Chapter II

Exchange Rate Fluctuation and Economic Response in the Real Sector

This chapter first describes the inflow of foreign direct investment into Asia, corresponding to the high appreciation of the yen relative to the U.S. dollar from 1985, and the exchange rates of Asian currencies that fluctuated considerably against both the yen and the dollar. Then it analyzes the rapid development of Asian industrial structure and the changes in trading patterns that reflect such foreign direct investment inflow. Finally, the factors leading to Asia's economic growth and future issues will be discussed.

1. Increased Inflow of Foreign Direct Investment

Foreign direct investment is labeled as an "engine" for economic growth in Asia. Asia's growth strategy has been to aggressively seek out foreign investment and to use such investment to build a production base that will nurture export-oriented manufacturing. "A naturally beneficial cycle between investment and exports" was the model for economic growth successfully emulated first in the 1970's by Asian NIEs. Then, in the second half of the 1980's, the four ASEAN countries followed the pattern. Entering the 1990's, China's coastal region and Vietnam came to embrace this model. Therefore, this cycle has been seen in the whole of Asia (as defined in this report).

The latecomers following this model, such as the four ASEAN countries and China, are experiencing an inflow of investment not only from industrialized countries, such as the U.S. and Japan, but also from Asian NIEs. Accepting levels of investment much greater than Asia's NIEs, these countries are experiencing rapid economic growth by upgrading their export capabilities in a much shorter time period. (See "Asia's Industrialization and the Role of Foreign Investment" by Kayoko Kitamura in *Asia's Industrialization and Japanese Industry's New Global Strategy,* edited by Kayoko Kitamura, published by the Institute of Developing Economies, 1995, Chapter I)

Table 2-1 is a matrix describing the flow of foreign direct investment into nine Asian countries or regions from the late 1980s to the early 1990s.

During this period, the level of direct investment into all of Asian NIEs excluding Singapore has been basically low and uniform. The investment level into Hong Kong during the same period is one point less than that of the other three NIEs. This may be a result of Hong Kong increasingly assuming the role of a service and information base as well as the role of a manufacturing base for China. Singapore is the only country in this group that took in more investment as measured by approval each year. Increased investment from the U.S. is particularly notable.

The four ASEAN countries actively sought out direct investment from overseas and, as a result, they received more investment than the NIEs. The amount of investment as measured by approval that Thailand and Malaysia received annually peaked in 1992 and was 5.1 and 8.5 times the amount they each received in 1987 respectively. Thailand took in more than 10 billion U.S. dollars in foreign investment in 1992. Investment levels declined in 1993 for both countries, but took an upturn again in 1994. Indonesia received a total of more than 10 billion dollars annually in foreign investment in 1992. After a small decline in 1993, the total figure rose sharply to beyond the 20 billion dollar mark in 1995. One of the reasons why these three countries experienced declining investment flows in 1993 is that investment activities shifted to China that year.

The level of investment received by the Philippines through 1993 was one point less than that received by the three other ASEAN countries. However, investment received by the Philippines qua-

Table 2-1: Flow Matrix of Foreign Direct Investments into Asia

(unit: $ US million, %)

Investors / Recipient Countries	U.S.A.		Japan		Asian NIEs		World total
	Volume of investment	Share	Volume of investment	Share	Volume of investment	Share	Volume of investment
South Korea (permit base, including re-investments, Source: Department of Treasury)							
1987	255.1	24.1	493.9	46.6	n.a.	–	1,060.2
1988	284.4	22.2	696.2	54.3	15.3	1.2	1,282.7
1989	324.3	29.7	466.0	42.7	48.6	4.5	1,090.3
1990	317.5	39.6	235.9	29.4	20.8	2.6	802.6
1991	296.3	21.2	226.2	16.2	20.9	1.5	1,396.0
1992	379.2	42.4	155.2	17.4	12.7	1.4	894.5
1993	340.7	32.6	285.9	27.4	86.2	8.3	1,044.3
1994	310.9	23.6	428.4	32.5	127.5	9.7	1,316.5
Taiwan (permit base, source: Economic Department Investment Council)							
1987	414.1	29.2	399.2	28.1	92.3	6.5	1,418.8
1988	134.7	11.4	431.9	36.5	130.1	11.0	1,182.5
1989	343.0	14.2	640.6	26.5	249.0	10.3	2,418.3
1990	540.4	23.5	826.8	35.9	249.9	10.9	2,301.8
1991	587.7	33.0	526.2	29.6	175.7	9.9	1,778.4
1992	183.8	12.6	417.8	28.6	209.8	14.4	1,461.4
1993	208.0	17.1	272.5	22.5	207.3	17.1	1,213.5
1994	293.7	18.0	391.0	24.0	402.3	24.7	1,630.7
Hong Kong (only manufacturing sector, tabulated from the stock value, Source: Hong Kong Government)							
1988	155.2	24.0	173.7	26.9	n.a.	–	646.8
1989	49.1	10.8	214.8	47.1	n.a.	–	456.3
1990	23.1	15.0	142.3	92.6	n.a.	–	153.7
1991	21.6	4.8	158.1	35.5	n.a.	–	445.4
1992	60.2	16.2	189.0	50.8	n.a.	–	372.0
1993	180.8	38.6	194.0	41.4	n.a.	–	468.5
1994	38.5	9.7	102.9	25.9	n.a.	–	396.7
Singapore (approval base, Source: Economic Development Agency and the Ministry of Trade and Industry)							
1987	289.0	38.7	297.5	39.8	n.a.	–	747.2
1988	319.5	34.8	353.2	38.5	n.a.	–	917.9
1989	295.3	31.8	300.9	32.4	n.a.	–	927.9
1990	618.3	44.8	444.5	32.2	n.a.	–	1,380.7
1991	612.1	37.5	497.1	30.5	n.a.	–	1,632.4
1992	862.8	44.5	586.6	30.3	n.a.	–	1,936.7
1993	1,000.1	45.5	556.1	25.3	n.a.	–	2,199.0
1994	1,605.1	56.7	598.3	21.1	n.a.	–	2,833.2
Thailand (Board of Investment approval base, source: Board of Investment Committee)							
1987	172.3	8.9	947.2	48.7	497.9	25.6	1,946.5
1988	673.3	10.8	3,045.4	48.7	1,684.3	26.9	6,250.1
1989	549.5	6.9	3,524.1	44.1	2,011.4	25.2	7,995.9
1990	1,090.8	13.6	2,705.4	33.7	2,695.7	33.6	8,029.3
1991	1,130.4	22.7	1,759.7	35.3	1,583.3	31.7	4,987.5
1992	1,233.1	12.3	1,967.4	19.6	940.7	9.4	10,021.8
1993	431.2	10.0	2,705.3	63.0	645.8	15.0	4,294.4
1994	1,308.7	22.3	2,555.7	43.5	1,282.2	21.8	5,874.9

