

Prologue

Summary and a Survey of Issues Faced by East Asia Today

Introduction

The economies of East Asia, including the NIEs, the countries of ASEAN, and China, experienced a decade of startlingly rapid growth starting in 1985, and are now entering a period of adjustment. (For details, see *Ajia keizai o yomu...* [Reading the Asian Economy...], *Ajiken World Trends*, 1998 Special New Year Issue.) The average annual economic growth rate from 1986 to 1995 in South Korea, Taiwan, Hong Kong, and Singapore (NIEs) averaged 8.1%, while for Thailand, the Philippines, Malaysia, and Indonesia (ASEAN4) it averaged 7.5%, and for China it was 9.9%. The average combined overall rate of growth for these East Asian countries was a high 8.5%. Furthermore, this rate is noteworthy for having been achieved with a relatively low inflation rate of 6.1% for East Asia overall.¹ Moreover, the energy underlying this growth originated in the high growth founded on the virtuous cycle of exports and investment in the NIEs that was stimulated by the appreciation of the yen after the 1985 Plaza Accord. The way this dynamism extended to the ASEAN countries and then to China one after the other, eventually stretching out over the whole of East Asia, is unique. In the case of the ASEAN countries and China, foreign direct investment played an important role in creating this virtuous cycle of investment and exports within a short time frame. In 1996, however, the export growth rate dropped rapidly in Thailand and Indonesia, resulting in an increasing current account deficit problem. With the addition of the sluggishness in stock and real estate prices experienced in 1997, the loans given by the various countries' financial systems during the time of rapid tempo financial expansion turned into unsound loans. As a result, there was a rapid outflow of short-term capital, so that exchange rate adjustments took place at once in Thailand, Indonesia, and South Korea. The depreciation of the affected countries' currencies relative

to the dollar exceeded 30% in 1997 alone. The degree of depreciation was greatly influenced by the cross-border movement of short-term capital that was made possible by the liberalization of the financial sector and the foreign exchange controls, and it may seem somewhat excessive from the perspective of purchasing power parity. It cannot be denied, of course, that the undeveloped institution and the lack of transparency of the financial system were causes of this large-scale depreciation. In any case, the series of adjustments that have taken place since July 1997 should probably be seen as having been made by the foreign exchange market because industrial and macroeconomic adjustments in the real economy failed to sufficiently reduce current account deficits. The instant adjustment in the financial sector had great impacts on the real economy, and it will take some time to recover. In this respect, the appropriate adjustment of industrial structure is of great importance if the countries of East Asia are to attain stable growth in future while also avoiding sudden exchange rate shocks of the kind that occurred recently.

This chapter aims to clarify the issues that face East Asia at present in relation to the adjustment of industrial structures, and to do so on the basis of a quantitative analysis of the 1985 and 1990 international input-output tables. Section 1 takes up the changes in industrial structure and international industrial linkage in East Asia, including Japan. It summarizes the findings in Chapters 1 through 5 in the framework focusing on industries and tries to discuss the findings in relation to the high growth mechanism that spanned almost ten years. Section 2 clarifies the issues that presently face the East Asian countries in relation to industrial structure and international industrial linkage, placing these in the context of the changes in the international economic environment such as the development of the Asia Pacific Economic Cooperation (APEC) forum and the ASEAN Free Trade Area (AFTA). This section will also touch on policies that these countries should adopt in view of the coming changes.

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1. *Changes in the International Industrial Structures in the Process of East Asian Economic Growth: A Summary*

