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by
Jang-Hee Yoo

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Ⅰ. Introduction

It is often said that the winds of the world's economic growth are shifting toward the Asia-Pacific region. During the 1980s, the region's economic growth rate and expansion in trade were higher than those of any other region in the world. This dynamism is due to a number of factors. First, the nations in the region have followed an outward-looking development strategy under which they have actively sought foreign capital, advanced managerial skills, and modern technologies to modernize their domestic industries. Second, industrious workers who are well educated and highly perceptive of the capitalistic market economy have decidedly worked to give nations in the Asia-Pacific a competitive advantage in world markets. Third, the nations in the region have been led by political leaders whose main concerns were economic growth and people's welfare. Fourth, the region includes two important economic superpowers-the United States and Japan. These two countries have been the major absorbers of exports from the other nations in the region (Klein, 1990). Fifth, many countries in the region have been led by high-growth-minded governments which have carefully charted the courses of socioeconomic reforms to obtain a certain development level within a specified period of time.

Although the regional economies share many common characteristics as those mentioned above, there are three fairly distinct groups in terms of the development stage: developed countries (DC),

including the United States, Japan, Canada, Australia, and New Zealand; Asian Newly Industrialized Economies (ANIEs), including Korea, Taiwan, Singapore, and Hong Kong; and developing countries, including the Association of South-East Asian Nations (ASEAN) countries, India, Sri Lanka, and Latin American countries, with China, perhaps, falling into this last category. Thus, if one wants to discover some formula which will be able to sustain the region's overall economic growth rate and narrow the developmental gaps among the three groups, it is imperative to identify the role that each group should play in setting regional goals and creating markets for each other's exports.

The purpose of this article is twofold. First, it reviews the economic performances of the ANIEs during the last two decades and identifies some of their unique characteristics. Second, the article is devoted to developing a formula in which the ANIEs can be a catalyst for regional economic growth, thereby contributing to narrowing the welfare gap among the three groups. This is one step towards the cooperative modality that Klein (1990) proposes. That is, as an alternative to an export-led growth strategy, developing economies in the region may form a new trading bloc such as a customs union, a currency union, or some more comprehensive form of economic integration.

Ⅱ. Growth Performance of ANIEs: 1970-1989

The last two decades were not very exciting periods of growth for the world economy. The two energy crises, a long recession in the United States and the rise of protectionist sentiments in developed economies were some of the discouraging aspects of the world economy during the period. However, despite these unfavorable conditions, ANIEs experienced a remarkable growth. As shown in Table 1, the four nations recorded a 7.3% annual economic growth rate (in real GDP) during the period from 1980 to 1987, the highest rate among the regions in the world. Four ASEAN countries (Indonesia, Malaysia, Philippines, and Thailand) also grew at an impressive rate during the same period, but their average annual growth rate of 4.0% still fell far short of the ANIEs. The reason for the ANIEs' outstanding economic performance, particularly at a time when most of the other developing countries were achieving little growth, should be studied and become the basis for building a modality of growth in other parts of the world.

As mentioned earlier, the most salient reason for the rapid growth of ANIEs has been their active involvement in world trade through adoption of outward-looking, trade-oriented strategies. Trade was a critical element in the growth process. ANIEs have increased their share of world trade from less than 2% in 1965 to more than 8% in 1989. It is also interesting to note that Japan's trade volume over the same period grew from 5% to close to 10%.

The total trade volume of ANIEs, Japan, and the Pacific Economic Corporation Conference (PECC) countries was 38% of world trade, similar to that of the European Community (EC).

Growing intraregional trade volume was another reason for the rapid growth of ANIEs. The share of intraregional trade among Asia-Pacific countries has increased faster than interregional trade, rising from between 54-59% in 1970 to between 64-66% in 1987 (see

TABLE 1. Average Annual Rates of Growth of Real GDP

Country/Group	*1970-1979*	*1980-1987*	*1985*	*1986*	*1987*	*1988*	*1989**
NIES							
Hong Kong	9.4	8.1	−0.1	11.8	13.5	7.4	2.3
Korea	9.8	7.2	5.4	11.7	11.1	11.0	6.4
Singapore	9.6	6.4	−1.6	1.8	8.8	11.0	9.2
Taiwan	10.1	7.4	4.3	10.6	11.1	6.8	7.6
ASEAN							
Brunei	12.2[a]	−3.7[c]	−0.3	NA	NA	NA	NA
Indonesia	7.7	4.9	1.9	3.2	3.6	3.8	7.3
Malaysia	8.1[b]	5.0	−1.0	1.0	5.4	5.2	8.8
Philippines	6.3	1.0	−4.1	2.0	5.7	6.4	5.7
Thailand	7.0	5.1	3.2	3.5	6.3	11.0	12.5

