PART 5

COMPARATIVE COUNTRY STUDIES

19. Comparative Advantage, Trade and Trade Policy of East Asian Countries

MITI/RI-Chulalongkorn U. Conference on
Future Prospects of Interdependence among East Asian Economies, Bangkok, 1993

MITI/RI-Chulalongkorn U. Conference on **FUTURE PROSPECTS OF INTERDEPENDENCEAMONG EAST ASIAN ECONOMIES**, February 3-4, 1993, Bangkok

COMPARATIVE ADVANTAGE, TRADE AND TRADE POLICY OF EAST ASIAN COUNTRIES

1. INTRODUCTION

The objective of this paper is to examine the changes in the comparative advantage, trade policy and the pattern of trade of the East Asian countries. We will, in particular, examine the changing pattern of trade of the East Asian NICS, the ASEAN countries, and China between each other as well as with advanced countries such as the U.S., Japan and EC.

In this paper, countries in the world are classified into eight groups:(1) NICS 4, representing the resource-poor East Asian newly industrializing countries consisting of Korea, Taiwan, Hongkong and Singapore, (2) ASEAN 4, consisting of Thailand, Malaysia, Indonesia, and Philippines, (3) China, (4) Japan, (5) the U.S., (6) CNA, representing the resource-rich advanced countries consisting of Canada, New Zealand and Australia, and (7) EAC, representing the European advanced countries, and (8) ODC, representing all other developing countries in the world.

During the thirty year period of 1961-91, the volume of total world exports increased by thirty times in nominal dollar prices (i.e., nearly 8 times in 1961-76 and nearly 4 times in 1976-91). The share of the NICS 4 in total world exports expanded from 0.9 percent in 1961, to 3.3 percent in 1976 and to 8.5 percent in 1991. Japan's share doubled during 1961-76, from 3.6 percent to 7.2 percent, but its share increased only by about 22 percent (i.e., from 7.2 to 8.8 percent) during 1976-91. The share of the ASEAN 4 and China in total world exports almost did not change during 1961-76 but, following their export-oriented growth, expanded from 2.7 percent to 4.8 percent during 1976-91.[1] The shares of the U.S. and CNA in total world exports steadily

[1]Total commodity exports of China increased from $0.6 billion in 1961 to $6 billion in 1976 and then to $72 billion in 1991. Total commodity exports of ASEAN 4 increased from $2 billion in 1961 to $19 billion in 1976 and to $100 billion in 1991. During 1979-89, exports of manufactures from China to the OECD countries increased from $2.6 billion to $27 billion, and those from the ASEAN 4 to the OECD countries increased from $5.7 billion to $25 billion. On the other hand, exports of primary products from China to the OECD countries increased from $3.6 billion to

declined throughout the last three decades. The share of EAC, however, stayed constant at about 47 percent(see Tables 1-3 and Appendix Tables 1-3).

Japan experienced a high growth era of 10 percent per annum on average during the 1960s. The NICS 4 enjoyed the high growth stage of 9 percent per annum on average throughout the three decades of 1961-90. China experienced the high growth era of 9 percent per annum in the 1980s. The growth performance of the ASEAN 4, about 7 percent in the 1970s and about 5 percent in the 1980s, was less spectacular (mainly due to the poor performance of the Philippines) but still was remarkable. (See Appendix Table 25.)

As of 1991, the absolute size of GNP amounted to about $280 billion for the ASEAN 4, $370 billion for China, $580 billion for the NICS 4, $880 billion for CNA, $3,400 billion for Japan and $5,700 billion for the U. S. The export/GNP ratio became to amount 19 percent for China (applying the obviously underestimated Chinese GNP data), 32 percent for ASEAN 4 and 52 percent for NICS 4 (40 percent, excluding re-exports) while those of the U. S., Japan and CNA amounted to about 7 percent, 9 percent and 20 percent, respectively.

The most remarkable phenomenon was the tremendous expansion of manufactures exports by the NICS 4 since the 1960s. There was also a substantial increase in manufactures exports by the ASEAN 4 since the late 1970s. During 1980-90, the share of the NICS 4 in world manufactures exports expanded from 5.4 percent to 9.6 percent (or from 4.6 percent to 7.0 percent, excluding re-exports from Hongkong and Singapore). During the same period, the shares of China, Thailand and Malaysia expanded from 0.8 to 1.8 percent, 0.2 to 0.6 percent, and 0.15 to 0.6 percent, respectively. On the other hand, the share of Japan stayed constant at about 11 percent during 1980-90 (see GATT II, 1992).

The second most remarkable phenomenon was the intensifying protectionist policies of the advanced countries since the 1970s and especially with the beginning of the 1980s. One of the consequences of the worldwide spread of protectionism was that only a few developing countries could be successful in adopting export-oriented growth strategy. Developing countries contend that the advanced countries should try to limit their protectionist policies and ultimately eliminate them completely. This message has always been heard but scarcely been heeded (see Brandt, 1980 and Hong, 1988).

