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"THAILAND IN THE INTERNATIONAL ECONOMIC COMMUNITY"

Main Report: Synthesis

Thailand in the International Economic Community

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SUMMARY OF MAJOR ISSUES, RESEARCH FINDINGS AND STRATEGY OPTIONS

The 1980s will be recorded in Thai economic history as a decade of drastic economic change. In the early 1980s the country experienced a moderate rate of GDP growth, a large current account deficit, a rising debt-service ratio, and high inflation. The impact of the second oil shock and the commodity price slump was widely felt. Economic stability was attained in the mid-1980s through restrictive fiscal and monetary measures, but at the cost of low GDP growth which reached its lowest level--of 3.5 percent--in 1985.^{1/} Finally, starting in 1986, the economy shifted into high gear, entering an era of very high GDP growth with financial strength, resulting mainly from booming exports, foreign investment, and tourism and reaching double-digit growth rates in 1988 and 1989. As a consequence, the economy has become much more internationalized with profound and wide-ranging effects on the economic activity and well-being of the Thai people.

This paper presents the work done on "Thailand in the International Economic Community," a research project carried out by a team of researchers at TDR in 1989 (see Annex 1). The paper summarizes major issues, research findings, and strategy options as presented in individual reports. Part I discusses changes in the Thai economy during the 1980s as background to the report; Part II, the dynamism of the external sector of the Thai economy; Part III, research results on the impact of the external sector on various aspects of the Thai economy; and, finally, policy and strategy options are presented in Part IV.

1. RECENT DEVELOPMENT OF THE THAI ECONOMY

At the end of 1980s, Thai economy is drastically different from what it was at the beginning of the decade. When the rise in international interest rates followed the second major oil-price increase in 1979, the economy of the early 1980s felt the impact strongly. In 1981 the economy's dependence on imported petroleum was 99.32 percent of total domestic consumption^{2/} and foreign borrowing at very high interest rates was necessary to meet payment requirements. These events, followed by the commodity price slump, triggered off a series of economic difficulties which required major policy changes and structural adjustment throughout the first half of the 1980s.

^{1/}

Bank of Thailand, Monthly Bulletin, May 1989.

^{2/}

National Energy Policy Office.

The impact of the second oil shock and high international interest rates was immediate. In 1980 the trade deficit went up to 8.9 percent of the GNP (the current account deficit was 6.5 percent of the GNP) and the inflation rate was 19.7 percent (Table 1). The government at that time was merely trying to accommodate the impact of the oil shock. The situation became worse because of the commodity price slump. In the next few years the government had to introduce a number of fiscal, monetary, and trade measures to restore economic and financial stability. Some of these measures are discussed as background information below.

First, in 1981, the value of the baht was devalued by 8.7 percent against the US dollar. There was little improvement in the economic situation in 1982. In 1983 speculation about further devaluation of the baht led to high investment expenditures, which were later dampened by imposing credit controls at the end of 1983. The government also curtailed its expenditures by introducing a zero-base investment budget for fiscal 1983-1985 (฿35.1 - ฿35.4 billion) In 1984, although the economic growth rate was high (registering at 7.1%) external conditions continued to worsen. The debt-service ratio was rising, while the foreign exchange reserve level was falling. The situation prompted the government to devalue the baht in November by 14.8 percent against the US dollar, and, in order to facilitate further adjustment either way,^{1/} the baht was untied from the US dollar and connected to a parity fixed to a basket of currencies. 1985 was therefore the year which bore the brunt of the impact of all of the adjustments since 1981, resulting in the very low growth rate mentioned earlier.

The average annual economic growth rate during 1980-1985 was 5.7 percent (Table 1). The rate of growth of agricultural value added was 4.7 percent, somewhat higher than the normal rate of about 3 percent. This relatively low growth rate was due mainly to the rather low growth rate of the industrial sector, which seemed to suffer the most during the period of major macroeconomic adjustment. Foreign trade in goods during this period did not grow very much, but trade in services about doubled both ways. In the meantime, the debt-service ratio reached a peak of 21.9 percent in 1985, the foreign exchange reserve was US\$ 3.0 billion, and the inflation rate was down to 2.4 percent (Table 1).

It should also be mentioned that in 1985 the world economic environment was favorable to Thailand. First, the international interest rate fell from its high of 13.7 percent in 1982 to 9.1 percent in 1985;^{2/} second, the oil price fell to about US\$ 25.73 per

^{1/} Wibulswas-di, C. "Thai Experience in Economic Management during 1980-87", Bank of Thailand, Quarterly Bulletin, September 1987, Vol. 27, No.3

^{2/} See International Financial Statistics, 1988 year book. This rate refers to London Interbank Offer Rates on US dollar deposits.

Table 1: The Recent Development of the Thai Economy(1)

Item	1980	1985	1988	1989(a)	
Population (million persons)	46.7	51.7	54.5	58.0 (2)	
GNP (million baht,current prices)	653116.0	996802.0	1440406.0	1642639.8 (2)	
GNP per capita (baht,current prices)	13980.0	19287.0	26412.0	29860.0 (2)	
		1980-1985	1986-1988	1989(a)	
Real growth of GNP (%) (b)		5.6	9.4	9.9 (2)	
Real growth of GDP (%) (b)		5.7	9.2	9.0 to 10.0 (3)	
- Agriculture		4.7	3.1	3.0 to 4.0 (3)	
- Industry		5.0	11.8	12.4 to 14.3 (3)	
: Manufacturing		4.9	12.2	12.0 to 14.0 (3)	
: Mining and quarrying		5.1	9.8	10.0 to 11.0 (3)	
: Construction		5.1	10.3	16.0 to 18.0 (3)	
- Services		6.4	9.9	10.3 to 10.9 (3)	
		1980	1985	1988	1989(a)
Structure of value added (%)					
- Agriculture		20.6	19.9	16.9	15.8 to 16.1 (3)
: Crops		13.3	13.1	10.7	8.9 (4)
: Other		7.3	6.8	6.2	5.9 (4)
- Industry		28.8	27.4	29.4	30.1 to 30.8 (3)
: Manufacturing		21.7	20.7	23.0	23.4 to 24.1 (3)
: Mining and quarrying		2.6	2.5	2.4	2.4 (3)
: Construction		4.5	4.2	4.0	4.2 to 4.3 (3)
- Services		50.5	52.7	53.7	53.8 to 54.8 (3)
Foreign trade (billion baht)					
- Merchandise : exports		132.0	191.7	398.2	514.0 (3)
: imports		190.0	253.3	501.4	640.0 (3)
- Services : exports		43.5	85.9	149.1	157.7 (4)
: imports		32.4	70.6	95.1	100.7 (4)
Exchange rate (B/US\$)		20.5	27.1	25.3	25.6 (5)

Table 1 (Continued) : The Recent Development of the Thai Economy(1)

Item	1980	1985	1988	1989(a)
Balance of payments (billion baht)				
- Trade account	-58.0	-61.6	-102.2	-126.0 (3)
- Percent of GNP	-8.9	-6.2	-7.1	-7.7 (2)
- Current account	-42.4	-41.9	-42.2	-55.0 to -60.0 (3)
- Percent of GNP	-6.5	-4.2	-2.9	-3.3 to -3.7 (2)
- Balance of payments	5.2	12.5	40.5	n.a.
Foreign exchange reserve (us\$ million)	3026.1	3003.5	7111.8	8950.6 (6)
Debt service ratio (% of export)	14.8	21.8	12.5	12.8 (7)
Inflation rates(%)	19.7	2.4	3.8	5.5 (8)
Income distribution(Gini Coefficient(%))(8)	45.3	50.0	50.0	n.a.

Notes: (a) Estimates (from various issues)

(b) Growth rate computed by using log linear regression ($\ln y = a+bt$, where y = value of data series, t = time, b = annual growth rate)

Sources: (1) Except as noted, the source of statistic is

Bank of Thailand, Monthly Bulletin, various issues. (in Thai)

(2) General Economic Section, Department of Economic Research, Bank of Thailand.

(3) Overall Planning Division, Office of the National Economic and Social Development Board, "Economic Report (Jan-June 1989) and Trends in 1989", August 1989, (in Thai)

(4) TDRI, TDRI Quarterly Newsletter, June 1989, vol.4 No.2, p.5.

(5) Balance of Payments Section, Department of Economic Research, Bank of Thailand. Actual Data in Jan-Aug 1989

(6) Balance of Payments Section, Department of Economic Research, Bank of Thailand. Actual Data at July 1989

(7) Department of Economic Research, Bank of Thailand, "Performance of the Thai Economy in the First Half of 1989", July 1989, p.3

(8) Hutaserani, S., and S. Jitsuchon, "Thailand's income distribution and poverty profile and their current situations", Paper presented at 1988 TDRI Year-End Conference on Income Distribution and Long-Term Development, Thailand, December 17-18, 1988, p.17

barrel;^{1/} and third, the US\$ was devalued (after the Plaza Accord in September) by about 14.4 percent against the Japanese Yen by the end of 1985--and also substantially against other major currencies.^{2/} And, finally, the industrialized country economic growth rate recovered from -0.3 percent average rate in 1982 to 3.4 percent in 1985.^{3/}

When the Thai economy entered the second half of the 1980s, its financial position was more stable, with a more flexible exchange rate policy. The world economic environment was favorable to trade and investment. Exchange rate realignments also necessitated relocation of economic activities. The Thai government at that time, having achieved financial stability, wanted to see economic recovery through domestic and foreign private trade and investment. The industrial sector also had a surplus capacity following several years spent in economic doldrums. By all indications, it appeared that the Thai economy was ready for recovery and structural change.

The recovery took place first in the growth of manufactured exports, which increased by 35.09 percent in 1986, followed closely by inbound tourism and foreign investment.^{4/} The high growth of these three activities has persisted throughout the second half of the 1980s, with widespread impact on economic growth, structural change, and financial stability.

First, as shown in Table 1, the average growth rate of the GDP during 1986-1988 was 9.2 percent; then double-digit growth was recorded in 1988 and is also expected for 1989. In 1988 industry registered the highest growth rate, especially in manufacturing, and in 1989, the highest rate is in construction, followed closely by the service sector.

Second, the structure of production has shifted from agriculture to industry and services. The proportion of agricultural value added is expected to fall from 19.9 percent in 1985 to 15.8-16.1 percent in 1989, while industry and services will rise from 27.4 percent and 52.7 percent to 30.1-30.8 percent and 53.8-54.6 percent in the same period.

^{1/} Journal of Energy Policy, April-May 1989. This price refers to the average spot price of "Dubai" crude oil. The oil price fell further to about US\$ 12.98 in 1986.

^{2/} Balance of Payments Section, Bank of Thailand.

^{3/} World Economic Outlook, A Survey by the Staff of the International Monetary Fund, Washington D.C., April 1989.

^{4/} Growth rates of tourism and foreign investment in 1986 were 15.4 percent and 56.9 percent respectively. See Subproject Number 5, "Trade in Services" (Annex 1) and Number 6, "Direct Foreign Investment and Capital Flows." (Annex 1).

Third, one of the most notable changes was the increase in foreign merchandise trade which about doubled in value from 1985 to 1988, and is still growing strongly in 1989. Trade in services also had a large increase, especially on the export side. This impressive performance in goods and service exports resulted in a low current account deficit of about 3 percent of the GNP in 1988 and about 4 percent in 1989, and a debt-service ratio of 12.9 percent in 1989. Finally, in the second half of the 1980s, the inflation rate ranged between 3-6 percent.

Indeed, the recent development of the Thai economy has had much to do with the performance of the external sector.^{1/} It was the growth of the external sector which brought about economic recovery here--before other ASEAN countries--with very high GDP growth rates and structural change, from agriculture toward industry and services. It was also the external sector which provided the Thai economy with financial strength and stability.

In the following sections we shall analyze in more detail how important the external sector is to the Thai economy at present, how important it will be in the near future, and what policy options Thailand can pursue to optimize its impact on the economy and for the people of Thailand.

2. THE DYNAMICS OF THE EXTERNAL SECTOR

2.1 The Current Position of the External Sector

The external sector continuously grows in importance to the Thai economy. Its structure is changing rapidly and it has assumed quite a different pattern when compared to what it was in the early 1980s.

First, exports of both goods and services have been growing at accelerated rates (Table 2). The average annual growth rate in nominal terms during 1986-1988 was 27.1 percent compared to 8.2 percent during 1980-1985. (The real growth rates were 22.6 percent and 5.3 percent.) This high export growth is continuing in 1989. As a consequence, the ratios of merchandise exports and of services to GNP increased from 20.2 percent and 6.7 percent in 1980 to 27.7 percent and 10.4 percent in 1988. These ratios are expected to rise further to 31.1 percent and 9.6 percent in 1989.

The high growth rate of merchandise exports has been due to the high growth of manufactured exports, which can be seen from the rising share of this product group in total merchandise exports, from 44.8 percent in 1980 to 65.4 percent in 1988. In contrast, during the same period, the share of agricultural product exports declined from 48.1

^{1/}

This is quantified and analyzed in Subproject Number 7, "The Impacts of the External Sector on the Thai Economy and its Determinants "(Annex 1) and summarized under part III below.

to 31.5 percent. The change in the composition of service exports reflects its more concentrated earnings from tourism, which, in 1988, accounted for more than half of all service exports. Along with tourism, earnings from transportation increased their share from 5.5 percent in 1980 to 8.5 percent in 1988 (Table 2).