a 1975-1979
b 1971-1979
c 1980-1985

Source: Asian Development Bank, *Key Indicators of Developing Member Countries of ADB*, April 1983 and 1984, and July 1987, 1988, and 1989.
Brunei, Ministry of Finance, Economic Planning Unit, Statistics Section, *Brunei Statistical Yearbook*, 1978/1979, 1981/1982, 1982/1983, 1983/1984, and 1984/1985 issues.
Far Eastern Economic Review, August 31, 1989.
International Monetary Fund, *International Financial Statistics*, Yearbook, 1987 and 1988 and June 1989.
Pacific Economic Cooperation Conference, *Pacific economic Outlook 1989-1990*.
World Bank, *World Development Report, 1982*.
* Data for 1989 were collected from IFS, WEFA and World Bank sources.

Table 2). One study (East-West Center, 1989) shows that the share of intra-PECC trade in 1987 is even larger for the developing countries in the region, accounting for approximately 75% of exports, than for the developed countries. The share of U.S. exports to PECC countries of total exports was the lowest among the PECC countries, amounting to only 50% in 1987. In contrast, more than 40% of total intra-PECC exports was directed toward the U.S. market in 1987. Surprisingly, the ANIEs were the next largest market for the region's exports after the United States, absorbing 16% of the regional exports. This clearly indicates that the ANIEs have become an important importing economic entity while maintaining their export promotion development strategies.

Rising intraregional investment flows has also been an important factor contributing to the exceptional economic growth of the ANIEs. A major source of capital for the countries in the region was Japan. According to the U.S. Commerce Department, Japan accounted for more than 30% of the capital flows to the ANIEs while the U.S. accounted for about 22% in 1988. These rising investment flows to the ANIEs were further strengthened by rapid restructuring of industries in Japan and the U.S., which resulted in a large number of labor-intensive and capital-intensive industries moving their production facilities to the ANIEs.

Industrial complementarities and different resource endowments in the region have also been a factor contributing to the rapid growth of the ANIEs. The U.S., which leads in technology, made

TABLE 2. Export Matrix, 1970 and 1987 (US$ millions)

Origin	Destination country(percentage of total world exports)										
	NIEs	Hong Kong	Korea	sing-apore	Taiwan	ASEAN	Brunei	Indonesia	Malaysia	Philippines	Thailand
1970											
NIEs	7.4	3.5	0.9	2.3	0.7	10.8	0.5	2.1	6.0	0.6	1.6
Hong Kong	5.7	—	0.7	4.1	1.0	5.0	0.2	1.8	1.3	0.6	1.0
Korea	6.2	3.3	—	1.3	1.6	1.2	NA	0.3	0.2	0.1	0.6
Singapore	5.0	3.9	0.7	—	0.3	29.4	1.6	3.2	21.2	0.3	3.2
Taiwan	13.5	9.2	1.9	2.4	—	5.9	0.1	2.2	0.8	1.1	1.7
ASEAN	18.6	2.1	1.7	12.8	2.0	5.9	0.2	0.6	3.4	1.2	0.4
Brunei	2.0	0.0	NA	1.0	1.0	82.2	—	0.0	82.2	NA	0.0
Indonesia	17.5	1.0	NA	15.5	1.0	5.6	0.0	—	3.3	2.3	0.0
Malaysia	27.0	1.2	2.6	21.6	1.6	3.8	0.6	0.6	—	1.7	0.9
Philippines	6.8	1.3	3.0	0.7	1.8	0.5	NA	0.2	0.0	—	0.3
Thailand	19.9	7.5	0.3	6.9	5.2	8.0	NA	2.3	5.6	0.1	—
1987											
NIEs	8.8	4.6	1.3	2.0	0.9	6.0	0.2	0.8	2.8	0.9	1.3
Hong Kong	6.8	—	2.6	2.7	1.4	3.4	0.0	0.8	0.6	1.0	0.9
Korea	7.6	4.7	—	2.0	1.0	2.2	0.0	0.5	0.6	0.5	0.6
Singapore	9.5	6.3	1.6	—	1.6	22.2	1.2	1.3	14.1	1.4	4.2
Taiwan	11.4	7.7	1.2	2.5	—	3.0	0.0	0.8	0.5	0.9	0.8
ASEAN	20.6	3.2	3.9	10.5	3.0	4.6	0.2	0.5	1.1	1.0	1.8
Brunei	19.3	0.1	10.2	6.6	2.3	15.1	—	0.1	0.1	2.7	12.4
Indonesia	16.0	2.6	4.2	6.1	3.1	1.7	0.0	—	0.7	0.4	0.6
Malaysia	30.0	2.8	5.3	18.2	3.7	6.0	0.5	0.8	—	1.8	2.8
Philippines	13.1	4.9	1.7	3.4	3.1	5.4	0.0	1.1	2.1	—	2.2
Thailand	16.3	4.3	1.3	9.1	1.6	4.6	0.1	0.5	3.3	0.6	—

