japanese firms have tended to keep core sections of the production processes within Japan,
Table 1: Destination of Sales by Japanese Overseas Factories

<table>
<thead>
<tr>
<th>Location</th>
<th>FY1980</th>
<th></th>
<th></th>
<th>FY1986</th>
<th></th>
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<td>Third Countries</td>
<td>Local Markets</td>
<td>Japan</td>
<td>Third Countries</td>
</tr>
<tr>
<td>Asia</td>
<td>63.9</td>
<td>9.8</td>
<td>26.4</td>
<td>54.7</td>
<td>15.8</td>
<td>29.5</td>
</tr>
<tr>
<td>N America</td>
<td>84.9</td>
<td>7.8</td>
<td>7.3</td>
<td>92.8</td>
<td>3.3</td>
<td>3.9</td>
</tr>
<tr>
<td>Europe</td>
<td>96.4</td>
<td>0.3</td>
<td>3.3</td>
<td>95.9</td>
<td>1.2</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>74.2</td>
<td>10.9</td>
<td>14.9</td>
<td>81.1</td>
<td>7.8</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Source: Ministry of International Trade and Industry

Table 2: 1989 Sales of Japanese Firms in Asia

<table>
<thead>
<tr>
<th></th>
<th>Local</th>
<th>Export</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Japan</td>
<td>U.S.A.</td>
<td>Asia</td>
<td>Europe</td>
<td>Others</td>
<td></td>
</tr>
<tr>
<td>ASEAN</td>
<td>31.6</td>
<td>13.8</td>
<td>16.3</td>
<td>26.2</td>
<td>9.5</td>
<td>3.0</td>
</tr>
<tr>
<td>NIEs</td>
<td>45.0</td>
<td>21.1</td>
<td>11.2</td>
<td>14.4</td>
<td>3.7</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Source: Ministry of International Trade and Industry

more opportunities to invest in products designed for import into Japan such as food, other resource based products, and a variety of consumer goods. In these subsectors, Japanese firms often possessed no special technological advantages, but they had the marketing skills and ready access to Japanese and other markets through the existing distribution network of Japanese trading firms. In these cases foreign direct investment was a straight relocation of their entire production processes.

In high-technology industries such as electronics and automobiles, Japanese firms have tended to keep core sections of the production processes within Japan,
including design, R&D, and certain hi-tech operations\textsuperscript{8}. But "low-end" production processes as well as some of the processing of materials have had to be shifted overseas. The question was: Which section of the production processes should go where?

This depended on the cost structure and technological capabilities available in different overseas locations. Even among the "low-end" processes there are those which require more sophisticated technology than others. The Asian NICs mastered much more sophisticated production techniques than the ASEAN countries, and thus are still important as suppliers of some sophisticated parts and components (such as in the case of electronics and automobiles). Investment in the production of parts and components is still growing in these countries.

Within ASEAN, different countries are at different stages of technological advance, and so each has attracted a different mix of manufacturing investment from Japan in the period after 1985.

For Singapore and Malaysia, new Japanese investment has been concentrated in electronics. Between 1986 and 1987, according to JETRO, Japanese firms set up twenty-three semiconductor companies in these two countries. Singapore developed into the hub of the electronics industry in the region. By offering new tax breaks to companies wishing to set up regional operational headquarters (OHQ), the Singapore Government attracted several electronics multinationals, and in return for the tax breaks, demanded that the multinationals locate their regional R&D, distribution center, financial system and service network in Singapore. The attractiveness of the tax offer and the availability of good infrastructure such as an

\textsuperscript{8}This argument is often seen. "Japan retains most of the high-value R&D laboratories. It provides the plant equipment and machine tools needed to build the overseas factories. And, of course, Japan keeps the profits from the companies it owns." Forbes, November 23, 1992.

"The Asian electronics factories that are Japanese-owned or affiliated are still several technology decades behind the home electronics juggernauts of Tokyo. And Tokyo plans to keep them that way," Australian Financial Review, January 11, 1990.
Figure 2: Change in Japanese Direct Investment

Source: Economic Planning Agency, Japan

efficient communications network and good part facilities, essential for the transportation of parts and components of electronics products, have induced not only Japanese electronics firms (Sony, Matsushita), but also American (Data General) and German (Nixdorf) firms to obtain OHQ status.

Singapore's established position as a trade and service center has also attracted Japanese investment in trade, banking and other services. In 1987 and the first four months of 1988, JETRO Singapore recorded 89 cases of Japanese investment in other services.
The three main factors attracting Japanese firms to Thailand are low labor costs, the availability of many raw materials and the existence of local entrepreneurs ready to enter into strategic alliances with Japanese firms. Low labor costs and entrepreneur alliances attracted Japanese investment into five joint-venture projects to produce automotive parts and components for export, and into several projects in low-end consumer electronics, again mainly for export. Electronics firms from the United States, Singapore and Taiwan have set up factories in Thailand for the same reasons. Low labor costs combined with resource availability attracted Japanese investment into ventures in food processing, wooden furniture, machine tools, chemicals and other intermediate products.

In Indonesia, new Japanese investment went into food, fishery, textiles, and chemicals. And in Philippines, there were some Japanese investment in electronics and automobile parts manufacturing.

Table 3: International Comparison of Monthly Wages

<table>
<thead>
<tr>
<th></th>
<th>1985</th>
<th>1988**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monthly wages</td>
<td>Index*</td>
</tr>
<tr>
<td>NIEs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>218.6</td>
<td>17.4</td>
</tr>
<tr>
<td>Korea</td>
<td>310.0</td>
<td>24.5</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>315.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Singapore</td>
<td>275.0</td>
<td>21.8</td>
</tr>
<tr>
<td>ASEAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>104.0</td>
<td>8.3</td>
</tr>
<tr>
<td>Malaysia</td>
<td>150.0</td>
<td>11.9</td>
</tr>
<tr>
<td>Indonesia</td>
<td>96.5</td>
<td>7.7</td>
</tr>
<tr>
<td>Philippines</td>
<td>101.0</td>
<td>8.0</td>
</tr>
<tr>
<td>China</td>
<td>51.0</td>
<td>4.1</td>
</tr>
<tr>
<td>Japan</td>
<td>1,258.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Notes: * Index is the ratio to Japan's wage level, Japan being 100
** The wages of respective countries in 1985 converted into U.S. dollars at June 1988 exchange rates are considered as the wages of June 1988
Figure 3: Overseas Investment by Japanese Manufacturing Industry
Profit/Sales by Area

Source: Ministry of International Trade and Industry

Figure 4: Overseas Investment by Japanese Manufacturing Industry
Profit/Sales by the Period of Investment

Source: Ministry of International Trade and Industry
| Source: Nihon Denshi Kogyo Kai, Nikko Research Institute |

| Table 4: Offshore Manufacturing Facilities (1988) |

<table>
<thead>
<tr>
<th>Number of Production Facilities</th>
<th>Reason of Investment</th>
<th>Destination of Sales</th>
<th>Export Competitiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A.</td>
<td>Europe</td>
<td>NIEs</td>
<td>ASEAN</td>
</tr>
<tr>
<td><strong>Home Electronics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio-Cassette</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Stereo</td>
<td>0</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>CD Player</td>
<td>9</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Washer</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Fan</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Microwave</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Color TV</td>
<td>13</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>VCR</td>
<td>5</td>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td><strong>Industrial Electronics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Computer Memory</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cellular Phone</td>
<td>7</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>IC</td>
<td>6</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Electronic Parts</td>
<td>84</td>
<td>46</td>
<td>204</td>
</tr>
<tr>
<td><strong>Precision Machine</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Facsimile</td>
<td>4</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Printer</td>
<td>4</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Typewriter</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

O: very competitive
Δ: competitive
X: uncompetitive
3 - 2 The Impact on Small and Medium Enterprises

Japanese firms do not usually produce everything from parts to final assembly in one vertically integrated industrial system. Although the parent company which assembles the final products usually controls the design, the actual production of the final goods depends on a system of labor division through subcontracting.

Three types of subcontract network are prevalent in the production structure (Phongpaichit 1990). The first sort of network concerns the procurement of raw materials and machinery. The second concerns R&D, which the core company may source from an institution within the company, or from an institution run by the government, another company, or an independent research institute. The third involves the suppliers of parts and components for final assembly. This third network has been radically affected by the rise of the yen after 1985.

Figure 5: Supply Network of Japanese Manufacturing Industry

Source: Institute of Southeast Asian Studies
As we can see in Figure 5, each parent company is supplied by numerous suppliers of parts and components. Most of the production subcontractors are small and medium enterprises (SMEs), employing less than 300 workers and capitalized at less than 100 million yen. Each major subcontractors may have its own sub network of smaller firms. In many cases, the contractors are financially independent from the parent companies. But they may have links with regards to technical collaboration. And the subcontractors are dependent on parent companies for production expansion, as well as for assistance in R&D.

The system suits parent firms in three ways. First, parent firms are able to obtain high quality products because of the subcontractors' specialization and reliability. Second, the subcontractors have been able to keep costs low, which in turn benefits the parent company. Third, parent companies can also avoid many of the inefficiencies associated with the running of a large integrated industrial system.

