PROSPECTS FOR FUTURE BUSINESS OPERATIONS OF THE JAPANESE CONSUMER ELECTRONICS INDUSTRY IN ASEAN[1]

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SUMMARY

For business operations of the Japanese consumer electronics industry[2], its production bases in ASEAN countries[3] occupy an important place among its business strategies. However, when we examine prospects for future business operations of Japanese consumer electronics industry in ASEAN, it is notable that some substantial environmental changes are brewing. When looking at its future business operations, attention should be paid to several changes in the business environment as follows: (1) In audio-visual (AV) equipment and other products, a gradual shift in demand to digital TVs, DVD players, and other next-generation consumer electronics products is being observed mainly in the markets of developed countries while demand for conventional color TVs, VCRs, and other conventional consumer electronics products has reached its ceiling. Therefore, these trends will greatly affect ASEAN countries, the major production bases for conventional consumer electronics products. (2) The competitive environment will intensify because manufacturers in South Korea and other countries are becoming more competitive. (3) As competition intensifies, the prices of consumer electronics products are falling rapidly. (4) With the progress of the ASEAN free trade area (AFTA), ASEAN countries are expected to lower tariffs on consumer electronics products, and following these moves, unification of the markets in the region will progress and competition in the region will become even fiercer.

In response to these environmental changes, what directions can be conceived when the consumer electronics industry in Japan promotes its ASEAN business in the future? If ASEAN countries are considered to be the production bases for exports to outside the region, one possible direction is that in response to the changes in demand and the competitive environment, manufacturers will construct more efficient production systems in the production bases in ASEAN countries where they have already developed businesses. Further, they will make the most of these bases as ones for producing products with higher added value, including next-generation consumer electronics products. If ASEAN countries are regarded as being the markets, another possible direction is that manufacturers will try to produce products that meet local needs more precisely with the aim of supplying the demand in the ASEAN market. In the ASEAN market, new demand for conventional consumer electronics products is expected to continue to grow in the future.

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1 The author held interviews with representatives of Japanese consumer electronic manufacturers on various occasions to prepare this article. The author would like to take this opportunity to thank them for their cooperation. Although all opinions expressed in this article are the author's personal views, the author would be grateful if this article could be useful in looking at the future ASEAN business of the Japanese consumer electronics industry.

2 In this article, businesses that produce electric and electronic equipment for consumers are referred to as consumer electronics manufacturers and consumer electronics manufacturers are collectively referred to as the consumer electronics industry. Electric and electronic equipment for general consumers include white goods, such as refrigerators, washing machines, and air-conditioners, and audio-visual (AV) equipment, such as TVs, VCRs, and radio cassette recorders. These products are produced by various types of businesses and are classified into three major categories: (1) General electric manufacturers engaged in a wide range form consumer electronics products to heavy electric machineriessuch as power generation (2) General consumer electronics manufacturers engaged in a wide range of consumer electronics businesses, including white goods and AV equipment (3) Manufacturers specializing in AV equipment. The percentage of consumer electronics business to total operations and business strategies varies from company to company. In this article, however, these are collectively viewed as the consumer electronics industry.

3 In this article, unless otherwise stated, the ASEAN countries are Thailand, Singapore, Malaysia, Indonesia, and the Philippines.

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In either case, the production bases of the Japanese consumer electronics industry in ASEAN countries are positioned as crucial production bases in its business strategy for the region. For this reason, Japanese consumer electronics manufacturers are expected to continue promoting their business in ASEAN by enhancing the competitiveness of business operations in the region. Efforts to enhance the competitiveness of business operations will include construction of more efficient production systems, production of products with higher added value, and approaches to the markets in ASEAN countries with emphasis on meeting local needs more precisely.

I. INTRODUCTION

The Japanese consumer electronics industry has expanded its overseas operations under various circumstances. ASEAN countries in particular have played a central role in its business development. ASEAN bases have become important production bases for the Japanese consumer electronics industry and they are indispensable for Japanese consumer electronics industry's overseas business. Production bases in ASEAN have skillfully responded to the stagnant demand in ASEAN countries caused by Asian economic crisis, which occurred in 1997, by diverting their products to exports to outside the region according to circumstances. As exemplified by this response, they have successfully managed their business in the region.

However, if the industry's future business operations in ASEAN countries as consumer electronics appliance production bases is carefully examined, it is necessary to pay attention to the fact that the business environment in the region has undergone major changes since the second half of the 1990s. Environmental changes in the consumer electronics business in ASEAN countries include next-generation consumer electronics products, which have gradually been replacing conventional ones mainly in the markets of developed countries. They also include changes in the competitive environment brought about by the improved competitiveness of Korean manufacturers as well as other factors, and the changes in the competitive and market environments in the ASEAN region due to the progress of AFTA. Although the Japanese consumer electronics industry views their production bases in ASEAN countries as being important, the author recognizes that it has become necessary for the industry to respond to these changes in their future business operations.

This report first gives an overview of the positioning of the production bases of the Japanese consumer electronics industry in ASEAN countries and its past advancement into the region. The changes in the business environment that surrounds the consumer electronics business in ASEAN countries and the possible prospects for the future ASEAN business taking these environmental changes into consideration will then be discussed.

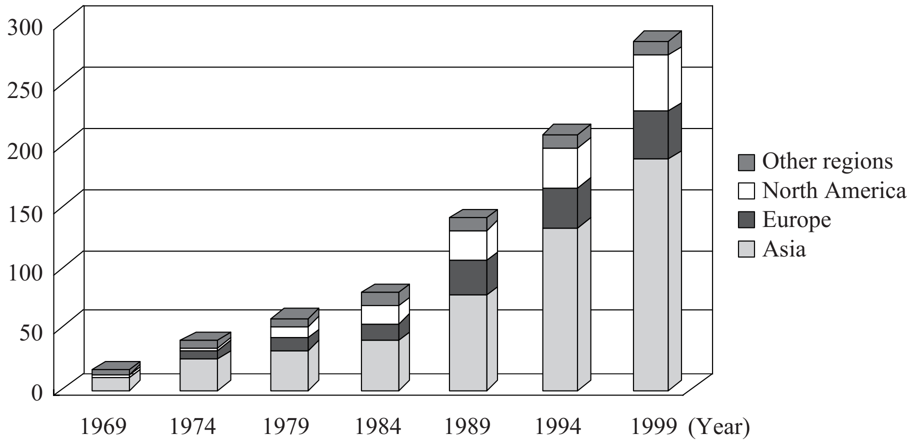
II. POSITIONING OF THE PRODUCTION BASES OF THE JAPANESE CONSUMER ELECTRONICS INDUSTRY IN ASEAN COUNTRIES AND ITS PAST ADVANCEMENT INTO THE REGION

The Japanese consumer electronics industry has expanded its business in ASEAN countries under various circumstances. Partly because industrial infrastructure in the consumer electronics sector is concentrated in the region, production bases in ASEAN countries occupy an important place among the business strategies of the Japanese consumer electronics industry. This section gives an overview of how the Japanese consumer electronics industry positions its production bases in ASEAN countries and the trends in its expansion of business to the region.

1. POSITIONING OF THE PRODUCTION BASES OF THE JAPANESE CONSUMER ELECTRONICS INDUSTRY IN ASEAN COUNTRIES

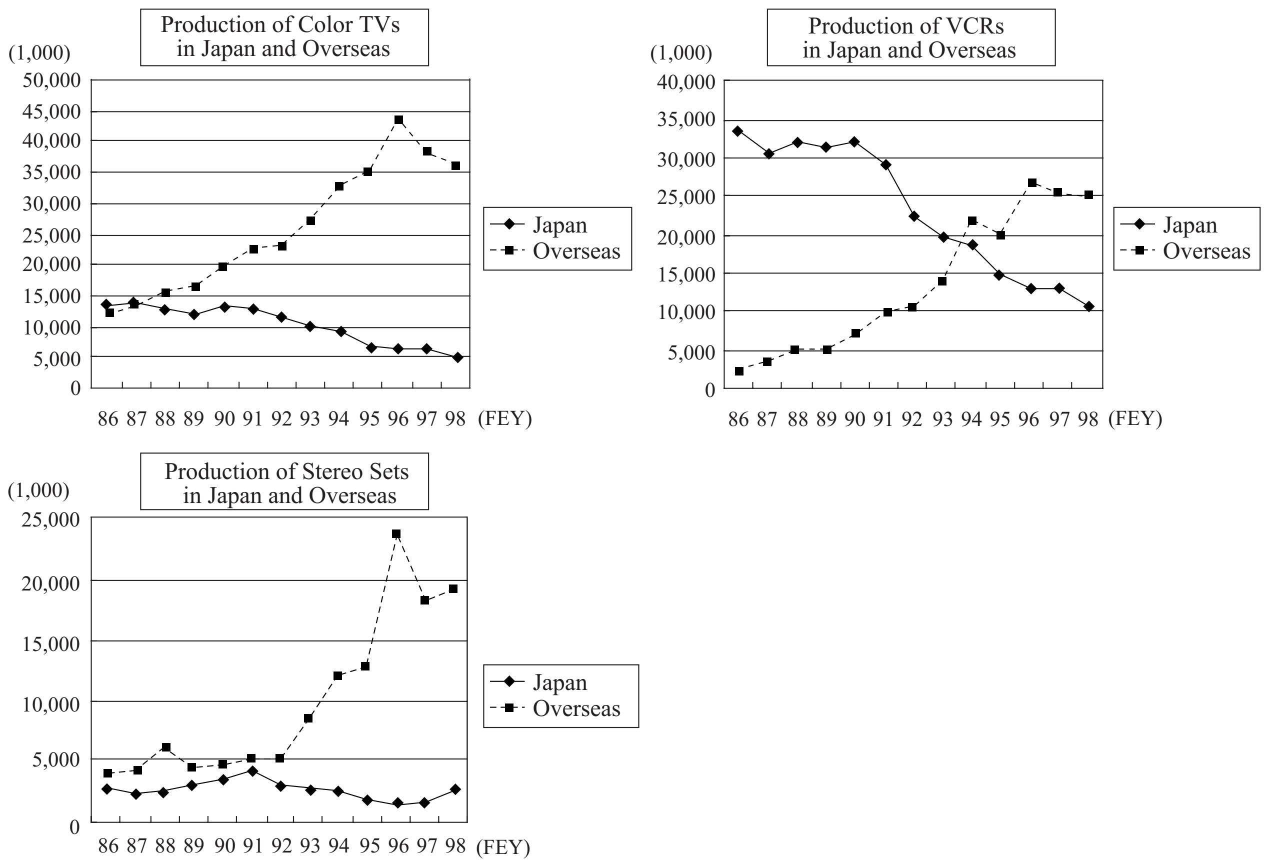
The Japanese consumer electronics industry had already started to establish its overseas production

Chart 1 Changes in the Number of Consumer Electronics Production Bases Established Overseas



Source: "'99 Kaigai Houjin Risuto", Electric Industrial Association of Japan

Chart 2 Production of Major Consumer Electronics Goods (AV Equipment) in Japan and Overseas



Source: "Minseiyou Denshikiki Detasyuu", Electronic Industries Association of Japan

bases in the 1960s. In addition, after the Plaza Accord, its overseas business advancement began to progress rapidly in the second half of the 1980s (see Chart 1). In this context, overseas production has occupied an increasingly important position in the strategies of the Japanese consumer electronics industry. A look at the status of production bases established worldwide by region indicates that overseas business operation has expanded mainly in the Asian region. A look at the domestic and overseas production of AV equipment, a market segment in which overseas production has progressed to a substantial extent, shows that the overseas production of color TVs, VCRs, stereo sets, and other products has expanded significantly. This indicates the importance of overseas production to the Japanese consumer electronics industry (see Chart 2).

