

Shifting Patterns of U.S. Trade with Selected Developing Asian Economies

The United States is running substantial trade deficits with the four Asian economies of Taiwan, South Korea, Malaysia, and Thailand. The U.S. imbalances with Taiwan and South Korea are quite large, although they have narrowed over the past two years. This narrowing in part reflects significant currency appreciation against the U.S. dollar. The U.S. trade deficits with Malaysia and Thailand, while much smaller, have grown rapidly since 1987. The increasing U.S. deficits with these two countries stem from the rapid development of the Malaysian and Thai manufacturing sectors as well as gains in their price competitiveness relative to Taiwan and South Korea in the late 1980s.

This article examines the evolution of the U.S. trade balance with these four Asian economies. The first part of the article describes export and import trends, highlighting shifts in U.S. trade flows with the four individual economies. Particular attention is given to the changing composition of U.S. trade with the economies as a group and with each economy individually over the decade of the 1980s. Changes in market shares of U.S. exports and imports are used to determine how the competitiveness of different U.S. and Asian manufacturing sectors has evolved over time. The market share analysis also shows how U.S.-Asian bilateral trade developments both affected and were affected by the trade of other countries. The second part of the article considers price movements and other factors underlying the 1980s trade balance changes. Developments in Asian cost and supply capacity are examined. The article concludes with some remarks on the implications of the U.S.-Asian trade developments for U.S. global trade balance adjustment.

Overall, the analysis suggests that changes in Asian competitiveness led to a mounting U.S. trade deficit with these four economies during the 1980s. Although this deficit has recently declined, it remains much larger than it was at the beginning of the decade. Favorable price developments and high investment rates, among other factors, explain the strong Asian trade performance. Along with these competitiveness factors, developments in both capital goods and consumer goods trade have helped keep the U.S. trade deficit high. Taiwan and South Korea rapidly developed their capital goods industries during the 1980s, boosting their overall export sales and offsetting some of the weakness in their consumer goods sales since 1987. Malaysia and Thailand, on the other hand, rapidly developed their consumer goods industries in the 1980s. Consequently, they were in a good position to benefit from the recent slowdown in Taiwan's and South Korea's consumer goods sales. Two other factors contributed to the Asian trade surplus with the United States during the 1980s: U.S. capital goods exports to the Asian economies faced stiff competition from Japanese exports, while the operations of Asian subsidiaries of U.S. multinational corporations supported Asian sales to the United States.

U.S. trade flows with the Asian economies

Overview of trade balance developments

Much discussion has focused on the large trade balance deficits that the United States has been running with the four Asian NICs (newly industrialized countries) of Taiwan, South Korea, Hong Kong, and Singapore during the 1980s. U.S. trade deficits with

Malaysia and Thailand have received considerably less attention. Although Malaysian and Thai trade flows with the United States are still significantly smaller than U.S. trade flows with each of the four NICs (Table 1), these two economies have been rapidly expanding their trade with the United States in recent years. U.S. imports from Malaysia and Thailand have grown much faster than U.S. imports from any of the other four Asian economies since 1987, and the U.S. trade deficits with Malaysia and Thailand are now larger than the U.S. trade deficit with Singapore.

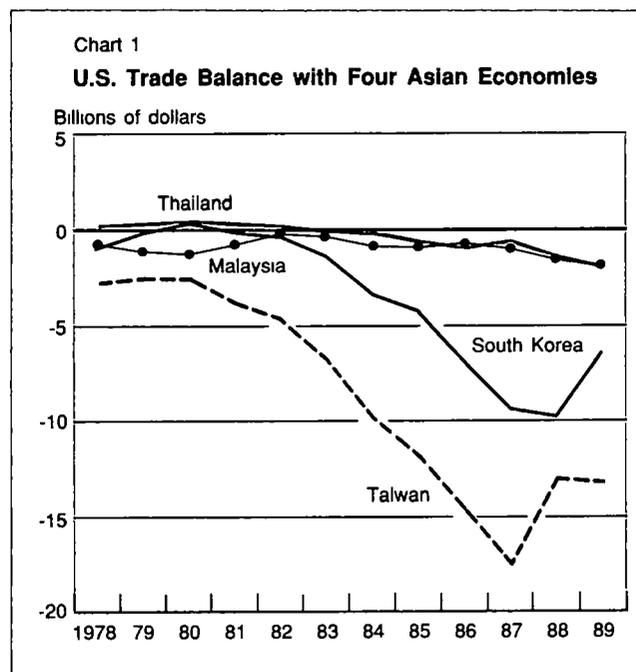
This study analyzes U.S. trade with Malaysia, Thailand, and two of the NICs—Taiwan and South Korea. U.S. trade with Hong Kong and Singapore is not discussed. Despite the substantial U.S. trade flows with these latter two economies, Hong Kong and Singapore are much more limited in terms of resources—population, land area, and in Singapore's case, GNP—and consequently less important in terms of potential trade growth than Taiwan, South Korea, Malaysia, and Thailand. Moreover, a large share of U.S. trade with Hong Kong and Singapore is based on the entrepôt roles of the two island economies and thus depends on conditions in economies other than those of Hong Kong and Singapore themselves. Most notably, Singapore is an entrepôt for Malaysian trade with other countries.

The U.S. trade deficit with Taiwan and South Korea grew sharply from 1982 until 1987 (Chart 1). By 1987 the combined U.S. trade deficit with these two economies reached \$27 billion. It has since fallen back to \$20 billion, a level still almost four times that of the U.S. deficit in 1982.¹ The U.S. trade deficit with Malay-

sia and Thailand grew sharply in 1988 and 1989, the two years when the Taiwanese and South Korean trade surplus declined. In 1989 the combined U.S. trade deficit with Malaysia and Thailand reached \$4 billion. In consequence, the overall U.S. trade deficit with the four Asian economies equaled \$24 billion last year, accounting for almost one-quarter of the total U.S.

Footnote 1 continued

rather than the 1987-88 change gives a more accurate picture of underlying trade flow developments.