A major change also took place in the direction of merchandise exports. Because of the extraordinary growth of manufactured exports, which grew the highest in the U.S. market, the share of the United States in total merchandise exports increased from 8.8 percent in 1980 to 18.5 percent in 1988. Japan also registered a substantial increase in export share, while the share of the EC market declined. A similar development took place in the directional change of service exports toward more concentration in the US and Japanese markets, although the change was not as pronounced.

While exports were growing rapidly in the second half of the 1980s, imports were growing at even higher rates. As shown in Table 3, the average annual nominal growth rates of imports were 7.0 percent and 31.4 percent during 1980-1985 and 1986-1988. This high growth was in both merchandise and services; the shares of both increased from 29.1 percent and 5.0 percent in 1980 to 34.8 percent and 6.6 percent in 1988. This pattern of high import growth is continuing in 1989.

The most important change in the composition of imports was a reduction in the concentration of fuel imports, from a high of 31.0 percent in 1980 down to 11.5 percent in 1988. This was due to both the fall in oil prices and to increased domestic production of petroleum products. In the meantime, there was high growth in manufactured imports, mainly for intermediate products and capital goods. There has been little change over the decade in the composition of services imports, however. Investment income (outlay) has continued to dominate payments. Excluding investment income, the three leading expenditure items are tourism, freight and insurance for merchandise, and transportation (Table 3).

The direction of imports has shifted away from the United States to Japan. The share of imports from the United States declined from 27.2 percent in 1980 to 12.1 percent in 1988, while Japan's share increased from 19.2 percent to 29.3 percent. There was also a decline in the EC share, from just above to just below 20 percent. A similar development was observed in the direction of service imports, although not to the same extent as merchandise imports. Therefore, on the import side, Thailand buys increasingly more from Japan, while it sells increasingly more to the United States and Japan.

There have also been major changes in the role and the pattern of foreign capital flows into and out of Thailand (Table 4). During the period 1980-1988 the annual average net capital flow growth rate was only 4.2 percent, lower than the growth rate of net capital formation. The net flow share in net capital formation has, therefore, been declining from an average of 37.7 percent during 1980-1982 to 16.6 percent during 1986-1988 (Table 4). In fact, the share declined

Table 2: Growth and Structural Changes of Exports

	1980-1985	1986-1988	1989 e/		
Annual growth rates a/					
Nominal	8.20	27.06	21.77		
Real b/	5.29	22.57	16.18		
	1980	1985	1987	1988	1989 e/
Share in GNP					
Merchandise	20.22	19.23	24.61	27.72	31.05
Services	6.66	6.62	6.85	10.35	9.60
Composition of exports (%)					
Merchandise c/	100.00	100.00	100.00	100.00	
Agriculture d/	48.10	48.19	38.56	31.53	
Minerals	3.04	0.88	0.58	1.89	
Manufacturing	44.75	50.09	60.19	65.35	
Other	4.11	0.84	0.67	1.23	
Services	100.00	100.00	100.00	100.00	
Freight and insurance					
on merchandise	8.89	10.76	9.38	7.78	
Other transportation	5.54	4.17	7.88	8.51	
Tourism	40.81	36.99	46.67	52.89	
Investment income	12.21	7.75	6.19	6.25	
Government, n.i.e.	5.81	4.53	2.98	2.20	
Other services	26.74	35.81	26.90	22.37	
Direction of exports (%)					
Merchandise	100.00	100.00	100.00	100.00	
US	8.81	17.30	16.96	18.45	
JP	12.34	11.09	13.79	16.04	
EC	28.56	21.96	22.01	19.65 f/	
Other	50.29	49.65	47.24	45.86 f/	
Services	100.00	100.00	100.00	100.00	
US	16.68	21.96	20.27	17.88 f/	
JP	9.98	10.12	11.77	13.37 f/	
EC	24.22	12.94	16.84	15.17 f/	
Other	49.12	54.99	51.12	53.58 f/	

Notes : a/ Exports include merchandise and services. Annual average growth rates are computed by log linear regression ($\ln y = a+bt$) ; y = value of exports
 t = time
 b = annual growth rates

b/ Deflated by GDP Deflator at 1972 prices.

c/ Exports classified by Input-Output table 1975.

d/ Agriculture includes food processing industry.

e/ Estimates based on projection of annual value by Bank of Thailand (merchandise) and TDRI (services).

f/ Preliminary

- Sources: 1. Bank of Thailand, Monthly Bulletin (Oct. 1975, Apr. 1989),
Table 39 - Balance of Payments
2. Balance of Payments Section, Bank of Thailand, Balance of Payments with US, EC and Japan.
3. General Economic Section, Department of Economic Research, Bank of Thailand, data of merchandise and GNP for 1989.
4. TDRI, "TDRI Quarterly Newsletter", vol.4 No.2 June 1989, p5, data of services for 1989.
5. Department of Customs, "Foreign Trade Statistics of Thailand 1980-1987."

Table 3: Growth and Structural Changes of Imports a/

	1980-1985		1986-1988		1989 f/
Annual growth rates b/					
Nominal	7.00		31.36		24.18
Real c/	4.09		26.95		18.25
	1980	1985	1987	1988	1989 f/
Share in GNP					
Merchandise	29.10	25.42	28.23	34.81	38.96
Services	4.96	7.09	6.48	6.60	6.13
Composition of imports (%)					
Merchandise d/	100.00	100.00	100.00	n.a.	
Agriculture e/	7.00	7.85	8.35	n.a.	
Minerals	20.86	16.01	8.31	n.a.	
Manufacturing	65.91	72.38	79.22	n.a.	
Other	6.23	3.76	4.12	n.a.	
Oil/Merchandise imports	31.04	25.75	17.85	11.46	
Services	100.00	100.00	100.00	100.00	
Freight and insurance on merchandise	8.09	6.19	6.54	7.62	
Other transportation	6.39	5.00	4.82	4.63	
Tourism	15.41	10.79	12.62	16.00	
Investment income	52.50	63.47	61.26	55.80	
Government, n.i.e.	2.27	2.76	3.43	2.46	
Other services	15.35	11.79	11.31	13.49	
Direction of imports (%)					
Merchandise	100.00	100.00	100.00	100.00	
US	27.18	12.02	14.49	12.09	
JP	19.16	25.42	24.05	29.26	
EC	20.34	18.62	15.85	15.88 g/	
Other	33.32	43.94	45.62	42.77 g/	
Services	100.00	100.00	100.00	100.00	
US	32.13	28.29	25.49	27.67 g/	
JP	7.13	10.78	12.57	16.91 g/	
EC	12.43	10.53	9.52	10.49 g/	
Other	48.31	50.40	52.42	44.93 g/	

Notes : a/ Excluding military aid imports

b/ Imports include merchandise and services. Annual average growth rates are computed by log linear regression ($\ln y = a+bt$) ; y = value of imports
t = time
b = annual growth rates

c/ Deflated by GDP Deflator at 1972 prices.

d/ Import classified by Input-Output table 1975.

e/ Agriculture includes food processing industry.

f/ Estimates based on projection of annual value by Bank of Thailand (merchandise) and TDRI (services).

g/ Preliminary

Sources: 1. Bank of Thailand, Monthly Bulletin (Oct. 1975, Apr. 1989),

Table 39 - Balance of Payments

2. Balance of Payments Section, Bank of Thailand, Balance of Payments with US, EC and Japan.

3. General Economic Section, Department of Economic Research, Bank of Thailand, data of merchandise and GNP for 1989.

4. TDRI, "TDRI Quarterly Newsletter", vol.4 No.2 June 1989. p.5, data of services for 1989.

5. Department of Customs, "Foreign Trade Statistics of Thailand 1980-1987."

Table 4: Capital Flow Growth and Structural Change

(percentage)

	Structure			Annual Growth Rate
	1980-82	1983-85	1986-88	1980-88
Total net capital flow	100.00	100.00	100.00	4.26
-Inflow	100.00	100.00	100.00	8.95
-Outflow	100.00	100.00	100.00	11.39
Net flow as share of net capital formation	37.70	30.70	16.60	
Direct investment	10.13	15.40	41.02	28.17
-Inflow	6.31	7.26	9.71	17.20
-Outflow	4.48	4.48	2.52	(1.63)
Portfolio investment	1.15	2.84	24.66	34.69
-Inflow	0.44	1.22	8.32	49.78
-Outflow	0.11	0.67	4.56	100.80
Loans	88.72	81.75	34.31	(4.60)
-Inflow	93.25	91.51	81.97	6.41
-Outflow	95.41	94.85	92.91	10.69

Source: Balance of Payments Section, Bank of Thailand.

substantially in 1986-1987, but then went up to 24.8 percent in 1988.^{1/} At the beginning of the decade loans accounted for as much as 88.7 percent of the net flow. The significance of foreign loans--especially long-term loans--has declined throughout the decade, having been replaced by direct and portfolio investment. Comparing the years 1980 and 1988 within each capital formation group (1) the share of foreign investment in private investment rose from 3.6 percent to 9.6 percent; (2) foreign portfolio investment increased from less than 2 percent of all security market trading volume to 12.9 percent; and (3) the share of foreign loans in commercial credit declined from 43.1 percent to 13.7 percent (Table 5).

2.2 Gaining Shares Through Dynamism and Competitiveness

Many factors, including world economic recovery and favorable exchange rates are cited as accounting for the rapid expansion of Thailand's external sector. However, as is shown in Table 6, the facts do not seem to support these arguments. The growth of Thai exports appears to be independent of both world economic growth and exchange rate changes. In fact, Thailand's imports into its major trading partners grew much more than did their respective GDP growth rates.

Applying a constant market share (CMS) analysis to Thai export performance reveals that, on the average, the good export performance of 1982 to 1987 was due to gains in Thai product competitiveness.^{2/} Of the total increase in exports during this period, 59.4 percent was due to world-trade growth (Table 7). This means that if Thai exports had grown at the same rate as world-trade growth, Thai exports would have increased by only 59.4 percent of the actual increase. The "competitive effect," (the ability to gain bigger product shares in the world market) accounted for 37.4 percent. The third component of export change is the "commodity composition effect," which shows the extent to which export growth has resulted from Thailand's selling high-demand commodities on the world market. The CMS analysis shows that the commodity composition effect accounted for only 8.9 percent of the total export increase, which means that Thai exports were composed of goods with slow-growing world demand--mainly primary products--and goods of fast-growing world demand--manufactures--resulting in a rather low total commodity composition effect. Finally, the market effect was -5.6 percent, implying that Thailand's export growth took place in slow-growing markets.

^{1/}

See Subproject Number 6, op. cit.

^{2/}

For the CMS methodology, see Subproject Number 4, "Trade in Manufactured Goods and Mineral Products" (Annex 1).

Table 5: Share of Capital Flow in Capital Formation

(Million Baht)

	1980	1985	1986	1987	1988
1. Foreign direct investment					
1.1 Net foreign direct investment a/	3,878.20	4,402.20	6,908.10	9,043.70	28,243.80
1.2 Private investment b/	107,104.00	148,363.00	153,869.00	213,010.00	293,441.00
1.3 Share of net foreign direct investment in private investment (% of 1.1/1.2)	3.62	2.97	4.49	4.25	9.63
2 Foreign portfolio Investment					
2.1 Total securities transacted by foreigners c/	238.35 d/ 5,865.72 d/	1,596.05 16,482.86	4,617.20 29,848.22	25,501.10 123,420.90	40,276.07 156,649.36
2.2 Market trading volumes	2.00 d/	4.84	7.73	10.33	12.88
2.3 Share of foreign activity in market e/ (% of 2.1 / 2.2)					
3 Foreign loans					
3.1 Change in domestic credits f/	60,802.00	80,637.00	76,345.00	144,054.00	198,806.00
3.2 Net foreign loan inflows	45,887.00	43,196.00	1,956.00	3,559.00	31,472.00
3.3 Total (3.1 +3.2)	106,389.00	123,833.00	78,301.00	147,593.00	230,278.00
3.4 Share of net foreign loans in total loans (% of 3.2 / 3.3)	43.10	34.90	2.50	2.40	13.70

Notes: a/ Does not include net capital outflow of Thai investors (equity investment).
b/ Does not include depreciation.
c/ Total = purchases + sale.
d/ Data refer to 1982.
e/ Calculated by $\{(purchase + sale)/2\} / \text{trading volume}$.
f/ In financial survey (consolidated accounts of all banks and other financial institutions
i.e. Bank of Thailand, Commercial banks, Finance companies, Government Housing Bank,
Government Saving Bank, Bank of Agriculture and Agriculture Co-operatives and
the Industrial Finance Corporation of Thailand.

Sources: 1. Bank of Thailand, Monthly Bulletin, various issues.
2. Securities Exchange of Thailand.
3. Bank of Thailand, Research Department.