Chapters 1 through 5 examines the structural changes that took place in international industrial linkages. The year 1975 is touched on in part as a subject of comparison in order to examine long-term change, but the primary target of analysis is the period from 1985 to 1990. It is desirable that the target period for analysis should be extended into the mid-1990s, when the acceleration of growth in the ASEAN nations and China was particularly striking even for East Asia. However, the most recent target year for the international input-output table is 1990, so it was not possible to take the mid-1990s as a direct object of the present international industrial linkage analysis. As these countries continuously experienced growth up to 1995, it will be reasonable to consider the structural changes observed in Chapters 1 through 5 as actually having continued in the same direction to 1995. Among the noteworthy changes that took place in the early 1990s in the area of economic policy are the further relaxation of restrictions on foreign direct investment in Indonesia and other ASEAN countries, the liberalization of foreign exchange controls and the financial sector in Thailand and other countries, the inauguration of AFTA in 1992, and the adjustment in the Chinese yuan exchange rate (33% devaluation) in 1994. As will be outlined in Chapter 1, these changes brought about a level of foreign direct investment in the ASEAN countries and China that far exceeded what had been seen in the late 1980s, and by expanding exports in the region, the changes no doubt brought about a strengthening of international industrial linkage in East Asia. Although the Asian international input-output tables for 1985 and 1990 compiled by the Institute of Developing Economies cover Japan, the USA, South Korea, Taiwan, Singapore, China, Thailand, the Philippines, Malaysia, and Indonesia, it would be overly complicated to provide the results of analysis for all ten of these countries. Thus Chapters 2 through 5 focus mainly on South Korea for the NIEs, and on Thailand as the most advanced and Indonesia as the least advanced of the ASEAN countries, according to their level of industrialization. The analyses of these countries will also give attention to their

connections with the Japanese and U.S. economies.

The decade of high growth among the East Asian countries saw quantitative and qualitative changes in the structure of mutual economic interdependence take place in the following areas: First is the international transactions of goods. This is an area that international industrial linkage analysis takes as its special province, and this change appears in the international input-output table as a change in the trade matrices. Trade liberalization policies that abolished import volume restrictions and lowered import tariffs, for instance, had great influence on this area of change. Second is the transfer of such factors of production as capital, labor, industrial technology, and management expertise. In the area of capital transfer, foreign direct investment served to mediate the transactions of industrial technology and management expertise, and further, by contributing to exports, it had a great influence on the transactions of goods among the countries of East Asia. The increased influx of indirect capital since 1990 also had the effect of supplying investment funding for manufacturing plant and equipment, and so no doubt had an influence on the supply capacity for goods. Increasing activity was evident in the movement of labor from the Philippines to Hong Kong, from Indonesia to Malaysia, and so on. The effects on domestic economies appeared in the form of changes in industrial structure, the deepening of domestic industrial linkages, and so on.

Below, we shall summarize the findings reached in Chapters 1 through 5 under the headings of (1) changes in domestic industrial structure, (2) changes in domestic industrial linkages, (3) changes in international industrial linkages, (4) the diffusion of income through international industrial linkages, and (5) advances in the structure of industrial technology.

1-1. Changes in Domestic Industrial Structure

The influence of high growth on the industrial structure can be seen as having two main aspects. One might be termed a growing emphasis on services, by which the changing pattern of demand that accompanies the rise of per capita income has the effect of increasing the relative weight of the service industry in the industrial structure. The other is the

deepening of the industrial structure, which for the same reason has the effect of shifting the relative weight of industrial composition from agriculture to manufacturing, and within manufacturing from labor-intensive industry to capital-intensive and technology-intensive industries. The skyline analysis in Chapter 2 clearly shows this change from 1975 to 1990.² According to this analysis, there was a growing emphasis on services in Japan and South Korea, while South Korea, Thailand, and Indonesia saw a progressive deepening of their industrial structure. Differences in per capita income cause their differences between countries, and South Korea, one of the NIEs, simultaneously shows both changes. Moreover, the deepening seen in South Korea is not so much a contraction of labor-intensive industry. It is rather a change that takes the form of an expansion of capital- and technology-intensive industries. This is the so-called "full-set" pattern of industrialization. The other NIEs, particularly Hong Kong and Singapore with their small-scale domestic markets, show a different type of deepening involving the replacement of industries.

Another characteristic of the change in industrial structure is its close relation to the fact that the high growth in East Asia was made possible by export-oriented industrialization. As the skyline analysis makes clear, the industrial structure of the ASEAN countries is undergoing a shift toward an export market orientation. This is especially apparent in Indonesia with its textile industry, in Thailand with textile and electrical equipment industries, and in Malaysia with its electrical equipment industries. These industries formed leading sectors that led the respective economies through exports. This is also shown clearly and in detail in Chapter 1, where we see that export dependency ratio (the ratio of exports to GDP expressed as a percentage) in the ASEAN4 went from 24% in 1985 to 36% in 1995.³ Though the NIEs, in contrast, show an increase in the absolute value of exports, there the expansion of domestic markets due to the rise in per capita income is relatively more important. For the same period, therefore, the ratio of exports to GDP went down from 57% to 50%. In other words, despite export-oriented industrialization strategies, we see that the rise in income levels is actually accompanied by a shift toward external-internal demand dual-axis growth. As will be seen in the section below, this tendency appears especially strong in South Korea, which promoted "full-set" type industrialization.