By the 1970s, the governments of the ASEAN 4 could no longer entertain the illusion that they can ever become advanced countries solely on the basis

$9.5 billion, and those from the ASEAN 4 to the OECD countries increased from $26 billion to $29 billion only during 1979-89 (see Appendix Tables 4-23).

of their natural resource endowments. The Chinese leaders, on the other hand, were duly impressed by the performance of the NICS 4 and apparently decided to integrate the Chinese economy into the world market on the basis of comparative advantage. The governments of the NICS 4 examined the Japanese experience and came to see that they must keep adjusting their industrial production and export structures in order to accommodate the rapidly rising wage rates in their countries, i.e., the NICS 4 would have no alternative but to transfer their export markets of simple labor-intensive manufactures to the ASEAN 4 and China. Japan seems to aim at the global economic superpower, dominating the world market of technology-intensive products.

2. GROWTH AND SHIFTS IN AGGREGATE TRADE PATTERN

A. A Cross-Section Observation: 1991

As of 1991, trade among the ASEAN 4 and China amounted to less than 5 percent of their exports and imports. This phenomenon may suggest that countries in their early phase of industrialization have very little to trade with each other. On the other hand, about 35 percent of the exports from the ASEAN 4 and China went to the NICS 4 and about 31 percent of their imports came from the NICS 4. It partly demonstrates the active role of Hongkong as an entrepôt, but also reveals the fact that there exist significant potential gains from trade between the advanced developing countries and the newly emerging ones.

It is interesting to observe that nearly 20 percent of the exports from the ASEAN 4 and China went to Japan and also nearly 20 percent of their imports came from Japan, while only about 10 percent of the NICS 4's exports went to Japan but more than 20 percent of their imports came from Japan. The NICS 4, while heavily dependent on the Japanese intermediate and capital goods, seem to have very little natural-resource-intensive products or high-quality manufactured goods to offer Japan. The ASEAN 4 and China, on the other hand, have substantial endowment of natural resources as well as the commodities manufactured by the Japanese FDI firms that can be exported back to Japan, achieving an aggregate balance in commodity trade with Japan.

Although Japan is an important market as well as an important source of supply for the NICS 4, ASEAN 4 and China, other OECD countries (consisting of the U.S., CNA and EAC), particularly the U.S.A., have been the more important partners of international specialization to these countries.

On the other hand, the rest of the world, i.e., the non-East-Asian developing countries (ODC), constitutes rather insignificant trade partners if one exclude the crude oil exported by OPEC. Since developing countries usually do not allow substantial imports of consumer goods and often can not afford to import large amount of intermediate and capital goods, the inward-looking ODC can not provide significant markets for the export-oriented NICS 4, ASEAN 4, China and even Japan. Nor the latter group of countries can find much natural-resource-intensive products other than crude oil that can be imported from ODC.

A cross-section comparison of the export patterns of the ASEAN 4 and the NICS 4 suggests that a country in the early stage of economic growth may export mostly primary products and labor-intensive manufactures to advanced countries. It also suggests that, as growth proceeds, the country may be able to export a significant amount of manufactured products not only to the advanced countries but also to other developing countries. Of course, the transformation from a primary-goods-exporter to a manufactures-exporter may take much longer time for countries extremely well endowed with natural resources.[2]

One may argue that a country at an early stage of export-oriented growth does not import much from other developing countries because of low demand for primary products except crude oil and grains. Instead, it imports large quantities of manufactured goods that are available only from the more advanced countries. As economic growth proceeds, however, the country starts to generate demand for significant amounts of primary products that can be imported from less developed countries as well as the resource-rich advanced countries. At the same time it starts to build up the ability to export manufactured goods to both advanced countries and less developed countries, mostly consumer goods to the former, and intermediate and investment goods to the latter because the developing countries typically do not allow imports of consumer goods.

[2]It seems likely that the kind of manufactured products that would be exported from the resource-rich advanced countries such as CNA would tend to be very capital intensive even at a relatively early phase of their transition from an exclusively primary-goods-exporter toward a greater reliance on manufactures exports. If OPEC countries also follow such a pattern of exports, their new manufactures exports would probably be based on highly energy and capital intensive industries such as petro-chemicals, nonferrous metals, cement and glass, and basic metals manufacturing. See Krueger (1977).

Table 1. Reduced World Trade Matrix: 1991

In percent

	Asean NICS	China	Japan	Other OECD	ODC	World	Asean NICS	China	Japan	Other OECD	ODC	World
	Exports to →						Imports from ↓					
NICS	12.8	18.1	10.6	45.5	13.0	100	12.5	30.9	13.6	5.9	7.9	8.5
AS-C	34.6	4.9	19.4	31.1	10.1	100	19.1	4.7	14.1	2.3	3.5	4.8
Japan	21.2	10.8	–	55.7	12.3	100	21.5	19.2	–	17.5	7.8	8.8
OECD	5.0	3.0	5.1	72.0	15.0	100	35.9	38.1	48.7	68.9	67.9	63.0
ODC	6.5	2.4	10.5	68.5	12.1	100	11.1	7.1	23.7	15.5	12.9	14.9
World	8.7	5.0	6.6	65.8	13.9	100	100	100	100	100	100	100

Source: International Monetary Fund, *Dirction of Trade Statistics Yearbook: 1985-1991*, 1992.