(unit: $ US million, %)

Investors / Recipient Countries	U.S.A.		Japan		Asian NIEs		World total
	Volume of investment	Share	Volume of investment	Share	Volume of investment	Share	Volume of investment
Malaysia (approval base, manufacturing sector only, re-investments not included, source: Industrial Development Agency)							
1987	64.7	7.9	283.8	34.7	236.1	28.9	817.6
1988	204.3	11.0	466.6	25.1	607.1	32.6	1,862.7
1989	118.5	3.7	993.1	31.1	1,334.9	41.8	3,194.4
1990	209.6	3.2	1,557.5	23.9	3,053.3	46.8	6,517.4
1991	653.8	10.5	1,347.6	21.7	2,596.6	41.9	6,201.6
1992	1,295.0	18.6	1,053.6	15.1	832.2	11.9	6,976.5
1993	683.0	28.0	645.3	26.4	629.7	25.8	2,442.4
1994	477.5	11.1	672.7	15.6	1,989.3	46.0	4,320.8
Indonesia (permit base, source: Investment Coordinating Agency)							
1988	671	15.0	391	8.7	1,528	34.1	4,482
1989	348	7.4	779	16.5	1,181	25.1	4,714
1990	154	1.8	2,241	25.6	2,599	29.7	8,751
1991	276	3.1	929	10.6	1,983	22.6	8,778
1992	923	8.9	1,511	14.6	2,667	25.8	10,323
1993	445	5.5	836	10.3	2,636	32.4	8,144
1994	977.0	4.1	1,562.5	6.6	12,042.7	50.8	23,724.3
Philippines (permit base, source: Investment Committee)							
1987	36.0	21.6	28.7	17.2	38.4	23.0	166.6
1988	153.1	32.3	95.5	20.2	140.7	29.7	473.2
1989	131.2	16.3	157.7	19.6	322.7	40.1	804.2
1990	59.5	6.2	305.9	31.8	383.9	39.9	961.3
1991	87.1	11.1	210.3	26.9	67.9	8.7	782.9
1992	61.5	21.7	72.4	25.5	68.9	24.2	284.2
1993	88.1	16.6	112.2	21.1	93.4	17.6	531.5
1994	673.3	28.8	103.2	4.4	630.8	27.0	2,338.1
China (contract base, source: External Economic Trade Department)							
1987	342	9.2	301	8.1	2,017	54.4	3,709
1988	370	7.0	276	5.2	3,604	68.0	5,297
1989	641	11.4	439	7.8	3,271	58.4	5,600
1990	357.8	5.4	457.0	6.9	4,872.5	73.9	6,596.1
1991	548.1	4.6	812.2	6.8	8,896.3	74.3	11,976.8
1992	3,121	5.4	2,173	3.7	47,001	80.9	58,124
1993	3,121	2.8	2,173	1.9	91,660	82.3	111,436
1994	6,010	7.3	4,440	5.4	59,672	72.2	82,680

Note: 1. The investment amount for World Total, in some cases, reflects a double counting of the investments by a multiple of countries, therefore, the shares denoted here may not necessarily represent accurate figures.
2. The investments by the Asian NIEs into China represent the investments from Hong Kong and Singapore only through 1989, and after 1993, they include the investments from Macao.

Source: *"Direct Investments Statistics in Asia"* by Inamura, Hirakawa and Munakata: (Japan Export & Import Bank Overseas Investment Research Institute *"Overseas Investment Research Institute Report"* April, 1995 issue.)
"JETRO White paper: Investment Section" annuals, published by Japan External Trade Organization.

drupled in 1994 over the previous year. China's investment contract amount in 1991 represented a 100% increase over 1990, and the 1992 amount was four times that of 1991. The figure for 1993, the peak year, represents a level 17 times that of 1990, reaching 111.4 billion U.S. dollars in total. From

1991 to 1993, China accounted for more than 25% of the total investment in developing countries worldwide (p. 11, Kitamura). This dramatic inflow of foreign investment into China subsided in 1994 to three quarters of the investment level of the previous year. However, in receiving more than 80 billion U.S. dollars in total in 1994, China remains Asia's number one recipient of foreign investment. The rapid increase in foreign investment in China triggered the shift in investment activities away from the four ASEAN countries.

What is notable about the flow of investment into the four ASEAN countries and China is not only the increase in the total amount invested but also the increased presence of Asian NIEs as investors. Each investor nation's share of investment in each recipient nation varies from year to year.

Investment by Asian NIEs into Thailand, where Japan has historically been a major investor, makes up 20 to 30% of the total investment received. Similar figures are 20 to 40% for the Philippines. Asian NIEs investment into Malaysia and Indonesia accounted for approximately 50% of the total investment received in 1994.

From 1987 to 1994, more than 50% of the total investment received by China came from Asian NIEs. These figures grew to exceed 80% in 1992 and 1993. This is because investment by kakyo, overseas Chinese businesses operating in Southeast Asia, into China play a critical role in trade with China.

Expanded investment activities overseas by Asian NIEs are in response to the appreciation of their currencies vis-a-vis the U.S. dollar from 1987 to 1990 as well as to rising domestic labor costs. The four ASEAN countries and China became recipients of the expanded investment by Asian NIEs. However, these data need to be interpreted carefully since the figures for overseas investment by Asian NIEs are said to include some investment made by Japanese subsidiaries operating in Asian NIEs host countries (Akio Kon, "Overseas Direct Investment Japanese Statistics," Corporate Information Database and Economic Analysis, Aoki Shoten, 1996).