¹The U.S. deficit with Taiwan fell sharply in 1988, in part because of inordinately large Taiwanese gold purchases from the United States. Given the unusual nature of these gold purchases, analyzing the 1987-89 change in Taiwan's trade balance with the United States

Table 1

Characteristics of Selected Asian Economies

	1988 Population (Millions)	Land Area (Thousands of Square Kilometers)	1988 GNP (Billions of Dollars)	1989 Exports to the United States (Billions of Dollars)	1989 Imports from the United States (Billions of Dollars)	1989 Trade Balance with the United States (Billions of Dollars)
Taiwan	20	35.9	120	24.2	11.0	13.2
South Korea	42	99.1	169	19.6	13.2	6.4
Malaysia	17	329.7	33	4.7	2.7	2.0
Thailand	55	542.4	57	4.4	2.2	2.1
Hong Kong	6	1.1	54†	9.7	5.9	3.8
Singapore	3	0.6	25†	8.9	7.0	1.9

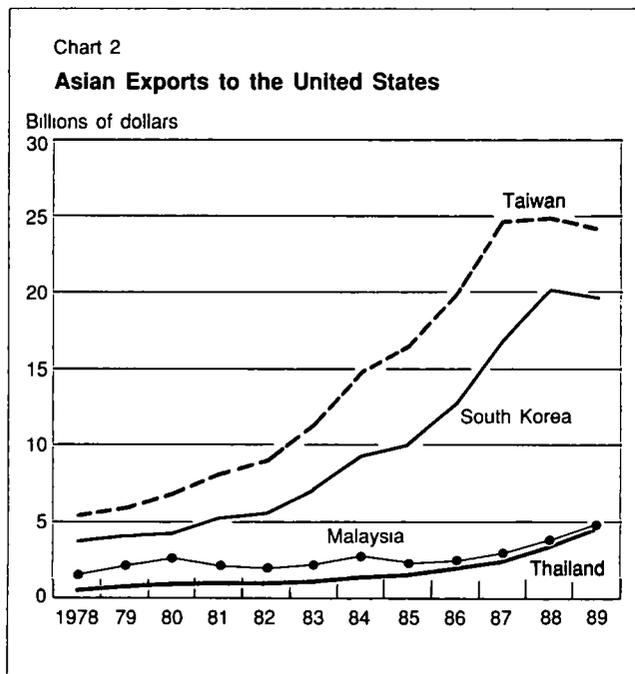
†Figures for Hong Kong and Singapore refer to GDP

trade deficit with the world.² The next two sections will examine the Asian export and import developments that lay behind this Asian trade balance performance.

Asian export developments

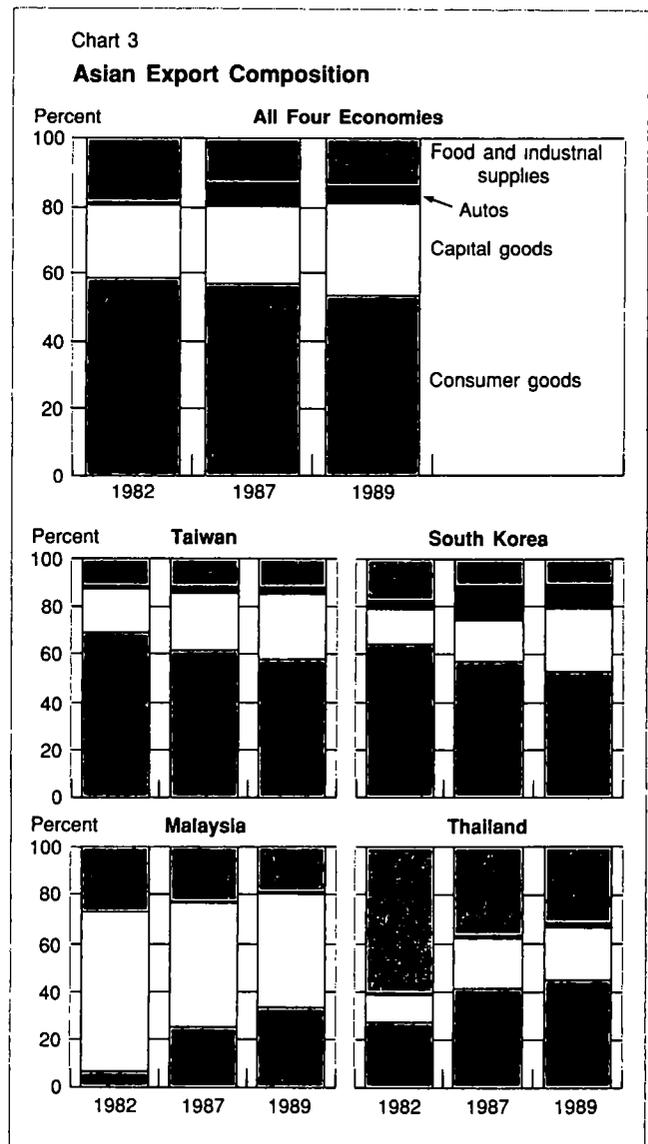
Asian exports to the United States tripled between 1982 and 1989 (Chart 2). Spurred by soaring Taiwanese and South Korean export sales, export growth was strongest during the 1982-87 period. In 1988 and 1989, growth slowed markedly as Taiwanese and South Korean sales weakened. Nevertheless, two factors tempered this late 1980s slowdown in growth. Malaysian and Thai exports to the United States actually surged during the last two years, and the development of very strong Taiwanese and South Korean capital goods export industries during the 1980s helped keep the exports of these two economies relatively high in 1988 and 1989. Because of these developments, all four Asian economies showed a very impressive market share performance in the U.S. economy. In the sectors in which the Asian performance did falter somewhat in the late 1980s, exporters from other countries stepped in to replace all the forgone Asian sales. Consequently, the slowdown in the exports of the Asian economies since 1987 had relatively little overall

²The global trade surpluses of Taiwan, South Korea, and Malaysia in 1989 were \$14 billion, \$4 billion, and \$3 billion (Malaysian estimate based on data through 1989-III), respectively. Thailand had a global trade deficit of \$5 billion in 1989.



impact on the U.S. global trade balance. These developments are described in greater detail in the rest of this section.