1-2.Changes in Domestic Industrial Linkages

As an economy grows, the industrial structure deepens, with linkage between industries growing stronger through the supply of raw materials or intermediate goods. This is because the capital- and technology-intensive downstream industries, which have relatively long production processes, show an increasing weight, in addition to the development of domestic upstream industries that rely on high-level technology and capital, and of supporting industries that supply parts and so on. In the international input-output table, the backward linkage effect⁴ is used as an index to express the degree of such linkages.

Chapter 2 presents the changes in the degree of this linkage from 1975 through 1990 in two parts, the repercussion effect within the source country itself and the repercussion effects on other East Asian countries. The pattern divides into three parts. The aggregate repercussion effect on the source country and the other East Asian countries increased in the cases of Thailand and Indonesia, showing that the industrial structure of the ASEAN countries was shifting toward industries that have long processes of roundabout production. This contrasts with South Korea and Japan, where industrialization had progressed further, and the aggregate repercussion effect decreased. Here, too, we can confirm the growth of services in the industrial structure. The repercussion effect in domestic industry shows different movements in Thailand and Indonesia. In Indonesia, the domestic repercussion effect grew larger and the industrial structure deepened. Thailand, by contrast, showed a decrease in the domestic repercussion effect. This point, as will be explained in detail in the section on international linkages, is closely connected with a foreign direct investment-dependent type of industrialization policy. In the case of South Korea, the domestic repercussion effect grew larger and the industrial structure deepened so that more and more sectors became capable of self-sufficiency.

1-3.Changes in International Industrial Linkages

International industrial linkages refers to the repercussion effect caused by backward linkage

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exclusive of the domestic repercussion effect described in the above section. This showed a large decrease in South Korea, while in Indonesia it only decreased slightly. What requires attention here is the case of Thailand, where the international repercussion effect leaped from 23% in 1975 to 32% in 1990. It was primarily the increase in foreign direct investment that brought about this degree of deepening of industrial linkage among countries, and what served as indirect support for this was deregulation of and policies favoring foreign direct investment, and the liberalization of trade. The ASEAN countries, in particular, responded with alarm to the shift of foreign direct investment toward China and Viet Nam in the late 1980s, and by the 1990s they had almost completely abolished restrictions on foreign capital. Indonesia, too, carried out considerable trade liberalization in order to solve the high-cost economy problem caused by import regulations and protective tariffs, thus becoming able to procure low-cost raw materials and intermediate goods from overseas. Since the inauguration of AFTA in 1992, the ASEAN countries have been continuing to lower trade barriers still further.

The extent of such international industrial linkages can also be measured in terms of the percentage of a country's production that is dependent on domestic demand or on exports (index of induced production)⁵. Chapter 3 examines manufacturing industries that show strong international industrial linkages, measuring the changes over the years 1985 to 1990. The tendencies vary greatly among NIEs, China, and the ASEAN countries. South Korea and Taiwan show a consistent heightening of dependence on internal demand and exports to East Asian countries, while dependence on exports to the USA and other parts of the world show a decrease of about 6%. In China and the ASEAN countries, however, where industrial structure changed greatly from 1985 due to direct investment and other factors, dependence on internal demand showed a consistent decline while dependence on worldwide exports increased. Among these countries, the increase in dependence on exports to the USA and other parts of the world was especially great in Malaysia and China, at about 10% in both. Through such examination of the changes in the indices of induced production, we can confirm the existence of an external-internal demand dual-axis type growth pattern in South Korea and Taiwan, and of an external demand-dependent growth pattern

in China and the ASEAN countries.