In Asia, the Japanese consumer electronics industry has established the largest production bases in ASEAN countries, followed by China. About half of the production bases established in Asia exist in ASEAN countries centered on Thailand and Malaysia, and about one-third of all its overseas production bases worldwide are concentrated in the ASEAN region (see Chart 3). A look at the status of development of production bases for major products in ASEAN countries indicates that bases have been developed for a wide range of products. In addition to TVs and VCRs, products, which include radios, stereo sets, and other types of audio equipment; refrigerators, washing machines, and other white goods; and air-conditioners are being produced overseas (see Chart 4). By country, a large number of production bases for TVs and white goods have been established in Thailand. In Malaysia, in addition to production bases for VCRs, those for stereo sets, CD players, and other types of audio equipment as well as for air-conditioners have been established in large numbers.

As described above, production bases in ASEAN countries in particular play an important role in overseas business operations that occupy an important place in the strategy of the Japanese consumer electronics industry. The results of “FY 1999 SURVEY – THE OUTLOOK OF JAPANESE FOREIGN DIRECT INVESTMENT –”, conducted by the Research Institute for Development and Finance, supports the stance of Japanese consumer electronics manufacturers to continue attaching importance to their production bases in ASEAN countries. In contrast, automobile, chemical , for example, show a relatively cautious attitude toward overseas investments in ASEAN countries while the majority of Japanese consumer electronics manufacturers replied that they will at least maintain the current investment levels in the future. This indicates that they take a stance of continuing business operations in their production bases in ASEAN countries (see Chart 5).

Chart 3 Overseas Consumer Electronics Production Bases

(Unit: Number of production bases)

ASEAN						NIES	China	Other Areas in Asia	North America	Europe	Other Regions
	Thailand	Singapore	Malaysia	Philippines	Indonesia						
93	25	13	30	8	17	22	62	14	46	39	11

Source: Same as Chart 1

Chart 4 Production Bases for Major Consumer Electronics Product Items in ASEAN Countries

(Unit: Number of production bases)

	TVs	VTRs	Radio Cassette Recorders	Stereo Sets	CD Players	Audio Equipment for Automobiles	White Goods	Air-conditioners	Total Number of Production Bases
ASEAN	23	8	7	10	8	15	15	19	93
Thailand	9		1			4	7	4	25
Singapore	1		1	1	1	1		3	13
Malaysia	5	7	4	6	6	5	2	6	30
Philippines	2					5	2	2	8
Indonesia	6	1	1	3	1		4	4	17

Source: Same as Chart 1

Chart 5 Trends in Future Investments by Japanese Consumer Electronics Manufacturers in ASEAN Countries

		Increase investments	Maintain the current investment levels	Decrease investments	Total
Consumer Electronics Manufacturers	Number of respondents	2	4	1	7
	Ratio	28.6	57.1	14.3	100.0
All Respondents	Number of respondents	58	79	81	218
	Ratio	26.6	36.2	37.2	100.0

Source: "FY 1999 SURVEY – THE OUTLOOK OF JAPANESE FOREIGN DIRECT INVESTMENT –", Japan Bank for International Cooperation
Note: In this chart, ASEAN countries include Thailand, Malaysia, Indonesia, and the Philippines.

2. CHANGING PATTERNS OF THE ADVANCEMENT OF THE JAPANESE CONSUMER ELECTRONICS INDUSTRY INTO ASEAN COUNTRIES

The Japanese consumer electronics industry has promoted its Asian business operations mainly in ASEAN countries. For the sake of convenience, this section classifies the industry's past business development in ASEAN countries into four major types: import substitution, avoidance of trade friction, response to a highly appreciated yen, and the Asian market-orientation. Based on this classification, the author will give an overview of the past business development in each phase.

<Import substitution>

In the 1960s, as ASEAN countries promoted domestic industrialization instead of importing products from overseas, they levied high tariffs on consumer electronics and other imported products. At that time, Japanese consumer electronics manufacturers, which had been exporting their products to ASEAN and other countries, started to establish production bases in ASEAN countries by forming joint ventures with local distributors and other organizations with the aim of avoiding the high tariffs being imposed on their import products form Japan. Thus, these manufacturers substituted imports from Japan for local production. In the production bases for the purpose of import substitution, several kinds of electric appliances, including black-and-white TVs, radios, and electric fans, were produced although on a small scale. This type of business development was particular in Thailand and Indonesia.

<Avoidance of trade friction>

In the 1970s, exports by Japanese consumer electronics manufacturers of products centered on TVs and VCRs to Europe and North America increased rapidly, resulting in serious trade friction with these regions. In order to avoid such trade friction, Japanese consumer electronics manufacturers established production bases mainly in ASEAN countries in order to export their products to Europe and North America via ASEAN countries. Major production items during this period included small- and medium-size color TVs and audio equipment.

<Response to a highly appreciated yen>

Due to the rapid appreciation of the yen following the Plaza Accord in 1985, the consumer electronics industry in Japan was confronted with the issue of declining price competitiveness. At that time, Japanese consumer electronics manufacturers were faced with such domestic problems as labor shortages, soaring personnel costs, and difficulties in obtaining land for factories despite their attempts to increase production in the face of growing demand both at home and abroad. Under these circumstances, they strengthened their overseas business operations mainly in Asian countries with the aim of eliminating these restrictive factors in Japan. In particular, ASEAN countries had advantages in terms of human resources and labor costs and were also active in promoting the inflow of foreign investment as exemplified by their policies of approving the construction of export bases through the establishment of wholly owned subsidiaries. These factors accelerated the expansion into ASEAN countries of Japanese consumer electronics manufacturers.

<Asian market-orientation>

In the early 1990s, ASEAN countries achieved rapid economic growth, attracting worldwide attention. This prompted Japanese consumer electronics manufacturers to not only position their production bases as export bases as they had been doing to date, but also to actively expand their ASEAN business with the aim of increasing sales in the growing local markets. Following the aggressive business expansion of assembly manufacturers in Asian countries, manufacturers of electronics components became active in advancing into the region. It was in this period that production bases in ASEAN countries became more important to Japanese consumer electronics manufacturers , with the availability of the procurement of components in ASEAN countries. After the period of expansion marked by the response to a highly appreciated yen as described above, the production with more high quality gradually increased as the operations of Japan's consumer electronics industry became concentrated in ASEAN countries. Major products included VCRs, CD players, and separate-type air conditioners.

III. CHANGES IN THE BUSINESS ENVIRONMENT THAT SURROUNDS THE CONSUMER ELECTRONICS INDUSTRY IN ASEAN COUNTRIES

As described above, in the past the Japanese consumer electronics industry has expanded its business under various circumstances and with the progress of its local business operations, its production

Chart 6 Changes in the Business Environments That Surrounds the Consumer Electronics Industry in ASEAN Countries

	Until the first half of the 1990s	After the second half of the 1990s
Demand environment	• Demand was centered on conventional consumer electronics products. • Until the 1980s, TVs, VCRs, and other products became widespread in the markets of developed countries, increasing demand for these products. • In the first half of the 1990s, demand grew in Asia centered on ASEAN countries.	• Digital TVs and other next-generation consumer electronics products were introduced in real earnest mainly into the markets of developed countries, replacing the conventional products. • Asian economic crisis caused a decline in demand for conventional consumer electronics products in ASEAN countries, which had driven the growth of such demand. • In the future, although the demand in ASEAN countries is expected to recover, the growth of demand for conventional consumer electronics products will have its limit as next-generation consumer electronics products replace conventional ones.
Competitive environment	• Major competitors were manufacturers in Europe and North America. • Manufacturers from Korea and other countries entered the niche market for products with low added value, etc.	• Manufacturers from Korea and other countries have rapidly enhanced their competitiveness, entering the major consumer electronics market. • Chinese manufacturers are also expected to enhance their competitiveness in the future.
Product pricing environment	• The prices of products fell, though not sharply.	• The prices of products fell sharply due to intensifying competition.
ASEAN's internal market environment	• ASEAN countries levied high tariffs on consumer electronics products from within the region. • CEPT was introduced in 1993 but tariffs on consumer electronics products remained at high levels.	• ASEAN countries are expected to lower tariffs on consumer electronics products in real earnest in 2002 and thereafter. • Unification of ASEAN's internal market is expected to progress. • Competition in ASEAN countries is expected to further intensify.

bases in ASEAN countries have occupied an increasingly important place in the strategy of Japanese consumer electronics manufacturers. Further it can also be said that such importance will remain unchanged in the future. There are, however, several points to be noted when looking at future business operations by this industry in ASEAN countries. In other words, the business environment that surrounds the consumer electronics industry in ASEAN countries has undergone major changes since around the time when Asian economic crisis occurred.

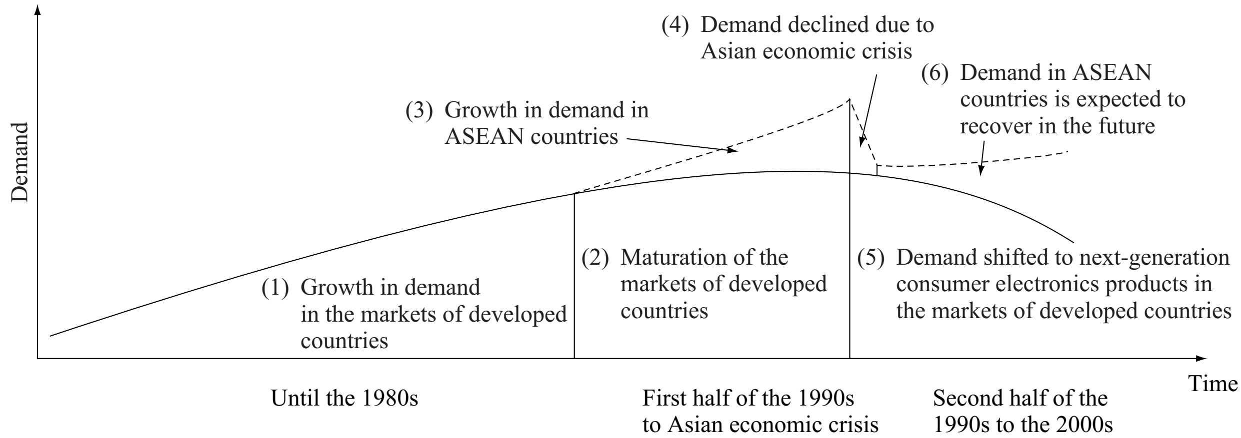
The changes in the business environment that surrounds the consumer electronics industry in ASEAN countries have not been caused by the temporary decline in demand for consumer electronics products in these countries following Asian economic crisis, but involve structural problems. These changes are attributed to the major changes that occurred to the demand, competition, product pricing, and market environments in ASEAN countries. These environmental changes are described as follows (see Chart 6).