Table 2. Reduced World Trade Matrix: 1976

In percent

	Asean NICS	China	Japan	Other OECD	ODC	World	Asean NICS	China	Japan	Other OECD	ODC	World
	Exports to →						Imports from ↓					
NICS	8.7	7.7	13.6	55.8	14.5	100	7.9	10.8	6.5	2.7	2.8	3.3
AS-C	8.7	7.7	13.6	38.6	11.0	100	7.9	10.8	6.5	1.5	1.8	2.7
Japan	17.7	4.7	28.7	47.7	30.7	100	13.1	5.4	13.1	4.9	12.9	7.2
OECD	12.6	9.2	4.3	70.8	21.4	100	24.8	27.9	40.2	66.0	81.7	65.2
ODC	3.3	1.4	13.6	81.0	0.7	100	19.2	12.6	41.9	24.9	0.9	21.5
World	3.7	2.4	7.0	69.9	17.1	100	100	100	100	100	100	100

Source: International Monetary Fund, *Direction of Trade: Annual 1970-76*, 1977.

Table 3. Reduced World Trade Matrix: 1961

In percent

	Asean NICS	China	Japan	Other OECD	ODC	World	Asean NICS	China	Japan	Other OECD	ODC	World
	Exports to →						Imports from ↓					
NICS	5.5	20.6	12.5	44.1	17.3	100	2.9	7.7	3.0	0.6	0.7	0.9
AS-C	5.5	20.6	12.5	55.0	11.7	100	2.9	7.7	10.6	2.0	1.2	2.5
Japan	11.4	5.5	16.4	45.0	32.6	100	15.5	5.4	10.5	2.4	4.8	3.6
OECD	11.3	11.0	3.5	66.7	26.4	100	22.3	15.8	65.0	71.8	77.3	72.3
ODC	0.7	1.2	4.0	74.9	19.2	100	7.6	9.7	21.6	23.1	16.2	20.7
World	1.8	2.5	3.9	67.2	24.7	100	100	100	100	100	100	100

Source: International Monetary Fund; *Direction of Trade: Annual 1961-65*, 1966.

B. Shifts in the Aggregate Trade Pattern: 1961-1991

The intra-ASEAN·China trade amounted to only about 5 percent of their total exports and imports throughout the period 1961-91. The exports of ASEAN 4 and China that went to the NICS 4, however, expanded from less than 18 percent of their total exports to nearly 35 percent during 1976-91. The NICS 4's exports to the ASEAN 4 and China also expanded from less than 8 percent of their total exports to more than 18 percent during the same period. The intra-NICS 4 trade increased from about 2.9 – 5.5 percent to nearly 13 percent during 1961-91. Apparently, in a later stage of export-oriented growth, a country becomes to have more products to trade with other later-comers as well as with those that are at the similar stage of growth, i.e., there appears more room for mutually rewarding specialization in production between the advanced export-oriented economies and all other export-oriented economies. There seems to be, however, very limited room for specialization among the economies in their early phase of industrialization, regardless of their export orientation.

Japan's exports to the ASEAN 4 and China increased slightly from about 9 percent of its total exports to about 11 percent during 1976-91, while its exports to the NICS 4 expanded from less than 13 percent of its total exports to more than 21 percent. A dynamic advanced economy seems to be able to find a larger market for its exports as well as more products to buy in the export-oriented economy at a later stage of the latter's growth than at an earlier stage. Japan's imports from the NICS 4 expanded from about 6 percent of its total imports to nearly 14 percent during 1976-91. It may imply that, as the export-oriented growth in the ASEAN 4 and China progresses further in the future, a dynamic economy such as Japan will experience rapidly expanding trade with these countries. It also implies that, if the NICS 4 succeed to become dynamic advanced economies in the near future, they will also experience rapidly expanding trade with the ASEAN 4 and China.

The proportion of imports from advanced countries amounted to 74 percent of the total imports of the NICS 4 in 1961. This figure fell to about 57 percent in 1976 and 1991. Such a fall in NICS 4's imports from the advanced countries was offset by increases in the NICS 4's imports from OPEC, ODC and the NICS 4 themselves.[3]

[3]The proportion of the imports from non-OPEC ODC in Japan's total imports amounted to about 11 percent in 1961 and also in 1991. The proportion of the NICS 4 and ASEAN 4 in CNA's total exports expanded from 2.4 percent in 1961 to 9.6 percent in 1991. The formers share in CNA's total imports expanded from 2.1 percent to 8.6 percent during 1961-91. The proportion of the U.S. exports to the NICS 4 and

Our observations based on the shifts in the aggregate trade pattern of each country group over time may enable us to generalize in the following fashion. At an early phase of economic development, the export-oriented growth of a resource-poor country may be possible only through the expansion of manufactures exports to the advanced countries. However, as growth proceeds, manufactures exports to the developing countries may tend to increase and, at a mature phase of economic development, export expansion to the developing countries may become as important as that to the advanced countries. At the same time, its import dependence on developing countries may continuously increase; initially mainly on primary products but later on labor-intensive manufactures as well. For the advanced countries, the rapid growth of a developing country would imply both increasing imports from as well as increasing exports to that country (of both primary and manufactured goods). It seems that we can deduce more or less the same conclusions on growth and aggregate trade patterns from the time-series observations as we could from the cross-sectional observations.