The subcontracting system enables efficient division of functions through horizontal subdivision of production processes. The SMEs enjoy greater flexibility in labor management (making use of part-time and casual workers) and other aspects of management compared to the large-scale enterprises. This industrial structure makes for greater flexibility in technological development and greater resilience in the face of cost and volume adjustments compared to a more integrated industrial system found in the United States and elsewhere. But for the system to work efficiently, subcontractors must usually be located close to their prospective customers. Thus, parent companies and their ancillary subcontractor firms tend to cluster together.

In 1986, SMEs accounted for 87 percent of all the manufacturing firms and 29 percent of total manufacturing employment in Japan. Some SMEs are independent producers, particularly in light manufacturing subsectors such as toys, garments,
cosmetics, food processing and rubber products. But most SMEs are involved in the subcontract system. In 1981, two-thirds of SMEs were involved in subcontracting.

**Impact of the Rising Yen**

As the yen rose, manufacturing production in Japan fell, especially in the SME sector mainly as a result of declining export competitiveness. Industries which exported over 30 percent of their output were seriously affected. These were, in order of affliction: iron and steel; electrical appliances; transport and shipbuilding; general machinery; and chemicals (MITI 1988).

In 1987, the Small and Medium Enterprise Agency conducted a special survey to enumerate cases of bankruptcy, closure and business suspension in traditional producing regions in the previous two years, with a special focus on export-oriented enterprises. As a proportion of the total number of SMEs, the number of firms in trouble was not very large. With the help of the government and semi-government organizations, the SMEs were able to adjust themselves to the changed economic situations. Strategies for survival included: development of new products; shift to domestic sales; upgrading or adding extra value to the product; reducing the cost of production by rationalization, and lowering the unit purchase price of raw materials (MITI 1988).

The unemployment rate increased marginally from 2.7 percent in September 1985 to 2.9 percent in September 1986, and then remained constant through 1987. Unemployment was marginally higher in the traditional parts of the manufacturing sector such as steel, ceramics, metal tableware and textiles. But projections indicate that even in these areas unemployment will fall below 3 percent by the middle of the 1990s because the manufacturing industries which are losing their competitive edge are shifting rapidly expanding domestic market.
Escape the Influence of the Yen

While the methods for adjusting to the change in the industrial structure have been to develop new products, add more value to existing products, shift to domestic sales, or rationalize production costs, another avenue for export-oriented firms is to relocate production overseas.

Since the yen appreciation, it has become uneconomic to keep many assembly processes in Japan, even those supplying the domestic market. More Japanese conglomerates, their suppliers as well as independent export firms have had to move their operations overseas in order to reduce the production cost and to remain competitive in the world market.

Japanese firms have been adjusting to a gradually appreciating yen since the mid-1970s. The appreciation of the yen increased the price of the final product in the world market. The parent companies first reacted by trying to force down the costs of components and parts supplied by subcontractors so that they could keep the price of the final product competitive in world markets. In order to overcome the further rise of yen, the next solution was to shift the final assembly process to subsidiaries or affiliates in overseas locations with lower labor and other costs. Initially subcontractors supplying parts and components were reluctant to relocate their facilities. Since the early 1970s, however, increasing numbers of small export firms have relocated their production overseas. For instance, many small firms manufacturing parts for the electronics and electrical appliance industries moved out from Japan into Korea and Taiwan around the mid-1970s in order to escape rising costs. But, at this moment, it was still economical for parent firms to import the parts and assemble the final products in Japan.

In the 1980s, and especially after the rise of the yen and the subsequent rise of the NICs' currencies, some parts production had to be relocated again to lower-cost production sites in ASEAN and elsewhere. Also, some Japanese parent companies
now find it necessary to shift final assembly operations of some products out of Japan, sometimes to subsidiary companies in ASEAN originally established to supply the host market under import-substitution conditions, and sometimes to entirely new production sites. These parent companies then encouraged their subcontractors also to shift to the cheaper production location in order to bring down the costs of parts and components, and to maintain the close links with the parent firm. The parent company sometimes virtually forced the subcontractors to relocate. Alternatively the overseas affiliates or subsidiaries of the parent company either started their own production of parts locally, or entered into similar subcontract relationships with local firms on the spot.

From 1978 to 1984, the number of Japanese enterprises setting up subsidiaries or overseas joint ventures was around 800 a year. In 1986, this figure jumped to 1,023 and then to 1,419 in 1987. If we isolate the SME portion, the change is even more dramatic. From 1978 to 1984 the annual average was around 300, but this doubled to 599 in 1986 and almost doubled again to 1,063 in 1987.

Much of the initiative for overseas investment came from individual firms themselves. But the Japanese government banks assisted the SMEs by providing low interest loans for overseas operations and by giving information about overseas locations. The Japan External Trade Organization (JETRO) and the Japan Chamber of Commerce, both with branches all over the world, have been instrumental in facilitating the move overseas among the SMEs.
3 - 3 Bungyo: International Division of Labor

Usually direct investment starts from assembly plant. As the demand increases, investors starts parts production by themselves or order parts to the local firms. This process stimulate the standardization of parts and expand the market scale. Also, in this process, specialization of technology, quality improvement, and cost reduction proceeds. Thus the market expands further.

As a condition of the "bungyo" system, the followings are necessary:
(1) existence of certain scale market of parts as a result of the increasing demand of the final products
(2) maturity of the industry structure
(3) existence of capital goods industry

Figure 6: Supplier of Assembly Firms

![Diagram of Supplier of Assembly Firms]

40% of Primary Parts Supplier uses Gaichu (5 companies per Primary Parts Supplier)

Source: Asia Keizai Kenkyu-Sho
3 - 3 - (1) NICs

Since 1985, NICs production volume of electronics products increased significantly while Japanese production decreased or remained constant since 1985.

**Color TV:**

In 1985 Japanese production of color TV was 16.9 million units compared to 9.3 million by NICs. In 1986 the NICs production exceeded Japanese and further enlarged the difference in 1987.

Among NICs countries, Korea had more than 50 percent share. And 93 percent of Korean output was by three Korean firms, Sansei Denshi, Kinsei-sha, and Daiu Denshi. In Taiwan, Singapore, and Malaysia, the majority of the outputs was from Japanese local firms. Quite high percentage of the output was exported; 75.6 percent of Korea, about 80 percent of Taiwan, and 95.3 percent of Singapore.

The main products of NICs TV output is small-size TV such as 12-, 14-, and 16-inch while, in Japan, color TVs of more than 20-inch are gaining larger share.

**VCR:**

Although the output from NICs countries is rapidly increasing, Japan still has overwhelming competitiveness. Even Korea, top among NICs countries, is importing key parts for upper-grade VCRs from Japan.

**Cassette Recorder:**

The output from NICs caught up Japanese in 1986 and it exceeded in 1987. Especially the increase in Korean output is significant because of the increasing export of automobiles to North America.

**Microwave:**

In 1987, NICs output exceeded that of Japan. Korea focused on this product as well as color TV and VCR because those are the high-value added products among home electronics.
Figure 7: Production Volume in Japan and NICs

(millions units)

**Color TV**

1985 1986 1987

**VCR**

1985 1986 1987

**Cassette Recorder**

1985 1986 1987

**Car Stereo**

1985 1986 1987

**Microwave**

1985 1986 1987

Source: Nihon Denshi Kikai Kogyokai
The share of foreign investment provided by the U.S. declined from more than 30 percent in the 1970s and early 1980s to under 10 percent by 1989; Japan's share rose to almost 70 percent. Thai government approved $3.6 billion in Japanese investment in 1989, compared with $565 million for the U.S., according to one published estimate.

In the late 1980s, the Japanese shifted their focus from the more expensive NIE countries to the ASEAN nations, especially to the relatively friendly environments of English-speaking Malaysia and Buddhist Thailand. For example, the Mitsui and Mitsubishi groups together have upward of 300 companies in Thailand. Economic growth in both countries has been double-digit during the past five years, and Japanese investment has been a major contributor to that record.

In 1992, the economic minister of the Association of Southeast Asian Nations (ASEAN) have drawn up a four-point proposal designed to attract more investment and increase industrial cooperation with Japan. The proposals included a review of the implementation of the ASEAN-Japan Development Fund, improvement of intellectual property protection, establishment of a program for developing small and medium-size enterprises in ASEAN, and applicant of the Ministry of International Trade and Industry's (MITI) Green Aid Plan to provide technical support to improve the region's investment climate.