1. CHANGE IN THE DEMAND ENVIRONMENT

The change in the demand environment is that manufacturers have gradually began introducing next-generation consumer electronics products, including DVD players and digital TVs, mainly in the markets of developed countries. As a result, manufacturers are confronted with the limited expansion of demand for products such as the conventional color TVs, VCRs, and other types of AV equipment, which have attained the level of maturity. This casts a serious problem on the consumer electronics industry in ASEAN countries, which have a concentration of production bases for conventional AV equipment products and which supply such products to the rest of the world.

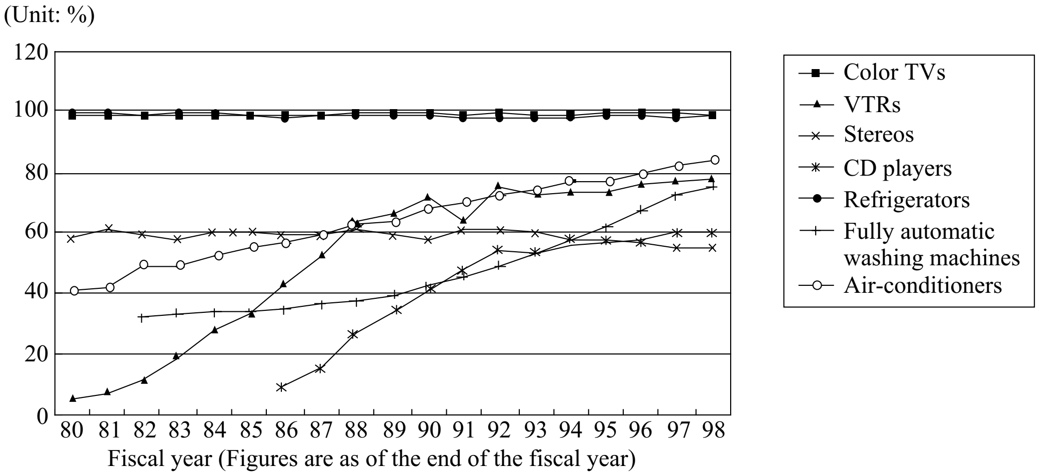
Chart 7 summarizes in graphical form the trends in demand for the production bases of Japan's consumer electronics industry in ASEAN countries. Until the 1980s (area represented by (1)), demand for consumer electronics products increased in the markets of Japan, Europe, North America, prompting Japanese manufacturers to expand their production bases in ASEAN countries. In the first half of the 1990s (area represented by (2)), VCRs, CD players, and other products became widespread in the markets of developed countries (see Chart 8). Demand was centered on demand for replacement, making the markets of developed countries increasingly mature. During this period, however, the economies of the ASEAN countries where Japanese consumer electronics manufacturers were operating achieved rapid growth, increasing demand for conventional consumer electronics products. Therefore, the maturity of the market for conventional consumer

Chart 7 Trends in Demand for the Conventional Consumer Electronics Products at Production Bases in ASEAN Countries (AV Equipment)



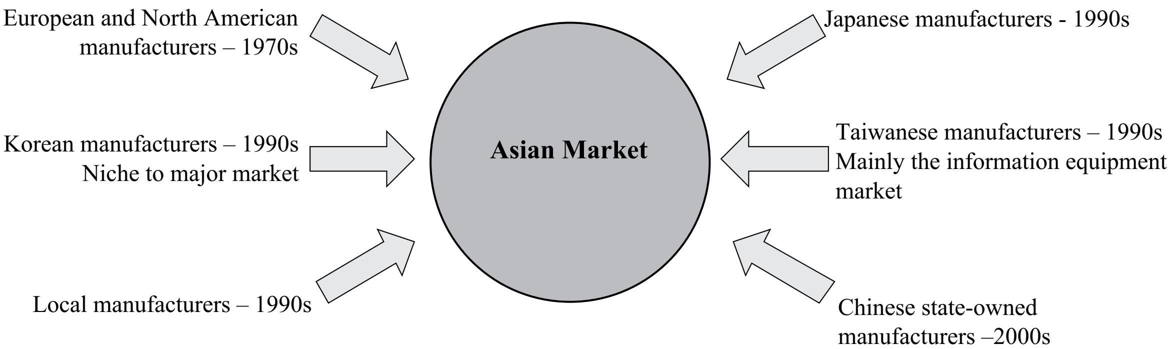
Note: Chart 7 summarizes in graphical form the trends in demand for the conventional AV equipments produced at production bases in ASEAN countries.

Chart 8 Proliferation Ratio for Major Consumer Electronics Products in Japan



Source: Economic Planning Agency

Chart 9 <Reference> Diversification of Competitors Entering the Asian Market



Source: JETRO seminar "21 seiki ni mukau ajia no erekutoronikusu sangyou" on November 30, 1999 (partially revised by the author)

electronics products in developed countries has not yet emerged as such a serious problem.

However, the eAsian economic crisis again highlighted the issue of the maturity of the market for conventional consumer electronics products. The crisis caused demand in ASEAN countries to decline temporarily (area represented by (4)). But the temporary decrease in demand itself did not have substantial effects on production bases in ASEAN countries because sales were still centered on exports to outside the ASEAN region and the export competitiveness of ASEAN countries improved due to the depreciated value of their currencies[4]. The more important issue was that, in a period when demand in the markets of developed countries, the major buyers for production bases in ASEAN countries, was gradually shifting to next-generation consumer electronics products, demand for conventional consumer electronics products in the ASEAN market declined considerably as a result of the economic crisis. In the future, demand in the market of developed countries will gradually shift from conventional to next-generation consumer electronics products (area represented by (5)). Given this trend, it can be said that the growth of demand for conventional consumer electronics products will have

4 See <Attachment>

its limit even if the economies of ASEAN countries recover, boosting demand for consumer electronics products (area represented by (6)).

2. CHANGE IN THE COMPETITIVE ENVIRONMENT

The change in the competitive environment is that competition is intensifying due to the diversification of competitors. Intensifying competition applies to the consumer electronics industry overall and it is also a serious problem for ASEAN countries, where a large number of production bases for consumer electronics products have been concentrated. Competition is intensifying not only in the Asian markets but also in the markets of advanced countries, including Japan, Europe, and North America, which are the major buyers of AV equipment and other products from the production bases in ASEAN countries. What deserves special mention is that in addition to Korean manufacturers, in recent years Chinese manufacturers have rapidly become more competitive. Previously, Japanese manufacturers competed with their Korean counterparts basically in the so-called niche markets for products with low added value. In recent years, however, the emergence of Korean manufacturers has been remarkable, making competition in the market for major products even fiercer[5]. Furthermore, Chinese manufacturers are making efforts to become more competitive in the same market in the future, and it is expected that the competitive environment for the Japanese consumer electronics industry will become even more severe (see Chart 9).

3. PRODUCT PRICING ENVIRONMENT

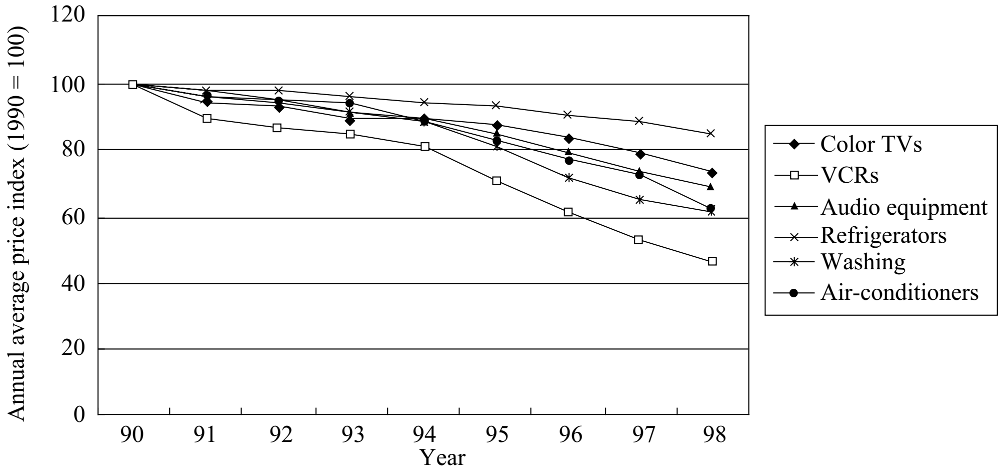
The issue of product pricing is caused by the competitive environment. Previously, the prices of consumer electronics products had showed a tendency to fall due to competition among Japanese manufacturers. However, because competition intensified as a result of the entry of Korean manufacturers into the market as described above, the prices of consumer electronics products have fallen significantly in recent years. A look at the changes in the prices of major consumer electronics products in Japan indicates that the prices of all these products have fallen considerably regardless of whether they are AV equipment or white goods (see Chart 10). In particular, the prices of VCRs have fallen remarkably with the prices in 1998 being a little less than 50% of those in 1990. In the future, when manufacturers start the gradual introduction of next-generation consumer electronics products centered on AV equipment, including DVD players and digital TVs, and the growth of demand for the conventional consumer electronics products reaches its limit, the competitive environment will become even more severe. In this case, the prices of the conventional consumer electronics products will further fall rapidly and this is likely to have major effects on profitability and other aspects of the operations in production bases in ASEAN countries, which are largely dedicated to the production of conventional consumer electronics products.

4. INTERNAL MARKET ENVIRONMENT IN ASEAN

The change in internal market environment in ASEAN is that with the progress of AFTA, ASEAN countries are moving to lower tariffs on consumer electronic products from within the region. If tariffs on consumer electronic products from within the region are lowered, unification of the region's internal market will progress and at the same time, competition among ASEAN countries will intensify. Currently, ASEAN countries still levy high levels of tariffs (around 20%) on consumer electronic products from within the region and therefore, manufacturers are not in an environment in which, for example, they can actively export many of the products produced in their Thai production bases to the Indonesian market. However, if with the progress of AFTA, ASEAN countries impose lowering tariffs on consumer electronic products from within the region in the future, it will

5 There are moves by Korean manufacturers to enter the market for DVD players and other products in developed countries.

Chart 10 Changes in the Prices of Major Consumer Electronics Products (Domestic Wholesale Price Index)



Source: Bank of Japan

become possible to export products produced in one ASEAN country to the markets of other ASEAN countries. Further, it is expected that competition with manufacturers operating in the ASEAN countries to which products are exported will become fiercer.