3. COMPOSITION OF COMMODITY TRADE

A. Trade Pattern of the NICS 4

As of 1980, less than 6 percent of the NICS 4's exports to EAC, CNA and the U.S. consisted of primary products.[4] However, about 26 percent of the NICS 4's exports to Japan consisted of primary products and another 15 percent of them consisted of processed mineral fuels (exported by Singapore). Among the advanced countries, Japan had imported a relatively much smaller amount of manufactured goods from the NICS 4. Nearly three quarters of Japan's imports from Singapore consisted of processed mineral fuels and more than 40 percent of Japan's imports from Taiwan consisted of primary products. Throughout the 1980s, about 60 percent of total primary exports to

ASEAN 4 increased from about 5 percent of its total exports in 1961 to about 14 percent in 1991, and its imports from the NICS 4 and ASEAN 4 increased from about 6 percent of its total imports to about 19 percent.

[4]As of 1980, less than 8 percent of total NICS 4's exports were non-fuel primary products (SITC code 0 through 4 excluding processed mineral fuels). About 9 percent of the NICS 4's exports were processed mineral fuels, but these were exported almost exclusively by Singapore. About 22 percent of the NICS 4's total exports in 1980 consisted of machinery and equipment (SITC code 7), and about 56 percent of them consisted of other manufactures (SITC code 6 and 8). Hongkong's exports were dominated by miscellaneous manufactures and Singapore's exports by machinery & equipment. See Hong (1985) for the data presented in this section.

Table 4. Manufactures Imports from OECD: NICS 4, ASEAN 4 and China

1979 and 1989 In percent

Imports from →	1979 Japan	U.S.A.	CNA	EAC	OECD	1989 Japan	U.S.A.	CNA	EAC	OECD
Total Manufactures										
NICS 4	49.8	22.5	2.4	25.3	100	47.4	24.8	2.8	25.0	100
ASEAN 4	44.5	21.8	4.4	29.3	100	48.5	20.9	4.1	26.6	100
China	45.9	8.3	4.1	41.6	100	42.0	19.8	2.6	35.6	100
Chemicals										
NICS 4	37.6	34.6	2.5	25.3	100	36.6	29.6	4.0	29.5	100
ASEAN 4	30.7	36.6	2.7	30.0	100	32.8	21.4	6.6	39.3	100
China	43.3	11.8	2.1	42.9	100	26.8	38.7	6.5	28.1	100
Machineries										
NICS 4	48.3	24.8	1.3	25.7	100	50.8	27.8	0.9	20.5	100
ASEAN 4	43.3	21.7	2.0	33.0	100	51.7	23.7	1.3	23.2	100
China	40.6	8.9	0.5	49.9	100	36.2	18.1	1.5	44.2	100
Other Manufactures										
NICS 4	57.8	13.4	4.0	24.8	100	46.2	17.6	5.5	30.6	100
ASEAN 4	56.9	11.3	10.1	21.7	100	49.3	13.9	9.1	27.7	100
China	49.8	7.1	6.8	36.3	100	59.3	13.7	2.8	24.2	100

Source: OECD, *Foreign Trade by Commodities: 1979 and 1989.*

Table 5. Exports to OECD: NICS 4, ASEAN 4 and China

1979 and 1989 In percent

Exports to →	1979 Japan	U.S.A.	CNA	EAC	OECD	1989 Japan	U.S.A.	CNA	EAC	OECD
Total Manufactures										
NICS 4	13.5	47.4	6.0	33.1	100	15.3	49.3	7.5	27.9	100
ASEAN 4	16.4	45.3	4.4	33.9	100	18.8	45.7	5.7	29.8	100
China	29.7	15.9	11.3	43.1	100	20.6	42.3	6.8	30.3	100
Primary Products										
NICS 4	59.0	17.3	9.1	14.5	100	63.9	19.0	7.5	9.6	100
ASEAN 4	54.3	23.0	2.6	20.1	100	57.9	17.7	4.2	20.2	100
China	61.0	6.8	2.1	30.1	100	59.1	15.4	2.2	23.2	100

Source: OECD, *Foreign Trade by Commodities: 1979 and 1989.*

the OECD countires from the NICS 4, ASEAN 4 or China went to Japan (see Table 5).

Only about 11 to 14 percent of the ASEAN 4's and the NICS 4's manufactures exports to the OECD countries went to Japan throughout the 1980s, while nearly half of their manufactures imports came from Japan. On the other hand, nearly half of their manufactures exports went to the U. S., while less than 25 percent of their manufactures imports from the OECD countries came from the U.S. As a whole, the NICS 4 have maintained trade surplus with respect to the U.S. and trade deficits with respect to Japan. In the 1980s, the share of Japan in manufactures exports of the NICS 4 and the ASEAN 4 has increased a little, while the share of the U.S. in the latter's exports has decreased a little; but essentially there was no substantial change. China's exports of manufactures to the U.S., however, have substantially expanded.

About half of the ASEAN 4's and the NICS 4's imports of machinery & equipment from the OECD countries were supplied by Japan, and nearly 60 percent of their imports of other manufactures were also supplied by Japan (see Table 4). Although their import dependence on Japan in other manufactures has decreased a little by 1989, there has been essentially no substantial change. Quite a few Japanese economists, therefore, seem to believe that the successful export-oriented growth of the NICS 4 owes a great deal to the availability of high-quality low-cost Japanese investment and intermediate goods.

