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The Asian Strategy of Japanese Multinationals: Focus on China

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Introduction

Basic questions:

Negative evaluation of Japanese investment in China is aplenty, both within Japan and abroad. This involves the assessment that Japanese investment in China is behind not only that of U.S. and European multinational companies (MNCs) but also that of Taiwanese and Korean firms, and its performance has been inferior to the performance of U.S., European, Taiwanese, and Korean investment. It is usually pointed out that the inferior performance is due to the following factors:

a. While U.S. and European investments are mostly seeking domestic demand, Japanese investments are overwhelmingly designed to utilize China as an export platform, particularly to Japan and thus have not benefited from rapidly growing Chinese market adequately. .
b. While U.S. and European MNCs are willing to transfer technology through such measures as locating R&D facilities in China, Japanese firms are reluctant to transfer technology.
c. The domestic content of Japanese production in China is much lower than that of U.S. and European production.
d. The degree of the localization of management is much lower in Japanese subsidiaries in China than that of U.S. and European subsidiaries.

Our basic questions are: first, whether these allegations are true, second, if so, what are the reasons, and third, what are areas for improvement both in management and public policies.

Methodology

I have categorized corporate activities of U.S., European, Taiwanese, Korean, and Japanese MNCs in East Asia, as reported in newspaper and journal articles and as learned through corporate interviews, according to management functions. Management functions are: marketing, production and procurement, research and development and technology transfer, logistics, human resource management, financial management, equity participation and other strategic alliances, and regional headquarters. (In the following analyses, I will omit financial strategy as I have not obtained enough data.) Obviously, the strategies in these categories are not independent but related to each other. I have tried to deduce the general directions of management and general causes for such directions, and then compare those directions and causes between Japanese and non-Japanese MNCs.

1. The Presence of MNCs in East Asia and Their Performance

1.1. The Presence of MNCs in East Asia and Their Performance

Larger Weight of Investment in ASEAN for Japanese Firms

The weight of direct investment in East Asian economies has been much higher for Japan, and Japanese direct investment in ASEAN economies has been much higher than it has been for the U.S. and Europe. Moreover, the proportion of direct investment in China has been higher for Japan than for the U.S. and Europe. In other words, East Asia as a whole and China are more important for Japanese MNCs than for U.S. and European MNCs.

The U.S. foreign direct investment outstanding in East Asia excluding Japan (China, NIEs and four ASEAN countries - Malaysia, Thailand, the Philippines and Indonesia - combined) was U.S.$66.7 billion at the end of 1996, which was slightly smaller than Japanese investment in the area at the time, or 8.98 trillion yen (about U.S$ 78.8 billion) (**Table 1**). However, U.S. investment grew rapidly during the second half of the 1990s to reach U.S.$111.6 billion at the end of 2001, outstripping Japan's investment of 6.31 trillion yen (about U.S.$ 56.2), which actually declined from 1996 probably due to the writing down of assets in ASEAN as a result of the Asian Crisis. The weight of outstanding investment in East Asia in total global investment has been much higher for Japan – 33.8% at the end of 1996 and 19.1% at the end of 2001—than for the United States—8.4% at the end of 1996 and 8.1% at the end of 2001.

Investment Shift to China

MNCs have shifted their investment from ASEAN to China significantly since the Asian Crisis. China has received a high level of investment of over U.S.$40 billion annually while investment in the six countries of ASEAN (ASEAN6)—Singapore, Malaysia, Thailand, the Philippines, Indonesia and Vietnam—shrank in the post-crisis period (**Table 2**). China received 1.3 times what ASEAN6 received during the period from 1991 to 1996, the gap widened to 4.3 times in 2002. The outstanding investment of the U.S. in China grew rapidly in the second half of the 1990s from US$3.8 billion at the end of 1996 to US$0.5 billion at the end of 2001, which was about equal to Japan's outstanding investment at the time. The amount of outstanding Japanese investment in China grew moderately from 0.9 trillion yen at the end of 1996 to 1.3 trillion yen at the end of 2001 (Table 1). Even the outstanding Japanese investment in ASEAN4 shrank from 4.82 trillion yen at the end of 1996 to 2.3 trillion yen at the end of 2001.

Thus, while for American and European MNCs, which have not invested in ASEAN significantly, investment in China is straight forward, for Japanese MNCs, which have a large stock of investment in ASEAN, investment in China is a delicate balancing act. They need to increase their investment in China to benefit from large new opportunities while at the same time defending their existing business bases in ASEAN. Nevertheless, the shift of investment from ASEAN to China is a natural process because of the difference in size and growth prospects

between those economies. The Chinese economy was 2.3 times as large as the total of five ASEAN economies in nominal terms in 2001 and 3.2 times in purchasing power parity in the same year (**Table 3**). Moreover, it is growing much faster. This implies that opportunities for selling to Chinese domestic markets are greater than opportunities for selling to ASEAN markets. Moreover, the low cost labor is much more abundant in China because its population is large, its average income is low and its internal income disparity is large (**Table 4**). This means that China is attractive as a manufacturing base for export for labor-intensive industries. Japanese firms, which have invested heavily in ASEAN, need to shift investment to China in order to have a more proper geographical balance.

Lower Profitability of Japanese Investment

Japanese investment in East Asia has been less profitable than American investment there. However, it is more profitable than the average of her global investment. The return on Japanese direct investment in East Asia has been continuously lower than that of American investment in the region. The number for Japan was 10.2% in 2002 while the number for the U.S. was 16.4%. However, the gap has been narrowing since 2001 (**Table 5**). While the profitability of investment in East Asia was higher than the average for Japan's global investment, it declined sharply to negative territory after the Asian Crisis, with returns on direct investment falling to –4.8% and –2.8% in 1999 and 2000 respectively. Since then, it has recovered sharply to 9.0% and 10.2% in 2001 and 2002 respectively. These returns were substantially higher than the average return on Japanese global investment – 5.7% and 5.5% in 2001 and 2002 respectively.

The return on Japanese direct investment in China was meager, hovering around zero percent until 2000 even though the Asian Crisis did not affect it. However, it has improved significantly since then to 6.4% and 8.2% in 2001 and 2002 respectively. According to a survey, the satisfaction level of Japanese direct investment in China has continued to improve until leveling off in 2002 due to the cyclical downturn of global economic climate and has reached the same level as in other areas (**Table 6**).

The rapid increase in America's presence in East Asia, particularly in China, since the second half of the 1990s and the high profitability of U.S. direct investment in East Asia are in parallel with the high performance of American corporations in recent years. The waning Japanese presence and the low profitability of her direct investment in East Asia reflect the weak performance of Japanese corporations due to the long stagnancy of Japanese economy and the damage inflicted on them by the Asian Crisis. However, the above statistics show that the performance of Japanese corporations in East Asia has been recovering significantly since the turn of the century.

1.2. The Presence of MNCs in China and their Performance

Waning but Proportionally Larger Presence of Japanese Firms in China

According to Chinese statistics, the neighboring economies have kept large shares. Hong Kong dominated inward direct investment in China in the period of 1987-1991 with approximately 60%, but the source of inward direct investment has diversified since then. Hong Kong's share declined to around 40% in the period of 1996-2002 (**Table 7**). Hong Kong's share must be significantly overstated since it includes investment by mainland subsidiaries located there – so called round tripping[1]. Hong Kong's figures must also include investment by foreign subsidiaries based there. Taiwan's share decreased from 7.5% in the period of 1987-1991 to 6.9% in 1996-2002, but the figures must be substantially understated because of indirect investment through foreign locations and unreported investments. The EU's share increased sharply from 4.7% in the period of 1987-1991 to 8.7% in the period of 1996-2002. The American share was unchanged from the period of 1987-1991 to the period of 1996-2002 at 9.3% after declining to 7.4% in the period of 1992-1995. The Japanese share of 8.3% in the period of 1996-2002 was significantly lower than the 12.7% share in the period of 1987-1991 although it recovered from the 6.6% share in the period of 1992-1995. Japanese investment in China maintained a high share from 1985 to 1989 buoyed by the yen's appreciation but the share gain because of the financial crisis at home.

Similar Pattern of Japanese Investment in Terms of Size and Location

European investments have had the largest average size followed by those of the U.S. and Japan. The average Hong Kong investment has been slightly smaller than the averages for American and Japanese investment. The average sizes of Taiwanese and Korean investments have been much smaller (**Table 8**). The average European direct investment has been large scale because European investment concentrates in capital-intensive industries such as automobiles, automobile parts, telecommunications, chemicals, food and pharmaceuticals and because investment of SMEs is limited due to the long distance between Europe and China. American investment has included such industries as automobiles, telecommunications, electronics, chemicals and petroleum. Taiwanese and Hong Kong investment was mainly in labor-intensive industries such as footwear, garments and electronics assembly. In case of Taiwan, investment in electronics and electrical appliance, basic metals, rubber products, chemical products, food and beverage and precision equipment accounted for 35.8%, 9.3%, 7.8%, 7.3%, 6.2% and 5.9% respectively[2]. Korean investment has been primarily in labor-intensive industries, but there have been some large-scale investments in consumer electronics, automobiles and chemicals. Japanese FDI in

[1] According to an estimate, the portion of round tripping accounts for a quarter of the total.
[2] Data from *Investment Commission Website* cited by Wang (2004)

China is focused on the manufacturing industry, comprising over 80% of total investment while service investment has picked up recently (**Table 9).** In the manufacturing industry, electrical and electronics, transportation equipment, chemical and machinery account for major shares, comprising 24.7%, 11.8%, 9.0% and 8.3% respectively of the total investment.