The changes in the business environment that surrounds the consumer electronics industry in ASEAN countries can be summarized as described below. As the overall consumer electronics industry is reaching the limit of increasing demand for conventional consumer electronics products due to conventional AV equipment and other products being replaced by next-generation ones, market entry by diverse players is intensifying competition in particular in terms of pricing. Furthermore, with the progress of AFTA, it is expected that competition within the ASEAN market in which Japanese consumer electronics manufacturers are operating will also intensify. Because these environmental changes are both complicated and interrelated, they are likely to have major effects on the production bases of Japan's consumer electronics industry in ASEAN countries.

Since its advancement in the 1960s, which was marked by its efforts to substitute exports form Japan for local production, the Japanese consumer electronics industry has expanded its business to ASEAN countries under various circumstances, and it has successfully achieved its goals in each phase of expansion. As a result, its production bases have become concentrated in ASEAN countries in large numbers and these have become important production bases for the Japanese consumer electronics industry. These production bases, however, have been established for different objectives and some of them are scattered throughout the ASEAN region. As exemplified by these factors, the business development of Japanese consumer electronics manufacturers in this region has not necessarily been efficient in some respects. In the past, Japanese consumer electronics manufacturers have basically developed their business in line with increased demand for consumer electronics products, and the competitive environment has not been particularly severe. Accordingly, simply by making the most of the production bases established in ASEAN countries under various circumstances as is, they have been able to maintain the competitiveness of these production bases.

As described above, however, the competitive environment that surrounds the Japanese consumer electronics industry is undergoing major changes. Therefore, although Japanese manufacturers have avoided the effects of the temporary decline in demand caused by Asian economic crisis, they are being urged to respond to structural problems such as demand for the conventional consumer electronics products reaching the ceiling and competition intensifying amidst such stagnant demand.

IV. PROSPECTS FOR FUTURE BUSINESS OPERATIONS IN ASEAN COUNTRIES

As described above, the business environment that surrounds the production bases of Japanese consumer electronics manufacturers in ASEAN countries is undergoing major changes. In response to these changes, Japanese consumer electronics manufacturers have entered a period in which they must review their business development policies, so what conceivable directions for the Japanese consumer electronics industry when it promotes its ASEAN business in the future?

In forecasting the prospects for future business operations by Japanese consumer electronics manufacturers, it is necessary to view ASEAN countries from two perspectives: "ASEAN countries as production bases" and "ASEAN countries as markets."

If ASEAN countries are viewed as production bases, two directions of business operations can be conceived: effectively reinforcing production bases in the ASEAN region and producing high quality products/diversifying products produced in the production bases in ASEAN countries. Meanwhile, if ASEAN countries are viewed as markets, how to meet local demand in the ASEAN region, a market for the conventional consumer electronics products, becomes significant.

In the following paragraphs, the author will discuss the possible future directions of the ASEAN business using the results of interviews with representatives of Japanese consumer electronics manufacturers (see Chart 11).

1. ASEAN COUNTRIES AS PRODUCTION BASES

1) Reinforcement of effective production bases

The growth of demand for conventional consumer electronics products has its limits and in addition, the prices of products are falling rapidly as a result of intensifying competition. For this reason, in order to continue production of the conventional consumer electronics products, it becomes necessary to efficiently reinforce the existing production bases which are scattered throughout the ASEAN region and which have been established under various circumstances. Japanese consumer electronics manufacturers have promoted their ASEAN business, spurred on by various factors such as avoiding trade friction and responding to a highly appreciated yen (see Chart 12). For this reason, in some respects, the existing production bases in ASEAN countries are not located in an efficient manner. Furthermore, business development in the past was premised on growing demand f, resulting in a slight excess of plants and equipment to some extent. Under these circumstances, possible directions for efficiently reinforcing production systems in the ASEAN region include (1) restructuring production bases in the region, (2) utilizing external production facilities (original equipment manufacturing), and (3) stepping up local procurement of components.

(1) Restructuring production bases in the ASEAN region

<Taking measures for import substitution bases>

As early as the 1960s, the production bases of Japanese consumer electronics manufacturers established in ASEAN countries, were producing several kinds of products such as black-and-white TVs and radios in small lots for the markets of the countries in which they operated. The objectives of advancement in this period were to avoid high tariffs levied on exported consumer electronics products and to obtain market shares in these countries as ASEAN countries promoted a policy of import substitution industrialization. Initially, Japanese manufacturers made profits in these import substitution bases in their own way and accomplished the objectives of their advancement. These production bases, however, are less competitive than export and other bases that were established in ASEAN countries later because of such problems as producing several kinds of products in small lots and the difficulties in controlling joint-venture firms. Therefore, in order to reinforce more efficient production bases in ASEAN countries, itbecomes necessary to restructure import substitution bases by, for example, producing a small number of products on a certain scale.

Chart 11 <Reference> Trends in the Recent Development of Major Consumer Electronics Manufacturers' ASEAN Business (Excerpts from Mass Media Reports)

Company name	Country	Audio-visual equipment	Home electric appliances (white goods)	R&D	Procurement of components	Reorganisation of business bases	Other
Aiwa	Malaysia	• Plans to produce DVD players (June 1999) • Production of MD components started (January 1998)			• Component procurement bases established for AV equipment to supply components to related plants in Southeast Asia (August 1999)		
	Thailand					• TV export to U.S. through OEM arrangement (May 1999)	• Wholly owned sales subsidiary established to bolster sales activities in Southeast Asia (May 1999)
	Indonesia	• Production of CD players and other automotive audio sets started for the North American market (August 1999)					
Kenwood	Malaysia	• Production of portable MD players transferred to Malaysia in April 2000. All production of home-use audio equipment transferred to overseas bases (October 1999)		• Development and design functions for audio products for the Asian market strengthened (June 1999)			
	Indonesia					• OEM arrangement of automotive audio sets (November 1997)	
Sony	Singapore				• Production of televisions with flat cathode-ray tubes started (June 1998)	• Merger of six bases for cathode-ray tubes for TVs, electronic components, and other components in Singapore (September 1999)	
	Malaysia	• Plans to double production of DVD players by the end of 2000 (December 1999) • Production of DVD players started (September 1998) • Production of MD decks started (January 1997)		• R&D functions for products for the Asian market strengthened (July 1999)		• Integration of TV and VCR bases and simultaneous start up of full-scale production of DVD and other products (July 1999) • Integration of two audio equipment bases and a PC peripheral equipment base in Penang (June 1998)	• Production of DVD players started in Malaysia and consideration also given to producing DVD players for the North American market in Mexico (December 1999) • CD players, VCRs, and other products to be produced in Hungary, replacing exports from Malaysia (April 1998)
	Indonesia					• TV production base shut down and production lines integrated into an audio equipment base (April 1999)	
Pioneer Corporation	Malaysia	• Production of DVD players started (March 1999)					
Victor Company of Japan	Singapore			• Design functions for car stereos strengthened (July 1997)			
	Malaysia	• Production of DVD players started (October 1999)		• Design functions strengthened at the VCR base (August 1999) • Design functions for audio equipment strengthened (July 1999)			
	Thailand					• Most of the production of color cathode-ray tube televisions transferred to Thailand to respond to falling prices (September 1999)	
Sanyo Electric	Malaysia					• Audio equipment business transferred to China and focus shifted to cellular phone business in Malaysia (1998)	
	Indonesia			• Design functions strengthened at TV and VCR bases (November 1998)			
Sharp	Malaysia	• Assembly production of televisions with flat cathode-ray tubes started (July 1999) • Production of portable MD players started (April 1999) • Production of DVD players started (March 1999)		• Design functions for TVs and VCRs for Asia strengthened (July 1999) • Audio equipment design functions transferred to Malaysia (October 1998)	• Organization for inspecting components procured within the ASEAN region established with the aim of achieving greater efficiency in local procurement (September 1998) • Production of optical pick-ups started, a key component of the MD player (September 1998) • Production of drive units for MD players started (March 1997)		• Production of televisions and vacuum cleaners started in Mexico, replacing imports from Malaysia (July 1999)
	Thailand		• Production of latest refrigerator models increased for export to Europe and the Middle East (June 1999)				
	Indonesia Country		• Part of the production of small-sized refrigerators transferred to Indonesia for sale in local markets and also for export to Japan (June 1999)				

Chart 11 <Reference> Trends in the Recent Development of Major Consumer Electronics Manufacturers' ASEAN Business (Excerpts from Mass Media Reports)

	Country	Audio-visual equipment	Home electric appliances (white goods)	R&D	Procurement of components	Reorganisation of business bases	Other
Matsushita Electric Industrial	Singapore	• Production of DVD players (from April 1999) and MD mini components (from July 1999) started (April 1999)			• Production of motors for portable MD players started (November 1999) • Production of optical pick-ups for MD players started in the second half of 1999 (April 1999)		
	Malaysia	• Plans to start production of DVD players in the first half of 2000 (October 1999) • Production of MD radio cassette recorders started (August 1999) • Production of televisions with flat cathode-ray tubes started (June 1999)		• R&D center established aimed at producing home electric appliances (white goods) that suit various lifestyles (June 1999) • Design and production base for air-conditioner components established (October 1998)			• Sales system strengthened in Malaysia by constructing a communications network including dealerships and implementation of other measures (September 1999)
	Thailand					• National Thailand, an import substitution base reorganized; new companies established for each product so that firmer control of each company can be ensured (July 1997)	
Company name Toshiba	Singapore	• Assembly production of televisions with flat cathode-ray tubes started (December 1999)		• Design and development base established for digital consumer electronics products to strengthen technological development for such products (October 1998) • VCR development bases integrated (September 1997)			
	Malaysia	• Production of DVD players to start in April 2000 (October 1999)					
	Thailand		• All production of fully automatic washing machines for Southeast Asia and the Middle East transferred to Thailand to reduce costs (November 1999) • Exports of Thai-made air-conditioners centered on low-cost models to Japan considered (August 1999) • Exports of Thai-made low-priced rice cookers, plate-warmers, and other products to Japan started (July 1999) • Production of small refrigerators started for export to Japan (February 1999) • Production of microwave ovens started for export to Japan (September 1998)		• Production of flat cathode-ray tubes started (July 1999)	• Production of VCRs transferred from Singapore to Thailand (September 1997)	
	Indonesia					• Production of low-priced round-shaped cathode-ray tubes integrated to reduce costs (December 1999) • Production of small televisions integrated (March 1998)	
Hitachi	Singapore				• Reliability Analysis Center established, an organization for inspecting AV equipment parts procured in Southeast Asia, with the aim of achieving greater efficiency in local procurement of components (July 1999)		
	Malaysia		• Exports of Malaysian-made air-conditioners to Japan considered (June 1999)				
	Thailand		• Production of small-sized refrigerators transferred to Thailand and exports of Thai-made refrigerators to Japan increased; in addition, exports of Thai-made two-tank washing machines to Japan increased (January 1999)				
Mitsubishi Electric	Thailand		• All production of small refrigerators with a capacity of 200 ml or less transferred to Thailand (October 1999)	• R&D center for air-conditioners produced in Southeast Asia established to build a system that includes all processes from R&D to production (April 1998)			

Source: This chart has been created using various news reports.
Note: Months and years in parentheses indicate the period in which news reports were published and they may be different from the period in which actual operations started or will start.