Table 8 : Export Performance and International Economic Development

Real, Compound Annual Growth Rates
of OECD GDP and Thai Exports

	1966-73	1973-80	1980-84	1984-86
GDP growth rate of Rich nations	4.5%	2.8%	2.0%	2.8%
Growth in Thailand Export volume	66%	9.8%	10.6%	16.1%

Growth of GDP and Imports from Thailand

Rich Nations	Growth in Thai Imports 1983-1988	Growth in	
		Real GDP	Ratio
Canada a/	349%	24%	14.5
United Kingdom	280%	17%	16.5
U.S.A.	182%	22%	8.3
France	161%	11%	14.6
West Germany	48% a/	13%	3.7
Japan	121%	24%	5.0
Less Developed Nations (1982-84 average base period for imports)			
Singapore	107%	31%	3.5
South Korea	108%	60%	1.8
Hong Kong	89%	46%	1.9
China	89%	61%	1.5
Malaysia	15%	22%	0.7

Thailand - Real Effective Exchange Rate and Export Growth
All % Changes are in Annual Rates

	1970	1975	1980	1984	1987
Real exchange rate index b/	63	86	100	93	125
% Growth in competitiveness		6.4	3.1	-1.8	10.4
% Growth in real exports		8.1	13.3	8.4	11.1

Note: a/ Imports include Thai exports to the Netherlands and Germany.

b/ An increase in the index implies increased competitiveness.

Source: David Dapice and Frank Flatters, Thailand: Prospects and Perils in the Global Economy, June 1989.

Another method we applied to explain Thai export performance was a "source of growth" analysis^{1/} and we found that the sources of export growth during 1984-1987 were: world income growth, 57.3 percent; cost competitiveness, which includes all elements of costs, 18.7 percent; and unexplained residual, 24.0 percent (Table 7). The residual should include the ability to penetrate markets. Viewed in this way, these results are consistent with the CMS analysis.

The success of Thai exports resulted in Thailand's having its world-market shares of primary products and manufactures increase from 0.68 percent and 0.25 percent in 1982 to 0.88 percent and 0.40 percent in 1987 (Table 7).

2.3 The Internationalization of the Manufacturing Sector

As the Thai economy underwent this export-oriented transformation, the manufacturing sector led the entire economy. As mentioned earlier, the share of manufactured exports has surpassed the agriculture share since 1985. Within this manufacturing group proper (SITC 5-8), all exports grew at rates higher than 20 percent (especially during the second half of the 1980s), which resulted in their increased export shares. Machinery (SITC 7) and miscellaneous manufactured goods (SITC 8) are products with significantly high export shares. The leading performers in these two groups are electronic products, plastic products, and toys. In the meantime, other, traditional manufactured exports (such as textiles, garments, jewelry) have continued to grow at high rates. By 1988, the shares of SITC 6, SITC 7 and SITC 8 were 20.0 percent, 11.3 percent and 17.3 percent, significantly higher shares than in the 1960s and 1970s (Table 8).

Analyzing export growth by means of SITC product groups, of course, underestimates the share of manufactured exports, because a number of manufactured products are included under SITC0 (foods), SITC1 (beverage and tobacco), and SITC4 (animal and vegetable oils and fats). Including these products in manufacturing shows that processed-food exports have also expanded rapidly. Thus, Thailand's exports have grown in all categories, including those based on the agricultural sector.

A CMS analysis was applied to explain Thailand's export performance during 1982-1987. The summary of results is presented in Table 9. Results show that the market effect for manufactures was very small or negative and that the commodity composition effect was about 8.86 percent. However, competitive effects varied widely, ranging from -26 percent for SITC6 to 65 percent and 71 percent for SITC8 and SITC7. World-growth effects were high for SITC5 and SITC6, and low for SITC7 and SITC8.

^{1/}

See Subproject Number 7, op. cit.

Table 7: Overall Competitiveness of Thai Exports

(1)	1982	1987
Share in World Exports		
- Primary products	0.68	0.68
- Manufactured products	0.25	0.40

(2)	(Percentage)			
Constant Market Share Analysis, 1982-1987	World Growth Effect	Commodity Composition Effect	Competitiveness Effect	Market Effect
Total exports	59.4	8.9	37.4	-5.6

(3)
Source of Growth Analysis, 1984-1987 a/

	World income	Cost competitive	Residual
Total Exp	57.29	18.67	24.04
Major Manufactured Exports			
Food pr	85.39	13.85	0.76
Textile	34.71	0.15	65.13
Wood	1.56	20.15	78.29
Rubber	36.78	24.44	38.77
Non-met	21.47	32.01	46.51
Enginee	38.32	12.77	56.92

Note : a/ Exports are measured at constant 1984 price.

Sources: (1) Subproject Number 1.

(2) Subproject Number 4.

(3) Subproject Number 7.

Table 8: Growth and Shares of Exports : 1965-1988

SITC	Item	1965-1969		1969-1974		1974-1979		1979-1983	
		Growth 1/	Share	Growth 1/	Share	Growth 1/	Share	Growth 1/	Share
0	Food	(0.73)	60.60	28.70	47.79	11.89	54.02	9.67	49.52
1	Beverages & tobacco	13.43	1.03	21.84	1.17	20.29	1.21	9.62	1.25
2	Crude materials	(1.54)	31.10	13.47	25.43	13.46	16.01	(2.31)	12.47
3	Mineral fuel & lubricants	0.00	0.32	45.34	0.76	(49.19)	0.27	(2.36)	0.03
4	Animal & vegetable oils & fats	(21.18)	0.05	53.25	0.08	(13.40)	0.06	62.68	0.14
5	Chemicals	10.69	0.12	53.57	0.36	15.36	0.54	21.01	0.82
6	Manufactured goods	32.04	11.65	26.15	15.58	21.64	17.52	2.50	19.18
7	Machinery	9.19	0.08	63.63	0.24	50.82	2.21	18.59	5.06
8	Miscellaneous manufactured goods	11.86	0.25	73.62	1.54	24.73	4.28	21.88	7.63
9	Miscellaneous transaction goods	29.44	1.53	17.32	3.59	19.13	2.16	(17.58)	1.85
10	Re-exports	18.23	3.27	12.48	3.46	9.24	1.73	3.85	2.04
		3.22	100.00	24.55	100.00	15.34	100.00	7.58	100.00

SITC	Item	1985		1986		1987		1988	
		Growth 1/	Share	Growth 1/	Share	Growth 1/	Share	Growth 1/	Share
0	Food	0.12	44.78	16.02	43.55	7.31	36.46	39.38	40.27
1	Beverages & tobacco	(2.99)	0.85	(5.17)	0.67	(9.16)	0.48	-85.14	0.83
2	Crude materials	3.83	10.14	4.57	8.80	26.47	8.92	3.05	6.85
3	Mineral fuel & lubricants	178.44	1.27	(28.99)	0.78	13.61	0.70	(171.77)	0.09
4	Animal & vegetable oils & fats	29.98	0.30	(95.21)	0.10	31.07	0.10	70.14	0.15
5	Chemicals	10.95	1.26	32.62	1.45	29.21	1.51	45.27	1.77
6	Manufactured goods	20.59	18.55	19.07	18.59	30.30	19.59	30.28	19.76
7	Machinery	35.04	8.78	38.10	10.65	35.73	11.85	24.35	11.25
8	Miscellaneous manufactured goods	20.59	12.43	32.22	14.21	55.50	19.27	18.89	17.33
9	Miscellaneous transaction goods	10.82	0.74	6.22	0.65	52.97	0.86	41.50	0.97
10	Re-exports	(58.93)	0.91	(30.88)	0.55	(52.36)	0.25	133.40	0.72
		9.84	100.00	18.86	100.00	25.06	100.00	29.47	100.00

Note : 1/ Calculated by simple regression method.

Source : Bank of Thailand, Monthly Bulletin, 1965-1988.

Table 9: Constant Market Share Analysis of Export Performance (1982-1987)

Sector	World Growth Effect		Commodity Composition Effect		Competitive Effect		Market Effect		Total Export Growth	
	Million dollar	Percentage	Million dollar	Percentage	Million dollar	Percentage	Million dollar	Percentage	Million dollar	Percentage
0 Food and live animals chiefly for food	1310.69	177.82	-181.76	-24.66	-182.31	-24.73	-209.53	-28.43	137.09	100
1 Beverages and tobacco	41.11	-142.81	-0.37	1.29	-71.01	246.69	1.49	-5.17	-28.79	100
2 Crude materials, inedible, except fuel	296.79	96.56	-104.13	-33.88	169.73	55.23	-55.08	-17.92	307.31	100
3 Mineral fuel, lubricants and related materials	0.95	1.48	-1.68	-2.60	65.21	101.15	-0.02	-0.02	64.47	100
4 Animal and vegetable oil, fat and wax	4.61	206.47	-5.96	-266.50	0.68	30.56	2.89	129.45	2.24	100
5 Chemicals and related products, n.e.s.	37.75	52.85	25.01	35.01	6.89	9.64	1.79	2.51	71.44	100
6 Manufactured goods classified chiefly by material	474.79	90.60	181.66	34.66	-136.61	-26.07	4.24	0.81	524.08	100
7 Machinery and transport equipment	152.98	13.63	180.05	16.04	798.01	71.08	-0.31	-0.74	1122.73	100
8 Miscellaneous manufactured articles	235.87	15.55	288.45	19.02	988.20	65.17	3.92	0.26	1516.44	100
9 Commodities and transactions not classified elsewhere	20.73	91.84	3.07	13.62	-17.86	-79.14	16.63	73.68	22.57	100
Total	2576.28	59.37	384.34	8.86	1620.93	37.35	-241.98	-5.58	4339.56	100

Source: UK, Commodity Trade Statistics and Subproject Number 4.

Another method applied to explain export performance is the Revealed Comparative Advantage (RCA), which measures the export share of the product category in total Thai exports relative to a similar share of that product category in world exports. The results, shown in Table 10, indicate that Thailand has strong RCA in SITC0 and SITC1 (Foods), SITC2 (crude materials), and SITC6 and SITC8 (manufactured goods classified by material and miscellaneous manufactured articles). For other product categories the RCA ratios are less than 1, implying the lack of comparative advantage. Nevertheless, these ratios, except for animal and vegetable oils and fats, have been improving.

An attempt has been made to project future manufactured export growth through the year 2000. Using TDRI's computable general equilibrium (CGE) model, total export growth was first projected up to the year 2000. Then, subsectoral share trends were computed based on structural changes since 1960. These changes in subsectoral shares were then projected into the future to the year 2000. Combining this total export growth projection with the subsectoral share projection, the subsectoral values of exports were then derived; and, from these, the subsectoral growth rates were calculated. The results of this projection are shown in Table 11.

The manufacturing subsectors are projected to register double-digit growth rates in nominal terms until the year 2000. In fact, most subsectors will expand at close to or more than 20 percent per annum, while total exports are projected to grow between 16.3 percent to 20.6 percent per annum. This means that most manufacturing subsector shares in total exports will continue to rise.

2.4 The Structure of Mineral Trade

During the 1980s mineral and fuel exports have changed composition significantly. In 1980 the group's concentration was dominated by tin, representing 88.8 percent of the total value of exports. Over the years the value of this export group continued to decline, with its 1988 value being less than half of what it was in 1980. The most important decline was tin exports, representing only 39.5 percent of the total export value in 1988. This was due to the collapse of the tin price in the mid-1980s following problems with the International Tin Agreement. However, rising shares of gypsum, lead, zinc and condensate exports (with a combined share of 52 percent in 1988 compared to practically zero share in 1980) (Table 12) are taking tin's place.

2.5 New Patterns of Agricultural Trade

While agricultural products remain important as sources of export earnings, as discussed earlier, agriculture's share in total exports has continued to decline. Categorizing agriculture into crops, livestock, and fisheries, it has been found that crop exports, with the exception of rice, cassava and horticulture, have not been

Table 10: Thailand's Revealed Comparative Advantage(RCA)

SITC Section Code		Revealed Comparative Advantage(RCA)				
		1980	1982	1983	1986	1987
0+1	Food and live animals chiefly for food & beverage and tobacco	4.5351	5.4268	5.0741	4.7074	4.0821
2	Crude materials, inedible except fuels	2.2440	1.8949	1.9584	1.8920	1.8700
3	Mineral fuel, lubricants and related materials	0.0027	0.0011	0.0010	0.0642	0.0632
4	Animal and vegetable oil, fat and wax	0.3011	0.3736	0.3363	0.2221	0.2574
5-8	Manufactured goods	0.6128	0.5306	0.5776	0.6593	0.7446
5	Chemicals and related products, N.E.S.	0.0895	0.1087	0.1508	0.1752	0.1763
7	Machinery and transport equipment	0.2221	0.1858	0.1984	0.3183	0.3464
6+8	Manufactured goods classified by material & miscellaneous manufactured articles	1.1681	1.0746	1.1744	1.2433	1.4189
9	Comodities and transactions not classified elsewhere	2.1126	1.4343	0.9156	0.4207	0.3361

Note : Calculated by the formula : $\{(E_{ij} / E_j) / (W_i / W)\}$
 where E = exports of each country
 i = industry
 j = country
 W = world export

Source: Computed by using data from U.N., International Trade Statistics Yearbook, various issues; and Monthly Statistics, May 1989.