The geographical distribution of FDI within China varies depending on source economies. European, American and Japanese investment tends to concentrate on two development centers, i.e., the Yangtze River Delta, which includes Shanghai, Jiangsu and Zhejiang, and the Bohai Bay Area, which includes Beijing and Tianjin, while Korean, Hong Kong and Taiwanese investment tends to be in areas neighboring the respective economies. The 52.8% of E.U. investment in 2001 was located in the Yangtze River Delta and the Bohai Bay Area accounted for 28.1% in the same year (**Table 10**). The 41.5% and 34.6% of American investment went to the Bohai Bay Area and the Yangtze River Delta respectively in the same year. The 55.4% and 30.9% of Japanese investment were located in the Yangtze River Delta and the Bohai Bay Area respectively. The 76.8% of Korean investment went to the Bohai Area, mostly to the neighboring Shandong, Liaoning and Tianjin provinces. About a quarter of Hong Kong investment went to the neighboring Guandong province. About a third of Taiwanese investment went to the neighboring Fujian province. However, Taiwanese investments have increasingly moved to the Yangtze River Delta as they are becoming more high tech in nature.

The Hong Kong, Taiwanese and Korean investment consisting mostly of SMEs has been directed to mostly their neighboring provinces, where ethnic ties are strong. While there are no ethnic ties for Japan, Japanese investment is thought to include more SMEs than European and American investment due to her proximity to China.

Production Orientation of Japanese Firms

China attracts essentially two types of investment: an export platform and selling to domestic markets. While European and American direct investment in China has been primarily for selling to China's domestic market, Japanese investment has been oriented more to investing in production facilities for the export purpose. The 52.2% of non-Japanese foreign companies investing in China responding to the survey by METI answered that they will strengthen the function of selling to the domestic market while only 8.7% and 17.4% answered that they will strengthen the functions of assembling final products and production of parts respectively (**Table 11**). In another survey to Japanese firms, as high as the 72.8% of respondents answered that they would strengthen the production function and the 58.1% of respondents answered that they would strengthen the sales function (**Table 12**). The latter figure is in the same level as the percentage of American firms saying to strengthen the sales function, but is much lower than the percentage of Japanese respondents saying to strengthen the production function.

Reasons for Lower Profitability of Japanese Firms in China

As we saw in Table 5, Japanese direct investment in China has been less profitable than American investment there although the profitability of Japanese investment has started to improve since 2001. We can cite the following reasons:

First, in the electronics industry, which accounts for the largest part of Japanese investment in China, Japanese firms lost international competitiveness because they failed to adapt to the structural change in production system towards a modular architecture, in which sub-functions and structure (a part= a module) of a product are in a one-to-one relationship (Fujimoto pp.88-89). American firms initiated a drive to de-integrate the vertical production chain and outsource non-core production functions such as final assemblies and parts production, which tend to be labor- and capital-intensive, and concentrated on knowledge-intensive functions such as research and development and also on marketing to build and maintain brands. Japanese electronics corporations, which had vertically integrated organizations, faced increasingly tough competition in manufacturing businesses, on one hand, from low-cost producers organized by Taiwanese and other contract manufactures, which organize low-wage labor in China and invest massively in capital-intensive production processes in semiconductors and other devices for supplying brand marketers in advanced countries, and, on the other hand, in knowledge-intensive businesses from American and other brand-marketers in advanced countries, which had benefited from concentrating in this area..

Second, because of the slow and cautious investment of Japanese corporations in production for China's domestic markets, Japanese corporations typically allowed dominance of European and American MNCs in often-protected Chinese markets, which have grown more rapidly than expected. Many industries are dominated by a handful of American and European – and sometimes Korean and Taiwanese – firms, which had moved in and invested aggressively while the presence of Japanese firms is marginal (**Table 13**). While those early movers have earned oligopolistic profits and benefited economies of scale, late movers have been neither able to earn such profits nor able to benefit from economies of scale.

Third, many Japanese firms in such industries as household appliances, consumer electronics and motorcycles have faced tough competition from domestic firms, which have learned to produce products such as PCs, home appliances and mobile phones of reasonable quality very cheaply and developed nation-wide distribution channels. Moreover, Chinese consumers in certain industries such as food, home appliances, and consumer electronics are not so loyal to established international brands and price-sensitive, which has worked as an advantage for local firms. Japanese firms have not been able to repeat success stories they had in ASEAN and other markets where they could dominate with international brands, and they have not been able to achieve low cost production based on scale. The ability of Chinese firms to produce low-cost

products owes to a large extent to their recourse to outsourcing technologies and key components in the framework of a modular production architecture. The 52.6% of respondents in the JBIC survey cited the tough competition in the market as a reason for the unsatisfactory levels of profitability (**Table 14**). The percentage is highest among all areas and also among the reasons for unsatisfactory profitability in China.

Fourth, the relatively short history of investments of Japanese firms in China is another reason for the low profitability there. According to the JBIC survey, the 29.9% of respondents cite the low operating rate in the early period after initial investment as a reason for unsatisfactory profitability. The percentage is the highest in all areas (Table 14). Profitability of FDI tends to be low in the early period before the initial investments start to pay off. This means that profitability should improve in the future.

And finally, the lower profitability of Japanese firms in China reflects the long cyclical downturn in the profitability of Japanese firms at home and globally since the beginning of the 1990s. This has occurred due to multiple factors including stagnant domestic demand after the collapse of the bubble economy in the 1980s and the bureaucratization of Japanese management during the long period of post-war prosperity. Moreover, the first reason for the lower profitability, i.e., the failure of Japanese firms to adapt to the modular type production system, which emerged as a result of information technology and globalization, undermined the global profitability of Japanese firms, particularly in industries amenable to such a production system. However, Japanese firms have continued to excel in the products based on an integral architecture such as automobiles, automobiles and miniature consumer electronics products, in which the sub-functions and structure (parts=modules) of a product are in complex relationship of one-to-many, many-to-one and many-to-many (Fujimoto pp.89-90). Recently, Japanese firms have been increasingly able to capitalize on their strength in the growing Chinese markets through trade and investment.

2. Comparison of Functional Strategies of MNCs

We will analyze the MNCs in the functions of sales, production and procurement, R&D, logistics, human resource management, equity ownership and strategic alliance, regional management.

2.1. Sales Strategies

Challenges in Selling to Chinese Markets

As mentioned before, European and American firms put the primary emphasis on selling to China's domestic markets and Japanese firms have been also shifting their emphasis from production for export from China to selling to China's domestic markets. According to the JBIC survey of Japanese firms in fiscal year 2002, the 78.7% of respondents answered that response to

expanding market was a reason for expanding activities in China in the medium term and the 33.2% of them answered cultivation of new customers as one (**Table 15**).

MNCs' sales strategies need to adjust to the basic features of the Chinese market, i.e., a huge expanding market with a bias to intermediate demand for production and infrastructure construction, a collection of segmented markets separated by a vast territory with underdeveloped transportation infrastructure, a huge income gap between large cities and rural areas and among general population, much stronger competition of domestic firms in certain industries than in other developing economies and weakening but still strong government intervention in economic activities.

The complexity of the Chinese market puts MNCs in a disadvantageous position against domestic firms and firms from economies with close ethnic ties with China such as Taiwan and Hong Kong. MNCs need to have strategies to overcome this disadvantage and cooperate with them. In order to adjust to the segmentation of the Chinese market, firms need to decide which segments they should target and how to expand to multiple segments in order to achieve economies of scale. Since domestic firms tend to dominate in less knowledge-intensive industries, low-end products and industries in need of extensive distribution channels, MNCs need to differentiate their target markets from domestic firms usually by concentrating on high-end products. On the other hand, high-end markets become crowded by overseas firms with similar strengths. Sometimes, MNCs need to challenge domestic firms in lower-end product markets. Moreover, MNCs often need to meet the requirements of government policies to access to China's domestic markets in a number of industries. How to meet those requirements without undermining other objectives is a major challenge in their sales strategies.

Strategies of MNCs

Faced with these challenges, MNCs are adopting such strategies as targeting particular segments, utilizing both international and local brands, extensive market research development and introducing special products for local markets, and building-up and enhancing distribution channels.

With regard to sales to targeted sectors, many MNCs tend to successfully target sales of high-end products to high-income population in coastal cities. Motorola of the U.S.A., which has dominated mobile phone markets, concentrates on the production and sale of high-end products with high profit margins. Samsung electronics of South Korea tried initially to target the demand for low-price products, but could not compete with domestic producers. Then it reset its target at the population in the top 5% income bracket, or about 65 million people, who live in coastal cities and have purchasing power similar to the population of advanced countries. Similarly, Matsushita Electric faced tough competition from domestic producers in CRT TVs and concentrated its sales efforts on high-end products such as plasma TVs. It acquired a share of

more than 30% in the plasma TV market. Kirin Beverage of Japan gained top shares in the tea category by establishing a high quality image through an advertising campaign. Shiseido of Japan has gained one of the largest shares in the premium cosmetics market by building up a brand image. Japanese textile manufactures such as Toray have found it difficult to compete in standard products against local firms and concentrate in high-end products.

However, this strategy of targeting high-end products often results in excessive competition among foreign firms. Some MNCs have successfully moved to middle income markets. Suntory of Japan has moved to the medium price range beer market in Shanghai and gained a 40% market share in Shanghai's beer market.

However, in some industries such as food and beverages, which are subject to economies of scale, targeting at specific segments makes it difficult to attain enough scale effects and limits the scope for growth. Thus, MNCs in some industries try to diversify targets. In the electronics industry, LG Electronics of South Korea pursues a dual strategy of selling high value-added digital consumer electronics products to high-income population in coastal cities and selling white goods to the low-income population inland. Shiseido set up a new joint venture in Shanghai for producing and selling cosmetics for the mass markets as a separate organization from a joint venture in Beijing specialized at premium products. They use totally different brand names.