Many of the foreign direct investments after the appreciation of the yen and of the NIEs currencies are strongly export-oriented and their import procurement rates for intermediate goods are high. Unlike what had been seen before, these direct investments gave rise to a new pattern of trade. This was the pattern of intra-firm division of labor based on product differentiation and production process specialization. Intra-firm division of labor based on product differentiation is illustrated, for instance, by the differentiation of production sites in the manufacture of high-resolution televisions and ordinary color televisions. High-tech consumer appliances such as the former are manufactured at plants in Japan, while consumer appliances that have become standard products are manufactured at plants in Malaysia and reimported to Japan. This involves supply of parts and other such intermediate goods from Japan. Production process specialization refers to the division of production processes into various parts, with each such part of production being carried out in whatever country allows the lowest cost. This is seen with integrated circuit wafers, for example, which are produced in Japan while following labor-intensive processes involving those products are carried out in Malaysia. Recently, there has been a movement by enterprises that have advanced into various ASEAN countries to seek economy of scale by dividing parts production among those countries, and manufacturing final products in those countries by mutual accommodation with their subsidiaries. The manufacture of automobiles provides one example of this. Developments of this kind necessarily result in an increase in external procurement of parts for production in the ASEAN countries, and this means an intensification of industrial linkage through trade among East Asian countries. This tendency seems to have accelerated in the 1990s in particular, and the measurement results for 1990 must be reinterpreted in this light. Chapter 5 looks at Japan, which has the greatest aggregate investment in the region, and measures the degree to which the manufacturing industries of South Korea, Thailand, and Indonesia depend on Japan for raw materials and intermediate goods. The clear result is that South Korea shows an ever-decreasing dependence in this sense on Japan, while Thailand shows an increase in dependence from 1985 to 1990. In the case of Thailand, therefore, it appears as though one part of its

production structure is interwoven with the production structure of Japan. Indonesia's degree of dependence on Japan decreased somewhat during the same period, but there are indications that since 1990 it may be moving in the direction of an increase.

One characteristic of this kind of international linkage is that it makes a striking appearance within a particular industry. Examination of this point is done in Chapter 3. There it is pointed out that the electrical equipment industry in Singapore has been strengthening its ties with Japan, South Korea, and Taiwan in the procurement of raw materials and parts, and at the same time has been increasing its exports of manufactured goods to these same countries. With transportation equipment in South Korea, the advance of "full-set" type industrialization has also brought increases in domestic procurement rates for raw materials and parts. With electrical equipment in Thailand, procurement of raw materials and parts from NIEs has also increased and exports of finished products to the US and Japan are on the increase. In the case of the textile industry in Indonesia, too, there is change, however weak, which shows the same kind of influence. The international linkage of industries in East Asia is growing stronger, but the importance of the United States as an export market still continues.

1-4 Diffusion of Income Through International Industrial Linkage⁶

It is readily apparent that an increase in the direct importation of final consumption goods by one country will cause income to rise in the country from which those goods are imported. The extent to which an increase in final consumption demand for domestic products in one country will have an indirect effect of raising income in other countries through the import of raw materials and intermediate goods can only be measured using an international input-output table. Demand in one country can, by means of direct and indirect imports, leak over into other countries and result in a rise in income in those other countries. The degree of such leakage and income change depends on the closeness of international industrial linkage and on the value-added rate⁷ of the various goods involved. As shown in 1-3, the East Asian region overall, apart from such exceptional cases as South Korea, shows

a strengthening of international industrial linkages taking place since 1985, and it is not difficult to imagine that the international diffusion effect on income has been gaining momentum as well.

Chapter 4 deals with the measurement of changes in this income diffusion structure over the years from 1985 to 1990. In this chapter a simulation is performed to see what percent increase in income would take place in the East Asian countries and the United States given 10% growth in Indonesia, Thailand, and South Korea. The extent of change is inversely proportionate to the scale of the GDP of the corresponding country, and is proportionate to the strength of the international industrial linkage and the scale of the GDP of the source country. Indonesia in 1990, for example, brought about an economic growth of 0.022% in East Asia overall, only a slight increase from 1985. In Thailand, there is a notable increase from 0.020% in 1985 to 0.044% in 1990. In the case of South Korea, there is an increase from 0.051% to 0.064%. In these cases, the influence on the smaller-scale economies of Malaysia and Singapore is great. Also, in order to exclude the various countries' GDP scale factors, a measurement of the coefficient of international sensitivity⁸ is taken by dividing the income growth figure for East Asia and the United States by the amount of income increase from economic growth in the source country. For Indonesia, this measure goes up from 6.7% to 9.7% over the period from 1985 to 1990, and for Thailand, it goes up from 13.5% to 24.8%. The large-scale increase in international income linkage in Thailand corresponds to the increasing degree of international industrial linkage described above. In South Korea, by contrast, the sensitivity coefficient decreases somewhat from 18.1% to 16.1%. This, again, is consistent with the progress of "full-set" type industrialization.