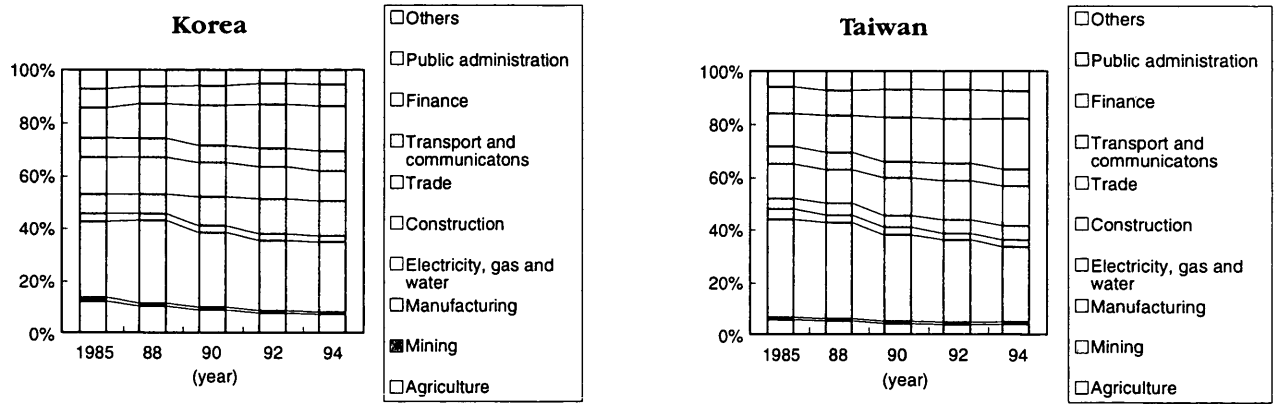
2. Upgrading of Industrial Structure and Changes in the Structure of Trade

(1) Upgrading of Industrial Structure

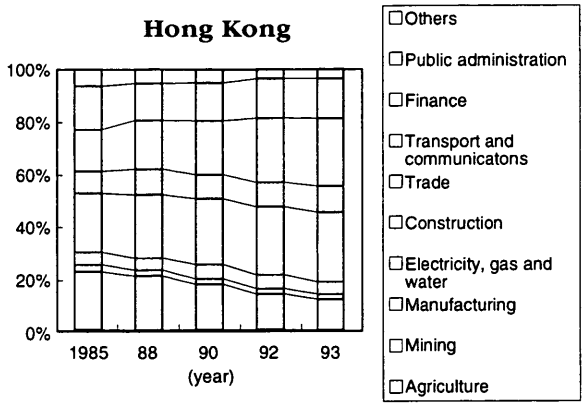
Inflow of foreign direct investment into the nine Asian countries after the second half of the 1980s triggered the upgrading of the region's industrial structures.

Figure 2-1 shows changes in the industrial structure for each of the nine Asian countries or regions. The changes are expressed by the share of added value created by each industrial sector relative to the GDP.

Figure 2-1: Changes in the Share of Added Value Created Vis-a-Vis GDP Held by Each Industrial Sector



Source: ADB, *Key Indicators of Developing Asian and Pacific Countries,* 1995, Vol. XXVI.
Chinese National Statistical Agency *"Chinese Statistic Yearbook"* 1995 edition.


Hong Kong
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1985 88 90 92 93
(year)
Others
Public administration
Finance
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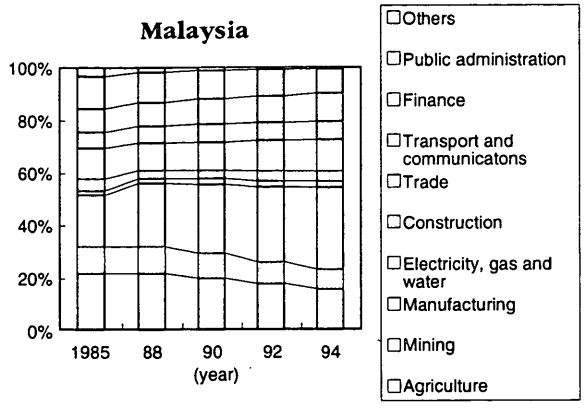
Construction
Electricity, gas and water
Manufacturing
Mining
Agriculture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1985 88 90 92 94
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Electricity, gas and water
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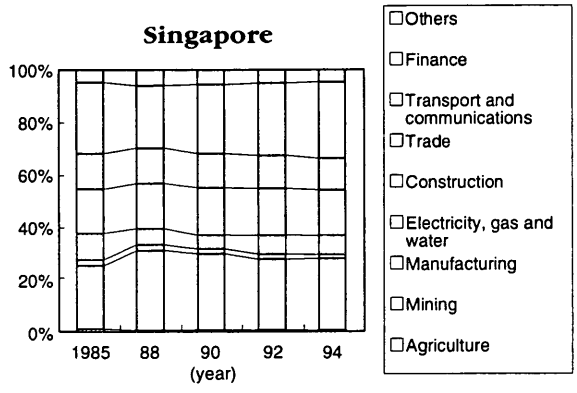
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Electricity, gas and water
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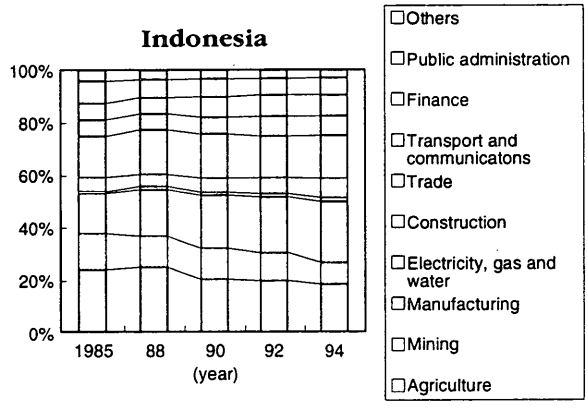
Agriculture


Indonesia
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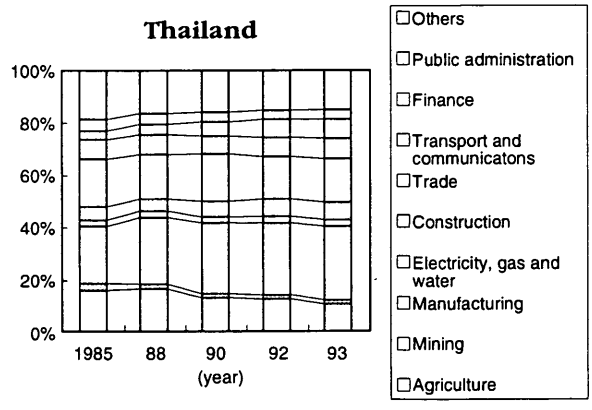
Manufacturing
Mining
Agriculture