Sources: International Monetary Fund, *Direction of Trade Statistics*, Annual 1970-1976, Yearbook 1988, and computer data tapes.

its technologies and new equipment available to Japan and the ANIEs. At the same time, the U.S. proved to be the largest market for manufactured goods produced by those technology-recipient countries. It was the exports to the U.S. that contributed greatly to the rapid growth in the manufacturing industries in Japan as well as in the ANIEs. Of total ANIEs exports, more than one-third was purchased by the U.S., and nearly 40% of the manufactured goods from the ANIEs were exports to the U.S. market in 1987. Japan has also been increasingly importing more manufactured goods from the ANIEs, accounting for nearly 10% in 1989. Japan's role as a provider of finance, capital goods, and technologies for developing countries in the region is increasingly becoming more important as many developed countries are moving to form economic blocs aimed primarily at protecting their economic interests, including modern technologies.

Ⅲ. Export and Import Industrial Structures in ANIEs

In order to analyze what roles the ANIEs can play in regional economic growth, it is necessary to take a closer look at their industrial structures. In the initial stage of development, ANIEs emphasized labor-intensive industries as the triggering mechanism for economic growth. Abundant in human resources with relatively high educational levels, ANIEs basically followed a development

strategy centered on labor-intensive industries such as footwear, cotton fabrics, garments, leather goods, and other consumer goods. These industries constituted the main line of export business in the ANIEs and industrial growth rates in these sectors were sometimes higher than 100% during the 1960s and the 1970s.

However, labor-intensive industries did not remain the leading sector for long. As consumer preferences changed in importing countries and similar industries were established in some of the later-developing countries, the competitiveness of the products made in the ANIEs gradually decreased. It is also interesting to note that the import structure of the ANIEs has changed substantially over the period as a major portion of their imports has been resources needed for the production of export goods. Thus, as the export structure changes, the composition of imports has changed accordingly.

Table 3 shows the contriution of the various industries to the GDP of each country and how the share of each industry group changed over the last two decades. It is evident that the relative importance of the agriculture, forestry, and fishing sectors has declined steadily during the 1970s and 1980s in all three countries. Korea and Taiwan both experienced a rapid decline in their respective agricultural sectors.

In contrast, the relative importance of the manufacturing sector has increased substantiously in all three economies. In particular, the manufacturing sectors in Korea and Taiwan have expanded

TABLE 3. Shares of Different Industries in GNP

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Total
	70	26.0	21.2	1.5	5.2	16.0	6.7	8.6	14.8	100
	75	24.5	26.2	1.2	4.7	17.2	5.9	6.8	13.5	100
Korea	80	14.9	29.7	2.0	8.4	12.7	7.6	11.0	13.7	100
	85	12.8	30.3	2.8	7.7	12.2	7.8	11.8	14.6	100
	88	10.8	31.9	2.8	7.9	12.3	7.3	13.2	13.8	100
	70	2.4	20.7	2.6	6.9	28.7	11.0	27.7	0	100
	75	1.9	23.9	1.9	8.0	26.8	11.3	26.2	0	100
Singapore	80	1.2	28.1	2.1	6.2	20.9	13.6	27.8	0.1	100
	85	0.7	22.1	1.9	10.0	16.0	12.6	36.7	0	100
	88	0.4	27.7	2.2	5.3	16.8	12.6	35.0	0	100
	70	1.6	23.8	*	2.5	16.4	*	30.3	*	100
	75	0.8	18.9	*	2.5	17.2	*	29.5	*	100
Hong Kong	80	0.8	22.8	1.3	6.7	20.4	7.5	22.8	17.7	100
	85	0.5	21.9	2.7	5.0	21.8	8.1	16.3	23.7	100
	87	0.4	21.7	2.8	4.7	23.0	8.7	18.1	20.6	100
	70	18.2	26.8	2.2	4.6	15.7	6.0	26.4	0.1	100
	75	15.1	29.7	2.4	6.3	14.7	6.0	25.8	0	100
Taiwan	80	9.3	34.6	2.3	7.4	15.0	6.2	25.1	0.1	100
	85	7.0	36.3	3.6	5.0	15.3	5.5	27.3	0	100
	88	6.1	39.4	3.1	4.7	15.7	5.5	25.4	0.1	100

Note: (1)=agriculture, forestry and fishing, (2)=manufacturing, (3)=public utilities, (4)=construction, (5)=commerce, (6)=transportation, storage, and communication, (7)=other services(finance, insurance, real estate; business services), (8)=all others
*=Breakdowns were different in 1970 and 1975 from recent years. Figures in these two years should be interpreted carefully.