Table 11: Average Annual Nominal Growth Forecast for Manufactured Exports and Imports

	(Percentage)		
	1988-1990	1990-1995	1995-2000

(a)			
Exports			

Food	16.28	8.98	10.52
Beverages and tobacco	15.85	10.66	10.08
Crude materials	10.27	3.68	4.50
Mineral fuel and lubricants	11.55	5.28	5.78
Animal and vegetable oil and fat	23.74	20.52	17.97
Chemicals	29.49	27.70	23.72
Manufactured goods	19.88	15.71	14.13
Machinery	27.79	23.88	19.20
Miscellaneous manufactured goods	29.03	25.66	20.63
Total	20.61	17.53	16.28
(b)			
Imports			

Food	17.76	16.82	17.14
Beverages and tobacco	17.63	10.42	10.74
Crude materials	19.36	17.02	17.34
Mineral fuel and lubricants	39.50	17.32	17.64
Animal and vegetable oil and fat	8.74	12.82	13.14
Chemicals	24.24	16.01	16.33
Manufactured goods	12.50	15.22	15.64
Machinery	7.83	15.88	15.98
Miscellaneous manufactured goods	33.11	17.12	17.44
Total	17.06	16.06	16.42

Sources : (a) Narongchai Akrasanee and others, " Export Financing in Thailand"; a Report Submitted to the ADB, Thailand Development Research Institute, July, 1989.

(b) Own estimation following the same methods as the export forecast.

Table 12: Mineral and Fuel Exports

(Million Baht)

Mineral	1980	1985	1988
Tin	13259.10 (88.82)	5900.90 (57.66)	2868.10 (39.51)
Tungsten	638.30 (4.28)	133.20 (1.30)	87.00 (1.20)
Fluorite	289.88 (2.01)	362.00 (3.54)	118.10 (1.63)
Gypsum	47.50 (0.32)	285.10 (2.59)	846.60 (13.03)
Barite	277.50 (1.86)	213.30 (2.08)	87.60 (1.21)
Feldspar (sodium)	1.40 (0.01)	28.60 (0.28)	114.00 (1.57)
Lead	165.00 (1.11)	188.90 (1.86)	332.80 (4.58)
Zinc	-	508.40 (4.97)	350.86 (4.83)
Condensate	-	2416.80 (23.62)	2142.80 (29.51)
Other	240.18 (1.61)	215.60 (2.11)	213.43 (2.94)
Total Value	14928.86	10233.80	7262.39

Note: Number in parenthesis is percentage share in total value.

Source: Mineral Statistics of Thailand, Department of Mineral Resources, Ministry of Industry, Royal Thai Government, 1985 and 1989.

increasing. Maize exports are almost nonexistent, and Thailand now needs to import maize for animal feed. Livestock exports continue to be, basically, poultry; however, poultry's share in total production (export-production ratio) has, in fact, been declining. Apparently, the domestic consumption of meat has been growing to absorb production, leaving less and less available to export. In contrast to livestock, fishery exports have been growing rapidly, mainly because of the increased supply of squid and prawns and favorable export prices for these products^{1/} (Table 13).

An analysis of comparative advantage using the domestic resource cost (DRC) technique, which measures the domestic cost of earning a unit of foreign exchange, shows that the cost advantage is consistent with the changing pattern of exports. Based on 1986 statistics, DRC results show that the cost to Thailand of earning US\$ 1 by exporting fishery products is less than the cost of foreign exchange as measured at the official exchange rate of $\text{฿}26.2/\text{US\$ }1$, and especially at the shadow exchange rate (which was $\text{฿}28.8$ to US\$ 1). Applying this method to livestock and dairy products, we found that only chicken and egg production show a clear advantage for Thailand, while all others range in cost and show advantages only for production at certain locations (Table 14).

The ability to export crops was measured by projecting the growth of the crop sector using the Dynamics of the Thai Agriculture Model, World Bank crop-price forecasts, and information on our resource endowment.^{2/} Based on this technique, Thailand should be able to continue to export rice (although the quantity will decline), tapioca, sugar, and rubber. Maize and soybean, however, require a high degree of land intensity. As the land-man ratio has been declining, these two crops have become less and less competitive and Thailand will most likely have to import these crops in growing quantities. Projections of crop production changes by region are shown in Table 15.

Future price prospects for Thailand's major crops do not appear to be encouraging. According to the World Bank price forecast, the prices of most crops (except for sugar) are expected to decline or increase at very low rates through the year 2000 (Table 16). During 1987-1995, the price of sugar is expected to increase at an annual rate of 8.7 percent, then decline to an annual average of 6.3 percent if the period is extended to the year 2000. The prices of other crops are expected to change between -0.4 percent to 3.7 percent during 1987-1995, and between -0.9 percent to 1.8 percent during 1987-2000. Thus, crop-price changes are expected to be increasingly less favorable over the long run.

^{1/}

Office of Agricultural Economics, Ministry of Agriculture & Cooperatives, Agricultural Statistics of Thailand (various issues). Also, see subproject 3, "Thai Agriculture in the World Economy" (Annex 1).

^{2/}

Ibid.

Table 13 : Agriculture: Production, Exports and Imports

(Quantity : Metric ton)

PRODUCT	1980			1985			1987			1988*		
	Q	X	M	Q	X	M	Q	X	M	Q	X	M
Rice	11,636,560	2,799,724	-	13,576,860	3,962,240	-	12,066,140	4,443,301	-	13,936,000	5,701,458	-
Maize	2,998,000	2,175,331	136	4,934,000	2,752,417	16,520	2,781,000	1,928,397	268	4,675,163	1,208,762	547
Cassava pellets	6,691,667	4,811,225	-	8,026,260	6,474,503	-	8,147,500	5,777,137	-	9,771,183	7,334,446	-
Raw sugar	1,707,444	451,668	-	2,071,998	1,703,556	-	2,338,426	1,876,587	-	3,153,425	1,656,605	14
Rubber smoked sheets	465,000	343,931	44	773,000	554,776	31	851,000	715,940	3	861,820	687,021	-
Milk Products (a)	17,505(b)	4,073	41,634	51,370(b)	2,593	51,246	79,094(b)	8,789	69,462	99,449(b)	13,322(c)	79,450(c)
Sweetened Milk	n.a.	8,087	-	111,665**	3,082	*	143,732**	16,734	7	n.a.	n.a.	n.a.
Poultry	n.a.	18,503	6	n.a.	37,840	15	496,620(d)	81,905	7	n.a.	97,420	1
Cotton (e)	67,550	10,854	77,562	35,700	11,263	134,555	25,900	10,818	258,030	36,939	11,409	219,103
Paper and products	n.a.	20,456	348,001	n.a.	32,320	428,056	n.a.	89,801	563,838	n.a.	74,449	560,969
Soybeans	100,000	3,394	15,297	309,000	2,342	1	338,000	142	-	511,000	16	33,277
Soybean meal (f)	(78,000)	100	154,782	(24,020)	13	155,023	(263,640)	-	239,564	(398,580)	4	225,404
Fishery products	1,647,953 g/	142,370	43,019	2,057,751 g/	328,505	153,105	2,601,929 g/	498,947	227,103	n.a.	598,108	343,905
- Shrimp	134,280 g/	17,915	578	127,643 g/	24,041	819	151,636 g/	33,909	735	n.a.	49,810	771
- Squid	72,313 g/	38,641	159	116,035 g/	46,290	470	132,538 g/	61,633	2,919	n.a.	58,784	2,224
- Fish	515,244 g/	41,436	9,282	800,018 g/	96,437	129,205	911,743 g/	130,386	191,410	n.a.	149,499	299,039
- Other	926,116 g/	44,378	33,000	1,014,035 g/	161,737	22,611	1,406,012 g/	273,019	32,039	n.a.	340,035	41,871
Fishmeal	184,054 g/	114,343	466	214,210 g/	74,791	-	212,980 g/	73,004	n.a.	473,000	72,301	113

Notes : p : preliminary

n.a. : not available

* : data is not significant.

** : data collected from Bank of Thailand.

a) whole milk products including sweetened milk.

b) fresh milk

c) butter fat, cheese and curd, other milk foods.

d) refer to quantity of chicken meat in 1986 (see source 2).

e) cotton raw and linters.

f) byproduct of soybeans.

Sources: 1. Center of Agricultural Statistics, Office of Agricultural Economics.

Agricultural Statistics of Thailand Crop year 1984/1985, 1987/1988.

2. Competitiveness of Feed Stuffs and Livestock Products in Thailand,

TDRI, Research Report submitted to ADB, 1989.

3. Department of Fisheries.

Table 14 : Comparative Advantage in Agricultural Production

Product	DRC*	DRC**
Livestock (1)		
Chicken	16.15-17.01	14.67-15.45
Eggs	13.26-15.57	13.26-15.57
Pork	24.22	22.01
Beef	19.03-45.85	17.29-41.66
Dairy	32.87-36.91	29.86-33.53
Fishery (2)		
Shrimp	8.65-10.95	7.86-9.95
Shrimp farming/a	7.21-11.53	6.55-10.48
Squid	12.97-26.53	11.79-24.10
Fish	12.40-17.88	11.26-16.24

Notes : DRC: Domestic Resource Cost (DRC) = $Cd / (Pb\$ - Cb\$) * SER$

where Cd is the primary and nontrade input cost for producing one unit of an output in baht

Pb\$ is the border price of output, in dollars,

Cb\$ is the traded input cost per unit of output, in dollars,

SER is the shadow exchange rate .

DRC is based on year 1985.

DRC* is computed by shadow exchange rate (\$ = B 28.84) b/

DRC** is computed by official exchange rate (\$ = B 26.2).

a/ Shrimp farming consists of extensive farming, semi-intensive, and intensive farming.

b/ Siamwala and Setboonsarng (1987), Agricultural Pricing Policy in Thailand, 1960-1985.

Sources : (1) Setboonsarng S., "Competitiveness of Livestock and

Feedgrain Subsectors in Thailand", Paper Presented at the Pacific Economic Cooperation Conference, Seoul 1989.

(2) Tokriana, R., "Comparative Advantage of Thai Agriculture;

Fisheries", mimeo, Thailand Development Research Institute, 1989.

Table 15 : Crop Forecasts : Results of Simulation of the share Supply Equation, 1986-1995

Region	CA	GN	KN	MB	MZ	PD	SB	SC	RB	OP	CO	TB	PI	CH	SH	GL
Upper North		↑				↑						↓			↑	↑
Lower North				↑	↓	↑	↑	↑								
Northeast	↑	↓	↑			↓		↑								
Central Plain				↓	↓	↑		↓							↓	
East	↑	~				↓		↑			↑					
West						↓		↓			↑		↑			↓
South						↓			↑	↓	↓		↑			

Notes: ↑ denote an increase in crop share
 ↓ denote a decrease in crop share
 ~ denote remain unchanged

Upper North : rise in groundnut, garlic; fall in tobacco
 Lower North : mungbean, soybean, sugarcane; fall in maize
 West : fall in rice, sugarcane, rise in pineapple, and coconut
 East : rise in coconut and sugarcane
 Central Plain : fall in maize, sugarcane; rise in rice
 Northeast : rise in sugarcane, cassava and kenaf; a fall in rice and groundnut
 South : rise of rubber, pineapple;
 CA cassava
 GN groundnut
 KN kenaf
 MB mungbean
 MZ maize
 PD paddy
 SB soybean
 SC sugarcane
 RB rubber
 OP oilpalm
 CO coconut
 TB tobacco
 PI pineapple
 CH chili
 SH shallot
 GL garlic

Source : IDRI estimate. See also Subproject Number 3.

**Table 16 : Forecast of Agricultural Product Price Growth
(Percentage)**

Crop	1987-1995	1987-2000
Rice	-0.3	-0.5
Maize	2.0	1.8
Sugar	8.7	8.3
Sorghum	1.3	1.5
Soybean	2.2	-0.8
Rubber	3.7	1.6
Palm Oil	2.7	0.9
Cotton	-0.4	-0.7
Copra	3.1	0.9
Jute	-0.3	-0.4
Tobacco	0.2	-0.2

Note : Growth rate was computed by using the following formula :

$$\text{Growth Rate} = \left[\exp\left\{ \frac{1}{t} (\ln Y_n / Y_o) \right\} - 1 \right] * 100$$
 Where t = time
 Yn = Price in 1995, 2000
 Yo = Price in 1987

Source : World Bank, Price Prospects for major Primary Commodities, 1989.

2.6 The Emerging Role of Trade in Services

The fastest growing service item is income from tourism, which grew at 10 percent per year during 1980-1985, and accelerated to 34 percent per year during 1986-1988 with the share of income from tourism rising from 40.8 percent in 1980 to 51.4 percent in 1988. Tourism expenditures also increased as rapidly as income, but its magnitude was much lower and this resulted in a surplus in the tourism account. The next most important service item is income from labor, but it grew more slowly during the second half of the 1980s, with its share in total service receipts falling from 27.7 percent in 1985 to 16.2 percent in 1988. The other fastest-growing service item is income from transportation with an annual average rate of 72 percent during 1986-1988, and an earning share of 8.8 percent in 1988. In terms of payments, the most important item has been payments for banking and finance (recorded as investment income in the Balance of Payments), which accounted for 57.5 percent of all service payments in 1988 (Table 17).