Chart 12 Development Status of Production Bases for Consumer Electronics Products in ASEAN Countries for Major Consumer Electronics Manufacturers

	Thailand			Singapore			Malaysia			Philippines			Indonesia		
	Name of local subsidiaries	***	Product items	Name of local subsidiaries	***	Product items	Name of local subsidiaries	***	Product items	Name of local subsidiaries	***	Product items	Name of local subsidiaries	***	Product items
Aiwa Note: Including subsidiaries of subsidiaries							Aiwa Electronics (Malaysia) Sdn.Bhd.	89	VCRs, stereo components				PT. Aiwa Indonesia	96	Headphone stereo sets
													PT. Aiwa Dharmala	97	Headphone stereo sets, stereo sets
Kenwood							Kenwood Electronics Technologies Sdn.Bhd.	91	Stereo sets, stereo components, CD players, car stereos	Kenwood Electronics precision Cebu, Inc.	97	Car stereos			
Sony	Sony Siam Industries Company Limited	88	TVs				Sony Video (Malaysia) Sdn.Bhd.	89	VCRs				P.T. Sony Electronics Indonesia	92	Stereo components, CD players
	Sony Magnetic Products (Thailand) Co.,Ltd.	89	Radio cassette recorders, stereo components												
	Sony Mobile Electronics (T) Co.,Ltd.	96	Car stereos												
Pioneer Corporation				Pioneer Electronics Asiacentre Pte.Ltd.	92	Stereo sets	Pioneer Technology (Malaysia) Sdn.Bhd.	91	Stereo sets						
Victor Company of Japan	JVC Manufacturing (Thailand) Co.,Ltd.	89	TVs	JVC Electronics Singapore PteLtd.	78	CD players, car stereos	JVC Electronics Malaysia Sdn.Bhd.	88	Radio cassette recorders and other related products, stereo sets, stereo components, CD players						
	JVC Electronics (Thailand) Co.,Ltd.	91	TVs				Philips And JVC Video Malaysia Sdn.Bhd.	91	VCRs						
Sanyo Electric Note: Including subsidiaries of subsidiaries	Sanyo Universal Electric Public Co.,Ltd.	69	TVs, white goods, air-conditioners, and other products	Sanyo Industries (Singapore) Private Limited	66	Microwave ovens	FMS Audio Sdn.Bhd.	90	Car stereos	Sanyo (Philippines), Inc.	70	TVs, white goods, and other products	P.T. Sanyo Industries Indonesia	70	TVs, white goods, air-conditioners, and other products
				Sanyo Airconditioners Manufacturing Singapore Pte.Ltd.	86	Air-conditioners							P.T. Sanyo Compressor Indonesia	92	Air-conditioners
				Sanyo Compressor Singapore Pte.Ltd.	88	Air-conditioners							P.T. Sanyo Electronics Indonesia	96	TVs
Sharp	Sharp Appliances (Thailand) Limited	87	Microwave ovens, white goods				Sharp-Roxy Corporation (M) Sdn.Bhd.	74	Radio cassette recorders, stereo sets, stereo components, CD players	Sharp (Philippines) Corporation (SPC)	82	Air-Conditioners	P.T. Sharp Yasonta Indonesia (SYI)	94	TVs, stereo sets, white goods
	Sharp Thebnakorn Manufacturing (Thailand)	89	TVs				Sharp-Roxy Electronics Corporation (M) Sdn.Bhd.	80	TVs, video cameras						
							Sharp-Roxy Appliances Corporation (M) Sdn.Bhd.	85	TVs, white goods						
							Sharp Manufacturing Corporation (M) Sdn.Bhd.	89	VCRs						

***: Year of establishment.

Chart 12 Development Status of Production Bases for Consumer Electronics Products in ASEAN Countries for Major Consumer Electronics Manufacturers

	Thailand			Singapore			Malaysia			Philippines			Indonesia		
	Name of local subsidiaries	***	Product items	Name of local subsidiaries	***	Product items	Name of local subsidiaries	***	Product items	Name of local subsidiaries	***	Product items	Name of local subsidiaries	***	Product items
Matsushita Electric Industrial Note: Including subsidiaries of subsidiaries	Matsushita Communication Industrial (Thailand) Co.,Ltd.	96	Car stereos	Matsushita Refrigeration Industries (S) Pte.Ltd.	72	Air-conditioners	Matsushita Electric Co., (M) Bhd	65	TVs, white goods, and other products	Matsushita Electric Philippines Corporation	67	TVs, white goods, air-conditioners, and other products	P.T. National Gobel	70	TVs, radio, radio cassette recorders, white goods, air-conditioners, and other products
	A.P. National Co.,Ltd.	79	White goods, and other products	Matsushita Electronics (S) Pte.Ltd.	77	Stereo components	Matsushita Industrial Corporation Sdn.Bhd.	72	Air-conditioners						
	Matsushita Electric AVC (Thailand) Co.,Ltd.	98	TVs				Matsushita Compressor and Motor Sdn.Bhd.	87	Air-conditioners, and other products						
							Matushita Television Co., (Malaysia) Sdn.Bhd.	88	TVs, and other products						
							Matsushita Air-Conditioning Corporation Sdn.Bhd.	89	Air-conditioners						
							Matsushita Audio Video (M) Sdn.Bhd.	90	Radio cassette recorders and other products						
Toshiba	Thai Toshiba Electric Industries Co.,Ltd.	69	TVs, microwave ovens, white goods, and other products	Toshiba Singapore Pte.Ltd.	74	TVs							P.T. Toshiba Consumer Products (Indonesia)	96	TVs
	Toshiba Consumer Products (Thailand) Co.,Ltd.	89	White goods, air-conditioners												
Hitachi	Hitachi Consumer Products (Thailand) Ltd.	70	White goods and other products	Hitachi Consumer Products (Singapore) Pte.Ltd.	72	Radio cassette recorders, stereo components, and other products	Hitachi Electronic Products (Malaysia) Sdn.Bhd.	89	VCRs, video disc players, car stereos				P.T. Hitachi Consumer Products Indonesia	92	TVs, and other products
							Hitachi Air Conditioning Products (M) Sdn.Bhd.	89	Air-conditioners						
Mitsubishi Electric	Kang Yong Electric Public Co.,Ltd.	64	White goods and other products				Mitsubishi Electric (Malaysia) Sdn.Bhd.	89	VCRs, car stereos				P.T. Lippo Melco Manufacturing	91	White goods, air-conditioners, and other products
	Siam Compressor Industry Co.,Ltd.	88	Air-conditioners												
	Mitubishi Electric Consumer Products (Thailand) Co.,Ltd.	89	Air-conditioners												

***: Year of establishment.

Source: Same as Chart 11.
Note 1: White goods include refrigerators and washing machines.
Note 2: A comparison with the 1998 List of Overseas Subsidiaries indicates that various trends exist among some consumer electronics manufacturers including decreases in the number of production bases and changes in product items.

In restructuring import substitution bases, it is necessary to implement measures to ensure that favorable relationships with local partners can be maintained. In the period in which import substitution bases were established, all ASEAN countries placed restrictions on the ratio of equity held by foreign investors and Japanese manufacturers needed to secure sales channels, forcing Japanese manufacturers to develop their business by forming joint ventures with local partners. Currently, ASEAN countries are relaxing the restrictions on foreign investments[6]. In order to ensure flexibility and independence in managing production bases, it may be more efficient for their business operations to acquire the majority of equity in the companies. In this case, in order to ensure smooth business operations in the countries involved in the future, it is necessary to take steps to prevent the relationships with local partners in joint ventures from worsening[7].

Japanese manufacturers have already started to restructure their import substitution bases and have made certain progress in implementing measures for restructuring. However, if they have delayed the restructuring of their import substitution bases because they were busy coping with the effects of decreased domestic demand caused by Asian economic crisis, they are urged to take swift measures for restructuring. In particular, if unification of ASEAN internal market progresses with the advancement of AFTA, it is expected that competition will further intensify in the future.

<Taking measures for export bases>

The production bases established in ASEAN countries in the 1970s and thereafter were basically export-oriented, and Japanese manufacturers sold part of their products within the ASEAN market as necessary. In the early 1990s, when the economies of ASEAN countries achieved rapid growth, Japanese manufacturers moved to expand their production bases, mainly for AV equipment, for such reasons as growing demand for consumer electronics products in the region. Some of them even established two or more production bases for products of the same type within the ASEAN region[8]. Behind this move was the fact that expanding production bases in ASEAN countries was important to secure market shares in these countries, which were still levying high tariffs on imported consumer electronics products.

However, Asian economic crisis caused demand for consumer electronics products in ASEAN countries to decline, and the growth of demand in the markets of the countries to which products are exported has its limit. Furthermore, the manufacturers of South Korea, China, and other countries have become increasingly competitive and have expanded production. For these reasons, Japanese manufacturers, who have developed production bases in ASEAN countries extensively, have started to feel that they have an excess of plants and equipment. Meanwhile, if ASEAN countries lower the tariffs on consumer

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6 In particular, after Asian economic crisis, Thailand and certain other ASEAN countries relaxed the restrictions on foreign investments as part of their policies to attract direct investment from overseas.

7 According to the interviews, some Japanese consumer electronics manufacture implemented the restructuring of its import substitution base as follows; its import substitution base was converted from a production company to a holding company. Production subsidiaries were established again on a product-by-product basis through the formation of joint ventures between the holding company and the Japanese manufacturer. In this case, the Japanese manufacturer can practically control these production subsidiaries by securing the Japanese majority of shares in these subsidiaries, while maintaining the capital relationship with the partner in the joint venture. For example, suppose that the joint-venture partner holds 51% of shares in the holding company, and the holding company and the Japanese manufacturer establishes new production subsidiary. Even if the percentages of shares in the production subsidiary held by the holding company and the Japanese manufacturer are 51% and 49%, respectively, the percentages of equity in the production subsidiary held by the joint-venture partner and the Japanese manufacturer are 26%* and 74%**, respectively. This enables the Japanese manufacturer to hold the practical majority of shares in the production subsidiary. * 51% (percentage of capital invested in the holding company) × 51% (percentage of capital invested by the holding company in the production subsidiary) ** 49% (percentage of capital invested in the holding company) × 51% (percentage of capital invested by the holding company in the production subsidiary) + 49% (percentage of capital invested in the production subsidiary)

8 In particular, these moves were remarkable among major consumer electronics manufacturers. The production bases of manufacturers specializing in AV equipment are concentrated in Malaysia or certain other ASEAN countries and there are few cases in which their production bases spread over ASEAN countries.

electronics products with the progress of AFTA, Japanese manufacturers will be able to meet the needs of the market in an ASEAN country by exporting products from other ASEAN countries. Therefore, in order to reinforce production bases in ASEAN countries in an efficient manner, it is becoming necessary to take measures such as reorganizing production bases and utilizing economies of scale through concentration of production bases according to product types.