Over the course of the 1980s, the combined sales composition of the four Asian economies to the United States showed relatively little change (Chart 3). In 1982, consumer goods accounted for almost 60 percent of the Asian economies' combined exports to the United States. Despite the tripling of Asian export sales over the 1980s, in 1989 these goods accounted for only a modestly lower percentage. Capital goods accounted for just over 20 percent of the combined Asian exports to the United States in 1982 and only a slightly higher



percentage in 1989.

Individually, however, Taiwan and South Korea experienced a substantial movement away from consumer goods exports during the 1980s. In 1982, labor-intensive consumer goods dominated Taiwanese and South Korean sales to the United States. As Taiwan and South Korea developed, capital goods, especially computer equipment and other high-tech goods, increased significantly as a share of each economy's exports, while consumer goods declined.³ This shift was most pronounced in 1988 and 1989, the two years when overall Taiwanese and South Korean export growth slowed. Taiwanese consumer goods sales actually fell over these two years, after growing at double digit rates earlier in the decade, while growth in South Korean consumer goods sales was extremely weak.

Shifts in the composition of Malaysian and Thai exports during the 1980s were even sharper than those in the composition of Taiwanese and South Korean exports. Although Malaysia's domestic economy was still based on natural resources in 1982, capital goods surprisingly accounted for about two-thirds of Malaysian exports to the United States that year.⁴ These capital goods exports consisted almost entirely of electronic components made by the subsidiaries of U.S. multinational corporations (Table 2). Thailand's export composition in 1982 was more typical of that of a developing country: commodities based on natural resources accounted for about two-thirds of Thai exports. As the 1980s progressed, however, both Malaysia and Thailand moved increasingly into consumer

³Automobiles also increased sharply as a share of South Korean exports in the 1980s. Strike activity in the South Korean automobile industry in the late 1980s contributed significantly to the slowdown in South Korean exports during the past two years.

⁴The high share of capital goods in part reflects a sharp fall in the price of Malaysian commodity exports in 1982. Commodities were a much higher share of Malaysia's exports in 1981 than in 1982.

Table 2

Share of U.S.-Asian Trade Flows Accounted for by Subsidiaries of U.S.-Owned Multinational Corporations in the Four Asian Economies, 1987

(Percent)

	Taiwan	South Korea	Malaysia	Thailand
Asian exports	5.4	4.8	59.2	15.1
Asian imports	6.9	9.0	61.7	21.4

Source: U.S. Department of Commerce, *U.S. Direct Investment Abroad: Operations of U.S. Parents and Their Foreign Affiliates*.

goods exports.⁵ A substantial Malaysian and Thai presence in the international textile and apparel industry developed during this period. Malaysia's and Thailand's shift toward consumer goods allowed both economies to benefit from the weakening Taiwanese and South Korean consumer goods export performance in 1988 and 1989. In fact, Malaysian and Thai consumer goods exports doubled over these two years. Although Malaysian and Thai capital goods exports also grew rapidly, burgeoning consumer goods sales were the largest contributor to overall Malaysian and Thai export growth in the late 1980s.

Reflecting export developments in all four Asian economies, total exports of capital goods to the United States have grown briskly over the entire 1980s period. Total exports of consumer goods grew rapidly until 1987 but slowed in 1988 and 1989 as soaring growth rates for Malaysian and Thai consumer goods exports only partially made up for the slowdown in growth of Taiwanese and South Korean sales (Table 3).

A review of market share changes in the U.S. economy will place these export developments in a broader perspective. Market share performance is a good measure of the competitiveness of different market participants because it abstracts from the increase in sales of all market participants arising from U.S. demand growth. Market share analysis also has implications for U.S. trade balance adjustment with the world since it shows whether changes in the exports of the four Asian economies have been offset by changes in the sales of other exporters to the United States or by changes in the sales of U.S. domestic producers.

The four Asian economies as a group actually doubled their market share for both capital goods and consumer goods in the U.S. economy between 1982 and 1987 (Table 4). Their market share for capital goods grew further in 1988 and 1989 despite some slowdown in labor-intensive capital goods exports (such as fans and pumps) sold by Taiwan.⁶ The market share held by the Asian economies for consumer goods, however, fell in 1988 and 1989. Still, it only dropped back to about where it was in 1986 and remained far ahead of its 1982 position.

⁵Some of the recorded growth in consumer goods exports reflected a reclassification of certain electronic goods from the capital goods to the consumer goods category in the U.S. trade data rather than an actual change in export composition. Most of the growth, however, reflected the development of Malaysia's and Thailand's consumer goods industries.

⁶Malaysia's relatively weak market share gain for capital goods during the 1980s reflects the already well established presence of U.S. multinational corporations in Malaysia in 1982. A reclassification of certain electronics products from capital goods to consumer goods in U.S. trade data from 1983 on also tended to overstate Malaysia's market share for capital goods in 1982 relative to its share in later years.

These Asian market share developments, in conjunction with developments in the market share of all exporters to the United States, do not offer an encouraging outlook for the global adjustment of the U.S. trade balance. The continued growth in the Asian economies' market share for capital goods in 1988-89, in part stemming from the operations of U.S. multinational corporations, indicates that U.S. demand for these Asian products has not weakened. Moreover, since the Asian economies accounted for a steady proportion of total U.S. capital goods imports during the last two years, their recent market share gain appears to have come at the expense of U.S. producers rather than that of other exporters selling to the United States. In addition, although the Asian economies' market share for consumer goods has recently declined, U.S. consumer goods imports from all countries appear to have lost no significant market share since 1987. Consequently, the market share loss of the Asian economies has apparently benefited other consumer goods exporters to the United States rather than U.S. consumer goods producers.

Asian import developments

On the import side, Asian purchases from the United States more than doubled from 1982 until 1989. In contrast to the late 1980s slowdown in exports, Asian import growth was much faster in 1988 and 1989 than it had been in the preceding five years (Chart 4). Also in contrast to Asian exports, Asian imports have shown only slight differences in composition, both across economies and across time. Capital goods and food and industrial supplies accounted for most of the Asian purchases from the United States throughout the 1980s. A major similarity between Asian export devel-

opments and Asian import developments has been that U.S. capital goods producers have faced significantly stiffer competition than U.S. consumer goods producers in both the U.S. and Asian markets.