Secondly, MNCs utilize both international brands and local brands by differentiating them to sell to those highly segmented markets. For high-end products, international brands are usually competitive and can be a competitive means for differentiating from local firms. However, in some industries such as food, local brands are competitive. Foreign firms such as Nestle and Dannone bought local firms to gain brands in addition to production facilities. Asahi Beer of Japan operates five joint ventures in coastal cities using mostly local brands.

Thirdly, MNCs conduct elaborate market research to devise effective sales strategies to rapidly changing complex markets. MNCs renowned for their marketing expertise such as P&G and Nestle conduct elaborate market research drawing on extensive international experience accumulated over many years. In the beer industry, Suntory successfully chose a mass market in Shanghai after extensive marketing research while many MNCs stuck to the premium segment. While there are some success stories of Japanese firms such as Shiseido and Suntory, they seems to have a lot to learn in this area from European and American leading firms such as P&G and Nestle.

Fourthly, MNCs develop products specifically targeted at local market, often at R&D centers established in China. We will address this point in the later section covering R&D strategies.

Fifthly, MNCs are putting particular efforts to establishing and expanding distribution channels. This aspect is particularly important because China still lacks modern infrastructure of national

distribution, and domestic firms often have an upper hand by moving first to establish national distribution channels when there were barriers to foreigners.

In industries such as home appliances, PCs, mobile phones and household products, which need nationwide sales to realize economies of scale, it is paramount to establish nationwide distribution channels. Those early comers mostly from Europe and the U.S., which have cultivated markets in large cities; the next challenge is to build distribution networks in the countryside. In the mobile phone industry, Motorola is said to have moved first in this direction and Nokia is now catching up. In the automobile industry, GM divided the Chinese market into first class cities (Beijing, Shanghai, Guangzhou and Chengdu), second class cities (the other provincial capitals) and third class cities (regional medium- and small-size cities) and concentrated initially on the first class cities until expanding into the second city in 2004. Shiseido is organizing specialized stores in the countryside as a distribution channel for medium-class cosmetics, capitalizing on the know-how gained in Japan, Korea, and Taiwan at a similar development stage.

In some industries, MNCs try to strengthen their grip on distribution channels by replacing outside agents by establishing their own sales networks. HP in the PC industry changed to direct sales in consumer electronics shops to reduce costs and increase margins. Siemens established a direct sales department responsible for sales to large specialized stores and increased direct sales of automation equipment.

Since the Chinese market is geographically vast and it requires huge investment to establish nationwide sales and after service networks, which are necessary to market such products as consumer electronics, and MNCs are concluding strategic alliances with domestic firms that have established such networks.

In the consumer electronics industry, both European and Japanese firms have concluded strategic alliances with Chinese firms with strong distribution channels. On August 8, Philips (Netherlands) agreed with TCL that TCL would sell Philips brand color TVs through TCL's subsidiaries in five provinces including Guizhou and Jianxi. Matsushita Electric has also concluded an agreement for a comprehensive alliance with TCL. It consigns sales of premium TVs and gets OEM supply of low end TVs from TCL for sale in the Chinese markets. Although Matsushita has its own distribution channels in large cities, it has not established them in inland areas. Sanyo agreed with Haier of China to have a comprehensive alliance for selling each other's brands by sharing distribution channels in each country, and Sanyo will give Haier technical assistance in key parts such as batteries, LCDs and motors and supply such parts.

And finally, gaining access to China's domestic markets as a reward to cooperating with China's industrial policies has been an important sales strategy. In this respect, European and American firms have performed better than Japanese firms. Volkswagen in automobiles, Motorola in mobile phone, and Kodak in film, for example, captured the lion's share of their

respective markets by cooperating with the government's industrial policies. In 1997, Kodak agreed to absorb ailing SOEs with huge debt by keeping employment and investing US$1 billion, and as a reward the government banned investments of other foreign companies for four years. As a result, Fuji's share declined to 25% while Kodak's share rose to 65%.[3]

2.2. Strategies for Production and Procurement

Since China has a comparative advantage in labor-intensive industries and industrial clusters have developed in such areas as the Pearl River Delta and the Yangtze Delta, MNCs have been attracted to China as an export base. MNCs have expanded local production in garments and electronics products with such motives. Moreover, local production has become crucial for supplying products to domestic markets. In industries such as telecommunication equipment and automobiles, local production is required by industrial policy often through joint ventures with local partners. Furthermore, increasing production for both export and domestic sales purposes has attracted investments in intermediate suppliers, which served to deepen industrial clusters, adding further to the competitive position of China.

As mentioned before, Japanese investments in China are much more production-oriented than European and American enterprises. This pattern can be explained by at least three factors. First, Japanese industrial structure is more manufacturing-oriented than are American and European structures. Relatively speaking, Japanese investments, not only in China but also globally, are more concentrated in manufacturing. Second, Japan's geographical proximity to China makes it easier for Japanese manufacturers to operate international production networks with China than for European and American manufacturers. Third, de-integration of the production system is less advanced in Japan than in the U.S. For example, the international production networks of American IT firms in the framework of a modular architecture involve Taiwanese and other contract manufactures and their suppliers based in China and the direct investment of American manufactures is therefore limited. Japanese firms tend retain an integral architecture and their use of such contract manufacturers, although increasing recently, is much less.

Shift of Production from ASEAN to China

MNCs firms have shifted their production from ASEAN to China in recent years because of China's comparative advantage over ASEAN in manufacturing. There have been notable shifts involving prominent companies such as Sony, which divested its production facility in Indonesia. Japanese firms are shifting their investment from ASEAN to adjust to the geo-economic change. However, that does not mean Japanese companies, which have a large stock of investment in ASEAN, will abandon ASEAN altogether for China. They try to strike a balance between their

[3] Asian Wall Street Journal Jan. 9, 2003.

presence in ASEAN and in China. As seen in **Table 16**, a much higher percentage of Japanese firms answered that they will establish new production bases in China (31.9%) than in ASEAN (11.1%). However, a higher percentage of Japanese firms in ASEAN (48.1%) answered they will expand existing production lines. In ASEAN, Japanese firms, which had invested in production bases in individual ASEAN countries separately in early days, are now trying to reorganize their facilities in order to manage them in an integral way for benefiting from a creation of an internal market through AFTA.

As mentioned before, MNCs have constructed international production networks by positioning China as the core-manufacturing center, particularly in labor-intensive assembly operation. U.S. IT firms involving Taiwan and other subsystem providers have formed such international production networks. Japanese firms tended to establish such networks between Japan and China. Moreover, there are attempts to establish international production networks encompassing ASEAN and China. This strategy would be particularly relevant to Japanese manufacturers, which have a large stock of existing investments in production bases in ASEAN. In the automobile industry, Honda, for example, is reported to make its Guangzhou factory an export base for Asian and European markets by supplying parts from Thailand, Malaysia, and Indonesia. This project is thought to be feasible now because of the elimination of the 40% local content requirement.[4] This suggests that a reduction of trade barriers between ASEAN and China through such mechanism as the agreed ASEAN-China FTA will induce intra-trade by Japanese and other MNCs.

MNCs invest in local production also for supplying to domestic markets. For some industries such as the food and beverage industry with perishable products, local production is crucial for economic reasons. Another big purpose of local production for supplying domestic markets is to overcome import barriers by heeding the demands of industrial policies by local governments. As it is necessary to produce locally to have access to local markets in many industries, MNCs have established joint ventures with local firms, mostly SOEs. Primary examples are telecommunication equipment and automobiles. European and American MNCs were more aggressive in pursuing this strategy and acquired dominant market positions with this strategy. In the mobile phone industry, Motorola first invested in local production and gained a market position in return. Nokia followed suit and produces most mobile phones it sells in China locally and produces some for export.

MNCs try to increase the local content of production for two reasons – one for reducing costs by buying and manufacturing low cost parts and the other for satisfying the demand of local

[4] Reported by Asian Wall Street Journal July 11, 2002. Moreover, it is said that another motive is to be able to have a majority stake by making the second factory specialized in export. It also says that Toyota doubts whether such a scheme will satisfy quality requirements.

governments. Motorola has increased local contents in the production to cooperate with the Chinese government's policy of increasing local contents and also to reduce costs. Its company-wide local content ratio in China rose from 20% in 1994 to 65% in 2002. Japanese electronics manufactures also strive to increase local contents. Matsushita Electric has increased its local content ratio in CRT TVs from 22% in 1999 to 78% next year by cultivating local suppliers[5].

A Counter-trend towards an Integral Production System

A major force behind a shift of production to China, particularly production for export, from advanced economies, has been an increasing use of a modular architecture in a production system, as I have described before. This has enabled brand markers in advanced economies to outsource labor-intensive production processes to low-wage countries such as China. Moreover, local producers, which have an edge in marketing in domestic markets, have been able to compete effectively with MNCs by outsourcing R&D and key components. However, there is now a counter-trend emerging to an integral architecture. As digital technology has become crucial in producing electronics products, customized semiconductors have become a key technology to develop and differentiate products. Motorola, whose once dominant market share of mobile phones has been eroded by competition from local brand manufactures, started a business model of selling the service of developing new models of mobile phones to together with semiconductors as key components. Similarly, Japanese electronics firms have invested in production of semiconductors in China to sell to China's domestic markets. In a way, their strategy is to earn profits in the middle of a "smile curve" by producing key components such as semiconductors.

Moreover, there is a new counter-trend in Japan of shifting production of high-end products back into Japan from China and elsewhere while investment in China will continue. This is because the businesses of digital products such as mobile phones, digital cameras and flat display TVs, which have very short product cycles, need rapid development and production with continuous collaboration with researchers, engineers and suppliers. In this process, some Japanese firms have found that an integral architecture is more advantageous and it is effective to do R&S and production in Japan since an weight of labor costs in total costs is limited due to the increasing importance of key components. Canon has offered a model for this type of strategy by emphasizing production in Japan with a shift of its production system from a belt conveyer system to a cell production system, which requires more skilled labor. Focusing on key devices and more emphasis of production in Japan will also lessen the risk of losing technological leadership by having their technologies copied.