The points raised here illustrate the fact that economic growth in East Asia has strengthened international industrial linkages in manufacturing industries in the region. If we think in terms of the role of demand for economic development, however, the level of self-fulfillment in the East Asian region does not seem very high. In other words, it has also been substantially supported through export stimulated by economic growth in the United States and other countries outside the region although the influence is gradually declining.

1-5. Advances in the Structure of Industrial Technology

The four perspectives presented above are all based on the observation on the quantitative change in East Asian industrial structures and international industrial linkages. Professor Paul R. Krugman of MIT in the United States has made the point that the growth in Asia resulted mainly from the increased input of the factors of production, capital and labor, and that there has been hardly any increase in productivity.⁹ Can this actually be the case? It is true that various substantive studies have failed to reach agreement on the rise in total factor productivity¹⁰. We should see what the international input-output tables suggest on this question. Though direct measurement is not possible, Chapter 5 has derived an indirect indication for manufacturing industries by studying the varying degrees of similarity in industrial technology structure (input structure¹¹). There, taking the Japanese input structure as a reference, the similarity in input structure of the various countries was measured. In 1990, the similarities were high, in order, South Korea, Thailand, and Indonesia. In other words, this confirms that the more advanced a country is in industrialization, the more closely its industrial technology structure and product mix in each manufacturing industry sector will approach those in the most industrialized country, i.e. Japan. Comparing the years 1985 and 1990, we see that South Korea and Thailand increasingly resemble Japan in the structure of their industrial technology. Since the industrial technology structure in Japan is in general more efficient than those in the other countries, it is evident that in South Korea and Thailand, at least, production efficiency advanced. This finding is at variance with Krugman's assertion, and it suggests, however indirectly, that not only increases in the factors of production but an improvement in productivity also contributed to growth in these countries. In the case of Indonesia, the metal products and transportation equipment industries showed greater similarity, but the average for manufacturing industries overall showed a slight decline over the period. This probably reflects the fact that Indonesia has been catching up more slowly than South Korea and Thailand. It can also be noted that industries with more foreign direct investment show a greater degree of resemblance. The observations above confirm that, despite some industries

that are exceptions, ASEAN countries and NIEs in general did show progress in catching up with Japan in industrial technology structure as well.

2. *New Issues in Industrial Structure Facing East Asia*

Since the appreciation of the yen in 1985, exchange rate adjustments occurred over a period of several years in the East Asian region to the point that the currencies of the NIEs also rose in value. These adjustments gave rise to the waves of adjustments in the region's international industrial structures, and strengthened international linkage among industries in the various countries. It brought about high economic growth in the region as well. This development with all its dynamism, however, is even now facing a great challenge. Coming after the slowing down of exports and the surfacing from the financial problems in 1996, the currencies of Thailand, South Korea, and Indonesia experienced large-scale depreciation in their dollar value. The same phenomenon was observed elsewhere in the region, although to a lesser degree. The currency crisis shook confidence in the future of the East Asian economy. The currency crisis in Thailand and South Korea appears to be coming under control due to international aid efforts from the IMF, but it is not just the financial sector that needs reform. One indirect cause of the recent currency and financial crisis was the manner of development in the industrial structure that prevailed over the decade or so. The influence that policy responses to the crisis will have on industrial structure will also be considerable. For such reasons, the countries of East Asia face a number of issues relating to their industrial structure. In order to clarify these issues, the first step that must be taken is to understand the problems that gradually appeared in these countries economies during the decade of growth, and the second is to gain an accurate view of coming changes in the conditions of the international economic environment that can be used to forecast the medium term outlook. Another thing that must be borne in mind when examining these issues is that, as the present analysis shows, mutual interdependence among the East Asian countries has increased greatly through international industrial linkage and international diffusion of income over about the past decade.

2-1. Gradually Apparent Economic Issues

Even if the recent currency and financial crisis had not taken place, a decade of high growth would have brought certain common economic issues into view, though with differences in degree, in the ASEAN countries and China.