Major service trading partners vary from one service category to another. As is shown in Table 18, in some categories, the pattern for receipts and payments of some services, has changed over time. Income from labor has continued to come mainly from the Middle East, but with a falling share. Income from tourism is well diversified, with Japan accounting for a growing share. Japan, the United States and Singapore contribute the most to income from transportation. Insurance contributors are the United States, the United Kingdom and Japan. The United States is a leader in all service categories on the payments side, together with Japan, Singapore and the United Kingdom.

The pattern of trade in services may be determined by either economic factors or noneconomic factors (Table 19). The former comprises relative prices, factor endowment (K/L), scale (GDP) and international trade factors; while the latter includes human capital (education and professional training), government policies, and so forth. Each service category is determined by different factors. The Least Square Estimation was used to estimate the coefficients of logarithmic equations and empirical results indicate that GDP significantly affects the pattern of all traded services, except insurance, labor and telecommunication services. The largest impact is on freight service, of which the estimated coefficient is -2.53. Factor endowment affects banking and tourism services, whose estimated coefficients are 1.005 and 1.382. The impact of the trade ratio on freight is significant; it is 3.630. Only insurance is significantly affected by the exchange rate, whose estimated coefficient is -3.741. Labor and telecommunication services are not significantly affected by economic factors.

Table 17 :The Structure of The Service Trade

Service Category	1980				1985				1988			
	Receipts		Payments		Receipts		Payments		Receipts		Payments	
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	Growth a/	Growth a/	Growth a/	Growth a/	Growth a/	Growth a/	Growth a/	Growth a/	Growth a/	Growth a/	Growth a/	Growth a/
	80-85	80-85	80-85	80-85	80-85	80-85	80-85	80-85	80-85	80-85	80-85	80-85
Service Sector	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Tourism	40.8	9.8	37.0	10.0	8.0	8.0	8.0	8.0	51.4	34.0	16.5	33.0
Labor	17.7	1.3	27.7	23.0	2.0	2.0	18.9	18.9	16.2	5.0	2.5	18.0
Transportation	5.5	4.1	4.2	11.3	3.7	3.7	10.4	10.4	8.8	72.0	4.8	14.0
Insurance and Freight b/	9.5	42.3	11.0	15.0	31.6	6.4	6.4	6.4	8.2	12.0	4.5	(49.0)
Banking & Finance c/	12.2	38.5	7.8	2.0	48.9	16.0	16.0	6.4	6.4	20.0	57.5	5.0
Others	14.3	9.1	12.4	9.4	7.8	7.0	7.0	9.0	9.0	(3.0)	14.2	15.0
Total d/	43,528	50,792	85,879	0.13	95,510	0.1	144,529	0.24	92,054	-0.02		

Notes : a/ Growth Rate = Computed by Linear Regression ,Set In(y)=a+bt, Given y=Actual Value,t=Time.
 b/ Actual and Imputed Value Estimated by the Bank of Thailand.
 c/ Investment Income in Balance of Payments Statistics.
 d/ Actual Value (millions of baht).

Source : Bank of Thailand , Balance of Payments Section; Worksheet in Respective Year

Table 18 : Service Sector Receipts and Payments by Major Country : 1985 and 1988

(millions of baht)

Service	1985				1988							
	Country	Receipt	%	Country	Payment	%	Country	Payment	%			
Labor	1.Saudi Arabia	11,698	49	1.U.S.A.	305	16	1.Saudi Arabia	8,911	38	1.Japan	804	36
	2.Kuwait	707	3	2.Japan	299	16	2.Singapore	420	2	2.U.S.A.	400	18
	3.Singapore	609	3	3.Singapore	213	11	3.Hongkong	389	2	3.Netherlands	239	11
	4.Others	10,782	45	4.Others	1,042	56	4.Others	13,715	59	4.Others	819	36
	Total	23,795	100	Total	1,859	100	Total	23,436	100	Total	2,262	100
Tourism	1.Malaysia	3,600	11	1.U.S.A.	3,114	41	1.Japan	10,583	13	1.U.S.A.	5,347	35
	2.U.S.A.	3,105	10	2.Japan	1,121	15	2.Malaysia	6,900	9	2.Japan	2,512	17
	3.Japan	2,475	8	3.Hongkong	679	9	3.Hongkong	6,395	8	3.Singapore	1,030	7
	4.Others	22,587	71	4.Others	2,709	36	4.Others	54,980	70	4.Others	6,319	42
	Total	31,767	100	Total	7,622	100	Total	78,858	100	Total	15,208	100
Transportation	1.Japan	1,509	42	1.U.S.A.	1,299	37	1.U.S.A.	1,644	13	1.U.S.A.	1,520	35
	2.U.S.A.	1,151	32	2.Singapore	482	14	2.Singapore	563	4	2.Singapore	570	13
	3.Singapore	620	17	3.Saudi Arabia	475	13	3.U.K.	471	4	3.Japan	453	10
	4.Others	299	8	4.Others	1,275	36	4.Others	10,003	79	4.Others	1,859	42
	Total	3,579	100	Total	3,532	100	Total	12,681	100	Total	4,401	100
Insurance	1.U.K.	110	31	1.U.K.	410	11	1.U.S.A.	102	22	1.U.K.	448	7
	2.U.S.A.	99	28	2.U.S.A.	208	6	2.Japan	96	20	2.U.S.A.	335	5
	3.Hongkong	75	21	3.Hongkong	145	4	3.U.K.	57	12	3.Hongkong	202	3
	4.Others	186	19	4.Others	2,809	79	4.Others	95	46	4.Others	5,560	85
	Total	470	100	Total	3,572	100	Total	351	100	Total	6,545	100

Note : Data are not available for Telecommunications and Banking Sectors.

Sources : 1) Balance of Payments Section, Bank of Thailand ; In Respective Years.

2) Tourism Authority of Thailand; Annual Statistical Report on Tourism in Thailand 1985 and 1988.

Table 19 : Factors Determining Pattern in Traded Services

Service Sectors	Factor Endowment	Scale	Trade Ratio	Relative Price	Exchange Rate	R-squared	F-statistic
1 Transportation							
1.1 Freight	-0.423	-2.533 **	3.630 *	-	-	0.852	33.155
1.2 Passengers	-0.107	0.127 *	0.090	-	-	0.827	4.771
2 Banking	1.005 **	-1.515 **	-	-0.048	-	0.706	4.798
3 Insurance	0.361	-0.360	-	-	-3.741 **	0.970	53.863
4 Tourism	1.382 *	-1.478 **	-	-	-0.215	0.867	10.902
5 Labor	-2.102	0.442	-	0.156	-1.087	0.701	2.347
6 Telecommunications	-4.715	1.914	-	-	-0.009	0.224	0.483

Notes : ** = Indicate 0.01 significance levels.

* = Indicate 0.05 significance levels.

Source : Estimated by Logarithmic Equations.

2.7 New Capital Flow Patterns

Foreign direct investment and portfolio investment have replaced foreign loans (especially long-term loans), in terms of net inflow. Together they account for more than 74.9 percent, on the average, of Thailand's total net inflow during 1986-1988, compared to an average of only about 11.4 percent during 1980-1982. If short-term loans are excluded, the combined shares of direct investment and portfolio investment are about 204.0 percent in 1986-1988 (Table 20).

Thailand's levels of foreign direct investment and portfolio investment were moderate until 1987 and 1988. In 1988 the net inflow of direct foreign investment increased by 212.3 percent and the percentage increase of portfolio investment was 411.0 percent in 1987.

Foreign direct investment (FDI) in recent years came mainly from Japan, reaching 51.7 percent of the total FDI net inflow in 1988 compared to 23.3 percent in 1980 (Table 21). The next largest sources of FDI were Taiwan and Hong Kong, but each accounted for only about 11 percent of the total in 1988, which was about the same as the FDI from the United States. The share of the EC declined from the usual rate of more than 10 percent to only 8.0 percent in 1988.

FDI in the industrial sector accounted for most of the investment in 1987 and 1988, representing 52.5 percent and 57.9 percent of the net FDI inflow, respectively (Table 22). Within the industrial sector the industries which attracted the largest share of investment during these two years were textiles, electrical appliances, and chemicals. Outside the industrial sector, construction and trade activities attracted sizable shares of FDI in 1987 and 1988.

With respect to FDI in the industrial sector, it has been found that investment follows the product life cycle hypothesis (about 60 percent of projects and amount of registered capital), i.e., investments were made because foreign companies wanted to move technologically -not- advanced goods production into Thailand (Table 23). The most obvious cases of investment according to product life cycle are electrical appliances and parts, toys and plastic products, and motor vehicle components and parts. Apart from the product life cycle hypothesis, investigations were made to see if investment was due to capital stock adjustments, resource requirements, or industrial organizational considerations. As it turned out, only a very small percentage of foreign investment was found to be consistent with the capital stock adjustment hypothesis; a larger number of projects (13% to 30%) confirmed the natural resource consideration; and investment, particularly in electrical appliances (which includes parts and components) and electronic communication equipment and parts, was found to be consistent with industrial organizational considerations.^{1/} It was therefore concluded that, in recent years, FDI in Thailand has been mainly due to actions by foreign firms to maintain or regain cost advantages, and to make use of local natural resources.

^{1/}

For a discussion of this methodology, see Subproject 6, op. cit.

Table 20: Distribution of Net Foreign Capital Inflows by Type of Capital

(Percentage)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
1. Direct Investment									
a/	7.63	11.62	11.30	23.69	16.51	8.55	60.69	35.54	39.83
b/	7.76	15.31	13.57	24.21	22.68	9.92	297.22	45.57	68.90
2. Portfolio Investment									
a/	2.03	0.03	1.59	0.98	(0.15)	7.50	22.11	50.55	15.78
b/	2.07	0.05	1.91	1.00	(0.20)	8.70	108.29	64.81	27.30
3. Foreign Loans									
a/	90.33	88.34	87.11	75.33	83.64	83.95	17.19	13.91	44.38
b/	48.81	84.65	84.52	74.79	77.53	81.38	(305.51)	(10.38)	3.81
3.1 Private c/									
a/	45.05	30.11	36.90	37.23	66.80	26.36	160.99	(30.05)	101.27
b/	n.a.	23.31	14.45	27.35	47.40	1.69	87.83	329.34	127.18
3.2 Public c/									
a/	54.95	69.89	63.10	62.77	33.20	73.64	(60.99)	130.05	(1.27)
b/	n.a.	76.69	85.55	72.65	52.60	98.31	12.17	(229.34)	(27.18)

Table 20: (continued) Share of Foreign Capital Inflows

(Percentage)

	1980-1982	1983-1985	1986-1988
1. Direct Investment			
(a)	10.13	15.40	41.02
(b)	14.56 c/	18.43	69.97
2. Portfolio Investment			
(a)	1.15	2.84	24.66
(b)	0.85 c/	3.40	42.06
3. Foreign Loans			
(a)	88.72	81.75	34.31
(b)	84.59 c/	78.17	(12.03)
3.1 Private b/			
(a)	37.24	45.47	91.86
(b)	19.49 c/	24.54	145.23
3.2 Public b/			
(a)	62.76	54.53	8.14
(b)	80.51 c/	75.46	(45.23)

Notes: (a) Refer to share of Foreign Capital Inflows.
 (b) Refer to share of Foreign Capital Inflows without Short-Term loans.
 a/ : Data refer to January-June.
 b/ : Refer to share of total foreign loans.
 c/ : Data refer to 1981-1982.
 p : Preliminary.

Source: Bank of Thailand.