[5] An article in Nikkei Business December 8, 2003.

These developments are important for Japanese MNCs because they have found a business model, which is more complementary to the traditional Japanese corporate system and enables them to regain profitability to be more aggressive in developing new products and pouring resources to cultivate the Chinese markets[6].

2.3. R&D Strategies

MNCs have increased their R&D activities in China. As of the middle of 2003, 82 foreign firms had established R&D bases (Table 17). In terms of the number of companies having R&D bases in China, Japan is not behind the U.S. or European countries. However, individually, Japanese R&D investments are still generally smaller in scale and European and American firms are more aggressive in local R&D, as revealed by the surveys cited before (Tables 11 and 12). Since China's domestic markets are still protected to a larger degree than other large markets and the Chinese government has pursued a policy of trading technology for market, this perception may be working as a constraint on the cultivation of Chinese markets by Japanese firms.

The limited R&D localization by Japanese firms may be due to the following reasons. First, as in other operating areas, Japanese investment has been constrained by lower profitability back home. Secondly, the lower emphasis on sales to domestic markets by Japanese firms has reduced the need for R&D work for developing products to suit local markets. Most R&D activities of European and American MNCs are for the development of products adapted to local market conditions but they do it on a much larger scale **(Table 18**). A Chinese scholar mentions that European and American firms' R&D activities are mainly to develop products suitable for local markets while Japanese firms' R&D activities are mainly to support a division of labor in international production systems encompassing Japan and China (Jiang).

Localization of R&D is seen in three categories: first, development of products meeting the demand of local conditions to support marketing, second, R&D in the areas where the host country is more advanced, and third, R&D in the areas where the home country of the MNCs or other third countries are more advanced. Obviously, it is desirable to accelerate localization in the first two categories. However, it is usually undesirable to proceed in the third category. In fact, most of the R&D activities of MNCs in China are in first category. There are not many areas in which China is ahead of advanced countries. However, in mature industries such as textiles there is a strong incentive to shift R&D to China, where they are still growth industries. In advanced countries, R&D activities in such industries are very limited and it is difficult to find qualified researchers in those areas.

MNCs in pursuit of China's domestic markets need to answer a trade-off question. On the one

[6] This strategy also enable them to keep a competitive edge by reducing production costs rapidly with the learning curve effect, which strongly accompanies production of key devices such as semiconductors (An article on Shukan Tokyo Keizai, Jan. 31, 2004.

hand, it is desirable to localize R&D to develop products to satisfy local conditions and to meet the demand of governments from an industrial policy perspective. On the other hand, it may be better to restrict local activities because of the lack of protection of intellectual property. According to a survey of Japanese manufactures, there is a high expectation for increased protection of IPR after China's accession to the WTO (**Table 19**), but they feel that there has not been real progress in this matter (**Table 20**).

A common strategy for MNCs at this stage seems be to concentrate on expanding local R&D activities in developing products suitable for local market conditions and those to support servicing local clients. While a common perception is that European and American firms are more willing to transfer the R&D functions to China, their R&D activities are mostly confined to areas supporting their marketing. This will serve to support sales in local markets and increased activities will serve to improve relations with local authorities. On the other hand, by concentrating on the modification of products developed in MNCs' home countries or other advanced countries where intellectual property is better protected, it is easier to prevent the copying of core technologies by competitors.

Moreover, the increasing production and its upgrading has been inducing local R&D for MNCs. General Motors Established an R&D joint venture with Shanghai Motors with 650 employees in Shanghai in August 1997. The extent of localization is fairly high from the beginning, as the number included just 13 foreigners.

Japanese firms, however, are increasing their R&D operations in China from two directions – increasing emphasis on local sales from the original focus on manufacturing for export and expanding and upgrading local production. Japanese electronics companies have established R&D centers in China with an increasing emphasis on semiconductor technologies based on a new business model as discussed before. Matsushita Electric, which has a long history of investment in China, is particularly aggressive in localization of R&D. It has two R&D centers and plans to increase the number of employees at the two centers to about 1,750 by 2005 (Table 18). A Japanese automobile company has started local designing of parts as its local content increases. As Toray of Japan started to concentrate on the high-end products because of its difficulty in competing with local producers in standard products, it has become clear that they need to increase local R&D to support client services.

Another major reason for R&D localization is the utilization of local talents. In this respect, research collaboration with Chinese research organizations and universities offers an effective avenue. This is particularly so because traditionally under a planned economy framework R&D activities have been conducted by centralized research institutes based in large cities rather than state-owned enterprises and those research organizations and universities have moved aggressively into the commercial research area. European and American companies seem to be

more aggressive in research collaboration with them than Japanese firms. Moreover, Japanese consumer electronics firms have found that in China home appliance researchers, who have become difficult to find in Japan because of the maturity of the industry, are much more available. Matsushita Electric tries to make focus its R&D center in Suzhou on development of products for export to global markets.[7]

Because of these developments, it seems reasonable to expect that more and more R&D works will shift to China, particularly if China makes a progress in the protection of intellectual property rights.

2.4. Logistics Strategies

In China, where the transportation infrastructure is not yet adequately developed, particularly in the inland area, and where the logistics industry is still underdeveloped, MNCs have found that the inadequacy of logistics constrains the growth of their businesses, particularly in the pursuit of expanded sales in the domestic market. For example, the logistics environment has constrained the development of Wal-Mart's China domestic businesses[8]. The company's engagement with China is mostly confined to purchases of Chinese products.

Many MNCs have started to use third party logistics service providers (3PLs). In the electronics industry, Nokia uses Excel, a 3PL, in their operations in China and Southeast Asia. Unilever uses a Shanghai-based local 3PL for 90% of their distribution. Volkswagen uses the subsidiary of TPG, a Dutch 3PL, for the transportation of cars and parts. GM has developed an E-supply system to manage it value chain on-line.

Matsushita Electric is reported to form a joint venture with a local company to integrate its logistics in China. This will be used to improve logistics in the coastal area. Since the infrastructure of the rural area is not developed enough for it to manage itself, it has allied with TCL to use its infrastructure to distribute Matsushita's products[9].

2.5. Human Resource Management

While European and American MNCs promote local management talents, Japanese MNCs lag in localization of management. It is said that most top managers of local subsidiaries are either locals or overseas Chinese. According to a survey by the Japanese Ministry of Economy, Trade and Industry, out of the CEOs of 13 subsidiaries of European and American MNCs, locals, third country nationals, and home country nationals numbered 6, 3 and 1 respectively. The three third country nationals are either Taiwanese or other overseas Chinese. Prominent MNCs such as IBM, Dupont, Unilever, McDonald and Carrefour have locals in the top positions of their China

[7] Nikkei, April 5, 2002.
[8] SinoCast China Business Daily News Jan. 8, 2003.
[9] An article in Nikkei Business, Feb. 24, 2003.

headquarters. Dupont conducts a 'China 15' program, which tries to develop human resources capable of supporting its China businesses and aims to fill the 15 key positions of its China headquarters by locals. Korean firms such as Samsung and LG also promote locals to senior managers while keeping Koreans in the CEO positions of their China headquarters.

European and American firms have a much clearer policy for attracting the best talents than do Japanese firms and they offer attractive incentives for training opportunities for Chinese employees with a strong desire for achievement. The parent company of Motorola China has more than 130 special training courses for Chinese staff. Ford Motors has offered Chinese engineers opportunities to participate in research activities at its headquarters since 1980. About 80 researchers participate from Ford's joint ventures and research institutes in China. Moreover, it offers master degree courses at Tianjin University for its employees. The joint research projects with prominent Chinese universities mentioned in the R&D strategy discussion are intended, to a large extent, to recruit the best students. Japanese corporations lag far behind in such efforts.

However, the promotion of locals in the China businesses of European and American firms is not necessarily proceeding at the same speed in all the functions. As seen in **Table 20**, the delegation of authority is most advanced in functions related to local sales activities followed by functions related to local business relations. The delegation is least advanced in functions related to the core of business management and intellectual property.

A reason why European and American firms have been able to do more localization of management in China seems to be that their organizational structure is more modular than that of Japanese firms, and it is easier to divide functions into those which they can delegate and those which are kept closely within headquarters. In Japanese firms, such distinction is not clear and there is a tendency for global headquarters in Japan to keep tight control on decision making in every function. The lack of modularity is most apparent in the limited scale of remuneration for local employees and their slow promotion through the organization, which have made it difficult to attract the best local talents with prospects of rising to high positions. It is difficult for Japanese corporations to institute local systems, which diverge considerably from the systems of moderate scale remuneration and slow promotion at home. A third reason seems to be that the use of international language standards, particularly English, is limited in Japanese corporations. European and American corporations can recruit top executives from a large pool of local talents who are proficient in English, but Japanese firms recruit their local staff mostly from a much smaller pool of those who are proficient in Japanese. A few Japanese corporations use English extensively. In the sales department of Sony's China headquarters it is said that 90% of communication is in English and local staff are bilingual in English and Chinese.

In the current transitional stage of China's development when there are not yet enough local

managers with enough experience in the management of modern MNCs, many European and American MNCs use overseas Chinese, particularly Taiwanese, as managers in their China operations. For example, out of about 200 marketing and sales employees of Shanghai GM, there are 2 American leaders and 5 Taiwanese senior employees. And there are many Taiwanese managers in IBM's China business.[10]

2.6. Strategies for Equity Participation and Corporate Alliance

MNCs' strategies in equity participation and strategic alliance have two dimensions. The first dimension is what functional purpose the alliance can achieve and the second dimension is whether they are based on economic logic or non-economic logic. The first dimension refers whether to pursue domestic markets or to build production capability. The second dimension is important in China, where the degree of market protection and government intervention is still fairly high. For the foreseeable future MNCs have to face a trade-off of economic rationality and the need to meet the requirements of industrial policies.