In 1980, the NICS 4 exported only about $4 billion worth of manufactures to Japan while importing nearly $20 billion worth of manufactures from Japan. Quite a few economists of the NICS 4, therefore, seem to believe that Japan's successful growth performance in the 1970s owes a lot to the extra demand derived from the NICS 4's rapid growth and export expansion, and hence Japan is obliged to reduce the NICS 4's bilateral trade deficits by eliminating all kinds of "invisible" trade barriers and actively increasing its imports from the NICS 4.[5]

The NICS 4's exports of labor-intensive manufactures to the U.S., Japan

[5]According to the BOK(1992: 29-50), the coefficient of extra Japanese output generated by a unit increase in Korea's final demand (either for domestic consumption or for exports) amounted to 0.13 for all manufacturing, 0.37 for electrical & electronic products, 0.35 for automobiles, 0.30 for ships, and 0.29 for industrial machinery sectors in 1985. The corresponding Japanese coefficient for all manufacturing amounted to 0.007, textile fabrics having the highest coefficient of 0.02. According to Yamazawa, Hirata, and Taniguchi (1983), the coefficient for all manufacturing amounted to 0.1 in Indonesia, 0.07 in Malaysia and Philippines, 0.08 in Thailand, 0.12 in Singapore, and 0.02 in the U.S in 1975. According to the BOK(1992: 36, 37), the

and CNA increased from about $1.7 billion in 1969 to about $18.9 billion by 1979. As of 1980, the manufactures imports of the U.S., Japan and CNA from the NICS 4 were mostly labor-intensive goods such as footwear, wearing apparel, textile products, wood products, telecommunication equipments (including radio and TV sets), and miscellaneous manufactures. However, the NICS 4's exports of capital-intensive manufactures to these advanced countries significantly increased during the 1970s.The most conspicuous shift in the NICS 4's export pattern that occurred during 1970-80 seems to have been the doubling of the proportion of machinery & equipment in their total commodity exports, i.e., from about 12 percent ($0.6 billion) in 1970 to about 23 percent ($23 billion) in 1980 (see Hong, 1985). By 1991, 60 percent of Korea's exports consisted of the so-called heavy & chemical industrial products including automobiles (3.2 percent), steel products (6.3 percent) and electrical & electronic products (28.1 percent). The share of light industrial products amounted to 35 percent, including footwears (5.3 percent) and textiles (21.5 percent).

B. Trade Pattern of the ASEAN 4 and China

The ASEAN 4 have exported a significant amount of capital-intensive manufactures to the advanced countries since as early as the 1960s. These exports have been almost entirely natural-resource-based capital intensive products such as refined sugar, nonferrous metal products, and petroleum products. The ASEAN 4, however, experienced a rapid growth in labor-intensive manufactures exports during the 1970s. The ASEAN 4's exports of labor-intensive manufactures to the U.S., Japan and CNA increased by 16 times during the 1969-79 period (from $0.17 billion to $2.8 billion) while their exports of "traditional natural-resource-based" capital-intensive manufactures increased by only 5 times (from $0.44 billion to $2.2 billion). The U.S. was the largest importer of the ASEAN 4's labor-intensive manufactures in the 1970s. Electronic products, wearing apparels and wood products constituted the major labor-intensive exports from the ASEAN 4. Textiles had not yet become major export items for the ASEAN 4 in the 1970s (see Hong, 1985).

The share of Japan in the U.S. labor-intensive manufactures import market

import dependency coefficient of Korean manufacturing sector for Japanese intermediate inputs amounted to 0.043, with 0.16 for electrical & electronic products, 0.13 for automobile, 0.12 for synthetic fibers, 0.11 for ships and industrial machinery sectors. The corresponding coefficient for Japanese manufacturing sector amounted to 0.0016 in 1985.

declined from 27 percent to 17 percent during 1969-79 while the NICS 4's share expanded from 13 percent to 25 percent. Japan's comparative advantage in these products had obviously been declining while that of the NICS 4 had been increasing. However, the sustained high rates of capital accumulation and wage increases in the NICS 4 in the 1970s began to result in a shift in comparative advantage for labor-intensive manufacturing in favor of the ASEAN 4.[6]

China's manufactures exports amounted to about $8.6 billion in 1980 that was, according to Li and Luo (1981: 226), equivalent to 3 percent of its total manufacturing output. China had concentrated on light consumer goods for its export expansion. China did plan to increase its manufactures exports at an average annual rate of 15 percent to 20 percent during 1980-90, but plan only 4 to 5 percent growth in minerals exports per annum throughout the decade. In 1980 dollar prices, China's exports of manufactures were planned to amount to $15 billion by 1985 and $31 billion by 1990, taking 7 percent of its total manufacturing output. Since China's new policy was to emphasize "light industry ahead of heavy industry," it was expected that "the strongest export growth will be for light manufactures," and hence, by the end of the 1980s, it was predicted that "China's export of light manufactures would approach the combined volume of exports from Taiwan and Korea" in the early 1980s (see Li and Luo, 1981).[7] In 1980, the combined volume of manufactures exports from Korea and Taiwan amounted to $33.1 billion (see GATT II, 1992). By 1990, China's total manufactures exports amounted to $44.3 billion that were about 34 percent larger than the above combined volume in nominal dollar prices, but were indeed almost identical to it when discounted by the U.S. wholesale price index (1980 = 100).