Table 4

Market Share in the United States

(Percent, Not Seasonally Adjusted)

	Capital Equipment		
	1982†	1987	1989-I to 1989-III
Market share belonging to			
Taiwan	0.80	2.06	1.89
South Korea	0.39	1.03	1.45
Malaysia	0.57	0.50	0.61
Thailand	0.05	0.16	0.26
Above four economies	1.81	3.76	4.22
All U.S. imports	17.77	29.17	32.38
	Consumer Goods		
	1982†	1987	1989-I to 1989-III
Market share belonging to			
Taiwan	1.13	2.18	1.78
South Korea	0.67	1.38	1.32
Malaysia	0.02	0.11	0.18
Thailand	0.04	0.13	0.23
Above four economies	1.87	3.79	3.51
All U.S. imports	7.35	12.67	12.63

Note: Capital equipment does not include transportation equipment.

†A change in the trade classification of certain electronic products makes 1982 data not entirely compatible with later data. This reclassification mainly affects Malaysian exports and explains the apparent loss of Malaysian market share in capital goods between 1982 and 1987.

Table 3

Change in U.S. Trade Flows with Four Asian Economies from 1987 to 1989

(Billions of Dollars)

	Taiwan	South Korea	Malaysia	Thailand	Total	Annualized Percent Change
Asian exports						
Total	-0.4	2.7	1.8	2.1	6.2	6
Food and industrial supplies	0.0	0.2	0.2	0.5	1.0	8
Capital goods	0.7	2.0	0.7	0.5	3.9	17
Autos	0.1	-0.4	0.0	0.1	-0.2	-4
Consumer goods	-1.2	0.8	0.8	1.1	1.5	3
Asian imports						
Total	4.0	5.7	0.8	0.8	11.3	28
Food and industrial supplies	1.3	2.6	0.1	0.3	4.4	21
Capital goods	1.4	2.4	0.7	0.1	4.6	28
Autos	0.6	0.0	0.0	0.0	0.7	176
Consumer goods	0.3	0.3	0.0	0.1	0.7	37

Note: Components may not add to totals because of rounding and exclusion of "other" subcategory.

U.S. food, industrial supplies, and capital goods exports accounted for about 90 percent or more of total U.S. exports to each of the four Asian economies in both 1982 and 1987 (Chart 5). Capital goods were about 35 percent of U.S. sales to Taiwan and South Korea, 50 percent of U.S. sales to Thailand, and over 75 percent of U.S. sales to Malaysia throughout the

period. Commodities accounted for most of the remaining U.S. sales. The high share of exports of U.S. capital goods to Malaysia primarily represented shipments by U.S. multinational firms of electronic components for processing in their Malaysian subsidiaries (Table 2).

The composition of U.S. exports continued to show relatively little change in 1988 and 1989, despite the substantial pickup in U.S. export sales. U.S. exports of consumer goods and especially automotive products grew extremely rapidly (Table 3), but growth was from a very small base. Capital goods and commodities, consequently, continued to account for over 85 percent of U.S. export sales to each of the Asian economies.⁷

In terms of market share developments in the Asian

⁷This calculation excludes a relatively large group of 1989 U.S. exports that have not been classified.

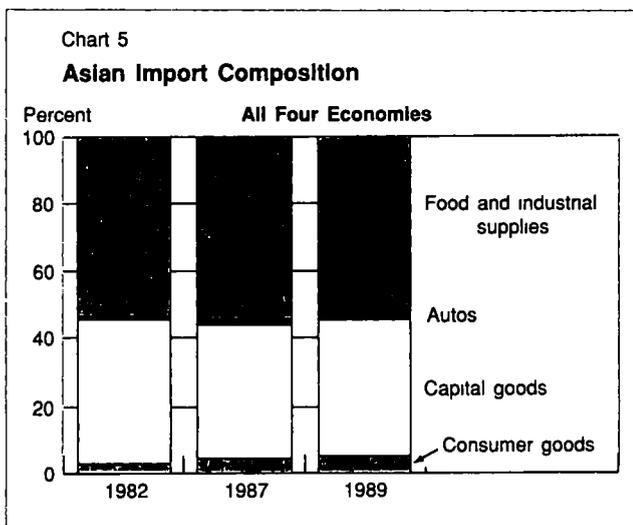
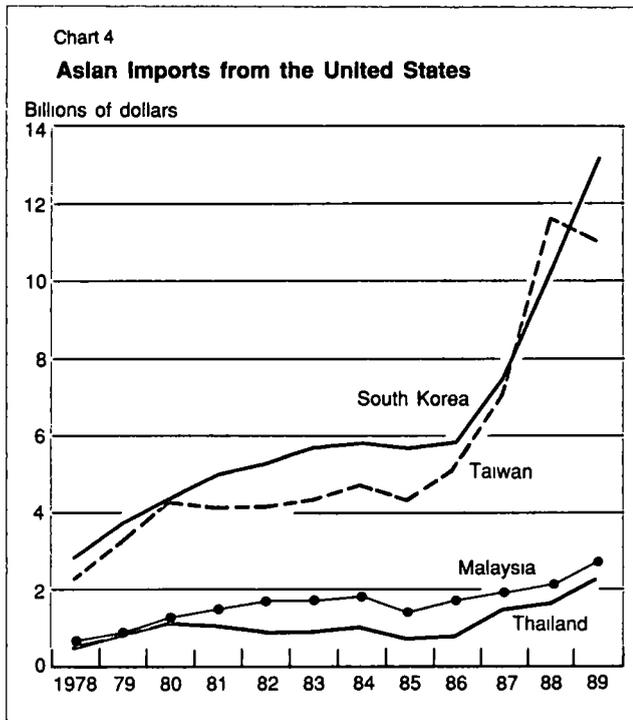