Strategic alliances with Chinese domestic firms are mostly to enhance the ability to sell to domestic markets because domestic firms tend to have a comparative advantage in domestic sales capabilities and also Chinese industrial policies are usually designed to trade MNCs' access to China's domestic markets with technology transfer to Chinese domestic firms through the formation of joint ventures in production between them.

In the food and beverage industry where industrial policy intervention is minimum, MNCs have purchased Chinese domestic firms to expand sales by gaining local brands, sales channels, and production capacities. Unilever bought the largest seasoning manufacturer in Shanghai in 1998 and a Hong Kong ice cream company, which had large shares in Hong Kong, Shanghai and Guangzhou.

In some key industries, foreign firms are required to form joint ventures with domestic firms, mostly SOEs. The automobile industry, where foreign firms are required to form joint ventures with domestic manufacturers in production to sell to domestic markets, is the case in point. The recent surge of car sales under such a regulatory framework in China has prompted a rush of joint venture formation by MNCs. Moreover, in the automobile industry pressure on domestic producers for corporate alliances is intensifying as market competition is heating up with the reduction of import duties as a result of China's accession to the WTO. Moreover, Nippon Steel concluded a joint venture agreement with Baoshan Iron and Steel for production of flat steel for automobile with50% equity participation from Baoshan and 35% from Nippon. It is reported that Nippon Steel's intention is to secure a foothold in China's growth market by avoiding trade

[10] According to a research report by Fujitsu Research Institute assigned by the Ministry of Finance, Japan (March 2002).

friction.

Joint ventures with Chinese domestic firms are often necessarily concluded with SOEs, but this usually causes many problems such as the lack of managerial control by MNCs, a difficulty to keep healthy labor relations, and the influence of inefficient SOE management (Fujitsu Research).

There is a case that a Japanese firm decided to ally with a Chinese low cost producer as it has found it difficult to compete with them in low-end products. Honda formed a joint venture with its crone motorcycle producer in China, impressed by its ability of low cost production. The joint venture is to export low-end motorcycles to Japan. The ability of Chinese producers to produce low cost is believed to be due to their mastering of module production technology. In the higher ends, integral technology seems to be required and Japanese manufactures still have an edge.

In one case, a MNC set up a joint venture with an overseas Chinese corporation for production in China. A reason for this venture is to benefit from the experience of the overseas Chinese company to smooth relations in China. Minebea Corporation, a Japanese manufacturer of machinery components and electronic devices, set up a joint venture with Hua Hsin Holdings Ltd. of Singapore in Shanghai in August 2002 to produce PC key boards.

2.7. Strategies for Regional Headquarters

MNCs have started to set up regional headquarters in China, mostly to manage their China businesses, and some to manage their Asian businesses. There is obviously a case for setting up regional headquarters to manage China businesses separately because China is a vast market, which is complex and growing rapidly, and needs a lot of attention and quick responses. Although China is a short distance from Japan and it is more feasible to manage China businesses from Japan, more and more Japanese corporations have set up regional headquarters in China. This is in response to the growing importance of their China businesses in comparison with businesses in Japan, where markets are not growing, and also to overcome the slowness in decision making by Japanese headquarters. Establishment of regional headquarters is more urgent in the sales function than in production. For example, in Toray, a Japanese chemical company, the China headquarters mainly manages the sales function, and production and R&D functions are still managed by the corporate headquarters. Chinese markets are different from Japanese markets and separate management is required. Production by Japanese corporations in China is often done as part of an international production network linked with Japanese facilities and it is better managed in an integrated way. In the management of production, language is not as difficult a barrier as it is in the management of sales. Japanese corporations need to improve their management of regional headquarters.

Some U.S. companies have set up Asia Pacific regional headquarters in China, particularly in Shanghai, sometimes by shifting around existing headquarters, but few Japanese corporations

have done so. American firms have responded positively to the financial incentives the City of Shanghai offers. The different approach of American and Japanese MNCs seems to be due to the different importance of ASEAN markets. For European and American MNCs, their Chinese businesses are much greater than their ASEAN businesses, and it is easier to justify locating their Asia and Pacific headquarters in China, whereas for Japanese MNCs, which have invested heavily in ASEAN countries, it is difficult to justify locating regional headquarters in China. They tend to have two headquarters – one for ASEAN and one for China. Moreover, some Japanese corporations feel that institutional infrastructure such as capital movement and the protection of intellectual property is not adequate enough to move all the functions of regional headquarters to China.

3. Differences in the Direction of Asian Strategies between European and American MNCs and Japanese MNCs

As we have gone through the functional strategies of European and American MNCs on one side and Japanese MNCs on the other side, I think there are some differences in basic directions or thrusts between them. These differences are as follows:

First, it is largely true that European and American MNCs are more oriented to selling to Chinese markets and Japanese MNCs are more oriented to use China as a base for manufacturing for export both back to Japanese markets and to global markets. As mentioned before, the difference is natural because the Japanese industry is more manufacturing-oriented and also Japan is in a much better position to form international production networks encompassing China and Japan, and also ASEAN due to its proximity to China. At the same time, Japanese corporations have gradually shifted their orientation from a production base to selling to Chinese markets. Japanese investment in China will become more balanced between investments for export production and investments for domestic market sales. Japanese firms, which have invested cautiously in the past, need to implement catch-up strategies as latecomers against established European and American MNCs.

Second, European and American MNCs are more strategic in the sense of design and implementation of their China strategy. This is reflected in their concentrated and speedy investment in marketing and production in targeted businesses in China. But the most striking feature from a Japanese perspective is that all of their functional strategies are structured to serve the marketing purpose. Their local R&D activities are mostly to support their local sales activities by developing locally suited products and the localization of management in terms of human resources is mainly to serve their sales capabilities including business relationships. Moreover, their relations with the Chinese government seem also intended to serve their sales purposes and they have made calculated investments in production facilities, R&D centers and regional headquarters.

Third, European and American MNCs have a stronger internationalization capability as shown by their higher localization of management personnel and R&D activities. This enables them to do more effective sales and also to avail talented people, who are abundant in China, to their management and research both their Chinese and global operations. The greater localization seems to be possible because of the modularity of their management system and the more effective governance of systems. Such architecture enables separation of sub-systems between those localizable without undermining the total management integrity and corporate secrets such as intellectual properties. As sales-related areas in management personnel and R&D are areas that can be localized fairly easily, localization there will serve the marketing-oriented strategies of MNCs. Since Japanese management systems are less modular and more integral, it is more difficult to separate those areas. Moreover, the language barrier is high for Japanese corporations where few are proficient in the English and Chinese languages. However, it is apparent that the internationalization of Japanese firms in their China businesses have been and will be greatly supported by Japan's proximity to China and cultural exchanges with China over the period of more than thousand years, perhaps despite the problem with the recent history.

For Japanese corporations, this lack of internationalization capability is mostly disadvantageous for their Chinese business, particularly in the marketing side. However, for a public policy standpoint, it has some merits. In East Asia, the two economies with very high internationalization capabilities – Hong Kong and China – are facing a severe problem of hollowing out of their economies as their businesses have adapted too well in investing in the mainland. The lack of internationalization capability allows more time for adjustment in the Japanese economy.

Fourth, the lack of modularity in the Japanese management system seems to be due to the fact that the innovation process of Japanese corporations is more based on implicit knowledge, which is difficult to de-integrate and modularize, compared with the innovation process of European and American corporations, which is based more on explicit knowledge. As Professor Takahiro Fujimoto maintains, the Japanese manufacturing industry excels in industries that require 'integral technology,' which is characterized close co-working relationships among a fairly closed corporate group, such as automobiles and small electronics products, but has found it difficult to compete in industries that are characterized by modular technology such as PCs and telecommunication equipment. The whole corporate system including its infrastructure in Japan, such as the life-time employment system and seniority payment, is structured to support this implicit knowledge created by the accumulation of experience over time.

Since there is a certain degree of institutional complementarity, it is neither possible nor desirable for Japan to discard the old system and jump to adopt the western system. Both types of innovation processes and production technologies are necessary. Since the 1990s the

emergence of information technology and globalization have worked to favor explicit knowledge and a modular production system, however the automobile industry continues to rely more on integral technology and the rise of demand for digital products such as digital cameras and flat panel TVs has reinvigorated the Japanese electronics industry by requiring a greater input of integral technology. In essence, China needs both types of technology to expand its manufacturing industry, and Japanese corporations will be able to capitalize on their strength in integral technology.

4. Conclusion:

4.1. The Agenda for a Greater Role of Japanese MNCs in China's Growth

The agenda for a greater role of Japanese MNCs in China's economic growth may be as follows:

First, as Japanese corporations shift their orientation from a production base for export to selling to China's domestic markets, Japanese corporations can learn from the persistent and scientific marketing efforts and channel strategies of successful western MNCs such as Procter & Gamble.

Second, Japanese corporations should strengthen their strategic orientation. They lack concentrated resources in promising business prospects in China and speedy resource mobilization compared with western firms as well with Korean and Taiwanese enterprises. Moreover, the individual strategies are not as focused on sales purpose as in western corporations. By making functional strategies such as production, R&D, and human resource management subject to the goal of sales promotion, it is possible to have a consistent overall strategy.

Third, an element of strategic orientation for strengthening regional headquarters in China to coordinate strategies related to China, particularly marketing strategies. This is particularly necessary to increase the speed of managerial decisions, in which Japanese firms have had a great difficulty in operating their China businesses.