Although the ASEAN 4 are more abundantly endowed with natural resources than the NICS 4, production and trade based exclusively on natural resources would not allow them to become advanced countries à la CNA.

[6]The NICS 4's imports of manufactures from the ASEAN 4 increased from $0.2 billion in 1969 to $1.7 billion in 1979, while their imports of primary products from the ASEAN 4 increased from $0.5 billion to $4.2 billion. The rates of increase were almost identical for both primary and manufactured goods. Major items of the NICS 4's manufactures imports from the ASEAN 4 were electronic products, textiles (mostly from Thailand and Malaysia), wood products, nonferrous metal products, and petroleum products (mostly from Malaysia). The ASEAN 4's imports of manufactures from the NICS 4 increased from $0.3 billion in 1969 to about $3.0 billion in 1979.

[7]China was then in the midst of transition. One of the major implications of China's new economic policy was that China would be substantially expanding production and export of light consumer goods in the 1980s.

Therefore, there did not seem to be any other alternative for the ASEAN 4 but to try to complement their natural-resource-based production with labor-intensive manufacturing. As of 1990, the share of manufactures in total commodity exports amounted to about 63 percent in Thailand, 54 percent in Malaysia, 35 percent in Indonesia, and 73 percent in China. The expansion of labor-intensive manufactures à la the NICS 4 in the ASEAN 4 during 1970-91, apparently accelerated the growth rates of their national income.

A remarkable phenomenon may be the important role of FDI, particularly the role of Japanese FDI, in the export-oriented growth of the ASEAN 4. As of 1990, about 26 percent of total commodity exports of the ASEAN 4 ($87 billion), or about 50 percent of their total manufactures exports ($45 billion), were made by the Japanese FDI firms (data prepared by KOTRA on 7 July 1992). This ratio was comparable to that of Singapore, which has been single-mindedly pursuing the FDI-dependent growth strategy since the late 1960s. The Japanese FDI firms in the ASEAN 4 have invested about $29 billion and employed a half million ASEAN workers as of 1991.

The NICS 4 have been transforming their production and export patterns toward the more capital and technology intensive manufactures in line with their changing comparative advantages.[8] At the same time, the ASEAN 4 as well as China have been replacing the NICS 4 in the international market for labor-intensive manufactures. When China inaugurated the *Reform and Internationalization* in December 1978, the share of manufactures in China's total exports was 46.5 percent. By the time China inaugurated the *Centrally-Planned Socialist Market Economy* in 1991, the share of manufactures amounted to 77.5 percent. If the advanced countries including Japan pursue truly free trade policies, and if the NICS 4, the ASEAN 4 and China keep carrying out efficient structural adjustment, every country in the East Asian region would be able to enjoy rapid growth and prosperity.

C. Japan's Trade Pattern

In 1979, Japan imported $26 billion of manufactures and $84 billion of primary products, while exporting $99 billion of manufactures. Japan exported various manufactured products to other advanced countries, and

[8]By the 1970s, the NICS 4 commenced the process of actively transforming their industrial structures towards more capital and technology intensive manufactures and the effects could already be detected in their export patterns. The exports of capital-intensive manufactures(excluding petroleum products and nonferrous metal products) from the NICS 4 to the U.S., Japan and CNA amounted to only about $0.06 billion in 1969 but increased to about $2.8 billion by 1979.

exported mostly intermediate and investment goods to the NICS 4 and other developing countries, apparently without importing commensurate amount of manufactures either from the NICS 4 or from the other advanced countries. In any case, one may deduce that it is possible for a well advanced country to produce a whole range of manufactures to pursue a relative self-sufficiency.[9] In 1989, however, Japan imported $98 billion of manufactures and $109 billion of primary products, while exporting $266 billion of manufactures (see Appendix Tables 4, 5, 9, 10, 14, 15, 19, and 20). The amount of manufactured goods imported by Japan has apparently been increasing much more rapidly than that of primary goods throughout the 1980s. The share of the NICS 4, the ASEAN 4 and China in Japan's imports of manufactures (SITC codes 5 to 8) has also increased from about 23 percent in 1979 to 30 percent in 1989. As of 1990, however, Japan's GNP amounted to 55 percent of the U.S. GNP, and yet Japan's imports of manufactures from the Asian developing countries (excluding the Middle East countries) amounted to only about 17 percent of those of the U.S. in 1990 (see Table 6). It may take a lot more time for Japan to eradicate the lingering legacy of old protectionist regime. Japan's imports of machineries & equipments, clothing, and other consumer goods were particularly much smaller than those imported by the U.S. Japan's imports of manufactures from the ASEAN 4, however, have exceptionally expanded during the 1980s (see Appendix Table).