The first issue is the tendency toward oversupply in manufacturing production. In general, an economy experiences business cycles due to fluctuations in investment in plant and machinery and in inventory investment. Though the ASEAN countries felt a short-term downswing around 1992, apart from that, the trend remained buoyant from the late 1980s until 1996, when a slowdown began in Thailand and other countries. The engine that drove this expansionary period was exports that were supported by the buoyant American economy and foreign direct investment that were pouring into the region. The high level of gross domestic fixed capital formation was stimulated by direct investment in particular, and the investment rate (gross fixed capital formation/ GDP) maintained increases in all these countries. The average investment rate in Thailand, for instance, was 28% for 1981-1985, 32% for 1986-1990, and 41% for 1991-1995. The figures for the same periods in Malaysia were 34%, 27%, and 39%. Though the level of investment was somewhat lower in the other ASEAN countries and China, there too it was on an upward trend. As a note in passing, the investment rate in Japan during its period of high growth was 32% for 1961-1965 and 33% for 1966-1970, so the high rates of investment in Thailand and Malaysia in the 1990s are especially conspicuous. It is true that not all investment is channeled directly into production facilities, but there is no doubt that such high investment rates as these maintained a growth in supply capacity in these countries. The products from the increasing supply capacity were absorbed by a favorable US market, joined by a favorable Japanese market in the late 1980s, and, with a prominent rise in income levels, by domestic markets as well. It is obvious, from the empirical behavior of business cycles in general, that the continuation of the expansionary period for over five years will result in supply outstripping demand, with a resultant downturn in the cycle. In the case of the ASEAN countries, however, it is thought that the long continuation of those favorable conditions was made possible by the growth in exports and

foreign direct investment. When export growth declined and direct investment hit a ceiling, therefore, those conditions were rapidly reversed. The continuation of high growth had also given rise to strong optimism, which in turn stimulated the increase in investment. The result of such continued high investment rates is that various industries are now experiencing excessive supply capacity, which further suggests that competition within industries in these countries and in the entire region will have to intensify, and restructuring will have to be carried forward as those industries seek efficiency.

The second issue is that of rising wages in the ASEAN countries and China. Most of the manufacturing industries in these countries are labor-intensive ones making use of labor that is relatively low-cost in terms of its quality. High growth, however, brought about an increase in income level as well, and the rise in wages was especially conspicuous in urban areas. These are the countries that, with the exception of Malaysia, suffer from an oversupply of labor, but rapid industrialization has meant an increasingly serious shortage of skilled labor and middle management personnel. In Thailand, for example, the unemployment rate was at the 3-5% level in the mid-1980s, but this dropped to the 1-2% level in the 1990s. Furthermore, the rate of increase in dollar-based per capita income was 12% in 1994 and 14% in 1995. The relative advantage the ASEAN countries enjoyed in simple labor-intensive industries is indeed disappearing. In this sense, the transition to more sophisticated industrial structures has become an issue.

The third issue is that of the rise in current account deficits. The rise in deficits began in Thailand, Indonesia, and Malaysia in 1994, and reached the conspicuously high deficits of \$13.2 billion in 1995 in Thailand and \$7.2 billion in Indonesia. The deficits grew worse in 1996, the main reason being a sluggishness in exports and a simultaneously rapid increase in imports. It is easy to imagine that the increase in foreign direct investment brought about an increase in imports of capital goods. We might be able to take the position that the increase in capital goods imports does not cause any problem in terms of foreign currency holdings, so long as it is financed by the influx of capital for foreign direct investment. Considering the fact that the exchange market is sensitive not to the basic balance of payments (which is the current account balance plus the long-term capital balance) but to

the current account balance, however, that position is difficult to maintain. Furthermore, the liberalization of trade and expansion of foreign direct investment that have taken place in recent years have aimed to supply products that are high in quality and low in price, and so have brought about a shift of demand away from domestically produced intermediate goods toward imported intermediate goods. Such an increase in demand for imported intermediate goods will not cause a current account deficit so long as the resulting products are exported. As a matter of fact, however, the domestic market expands under high economic growth, and the supply of products to that market is significant. The problem, therefore, has been that industrialization policies that bring about a large-scale increase in imports have not been carried out in conjunction with matching appropriate exchange rate policies. When a current account deficit appears under a freely floating exchange rate system, the exchange rate will adjust automatically in a direction that decreases the deficit. In a case such as Thailand's, however, where monetary policy effectively managed a de facto dollar-pegged exchange rate, or when voluntary indirect investment and overseas financing accommodations increase with such rapidity, then the exchange rate has little ability to adjust the current account. The resulting overvaluation of the currency leads to sluggish exports. The slowdown of exports in Thailand precisely demonstrates this. Favorable expectations for a country's economic performance in future generally bring an increase of indirect investment, if foreign exchange controls are liberalized. In such a case, a country's exporting industries and its import competing industries will find their international competitiveness declining unless they improve efficiency of production or make the industrial structure more sophisticated at an even more rapid tempo than usual.