Table 21 : Foreign Direct Investment Patterns a/ by Country of Origin
(Percentage)

Country	Percentage Share b/					
	1980	1985	1986	1987	1988	1989p c/
U.S.A	18.8	54.2	18.7	20.1	11.3	14.2
Japan	23.3	34.8	44.1	38.1	51.7	50.2
EEC.	20.0	9.7	7.4	10.4	8.0	9.3
U.K	2.1	2.8	3.6	3.6	3.1	3.6
W.Germany	6.8	3.8	2.3	5.0	2.2	1.5
France	0.3	3.3	1.3	1.5	1.0	3.0
Netherlands	0.6	(1.0)	(0.8)	0.8	1.0	0.3
Italy	4.0	0.3	1.1	0.1	0.1	0.4
Australia	1.0	(1.8)	2.1	0.3	0.1	0.4
Canada	(1.1)	0.8	0.5	0.1	0.2	0.1
Switzerland	1.9	1.8	4.0	8.7	2.0	3.5
Asian NIEs	36.2	(6.8)	21.7	22.6	28.4	20.2
Hong Kong	28.7	14.7	13.8	8.8	10.8	10.1
Korea	0.3	(0.1)	0.1	0.2	1.1	0.5
Singapore	7.2	(25.5)	5.8	5.8	5.4	(0.9)
Taiwan	0.0	3.9	1.9	7.6	11.2	10.5
ASEAN-4	4.0	0.9	(0.6)	(0.0)	0.3	0.0
Brunei	0.0	0.1	0.1	0.0	0.0	0.0
Indonesia	0.1	0.2	0.1	0.1	0.1	
Malaysia	3.9	0.4	0.1	(0.1)	0.2	0.0
Philippines	(0.0)	0.2	(0.9)	0.0	0.0	(0.1)
Other	2.1	6.5	2.1	1.7	1.9	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total amount (Million baht)	3,878.2	4,402.2	6,908.1	9,043.7	28,243.8	17,132.8

Table 21 (Continued): Foreign Direct Investment Patterns a/ by Country of Origin

(Percentage)

Country	Annual Growth Rate b/				
	1980-85	1985-86	1986-87	1987-88	1988-89 c/
U.S.A	26.7	(65.5)	7.2	(44.0)	77.9
Japan	11.2	26.7	(18.1)	42.9	42.1
EEC.	(7.7)	(23.8)	41.1	(23.4)	112.4
U.K	8.1	31.9	0.0	(14.0)	390.8
W.Germany	(6.4)	(38.6)	113.8	(55.6)	0.1
France	61.7	(59.4)	11.4	(32.0)	140.2
Netherlands	(23.8)	(14.6)	(200.0)	24.4	(2.5)
Italy	(14.0)	360.0	(93.0)	25.0	335.4
Australia	(24.7)	(217.8)	(86.8)	(46.4)	189.1
Canada	13.1	(38.1)	(76.9)	75.0	(15.8)
Switzerland	1.3	121.7	117.8	(77.1)	177.0
Asian NIEs	(12.3)	(412.1)	4.2	26.1	(0.1)
Hong Kong	(7.2)	(6.2)	(36.4)	22.8	23.4
Korea	(10.5)	(187.5)	257.1	324.0	(23.6)
Singapore	(38.2)	(122.9)	1.4	(9.1)	(116.7)
Taiwan	145.1	(50.5)	295.8	47.2	45.4
ASEAN-4	(11.7)	(165.9)	(100.0)	0.0	(38.3)
Brunei	999.9	(37.5)	(60.0)	(100.0)	(28.6)
Indonesia	11.8	(37.5)	(30.0)	14.3	255.0
Malaysia	(13.4)	(74.4)	(190.9)	(270.0)	(296.2)
Philippines	52.8	(473.9)	(100.0)	0.0	26.1
Other	28.5	(67.8)	(17.3)	(213.4)	(20.1)
Total amount (Million baht)	2.6	56.9	30.9	212.3	36.5

Notes: a/ Equity and loans from parent or related companies including capital funds of foreign commercial banks.

b/ The calculations are based on net inflow of foreign direct investment and do not include net capital outflow of Thai investors (equity investment).

c/ Data refer to January-June.

Source: Bank of Thailand.

Table 22 : Foreign Direct Investment Patterns a/ by Sector

(Percentage)

Sector	Percentage Share b/					
	1980	1985	1986	1987	1988	1989p c/
1 Financial institution	(4.5)	(29.1)	7.4	4.9	9.6	11.5
2 Trade	19.4	24.6	25.8	9.4	13.9	17.7
3 Construction	20.2	36.0	17.9	14.9	6.9	9.2
4 Mining & quarrying	15.4	11.7	3.5	2.1	1.7	1.8
4.1 Oil exploration	11.4	9.8	3.4	2.8	1.4	1.7
4.2 Other	4.0	2.0	0.1	(0.7)	0.3	0.1
5 Agriculture	5.4	1.8	2.9	3.2	1.1	(0.1)
6 Industry	26.2	30.9	30.7	52.5	57.9	47.1
6.1 Food	2.4	9.0	4.2	4.8	4.4	3.5
6.2 Textiles	(0.0)	1.4	1.2	11.0	4.0	(1.1)
6.3 Metal based and non-metallic	1.2	(2.9)	(0.3)	4.0	6.9	7.0
6.4 Electrical appliances	11.6	6.4	8.9	12.6	22.3	18.9
6.5 Machinery & transport equipment	2.4	0.7	(0.2)	1.8	2.6	2.2
6.6 Chemicals	5.5	11.1	7.0	9.6	6.9	6.7
6.7 Petroleum products	0.1	0.0	0.1	(0.2)	3.0	0.0
6.8 Construction materials	0.1	0.9	0.1	0.1	0.1	0.3
6.9 Other	3.1	4.3	9.8	8.8	7.8	9.8
7 Services	18.0	24.2	11.8	13.0	8.9	12.7
7.1 Transportation & travel	5.5	4.5	3.7	2.4	1.4	1.0
7.2 Housing & real estate	3.9	6.9	0.6	3.6	3.2	4.8
7.3 Hotels & restaurants	2.3	5.1	1.5	1.1	2.0	4.9
7.4 Other	6.3	7.7	6.0	5.8	2.4	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.00
Total amount (Million baht)	3,878.2	4,402.2	6,908.1	9,043.7	28,243.8	17,132.8

Table 22 (Continued): Foreign Direct Investment Patterns a/ by Sector

(Percentage)

Type of Business	Annual Growth Rate b/				
	1980-85	1985-86	1986-87	1987-88	1988-89 c/
1 Financial institution	(49.2)	139.9	(13.2)	515.1	186.3
2 Trade	7.6	64.9	(52.2)	360.9	102.5
3 Construction	15.2	(22.1)	9.2	43.7	109.2
4 Mining & quarrying	(2.6)	55.4	(20.1)	146.1	19.7
4.1 Oil exploration	(0.5)	(45.0)	6.3	58.8	23.8
4.2 Other	(7.7)	(95.6)	(1,660.5)	(224.1)	(23.4)
5 Agriculture	(10.3)	162.9	41.4	7.5	(111.5)
6 Industry	6.0	56.4	123.6	244.2	2.7
6.1 Food	34.1	27.3	52.2	181.6	45.2
6.2 Textiles	109.0	43.1	1,061.8	12.4	(186.3)
6.3 Metal based and non-metallic	(29.3)	82.0	(1,715.5)	436.9	13.9
6.4 Electrical appliances	(6.6)	120.4	84.2	455.1	(15.8)
6.5 Machinery & transport equipment	(10.6)	(146.6)	973.2	354.8	(9.0)
6.6 Chemicals	18.0	(0.8)	79.4	124.3	59.7
6.7 Petroleum products	(14.8)	999.9	(292.7)	(5,375.9)	100.0
6.8 Construction materials	93.8	(85.9)	16.7	325.4	1,166.8
6.9 Other	9.7	254.0	18.2	175.1	40.1
7 Services	8.8	(23.5)	44.0	115.5	110.6
7.1 Transportation & travel	(1.5)	29.2	(13.7)	85.0	7.1
7.2 Housing & real estate	15.2	14.0	668.6	171.4	267.7
7.3 Hotels & restaurants	20.5	55.0	(5.6)	490.0	243.8
7.4 Other	6.7	23.0	27.3	26.3	(14.4)
Total					
Total amount (Million baht)	2.6	56.9	30.9	212.3	36.5

Notes: a/ Equity and loans from parent or related companies including capital funds of foreign commercial banks.

b/ Calculations are based on net inflow of foreign direct investment and do not include net capital outflow of Thai investors (equity investment).

c/ Data refer to January-June.

p = Preliminary

Source : Bank of Thailand.

Table 23: Factors Affecting FDI in Thailand's Promoted Projects (Application Approved)
1986-1988 a/

Type of Motive	Number of Projects			Value of FDI : Registered Capital (million baht)		
	1986	1987	1988	1986	1987	1988
1. Resource utilization	37 (32.5)	44 (13.3)	190 (27.5)	431.9 (14.6)	1,232.0 (15.0)	2,201.8 (9.0)
1.1 Primary products	9 (7.9)	5 (1.5)	20 (2.9)	133.1 (4.5)	24.8 (0.3)	95.9 (0.4)
1.2 Resource-based industries	28 (24.6)	39 (11.8)	170 (24.6)	298.8 (10.1)	1,207.2 (14.7)	2,105.9 (8.6)
2. To regain or maintain cost advantage along dynamic comparative advantage	53 (46.5)	244 (73.9)	444 (64.2)	1,756.7 (59.4)	5,485.9 (66.7)	16,972.8 (69.3)
2.1 To regain or maintain cost advantage: export	50 (43.9)	222 (67.3)	411 (59.5)	1,296.4 (43.9)	4,799.1 (57.7)	10,101.2 (41.2)
2.2 To regain or maintain cost advantage: export base (industrial organization pattern) b/	1 (0.9)	3 (0.9)	16 (2.3)	430.0 (14.5)	345.0 (4.2)	2,740.5 (11.2)
2.3 To regain or maintain cost and demand advantages	2 (1.8)	19 (5.8)	17 (2.5)	30.3 (1.0)	391.8 (4.8)	4,130.6 (16.9)
3. To gain or maintain demand advantage	21 (18.4)	38 (11.5)	53 (7.7)	646.7 (21.9)	1,450.6 (17.6)	5,282.0 (21.6)
4. Capital stock adjustment	3 (2.6)	4 (1.2)	4 (0.8)	120.8 (4.1)	55.5 (0.7)	47.9 (0.2)
Total	114 100.0	330 100.0	691 100.0	2,956.1 100.0	8,224.0 100.0	24,504.0 100.0

Notes : a/ Figures in parentheses are percentage share of the total.

b/ Based on selective investigation.

Source : Compiled from data from the Office of the BOI. See also subproject number 6.

Portfolio investment has been important in recent years and has come mainly from Singapore, the United Kingdom, the United States, Hong Kong, and, recently, Japan (Table 24). It should be noted that the nationality of funds invested in the securities market is difficult to identify because fund managers may choose to use funds from any office depending upon the portfolio of the office at that time and the the double-taxation treaty. In fact, funds come to the Thai Securities Market from three major original sources--the United States, the United Kingdom, and Japan. Funds from the United States and the United Kingdom have dominated, but funds from Japan have started to grow rapidly with investments in securities of (1) banks and finance/security companies; (2) construction materials; (3) trading firms; and (4) textiles/clothing (Table 25).

We have found that the net inflow of foreign portfolio investment is influenced most by economic prospects as measured by the GDP and market-investment-return potential with a forward time lag of 14 months. In other words, SET (the Securities Exchange of Thailand) records show that in making investment decisions, investors consider economic prospects and market investment returns in 14 months from the time of investment. The elasticities with respect to GDP and the market rate of return with a forward time lag of 14 months are 2.4 and 1.04, respectively. Thus, if the GDP is expected to grow by 10 percent, foreign portfolio investment will grow by 24.0 percent. A 10 percent increase in the monthly market rate of return will increase foreign portfolio investment by 10.4 percent (Table 26).

The pattern of foreign loans has changed in concentration from public-sector to private-sector, especially when short-term loans are included (Table 20). The public-sector/private-sector share in 1980-1982 was about two-thirds to one-third, but in 1986-1988 these ratios were 8 percent and 92 percent, respectively (Table 27). As private-sector loans are mostly short-term (121.8% in 1988), the share of short-term foreign loans has increased from 24 percent in 1980-1982 to 120.6 percent in 1986-1988. There has been little change in loan sources except for the increase in bilateral sources, mainly from Japan. Finally, as state enterprises have relied more on local sources for funding and have had some of their outstanding loans refinanced, it has been the borrowing of the central government which has accounted for most of the foreign public loans in recent years--for example, 444.32 during 1986-1988 (the net borrowing by state enterprises had a negative contribution of 360.13 percent).

Table 24: Portfolio Investment Patterns by Country of Origin

(Million Baht)

Source	1981-1985 a/				1986				1987			
	Inflow	Outflow	Net	Share	Inflow	Outflow	Net	Share	Inflow	Outflow	Net	Share
Hongkong	1454.1	790.6	663.5	12.7	1,320.9	453.0	867.9	34.5	8,597.6	885.7	7,711.9	60.0
Japan	74.7	58.4	16.3	0.3	5.4	13.1	(7.7)	(0.3)	254.1	149.6	104.5	0.8
Singapore	475.7	64.5	411.2	7.9	351.6	41.8	309.8	12.3	2,536.7	1,345.7	1,191.0	9.3
United Kingdom	4160.6	40.8	4119.8	79.0	795.3	16.4	778.9	30.9	4,347.3	1,575.0	2,772.3	21.6
United States	232.7	98.0	134.7	2.6	518.2	8.2	510.0	20.3	1,213.2	232.2	981.0	7.6
Other	272.5	402.8	-130.4	(2.5)	62.1	4.2	57.9	2.3	199.4	98.4	101.0	0.8
Total	6670.3	1455.1	5215.1	100.0	3,053.5	536.7	2,516.8	100.0	17,148.3	4,286.6	12,861.7	100.0

(Million Baht)

Source	1988				1989 b/			
	Inflow	Outflow	Net	Share	Inflow	Outflow	Net	Share
Hongkong	2,050.4	2,090.6	(40.2)	(0.4)	2,844.8	22.3	2,822.5	20.8
Japan	1,385.0	197.6	1,187.4	10.6	74.5	37.8	36.7	0.3
Singapore	10,172.4	6,201.1	3,971.3	35.5	9,196.0	2,916.1	6,280.0	46.2
United Kingdom	9,984.7	6,180.2	3,804.5	34.0	6,199.7	2,638.6	3,561.1	26.2
United States	3,064.4	727.5	2,336.9	20.9	884.3	653.5	230.7	1.7
Other	1,103.1	1,171.8	(68.7)	(0.6)	943.7	278.0	665.7	4.9
Total	27,760.0	16,568.8	11,191.2	100.0	20,143.0	6,546.3	13,596.7	100.0

Notes: a/ Total 1981-1985

b/ Data refer to January-June.