Thailand
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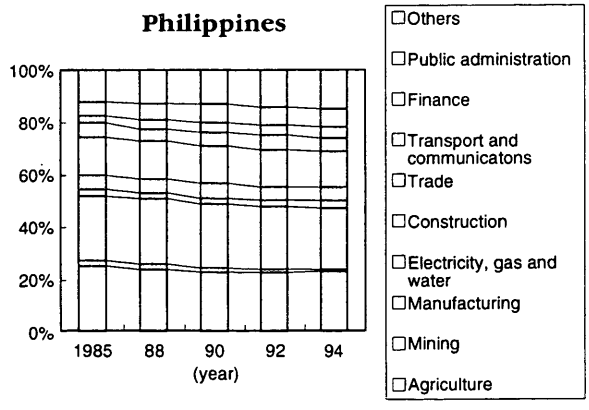
Manufacturing
Mining
Agriculture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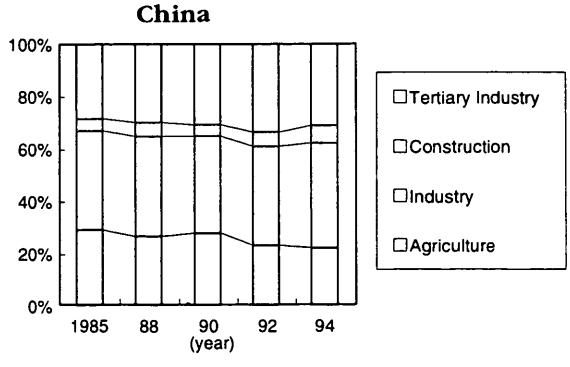
Agriculture


China
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80%
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1985 88 90 92 94
(year)
Tertiary Industry
Construction
Industry
Agriculture

In the Asian NIEs, the share of added value created by the manufacturing sector is generally in decline, while the share held by the service sector is on the rise. This fact signifies that the Asian NIEs have already achieved a certain level of industrialization and that the level of economic development in those countries has reached the stage of a "service oriented economy."

On the other hand, a manufacturing sector that continues to expand makes it clear that the three ASEAN countries excluding the Philippines are still in the midst of the process of "industrialization." The Philippines is experiencing growth patterns similar to the Asian NIEs in that the manufacturing sector's share is leveling off while the service sector's share is showing a moderate gain. However, unlike the Asian NIEs, this is caused by the fact that the Philippines is lagging behind other ASEAN countries in the pace of its industrialization.

In China, the mining and manufacturing sectors are growing. This may be an indication that the industrialization efforts under the market economy system in the socialist regime are paying off. Of the added value generated by the mining and manufacturing sectors, the share of the manufacturing sector seems rising.

(2) Development of Intra-Regional Trade in Asia

Inflow of direct investment and upgrading of industrial structure induced by it are transforming trading patterns in the Asian countries and regions. Table 2-2 shows changes in trading patterns for Japan, the Asian countries or regions in 1985, 1990 and 1994. The changing patterns are expressed in terms of the share of import and export vis-a-vis Japan, the U.S. and Asia for each country or region.

Three distinct patterns are noticeable in the changes in export shares. First, the Asian NIEs and Japan's share of the region's export to the U.S. shrank. Second, China and the four ASEAN countries' shares of exports to the U.S. increased while their shares of exports to Japan contracted (an exception to this is Indonesia; from 1985 to 1990 Indonesia's share of exports to the U.S. declined). (Thailand, however, increased its share of exports to Japan during the same period.) Third, as a general trend, Japan and the other Asian countries increased their shares of total exports to Asia.

Table 2-2: Changes in Trading Partners

(unit: %)

	Exports			Imports		
Domestic/Partners	U.S.A	Japan	Asia	U.S.A.	Japan	Asia
Japan						
1985	37.6	-	24.0	20.0	-	25.5
90	31.7	-	29.6	22.3	-	26.6
94	29.9	-	38.5	22.9	-	32.9
South Korea						
1985	35.6	15.0	10.8	21.1	24.3	10.5
90	29.9	19.4	15.5	24.3	26.6	9.9
94	21.4	14.1	29.5	21.1	24.8	15.0
Taiwan						
1985	48.3	11.3	15.1	23.6	27.6	9.6
90	32.4	12.4	24.6	23.1	29.2	12.4
94	26.2	11.0	36.2	21.1	29.0	15.2
Hong Kong						
1985	30.8	4.2	36.6	9.5	23.1	45.8
90	24.1	5.7	38.5	8.1	16.1	57.9
94	23.2	5.6	43.1	7.2	15.6	59.9
Singapore						
1985	21.2	9.4	31.4	15.2	17.1	32.5
90	21.3	8.8	34.8	16.1	20.1	30.5
94	18.7	7.0	44.3	15.2	21.9	35.6
Thailand						
1985	19.7	13.4	25.6	11.4	26.5	23.4
90	22.7	17.2	20.1	10.8	30.4	24.6
94	23.2	18.0	24.6	11.3	30.5	23.6
Malaysia						
1985	12.8	24.5	38.5	15.3	23.0	31.0
90	17.0	15.3	41.1	16.9	24.1	30.7
94	21.2	11.9	40.4	16.6	26.7	31.3
Indonesia						
1985	21.7	46.2	18.4	16.8	25.8	17.2
90	13.1	42.5	24.0	11.5	24.9	23.2
94	15.9	29.2	21.8	10.1	27.6	25.2
Philippines						
1985	36.0	19.0	20.7	24.6	13.7	30.4
90	38.5	20.1	17.5	19.5	18.4	24.8
94	38.8	15.1	24.0	18.5	24.2	28.8
China						
1985	8.5	22.1	35.7	12.1	35.4	13.7
90	8.7	15.0	52.1	12.5	14.6	38.2
94	17.9	17.9	37.9	12.2	23.0	32.9

Note: Partner "Asia" refers to the nine Asian countries or regions (Asian NIEs, four ASEAN countries and China).

Source: IMF, *Direction of Trade Statistics Yearbook 1994*, Directorate General of Budget, Accounting and Statistics, *Monthly Bulletin of Statistics of the Republic of China*, Dec. 1995.

Looking at the 1994 export shares, all but Indonesia (with Japan as its top export market) and the Philippines (with the U.S. as its top export market) list Asia as their top export market.

Therefore, it appears that the relative importance of Japan and the U.S. as export markets to Asian countries diminished while that of the Asian market grew. Furthermore, the fact that Japan's share of imports in all Asian countries or regions, except for Indonesia, is less than the shares of the U.S. and Asia seems to indicate that Japan is not importing enough from other Asian countries.