2-2.Expected Changes in the International Economic Environment

The next topic is the changes in the international economic environment that can be forecast or that are scheduled for the medium range in the East Asian region. The main items to be mentioned here are the possibility of slowing growth in the US economy and trade liberalization within the frame-

work of APEC and AFTA. Another item, although it has already happened, is the large-scale depreciation in exchange rates, which is a major change for manufacturing industries.

As to the first item, the likelihood exists that the US economy, which has been maintaining its buoyancy, will begin to experience a slowdown before very long. In other words, the optimistic notion that a significant currency devaluation will soon lead to a large-scale increase in exports, thus restoring the economy, may not necessarily be borne out in fact. Exports appear to be showing signs of sudden recovery in Thailand and South Korea, but supply capacity in the manufacturing industries is also beginning to show some instability due to the credit squeeze. Furthermore, if the US economy were to slow down, the tendency to restore exports might not be sustainable as it is. The greater likelihood, in fact, is that there would be a harsh competition over export market share in the United States. In that case, the East Asian countries might feel more tempted to strengthen export competitiveness by racing each other to devalue their exchange rates. There is a perceived danger that a second round of exchange rate devaluation will begin if the Chinese yuan is devalued again. If we are concerned only with export competitiveness, then the recent large-scale depreciation of exchange rates may appear to have postponed the solution to the problems of transition to a more sophisticated industrial structure and of achieving greater efficiency. The other side of the picture, however, is that this means a rise in import costs. Today, as international industrial linkage grows stronger, the ratio of intermediate goods import to total inputs is on the rise, and the effect of exchange rate depreciation on improving international competitiveness is weakening. If a country seeks to increase exports, therefore, it should adopt policies to raise its international competitiveness by improving the industrial structure in a way that is consistent with its degree of industrialization and by improving the efficiency of its production processes.

As to the second item, APEC and AFTA trade liberalization is approaching its crucial moment. APEC has set its target time frame for liberalization as the year 2010 for the industrial countries and 2020 for the developing countries. This may not seem to suggest any particular urgency, but there are also plans for liberalization that member nations

have already committed to, including the Action Agenda of the Osaka Conference, the Action Plan of the Manila summit, and sector-wised liberalization planned at the Vancouver summit. These must be implemented regardless of the recent slow economic growth. There is no question that trade liberalization under conditions of economic slow-down carries a high cost in terms of domestic industrial adjustment, but it may be more accurate in the long run to consider it as a good opportunity to make the industrial structure more efficient.

The time schedule for trade liberalization under AFTA is very near. For certain specified items the target date is the year 2000, while for general items it is 2003, and it is even closer for items that already carry tariffs of 20% or less. It appears that member countries are striving to promote strongly those industries that can demonstrate economies of scale before the liberalization takes effect, but a strained competition to promote industry will result in greater inefficiency in the production system of the region as a whole. The Indonesian national-car project ultimately did not bring any tangible results. It is more important instead to give practical, workable form to the ASEAN industrial cooperation (AICO), which promotes a system of division of labor among member countries. Plans of this kind submitted by enterprises require separate approval by every country involved, so when such a plan does not fit with any given country's industrial strategy, it becomes difficult to gain the approval of all the countries. That is why this plan did not materialize before the recent currency crisis, but since the crisis it has been moving gradually toward realization.

2-3. Current Policy Issues

To summarize the points raised above, policies directed in the following ways will be necessary in order to actively utilize international industrial linkages in the East Asian region and to sustain the dynamism of the region's economic development.

First, as a prerequisite for policies on industrial structure, it is necessary to attain early macroeconomic stabilization. It goes without saying that bringing the financial system to a sound state is a pressing issue, but here thought might also be given to setting up certain restrictions in connection with foreign exchange control, adapted to the degree of

development of the financial market, while at the same time continuing to advance liberalization of trade and investment. The partial control of the foreign exchange control will be reasonable because movements in the short-term financial market, including fluctuations in exchange rates, have all too great an influence on industrial structure, where adjustment only takes effect in the medium range.