Source: Korea: *Major Economic Indicators* (various issues), Economic Planning Board; Singapore; *Monthly Digest of Statistics*, government of Singapore; Taiwan: *Statistical Yearbook* (various issues), Bank of Taiwan.

tremendously, accounting for almost 40% of their respective GDPs in 1989.

Another notable change is that since the beginning of the 1980s, the share of finance, insurance, real estate, and business services began to expand rapidly in the ANIEs. These sectors in Korea increased from 8.6% in 1970 to 13.2% of the GDP in 1988. Singapore and Taiwan also recorded remarkable increases in these areas from 27.7% and 26.4% in 1970 to 35.0% and 25.4% of GDP in 1988, respectively. It may be premature to draw any significant conclusions at this time, but it is an undeniable fact that these economies are moving toward an information-intensive and a human-capital-intensive structural pattern.

An analysis of the ANIEs' export industry structure reveals a similar trend. As Table 4 indicates, the importance of agricultural goods and resource-intensive goods in exports has decreased markedly during the 1970s and the 1980s. In Korea, exports of categories (1), (2), and (3) have decreased in relative share from about 20% in 1970 to merely 5.5% in 1988. Similar trends can be noted in Singapore. The first three categories which constituted more than 40% of total exports in 1970 decreased to 10% in 1988. Taiwan was no exception. Although its industry classifications are somewhat different from Korea and Singapore, it experienced similar trends in its export industries.

What, then, are the newly emerging export industries in the ANIEs? From Table 4, it is apparent that categories (6) through (9) are the

TABLE 4. Shares of Exports of Various Commodity Categories in Total Exports

	year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
	70	7.8	1.7	12.0	1.0	0.0	1.4	26.4	7.4	42.2	0.0		
	75	11.8	1.3	2.8	2.2	0.0	1.3	29.4	15.0	35.8	0.4		
Korea	80	6.6	0.7	1.9	0.3	0.1	4.3	35.8	20.3	30.0	0.1		
	85	3.8	0.4	1.0	3.1	0.0	3.1	23.3	37.6	27.6	0.1		
	88	3.9	0.2	1.4	1.0	0.0	3.1	20.8	38.6	30.9	0.3		
	70	11.6	1.5	30.1	17.3	2.9	2.7	8.9	10.9	5.2	8.8		
	75	7.2	0.3	13.3	27.1	1.9	3.7	8.5	22.7	6.9	8.4		
Singapore	80	4.8	0.4	11.3	28.9	2.6	3.4	8.3	26.8	6.2	7.2		
	85	4.4	0.5	5.4	27.1	3.1	5.4	7.2	33.0	6.7	7.3		
	88	4.2	0.7	5.1	12.8	1.1	6.6	8.3	48.0	9.0	4.2		
	71	3.3	0.5	2.2	0.3	0.1	4.0	19.1	12.0	58.1	0.4		
	75	3.1	0.3	2.5	0.3	0.1	3.7	17.9	14.6	57.2	0.3		
Hong Kong	80	2.3	0.4	3.5	0.4	0.1	3.4	16.8	19.5	52.3	1.3		
	85	2.6	1.1	3.0	0.5	0.1	4.0	17.2	25.5	45.1	0.9		
	88	2.7	1.2	3.0	0.4	0.1	5.9	17.8	26.9	41.4	0.7		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	70	8.3	0.1	13.0	42.2	3.4	2.4	4.4	1.9	3.2	12.3	0.9	7.7
	75	5.1	0.1	11.2	37.6	1.0	3.1	2.3	2.5	3.6	14.7	2.1	16.7
Taiwan	80	2.5	0.0	6.7	31.1	1.9	4.1	2.0	4.4	3.8	18.2	3.2	22.1
	85	1.7	0.0	4.5	27.6	2.1	4.4	2.5	5.8	4.0	20.9	4.1	22.3
	87	1.4	0.1	4.7	24.6	2.2	3.3	1.4	6.0	4.4	25.2	4.3	22.5