[9]According to Watanabe and Kajiwara (1983), "The industrial structure of Japan has often been noted for its more self-sufficient nature than, say, those of West Germany and U.S.A. Japan depends minimally on manufactured imports, with its demand largely satisfied by domestic supplies, including labor-intensive final goods like textile and wooden products. . .Since 1965 Japan has regularly recorded an export surplus. . . The surplus was to expand cumulatively from that time onward, but the exchange rate remained stable until the Smithsonian multinational currency adjustment in 1971. With the fixed exchange rate of ¥360 to a dollar, which was extremely favorable vis-à-vis the actual international competitiveness at the time, Japan was able to expand its manufactured exports while restricting manufactured imports, . . . Even after the adoption of the floating exchange rate system in February of 1973, as it is generally claimed, the intervention of the Bank of Japan helped maintain for some time the level of appreciation of yen lower than it actually deserved. The favorable movement of the exchange rate enabled Japan to promote exports not only of the industries in which it had comparative advantages but also of those in which it lacked apparent advantages, ... self-sufficiency was also reinforced by a series of protectionist policies for postwar industrialization . . . (recently the) progressive liberalization has been shaking the foundations of Japan's self-sufficient industrialization, although one must expect that the entrenched structure will not readily transform itself."

4. TECHNOLOGY-INTENSIVE PRODUCTION ACTIVITIES

Japan has been able to keep maximizing gains from trade by actively promoting export expansion of labor-intensive manufactures in its early phase of growth, export expansion of capital-intensive manufactures in the following phase, and then export expansion of technology-intensive manufactures in the latest phase of growth. Japan is now in a position to actively promote world-wide international specialization on the basis of its competitive power in R & D and organizational skills.

Until the late 1980s, technology had not been a serious constraint for the export expansion of the NICS 4. Their exports were mostly either simple unskilled labor-intensive manufactures or (capital- or skill-intensive) commodities which could be readily manufactured with the technology embodied in the imported capital goods themselves. The present stage of growth of China and ASEAN 4 seems to correspond to this early phase of growth in NICS 4. After the late 1970s, the composition of NICS 4's exports began to shift from simple unskilled labor-intensive manufactures to skill and capital-intensive manufactures, and since the late 1980s, the NICS 4 has commenced another round of structural transformation into technology-intensive manufactures which requires rather extensive licensing arrangements with advanced countries. Indeed, the royalty payments of the NICS 4 for patent licensing have been rapidly increasing since the early 1980s. At the same time, the NICS 4 have started to spend great efforts for their own R & D activities (mostly for adapting imported technologies). The advanced countries (including Japan), however, seem to have developed a phobia of "another Japan," and hence seem to refrain from technology transfer lest the NICS 4 become active competitors in technology-intensive products.

A possible strategy for the NICS 4 is, first, to concentrate their own limited R & D funds to the efforts of making innovations on the basis of the technologies that are considered obsolete by the advanced countries and, second, to establish R & D firms in advanced countries that enables to take advantage of highly trained engineers and scientists as well as various supporting infrastructure facilities in those countries and, third, to obtain the more advanced technologies directly from various advanced countries, particularly from those which already have lost most of their international export markets to other advanced countries such as Japan not because of the basic technological inferiority but because of the institutional rigidity of their economic system. The latter channel may take the form of either patent licensing or joint investment arrangement.

One of the important sources of internal scale economies in technology-

intensive manufacturing is the large initial R & D outlays that are required to develop such products. Since these fixed costs are spread over a large volume of output, they act as a factor to reduce unit cost, and make only a small number of firms survive in the world market. Each one of the oligopolistic global suppliers is capable of acting as a monopolistic price-setter to a slow-witted buyer in any country who is not capable of playing one supplier from another. The NICS 4 seem to have arrived at the stage of growth where they can rationally try to create competitive power in many of the technology-intensive production activities and also actively try to maintain alternative competing sources of foreign supply for technology-intensive products that are not manufactured domestically.

A very familiar experience in the NICS 4 is the sudden drastic drop in the foreign supplier's prices of some high-tech materials, parts or machines as soon as an indigenous firm develops their import-substitutes, or even a prototype of imported one. This phenomenon supports the presumption that the NICS 4 are subject to monopolistic price-setting for many technology-intensive materials, parts and machines. It also illustrates the danger of excessive dependence on narrowly limited sources of suppliers of technology and technology-intensive products. In order to avoid possible monopolistic exploitation, NICS 4 may have to cultivate the ability to manufacture some of the technology-intensive products by themselves and the ability to become well aware of various alternative sources of supply in the world market of technology-intensive products.

R & D activities are often conspicuous with external economies or internal economies of scale while domestic capital market is undeveloped. Therefore, the governments of NICS 4 have to assume an active role in creating competitive power in technology-intensive manufacturing activities or in promoting international specialization in those activities.

5. OUTWARD-LOOKING EXPORT-ORIENTED GROWTH

The export expansion of labor-intensive manufactures in a resource-poor developing country enables a full utilization of its abundant labor force by providing an outlet for what Lewis calls the infinite supply of labor. Furthermore, the effort to export labor-intensive manufactures includes the incessant price-quality competition at international markets, and hence is believed to result in a rapid accumulation of physical and human capital, a rapid technology transfer through learning-by-someone else's-doing, a rapid technical progress through imitation and innovation and, most importantly, substantial improvements in organizational and institutional arrangement of

domestic economic system.