Table 5

Market Share in the Asian Economies

Four Asian economies combined	1982	1987	1988
Private consumption expenditures			
U.S. market share	0.3	0.5	0.6
Market share for imports from all sources	5.9	4.7	5.1
U.S. share of consumer goods imports	5.3	10.2	12.2
Capital equipment expenditures			
U.S. market share†	27.4	17.3	17.9
Market share for imports from all sources†	60.1	68.7	67.9
U.S. share of capital equipment imports	40.0	26.9	25.0
Taiwan	1982	1987	1988
Private consumption expenditures			
U.S. market share	0.5	0.9	1.2
Market share for imports from all sources	5.1	5.2	6.4
U.S. share of consumer goods imports	10.4	17.5	18.3
Capital equipment expenditures			
U.S. market share	23.6	23.7	24.6
Market share for imports from all sources	38.0	59.1	60.6
U.S. share of capital equipment imports	62.1	40.1	40.6
Automotive products			
U.S. market share	3.0	10.8	25.3
Market share for imports from all sources	48.2	44.2	66.1
U.S. share of automotive imports	20.8	24.4	38.7

Note: Capital equipment does not include transportation equipment.

†The market share data are for Taiwanese and South Korean markets only.

economies, U S consumer goods and automotive producers performed substantially better than U S capital goods producers (Table 5), a result analogous to the findings on market share developments in the U S economy⁸ The market share held by the United States for consumer goods in the Asian economies doubled between 1982 and 1988 Most of the U S gain occurred in 1987 and 1988, with relatively little change in the U S share between 1982 and 1986 The United States also sharply gained market share for automotive products in Taiwan after 1982⁹ (Of the four economies,

⁸Some U S exports to Malaysia may enter through Singapore and thus may not be included in the U S market share figure for Malaysia

⁹This market share analysis is based on purchases of transportation equipment by Taiwanese industry Data on Taiwanese private consumer purchases of automobiles are not available

Table 5

**Market Share in the Asian Economies
(continued)**

	1982	1987	1988
South Korea			
Private consumption expenditures			
U S market share	0.2	0.3	0.4
Market share for imports from all sources	1.6	2.9	2.6
U S share of consumer goods imports	13.7	11.7	17.1
Capital equipment expenditures			
U S market share	31.5	13.9	14.4
Market share for imports from all sources	83.8	73.8	71.6
U S share of capital equipment imports	37.6	18.9	20.1
Malaysia			
Private consumption expenditures			
U S market share	0.4	0.3	0.3
Market share for imports from all sources	27.0	14.0	17.5
U S share of consumer goods imports	1.6	2.0	1.8
Capital equipment			
U S share of capital equipment imports	35.8	45.7	35.4
Thailand			
Private consumption expenditures			
U S market share	0.2	0.2	0.3
Market share for imports from all sources	2.4	3.4	3.1
U S share of consumer goods imports	7.5	7.3	9.8
Capital equipment			
U S share of capital equipment imports	24.6	18.0	13.0

Note: Capital equipment does not include transportation equipment

only Taiwan has an automotive market in which the United States has significant sales.) The increase in automotive market share was particularly dramatic in 1988.

U S capital goods exports performed much less successfully, losing 35 percent of their market share for total Asian capital equipment expenditures between 1982 and 1988¹⁰ This loss basically reflects the sharp drop in U S market share in South Korea, the Asian economy which has most rapidly built up its own domestic capital goods sector Although the United States achieved a slight increase in market share in Taiwan, the gain was much smaller than the U S market share gains for consumer goods or automotive products in Taiwan Data are not available to compute changes in the market share held by U S capital goods producers in Malaysia or Thailand Trade statistics show, however, that the U S share of total Malaysian capital goods imports has been quite volatile and that the U S share of total Thai capital goods imports has fallen steadily since 1982 In fact, the U S share of total capital goods imports in all four Asian economies combined fell 38 percent between 1982 and 1988 This loss in import share implies that other exporters (notably Japan, the other chief supplier of capital goods to these economies) were prime beneficiaries of the weak U S capital goods performance¹¹

Overall, market share developments in the Asian economies, like market share developments in the U S economy, do not suggest a favorable outlook for U S global trade balance adjustment U S consumer goods producers have done fairly well in the Asian economies in recent years, but U S consumer goods exports remain relatively small in dollar terms In contrast, U S capital goods producers face stiff competition in the

¹⁰Part of the poor U S capital goods performance may be due to price rather than volume factors As the U S dollar depreciated over the 1985-88 period, the price of products from Taiwan, South Korea, and other exporting countries rose in dollar terms Although it is important from an output perspective to separate price from volume changes, the above analysis concentrates on overall nominal market share since it is nominal trade balances that must be financed or adjusted Moreover, dollar translation effects would have had an impact on consumer goods and automotive market share developments as well Yet in these two areas U S producers did very well

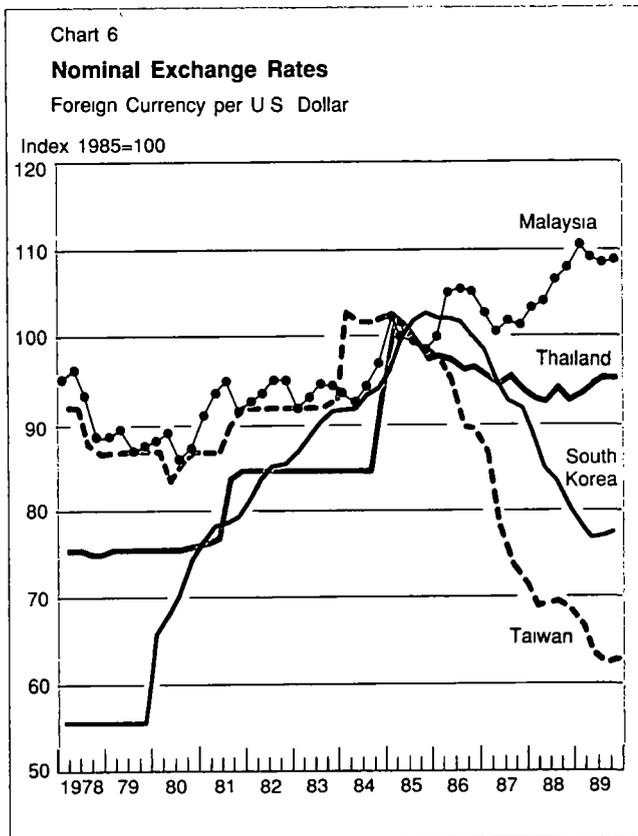
¹¹Foreign direct investment often leads to capital goods exports from the country of the investor But the decreasing share of U S products in the total capital goods imports of the Asian economies does not appear to result from changes in the relative magnitude of U S direct investment flows to these economies The ratio of U S direct investment flows during 1981-82 to the Asian economies' total 1982 capital goods imports was roughly the same as the ratio of U S direct investment flows in 1987-88 to the Asian economies' capital goods imports in 1988 (under 10 percent in both cases) Consequently, U S direct investment appears to have played a minor role in U S capital goods exports to these economies, both in 1982 when the United States accounted for 40 percent of total capital goods imports and in 1988 when the United States accounted for only 25 percent of total capital goods imports