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<table>
<thead>
<tr>
<th></th>
<th>Color TV</th>
<th>VCR</th>
<th>Radio-Cassette</th>
<th>Microwave</th>
<th>Air Conditioner</th>
<th>Personal Computer</th>
<th>Semi-Conductor</th>
</tr>
</thead>
<tbody>
<tr>
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<td>10000</td>
<td>5927</td>
<td>9720</td>
<td>7809</td>
<td>6600</td>
<td>7809</td>
</tr>
<tr>
<td>Taiwan</td>
<td>3947</td>
<td>2500</td>
<td>1070</td>
<td>3800</td>
<td>60</td>
<td>2500</td>
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<tr>
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<td>460</td>
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<td>9900</td>
<td>600</td>
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<td>NIEs</td>
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<td>70</td>
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<td>50</td>
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<tr>
<td>Indonesia</td>
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<td>34749</td>
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<td>7815</td>
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<tr>
<td>World Total</td>
<td>74132</td>
<td>101830</td>
<td>46300</td>
<td>54040</td>
<td>20850</td>
<td>83820</td>
<td>20850</td>
</tr>
</tbody>
</table>

(Units in thousands)

Source: Economic Planning Agency, Japan
**Table 6: Demand for Major Electronics Products - 1987 and 2000 (estimated)**

<table>
<thead>
<tr>
<th></th>
<th>Color TV</th>
<th>VCR</th>
<th>Radio-Cassette</th>
<th>Microwave</th>
<th>Air Conditioner</th>
<th>Personal Computer</th>
<th>Semi-Conductor</th>
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<tbody>
<tr>
<td>Korea</td>
<td>1300</td>
<td>2200</td>
<td>747</td>
<td>2450</td>
<td>502</td>
<td>840</td>
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<tr>
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<td>900</td>
<td>1086</td>
<td>1200</td>
<td>279</td>
<td>365</td>
<td>103</td>
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<tr>
<td>Hong Kong</td>
<td>160</td>
<td>836</td>
<td>1040</td>
<td>201</td>
<td>255</td>
<td>108</td>
<td>250</td>
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<tr>
<td>Singapore</td>
<td>180</td>
<td>250</td>
<td>536</td>
<td>590</td>
<td>95</td>
<td>150</td>
<td>149</td>
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<tr>
<td>NIEs</td>
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<td>3350</td>
<td>3205</td>
<td>5280</td>
<td>1077</td>
<td>1610</td>
<td>760</td>
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<tr>
<td>Thailand</td>
<td>450</td>
<td>800</td>
<td>85</td>
<td>530</td>
<td>228</td>
<td>441</td>
<td>18</td>
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<tr>
<td>Malaysia</td>
<td>180</td>
<td>300</td>
<td>51</td>
<td>320</td>
<td>208</td>
<td>390</td>
<td>7</td>
</tr>
<tr>
<td>Phillipine</td>
<td>96</td>
<td>300</td>
<td>2</td>
<td>110</td>
<td>245</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>194</td>
<td>600</td>
<td>6</td>
<td>520</td>
<td>698</td>
<td>1000</td>
<td>2</td>
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<td>144</td>
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<td>1379</td>
<td>2181</td>
<td>27</td>
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<tr>
<td>China</td>
<td>7887</td>
<td>20000</td>
<td>117</td>
<td>5600</td>
<td>12000</td>
<td>30000</td>
<td>50</td>
</tr>
<tr>
<td>Japan</td>
<td>9280</td>
<td>11290</td>
<td>8872</td>
<td>13110</td>
<td>4740</td>
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<tr>
<td>World Total</td>
<td>74132</td>
<td>101830</td>
<td>46300</td>
<td></td>
<td>54060</td>
<td>83820</td>
<td>20800</td>
</tr>
</tbody>
</table>

*(thousand units)*

*Source: Economic Planning Agency, Japan*
The Future Prospects of FDI from Japan

The trend of change in Japan's comparative advantage is likely to continue in the foreseeable future. The structural change in Japan is not yet complete. Costs of labor, capital and other inputs are still rising and are likely to go on rising for many years yet. As they do, even medium-tech firms will start to face declining comparative advantage if they remain located in Japan. Increasingly, firms placed further up the technological ladder will face pressures to relocate to cheaper production environments. More firms with specific advantages will go out into the world trying to realize an optimum rent from their accumulated knowledge and innovative technology (Phongpaichit 1990).

Japanese firms are also likely to accumulate more specific advantages and be increasingly better placed to exercise monopolistic control in overseas markets. We can expect the outflow of Japanese capital to continue¹⁰, both because of continuing changes in comparative advantage and because of the dynamism propelling the growth of oligopolistic firms. Based on forecasts made by the Japan Economic Research Center (JERC), Japanese investment of around US$ 14 billion will flow into ASEAN between 1988 and 2000.

¹⁰Corporate investment in Japan is already declining in 1992, the first contraction since 1975. There is also evidence of major cutbacks in Japanese foreign direct investments (FDI) amounting to a cumulative decline of nearly 40 percent over the last two years. Excessive overseas investments have not paid off, and a shift in strategy is now underway. Yet pessimism over the longer term scope for Japanese FDI is unwarranted. The globalisation of corporate Japan has only recently begun. Overseas production remains less than 8 percent of the total output by Japanese corporations - still well below that of US and German corporations, at 25 percent and 17 percent respectively. The continued expansion of Japanese firms overseas is a certainty over the next decade," Business Times, August 27, 1992.

"After peaking in value terms at US$8.24 billion in fiscal 1989, Japanese foreign direct investment in Asia has fallen steadily, reaching US$5.94 billion (1,277 cases) in fiscal 1991. However, the long-term labor shortage in Japan and optimism about the potential of Asian markets means that a substantial drop off is unlikely in the near future. A large percentage of recent investment is aimed at upgrading and supporting investments made during the heyday of 1986-1990 and at tapping domestic markets," Business Asia, August 10, 1992.
However, there are factors which have the potential to limit, inhibit or even reverse the flow of Japanese investment funds into NICs and ASEAN. First, improvements in automation technology could provoke a reverse flow back to Japan. In certain production processes, including high quality textile and garment manufacturing, this reversal is already taking place (Velasco 1988). Second, Japanese investment may be diverted away from NICs and ASEAN in favor of other markets such as the United States and Europe on the one hand, and lower-cost producers such as China or South Asia on the other hand. Third, Japan has already expressed fears about the "hollowing out" of its industrial base if industry is allowed to relocate overseas freely, and the government may undertake measures to restrict the flow.

All these are possibilities. But they are also conditional. First, even though automation and other technological upgrading may induce flow back in certain industries, there will be Japanese manufacturing capital which will be attracted to overseas sites which offer comparative advantages. As the processes being squeezed out of Japan move up the technological scale, the factors creating comparative advantage will move beyond supplies of land, labor land other basic inputs. These processes will require a more sophisticated production environment including educated and trainable labor, technical expertise, provision of high-level infrastructure, and good support services. If ASEAN countries are able to offer these facilities, then they will continue to attract Japanese capital.

Second, while it is true that Japanese policy-makers have become concerned about the hollowing out of Japan's industrial base, it will become less and less easy for the policy-makers to control the trend. As Japanese firms become more powerful and more multinational, they will respond more to the logic of their own profit interests, and will be far less closely tied to the domestic economy. Thus on the
supply side, the pressures to sustain the flow of Japanese investment are likely to remain strong.
3 - 5 Case: Japanese Electronics Firms

3 - 5 - (1) Toshiba

Toshiba Corp. was the first Japanese electronics company to announce what it claims was an integrated strategy for dealing with the effects of the strong yen on a specific area for its production and trading operations. The plan applied to Toshiba's audio-visual products division, a relatively small sector of the group. It involved phasing out roughly 50 percent of the production of color TV sets for export at its Japanese plants and assembling the same, or a slightly larger, number at an existing plant in Singapore, which up to then had been producing TV chassis and audio components for export to a Toshiba plant in the US for final assembly. A new plant was built in Mexico to produce the chassis. Toshiba aimed to handle the bulk of its exports to Asia, Oceania and the Middle East from Singapore in the late 1980s, rather than from Japan. It lifted overseas production of household electronics products from 6 to approximately 10 percent by 198811.

The significant changes in the late 1980s include (i) Production of many low-end goods shifted from Japan to Singapore, (ii) Subsidiaries in Thailand became the export base, and (iii) Some facilities transferred from Singapore to North America in order to avoid trade conflicts between the United States and Japan.

\[\text{Note: } 11\text{Far Eastern Economic Review, November 22, 1986.}\]
3 - 5 - (2) Hitachi

Since the late 1960s, Hitachi, Ltd. has established the export-oriented production bases; (i) In 1969 Hitachi established Taiwan Hitachi TV (100%) planning exports of TV, radio, tape recorder, and stereo, (ii) In 1972 Hitachi established Hitachi Consumer Products Singapore (92.5%). It aimed to export TV, radio, tape recorder, vacuum cleaner, and chemical condenser to the developed countries except Japan, (iii) In 1972 Hitachi established Hitachi Semiconductor Malaysia, and (iv) In 1978 Hitachi established Hitachi Electronics Devices Singapore to produce color TV tubes. The tubes are mostly used in the Singapore assembly plant, the subsidiary of Hitachi Electronics Devices Singapore.

After the late 1970s, Hitachi established foreign subsidiaries in the United States and Europe in order to escape the trade conflicts with those areas; (i) May 1978, Hitachi Semiconductor America, (ii) January 1980, Hitachi Semiconductor Europe in Western Germany, (iii) November 1982, Hitachi Consumer Products Europe in Western Germany to produce VCR, (iv) In 1985 Hitachi started the production of VCR in the United States, and (v) In 1985 Hitachi Automotive to produce electric parts for automobiles.

The foreign direct investment policy of Hitachi consists of the following seven statements:\(^{12}\):

(1) Hitachi holds the power of management even when it does not have the majority of the shares.

(2) Hitachi tries to coordinate its own corporate culture and the local culture.

(3) Hitachi decrease the number of Japanese employees in the local firm as the business goes well.

(4) The local firm is responsible for its profit and sales from the beginning.

(5) The local firm should pay the dividends within three to five years.