In looking at the imports, the following patterns are noticeable. In general, the shares of imports from the U.S. are either unchanged or declining. The shares of imports from Japan in Singapore and the four ASEAN countries are expanding and the shares of imports from Asia in Japan and the Asian NIEs are growing noticeably. Singapore and the four ASEAN countries' shares of imports from Japan are rising because the importation of capital goods and machinery products induced by an increase in direct investment from Japan is growing.

It should be noted that China and the four ASEAN countries' shares of exports to the U.S. are growing while their shares of imports from the U.S. are shrinking.

(3) Structural Upgrading of Trading Patterns

This section will discuss structural transformation of trading patterns. Table 2-3 shows changes in the Asian countries' shares of exports and imports of machinery and transportation equipment (Part 7 of the one-digit classification of the United Nations' Standard International Trade Commodity Classification [SITCC]).

According to the table, in most of the Asian countries the shares of imports and exports of machinery and transport equipment are increasing (the exceptions to this are Hong Kong's exports and Indonesia's imports).

The shares of both exports and imports of these products are growing more rapidly in China and the four ASEAN countries than in the Asian NIEs. In comparing the group of Asian NIEs with China and the four ASEAN countries, the following observations can be made.

Among the Asian NIEs (except for Hong Kong), where the process of industrialization has reached a certain level of maturity, the export share is larger than the import share. On the other hand, among China and the four ASEAN countries, where the industrialization process is still in progress, the import share is larger than the export share. Even in Malaysia, which is considered to be the most industrialized among the four ASEAN countries and China, the import share is higher than the export share. But the difference is smallest and relatively shows a pattern similar to that of the Asian NIEs.

The fact that the import shares of machinery and transportation equipment among China and the four ASEAN countries, where the industrialization process is still in its early stage, are bigger than

Table 2-3: The Ratios of Exports and Imports of Machinery, Transport Equipment of Asian Countries or regions

Countries / Year	South Korea	Taiwan	Hong Kong	Singapore	Thailand	Malaysia	Indonesia	Philippines	China
Export									
1985	37.6	27.9	12.2	33.0	8.3	18.6	0.5	6.7	2.8
1988	38.6	35.2	11.2	48.0	15.8	28.3	0.7	9.6	5.8
1990	39.3	39.1	8.8	50.1	22.2	35.7	1.4	11.9	9.0
1992	42.5	41.0	6.6	55.1	26.7	43.7	3.9	17.0	15.6
1994	49.0	45.3	5.3	63.9	33.0	53.5	7.1	21.6	18.1
Import									
1985	34.2.	27.9	25.7	31.7	28.1	43.6	35.3	14.0	38.4
1988	35.2	32.9	28.8	43.4	39.8	45.1	38.5	19.8	30.2
1990	34.3	37.0	27.9	44.7	41.2	50.0	42.7	25.9	31.6
1992	35.4	39.3	32.1	47.9	42.7	54.4	39.4	28.6	38.9
1994	36.5	39.0	35.5	56.5	47.4	60.1	34.2	33.5	44.6

Note: The imports/exports values for machinery or transport equipment are quoted from the Part Seven of International Standard Trade Product Classification (SITC).

Source: ADB, *Key Indicators of Developing Asian and Pacific Countries,* 1995, Vol. XXVI.
Chinese National Statistics Agency, *"Chinese Statistics Yearbook"* 1995 edition.

the export shares of those products, seems to indicate that it is inevitable for a country that is in a relatively early stage of industrial development, to import a large amount of capital goods and machinery products from industrialized countries.

These changes in trading patterns and the expansion of intra-regional trading in Asia are precipitated by the following reality. Parent companies in Japan, the U.S. and the Asian NIEs supply parts to their local subsidiaries in Asia. Local subsidiaries are engaged in the labor-intensive assembly of products that are then exported back to the countries where the parent companies are located. In other words, regional production networks are based on an intra-regional division of labor in terms of processes that have been established in Asia.