Source: Balance of Payments Section, Bank of Thailand.

Table 25: Foreign Portfolio Investment Patterns by Sector

(Million baht)

Sector	1987	Share(%)	1988	Share(%)
Banking	10,024.88	32.69	11,633.21	20.56
Finance and Securities	2,734.41	8.92	4,271.48	7.55
Insurance	389.24	1.27	826.40	1.46
Commerce	2,689.89	8.77	10,796.43	19.08
Service	437.23	1.43	327.88	0.58
Industrial	1,483.81	4.84	2,182.85	3.86
Construction Materials and Interior Furnishing	8,457.39	21.06	14,224.36	25.14
Automotive	258.08	0.84	465.83	0.82
Textile / Clothing	1,789.88	5.84	2,823.13	4.99
Mining	964.25	3.14	1,604.56	2.84
Food / Beverage	1,271.90	4.15	2,192.97	3.88
Electrical Equipment	61.81	0.20	265.58	0.47
Other	2,103.50	6.66	4,871.52	8.79
Total	30,666.37	100.00	56,586.20	100.00

Source: Securities Exchange of Thailand.

Table 26 : Factors Affecting Portfolio Investment

Elasticities a/

Factor	Independent	Elasticities [NFPT (1)]
Economic prospects	: GDPT (2)	2.39
Return potential	: Rt (3)	1.04

Where : NEPT (1) = Monthly net inflow of portfolio (Jan 1984, Dec 1988)

GDPT (2) = Monthly gross domestic production (Jan 1984, Dec 1988)

Rt (3) = Monthly market rate of return (Jan 1984, Dec 1988)

Note : a/ Elasticities are computed by $(dy/dx)*(x/y)$.

Sources : (1) Balance of Payment Section, Department of Economic Research, Bank of Thailand.

(2) General Economic Section, Department of Economic Research, Bank of Thailand.

(3) Securities Exchange of Thailand.

Table 27: Foreign Loan Patterns

	Cumulative values			Percentage Share (%)		
	1980-82	1983-85	1986-88	1980-82	1983-85	1986-88
Net inflow of foreign loans(million baht)	128,032	118,171	36,967	100.00	100.00	100.00
-Public	80,358	64,437	3,010	67.10 a/	54.50	8.10
: Long term	74,668	71,276	3,438	61.20 a/	60.30	9.30
: Short term	5,690	(6,839)	(428)	5.90 a/	(5.80)	(1.20)
-Private	47,674	53,733	33,957	32.90 a/	45.50	91.90
: Long term	12,167	23,179	(11,040)	14.80 a/	19.60	(29.90)
: Short term	14,833	30,554	44,997	18.10 a/	25.90	121.80
-Net long term	62,441	94,455	(7,602)	76.00 a/	79.90	(20.60)
-Net short term	19,704	23,715	44,569	24.00 a/	20.10	120.60
Public source of loans (Debt outstanding in million U.S \$)	15,051	23,696	36,189	100.00	100.00	100.00
-Multilateral	4,101	7,909	9,256	27.25	33.38	25.58
-Bilateral	4,020	6,401	11,377	26.71	27.01	31.44
-Private credit	6,645	8,583	14,130	44.15	36.22	39.05
-Suppliers credit	285	803	1,426	1.89	3.39	3.94
Net inflow of public foreign loans (million)	86,357	64,437	3,010	100.00	100.00	100.00
-Central Government	22,269	39,122	13,374	25.79	60.71	444.32
-State enterprises	58,837	40,519	(10,840)	68.13	62.88	(360.13)
-Short-term loans	5,689	(6,839)	(428)	6.59	(10.61)	(14.22)
-Other long-term loans	(438)	(8,365)	904	(0.51)	(12.98)	30.03

Note: a/ Data refer to 1981-1982.

Source: Balance of Payments Section, Bank of Thailand.

3. THE IMPACT OF THE EXTERNAL SECTOR ON THE THAI ECONOMY

3.1 The Impact of External Trade

Thailand's economic policy can be characterized as "fiscal and monetary conservatism" and "trade and investment promotion cum protection." These basic economic policies have been followed side by side over the last few decades, with, of course, variations in emphasis depending upon problems and opportunities and the character of the leadership at the time. For example, during the first half of the 1980s, fiscal and monetary conservatism was emphasized, while during the second half, emphasis was more on promoting trade and investment. These basic policy approaches have resulted in the Thai economy's becoming more internationalized.

The government maintains a competitive macroeconomic policy environment by relying on fiscal and monetary policy instruments to keep exchange rates, interest rates, and the price of goods and services at competitive levels. Up until 1988 the performance of the external sector shows that the macroeconomic environment was very conducive to the growth of trade and investment. The situation is continuing in 1989, except for the rather high inflation rate due to monetary expansion.^{1/}

The government has been active in promoting both goods and service exports, the inflow of foreign capital, and loans. Although tariff protection of domestic sales remains high, there is a comprehensive export promotion scheme for both agricultural and manufactured products.^{2/}

To assess the impact of external trade growth on various aspects of the Thai economy, the study team built a short-term econometric model consisting of 73 behavioral equations, 84 identities, 101 exogenous variables, and 157 endogenous variables. Exports are endogenous to the system.^{3/} The model was applied to measure the influence of a 1 percent change in the value of goods and service exports on several macroeconomic variables. The results are shown in Table 28.

According to the results, all macroeconomic variables are sensitive to export earning changes. With export growth of 1 percent, the nominal GDP will change by 0.46 percent while the real GDP will change by 0.32 percent. Effect on inflation as measured by a GDP deflator is 0.13 percent. Export growth of 1 percent will lead to

^{1/} There is general consensus that the inflation rate in 1989 will be about 7 percent.

^{2/} See Subproject Number 4, op. cit.

^{3/} See Subproject Number 7, op. cit.

Table 28 : Impact of the External Sector on Domestic Economic Performance

----- Impact of 1 % increase in export on Macro economic variables -----	
	Percentage change -----
Nominal GDP	0.46
Real GDP (at 1984 price)	0.32
GDP deflator	0.13
 External Sector -----	
Balance of trade	0.08
Real imports	0.43
 Aggregate Demand -----	
Consumption expenditures	0.27
Gross Capital formation	0.40
Government expenditures	0.11
 Public Sector -----	
Government revenue	0.46
- Direct tax revenue	0.46
- Indirect Tax	0.47
Government deficit	-2.04
Government borrowing	-3.03
 Distribution of Income -----	
Wage payment	0.41
Income of unincorporated enterprises	0.64
Corporate factor income	0.61
Wage payment / GDP	0.04
Income of unincorporated enterprises / GDP	0.09
Corporate factor income / GDP	0.08

Source : Subproject Number 7.

import growth of 0.43 percent. The effect on the trade balance is rather small, i.e., 0.08 percent, because export growth also leads to import growth.

On aggregate demand, export growth is very favorable to gross capital formation, resulting in an increase of 0.40 percent for export growth of 1 percent. Government expenditures change by only 0.11 percent, while consumption expenditures respond with 0.27 percent growth.

Export growth has a positive effect on the public sector. A 1 percent increase in export earnings will lead to a 0.46 percent increase in government revenue, with a larger percentage increase in indirect tax than direct tax revenue. The effects on the government deficit and borrowing are especially favorable, with declines of -2.04 percent and -3.03 percent.

Results on income distribution are less clearcut. Export growth has a positive effect on all income classes, but to different degrees. Corporate income responds to an export earning increase of 1 percent at 0.61 percent, while the rates of response for unincorporated enterprise income and wage payments are 0.64 percent and 0.41 percent, respectively. These results show that wage earners benefit less from export growth than the other two income groups do. A comparison of the effect of export growth on ratios of income to GDP shows that nonwage income earners gain more from export growth than wage earners do.

Based on the above results, the effects of export growth on income distribution are not conclusive because most Thai households are not wage earners (75.2%). However, previous TDR1 analyses of the underlying causes behind the worsening trend of income inequality and poverty incidence between 1981 and 1986 showed that a major factor was the declining trend of world prices of Thailand's five major export crops between 1981 and 1986. This led to a fall in the nominal income per capita of agricultural households between 1981 and 1986, and the substantial widening of the income gap between agricultural and non-agricultural households during the same period.^{1/}

The study team also used a CGE model to simulate the impact of export growth between 1983 and 1987, assuming constant world prices and a pattern of export-earning increases similar to that actually observed (Table 29). The simulation showed that increase export earnings of goods and nonfactor services led to a slight worsening of income distribution, but certainly not anywhere near the extent actually observed. The same was true of increases in earnings from all goods and service exports. The conclusion that can be drawn is that the rapidly worsening trend to income distribution between 1981 arose not from a general growth in exports per se, but more from a

^{1/}

This result is also confirmed by simulations using the THAM-2 model. See section 3.3.

Table 29 : Effect of 10% Increase in Goods and Service Exports
on Real Household Income

Household	Real Household Income Growth (%)	
	Base	Counterfactual
All Households	0.000	2.741
Farm 1	0.000	2.036
Farm 2	0.000	2.270
Farm 3	0.000	2.153
Farm 4	0.000	2.048
Farm 5	0.000	2.112
Non-farm 1	0.000	3.677
Non-farm 2	0.000	3.821
Non-farm 3	0.000	3.726
Non-farm 4	0.000	3.560
Non-farm 5	0.000	3.530
Government 1	0.000	0.785
Government 2	0.000	0.774
Government 3	0.000	0.837
Government 4	0.000	1.028
Government 5	0.000	1.023
State enterprise 1	0.000	0.403
State enterprise 2	0.000	-0.176
State enterprise 3	0.000	-0.803
State enterprise 5 *	0.000	-0.007
Gini index	0.000	0.239

Note : * including state enterprise 4.

Table 29 (Continued) :

Effect of 10% Increase in Exports of Goods and Services on Size
Distribution of Real Household Income

Household Income groups	Percentage share		% Growth
	Pre-change	Post-change	In income level
Quintile 1	63.12	63.14	2.79
Quintile 2	18.58	18.61	2.89
Quintile 3	9.81	9.80	2.62
Quintile 4	5.45	5.43	2.32
Quintile 5	3.04	3.03	2.32
All	100.00	100.00	2.75

Effect of 10% Increase in Agricultural Export Demand on Size
Distribution of Real Household Income

Household Income groups	Percentage share		% Growth
	Pre-change	Post-change	In income level
Quintile 1	63.12	62.96	-0.11
Quintile 2	18.58	18.61	0.29
Quintile 3	9.81	9.87	0.70
Quintile 4	5.45	5.50	0.98
Quintile 5	3.04	3.06	0.96
All	100.00	100.00	0.13

Effect of 10% Increase in Manufactured Export Demand on Size
Distribution of Real Household Income

Household Income groups	Percentage share		% Growth
	Pre-change	Post-change	In income level
Quintile 1	63.12	63.14	0.30
Quintile 2	18.58	18.59	0.33
Quintile 3	9.81	9.80	0.16
Quintile 4	5.45	5.44	0.00
Quintile 5	3.04	3.03	0.02
All	100.00	100.00	0.27

Source : Subproject Number 7.

decline in the export prices of the major agricultural exports.^{1/}

Export-led growth has had an impact on the production structure, leading to larger increases in value added in manufacturing and services and smaller increases in agriculture and mining. As shown in Table 30, a 1 percent increase in export earnings leads to 0.19 percent increases in value-added of agriculture. In contrast, value added increases in most manufacturing and service sectors are higher than 0.2 percent.

Finally, the impact of export growth on imports varies among different import categories. Export growth of 1 percent has led to a small rise of 0.15 percent in service imports. The highest import growth rates are in nonmetallic products (1.74%); engineering (1.68%); other industries (1.39%); wood (0.65%); and agriculture (0.72%). These last two categories had a very low import base at the time. Other product groups also show high import increases following export growth (Table 31).

It was concluded that Thailand's export-led development strategy has had a very favorable effect on economic growth and financial stability, and has increased income of all classes but has benefited the higher income classes more than the lower income classes, and thus was not favorable to the size distribution of income.

3.2 The Impact of Export-Led Industrialization

Trade policy for manufactures is to protect domestic production against imports (largely by means of tariff barriers) and to promote exports.^{2/} For most industries, effective protective rates have been moderate, and, in recent years, have moved toward more uniformity. The incentives provided for manufactured exports give tax-free status to export production. The Ministry of Finance provides tax refunds and rebates and the BOI also gives import tax reductions or exemptions on machinery and corporate income taxes.^{3/} In addition, exports are entitled to the export-credit facility provided by the Bank of Thailand.^{4/}

A test was made to verify the general belief that Thailand's industrialization has been export-led. Applying Chow's causation test to economic changes during 1984-1987, the study shows that causation

^{1/}

The growth of manufactured exports by itself does however tend to lead to more significant deteriorations in income distribution; see section 3.2.