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\(^{12}\)Nomura Research Institute, 1988.
(6) Hitachi tries to minimize the initial investment.

(7) The initial investment should be recovered within ten years by dividends, patents, and/or royalties.
Matsushita Electric Industrial Co., Ltd. has established a network of subsidiaries throughout Asia to complement one another; (i) National Thailand, the first offshore production facility, was established to produce batteries in December 1961. Afterwards the product line expanded to radio, TV, fan stereo, and color TV, (ii) In January 1979, A.P. National was established to produce refrigerator, air conditioner, and rice cooker, (iii) In 1962, Taiwan Matsushita to produce radio then TV, stereo, car radio, refrigerator, w:sh:er, air conditioner, compressor, and color TV, and (iv) Between 1965 and 1970, Malaysia, Philippine, and Indonesia.\(^\text{13}\)

In the latter half of the 1980s, Matsushita Electric Industrial embarked on a plan to establish integrated production networks in South-East Asian countries. It has now completed the first such network in Malaysia, where its air conditioner manufacturing facilities now span from an R&D center, which opened in May, to final assembly. With a cumulative capital investment of ¥132.8 billion (US$1.06 billion), Matsushita now accounts for 3.8% of Malaysia’s GDP and 3% of its total exports.\(^\text{14}\) Such integration is seen as part of the trend among Japanese manufacturers to relocate more of their production off-shore.

Although Matsushita has succeeded in raising the local content ratio in Malaysia to 75% - and is aiming for 90% - the process has been far from easy. It has required a combination of coaxing its Japanese suppliers to move with it, the transfer of technology to local firms and a great deal of do-it-yourself. Suppliers ranging from makers of insulation materials to makers of copper tubes have been persuaded to follow, either from Japan or nearby Singapore, and form a significant part of Matsushita’s supply network. However, local firms have not been excluded. Japanese firms have received “requests” from Matsushita headquarters to transfer

\(^{13}\text{Shin Kokusai Keiei Senryakuron, 1988.}\)

\(^{14}\text{Business Asia, October 26, 1992.}\)
technology to local suppliers. In addition, Matsushita itself has been providing guidance in areas such as quality control techniques, cost-saving know-how and methods for mold and die maintenance. It has also invited suppliers to participate in the group's suggestion system and in-house seminars. All in all, the group's air conditioner companies have 95 main suppliers: 53 wholly owned companies, 25 Japanese affiliates, 13 Malaysian-Japanese joint ventures and four European and American firms.\(^{15}\)

Matsushita Electric Works (Asia-Pacific) of Japan has set up an international procurement office (IPO) in Singapore to buy up to S$60 million worth of parts and components in 1993.\(^{16}\)

Matsushita Electric Industrial Co. started manufacturing large color TV sets in Malaysia in 1989. Matsushita had been producing small 14- to 21-inch sets in the country at a monthly level of 10,000 units. Initially, the company manufactured 29-inch sets and then set up a line for larger sets of over 30 inches. Picture tubes were procured from Japan via Singapore and local suppliers, but manufactured products were mainly marketed in Malaysia.\(^{17}\)

In addition to building large plants, Matsushita is currently restructuring the remaining "mini-Matsushitas". The firm says that one factor making this possible is that the large differences between the consumer preferences of each country in the 1950s and 1960s have now become smaller.

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\(^{15}\) "At Matsushita's Asian operations, 75 percent of the components are supplied locally - but only 15 percent of that comes from purely local sources and consists of mechanical parts, never the high-tech electronic heart of the product. When Matsushita set up its Malaysian air-conditioning factory, almost twenty related Japanese companies came along to provide supplies, warehousing and transportation for the new operation." Institutional Investor, November 29, 1992.


\(^{16}\) Business Times (Singapore), September 24, 1992.

### Table 7: Toshiba's Offshore Production Facilities in Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>Local Firm</th>
<th>Share</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>Toshiba Singapore Pte., Ltd.</td>
<td>74.9</td>
<td>100 Color TV, Radio-Cassette</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Toshiba Electronics Malaysia Sdn. Bhd.</td>
<td>74.3</td>
<td>100 IC, Transistor, Condenser, LSI</td>
</tr>
<tr>
<td>Thailand</td>
<td>Thai Toshiba Electric Industries Co., Ltd.</td>
<td>69.10</td>
<td>50 Color TV, Refrigerator, Fan, Rice Cooker</td>
</tr>
<tr>
<td></td>
<td>Thai Toshiba Keikatu</td>
<td>74.2</td>
<td>34.2 Glass Tube for Fluorescent Light</td>
</tr>
<tr>
<td></td>
<td>Thai Toshiba Shuntai</td>
<td>82.9</td>
<td>34.3 Fluorescent Light</td>
</tr>
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</table>

*Source: Kaigai Toshi Kenkyu-sho*

### Table 8: Hitachi's Offshore Production Facilities in Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>Local Firm</th>
<th>Share</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>Gold Star-Hitachi Systems Co. Ltd.</td>
<td>86.8</td>
<td>15 Computer Software</td>
</tr>
<tr>
<td></td>
<td>Hyosung-Hitachi Data Systems Ltd.</td>
<td>87.3</td>
<td>15 Computer Software</td>
</tr>
<tr>
<td>China</td>
<td>Fukken-Hitachi TV</td>
<td>81.2</td>
<td>48 TV</td>
</tr>
<tr>
<td></td>
<td>Fukken-Hitachi TV Parts</td>
<td>86.2</td>
<td>48 TV parts</td>
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<td>Taiwan</td>
<td>Tatsumi-Hitachi</td>
<td>65.4</td>
<td>61 Air Conditioner</td>
</tr>
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<td></td>
<td>Takao-Hitachi Denshi</td>
<td>67.6</td>
<td>100 Transistor, Display</td>
</tr>
<tr>
<td></td>
<td>Tatsumi-Hitachi TV</td>
<td>69.5</td>
<td>100 Color TV, Stereo, CD Player, Monitor</td>
</tr>
<tr>
<td></td>
<td>Eidai Kinen Kogyo</td>
<td>68.11</td>
<td>10 Elevator, Escalator</td>
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<tr>
<td>Singapore</td>
<td>Hitachi Consumer Products (S) Pte. Ltd.</td>
<td>72.10</td>
<td>93 Color TV, Radio-Cassette, Vacuum Cleaner</td>
</tr>
<tr>
<td></td>
<td>Hitachi Electronics Devices (S) Pte. Ltd.</td>
<td>78.6</td>
<td>70 TV Tube</td>
</tr>
<tr>
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<td>Hitachi Elevator Engineering (S) Pte. Ltd.</td>
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<td>90 Elevator, Escalator</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Hitachi Semiconductor (M) Sdn. Bhd.</td>
<td>72.11</td>
<td>90 IC, Transistor, LSI</td>
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<tr>
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<td>Hitachi Consumer Products (M) Pte. Ltd.</td>
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</tr>
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<td>49 Color TV, Refrigerator, Fan, Rice Cooker, Air Conditioner</td>
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<tr>
<td>India</td>
<td>Transformers &amp; Electricals Kerala, Ltd.</td>
<td>65.2</td>
<td>20 Transformer, Breaker</td>
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<tr>
<td></td>
<td>Dass Hitachi Pte. Ltd.</td>
<td>61.10</td>
<td>17 Wattmeter, Ropeway</td>
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</table>