Fourth, another element of strategic orientation is to improve relations with governments. In Chinese businesses, government intervention, while it should be come less gradually, is expected to persist for a long-term as China is a transitional developing economy and also its policy for trading technology with its market may be effective to some extent. As Japanese corporations seem to be weaker than European and American corporations in this respect, there may be a necessity for improvement.

Fifth, another element of strategic orientation is to make a consistent long-term strategy by distinguishing short-term strategies from long-term strategies. Since China is rapidly developing and changing, appropriate short-term strategies may not be suitable in the long-term. For example, foreign MNCs have formed many joint ventures with SOEs in exchange for access to China's domestic markets. Obviously, joint ventures are not a stable formula in the long run as each side wants to have management control to increase management integrity. Moreover,

protective barriers and government intervention may ease in the long-run to 100% or majority ownership may become possible. Already, many MNCs have been transforming their joint ventures to fully owned subsidiaries where they can. MNCs need to have a long-term strategy to fill this gap between short- and long-term strategies.

Sixth, Japanese corporations need to enhance their internationalizing capability, or capability to adapt to new foreign environments. This ability includes localizing human resources and communicating with local clients, suppliers and governments. Japanese MNCs need to strengthen their ability in English and Chinese languages. At the same time, it is necessary to train Chinese employees and job seekers in Japanese language. To meet such demand, some Japanese employment service companies have started training courses in China specifically for employment opportunities in Japan. Moreover, Japanese corporations should use more overseas Chinese, particularly Taiwanese, to fill the positions in their Chinese operations until local Chinese employees accumulate experience in working in MNCs.

Seventh, in order to increase their strategic orientation and internationalizing capabilities, Japanese corporations need to incorporate more of the elements of a modular system and the innovation process in explicit knowledge. This is also important for improving the international competitiveness of Japanese corporations not only in China but also elsewhere in industries, which require more inputs of explicit knowledge such as the IT and finance. As I have mentioned, it is not desirable to dismantle the current corporate system that caters to implicit knowledge altogether. In fact, the current strength of Japanese industry is based on that system to a large extent. However, it is beneficial to expand the area where explicit knowledge and modular management systems are more effective.

4.3. Some Implications for Japanese Public Policies

In order for the Japanese economy to benefit from increased activities of Japanese businesses, the following public policy issues may need to be explored.

First, there should be public policy support for improving the internationalizing capability of Japanese corporations with regard to China. There should be increasing capacity to educate Japanese in international languages, mainly English and Chinese. A system for accepting more foreigners at schools and corporations should be strengthened.

Second, the Japanese government should support Japanese corporations in their dealing with Chinese governments in such areas of industrial policies and intellectual property rights, possibly in cooperation and competition with European and American counterparts.

Third, Japan should increase its efforts to develop more industrial clusters throughout Japan. Although the Japanese economy as whole is complementary with the Chinese economy and will benefit from increasing activities of Japanese corporations in China, the benefit will mostly accrue to the Tokyo metropolitan area where innovation infrastructure concentrates and there is a real danger of

the hollowing out of the rest of Japan. Japan should accelerate its policy efforts of de-centralization.

Fourth, the Japanese government should support a greater ability of Japan in creating explicit knowledge while Japan's strength in creating implicit knowledge should be preserved. This requires strengthening higher education and increasing association with foreigners.

Fifth, the Japanese government should facilitate its FTA negotiations in careful consideration of their effects on production networks of MNCs, particularly Japanese MNCs. The efficiency of Japanese MNCs should be improved with such FTAs but their impact on the Japanese economy may vary according to how regional integration will proceed, For example, an FTA between ASEAN and China will benefit Japanese MNCs by enabling them to effectively leverage the existing large stock of investment in ASEAN by forming international production networks encompassing the two regions, but it may be done at the expense of networking with Japan.

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Tables

Table 1. The Outstanding Direct Investment Abroad of Japan and the U.S.

Japanese Direct Investment Abroad					
	1996		2001		2001/
	Billion yen	%	Billion yen	%	1996
World	26,526	100.0	32,923	100.0	1.2
North America	9,502	35.8	16,411	49.8	1.7
Europe	4,216	15.9	6,051	18.4	1.4
East Asia	8,979	33.8	6,307	19.2	0.7
China	939	10.5	1,311	4.0	1.4
NIEs	3,217	12.1	2,686	8.2	0.8
ASEAN4	4,820	18.2	2,311	7.0	0.5
Others	2,604	14.4	3,269	12.6	1.1
US Direct Investment Abroad					
	1996		2001		2001/
	$mil	%	$mil	%	1996
World	795,195	100.0	1,381,674	100.0	1.7
Japan	34,578	4.3	64,103	4.6	1.9
Europe	389,378	49.0	725,793	52.5	1.9
East Asia	66,661	8.4	111,628	8.1	1.7
China	3,848	0.5	10,526	0.8	2.7
NIEs	40,287	5.1	75,362	5.5	1.9
ASEAN4	22,526	2.8	25,740	1.9	1.1
Others	304,578	38.3	480,150	34.8	1.6

Data: Bank of Japan for Japanese investment and USDA for U.S. investment

Table 2. Shift of Investment from ASEAN to China

(US$ million)

	1991-1996 (Annual average)	1997	1998	1999	2000	2001	2002
ASEAN6							
Singapore	6,856	13,533	7,594	13,245	12,464	10,949	7,655
Malaysia	5,436	6,323	2,714	3,895	3,788	555	3,203
Thailand	1,964	3,882	7,491	6,091	3,350	3,813	1,068
Philippines	1,226	1,261	1,718	1,725	1,345	982	1,111
Indonesia	2,985	4,678	-356	-2,745	-4,550	-3,279	-1,523
Vietnam	1,217	2,587	1,700	1,484	1,289	1,300	1,200
Sub-total (A)	19,684	32,264	20,861	23,695	17,686	14,320	12,714
Northeast Asia 3							
Korea	1,234	2,844	5,412	9,333	9,283	3,528	1,972
Taiwan	1,311	2,248	222	2,926	4,928	4,109	1,445
Hong Kong	6,057	11,368	14,766	24,580	61,939	23,775	13,718
China (B)	25,476	44,237	43,751	40,319	40,772	46,846	52,700
Sub-total (C)	34,078	60,697	64,151	77,158	116,922	78,258	69,835
B/A	1.3	1.4	2.1	1.7	2.3	3.3	4.1
C/A	1.7	1.9	3.1	3.3	6.6	5.5	5.5

Source: UNCTAD, *World Investment Report Report*

Table 3. Comparison of Size and Growth of East Asian Economies

	Current Price		PPP
	GDP 2001 (US$ bill.)	2001/ 1990 (Annual %)	GNI 2001 (US$ bill.)
North East Asia 3	1,740	8.9	5,912
China	1,156	10.0	5,027
Hong Kong	162	3.8	172
Korea	422	5.7	713
ASEAN, T	505	4.1	1,573
Japan	4,141	1.3	3,246
U.S.A.	10,065	3.4	9,781
Europe4	5,668	1.2	6,536

Note: GDP: gross domestic product; PPP: purchasing power parity: GNI: gorss nationa income
ASEAN5: Singapore, Malaysia, Thailand, the Philippines and Indoensia
Europe4: Gernmany, France, U.K. and Italy
Source: World Development Indicators

Table 4. Income Disparity in East Asia

	Per Capita GNI (2001)		Income Disparity		
	Current Price US$	PPP US$	Gini Coefficent	Income Share (%) Top 10 %	Top 20 %
Hong Kong	25,330	25,560	43.4	34.9	50.7
South Korea	9,460	15,060	31.6	22.5	37.5
China	890	3,950	40.3	30.4	46.6
Singapore	21,500	22,850	42.5	32.8	49.0
Malaysia	3,330	7,910	49.2	38.4	54.3
Thailand	1,940	6,230	43.2	33.8	50.0
Philippines	1,030	4,070	46.1	36.3	52.3
Indonesia	690	2,830	30.3	28.5	43.3
Japan	35,610	25,550	24.9	21.7	35.7
U.S.A.	34,280	34,280	40.8	30.5	46.4
U.K.	25,120	24,340	36.0	27.5	43.2
France	23,780	24,030	32.7	25.1	40.2
Gernamy	23,560	25,240	38.2	28.0	44.7

Source: World Bank, World Development Indicators 2003.

Table 5. Return on Direct Investment of Japan and the U.S. in East Asia

Japan (%)					
	1998	1999	2000	2001	2002
Worldwide	4.9	2.5	3.1	5.7	5.5
East Asia	5.6	- 4.8	- 2.8	9.0	10.2
China	1.2	0.0	0.1	6.4	8.2
NIEs, "	15.6	- 7.9	- 11.9	20.7	20.3
ASEAN4	3.6	- 8.4	- 0.9	8.4	9.6
U.S.					
Worldwide	9.7	10.9	10.6	7.9	8.5
East Asia	10.9	15.1	18.1	13.4	16.4
China	5.8	9.6	11.8	12.8	13.4
NIEs, "	10.4	15.0	19.0	13.3	17.4
ASEAN4	13.2	17.4	18.4	14.1	13.4

Notes: Return on direct investment is calculated by dividing income by the average of direct investment outstanding at the end of the preceding and current years
Sources: Bank of Japan and USDIA

Table 6. Satisfaction Level of Japanese Overseas Direct Investment by Country

Fiscal Year	1996	1997	1998	1999	2000	2001	2002	
								No. of Companies
NIEs	3.29	3.42	3.30	3.12	3.27	3.10	3.00	747
ASEAN	3.31	3.28	2.89	2.89	3.25	2.99	2.99	711
China	2.72	2.70	2.74	2.59	2.93	3.08	2.83	311
N. America	3.22	3.35	3.50	3.21	3.39	3.03	2.69	368
Latin America	2.91	3.11	3.15	2.81	2.89	2.83	2.52	123
EU	3.01	3.23	3.20	3.00	3.03	2.88	2.71	289
Central and Easter Europe	- -	- -	2.82	3.07	3.05	2.79	2.62	60