The results of interviews held with representatives from Japanese manufacturers to ascertain the status of the restructuring of their ASEAN business can be summarized as described below.

The most advanced case indicates that some Japanese manufacturer has completed the restructuring of its production bases in ASEAN countries to a certain extent. Specifically, it has integrated the production bases that were established across the ASEAN region before Asian economic crisis, in Malaysia and certain other ASEAN countries.

Meanwhile, there is case in which some Japanese manufacturer is promoting a policy of maximizing its existing production bases in ASEAN countries instead of integrating or abolishing them although they are being restructured simultaneously. For example, production of TVs is now concentrated in Malaysia while other products are produced in other TV production bases in other countries. In particular, if a manufacturer has developed its business at a wide range of locations in Asia, taking these measures is feasible to a certain extent.

There are also cases in which restructuring production bases in ASEAN countries is an issue for future consideration. Under the high tariffs on consumer electronics products in ASEAN countries it is advantageous to a certain extent to maintain the production bases in the various ASEAN countries for securing market shares in these countries. Actually, although the average tariff rates have fallen since the introduction of the Common Effective Preferential Tariff (CEPT) in 1993, the rates of the tariffs on major consumer electronics products being levied by ASEAN countries are still high(around2%). Therefore, Japanese manufacturers will need to take measures while watching the moves by ASEAN countries to lower tariffs in the future.

Although the measures being taken vary from manufacturer to manufacturer, Japanese manufacturers have similar attitudes concerning the prospect for future business operations in that it is necessary to efficiently reinforce production bases in ASEAN countries. Due to the limit on demand for conventional consumer electronics products, intensifying competition with Korean and Chinese manufacturers, and other factors, it is necessary to achieve greater efficiency in production bases in ASEAN countries. In the future, it is expected that Japanese manufacturers will promote restructuring of production bases in ASEAN countries while watching the progress made in AFTA.

The policy of positioning production bases in ASEAN countries as export bases is likely to change in the future. Specifically, it is suggested that production bases in Mexico should be used to produce products for the North American market and those in Central and Eastern Europe should be used to produce products for the European market. A look at the current status of production base development indicates that although production bases have been operated mainly in ASEAN countries, some Japanese manufacturers have moved to set up production bases in Mexico, the Czech Republic, Hungary, and other countries. For TVs in particular, the broadcasting methods for which vary from region to region[9] and audio equipment for automobiles for which specifications also vary according to regions, production bases have been developed in countries outside the ASEAN region. Production bases in ASEAN countries will remain advantageous as compared to those in Mexico and Central/Eastern Europe because a large number of production bases for the consumer electronics industry have been integrated in ASEAN countries. From the viewpoint of reducing the lead time leading up to production and meeting local needs, however, Japanese manufacturers operating in ASEAN countries are further stepping up their basic policy of serving as producers located in consuming regions.

9 The major broadcasting method used in North America and Japan is the NTSC system, and that in Europe is the PAL system.

Chart 13 Production Bases in Mexico and Central/Eastern Europe

(Unit: Number of production bases)

	TVs	VCRs	Stereo sets	CD players	CD Audio equipment for automobiles	White goods	Air-conditioners	Total number of production bases
Mexico	4		1	1	6	1	1	15
Central/Eastern Europe	1	1			2			4
Czech Republic	1							1
Hungary		1			2			3

Source: Same as Chart 1

(2) Utilization of external production facilities (original equipment manufacturing)

One possible way of achieving greater efficiency in production bases in ASEAN countries is to utilize external production facilities, in particular with the aim of reducing costs for producing products with low added value. In the past, the mainstream of business operations by the Japanese consumer electronics industry in ASEAN countries was production using their own production facilities. If intensifying competition in the market for the conventional consumer electronics products is taken into consideration, one possible way of achieving greater efficiency in the production bases in ASEAN countries is to actively utilize original equipment manufacturing (OEM) and other methods specifically for products with low added value. Utilization of external production facilities enables Japanese manufacturers to respond to fluctuations in demand and complete their own product lineup while maintaining their own production facilities at an appropriate level. Furthermore, it enables Japanese manufacturers to extend their management resources into areas of business in which high added value is generated and also establish more efficient and profitable production systems[10].

At present, it is difficult to say that Japanese manufacturers are generally utilizing external production facilities for their consumer electronics business in ASEAN countries. During the interviews, however, they had relatively positive opinions about the utilization of external production facilities, including future plans to receive the supply of products through OEM arrangements. One possible plan is to receive supply of up to 21-inch TVs from Korean manufacturers through OEM arrangements and to produce larger TVs at one’s own plants. The manufacturer pursuing such a plan is of the opinion that it can use the production facilities of its competitors in a business-like manner.

An important point in promoting the purchase of products through OEM arrangements is to find reliable partners. These products are eventually marketed under one’s own brand names and therefore, it is necessary to receive a reliable supply of products in order to maintain the confidence of consumers in the products.

In the consumer electronics industry in ASEAN countries, attention is being focused on the moves by Japanese manufacturers to utilize external production facilities, including future plans for receiving supply of products through OEM arrangements.

(3) Stepping up local procurement of components and materials

Stepping up local procurement of components and materials is also important to enhance the competitiveness of production bases in ASEAN countries. Promotion of local procurement of components and materials not only helps reduce production costs but also enables Japanese manufacturers to respond flexibly to rapid fluctuations in the value of local currencies as observed during Asian economic crisis.

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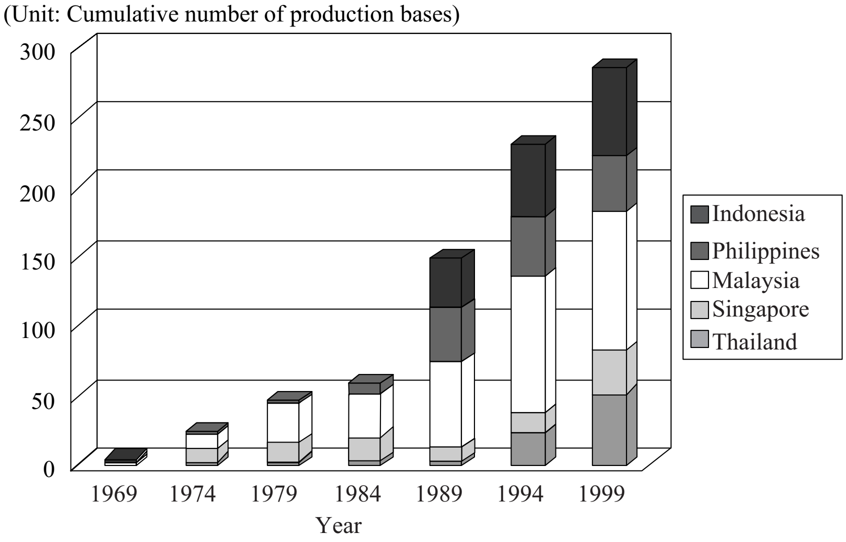
10 A considerable volume of personal computers is produced mainly by Taiwanese companies through OEM arrangements. According to the December 2, 1999 issue of the Nihon Kogyo Shin bun, the production of personal computers through OEM arrangements with Japanese and U.S. manufacturers grew in 1999. As a result, the output of laptop computers in Taiwan reached 9,355,000 units, holding a 49% share of the world market. Taiwanese personal computer manufacturers outperformed their Japanese counterparts, which held a 41% market share, to rank first in the world.

Chart 14 Expansion of Production Bases for Electronic Components to ASEAN Countries



Source: Same as Chart 1

Chart 15 Production Bases for Consumer Electronics Components by Region

(Unit; Number of production bases)

ASEAN	NIES	China	Other areas in Asia	North America	Europe	Other regions	Total
286	117	154	12	126	71	12	778

Source: Same as Chart 1

Local procurement of components and materials has already been promoted to a certain extent. Japanese consumer electronics manufacturers in particular moved swiftly to establish production bases in the Asian region centering on ASEAN countries in response to the rapid appreciation of the yen after the Plaza Accord in 1985. In response to this move, Japanese manufacturers of electronic components also promoted business operations in the Asian region centering on ASEAN countries. Chart 14 shows the status of the expansion of the electronic component manufacturers into ASEAN countries. The chart indicates that Japanese electronic components manufacturers have promoted business operations in ASEAN countries since the second half of the 1980s and that in particular, their production facilities have mainly been concentrated in Malaysia and Thailand. A look at the number of electronic component manufacturers' production bases established in each region of the world indicates that the largest number of production bases have been concentrated in ASEAN countries. The expansion of operations to ASEAN countries by these electronic component manufacturers is prompting Japanese assembly manufacturers to promote local procurement of components and materials at relatively high levels (see Chart 15)

The results of the surveys, "THE OUTLOOK OF JAPANESE FOREIGN DIRECT INVESTMENT" which are referred to in the previous section, indicate that the local component and materials procurement ratio for electric and electronic assembly manufacturers[11] in FY 1990 was 31.0%. The ratio rose steadily, to 42.9% in FY 1994 and 58.7% in FY 1998. (See Chart 16)

11 The electric and electronic assembly industries include businesses other than consumer electronics manufacturers, such as manufacturers of industrial electronic equipment. The overall trend is, however, that the local procurement ratio is on the rise and it can be said that local procurement by the consumer electronics industry is progressing to a certain extent.

Chart 16 Ratio of Components and Materials Procured Locally by the Electric/Electronic Assembly Manufacturers in ASEAN Countries

(Unit: %)

Actual results for FY 1990	Actual results for FY 1994	Actual results for FY 1998
31.0	42.9	58.7

Source: "THE OUTLOOK OF JAPANESE FOREIGN DIRECT INVESTMENT"(FY 1991, FY1995, FY1999)
Note: ASEAN countries include Thailand, Malaysia, Indonesia, and the Philippines.

However, the price competition for finished consumer electronics products is intensifying. In this environment, it is necessary for Japanese manufacturers to further promote local procurement of components and materials with the aim of reducing production costs. This can be achieved by, for example, actively utilizing Japanese-affiliated component manufacturers and even the local component manufacturers with whom they have had no business relationships in the past, or by transferring production of key devices to local production bases.

One of the measures for further promoting local procurement of components and materials in the future is to further localize R&D functions such as production design. Currently, active localization of R&D functions is under way mainly in Malaysia and Singapore. At present, although product development has not yet been localized, the functions of designing products according to various specifications have been localized to a considerable extent. Localization of design functions enables Japanese manufacturers to make the most of the components available in the countries where they operate, and this helps reduce production costs. Currently, components and materials are procured mainly from Japanese-affiliated manufacturers operating locally but it is expected that in the future, active procurement of components and materials from local component manufacturers will be promoted through localization of design functions[12].

Meanwhile, some Japanese manufacturers are moving to transfer production of key devices to their production bases in ASEAN countries. For example, they are shifting production of optical pick-ups, which is the key device of CD players, to their production bases in ASEAN countries. Overseas production of key devices and other components enables Japanese manufacturers to establish more comprehensive production systems and apply production technologies when producing products with high added value.