*Source: Kaigai Toshi Kenkyu-sho*
<table>
<thead>
<tr>
<th>Country</th>
<th>Company</th>
<th>Share</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Beijing Matsushita Color CRT Co., Ltd.</td>
<td>87.9 %</td>
<td>50% TV Tube</td>
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<tr>
<td>Taiwan</td>
<td>Matsushita Electric (T) Co., Ltd.</td>
<td>62.10%</td>
<td>60% TV, Stereo, Radio, Car Radio, Air Conditioner</td>
</tr>
<tr>
<td></td>
<td>Tainatsu Industrial Co., Ltd.</td>
<td>66.1%</td>
<td>60% Battery</td>
</tr>
<tr>
<td></td>
<td>Matsushita Electric Institute of Technology (T) Co., Ltd.</td>
<td>81.12%</td>
<td>100% Computer Software</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Matsushita Seiko Hong Kong International Manufacturing Co., Ltd.</td>
<td>82.7%</td>
<td>100% Fan, Copy Machine Parts</td>
</tr>
<tr>
<td>Philippine</td>
<td>Precision Electronics Corporation</td>
<td>67.9%</td>
<td>51% TV, Radio, Stereo, Battery, Refrigerator, Washer, Dryer</td>
</tr>
<tr>
<td></td>
<td>Matsushita Communication Industrial Corporation of the Philippines</td>
<td>88.4%</td>
<td>76% FDD, CCTV, ECM</td>
</tr>
<tr>
<td>Indonesia</td>
<td>P.T. National Gobel</td>
<td>70.7%</td>
<td>55% TV, Stereo, Radio, Recorder, Refrigerator, Washer, Air Conditioner</td>
</tr>
<tr>
<td></td>
<td>P.T. Matsushita Gobel Battery Industry</td>
<td>87.1%</td>
<td>55% Battery</td>
</tr>
<tr>
<td>Thailand</td>
<td>National Thai Co., Ltd.</td>
<td>61.12%</td>
<td>48.65% TV, Car Radio, Radio-Cassette, Fan, Battery</td>
</tr>
<tr>
<td></td>
<td>A.P. National Co., Ltd.</td>
<td>79.1%</td>
<td>45% Refrigerator, Air Conditioner, Rice Cooker</td>
</tr>
<tr>
<td></td>
<td>Matsushita Refrigerating Company (T) Ltd.</td>
<td>88.4%</td>
<td>100% Refrigerator</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Matsushita Electric Co., (M) Bhd</td>
<td>65.9%</td>
<td>43.1% TV, Refrigerator, Washer, Fan, Rice Cooker, Iron</td>
</tr>
<tr>
<td></td>
<td>Matsushita Industrial Corporation Sdn. Bhd.</td>
<td>72.4%</td>
<td>80% Air Conditioner</td>
</tr>
<tr>
<td></td>
<td>Matsushita Compressor and Motor Sdn. Bhd.</td>
<td>87.4%</td>
<td>100% Air Conditioner Parts</td>
</tr>
<tr>
<td></td>
<td>Matsushita Electronic Components (M) Sdn. Bhd.</td>
<td>72.12%</td>
<td>100% Condenser, Tuner, Switch</td>
</tr>
<tr>
<td></td>
<td>Matsushita Electronic Devices (M) Sdn. Bhd.</td>
<td>87.11%</td>
<td>100% Condenser</td>
</tr>
<tr>
<td></td>
<td>Matsushita Precision Industrial Co., (M) Sdn. Bhd.</td>
<td>78.9%</td>
<td>100% Transformer</td>
</tr>
<tr>
<td></td>
<td>Matsushita Television Co., (M) Sdn. Bhd.</td>
<td>88.6%</td>
<td>100% Color TV</td>
</tr>
<tr>
<td>Singapore</td>
<td>Matsushita Refrigerating Industries (S) Pte. Ltd.</td>
<td>72.3%</td>
<td>100% Compressor for Refrigerator</td>
</tr>
<tr>
<td></td>
<td>Matsushita Electronics (S) Pte. Ltd.</td>
<td>77.7%</td>
<td>100% Radio, Radio-Cassette, Stereo</td>
</tr>
<tr>
<td></td>
<td>Matsushita Electric Motor (S) Pte. Ltd.</td>
<td>77.7%</td>
<td>100% Motor</td>
</tr>
<tr>
<td></td>
<td>Matsushita Electronic Components (S) Pte. Ltd.</td>
<td>77.7%</td>
<td>100% Electronic Parts</td>
</tr>
<tr>
<td></td>
<td>Matsushita Denki (S) Pte. Ltd.</td>
<td>78.12%</td>
<td>100% Transformer</td>
</tr>
<tr>
<td></td>
<td>Kotobuki Electronics Industries Singapore Pte. Ltd.</td>
<td>87.5%</td>
<td>100% Color TV Parts</td>
</tr>
<tr>
<td></td>
<td>Matsushita Graphic Communication Systems (S) Pte. Ltd.</td>
<td>87.7%</td>
<td>100% Facsimile</td>
</tr>
<tr>
<td></td>
<td>Matsushita Technology (S) Pte. Ltd.</td>
<td>78.12%</td>
<td>100% Training for Engineers</td>
</tr>
<tr>
<td>India</td>
<td>Indo National Ltd.</td>
<td>72.7%</td>
<td>40% Battery</td>
</tr>
<tr>
<td></td>
<td>Indo Matsushita Carbon Co., Ltd</td>
<td>82.9%</td>
<td>40% Battery</td>
</tr>
<tr>
<td></td>
<td>Lakhapal National Ltd.</td>
<td>72.5%</td>
<td>40% Battery</td>
</tr>
</tbody>
</table>

Source: Kaigai Tochi Kenkyu-sho
III. "Keiretsu" System in Japanese Electronics Industry

"Common complaint is that the Japanese joint-venture partner routinely charges non-competitive prices for materials or services from Tokyo or from the local subsidiaries of other Japanese companies. Critics also note that the Japanese tend to use each others inputs almost exclusively in their operations, rarely depending on purely local suppliers. This practice is so extensive that it resembles an international version of the keiretsu (enterprise group) system." (Imai 1988)

While this type of argument is almost common sense to understand behavior of Japanese firms, the word "keiretsu" is used in various ways. Thus, this chapter first reviews the representative arguments about keiretsu. Then it outlines the typical keiretsu groups - Hitachi group and Matsushita group.

1 Definition of "Keiretsu"

There is a particularly heightened interest in enterprise groups (keiretsu) in Japanese economy facing the movement surrounding the strategies and structure of the Japanese businesses. There are two types of conversion of interest into enterprise groups (keiretsu). One is the progression of the interest in individual giant firms to the enterprise groups. And the other is the shift in interest from the business combine (kigyo shudan) to the enterprise groups.

What actually triggered the first was clearly the introduction of the system of consolidated financial statements since the business year 1977 with the enactment of the "Security Exchange Law." Since then, after 1983, the consolidated financial statement system made it mandatory to apply the law regarding the holding of the
"unrelated subsidiaries" (hirenketsu kogaisha) and the "related companies" (kanren kaisha), which had been voluntary before that, and this continued until 1992.

However, the introduction of a system takes place only because of the development of the actual conditions that necessitate it. From this standpoint, since the 1970s, the situation has been such that giant firms in Japan have aggressively promoted their business expansion by creating subsidiaries and have accelerated the business growth through enterprise groups (keiretsu). To respond to the changes in the environment, the giant firms have tried to expand into new businesses and have promoted their power as an enterprise group by spinning off the new subsidiaries from the main company, on the one hand, and by buying out existing firms and making other firms their affiliates, on the other (Sakamoto 1991).

**Definition by Robert Z. Lawrence**

Robert Z. Lawrence (1991) categorized three types of enterprise group (keiretsu): (i) Zaibatsu type, (ii) Corporate group, and (iii) Distribution network. The first involves affiliation between firms over a wide range of industries such as Mitsui, Mitsubishi, and Sumitomo. The second type of "keiretsu" link large industrial concerns with subsidiaries, allies, key customers and subcontractors who all stick close to the core business such as Toyota, Hitachi, and Matsushita. A third type of "keiretsu" exists in the distribution system, where groups of manufacturers have tied together networks of retailers and wholesalers.

**Definition by Kenichi Imai**

Kenichi Imai's definition (1988) of the postwar "corporate groups" is similar to the first type of "keiretsu" in the Lawrence's definition. Imai describes the characteristics of "corporate groups" as follows (Imai 1988):

1. the association of presidents existed as the core of a corporate group
(2) mutual stock holdings on a long-term basis
(3) large commercial banks at the center of financial transactions
(4) general trading firms in the core transactions of goods and services

Imai argues that (i) Information exchange within a corporate group is a powerful means to reduce uncertainty, and corporations study the demand growth among themselves and firm up their investment decisions, and (ii) The corporate groups accelerated economic growth from another aspect, the effect of widely disseminating technological innovations through inter-firm linkages.

Another Definition by Kenichi Imai

In this framework, Kenichi Imai and Akira Goto (1977) classified as followed:
(1) The "Affiliate" (keiretsu) Enterprise Group
This type of group was born as a result of "the formation of the mutual relationship, the foundation of group formation, resulting when exchanges of unequal values occur in the exchange process among the firms and persist, leading to a unilateral dependency in their relationships."
(2) The "Functional" Enterprise Group
This type exists as a way to implement plant exports, to promote large development projects, and to enter new areas of businesses.
(3) The "Role-System Type" Enterprise Group
This group is the same as the first type of "keiretsu" in Lawrence's definition.
(4) The "Insurance-Type" Enterprise Group
These are "the enterprise groups composed of the firms that confront external risks together and facilitate an internal transfer from those firms that are favorably impacted to those that are unfavorably impacted."

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18Nihon Keizai Shinbun, March 26, 1977.
The more fundamental among these four types are (1) the "affiliate-type" enterprise groups and (3) the "role-system type" enterprise groups, which retain organizational performance as enterprise groups, are of a temporary nature created in response to specific objectives, and their position relative to the above two types is different. Also with respect to (4), the "insurance-type" enterprise groups, groups (1) and (3) perform simultaneously the role played by this type of group even with a greater intensity, so they can be regarded as typical "insurance-type" enterprise groups. It is necessary to confirm here that the "affiliate-type" and the "role-system type" are not of parallel existence but are of a hierarchical relationship.

The "group" relationship that exists among the firms, which characterizes the structure of the Japanese businesses, is exhibiting a new direction of change. Especially noticeable is the proliferation of enterprise groups of the "parent-offspring type", with giant firms as the core, and of "affiliate" (keiretsu) enterprise groups (Sakamoto 1991).
2 Theoretical Analysis of "Keiretsu"

Theoretical research on the enterprise groups can be broken down into the following three approaches: (i) Transaction Cost Theory Approach, (ii) Corporation Theory Approach, and (iii) Management Structure Theory Approach (Sakamoto 1991).