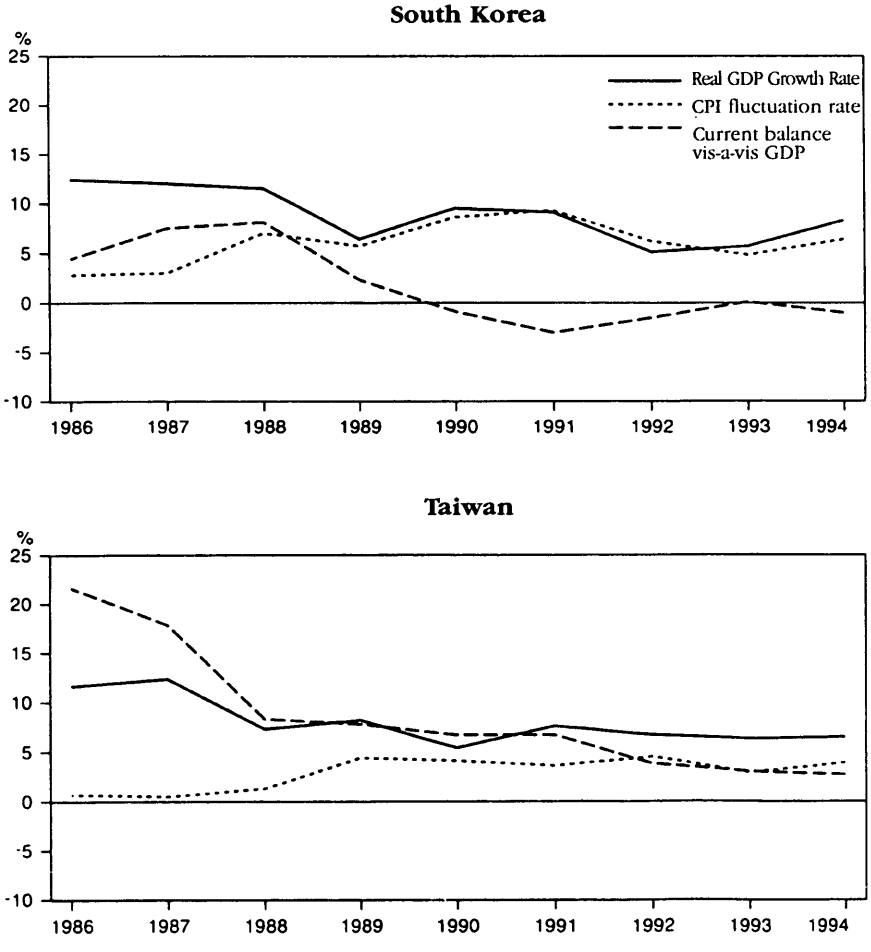
3. Patterns of Economic Growth

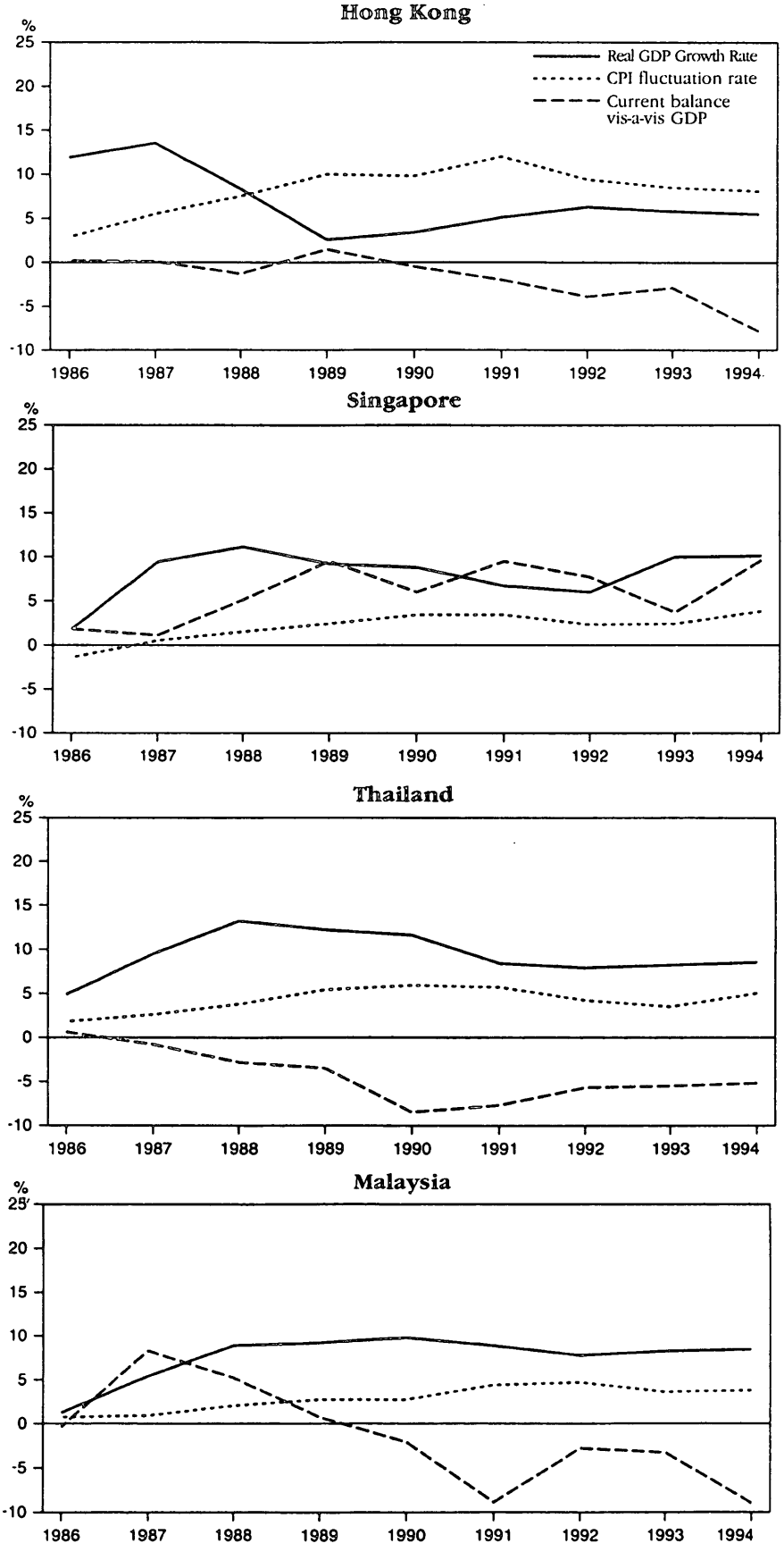
(1) Macroeconomic trends

Let us look at the economic growth trends in Asia induced by increased foreign direct investment, changes in industrial structure and trading patterns, and expanding intra-regional trade in Asia.

Figure 2-2 shows real GDP growth rates, inflation rates of consumer price index (CPI) and current balance vis-a-vis GDP for each of the Asian countries during the period extending from 1986 to 1994.

Figure 2-2: Changes in Real GDP Growth Rates, Consumer Price Index (CPI) Fluctuation Rates and the Share of Current Balance vis-a-vis GDP




Hong Kong
%
25
20
15
10
5
0
-5
-10
Real GDP Growth Rate
CPI fluctuation rate
Current balance vis-a-vis GDP
1986
1987
1988
1989
1990
1991
1992
1993
1994
Singapore
%
25
20
15
10
5
0
-5
-10
1986
1987
1988
1989
1990
1991
1992
1993
1994
Thailand
%
25
20
15
10
5
0
-5
-10
1986
1987
1988
1989
1990
1991
1992
1993
1994
Malaysia
%
25
20
15
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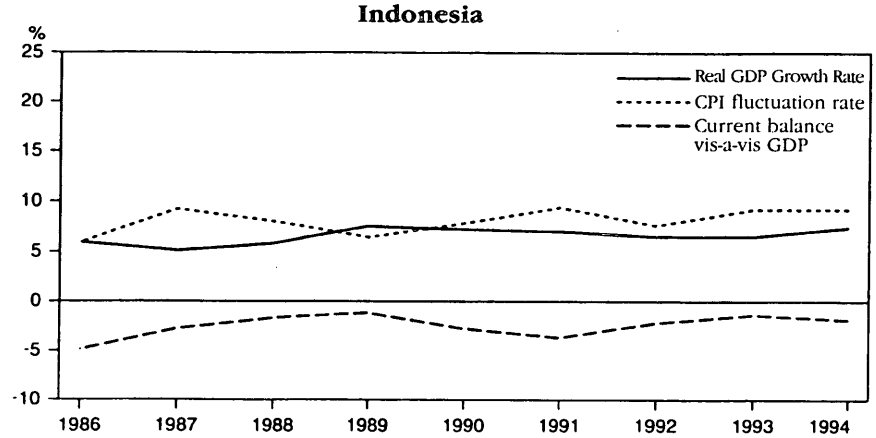
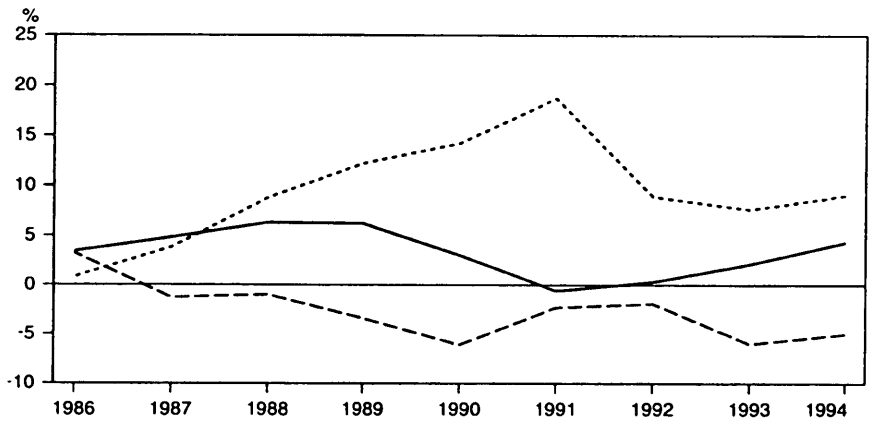
5
0
-5
-10
1986
1987
1988
1989
1990
1991
1992
1993
1994