A developing country may begin the export-oriented growth with simple unskilled-labor intensive manufactures. There is, however, the inherent dynamism of international specialization. Every labor-abundant underdeveloped country has the potential competitive power in the world market for labor-intensive products according to the Heckscher-Ohlin theory of comparative advantage and specialization. As soon as the governments of NICS 4, for example, took care of the externalities associated with infant labor-intensive export industries at the turn of the 1960s, they began to penetrate into the developed countries' markets for labor-intensive manufactured products, replacing the existing suppliers such as the native domestic producers of the advanced countries as well as the traditional foreign suppliers such as Japan. For a while, the NICS 4 could dominate the world markets of labor-intensive manufactures. The rapid expansion of labor-intensive exports in these countries generated rapid increases in employment and sustained high growth in per capita income. The traditional suppliers of labor-intensive products, such as Japan, were pushed up to the more capital-intensive and technology-intensive production activities. Japan began to supply the intermediate and capital goods to the NICS 4, that were used for the latter's labor-intensive export activities. Japan began to lose its traditional overseas markets in labor-intensive products but it could keep expanding the magnitude of its exports by supplying intermediate and capital goods to the NICS 4, and by penetrating into the higher value-added products market in advanced countries. On the other hand, many of the traditional manufacturers of labor-intensive products in Japan could prolong their life-span by relocating their production activities into the cheap-labor NICS 4, in the form of FDI or subcontracting arrangements.

Since the late 1970s, the governments of China and some ASEAN countries such as Thailand, Malaysia and Indonesia have been pursuing the outward-looking export-oriented strategies and, in due course, with the benefit of vigorous FDI activities (particularly of the Japanese FDI activities), they could convert their *potential* competitive power in labor-intensive manufacturing into the *actual* one. The NICS 4 began to be pushed out of their established labor-intensive export markets into the markets of more skill-intensive and capital-intensive products. Rapid growth and the associated high savings propensity enabled the NICS 4 to expand the production and exports of capital-intensive manufactures that can easily be produced with technologies embodied in the imported capital goods. The logical outlets for the NICS 4 in the following stage are the production activities to supply intermediate and capital goods for the Chinese and ASEAN manufacturers of labor-intensive exports and to restructure their

industries towards the more skill-intensive, capital-intensive, technology-intensive, and higher value-added products. The traditional manufacturers of labor-intensive products in these NICS 4 may prolong their life-span either by achieving quality up-grading of their products or by relocating their plants to the cheap-labor later-comer countries. Any economy that can not implement the continuous restructuring of its production activities in accordance with shifting comparative advantage may drop out of world market, fall into stagnation, and degenerate into another failure case. The role of government may be crucial not only at the beginning stage of catch-up, but also at the transitional phase of catch-up.

By the 1990s, the Japanese manufacturers became to dominate the world markets of the most technology-intensive products and became the sole supplier of many of the essential intermediate and capital goods to the old and new Asian NICs. It is likely that manufacturers in some Latin American countries such as Chile, Argentina, Mexico, and Brazil may join the Chinese and the ASEAN exporters of labor-intensive products, if their governments can implement correct policies for outward-looking strategies.

Relationship between stationary economies can be either complementary or competitive. The relationship between dynamic economies, however, will continuously shift, say, from a competitive one to a complementary one, and then to a competitive one. Correct government policies in promoting growth and specialization will maximize the utilization of growth potentials of each trading economy. Policy failure and stagnation in any trade partner would not be beneficial to others. A favorable environment for international trade and investment will increase the gains from international specialization and growth of each trading nations.

Among the more than 180 countries in the world, the prospect of growth in GNP and trade volume is the highest in the NICS 4, ASEAN 4, China and Japan. Due to the differences in the stages of growth of these countries, the complementary inter-industry trade among them will keep enhancing. Even in competing sectors, free trade and horizontal specialization can convert the competitive relationship to a complementary intra-industry trade relationship.

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Appendix Table. Savings, Investment, Growth and Trade

Annual Average	Ratio to GNP (in percent)				GNP	
	Commodity Exports	Commodity Imports	Doamestic Savings	Domestic Investment	Growth Rate(%)	Billion Dollars
NICS 4						
1961-70[1]	32 (. .)[2]	45 (. .)[2]	19	24	9.2	15
1971-80	47 (40)[2]	55 (43)[2]	28	30	9.1	68
1981-90	56 (45)[2]	54 (41)[2]	33	28	8.7	277
ASEAN 4						
1961-70[1]	15	18	18	20	. .	27
1971-80	24	24	26	25	7.2	82
1981-90	26	26	27	26	5.3	206
CHINA						
1961-70	3	3	23	23	5.4	81
1971-80	5	5	30	30	5.8	171
1981-90	11	11	34	35	8.9	335
JAPAN						
1961-70	9	9	34	34	10.2	109
1971-80	11	11	35	34	4.6	595
1981-90	12	9	33	30	4.3	1,855
U. S. A.						
1961-70	4	4	19	18	3.8	746
1970-80	6	7	17	17	2.8	1,801
1981-90	6	9	15	16	2.7	4,186
CNA						
1961-70	16	17	23	24	5.1	86
1971-80	19	19	25	25	4.0	279
1981-90	20	20	23	23	3.3	626

Note: [1]1967-70 data. [2]Excluding re-exports (averages for 1973-80 and 1981-89).
Sources: World Bank, *World Tables*, 1980 Edition and 1988-89 Edition, IMF, *Direction of Trade and International Financial Statistics*, 1991, ADB, *Asian Development Bank Outlook*, 1989, OECD, *National Accounts: 1960-1990,* and Republic of China, Council for Economic Planning, and Development, *Taiwan Statistical Data Book, 1992.*