2 - 1 Transaction Cost Theory Approach

This approach explains the reason of the group creation that, based on the assumption of cost minimization behavior of individual firms, an intermediate organization is formed as a result of the firm's effort, on the one hand, to reduce the cost of the transaction incurred in the use of the market and, on the other hand, to reduce the cost by internalizing the transactions in the firm organization and expanding the scale of organization. Therefore, there is a fundamental difference between the internal organization and the intermediate organization in how to deal with "conflict" and authority. (Imai, Itami, Koike et al. 1982)

Sakamoto (1991) argues that the "functional" enterprise groups are the intermediate organizations and the "affiliate" enterprise groups are the internal organizations.

The "functional" enterprise groups are the voluntary bonding among giant firms supported by a mutual stock ownership relationship; and, with respect to the coordination of the conflicts among the firms, it is difficult to carry out the coordination by suppressing the individual firm's autonomy. Hence, it must be the negotiated coordination with the premise of mutual autonomy. Therefore, the authority for such coordination must take the form of a mutual coordination organization, such as the association of the member firm presidents. The
"functional" enterprise group that retain such a trait do indeed possess the characteristics of an intermediate organization.

However, with respect to the "affiliate" enterprise groups, as evident from the fact that they have the pyramid-type structure with giant firms as their core-parent firms, there exists a powerful centralized authority, and they have the mechanism of carrying out the conflict coordination with such authority. The relationship between the parent firms and their subsidiaries can vary over a wide range; and there is a recent tendency for such diversity to expand. However, it is the essence of the "affiliate" enterprise groups that possess the mechanism to enable the conflict coordination basically through a unifying authority even though they contain such diversity in the parent-offspring relationship. Thus, it should be understood as one of the firms' internal organizations today or, in other words, as an outgrowth of the expanded internal organization of modern corporations.

2 - 2 Corporation Theory Approach

The characteristics of this approach is that it grasps the formation of the enterprise groups, mainly from the standpoint of the stock ownership relationship, in concrete terms as a consequence of the core-parent corporations bringing numerous subsidiaries under their control through unilateral ownership of their stocks and of the parent corporations seeking to expand their sphere of control as giant firms (Sakamoto 1991).

In the examination of the actual formation of enterprise groups, they appear similar to the parent-subsidiary company relationship united by the stock ownership. However, the truth is that there is a development of the corporate organization itself which carries out the actual business and only its results are emerging as the stock ownership relationship of various gradations.
2 - 3 Management Structure Theory Approach

This approach, on the one hand, has a distinct substance in comparison with the transaction cost theoretical approach, which places the enterprise groups as an intermediate organization between the market and the firms' internal organization. On the other hand, however, it is also in contrast to the corporation theoretic approach in that it attempts to capture the enterprise groups, not in the stock ownership relationship, but only at the level of the functional relationship, which is management (Sakamoto 1991).

This approach is represented by Moriaki Tsuchiya entitled "Kanri Kiko no Mondai to Shite no Jigyobusei to Kogaisha Keitai" (The Operating Department System and the Subsidiary Form as an Issue in the Management Structure). The main point of the Tsuchiya's study is the following: surrounding the relationship between the operating department system, whereby a certain activity is carried out by a specific department within the firm, and the subsidiary form, in which the same activity is carried out by a separate company, there is a widespread view that puts the subsidiary form at the extreme of the deconcentration of authority and views it as desirable from the management standpoint.

Its characteristics is that it attempts to grasp the enterprise groups, not at the level of the corporation as a legal entity, but at the firms' management-structure level. However, this argument seems to have some flaws. First, it is noticeable that the significance with respect to the management structure which the subsidiaries can have is underestimated. Second, when there are many types of subsidiaries, in this approach the fact that there are subsidiaries with numerous degrees of deconcentration is not recognized. This approach is based on the subsidiaries having the character of the operating department in their organizational and structural relationship with their parent firms.
2 - 4 New Approach to "Keiretsu"

Sakamoto (1991) points out the focal point of the modern enterprise group theory as follows:

(1) grasp the enterprise groups basically as the firm's "internal organization"
(2) stress from the total capital theoretical and firm theoretical standpoint the internal development of the corporate organization itself which is responsible for the realization of the true character of capital.
(3) not underestimate the significance of some operating departments taking a subsidiary form.
(4) understand that there are a diverse forms a subsidiary can take as a component of an enterprise group.
3. Bungyo and "Keiretsu": Japanese Electronics Industry

3 - 1 Hitachi

Hitachi group is one of the typical keiretsu in Imai-Goto' definition. Hitachi, Ltd. has 799 subsidiaries and 185 related enterprises. Although Japanese firms are obliged to disclose the "keiretsu-type relationships in corporate financial statements" since March 1992, Hitachi, Ltd., the core company of Hitachi group, listed only 6 firms as keiretsu-type relationships. Thus, surveying annual reports of Hitachi group companies is the only way to recognize the transactions between them.

Table 9 is the summery of intra-group transactions.

While Hitachi, Ltd. purchasing from its related companies is 74.8 percent of total "Cost of Goods Sold", the purchasing recognized in Table 9 is only 23 percent of COG. Thus, the majority of Hitachi, Ltd. purchasing is from lower layer of Hitachi group (e.g. affiliates of Hitachi, Ltd. subsidiaries).

Although quite large amount, 43.6 percent, of Hitachi, Ltd. sales goes to its group firms, 38.6 percent was purchased by Nissei Sangyo Co., Ltd. and Hitachi Sales Corp. and the rest 5 percent goes to hundreds of group firms.

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"Any listed firm must disclose the nature of its relationships with and transactions with its parent company, subsidiaries, sister companies, major shareholders and members of their families, directors and members of their families, and any company that may substantially affect it through capital contribution, transfer of officials or any other business transactions." 1991 Report From Japan, May 22, 1991.

### Table 10: Hitachi, Ltd. Business Transaction within Group

<table>
<thead>
<tr>
<th>Company</th>
<th>Share Holding* (%)</th>
<th>Sales</th>
<th>Business with Hitachi, Ltd.</th>
<th>Business with Other Group Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Amount</td>
<td>Share** (%)</td>
</tr>
<tr>
<td>Hitachi Plant Engineering &amp; Construction Co., Ltd.</td>
<td>56.0</td>
<td>244,046</td>
<td>159,816</td>
<td>65.5</td>
</tr>
<tr>
<td>Hitachi Chemical Co., Ltd.</td>
<td>57.2</td>
<td>311,249</td>
<td>26,088</td>
<td>8.4</td>
</tr>
<tr>
<td>Hitachi Metals, Ltd.</td>
<td>54.3</td>
<td>337,039</td>
<td>7,913</td>
<td>2.4</td>
</tr>
<tr>
<td>Hitachi Cable, Ltd.</td>
<td>52.3</td>
<td>335,144</td>
<td>36,129</td>
<td>10.8</td>
</tr>
<tr>
<td>Toyo Machinery &amp; Metal Co., Ltd.</td>
<td>23.4</td>
<td>14,317</td>
<td>78</td>
<td>0.5</td>
</tr>
<tr>
<td>Hitachi Construction Machinery Co., Ltd.</td>
<td>54.9</td>
<td>239,218</td>
<td>2,563</td>
<td>1.1</td>
</tr>
<tr>
<td>Hitachi Kiden Kogyo</td>
<td>65.8</td>
<td>22,185</td>
<td>11,197</td>
<td>48.3</td>
</tr>
<tr>
<td>Hitachi Koki Co., Ltd.</td>
<td>31.6</td>
<td>129,163</td>
<td>32,215</td>
<td>24.9</td>
</tr>
<tr>
<td>Japan Servo Co., Ltd.</td>
<td>52.9</td>
<td>35,158</td>
<td>2,265</td>
<td>6.4</td>
</tr>
<tr>
<td>Nakayo Telecommunications, Inc.</td>
<td>21.5</td>
<td>26,501</td>
<td>11,509</td>
<td>43.4</td>
</tr>
<tr>
<td>Kokusai Electric Co., Ltd.</td>
<td>21.9</td>
<td>123,662</td>
<td>56,446</td>
<td>45.6</td>
</tr>
<tr>
<td>Hitachi Electronics, Ltd.</td>
<td>64.4</td>
<td>61,149</td>
<td>21,885</td>
<td>35.8</td>
</tr>
<tr>
<td>Yagi Antenna Co., Ltd.</td>
<td>42.8</td>
<td>29,498</td>
<td>1,788</td>
<td>8.0</td>
</tr>
<tr>
<td>Hitachi Maxell, Ltd.</td>
<td>53.8</td>
<td>129,866</td>
<td>2,465</td>
<td>1.9</td>
</tr>
<tr>
<td>Hitachi Medical Corp.</td>
<td>64.0</td>
<td>96,392</td>
<td>1,234</td>
<td>1.3</td>
</tr>
<tr>
<td>Kokusan Denki Co., Ltd.</td>
<td>20.7</td>
<td>18,804</td>
<td>2,291</td>
<td>12.2</td>
</tr>
<tr>
<td>ShinMaywa Industries, Ltd.</td>
<td>29.4</td>
<td>130,945</td>
<td>6,849</td>
<td>5.2</td>
</tr>
<tr>
<td>Tokico, Ltd.</td>
<td>38.7</td>
<td>108,544</td>
<td>14,014</td>
<td>12.9</td>
</tr>
<tr>
<td>Jidoseh Denki Kogyo Co., Ltd.</td>
<td>23.6</td>
<td>36,722</td>
<td>1,109</td>
<td>2.0</td>
</tr>
<tr>
<td>Nissui Sangyo Co., Ltd.</td>
<td>58.1</td>
<td>585,603</td>
<td>84,529</td>
<td>14.4</td>
</tr>
<tr>
<td>Hitachi Sales Corp.</td>
<td>62.3</td>
<td>602,951</td>
<td>2,175</td>
<td>0.4</td>
</tr>
<tr>
<td>Hitachi Credit Corp.</td>
<td>53.8</td>
<td>377,397</td>
<td>220</td>
<td>0.1</td>
</tr>
<tr>
<td>Hitachi Transport System, Ltd.</td>
<td>62.0</td>
<td>208,017</td>
<td>85,823</td>
<td>41.3</td>
</tr>
<tr>
<td>Hitachi Software Engineering Co., Ltd.</td>
<td>64.2</td>
<td>91,525</td>
<td>37,549</td>
<td>62.9</td>
</tr>
<tr>
<td>Hitachi Information Systems, Ltd.</td>
<td>64.1</td>
<td>109,654</td>
<td>30,281</td>
<td>27.6</td>
</tr>
<tr>
<td>Hitachi Lease</td>
<td>50.0</td>
<td>319,759</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Facom Hi-Tack</td>
<td>50.0</td>
<td>25,805</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Baaico Hitachi</td>
<td>100.0</td>
<td>80,589</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hitachi Senko</td>
<td>100.0</td>
<td>35,340</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hitachi Remetsu</td>
<td>100.0</td>
<td>147,671</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hitachi Shomet</td>
<td>100.0</td>
<td>8,001</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hitachi Home-Tech</td>
<td>100.0</td>
<td>45,632</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: Shukan Toyo Keizai, Annual Reports