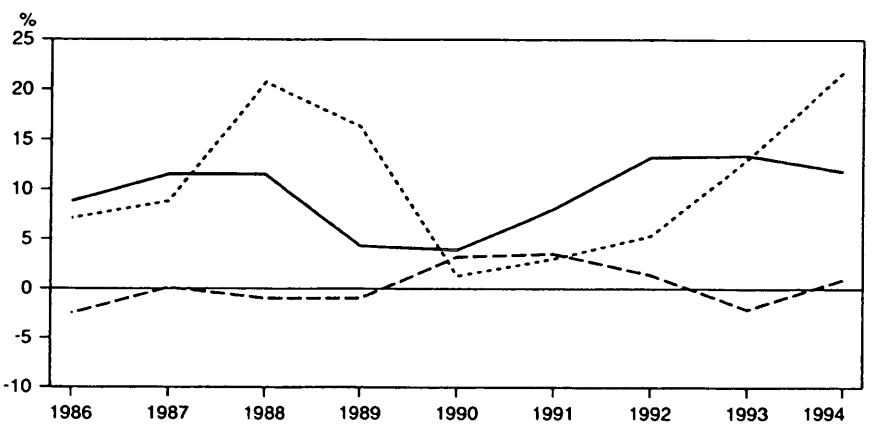
Indonesia



Philippines



China



Source: Asian Development Bank, *Asian Development Outlook,* 1992, 1995/1996
As for Hong Kong's trade balance vis-a-vis GDP, the sources are: Asian Development Bank, *Key Indicators of Developing Asian and Pacific Countries,* 1995, Vol. XXVI.

The growth rates of Asian NIEs exceeded the high level of 10% between the years 1986 and 1988. Growth rates declined slightly in the beginning of 1990s, although they remained in the 5 to 10% range through the mid 1990s. Between the years 1988 and 1990, the four ASEAN countries' growth rates peaked at 13% and 10% respectively for Thailand and Malaysia and peaked at 6-8% for Indonesia and the Philippines. The growth rates for these countries declined thereafter, and stayed in the 6 to 9 % range for Thailand, Malaysia and Indonesia. The Philippines experienced a negative growth rate in 1991, but has been recovering gradually in recent years.

China's growth rates exceeded 10% in 1987, 1988, 1992, 1993 and 1994. However, generally speaking, China's growth rate fluctuations are too extensive, implying that its economy may be too cyclical.

China and the Philippines aside, the Asian countries or regions experienced a similar growth pattern during this period: "high growth rates in the second half of the 1980s followed by a slow down in the economy and then steady and stable growth beginning in 1992 and 1993."

Let us look at the changes in inflation rates. Inflation rates among the Asian NIEs show a tendency of polarization. Inflation rates in Taiwan and Singapore were low, while South Korea and Hong Kong had inflation rates in the range of 9-12% from 1988 to 1992.

Likewise, inflation rates among the four ASEAN countries show a similar polarization tendency. Thailand and Malaysia kept their inflation rates low, while Indonesia was recording inflation in a relatively high 6-9% range. The Philippines hit a soaring 20% inflation rate in 1991 after which they hovered in the 6-9% range. China's inflation rates reached the 20% range in 1988, 1989 and 1994.

Inflation rates among the Asian countries or regions (except China and the Philippines) stayed at a relatively low level in spite of the trends toward polarization.

(2) Contributing Factors for Economic Growth and Issues to be Addressed in the Future

Table 2-4 shows changes in demand as a share of GDP for the nine Asian countries or regions in the years 1985, 1988, 1990,1992 and 1994. Let us examine factors contributing to economic growth from the demand-side.

Generally speaking, apart from a few minor deviations the shares taken up by the total fixed capital formation (total capital formation in Indonesia and total capital in China) and exports are growing in all the Asian countries or regions (custom duty based exports in China and net-export based in Singapore are not included in this data.)

In all the Asian countries or regions being considered here except South Korea, the share held by imports and exports grew over the years (Singapore not included in this analysis). From this trend, it can be said that the Asian economies are becoming increasingly interdependent on foreign economies. In Taiwan, Hong Kong, Indonesia and China (custom duty based exports in China), the shares of imports are larger than those of exports, while this trend is reversed in South Korea, Thailand, Malaysia and the Philippines. Going back to Figure 2-2, let us look at the balance of payments in the current accounts for each country. In 1994, Taiwan, Singapore and China posted surpluses, while South Korea, Hong Kong(trade deficits) and the four ASEAN countries showed deficits. The size of the deficits is relatively great, particularly for Thailand and Malaysia at 5.2% and 9.0% of their respective GDPs in 1994.

To sum up the above trends, it can be said that the high growth patterns experienced by the Asian countries and regions over the ten year period were spurred by growing exports and total fixed capital formation. The four ASEAN countries and a few other Asian countries are registering current account deficits due to expanded imports: import of capital goods and intermediate goods not obtainable domestically but required for the production of export goods. The imports are growing also because of rising domestic demand. Therefore, correcting this macroeconomic imbalance will be an issue to be resolved in the future.