Note: Korea, Singapore: (1)=foods and live animals, (2)=beverages and tobacco, (3)= crude materials, (4)=mineral fuels, lubricants, related materials, (5)=animal and vegetable oils and fats, (6)=chemicals, (7)=manufactured goods by materials, (8)= machinery and transport equipment, (9)=miscellaneous manufactured articles, (10)= others

Taiwan: (1)=agriculture, forestry, hunting, fishery products, (2)=minerals, (3)=food, veverage, and tobacco preparation, (4)=textile, leather, wood, paper, and related products, (5)=nonmetallic mineral products, (6)=chemicals and pharmaceutical products, (7)=basic metals, (8)=metal products, (9)=machinery, (10)=electrical machinery and apparatus, (11)=transportation equipment, (12)=others

Source: Same as in Table 3.

major exports in Korea--chemicals, manufactured goods, machinery, transport equipment, and other manufactured items. Most of these goods require capital- and technology-intensive production systems. It may be fair to state that Korea's comparative advantage now lies in capital- and/or technology-intensive lines of production and no longer in labor-intensive industries. This also seems to be the case for Singapore and Taiwan. It is especially noticeable in Taiwan that textiles, leather and related products (category 4) have shown a marked decrease in export share (42% in 1970 to 24.6% in 1987), while metal products (category 8), electrical machinery (category 10) and transportation equipment (category 11) have shown a rapid increase in export share.

Changes in the ANIEs' industrial structure can also be observed by changes in import compositions. Table 5 shows the relative importance of each commodity category in total imports of Korea, Singapore, and Taiwan. One of the most salient points is that the import shares of categories (6) and (8) in Korea and Singapore are increasing significantly, while for Taiwan they are categories (6), (9), and (11). These trends reflect the move toward high-technology-intensive industries in the ANIEs in recent years.

Whether the product life-cycle theory is right or wrong, it seems obvious that the ANIEs have been astute in identifying international consumers' preferences and have been efficient in adjusting continuously to new market environments. ANIEs have been able to come up with new products with upgraded technologies to meet

TABLE 5. Shares of Imports of Various Commodity Categories in Total Imports

	year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
	70	16.1	0.1	20.4	6.9	0.8	8.3	15.4	29.7	2.4	0.0		
	75	13.0	0.2	15.4	19.1	0.7	10.7	11.9	26.5	2.3	0.1		
Korea	80	8.1	0.4	16.3	29.9	0.5	8.1	11.0	22.4	3.1	0.3		
	85	4.5	0.2	12.4	23.6	0.5	9.0	11.4	34.2	4.0	0.3		
	88	4.4	0.2	15.0	11.6	0.3	12.1	15.4	35.2	5.6	0.3		
	70	12.6	1.7	11.4	13.5	1.7	5.1	22.0	22.8	7.2	2.1		
	75	8.6	0.7	6.4	24.6	1.3	5.8	18.2	26.2	6.9	1.4		
Singapore	80	5.7	0.5	6.7	29.0	1.9	5.2	14.1	29.8	5.7	1.3		
	85	6.1	0.9	3.4	29.5	2.4	5.0	12.2	31.7	7.3	1.6		
	88	5.3	0.8	3.4	14.1	1.1	6.6	14.7	43.4	9.1	1.5		
	71	17.0	2.2	7.2	3.2	0.6	7.5	32.7	17.1	12.1	0.2		
	75	18.3	1.7	7.5	6.4	0.6	7.5	29.4	16.9	11.6	0.2		
Hong Kong	80	10.4	1.4	4.7	7.1	0.3	7.1	30.2	22.5	15.8	0.5		
	85	8.6	1.7	3.9	4.7	0.3	7.1	27.9	25.7	19.6	0.6		
	88	6.3	1.5	3.4	1.9	0.1	9.0	26.4	28.8	22.1	0.5		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	70	17.7	4.5	2.0	11.9	1.5	12.3	9.8	1.4	13.3	11.7	10.7	3.1
	75	16.4	15.0	2.5	3.8	0.3	15.4	10.7	1.5	16.2	8.5	5.3	5.7
Taiwan	80	12.7	23.7	2.7	3.3	0.5	13.8	12.1	0.7	12.1	9.8	3.7	4.9
	85	11.2	20.8	4.3	5.1	0.6	14.7	9.2	0.8	8.8	13.9	3.8	6.8
	87	8.0	10.1	4.3	6.6	0.7	15.5	12.8	0.7	10.9	19.0	4.7	6.6