Note: * Share holding by Hitachi, Ltd.
** Share against Hitachi, Ltd. sales in FY1992
*** Share against Hitachi, Ltd. purchase in FY1992
Figure 8: Hitachi Group

0 = share holding by parent company

- Communication/Electronics
  - Kokusai Electric Co., Ltd (21)
  - Hitachi Electronics, Ltd. (62)
  - Nakayo Telecommunications, Inc (21)
  - Yagi Antenna Co., Ltd. (38)
  - Hitachi Medical Corp. (64)

- Transportation
  - Tokico, Ltd. (21)
  - ShinMaywa Industries, Ltd. (28)
  - Kokusan Denki Co., Ltd. (20)
  - Jidosha Denki Kogyo Co., Ltd. (23)

- Industrial Electronics
  - Toyo Machinery & Metal Co., Ltd. (23)
  - Hitachi Seiko (100)
  - Hitachi Plant Engineering & Construction Co., Ltd. (55)
  - Babcock Hitachi (100)
  - Hitachi Construction Machinery Co., Ltd. (54)
  - Hitachi Kiden Kogyo (63)

- Hitachi, Ltd.
  - Hitachi Cable, Ltd. (51)
  - Hitachi Chemical Co., Ltd. (56)
  - Hitachi Metals, Ltd. (53)

- Materials

- Home Electronics
  - Hitachi Maxell, Ltd. (53)
  - Hitachi Shomai (100)
  - Nippon Columbia Co., Ltd. (13)

- Sales
  - Hitachi Reinetsu (100)
  - Nissei Sangyo Co., Ltd. (57)
  - Hitachi Credit Corp. (54)
  - Hitachi Sales Corp. (59)

- Others
  - Japan Servo Co., Ltd (51)
  - Hitachi Koki Co., Ltd. (23)
  - Hitachi Transport System, Ltd. (55)
  - Hitachi Information Systems, Ltd. (64)
  - Hitachi Lease (50)

Source: Annual Reports
3 - 2 Matsushita

Matsushita Electric Industrial Co., Ltd. also forms keiretsu system. It has 301 subsidiaries and 139 related enterprises. The Matsushita's purchasing from its group firms is 62 percent of its total purchasing. And Matsushita's sales to its group firms is 52 percent of total sales\(^{21}\).

However, only small portion of the sales to group firms, about 3.4 percent, appears on Table 10. In other words, the majority of Matsushita's sales to its group firms is not disclosed.

Compared to Hitachi group, Matsushita group has two characteristics. First, Matsushita group include many production subsidiaries for Matsushita Electric Industrial Co., Ltd. As we can see in Table 10, seven group firms, including Matsushita Refrigeration Co., Matsushita Seiko Co., Ltd., and Matsushita Communication Industrial Co., Ltd., depend more than 70 percent of their sales on Matsushita Electric Industrial Co., Ltd. Second, Matsushita group firms pay various fees to Matsushita Electric Industrial Co., Ltd. For example, in FY1992, Matsushita Communication Industrial Co., Ltd. paid ¥53.6 billion as a management cost, Kyushu Matsushita Electric Co., Ltd. paid ¥29.7 billion as an administration cost, and Matsushita Battery Industrial Co., Ltd. paid ¥34.9 billion as a sales promotion fee.

---

Table 11: Matsushita Electric Industrial Co., Ltd. Business Transaction within Group

<table>
<thead>
<tr>
<th>Company</th>
<th>Share Holding* (%)</th>
<th>Sales</th>
<th>Business with Matsushita Electric Industrial Co., Ltd.</th>
<th>Business with Other Group Firms</th>
<th>Purchase Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sales Amount</td>
<td>Share** (%)</td>
<td>Amount</td>
</tr>
<tr>
<td>National House Industrial Co., Ltd.</td>
<td>26.3</td>
<td>207,811</td>
<td>336</td>
<td>0.2</td>
<td>2851</td>
</tr>
<tr>
<td>Wakayama Seimitsu Kogyo</td>
<td>54.0</td>
<td>4,104</td>
<td>533</td>
<td>13.0</td>
<td>726</td>
</tr>
<tr>
<td>Matsushita Refrigeration Co.</td>
<td>51.8</td>
<td>203,020</td>
<td>200,607</td>
<td>98.8</td>
<td>9521</td>
</tr>
<tr>
<td>Matsushita Seiko Co., Ltd.</td>
<td>59.0</td>
<td>94,939</td>
<td>91,241</td>
<td>96.1</td>
<td>3048</td>
</tr>
<tr>
<td>Matsushita Communication Industrial Co., Ltd.</td>
<td>57.0</td>
<td>457,831</td>
<td>442,199</td>
<td>96.6</td>
<td>11305</td>
</tr>
<tr>
<td>Kushi Matsushita Electric Co., Ltd.</td>
<td>52.0</td>
<td>347,035</td>
<td>329,255</td>
<td>94.9</td>
<td>7498</td>
</tr>
<tr>
<td>Matsushita-Kotobuki Electronics Industries, Ltd.</td>
<td>57.7</td>
<td>272,925</td>
<td>171,561</td>
<td>62.9</td>
<td>22387</td>
</tr>
<tr>
<td>Victor Co. of Japan, Ltd.</td>
<td>52.4</td>
<td>606,458</td>
<td>1,488</td>
<td>0.2</td>
<td>41194</td>
</tr>
<tr>
<td>Matsushita Electric Works, Ltd.</td>
<td>32.0</td>
<td>1,020,121</td>
<td>29,480</td>
<td>2.9</td>
<td>38331</td>
</tr>
<tr>
<td>Miyata Kogyo</td>
<td>44.4</td>
<td>32,080</td>
<td>1,596</td>
<td>5.0</td>
<td>0</td>
</tr>
<tr>
<td>National Securities Co., Ltd.</td>
<td>29.1</td>
<td>20,547</td>
<td>17</td>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>Matsushita Electronic Component Co., Ltd.</td>
<td>98.7</td>
<td>382,046</td>
<td>322,683</td>
<td>84.5</td>
<td>17269</td>
</tr>
<tr>
<td>Matsushita Battery Industrial Co., Ltd.</td>
<td>97.6</td>
<td>200,087</td>
<td>178,389</td>
<td>89.2</td>
<td>3710</td>
</tr>
<tr>
<td>Matsushita Graphic Communication Systems, Inc.</td>
<td>60.0</td>
<td>82,481</td>
<td>58,084</td>
<td>70.4</td>
<td>10937</td>
</tr>
<tr>
<td>Matsushita Electronics Corp.</td>
<td>65.0</td>
<td>466,703</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miyazaki Matsushita Denki</td>
<td>50.0</td>
<td>18,409</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matsushita Jyuetsu Kiki</td>
<td>100.0</td>
<td>168,400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Jitensha Kogyo</td>
<td>83.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matsushita Butsuryu</td>
<td>30.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matsushita System Engineering</td>
<td>50.0</td>
<td>27,479</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Lease</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Shukan Toyo Keizai, Annual Reports

Note: * Share holding by Matsushita Electric Industrial Co., Ltd.
** Share against Matsushita Electric Industrial Co., Ltd. sales in FY1992
*** Share against Matsushita Electric Industrial Co., Ltd. sales in FY1992
Figure 9: Matsushita Group

(%) = shareholding by parent company

Matsushita Electric Industrial Co., Ltd.