Asian economies, owing in significant part to the success of other exporters to these economies.

Factors behind the changing U.S. trade balance with the four Asian economies

The following sections examine the factors underlying U.S. trade developments with the four Asian economies over the 1980s. The analysis uses exchange rate movements, labor productivity and labor cost developments, supply capacity growth, and trade policy changes to explain the sharp rise and recent modest reduction in the U.S. trade deficit with these economies.¹² The findings suggest that in the early 1980s all four Asian economies became significantly more competitive. In the late 1980s Malaysia and Thailand continued to gain price competitiveness and were in a

¹²Differences in GDP growth rates between the United States and the Asian economies give rise to differences in import demand and thus may account for part of the observed trade balance trends. Throughout the 1980s, however, average annual GDP growth rates in the Asian economies remained roughly two to two and one-half times the GDP growth rate in the United States. These higher Asian growth rates alone would have been a source of U.S. trade balance improvement during the 1980s. This section, therefore, focuses on the exchange rate and other factors more closely linked to the U.S.-Asian trade balance deterioration in the 1980s.



strong supply position to take advantage of their gains. At the same time, Taiwan and South Korea lost substantial price competitiveness, in large part because of currency changes, rising labor costs, and trade policy developments both at home and in the United States. Nevertheless, Taiwan and South Korea remain in a strong competitive position relative to the United States.

Exchange rates

Exchange rate movements have helped determine the pattern of price competitiveness shown by the Asian economies. The currencies of all four economies depreciated substantially against the U.S. dollar from 1980 through 1985 (Chart 6).¹³ The New Taiwan dollar depreciated 16 percent, the South Korean won 43 percent, the Malaysian ringgit 14 percent, and the Thai baht 33 percent during this period.¹⁴ Because changes in exchange rates affect trade balances over a period of time, these depreciations contributed significantly to the \$23 billion deterioration in the U.S. trade balance with the Asian economies between 1982 and 1987. In particular, the very large South Korean depreciation was an important factor behind the emergence of that economy's \$9 billion surplus with the United States during the mid 1980s. The Thai depreciation was also large, but the Thai trade surplus increased by only about \$1 billion during this period because the depreciation was partially offset by the falling price of Thailand's raw commodity exports.

During the post-1985 period the performances of the Asian currencies against the U.S. dollar were much more varied. The New Taiwan dollar and South Korean won sharply appreciated against the U.S. dollar over the last four years. This appreciation was a prime factor behind the decline in the U.S. trade deficit with these two economies in the late 1980s. The New Taiwan dollar appreciated 36 percent against the U.S. dollar between 1986 and 1989, rising above its 1980 level. The South Korean won, however, appreciated only 23 percent against the U.S. dollar over the same period, remaining below its 1980 level. The differences in currency appreciation in part explain why the recent U.S.

¹³Real exchange rates adjust the nominal exchange rate for differences in rates of inflation. Explicit real exchange rate comparisons are not presented here because of significant differences between the United States, Taiwan, South Korea, and Thailand in the composition of the price indexes used to measure inflation in traded goods and because of the lack of any comparable index for Malaysia. Thus, the discussion focuses on the movements in nominal exchange rates only. The next section focuses on movements in manufacturing production costs.

¹⁴These calculations are based on year-average exchange rate levels. The exchange rate movements are measured as changes in the values of the Asian currencies per U.S. dollar.

trade balance improvement was smaller with South Korea than with Taiwan

As for Malaysia and Thailand, the Malaysian ringgit continued to depreciate against the U.S. dollar from 1985 through 1989 while the Thai baht showed only a modest appreciation. These changes kept Malaysia and Thailand competitive with U.S. producers and, more important, made these two economies much more competitive relative to Taiwan and South Korea than they had been earlier in the decade. Malaysia and Thailand were therefore able to capture sales in the United States at the expense of the other two Asian economies

Labor productivity and labor costs

The relatively low wages in the manufacturing sectors of the Asian economies have been another important source of their price competitiveness. Data on labor compensation throughout the 1980s for all four of the economies are not available. Data for 1988, however, show that each of the economies continued to have a wage rate only between 6 and 19 percent of the U.S. level (Table 6).¹⁵ Moreover, labor productivity growth

(measured by value added per employee) in the Asian economies averaged about 5 percent during the 1980s and, with the exception of Thailand, matched or exceeded that of the U.S. manufacturing sector.¹⁶ Consequently, labor productivity and cost developments were an important determinant of the rise in the Asian economies' trade surpluses with the United States in the 1980s.

A comparison of developments across the four Asian economies reveals, however, that substantial labor cost divergences have begun to appear in recent years. Like exchange rate movements, these late 1980s labor cost developments have played a significant role in the increase in the U.S. deficit with Malaysia and Thailand and in the decline in the U.S. trade deficit with Taiwan and South Korea, notably in the labor-intensive consumer goods area. Since 1985, labor productivity growth in Malaysia and Thailand has continued to match the productivity growth rates of Taiwan and

¹⁵The hourly compensation figures listed in Table 6 include nonsalary compensation for the United States, Taiwan, and South Korea, but not for Malaysia or Thailand. This difference in coverage gives a modest downward bias to Malaysian and Thai labor costs measured relative to those of the other economies

¹⁶Labor productivity growth is measured as growth in value added per employee. This measure is available for each of the four Asian economies. An alternative measure that is commonly used is total output per hour, but this measure is not available for Thailand and Malaysia. In South Korea, the two measures yield significantly different results: the annual growth of total output per hour is 15 percent while the annual growth in value added per employee is 5.1 percent. This discrepancy appears to stem from the difference in the measurement of labor input.