Note: Korea, Singapore: (1)=foods and live animals, (2)=beverages and tobacco, (3)=crude materials, (4)=mineral fuels, lubricants, related materials, (5)=animal and vegetable oils and fats, (6)=chemicals, (7)=manufactured goods by materials, (8)=machinery and transport equipment, (9)=miscellaneous manufactured articles, (10)=others

Taiwan: (1)=agriculture, forestry, hunting, fishery products, (2)=minerals, (3)=food, veverage, and tobacco preparation, (4)=textile, leather, wood, paper, and related products, (5)=nonmetallic mineral products, (6)=chemicals and pharmaceutical products, (7)=basic metals, (8)=metal products, (9)=machinery, (10)=electrical machinery and apparatus, (11)=transportation equipment, (12)=others

Source: Same as in Table 3.

the changing demands of their global customers.

The continuous adjustment process of ANIEs have been the subject of a recent study by the Japan Economic Research Center (1990). The study attempted to place various Asian developing economies in a two-dimensional diagram with respect to the rate of technical progress on the one axis and the rate of increase in all-resource input on the other. All the ANIEs except Hong Kong are concentrated in one area, and most of the ASEAN countries are clustered in another area. Past patterns of economic progress in Asia shows that ASEAN countries will have to undergo the structural changes if they are to catch up to ANIEs' level in the 1990s.

Ⅳ. Interdependence Between the ANIEs and ASEAN

The second section pointed out the importance of the interdependence between the ANIEs and developed economies in the region for the former's economic growth. It is, however, not yet conclusive that the developed economies will provide the same stimulus, for economic growth for the ASEAN countries.

Klein (1990) raised the same point, implying that an export-led development strategy may not work for other developing countries as it did for the ANIEs in the past:

> Whatever route or combination of routes is followed by the United States, the end result is going to be export restraint for many developing countries. Well established and well situated developing economies such as Taiwan and South Korea are taking some advance measures by looking hard for imports of U.S. merchandise··· to maintain their exports to the U.S. ··· Their behavior is, however, special, and other Asia-Pacific developing countries will probably not join this effort. Thus, export-led growth is no longer a viable policy for new countries to enter the take-off phase of growth. (Klein, 1990, pp.5-6)

There are four other reasons for suspecting that the economic linkages between the ASEAN countries and the U.S. or Japan may be different from the linkages between the ANIEs and the latter. First, despite the fact that exports from the ASEAN countries to the U.S. and Japan have been growing steadily in recent years, they have been highly concentrated on unskilled-labor-intensive items and/or natural resources. As shown in Table 6, exports of manufactured goods from the ASEAN countries to Japan and the U.S. are still relatively small, although exports to the U.S. has shown steady increases in recent years. Thus, one may argue that the multiplier effects of exports on the domestic economy would be much smaller and the increase in productivity in the export industries would not be as large as in the case of exports of manufactured goods.

Second, technology transfer from the U.S. or Japan may not be as effective as between the ANIEs and Japan. The type of technology the U.S. and Japan wanted to transfer while their

TABLE 6. Manufacturing[a] Goods as a Percentage of Total Imports from the Source (Japan and the United States)

	Japan			*United States*		
Origin	*1983*	*1987*	*1988*	*1983*	*1987*	*1988*
NIES	55.9	66.2	72.9	95.8	96.4	96.7
Hong Kong	81.9	87.1	86.6	96.5	96.9	96.6
Korea	65.3	74.2	79.1	97.1	97.2	97.7
Singapore	20.7	42.1	50.7	87.4	91.9	93.6
Taiwan	55.7	59.6	67.3	96.5	96.7	96.9
ASEAN[b]	7.4	13.6	17.9	38.3	60.8	66.1
Indonesia	3.0	11.6	14.3	7.9	28.2	32.8
Malaysia	14.4	9.0	12.8	76.1	81.4	82.4
Philippines	13.7	20.6	26.8	66.9	76.2	76.8
Thailand	21.5	29.5	32.6	64.0	69.3	72.6

a Defined as SITC (5+6+7+8).

b Singapore not included; Brunei data not available.

Sources: Japan, JETRO, *White Paper*, 1984 and 1988; U.S. Commerce Deportment, *U.S. Foreign Trade Highlights*, 1987 and 1988.

structural adjustments were in progress was too advanced for the ASEAN countries to absorb. Table 7 indicates how scarce new technology imports were in the ASEAN countries as opposed to the ANIEs.

TABLE 7. Technogy Imports from Japan and the U.S. (Number of Cases Imported)

	Korea (1962-85.9)	*Taiwan (52-83)*	*Singapore (-83)*	*Malaysia (60-81)*	*Thailand (1981)*	*Philippines (78-79)*
	1856	1226	135	106	141	31
U.S.	789	401	132	51	73	69

Source: Japan Economic Research Center, *Asia in the World: Prospects of the Asian Economy*, April 1990, p. 15.