Matsushita Electronics Corp. (65.0)
Matsushita Electronic Component Co., Ltd. (98.6)
Victor Co. of Japan, Ltd. (52.5)
Matsushita Battery Industrial Co., Ltd. (96.6)
Matsushita Seiko Co., Ltd. (59.1)
Matsushita-Kotobuki Electronics Industries, Ltd. (57.6)
Matsushita Communication Industrial Co., Ltd. (56.5)
Matsushita Refrigeration Co. (51.8)
Matsushita Jyusetsu Kiki (100.0)
Kyusu Matsushita Electric Co., Ltd. (50.7)
Matsushita Sangyo Kiki (100.0)
Matsushita Graphic Communication Systems, Inc. (60.0)
Teichiku (64.7)
Asahi National Shomei (25.5)
Matsushita Electric Works, Ltd. (32.4)
Miyata Kogyo (43.7)
Wakayama Seimitsu Kogyo (46.9)
Matsushita Kosan (31.0)
National House Industrial Co., Ltd. (26.3)
MCA (100.0)

semi-conductor, TV tube
electronic parts
AV
battery
fan, air conditioner
VCR, communication
communication, OA
refrigerator, vending machine, air conditioner
construction equipment
communication, AV, stereo
industrial electronics, FA
facsimile
music record and cassette tape
lighting
lighting, communication
bicycle
compressor
real estate development
housing
movie, music software

Source: Annual Reports
IV. Transfer of "Keiretsu"

1 Challenges for "Keiretsu"

Teramoto (1992) argues that keiretsu is on a process of transformation as a result of the changing economic environment. He lists the following eight factors as major agents which urge the transformation of traditional keiretsu: (1) further diversification which creates out-of-hand subsidiaries, (2) further globalization which requires management by the multiple headquarters, (3) development of communication system which enhances communications beyond the existing group, (4) social pressure to establish corporate citizenship, (5) continuous labor shortage which requires new human resource management between the parent firm and its subsidiaries, (6) legislative change about consolidated accounts, (7) restructuring after the collapse of "bubble" economy, and (8) transition to the high value-added business.

As a result of these environmental changes, Teramoto (1992) found indications of the long-term structural transformation of keiretsu. While the traditional group vision was defined by the parent firm for the parent firm, recent group visions are, Teramoto argues, created jointly by the parent firm and its subsidiaries. Thus, the new group visions tend to be more concrete than the traditional ones. Under the group vision, many groups try to restructure their strategies as well as themselves. The key issue is usually the rationalization among group firms. Some groups try to reduce duplications within groups by re-defining the corporate mission of each firm. At the same time, many groups try to create systems to produce "group synergy" by coordinating member companies.
In electronics industry, we can observe the empirical evidences of Teramoto's arguments.

In November 1992, Victor Co. of Japan, one of Matsushita group firms, decided to cooperate with Matsushita Electric Industrial Co., Ltd. in the area of R&D for AV business. Victor experienced the loss of ¥21 billion in 1992 because of the poor performance in VCR business, which has been the core business and profit center for Victor\textsuperscript{22}. In the past, Victor's main products, including VCR, color TV, and CD player, often compete with Matsushita Electric Industrial Co., Ltd. While the markets were growing rapidly, such competition brought better results - larger market share - for both firms. Now they agreed to cooperate in DCC parts and VCR parts in Europe.

Similar change of relationship is occurring all over the Matsushita group. Electronic parts, word processor, and work station are the area where rationalization is proceeding. Some researchers predict the mergers between group firms which have similar business areas such as Matsushita Denso and Matsushita Communication Industrial, and Victor Co. of Japan and Matsushita-Kotobuki Electronics Industries.

Also Matsushita Electric Industrial has started to restructure its retail system. The restructuring is part of a shift in Matsushita's strategy of mass-marketing cheap products. Instead, the company intends to sharpen its focus on 'value added' products.

\textsuperscript{22}Japan Economic Journal, December 4, 1992.
Table 12: Matsushita Group's Major Firms and Business Areas

<table>
<thead>
<tr>
<th>Company</th>
<th>Business Area</th>
<th>Net Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>FY1991</td>
</tr>
<tr>
<td>Matsushita Electric Industrial Co., Ltd.</td>
<td>AV, Home Electronics, Communication, Electronic Parts</td>
<td>1964</td>
</tr>
<tr>
<td>Matsushita Electronics Corporation</td>
<td>Semi Conductor, TV Tube, Lighting</td>
<td>371</td>
</tr>
<tr>
<td>Matsushita Communication Industrial Co., Ltd.</td>
<td>Communication, AV</td>
<td>213</td>
</tr>
<tr>
<td>Matsushita Denso</td>
<td>Communication</td>
<td>-64</td>
</tr>
<tr>
<td>Kyushu Matsushita Electric Co., Ltd.</td>
<td>Communication, AV, Electronic Parts</td>
<td>256</td>
</tr>
<tr>
<td>Matsushita-Kotobuki Electronics Industries, Ltd.</td>
<td>AV, Communication</td>
<td>151</td>
</tr>
<tr>
<td>Victor Co. of Japan, Ltd.</td>
<td>AV, Communication</td>
<td>-23</td>
</tr>
<tr>
<td>Matsushita Refrigeration Co.</td>
<td>Refrigerator, Vending-Machine, Air Conditioner</td>
<td>66</td>
</tr>
<tr>
<td>Matsushita Seiko Co., Ltd.</td>
<td>Home Electronics, Air Conditioner</td>
<td>51</td>
</tr>
</tbody>
</table>

Source: Japan Economic Journal

Matsushita's retail network consists of some 27,000 small 'mom and pop' stores called National shops after Matsushita's domestic brand name. This extensive network of shops offering only Matsushita products has been the underlying strength in the company's retailing power. Matsushita has managed to maintain a tight grip on its retailers through a special savings scheme. A National shop owner is allowed to place on deposit 1 percent of every wholesale purchase

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23The average "National Shop"

- Monthly purchase: ¥2 million
- Monthly sales: ¥3 million
- Number of employee: 2.9 (including owner)
- Size of shop: 40 m²
- Average age of shop owner: 57

with Matsushita, which in turn pays the retailer 20 percent interest on the deposit. At the end of March 1991, Matsushita held a total of ¥63.6 billion in deposits from National shops.

However, the once cozy relationship has become an increasing burden on Matsushita as the retailing power of the dealership has been undermined by larger discount stores. Some of the retailers are finding it hard to attract customers by offering only Matsushita's products. The group also faces overseas pressure as the exclusive retail networks operated by Japanese electronics groups have become a target of criticism by US trade negotiators.

Matsushita's restructuring plan includes altering its savings scheme over the next three years and reforming the company's rebate system. The company intends to change the old savings scheme by reducing the interest benefits and setting more stringent requirements on retailers. Only 50 to 60 percent of the existing National shops are expected to have sufficient turnover to survive after the restructuring and the small stores, which are too small to purchase large quantities of stock from Matsushita, are expected to drop out of the network.

In Hitachi group, Hitachi, Ltd. decided to accept hardware supplies from out-of-group firms, including personal computers and work stations, in order to establish a system. This decision was motivated by the fact that Hitachi could expect a small profit margin from such products but large profit opportunities in soft-ware development.

\textsuperscript{24}Shukan Toyo Keizai, October 31, 1992.
Figure 10: Globalization Strategy of Japanese Electronics Firm

Source: Nikko Research Center
2 Restructuring: New Type of Corporate Network?

The fundamental transformation of keiretsu has been observed by Teramoto (1992) and others in restructuring groups, changing relationship among firms (from competition to cooperation), and lowering barrier between internal and external organizations.

Although the restructuring of groups often requires considerable sacrifice to some segments of groups, it aims at strengthening the groups' competitiveness. In other words, the restructuring works to keep the current keiretsu system. Rationalization within keiretsu mentioned in the previous section will also result in increasing the interdependence between group firms. Keiretsu groups are seeking the way to survive by strengthening the ties in selected business areas and restructuring the uncompetitive business drastically. While some studies see development of a new corporate network, it can be just the extension of traditional keiretsu behavior. Imai once explained keiretsu as follows: "When the product is a mass-produced commodity with the same price, keiretsu companies prefer to deal with their members. But where a product is vital to the competitiveness of the whole organization, the company will buy the best available and not necessarily one produced by a member of the keiretsu." If a series of keiretsu restructuring is just a re-defining process of their core business, it does not create a new corporate network.

Japanese pre-war "zaibatsu" groups have transformed themselves to business combines (kigyo shudan) and further to the corporate networks (Imai 1988). In

26 Development from business combines to the network industrial system
(1) the interfirm relationship has changed from a formal one of mutual stock ownership and detailing of corporate officers to an informal one whereby, in essence, information exchange has become its principal content.
(2) the treatment of the information has changed fundamentally.
this process, the ties between firms have weakened significantly and the existence of
groups became less important in terms of individual firm's decision making.
Keiretsu groups, however, seem to keep themselves as units and, consequently, they
will continue to perform a significant role in Japanese economy.

In conclusion, the importance of the keiretsu in Japanese industrial
organization raises questions about whether earlier theories of foreign direct
investment, even those by Japanese scholars, have identified the right level of
analysis by following Western theories in anchoring their analysis at the level of the
individual firm, rather than the keiretsu or other type of group structure. Both levels
of analysis may be needed to make sense of Japanese patterns of foreign direct
investment. Besides, considering the existence of giant business groups in other
Asian economies (Koike et al. 1991), "two levels of analysis" should be employed in
analyzing the future internationalization of other Asian firms.


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