Table 6

Indicators of Asian Manufacturing Competitiveness

	Hourly Compensation			Output Per Employee		
	1988 Level (U.S. Dollars)	1988 Hourly Compensation Relative to U.S. Level	1986-88 Average Annual Growth (In Local Currency Terms, Percent)	1988 Level (Measured in 1980 U.S. Dollars)	1988 Level Relative to U.S. Level	1986-88 Average Annual Growth (Percent)
Taiwan	2.71	19	10.2	10539	26	6.9
South Korea	2.52	18	14.9	9162	23	5.1
Malaysia	.81	.06	2.5	8561	21	6.4
Thailand	.86	.06	5.9	4844	12	4.7
United States	13.90	1.00	3.1	40307	1.00	3.9

Sources: The hourly compensation data for Taiwan and South Korea are taken from the Bureau of Labor Statistics. For Thailand, the hourly compensation data are from the Bank of Thailand, *Annual Report*, and for Malaysia, from the Malaysian Industrial Development Authority and Bank Negara Malaysia, *Annual Report*. Data on output per employee are taken from Asian Development Bank, *Key Indicators*.

Notes: Data for Taiwan and South Korea include nonwage compensation. The compensation figure for Malaysia is the average wage of selected semiskilled operatives in the electronics and textile industries and does not include nonwage compensation. The average annual growth in Malaysian wages is based on negotiated wage settlements in the manufacturing sector. Data on wage levels of manufacturing workers in Thailand do not include nonwage compensation. Because data on manufacturing wage growth in Thailand are not available, the growth rate of wages of government workers is shown in the table. For the 1986-88 period it is roughly the average of the 1.5 percent growth in the minimum wage rate and the larger growth in wages of all nonagricultural workers. Anecdotal evidence suggests that this average is fairly representative of the Thai manufacturing sector.

Output per employee was computed by converting value added per employee into U.S. dollars at 1980 exchange rates and multiplying by the rate of productivity growth between 1980 and 1988.

South Korea.¹⁷ But recent labor cost trends (measured in local currency terms) have substantially improved the price competitiveness of both the Malaysian and the Thai manufacturing sectors relative to that of the manufacturing sectors in the other two Asian economies.

Although Taiwan and South Korea still maintain a cost advantage, they have recently lost price competitiveness against the United States as well as against Malaysia and Thailand. This loss was largely due to rapid wage growth (again, measured in local currency terms), which significantly outpaced increases in labor productivity. Nevertheless, in 1988 Taiwanese and South Korean wage rates were still only about one-fifth those of manufacturing production workers in the United States while productivity levels were about one-quarter those in the United States. As a result, Taiwanese and South Korean unit labor costs remained very competitive relative to those in the United States.

Manufacturing production capacity

Labor and capacity supply constraints are important economic concerns for rapidly growing economies. Although the four Asian economies have differed in labor market conditions, they all appear to have substantially increased their manufacturing supply capacities during the 1980s, making a rapid expansion of their exports to the United States possible. Investment and savings rates have been very high in the four economies, particularly compared with the United States (Table 7). The high Asian investment rates have been an important factor supporting both the rapid output growth rates and the strong labor productivity performances of these economies during this period.

¹⁷Malaysia's labor productivity was almost equal to Taiwan's and South Korea's in the 1980s, in large part because of the high value added per employee in Malaysia's semiconductor and refined petroleum industries

One significant aspect of the 1980s increase in supply capacity in the Asian economies has been the role played by multinational corporations, which supply direct access to foreign markets. Foreign direct investment in the four Asian economies, already substantial between 1982 and 1986, picked up sharply in 1987 and 1988. The United States and Japan accounted for most of the foreign direct investment in these two years (Table 8), although Taiwan and South Korea have recently become sources of sizable foreign direct investment in the manufacturing sectors of Malaysia and Thailand.¹⁸ Investors from Taiwan and South Korea have been attracted to Malaysia and Thailand as production locations by their relatively low labor costs and lack of significant currency appreciation and by the incentives offered foreign investors, particularly in

¹⁸A significant decline in the US investment position in the Thai petroleum industry offset increased US investment inflows in other industries, resulting in no net inflows from the United States to Thailand for this period

Table 8

Foreign Direct Investment Inflows in 1987 and 1988 Combined (Billions of Dollars)

	Total	From the United States	From Japan
Taiwan	1.7	0.7	0.7
South Korea	1.5	0.5	1.1
Malaysia	1.1	0.3	0.6
Thailand	1.5	0.0	0.6
Above four economies	5.8	1.5	3.0

Source: Japanese data are drawn from survey results reported by the Ministry of Finance

Note: Data for Japan are based on fiscal rather than calendar year

Table 7

Measures of Capacity in the Four Asian Economies

	Unemployment Rate in 1988	Employment in Manufacturing in 1988 (Thousands)	Annual Average Ratio of Gross Fixed Capital Formation to GDP, 1982-88	Average Annual Ratio of Gross National Savings to GDP, 1982-88	Average Annual Growth in Manufacturing Output, 1986-88
Taiwan	1.7	2798	21.0	34.5	10.0
South Korea	2.5	4667	30.2	28.9	11.9
Malaysia	8.1	1013	29.8	27.5	8.9
Thailand	5.8	2760	23.8	21.5	8.3
United States	5.5	19366	17.4	13.4	5.7

Sources: Asian Development Bank, *Key Indicators*, and Bank of Thailand, *Annual Economic Report*

Malaysia.¹⁹

Of the four economies, Taiwan currently appears to face the tightest supply constraints, notably on the labor side, while Malaysia and Thailand appear to be least constrained. The low unemployment rate in Taiwan suggests that virtually no additional Taiwanese labor is now available. On the capital side, Taiwan has the lowest domestic investment rate of the four economies because much of its relatively large savings is being invested abroad. South Korea continues to maintain impressive levels of savings and investment. Although its unemployment is relatively low, South Korea also does not appear to have as serious a labor constraint as Taiwan. Savings and investment rates are high in both Malaysia and Thailand. These economies, moreover, appear to have relatively ample labor supplies. Industrial development in Thailand has been hindered to some extent by the strains on infrastructure caused by the tight concentration of manufacturing plants in the Bangkok area. However, Thailand's strong investment performance and efforts to spread manufacturing production to other regions should help ease these bottlenecks.