Looking at the supply side, the Asian economies' ability to meet supply does not seem to be keeping up with expanding demands in the economy in general. In other words, the domestic economies are not able to supply what is required by the expanded production facilities created by the increase in direct investment. Solving this problem will be the key for insuring further growth of the economies in Asia. The particular issues to be

addressed in this regard can be summarized as follows: (Ken Aoki, "Adjustment of Industrial Structure among ASEAN countries and Foreign Investment" in Kitamura (ed.), pp. 132-134)

1) **A Shortage of Human Resources, particularly skilled workers and R&D staffs**
   For instance, approximately 30,000 skilled workers are consistently in short supply in Malaysia. In Thailand, it is predicted that there will be a consistent shortage of approximately 14,000 technicians and engineers by the turn of the century.
2) **Lack of Local Technology**
   Not enough local engineering capabilities or engineers to absorb and learn new technologies from industrialized countries (the source of such technologies) so that the newly acquired technologies may be localized. The technology transfer induced by direct investment is mainly production technology and not product development technology.
3) **Insufficient Supporting Industries**
   In industrialization based on direct investment, the linkage with local enterprise, which is the network that is supposed to make forward and backward linkage, is not sufficiently mature, and is an obstruction to efficient production.
4) **Insufficient Infrastructure**
   The level of insufficiency varies from place to place. However, generally speaking, in the areas of power, communication, water supply and transportation (ports, roads and highways, airports and railways, etc.), infrastructure is insufficient.

The above described supply-side bottlenecks are all structural impediments and therefore, their resolution will only come over the long term. In addressing the shortage of trained human resources in particular, one would have to start with a basic reorganization of the educational system and thus it would require more than one generation to correct this impediment. In order for the Asian economies to sustain current growth patterns, the following supply-side bottlenecks need to be addressed: the containment of inflation; the development of human resources and technology; the nurturing of supporting industries; and the development of infrastructure.

Table 2-4: Changes in the shares of each demand item vis-a-vis GDP (unit: %)

Nation \ Year	1985	1988	1990	1992	1994	General Trend				
South Korea						Private consumption	Public spending	Capital formation	Exports	Imports
Private consumption	58.5	51.0	53.7	54.0	53.8					
Public spending	10.1	9.5	10.1	10.9	10.6					
Total fixed capital formation	28.6	29.6	37.1	36.6	35.9	↘→	→	↗→	↗↘	↘
Exports	34.1	38.4	29.8	28.9	30.1					
Imports	-32.8	-30.5	-30.3	-29.9	-30.9					
Taiwan						Private consumption	Public spending	Capital formation	Exports	Imports
Private consumption	51.3	51.3	54.9	54.0	57.9					
Public spending	17.7	16.0	17.4	16.5	14.9					
Total fixed capital formation	18.4	20.2	21.9	22.9	24.0	↗	↘	↗	↗→	↗
Exports	41.3	48.7	45.2	45.2	46.7					
Imports	-28.8	-38.8	-40.1	-43.5	-44.6					
Hong Kong						Private consumption	Public spending	Capital formation	Exports	Imports
Private consumption	61.7	56.0	56.7	58.0	58.0					
Public spending	7.3	6.6	7.4	8.2	8.1					
Total fixed capital formation	21.1	25.5	26.4	27.4	29.0	↘→	↗	↗	↗	↗
Exports	109.0	132.8	134.3	143.0	139.1					
Imports	-99.6	-123.9	-125.8	-137.6	-137.0					
Singapore						Private consumption	Public spending	Capital formation	Net Exports	
Private consumption	45.1	46.8	44.0	43.5	40.2					
Public spending	14.3	10.4	9.9	9.3	8.5					
Total fixed capital formation	42.2	31.1	31.7	35.7	34.4	↘	↘	↘↗	↗	
Exports	-2.4	8.9	9.1	12.0	18.9					
Thailand						Private consumption	Public spending	Capital formation	Exports	Imports
Private consumption	65.3	56.7	55.9	54.4	54.3					
Public spending	14.1	10.0	9.4	10.0	10.1					
Total fixed capital formation	23.7	30.7	40.2	39.3	39.2	↘	↘→	↗→	↗	↗
Exports	24.2	33.0	34.0	36.3	39.0					
Imports	-27.0	-34.4	-41.5	-40.5	-43.8					
Malaysia						Private consumption	Public spending	Capital formation	Exports	Imports
Private consumption	52.0	49.4	52.6	51.5	50.1					
Public spending	15.3	14.3	14.0	13.1	13.0					
Total fixed capital formation	29.8	24.1	32.4	34.3	38.2	→	↘	↗	↗	↗
Exports	54.9	67.6	76.3	77.7	89.8					
Imports	-49.7	-57.2	-74.2	-75.6	-91.4					
Indonesia						Private consumption	Public spending	Capital formation	Exports	Imports
Private consumption	59.0	57.0	54.4	52.3	56.5					
Public spending	11.2	9.0	9.0	9.5	8.2					
Gross capital formation	28.0	31.5	36.1	35.9	34.0	↘	↘	↗→	↗	↗
Exports	22.2	24.4	26.6	29.4	25.1					
Imports	-20.4	-21.9	-26.0	-27.1	-23.8					
Philippines.						Private consumption	Public spending	Capital formation	Exports	Imports
Private consumption	73.6	69.9	71.2	75.4	74.6					
Public spending	7.6	9.0	10.1	9.7	10.0					
Total fixed capital formation	17.5	17.8	23.1	20.9	24.8	→	↗	↗	↗	↗
Exports	24.0	28.4	27.5	29.1	33.9					
Import	-21.9	-26.9	-33.3	-34.0	-41.6					
China						Total consumption		Capital formation	Custom exports	Custom imports
Total consumption	66.0	63.9	62.1	61.6	57.3					
Total investments	38.7	37.5	35.2	37.2	40.8					
Exports (custom statistics)	9.3	12.1	16.0	17.1	22.2	↘		↗	↗	↗
Imports (custom statistics)	-14.4	-14.1	-13.7	-16.3	-21.2					

Note: 1. The fluctuations in the level of stockpiling are calculated into the total capital formation in Indonesia, and into the total investment in China. These items are deleted in the figures for other countries or regions.
2. For China, the numerical value used of the imports/exports was obtained through custom statistics base.

Source: IMF, *International Financial statistics,* various issues.
Taiwan parliament Economic Construction Committee, *"Free Chinese Industry"*, various issues.
Hong Kong Government Statistics, *"Hong Kong Statistics Yearbook"*, 1995 edition.
Chinese national Statistics Agency, *"Chinese Statistics yearbook"*, 1995 edition.