Moreover, Japanese manufacturers are trying to achieve greater efficiency in local component procurement systems. Moves to collectively supply components to the production bases developed throughout the ASEAN region by establishing an international procurement office are being accelerated. There are also moves to localize the functions of inspecting components procured within the ASEAN region, thereby reducing costs and shortening the lead-time to production[13].

2) Production of products with high added value and diversification of product items

One possible direction for the business of Japanese consumer electronics manufacturers in ASEAN countries is to establish efficient production basis via the restructuring of their existing production facilities and other measures. At the same time, there are two major moves being made among the Japanese consumer electronics manufacturers. One is to utilize the existing production facilities for production of AV equipment with high added value, including digital consumer electronics products. The other is to produce white goods with the aim of exporting them not only to ASEAN's internal market but to the Japanese market as well.

12 In some areas, moves to tie up with local component manufacturers are already under way. According to the interviews, there was a case in which the manufacturer held meetings to explain to local component manufacturers what kinds of components were required by disassembling its own products.

13 If component inspection functions have not been localized, locally procured components need to be sent to the component inspection division in Japan or other countries and this makes the lead-time required for using locally procured components for actual production longer. Localization of component inspection functions enables manufacturers to reduce the lead-time, contributing to efficient local component procurement.

(a) Production of AV equipment with high added value

One recent distinctive feature of Japanese consumer electronics manufacturers is that they are transferring production of even relatively recently commercialized products such as DVD and MD players to their production bases in ASEAN countries centered on Malaysia. In the past the general trend for overseas business operations was to produce products, which had been widespread through markets of developed countries, in production bases in ASEAN countries while products with high added value were produced in Japan. In recent years, however, this trend has diminished and the lead-time required for shifting to overseas production has become shorter.

Behind this move is the fact that it has become possible to implement technological measures for the production of even relatively new products at production bases in ASEAN countries. In addition to this, the fact that the price competition for these products is severe is serving as a factor for accelerating the move.

From a technological viewpoint, owing to the accumulation of technologies for overseas production of CD players and other products, products such as DVD and MD players can be relatively easily produced in production bases in ASEAN countries. Furthermore, concentration of component manufacturers' production bases enables local procurement of related components. In terms of price competition, the prices of DVD players and other products have already started to fall because Korean manufacturers have entered the market for these products[14]. For this reason, Japanese manufacturers cannot help but produce even relatively recently commercialized products at overseas production bases in order to maintain their competitiveness and this is prompting business operations in production bases in ASEAN countries which are capable of undertaking the production of such products.

During the interview, a representative from one Japanese manufacturer said, "In the past we have promoted business operations worldwide. This experience has enabled us to develop our business while considering which production bases in Japan and the rest of the world can produce products most efficiently and what products should be produced, instead of making a distinction between production bases in Japan and those overseas. We will reduce costs and maintain the competitiveness of our products by producing DVD players, MD players, and other products at our production bases in ASEAN countries where consumer electronics manufacturers are concentrated." In the midst of the severely competitive environment, it is expected that production bases in ASEAN countries will be utilized for the production of not only conventional consumer electronic products but also next-generation consumer electronic products with high added value.

(b) Utilizing production bases as those for producing white goods for export

Overseas production of white goods such as refrigerators and washing machines has not been promoted as actively as in the case of AV equipment. The principal objective of white goods production at production bases in ASEAN countries has been to sell products in local markets, and products for the Japanese market have mainly been produced in Japan. In addition, under the present circumstances, it is difficult for Japanese consumer electronics manufacturers to enter the European and North American markets because local manufacturers are competitive in this category of products[15]. Behind this is the fact that unlike AV equipment for which product specifications have been unified to a certain extent, specifications for white goods closely related to the local lifestyles and customs vary greatly of each

14 Currently, the major market for DVD players is North America. The January 28, 2000 issue of the Nikkan Kogyo Shim bun reported that the prices of these products in particular fell sharply in the second half of 1999.

15 Unlike AV equipment, there are many local manufacturers of white goods in addition to Japanese manufacturers. Therefore, Japanese consumer electronics manufacturers do not have a large share of the world market for these products. According to the June 1, 1999 issue of the Dempa Shim bun, the market shares of Japanese consumer electronics manufacturers for refrigerators, washing machines, and microwave ovens in 1998 were 15.5%, 15.3%, and 46.7%, respectively.

Chart 17 Ratio of Dependence on Imports for Major Consumer Electronics Products in Japan in 1998

(Unit: %)

White goods	
Refrigerators	2.8
Washing machines	5.0
Air-conditioners	1.9
AV equipment	
TVs	25.5
VCRs	66.1
Stereo components	14.2

Source: Ministry of International Trade and Industry; Ministry of Finance
Note 1: Ratio of dependence on imports = value of imports/(domestic output + value of imports - value of exports)
Note 2: Fiscal year for white goods and the calendar year for AV equipment

country. In addition, white goods are not very suitable for export and import because they are bulky, incurring high transportation costs. A look at Japan's dependence on imports for white goods and AV equipment indicates that the country's dependence on imports for AV equipment for which overseas production has been promoted is relatively high while its dependence on imports for white goods is low. It also shows that most of the white goods for the Japanese market are produced in Japan (see Chart 17).

However, the price competition for white goods is as severe as for AV equipment. Therefore, with respect to white goods, it is necessary for manufacturers to make their white products more cost competitive and there are moves to transfer production of these products to production bases in ASEAN countries in order to reduce production costs. In particular, production of small and medium-sized refrigerators and washing machines is being shifted mainly to Thailand and exports of these products to Japan are increasing. White goods require frequent model changes in order to meet the needs of the domestic market in Japan and the latest models need to be developed, designed, and produced domestically. It is expected, however, that in the future, production of popular products will progress at production bases in ASEAN countries and that these production bases will be utilized as the bases for exporting these products to Japan.

2. ASEAN COUNTRIES AS MARKETS

As described above, if ASEAN countries are considered as being production bases, production of conventional consumer electronics products is becoming mature and there are moves to restructure production bases in ASEAN countries and to utilize these production bases as bases for producing products with higher added value. If ASEAN countries are regarded as the markets, however, they can be positioned as markets in which new demand for conventional consumer electronics products is expected to grow in the future. In the future, as the majority of demand in the markets of advanced countries, including Japan, Europe, and North America, gradually shifts to next-generation consumer electronics products, ASEAN's internal market, the target of marketing for conventional consumer electronics products, will continue to be important.

Asian economic crisis caused the economies of ASEAN countries to decline substantially but ASEAN economies started to show signs of recovery in 1998. According to forecasts by the Asian Development Bank in December 1999, the annual economic growth rates for ASEAN countries in 2000 are 4.9% for Thailand, 3.9% for Indonesia, 5.7% for Malaysia, and 3.9% for the Philippines (see Chart 18). According to the interview, "Demand for consumer electronics products is gradually picking up." If ASEAN countries lower the tariffs being levied on imports from within the region with the progress of AFTA, lowered tariffs will intensify the competitive environment within the region and at the same time, unification of ASEAN economies will progress, making the ASEAN market more attractive. Although demand for consumer electronics products is not expected to grow rapidly in a short period of time as observed before Asian economic crisis, it is expected that ASEAN countries play a important role as markets for the conventional consumer electronics products.

Chart 18 Economic Growth Prospects for ASEAN Countries

(Unit: %)

	1999	2000
Thailand	4.2	4.9
Indonesia	0.1	3.9
Malaysia	5.0	5.7
Philippines	3.0	3.9

Source: Forecasts by the Asian Development Bank, December 1999

For this reason, how to meet local consumer needs in ASEAN countries as markets for conventional consumer electronics products while promoting restructuring of production bases in the region is becoming an important issue. If the tariffs imposed on products from within the ASEAN region are lowered with the progress of AFTA, products produced in an ASEAN country can be exported to other ASEAN countries with only 0-5% tariffs levied thereon. Meanwhile, tariffs will be imposed on products from outside the region at the same rate as before. Therefore, in order to explore the markets of ASEAN countries, it is necessary to utilize production bases in the region.

In formulating an approach to the markets of ASEAN countries, it is important to ascertain ways of meeting the needs of local markets. Before Asian crisis, demand for consumer electronics products was growing rapidly, and even if the products produced at export bases were supplied to ASEAN's internal market, they could easily be sold in the market. However, the situation in ASEAN countries is currently not one in which demand is growing rapidly as it was before the crisis though their economies are continuing to recover. Therefore, it is important to produce products that meet local needs more precisely.

In order to produce products that meet local needs precisely, it is important to localize product design. Localization of product design is important, not only to reduce costs but also to produce products suitable for the markets of ASEAN countries. Preferences for products such as AV equipment whose specifications do not vary greatly from region to region vary subtly from country to country[16]. For example, Japanese consumers prefer products with a simple design while their Southeast Asian counterparts choose products with relatively gorgeous designs. Therefore, if products for the markets of ASEAN countries are designed in Japan, their designs tend to be Japanese-oriented. For this reason, it is necessary to have local employees design products at production bases in ASEAN countries so that local needs can be skillfully reflected on product design.

V. CONCLUSION

In the past, the Japanese consumer electronics industry has promoted business operations in ASEAN countries under a variety of circumstances. In the 1960s, they shifted their operations to ASEAN countries to substitute imports from Japan for local production. In the 1970s their main purpose was to avoid trade friction. In the second half of the 1980s, they promoted business operations in ASEAN countries to respond to the rapid appreciation of the yen. In the first half of the 1990s they tried to further explore the Asian market. The Japanese economy grew until the 1980s with the Asian economy achieved rapid growth during the 1990s. Basically, Japanese consumer electronics manufacturers expanded their business in ASEAN countries in an environment in which demand for consumer electronics products continued to grow.

However, new-generation consumer electronics products are replacing conventional ones and the growth of demand for the conventional consumer electronics products has reached its limit. In addition, the emergence of diverse competitors has made competition extremely severe. As exemplified by these trends, the paradigms of competition in the consumer electronics industry are undergoing considerable changes. Due to the changes in the

16 There was a case in which blue for corrugated cardboard for packaging, is not auspicious color for Chinese consumers and the color should be avoided for corrugated cardboard boxes.

paradigms of competition, it has become necessary to reconsider the ASEAN business policies based on quantitative expansion that were pursued in the past.

One possible future direction of business development is to restructure production bases in ASEAN countries and establish an efficient production system through OEM arrangements and other measures. It is also necessary to step up efforts to explore the markets of ASEAN countries, in which demand for conventional consumer electronics products is expected to continue growing in the future, while offering products with high added value. In other words, in response to the changes in the competitive environment, Japanese manufacturers are shifting from the previous type of business operations aimed at quantitative expansion to one that emphasizes the qualitative aspects of operations. In the future, Japanese manufacturers will enhance their competitiveness , skillfully utilizing the production bases developed so far.