Trade policy

Trade policy developments represent the final set of factors contributing to changes in the competitiveness of the four Asian economies. A substantial number of trade restraints affected U.S.-Asian trade during the 1980s. On the Asian side, all four economies had significant tariff and licensing restrictions, which limited U.S. exports in the early to mid-1980s. On the U.S. side, the major restraint on imports from the Asian economies during this period was imposed by the Multi-Fiber Arrangement.²⁰ Nevertheless, because the Asian and the U.S. restrictions had been in place for many years, they were not a major determinant of the U.S.-Asian trade balance evolution from 1982 to 1987.²¹

¹⁹In 1988, Taiwan received approval from Malaysia for investment projects valued at over \$780 million (*Asian Wall Street Journal Weekly*, January 22, 1990). Taiwan's manufacturing investments are largely geared toward production for export, with sizable investments in the electrical and electronic equipment, chemicals, and textiles industries. South Korean investors have concentrated on Thailand, where in 1988 they received approval for investments of over \$100 million (*Far Eastern Economic Review*, November 16, 1989).

²⁰The Multi-Fiber Arrangement limits the growth rate of clothing imports from various countries to the United States.

²¹A U.S. policy placing restrictions on steel imports, adopted in 1984, did limit U.S. steel purchases from South Korea starting in 1985. By 1987, however, South Korea was selling less than its restricted steel level to the United States, in part because of strong demand elsewhere. Since it is not known how South Korean steel capacity might have grown in the absence of U.S. trade restrictions, the impact of these trade restrictions on South Korea's trade balance is unclear.

More recently, substantial changes in some trade policies have had a significant impact on trade developments. Changes undertaken by Taiwan, South Korea, and the United States contributed to the recent decline in the U.S. trade deficit with Taiwan and South Korea and the growth in the U.S. trade deficit with Malaysia and Thailand.

Taiwan reduced its average nominal tariff level by 8 percentage points over the last three years, lowering it from 20 percent in 1987 to 12 percent in 1989.²² There was a particularly sharp reduction in the tariff schedule for automobiles. The average weighted effective Taiwanese tariff level for all products is now about equal to the industrial country average, although the range of Taiwanese tariffs across commodity categories still remains relatively large. Over the past few years Taiwan also extended preferences for the importation of U.S. capital goods, including restricted bidding on government projects and subsidized loans.

South Korea recently reduced its nominal average tariff rate from 20 percent to 12 percent and cut substantially the number of products requiring import licenses.²³ (The licenses were equivalent in their effects to a quota system.) In addition, South Korea began providing subsidized loans for capital goods imported from the United States.

The major U.S. trade policy change was the removal of Generalized System of Preferences (GSP) benefits from Taiwan and South Korea in the beginning of 1989. GSP benefits allow certain products to enter the United States duty-free. Malaysia and Thailand continue to receive GSP benefits, which effectively reduce the price of their GSP-eligible products about 5 percent relative to that of other exporters' products in the U.S. market. Consequently, for GSP products (about a third of Malaysian and Thai sales to the United States), Malaysia and Thailand have gained price competitiveness relative to the other Asian economies.

Conclusion

The United States continues to experience large trade deficits with Taiwan, South Korea, Malaysia, and Thailand. The deficits with Taiwan and South Korea have fallen recently, primarily in response to substantial import liberalization and the appreciation of the currencies of these two economies. Nevertheless, all four Asian economies remain very competitive because of their strong productivity growth rates, moderate unit labor costs, and high domestic investment levels. Malaysia and Thailand, moreover, have gained a significant

²²*National Trade Estimate Report on Foreign Trade Barriers*, Office of the U.S. Trade Representative, 1987 and 1989 issues.

²³*National Trade Estimate Report*, 1987 and 1989 issues.

amount of the sales that Taiwan and South Korea have lost. Malaysia and Thailand have in fact done so well that if they maintain their momentum of the last few years, they are likely to reach the current level of Taiwanese and South Korean manufacturing export sales by the mid-1990s.

This picture of strongly competitive and rapidly growing Asian economies makes it important to assess how the U.S. competitiveness position is apt to change over time. Market share analysis suggests that the recent improvement in the U.S. competitiveness position with the Asian economies came almost entirely in the consumer goods and automotive products sectors. This improvement may not be sustainable. Although U.S. exports of consumer goods have grown rapidly, they remain quite small. Furthermore, the modest decline in Asian exports of consumer goods to the United States has been accompanied by an increase in U.S. consumer goods imports from other countries. In consequence, imports from all sources have maintained their market share, and U.S. manufacturers have received relatively small benefit from the recent bilateral change in U.S.-Asian consumer goods trade.

Market share developments in the United States and

Asia also indicate that U.S. capital goods, which have traditionally been very competitive, have fared significantly worse than U.S. consumer goods in recent years. The U.S. capital goods performance is complicated by two factors. First, the loss of U.S. market share for capital goods in the Asian economies reflects the strong performance not only of the Asian economies themselves but of other capital goods exporters as well. Second, the gain of Asian market share for capital goods in the U.S. economy is partly attributable to shipments from the foreign subsidiaries of U.S. multinational corporations. Overall, developments in both the consumer goods and capital goods sectors highlight the broad context in which the bilateral U.S.-Asian trade balance evolution must be viewed. An analysis of this evolution must consider the role of multilateral trade flows and multinational corporations, as well as traditional bilateral trade determinants, if it is to provide a complete understanding of U.S. and Asian trade developments.

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