Third, the effect of recent globalization movements on the ASEAN countries does not seem to be large. That is, many countries in the region have made serious efforts to open their markets as a result of both bilateral and multilateral negotiations. Japan and the ANIEs in particular have opened their manufactured goods markets substantially. This market liberalization movement has created a notable increase in trade as well as investment interactions between the ANIEs and developed economies such as the U.S., Canada, and Australia. However, for a variety of reasons relating to the problems of balance of payments and immaturity of ANIEs' real exports, the ANIEs' real imports, and a trend variable were used as explanatory variables. In the second set of equations, a dummy variable was plugged in (1980s = 1) to differentiate the 1980s from the 1970s, noting that the ASEAN's economic reforms became visibly active in the 1980s. One obvious finding is that both ANIEs' real GDP and real imports contributed significantly to real GDP growth of the ASEAN as a whole. This may be a result of the fact that ANIEs have contributed greatly to the growth of ASEAN either by importing from or investing in the member domestic markets, most of the ASEAN nations still maintaining numerous protectionist measures. Thus, many potential U.S. and Japan investors remain skeptical about the effectiveness of their direct investments in these countries.

Fourth, although Korea, Taiwan, Singapore, and Hong Kong are often lumped together and called the ANIEs, they are not a formally

TABLE 8. Regression Equations of the ASEAN's Real GDP (Dependent Variable : Real GDP of ASEAN as a Whole)

		Independent variables				
Equation	*Constant*	*Trend*	*ANIESRY*	*ANIESREX*	*ANIESRIM*	*Dummy*
(1)	−8246.54	4.23	0.24	−2.47	1.97	
	(−2.69)	(2.72)	(2.56)	(−6.17)	(4.07)	
(2)	−8871.87	4.55	0.22	−2.50	2.03	−3.92
	(−2.19)	(2.21)	(1.53)	(−5.68)	(3.59)	(−0.25)
(3)	−3643.87	1.89	0.33*	−1.94*	1.56*	
	(−0.72)	(0.74)	(2.99)	(−4.01)	(2.67)	
(4)	−6192.56	3.18	0.26*	−2.31*	2.16*	−21.22
	(−1.21)	(1.23)	(2.26)	(−4.42)	(3.16)	(−1.52)

Notes: 1. Values in the parentheses are student *t* statistics.
2. In equations (3) and (4), the dependent variable represents the rate of GDP growth, and the independent variables with(*) are also expressed as rates of change.
3. Names of variables: ANIESRY = real GDP of ANIES as a whole; ANIESREX = real exports of ANIES as a whole; ANIESRIM = real imports of ANIES as a whole.

organized group. In comparison, the ASEAN is an international organization whose aims and objectives are clearly defined. In various multinational negotiations such as the Uruguay Round, the ASEAN's voice is heard, and its demands are often perceived by other countries as protectionist or mercantilistic, whereas the ANIEs have never attempted to make a collective demand. Therefore, while recognizing the developmental potential, many developed countries are somewhat hesitant to enter the ASEAN markets and tend to be much more cautious in making direct investment in the member countries.

Barriers such as those stated above are obstacles to a more

cohesive economic cooperation between the developed economies in the region and ASEAN. Thus, an alternative modality for more effective growth for ASEAN countries may be the formation of a cooperative agreement with ANIEs, which could help alleviate the structural difficulties faced by ASEAN.

In Table 8, several regression results support this type of modality. Real GDP of the ASEAN nations as a whole was used as the dependent variable, and real GDP of the ANIEs as a whole, the countries.

One surprising result of this analysis, however, was that real exports of ANIEs consistently reflected a negative sign. There are two explanations for this. One, the ANIEs and the ASEAN compete with each other in the world export market; and two, ANIEs' exports may be penetrating into ASEAN markets so part of the latter's domestic demand was occupied by goods and services exported by the ANIEs. That is, exports from the two groups of countries have become more and more competitive rather than complementary.

Some of the manufacturing industries in the ANIEs are ready to be transferred to the ASEAN nations if the latter's investment environment improves. The type of technology that the ANIEs would like to transfer--technologies for labor-intensive and capital-intensive industries--would be appropriate for ASEAN countries, considering the latter's industrial structures. Also, having experience in managing export-led economies in the past, the ANIEs would be able to provide the ASEAN countries with managerial techniques

and market-penetrating strategies to boost their export of manufactured goods. In the following section, we propose some possible practical cooperative measures between ASEAN and ANIEs.