Second is the improvement of industrial efficiency. Even inefficient enterprises can somehow survive under high economic growth. The recent currency adjustment may serve to stimulate restructuring of enterprises within industries. In these cases, governments should avoid policies that protect inefficient industry. This point is also related to the adjustment of excessive supply capacity.

Third is transition toward a more sophisticated industrial structure. As seen already, the relative advantage enjoyed by simple labor-intensive manufacturing industries in many countries of the region is disappearing. It is to be hoped, therefore, that governments will take measures to improve secondary education, to increase vocational training facilities, and to provide loans to help the conversion to more sophisticated industry. It would also be desirable at that time for governments to have some vision regarding the transition toward more sophisticated industrial structure. Although some take the view that selection of strategic industries should be left entirely to the market to avoid "government failure", it might be just as well if the governments of the ASEAN countries and China exercise a minimal level of industrial policy.

The fourth area has to do with the fact that industrialization policy leveraging the overly rapid introduction of foreign direct investment can be an underlying cause of mini-bubbles such as occurred recently. In this, therefore, it becomes essential to have prudent policies that allow sustainable growth.

The above points have been raised by many, and the need for enhanced efficiency of industry and sophistication of industrial structure is not necessarily anything new. To propose such policies on the premise of strengthening international industrial linkage, however, is a great departure from the past. As will become clear from the analyses in Chapters 1 through 5, the cross-border movement of production factors and facilities in the East Asian region has advanced, and as will be seen in Chapter 4, the income linkage effect observed in the region

of East Asia including Japan and the United States has grown more marked. In working to raise the level of efficiency and sophistication of industrial structure, therefore, it is necessary to give careful consideration to the effects not only within countries but on the region as a whole. It is thought, therefore, that the role to be played by policy dialogue and co-operation employing the international frameworks such as IMF, World Bank, APEC, and ASEAN is increasing in importance.

Notes

- 1 Figures are from Table 1-1 (p. 3) of Institute of Developing Economies, *Ajiken World Trends* (January 1998 Special New Year Issue).
- 2 Skyline analysis is a method of presenting various industries in analogy to high-rise buildings, thus allowing a comprehensive view of a country's industrial structure through the shapes and heights of the various industry "buildings" that make up the whole skyline. See Chapter 2 for details.
- 3 Figures are from Table 1-2 (p. 7) of IDE (1988).
- 4 When an industry manufactures one unit of production, other industries must increase their production of input goods to be applied to that unit. The amount of that increase can be measured quantitatively using an input-output table, and is expressed as the backward linkage effect index. The backward linkage effect index is important because it shows that the higher an industry's index is, the greater is its potential for inducing both increased production by raw materials industries located upstream and establishment of new enterprises.
- 5 It is the existence of a demand that first induces production of manufactured goods by a given country and a given industry. The index of induced production shows what demand (consumption, investment, export) induces that production, and the extent of the inducement. Using international input-output analysis, it becomes possible to further specify which country's demand is the ultimate inducement.
- 6 The increase in income in a country or region induces production in other countries through increased demand for import goods, and this in turn causes income in those other countries to rise. This is the diffusion of income through international industrial linkages.
- 7 The value-added ratio is the ratio of added value to domestic production. The value-added ratio is typically higher for industries in which the larger part of production cost goes to labor, as in agriculture, forestry, fishery and service industries. The value-added ratio tends to be lower in manufacturing industries that require larger input of raw materials and intermediate products.
- 8 Economic growth of a certain rate in one country will have a different influence on economic growth in other countries according to its varying degrees of linkage with those other countries. The index that expresses the ratio of the impact on the income of other countries or regions induced by a country's unit economic growth (e.g., in units of \$1 billion) is the coefficient of the international sensitivity. The higher this figure, the more sensitively other countries or regions will respond to the source country's economic growth.
- 9 This observation is made in Paul R. Krugman, "The Myth of Asia's Miracle," *Foreign Affairs*, 73(6), 1994, pp. 62-78.
- 10 Increase in production quantity occurs not just because of quantitatively greater input of capital and labor, but can also be brought about by such other causes as technological advances, more efficient management, and qualitative improvements in factors of production. The part of production increase brought about by these other causes is called total factor productivity.
- 11 The intermediate products, raw materials, and technology required to produce a certain product can vary from country to country. The input structure derived by reading an input-output table vertically by column gives what might be called the cooking recipe for production of that industry's products, or we might also say this shows the structure of technology employed in that country.