Note: The range of satisfaction is from 5 (maximum) to 0 (minimum).
Source: JBIC Institute, "FDI Survey of Fiscal Year 2002" (Japanese)

Table 7. Direct Investment in China by Source Economies

£ Unit: US$10000€

	1979-1986		1987-1991		1992-1995		1996-2002	
	Value	Share %	Value	Share %	Value	Share %	Value	Share %
E.U.	73741	8.9	79056	4.7	458321	4.2	2773794	8.86
U.S.A	123000	14.8	156222	9.3	814798	7.4	2903781	9.27
Japan	60866	7.3	212645	12.7	721768	6.6	2583362	8.25
Korea					185900	1.69		
Hong Kong	413200	49.7	1017129	60.7	6624532	60.3	12625894	40.33
Taiwan			84360	7.5	1074168	9.8	2152500	6.87

Source: Statistics On FDI in China

Table 8. Average Project Scale of FDI by Source Economy

Average Project Scale of FDI from Different Countries and Regions

Unit:US$10000

	E.U.	U.S.A.	Japan	Korea	Hong Kong	Taiwan	Total of China
1986	1099.81	530.86	300.87		153.54		222.32
1990	273.44	100.23	134.02		80.68	80.69	90.69
1986-1990	**506.99**	**203.29**	**162.7**		**87.2**	**80.49**	**107.94**
1991	465.88	78.97	135.59		84.86	80.03	92.29
1995	469.01	215.06	257.72		238.54	120.67	246.64
1991-1995	**315.09**	**130.19**	**151.64**		**160.62**	**93.16**	**154.74**
1996	579.2	244.76	294.53	114.68	269.32	161.46	298.41
1999	458.13	296.65	222.05	71.23	225.84	135.03	243.66
1996-1999	**512.38**	**271.45**	**251.81**	**119.17**	**237.37**	**122.67**	**264.49**
2000	783.64	306.67	228.04	44.35	235.6	130.05	279.14
2002	303.29	242.54	193.01	131.79	232.38	138.9	242.22
2000-2002	**483.42**	**275.96**	**225.75**	**106.32**	**241.24**	**145.35**	**259.31**
1986-2002	**423.72**	**200.31**	**193.39**	**123.72**	**177.21**	**110.38**	**194.53**

Source: Statistics On FDI in China

Table 9 Japanese FDI in China by Industry

(100 million yen)

Fiscal Year	1999	2000	2001	2002	1999-2002	
Food	29	25	14	91	160	2.7%
Textile	34	30	42	90	197	3.3%
Wood and pulp	4	6	27	26	62	1.0%
Chemical	100	72	185	175	533	9.0%
Metal	48	49	166	138	401	6.8%
Machinery	44	95	163	191	491	8.3%
Electrical and electronics	82	358	639	381	1,460	24.7%
Transportation equipment	104	99	258	236	697	11.8%
Other	171	119	100	383	773	13.1%
Total of Manufacturing	614	853	1,595	1,712	4,774	80.6%
Commerce	72	62	116	83	333	5.6%
Financial	-	4	39	146	190	3.2%
Service	102	167	41	39	349	5.9%
Other	25	23	13	26	87	1.5%
Total of Non-manufactur	198	256	209	295	959	16.2%
Branches	36	3	3	146	187	3.2%
Total	849	1,112	1,808	2,152	5,921	100.0%

Source: Ministry of Finance, Japan

Table 10. FDI Distribution in Three Economic Development Centers of China in 2001

	the Bohai Bay Area	Yangtze River Delta	South China	Others
E.U.	28.1	52.83	6.42	12.65
U.S.A.	41.46	34.58	11.03	12.93
Japan	30.85	55.41	10.71	3.02
Korea	76.76	14.55	3.16	5.54
Hong Kong	33.69	11.43	38.21	16.67
Taiwan	28.9	22.77	36.63	11.7

source The Yearbook of Chinese Foreign Trade and Economy in 2002

Table 11. Functions to Be Strengthened by Non-Japanese MNCs

Function	Firms Located in China	Firms Located in ASEAN
Production of Parts	17.4%	77.8%
Assembly of Final Products	8.7%	44.4%
Sales to Local Markets	52.2%	94.4%
R&D	56.5%	38.9%
Distribution and Logistics	39.1%	50.0%
Regional Headquarters	39.1%	38.9%
Market Research	21.7%	33.3%
Local Procurement of Parts	39.1%	61.1%
Afte- rservice	26.1%	61.1%

Note: Multiple answers.
Source: The White Book on International Trade 2003.

Table 12. Functions to Be Strengthened by Japanese Firms

Function	In China	In ASEAN4
Production	72.8%	70.1%
Sales	58.1%	46.3%
R&D	13.5%	11.7%
Regional Headquarters	12.0%	10.8%

Note: Multiple answers. The numbers of responding firms are 518 and 341respectively for China and ASEAN4.

Table 13. Presence of MNCs in China

	Recent History	Scale of Presence
<Electronics>		
Motorola (U.S.)	1987 opened the Beijing Office. 1992 set up Motorola (China) Electronics Ltd in Tianjin.	China 2002 sales: US$5.7 billion. Total invesment by end 2002: 34 billion. More than 12,000 employees. Has a wholly-owned company, a holding company, 9 joint ventures and 24 subsidiaries.
Siemens (Germany)		China FY2002 (end Sep. 2003) sales: 30.1 bln yuan. Accumulated investment: US$6.1billion. (AWSJ Jan.9, 2003) 21,000 employees. More than 40 operating
Nokia (Finland)		Sales: Euro 2.8 billion (9.3% of Worldwide Sales) Accumulated investment: 2.3 bln euros to end 2001. 8 JVs employing 5,000. (South China Morning Post Feb.2, 2002)
IBM (U.S.)	1980s opened offices in Beijing and Shanghai. 1992 established the IBM China Company Ltd, a wholly-owned subsidary.	
Samsung Electronics (Korea)		2002 revenue from China operations US$6.4 bil, 8-10% of global business (Dec.31, 20022 China Daily)
LG Electronics (Korea)	1996 set up Shenyeng TV plant.	China 2002 sales: US$4 billion. 2001: $1.5 billion invested; 39 subsidiaries. LG Electronics 15,000 employees, projected revenues of $3.7 billion; China's largest TV exporter, accounting for 13% of the total.
Matsushita Electric	Established 20 years ago.	2002 sales of 10 gourp companies: 15.2 billion yuan
Sony		2002 sales of 4 goup cos.: 8.8 billion yuan.
Sanyo		2002 sales of 4 goup cos.: 7.5 billion yuan.
<Automobiles>		
VolksWagen (Germany)		Volkswagen China end-Nov 2003 market share at 33 pct vs 41 pct end-2002 (2 January 2004 AFX Asia)
GM (U.S.)	Jun.97 estab. Shanghai GM -- JV w/Shanghai Automotive Industry Corp. Apr.99 began regular production of 4 models	Employs about 10,000 (340,000 worldwide). Operates five joint ventures and two wholly owned foreign enterprises in China. Invested US$2 billion to date (7 Dec. 2003 Detroit News)
Ford (U.S.)	Oct. 1995 established a wholly owned holding company, Ford Motor (China) Ltd. and entered an equity relationship with Jiangling Motor Company (JMC).	Currently, Ford has 10 dealers, 41 service centers, two nationwide parts distributors, a technical training center and two representative offices.
Toyota (Japan)	2002 formed a jv. factory in Tianjin.	2003 sales: about 100,000 vehicles. Market share (2002): about 2%
Honda (Japan)	Jul. 1997 formed a jv. in Guanzhou.	2002 sales of 4 companies: 18.8 billion yuan. A 3% share in the motorcycle market.
Nissan (Japan)	Jul. 2003 formed a jv. with Donfeng in	
<Chemical>		
DuPont (U.S.)	1985 Beijing office opened; 1986 Shanghai office opened. 1989 registered DuPont China Holding Company	2002 more than US$700 million invested; more than 3,000 employees. 7 wholly owned and 15 joint ventured manufacturing facilities, 3 branch companies, 1 wholly-owned holding company
Toray (Japan)		

	Recent History	Scale of Presence
<Food & Beverage>		
Unilever	Reestablished in 1986 (soap JV); 1989 baking JV; 1996 established holding company;	Investment in China US$800 million to 1999 1999 reorganized 14 jvs into 3 core businesses (home & personal care, food & Bev, Ice cream)
Nestle (Swiss)	1987 began construction of Shuangcheng factory for milk products. Opened in 1990.	Nestle now operates factories at 18 different locations in China
Coca-Cola (U.S.)	Re-entered China in 1979 after 30 years, first US consumer product to return.	Now 24 bottling companies and 28 bottling plants. About 10% of nonalcoholic beverage market and 35% of carbonated soft drink sales. Employs approximately 15,000 people.
Donne (France)	1996 started in China by buying domestic brand Wahaha drink maker. 1999 acquired Robust	2001 group sales $1.2 billion. 50 plants and 25,000 employees (WSJ 1/9/03)
Yum Brands (U.S.)	Pizza Hut opened 1st restaurant in China in 1990. KFC opened first restaurant in Beijing in 1987.	China 1/3 of Yum's international profits (AP 1/15/04). China today makes almost as much money as the United States KFC business. (Business Wire 1/17/04) More than $400 million total investment (WSJ 1/9/03)
Suntory (Japan)	1994 formed a jv. for beer production in Shanghai.	Currently, has a 40% share in Shanghai's beer market.
Ajinomoto (Japan)	1994 opened a Beijing office. 1994 opened a Shanghai office.	
<Consumer Products>		
Eastman Kodak (U.S.)	1981 opened Kodak (China) Ltd in Beijing office. 1998 took over 3 state film factories (WSJ 1/9/03)	Holds around 50 percent market share (24 October 2003 Shanghai Daily) 5 mfg plants for cameras, chemicals, & film; 8,000 retail outlets, 5,000 employees, $1.2 billion total investment (WSJ 1/9/03)
Procter & Gamble (U.S.)	1988 established in Guanzhou	Accumulated investment over US$1 billion 5 plants for food, personal care & household consumer gods; 4,000 employees (WSJ 1/9/03) 13 JVs. P&G Guangzhou and Guangzho Colgate among leading JVs in China in 2000. P&G share greater than 22% in cosmetics and toiletries mkt (2/1/02 Household & Personal Products Industry)
FujiFilm (Japan)		2003 share of degital cameras: 12.8%
Kao (Japan)		
Shiseido (Japan)		
<Retail>		
Carrefour (France)	1995 entered China retail market	2000 China sales RMB 8 billion ($US1 billion). By 2003 28 stores in 16 cities
WalMar (U.S.)	1996 entered China	By 2003 21 stores mostly in southern China.
Metro Group	1995 set up JV; 1996 opened first store	2003 18 outlets
Ittoyokado (Japan)	Dec. 1996 formed a jv. in Chengdu.	
Aeon (Japan)	Dec. 1995 formed a jv. in Guanzhou.	
Seven Eleven Japan		