V. Some Workable Areas for Cooperation

Investment in Facilities and Human Capital

To promote the ANIEs' investment in the ASEAN countries, the existing conditions and regulations, such as export requirement for direct investment, foreign/domestic capital ratio, local content requirements, restriction on employing foreign workers, and restriction on profit repatriation, should be reduced. Also, the investment guarantee agreement and the agreement for avoiding double taxation should be made and implemented.

Information dissemination is also essential for promoting investment in the region. For this, it is desirable to organize an investment information center in the region. Technology transfers should be made according to the education level of workers and middle-echelon managers. Investing countries should therefore invite workers and managers to the production site while new facilities are under construction in host countries.

Construction of Economic Infrastructures

To adapt to a rapidly changing international economic environment, the nations in the region should upgrade their

infrastructures, including telecommunication, transborder data flow (TDF), commercial transport, harbor terminals, and domestic road systems. It is imperative that host countries provide foreign investors with adequate electricity, water lines, and sewer systems. This can be achieved simply by the host country government, as development of infrastructure can be part of the investment package to attract desirable industries on a selective basis. The ANIEs hold a relatively competitive position for participating in the public projects for infrastructure, since advanced countries like the U.S. or Japan may not be interested in such efforts as road construction or sewage systems.

Development of the Energy Industry

All ANIE countries are energy importers, whereas many of the ASEAN countries are energy exporters. It is therefore highly desirable for the ANIEs to secure reliable energy supply sources from a nearby area. The intraregional dependency of energy in 1988 was only 15% in crude oil, 78% in sulfa coal, 92% in uranium, and 100% in liquid natural gas. Establishment of cooperative measures among the countries in the region would contribute greatly to regional development of energy-processing industries. At the same time, energy suppliers can induce investment from the importers to explore additional energy sources.

Cooperation in Mineral Resources

The Asia-Pacific region is not only abundantly endowed with mineral and nonferrous metals, but also with the largest consumers of these resources. If the resource-rich nations relax their export restrictions and lift various nontariff barriers, they may be able to receive technical assistance from the consuming nations in return for the mineral resources. This will greatly accelerate the economic growth of the region.

Environmental Protection

As the regional economy expands, it will inevitably encounter environmental problems. However, if all the nations in the region become conscious of the importance of environmental protection, the trade-off between growth and pollution could be minimized. It is not too early to form an official cooperative body where advanced countries can share with developing countries the results of their research and development and provide new technologies to clean up air and water pollution.

Promotion of Standard Measurement System

One of the major trade barriers between nations is the different measurement systems used in the various nations. It is absolutely imperative for the nations in the region to promote a simplified measurement system for their products to satisfy the world's consumers. The Pacific-Area Standard Commission (PASC) has existed for some

years, but its jurisdiction is limited because many nations have decided to keep their indigenous measurement systems as a means of protecting their domestic industries. Such policies must be reviewed seriously and standardization promoted to facilitate regional trade and economic cooperation. The Asia-Pacific region should follow the example set by the member countries of the EC which have begun to unify their measurement with visible success.

Ⅵ. Conclusion

There are some obvious reasons for the expectation that the Asia-Pacific region will be the major catalyst for world economic growth in the near future. The region has five outstanding examples of economic success: Japan, South Korea, Taiwan, Hong Kong, and Singapore. All of these countries adopted export-led growth strategy based on industrious workers and solid government leadership, and exported much of their goods to the U.S. and Japan. However, it is by no means certain that other developing economies in the region, like the ASEAN countries, could benefit from the same export-led growth strategy. Klein (1990) is skeptical that the following countries would be able to go through the same development path as the ANIEs and has proposed the formation of a new trading bloc such as a customs union, a currency union, or even some more comprehensive form of integration to facilitate the growth of developing

countries in the region such as the ASEAN countries.

Taking note of Klein's advice, if full cooperation among all the nations in the Asia-Pacific region is not yet feasible, a closer, more concrete cooperation between ANIEs and ASEAN countries could be the second-best "local" solution for the present. As ANIEs are about to graduate from the status of developing economies, while ASEAN is emerging as the so-called near NIEs, there are numerous areas of cooperation which could be mutually beneficial. These areas are in technology transfer, sharing marketing skills, building infrastructure, developing energy industries, processing natural resources, and cooperating in environmental issues, to name a few.

The region does possess the greatest growth potential in the world. However, this potential will not be realized unless there is a concerted multilateral cooperative action among the regional economies. Due to the changing demands of the world economic environment, the time has come for the region to start such a process rolling.

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