Although Japanese consumer electronics manufacturers have expanded their business to ASEAN countries under various circumstances in the past, so far a considerable number of production bases have been concentrated in ASEAN countries. There are moves to shift production bases mainly for AV equipment, to Mexico and Central and Eastern Europe, and as exemplified by this move, the positioning of production bases in ASEAN countries as bases for exports to the European and North American markets is likely to change. Still, given the status of the Japanese consumer electronics industry's production bases that have been integrated in ASEAN countries, including component manufacturers operating locally, these regional production bases occupy an important position in the strategies of the Japanese consumer electronics industry. Regional concentration of the Japanese consumer electronics industry's production bases has enabled production of consumer electronics products with high added value, including next-generation products, with the aim of exporting them to the markets of developed countries. In addition, a shifting of R&D functions, including product development, to production bases in ASEAN countries in the future is conceivable. Therefore, the Japanese consumer electronics industry is expected to continue promoting their ASEAN business in a new phase of development while improving the efficiency of their existing production bases and utilizing them as more efficient ones.

<ATTACHMENT> EFFECTS OF ASIAN ECONOMIC CRISIS ON THE PRODUCTION BASES OF THE JAPANESE CONSUMER ELECTRONICS INDUSTRY IN ASEAN COUNTRIES

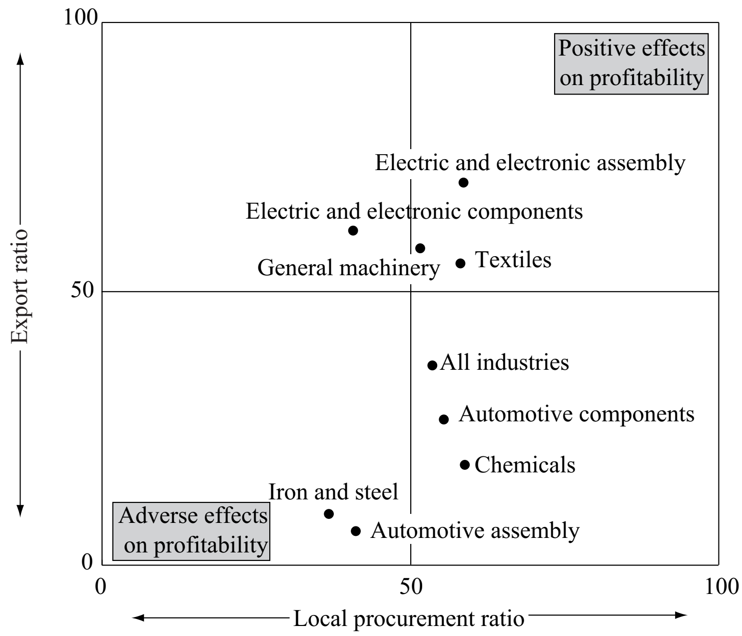
1. EFFECTS OF ASIAN ECONOMIC CRISIS ON JAPANESE-AFFILIATED BUSINESSES OPERATING IN ASEAN COUNTRIES

Asian economic crisis had various effects on Japanese-affiliated businesses operating in ASEAN countries. In particular, from the viewpoint of production and sales, demand stagnated as ASEAN countries experienced economic recession, and depreciated exchange rates for local currencies raised the prices of imported components and materials and improved export competitiveness.

In order to examine how the crisis actually affected Japanese-affiliated businesses operating in ASEAN countries, we examined the degree of dependence on ASEAN's internal market and the status of procurement of components and materials in the region as classified according to major industries. Chart 19 plots the ratio of products exported to countries outside the ASEAN region and the ratio of components and materials procured within the ASEAN region as classified according to major industries. This chart uses data obtained from the our institute's questionnaire survey, "FY 1999 SURVEY –THE OUTLOOK OF JAPANESE FOREIGN DIRECT INVESTMENT–."

In the electric and electronic assembly industries, the ratio of products exported to countries outside the region and the ratio of components and materials procured within the region are 70.3% and 58.7%, respectively. In particular, the ratio of products exported to countries outside the region is high as compared to other industries and the percentage of products exported to Japan is 29.4%, the United States and Canada 22.9%, and the European Union 6.8%. Therefore, the decline in demand in the ASEAN region caused by Asian economic crisis did not have substantial effects on the electric and electronic assembly industries. Rather, it brought positive effects such as improved export competitiveness due to the

Chart 19 Export Ratio and Local Procurement Ratio for Production Bases in ASEAN Countries (by Industry)



Source: Same as Chart 5
Note: In this chart, ASEAN countries include Thailand, Malaysia, Indonesia, and the Philippines.

depreciated exchange rates for local currencies[17]. In marked contrast to these industries is the automobile assembly industry in which the ratio of products exported to countries outside the region is very low, at 6.5%. The automobile assembly industry depends on ASEAN's internal market for most of the products produced in its production bases in ASEAN countries. For this reason, it was greatly affected by the stagnant demand in the region that followed Asian economic crisis.

2. EFFECTS OF THE CRISIS ON THE JAPANESE CONSUMER ELECTRONICS INDUSTRY'S PRODUCTION BASES IN ASEAN COUNTRIES AND PROSPECTS FOR THEIR REVENUES AND PROFITS

The analysis described above is based on a rough classification of industry types and the consumer electronics industry is included in the electric and electronic assembly industries[18]. This section will picks up three anonymous consumer electronics manufacturers from respondents of our questionnaire survey. By looking at the effects of Asian economic crisis on the production bases of these three manufacturers in ASEAN countries, an overview of the effects of the crisis on the overall production bases of the Japanese consumer electronics industry in the region is given. Two general consumer electronics manufacturers (Companies A and B) and one manufacturer specializing in AV equipment (Company C) were picked up as case studies[19] (Chart[20]).

(1) General consumer electronics manufacturer - Company A

Chart 20 indicates that the ratio of products exported to countries outside the ASEAN region for Company A20 is high for the production bases in Thailand and Malaysia, at 80% each. On the other hand it is relatively low for Indonesia and the Philippines, at 40% and 20%, respectively, indicating that affiliates in these countries depends greatly on the markets of ASEAN countries. The prospects for revenues and profits in the future years for Thailand and Malaysia, the countries from which affiliates mainly export their products to outside the ASEAN region, remain on almost the same level as before the crisis. Meanwhile, revenue and profit levels for Indonesia, where affiliates depends greatly on ASEAN's internal market, declined by 35% in FY 1998 as compared to the period that preceded the crisis. Affiliates in the Philippines were not greatly affected by the crisis in terms of revenues and profits because the country itself did not suffer from the crisis to any great extent.

(2) General consumer electronics manufacturer - Company B

Company B did not disclose data on the ratio of products exported to countries outside the ASEAN region. It is considered that although Company B is a general consumer electronics manufacturer and sells its products, centered on white goods and TVs, in the ASEAN region, the percentage of audio equipment and other products exported is high. Company B has relatively favorable prospects for revenues and profits in future years. It can be said that overall, the crisis did not have substantial effects on their affiliates.

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17 In the questionnaire survey in 1998, the overall effects of Asian economic crisis on Japanese manufacturers were examined. Actually, 14.3% of electric and electronic assembly manufacturers replied that the economic crisis in Asia had positive effects on their operations.

18 In the survey in 1999, 30 companies were classified into the electric and electronic assembly industry. Among these, eight companies produced consumer electronics products.

19 manufacturers whose replies made comparison easy are selected, taking into consideration the status of replies to the questionnaires.

20 In the questionnaire survey, the respondents were asked to reveal the percentages of products produced at overseas production bases and sold to each region in units of 10% with total sales at 100%. Therefore, the figures shown in this section are very rough. For example, 80% should be regarded as approximately 80%.

Chart 20 ASEAN Business of Consumer Electronics Manufacturers and Prospects for Revenues/Profits in Future Years

(Unit: %)

	Company name (anonymous)	Country	Local procurement ratio	Sales					
				Within the ASEAN region	Outside the ASEAN region	Japan	United State	Europe	Asia (excluding the ASIAN region)
General consumer electronics manufacturer	Company A	Thailand	95	20	80	10	70	0	0
		Indonesia	95	60	40	0	20	10	10
		Malaysia	95	20	80	30	40	0	0
		Philippines	95	80	20	20	0	0	0
General consumer electronics manufacturer	Company B	Thailand	65	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		Indonesia	65	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		Malaysia	65	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		Philippines	65	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Manufacturer specializing in AV equipment	Company C	Malaysia	55	0	100	30	30	30	10
		Philippines	n.a.	0	100	0	100	0	0

	Company name (anonymous)	Country	Revenues and profits (with the pre-crisis level at 100)			
			Actual results for FY 1998	Actual results for FY 1999	Medium-term prospects (FY 2002)	Long-term prospects (FY 2004)
General consumer electronics manufacturer	Company A	Thailand	105	105	105	105
		Indonesia	35	55	85	95
		Malaysia	95	95	95	95
		Philippines	105	85	105	105
General consumer electronics manufacturer	Company B	Thailand	85	85	105	105
		Indonesia	85	85	105	105
		Malaysia	85	85	105	105
		Philippines	95	95	105	105
Manufacturer specializing in AV equipment	Company C	Malaysia	75	75	95	105
		Philippines	95	95	115	115

Source: Same as Chart 5
Note: In this chart, ASEAN countries include Thailand, Malaysia, Indonesia, and the Philippines

(3) Manufacturer specializing in AV equipment - Company C

Company C does not sell its products in the ASEAN region and instead exports all its products to outside the region. The percentages of products exported from its production base in Thailand to outside the ASEAN region are 30% for Japan, 30% for North America, 30% for Europe, and 10% for other regions. The products produced at the production base in the Philippines are all exported to the United States. Overall prospects for revenues and profits in the future years are favorable except for the production base in Malaysia for which actual results for FY 1998 declined slightly and prospects for FY 1999 are also expected to show a slight decline.

The examples described above indicate that favorable prospects are expected for all production bases in ASEAN countries except Company A's production base in Indonesia, in which was substantially affected by the decline in demand in the ASEAN region. Of course, the degree of the effects brought about by theAsian crisis varied depending on how many production bases these companies possessed and in what country, and also on the products being produced. The ratio of AV equipment exported to countries outside the ASEAN region is high because ASEAN countries are positioned as bases for exporting AV equipment to the rest of the world. Essentially, specifications for AV equipment do not vary greatly from country to country, making it relatively easy to implements measures such as shifting to exports to outside the ASEAN region. Meanwhile, the percentage of white goods sold in ASEAN's internal market is high. In the case of these products, it is difficult to shift to exports to outside the ASEAN region because of the differences in specifications between the European/North American markets and the Asian market as well as high transportation costs, resulting in the adverse effect of the crisis on their profits. As Chart 19 shows, however, the ratio of exports for the overall electric and electronic assembly industries is relatively high and local procurement of components and materials is progressing to a certain extent. Therefore, it can be said that Asian economic crisis did not have a major effect on the production bases of the Japanese consumer electronics industry in ASEAN countries, and that business operations at these production bases are relatively favorable.

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