Table 14. Reason for Low Satisfaction in Profitability (FY2002 Survey)

	All Areas	NIEs	ASEAN	China	N. America	L. America	EU	C.E. Europe
No. of responding companies	111	240	276	137	201	64	156	24
Low operating rate after initial investment	13.2%	12.9%	11.2%	29.9%	6.5%	10.9%	10.1%	29.2%
Tough competition for sales	43.2%	41.8%	35.6%	52.6%	47.3%	34.4%	50.0%	37.5%
Cyclical downturn of demand	35.9%	41.0%	40.3%	12.4%	41.8%	42.2%	32.3%	25.0%
Product maturity	12.7%	10.4%	11.5%	9.5%	11.9%	12.5%	21.5%	16.7%
Forex losses	4.5%	0.8%	8.6%	1.5%	2.5%	14.1%	5.1%	-
Demand for lower prices	18.1%	12.9%	16.2%	21.9%	24.4%	12.5%	20.3%	20.8%
Difficulty in cost reduction	19.7%	18.1%	17.3%	17.5%	26.4%	12.5%	23.4%	16.7%
Unfavorable treatment by host country	2.5%	0.8%	1.8%	10.9%	1.0%	3.1%	1.3%	-
Others	6.0%	5.6%	6.8%	7.3%	4.0%	12.5%	4.4%	4.2%

Source: JBIC Institute, "FDI Survey of Fiscal Year 2002" (Japanese)

Table 15. Reasons for Expanding Overseas Operation (FY2002 Survey)

	NIE, "	ASEAN, S	China	Other Asia	North America	Latin America	EU
No. of responding cos.	162	217	444	18	97	31	67
Response to market expansion	62.2%	60.4%	78.7%	66.7%	54.5%	67.4%	58.3%
Building production capacity to exisiting clients	29.0%	38.2%	35.3%	22.2%	44.9%	34.8%	34.8%
Cultivation fo new clients	35.5%	31.5%	33.2%	29.6%	42.7%	32.6%	46.1%
Securing labor	35.5%	31.5%	44.5%	37.0%	-	4.3%	0.9%
Securing low-cost supplies	7.3%	12.8%	23.6%	11.1%	1.1%	4.3%	1.7%
Response to regional integration	4.6%	5.0%	1.4%	-	2.2%	2.2%	4.3%
Avoiding exchange	1.5%	1.7%	1.2%	3.7%	7.9%	2.2%	4.3%
Request from host governments	1.5%	-	0.9%	-	-	-	1.7%

Note: Multiple answers.
Source: JBIC Institute, "FDI Survey of Fiscal Year 2002" (Japanese)

Table 16. Areas of Expanding Overseas Operations in the Production Field in the Medium Term by Country

	NIE, "	ASEAN,	S China	Other Asia	North America	Latin America	EU
No. of responding cos.	245	341	518	25	172	44	116
Opening new facilities	6.5%	11.1%	31.9%	20.0%	11.6%	13.6%	10.3%
Expansion of existing lines	18.0%	48.1%	34.7%	32.0%	33.1%	34.1%	23.3%
Opening new lines for new products	6.5%	23.8%	21.0%	16.0%	20.9%	6.8%	12.1%
production	4.5%	3.5%	6.0%	4.0%	5.8%	4.5%	3.4%
OEM production	-	3.8%	2.5%	4.0%	5.8%	4.5%	3.4%
Business alliances	5.7%	4.1%	8.3%	4.0%	7.6%	-	8.6%

Note: Multiple answers.
Source: JBIC Institute, "FDI Survey of Fiscal Year 2002" (Japanese)

Table 17. Distribution of the R&D Organizations among Countries and Regions that are Sources of Foreign Investment for China

Country and Region	No. of MNEs Having R&D Facilities in China	Percentage Share
E.U.	21	24
U.S.A.	31	29
Japan	18	22
Korea	3	9
Hong Kong	1	8
Taiwan	5	11
Canada	2	15
Else	1	
Total	82	

Source: Ministry of Science and Technology (2003)

Table 18. R&D Operations of Multinationals in China

<Electronics>	
Motorola (U.S.)	Has 13 R&D centers in China (5 each in Beijing and Tianjin, and 3 in Shanghai, employing 1,300 and has invested 2.5 billion yuan (a newspaper Sep. 2002) Plans to invest US$1.3 billion in six years by 2006.
IBM (U.S.)	Established a R&D center in Beijing employing about 100 researchers with Master and PHD degrees.
Intel(US)	Made an equity investment of 2.6% in a local venture which had developed a technology to transform Chinese character data to voice data (A news paper article May 2002)
Microsoft (U.S.)	Set up R&D centers and will spend US$ 80 million in the six yeas (A newspaper May 2000)
Lucent (U.S.)	1,500 persons by 2001
Siemens (Germany)	Three-polar R&D center system consisting of Beijing, Shanghai and Singapore (China Daily 2002.4.8) Mobile phone research center in Beijing employs 150 persons (SCMP 2001.7.5) Established a global research center of 50 members in Beijing for developing low-price mobiles of mainly voice communication. (The Nation 2002.10.29)
Philips (Netherlands)	Shifted the R&D of TV from Singapore to Suzhou. R&D of audio equipment is in the process of moving from Hong Kong to Shenzhen. R&D of LCD for mobile phones will be moved from Hong Kong to Shanghai.
Samsung (Korea)	2003 Received an approval to set up R&D centers and will start R&D in semiconductor, mobile phones, etc. (Reuters News 2003.7.10)
LG (Korea)	Seek an integrated operation from designing, manufacturing, sakes to service in China. Dec. 2002 Started operation of the Beijing R&D center.
Matsushita Electric (Japan)	Established a Matsuchita Electric R&D center in Beijing in Jan. 2001. Plan to employ about1,500 person by 2005. (Nikkei 2002.4.5) April 2002. Establihed a reserach center for consumer electronics in Suzhou mainly for development of air conditioners and ilumination and the coverage will be expanded to refrigerators . Initial employment of about 50 will be expanded to 250 by 2005. Used also for developing export products to the global market (Nikkei 2002. 4.5.) Feb. 2003 Established a research center in Tianjin for car audio and navigation equipment.
Hitachi(Japan)	Established a semiconductor design center in Suzhou to design microprocessors for consumer electronics products. Employ about 30 enginees (Nikkei Jan. 11, 2000)
<Automobile>	
GM (U.S.)	Aug. 1997 Established a R&D joint venture with Shanghai Motors in Shanghai. 650 employees (800 by the end of 2003) including 13 foreigners.
A Japanese company	Started designing of parts to increase local contents
<Chemical>	
DuPont (U.S.)	Establish an integrated R&D center in China (Operation starts in 2005) for R&D of new technologies and textile products demanded in the Asia Pacific region. Expected number of employees: 175-200.
Toray (Japan)	Established a R&D center in Jiangsu for shnthetic fiver etc. Plan to emply about 500 after 3 to 5 years (Nikkei Sangyo May 12, 2003).
<Food>	
Unilever	Set up a research center in Shanghai for sundry products and packaging. 150 researchers.
Suntory	Spring 2003 Establish a R&D facility to develop local beer and beverage products. Emply about 30 local researchers (Nikkei Jan. 7, 2003)
<Cosmetics>	
A Japanese company	R&D for developing products suitable for local markets (2003)

Souce: The author with various newspaper articles.

Figure 19. Expected Effects from China's Accession to WTO

Termination of local contet requirements	61.4%
Reduction of tariff rates	60.9%
Protection of IPR	56.1%

Note: No. of effective responses: 440 companies.

Source: JBIC Institute, "FDI Survey of Fiscal Year 2002" (Japanese)

Table 19. Progress in the Realization of the Expected Effects of China's Accession to WTO

State of Progress	Proress	No Progress	Neither
Termination of local contet requirements (266 cos)	12.2%	42.2%	45.6%
Reduction of tariff rates (270 cos)	29.3%	27.8%	42.9%
Protection of IPR (246 cos)	56.1%	5.7%	37.8%

Note: Numbers in the parenthes are effective
Source: JBIC Institute, "FDI Survey of Fiscal

Table 20. Transfer of Decision Making Authority in the China Operation of European and American Firms

Function	Average
Sales and markting	92.3%
Product planning	84.6%
Selection of business partners and suppliers	66.7%
Personnel	30.8%
R&D	10.0%

Source: Survey by Ministry of Economy, Trade and Industry reported in White Paper on Internatonal Trade 2003.