^{2/}

See Subproject Number 4, op. cit.

^{3/}

Ibid.

^{4/}

The amount of extended to manufactural exports was B 72,523 million 1988, representing 56.4 percent of the total.

Table 30 : Impact of Export Growth on Value Added by Sector

Economic Sector	Percentage changes in real value added
Agriculture	0.19
Manufacturing sector	
Food	0.65
Textiles	0.48
Chemical, rubber, petroleum	0.26
Wood and wood products	0.14
Paper and paper products	0.42
Non-metallic	0.02
Engineering	0.24
Service	
Trade	0.51
Transportation & telecommunications	0.44
Public utilities	0.45
Banking & insurance	0.40
Other services	0.31

Source : Subproject Number 7.

Table 31 : Impact of Export Growth on Imports

Imports	Percentage change in real imports for 1 % export growth
Agriculture	0.62
Manufacturing sector	
Food	0.44
Textiles	0.56
Wood and wood products	0.65
Paper and paper products	0.37
Chemical, rubber, petroleum	0.28
Non-metallic	1.74
Engineering	1.68
Other industries	1.39
Services	0.15

Source : Subproject Number 7.

runs from export growth to manufacturing growth and change.^{1/} Thus, indeed, industrialization in Thailand has been led by the overall growth of exports. Statistics also show that the export-output ratios of most manufacturing sectors have been increasing, confirming that the Thai economy has been undergoing a process of export-led industrialization.

The impact of export-led industrialization has been widespread. It has transformed the manufacturing sector, moving manufacturing away from its previous concentration in food, beverage, and tobacco production toward textiles, chemical products, metal products, machinery and transport equipment. The study team verified that high-growing manufactured exports all have positive employment share elasticities, implying that their growth has contributed to a higher degree of industrial labor intensity, although the increase was rather small (Table 32). It is also interesting to note that in several industrial subsectors this higher export intensity has led to less import content in production (for example, in textiles, wood products, chemical products, and even engineering products).

The CGE analysis of the effect of manufactured export growth on the size distribution of income shows no improvement, with higher income classes gaining more from export growth (Table 29).

Another research project at TDRI measured the technological capability of selected industries, many of which are export-oriented. Taking the electronics industry as representative of these new export-oriented industries, it was found that the industry has a reasonable degree of operative and acquisitive capability, slightly less adaptive capability and practically no innovative technological capability.^{2/}

Finally, these new export-oriented industries have been set up mainly in and around Bangkok and in the Central Region. In effect, their development has reinforced industrial concentration in the metropolitan area.

3.3 Agricultural Trade and Economic Welfare

Thailand's agricultural sector has always been trade-oriented. It can be said that the development of the agricultural sector depends very much on agricultural product exports. In fact, cassava growth has been brought about because of export opportunities. Thus, the effect of agriculture on income, employment, and price levels is related to exports of these products and the way the government intervenes in their trade.

^{1/}

See Subproject Number 7, op. cit.

^{2/}

TDRI, "The Development of Thailand's Technological Capability in Industry." Report on Biotech, Mat Technology, Elect Technology, Bangkok, 1989.

Table 32 : Employment Share Elasticities and Import Content with Respect to Export-output Ratios

Industry	Elasticities of Employment Share		Elasticities of Import Content		
	1979-84	1984-87	1975-80	1980-82	1982-84
Food processing	-3.51	-0.14	1.48	-0.74	1.74
Textiles	1.13	0.35	-0.20	-0.60	-1.58
Wood and wood products	-0.29	-0.10	-4.41	1.15	-2.79
Paper and paper products	0.70	-0.05	0.02	-2.36	8.10
Chemical and chemical products	0.03	-0.09	0.41	-0.08	-0.35
Nonmetallic mineral products	0.30	0.05	1.27	2.29	4.32
Engineering	-0.83	0.02	-0.11	0.54	-1.83
Miscellaneous	-1.12	0.26	0.29	-0.19	-6.40

Sources: 1. Thailand's Input-Output Tables 1975, 1980, 1982 and 1984.

2. Ministry of Industry.

3. Subproject Number 4.

In general the government applies a free-trade policy to trade in agriculture. As shown in Table 33, rice exporters and producers were taxed, sometime at very high rates, until 1986. Until that time rice producers did not make as much on rice exports and consumers did not have to pay the international rice price. Maize was taxed for a few years, but has been tax-free since 1982. Rubber has been taxed continuously, at a rate of about 10-20 percent. On the other hand, cotton and soybeans have been protected, with very high nominal protection rates in certain years, and palm oil is also protected. Sugar is a special case which is subject to government intervention, with varying effects on different groups of people. Sugarcane growers and millers are protected by the government, while consumers must pay a much higher price than the free-trade price.

The government does provide assistance. There is an export financing scheme which provides export credit at interest rates about 2.5-3 percentage points below the market rate.^{1/} In 1988, out of the B128.6 billion of export (packing) credit provided by the Bank of Thailand, 26.5 percent was utilized by agricultural exports.

On the whole--except for rice--until 1986 it can be said that agricultural trade benefited producers while consumers usually had to pay the world price or a price higher than the free trade price; thus there was a loss of consumer welfare.

As exporting agricultural products is very important to the Thai economy, the study team measured the effect of agricultural exports on certain macroeconomic variables by measuring the impact of price changes. During the 1980s, the prices of most agricultural products declined. The study team used the THAM-2 model, which is a form of a CGE model developed jointly by TDR and the World Food Center in the Netherlands, to simulate a case in which the world price of four major crops (rice, coarse grain, sugar, and rubber) deviated (declined) from average 1980-1982 prices. The results show that these price declines have a very strong (negative) effect on the agricultural product price index, agricultural product exports, the trade deficit, and the GDP (Table 34). For example, if 1985 world prices for agricultural products were not different from average 1980-1982 prices, the GDP would have had an additional increase of 4.45 percent; the trade deficit would have improved by 68.88 percent; and agricultural product exports would have increased by 29.02 percent more. These price declines also had an adverse impact on the real income per capita of farmers, whereas, in most cases, nonfarmers gained in income, thus worsening the income gap between these two groups of income earners.

The CGE analysis shows that agricultural product export growth is very favorable to the size distribution of income, and the lower income classes gain substantially more from agricultural export growth

^{1/}

See Narongchai Akrasanee and others, Export Financing in Thailand, TDR, July, 1989.

Table 33: Level of Government Intervention in Major Crops

Year	Nominal Protection Rate*									
	(proportionate difference)									
	Rice	Maize	Sugar			Rubber	Cassava	Cotton	Soybean	Palm Oil
		Grower	Miller	Consumer						
1970	-0.20	-0.03	0.24	0.41	0.49	-0.13	0.00	1.18	0.00	0.00
1971	-0.26	-0.04	0.02	0.28	0.43	-0.11	0.00	1.17	0.00	0.00
1972	-0.27	0.06	-0.22	0.03	0.15	-0.11	0.00	1.04	0.00	0.00
1973	-0.40	-0.10	-0.29	-0.11	-0.15	-0.17	0.00	1.11	0.00	0.00
1974	-0.48	-0.03	-0.62	-0.41	-0.56	-0.19	0.00	0.31	0.00	0.00
1975	-0.32	-0.07	-0.56	-0.41	-0.64	-0.17	0.00	0.42	0.00	0.00
1976	-0.16	-0.03	-0.21	-0.11	-0.25	-0.21	0.00	0.18	-0.08	0.00
1977	-0.22	0.00	-0.03	-0.03	-0.11	-0.22	0.00	0.03	0.18	-0.02
1978	-0.32	-0.02	0.35	0.04	0.15	-0.23	0.00	0.10	0.16	-0.04
1979	-0.24	-0.05	0.39	0.10	0.21	-0.24	0.00	0.07	0.17	-0.08
1980	-0.27	-0.05	-0.03	0.21	0.36	-0.26	0.00	0.09	0.14	-0.08
1981	-0.27	-0.09	-0.10	-0.01	-0.01	-0.19	0.00	0.03	0.12	0.00
1982	-0.12	0.00	0.36	0.08	0.60	-0.13	0.00	0.03	0.29	0.07
1983	-0.08	0.00	0.52	0.35	1.36	-0.18	0.00	0.38	0.25	0.09
1984	-0.06	0.00	0.53	0.49	1.28	-0.15	0.00	0.22	0.26	-0.14
1985	-0.04	0.00	0.97	0.24	1.88	-0.11	-0.21	0.45	0.16	-0.12
1986	0.00	0.00	0.81	0.06	1.65	-0.11	-0.25	0.64	0.34	0.32
1987	0.00	0.00	0.26	0.19	1.26	-0.12	-0.01	0.38	0.88	0.50
1988	0.00	0.00	0.17	0.18	0.84	-0.09	-0.21	0.05	0.47	0.49

Note: *Nominal Protection Rate = $(P_d - P_w) / P_w$

Where P_d = domestic price

P_w = border price

Source : ARD(Agriculture and Rural Development Program, TDRI), Selected Development Policy Issues, 1989.

Table 34: The Effects of Declining World Agricultural Product Prices on the Thai Economy 1980-1988

(Percentage)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
Price Index for Agricultural products	1.91	2.99	(5.98)	(5.78)	(5.30)	(11.57)	(12.35)	(10.88)	(3.24)
Output Index for Agricultural Products	0.00	0.00	0.00	(0.39)	(1.62)	1.14	(0.34)	(2.22)	(1.98)
Exports from Agricultural Products	3.97	12.14	(17.11)	(18.98)	(25.67)	(29.02)	(34.12)	(35.25)	(20.17)
Trade Deficit	(8.40)	(29.12)	65.35	37.24	49.00	68.88	109.04	61.15	32.07
Gdp	0.62	2.14	(2.31)	(3.90)	(3.55)	(4.45)	(4.89)	(4.33)	(3.09)
Real Income Per Capita:									
Farmers									
-Northeast	0.20	0.94	(2.10)	(2.53)	(2.19)	(4.06)	(5.95)	(4.02)	(0.13)
-Upper North	0.28	1.23	(2.56)	(2.73)	(2.62)	(3.13)	(4.79)	(3.46)	0.42
-Lower North	1.29	1.87	(3.79)	(4.08)	(3.84)	(8.22)	(10.00)	(8.90)	(5.15)
-Central Plain	0.15	4.02	(6.67)	(9.69)	(10.50)	(15.21)	(21.81)	(18.10)	(3.67)
-East & West	1.28	5.28	(7.80)	(10.56)	(6.55)	(14.25)	(16.30)	(12.03)	(6.29)
-South	11.25	1.11	(13.05)	(6.65)	(4.59)	(14.18)	(13.85)	(7.24)	(0.08)
Non-farmers									
-Northeast	(0.02)	(0.06)	0.14	0.18	0.19	0.77	1.68	1.35	0.38
-North	0.15	0.08	0.03	(0.25)	(0.37)	(0.05)	0.88	(0.28)	(1.33)
-Central Region	0.21	0.44	(0.70)	0.21	(0.24)	1.12	3.45	2.27	0.49
-South	1.06	0.22	(1.27)	1.02	0.97	0.19	3.90	2.48	0.57
-Bangkok	0.07	0.21	0.10	0.77	(0.77)	2.12	2.17	1.26	(0.04)

Notes: 1) Because of the openness of the Thai agricultural sector, it is very much influenced by world price fluctuations.

The general decline in world commodity prices, particularly after 1981, affected not only the agricultural sector but the rest of the economy. In order to evaluate the impact of these declining world prices, the THAN-2 (as an applied general equilibrium model) was used to simulate the case in which world prices of four major crops (rice, coarse grain, sugar and rubber) deviated from the average 1980-1982 price.

2) Rice, coarse grain, sugar, and rubber were chosen for this simulation because they were the major exports in the agricultural sector and their world prices declined significantly.

3) Figures in the Table are the percentage change of variables from the actual scenario simulation, compared to those in the constant world-price simulation.

Source : Subproject Number 3.

than do high income classes (Table 29). It is thus unfortunate that agricultural product exports have been growing at below average growth rates.

It can be concluded that trade in agriculture has been an important source of income to the Thai people. But developments in agricultural trade during the 1980s, because of commodity price declines, have not favored the overall development of the Thai economy.

3.4 Service Trade and Economic Development

Policy on trade in services is specific to each type of service.^{1/} For net-income-earning services such as tourism, Thailand has an active promotion scheme involving several organizations; the export of labor is also encouraged; and air transportation is promoted. For other types of services which are net foreign exchange users, the policy is to protect the domestic providers of these services.

Service exports have contributed to the growth of the service sector and hence the overall growth of the economy. Using the 1985 Input-Output Table the study team found that 1 percent growth in export services resulted in 0.13 percent growth in GDP. The impact on imports was 0.07 percent, while the impact on increased wages and profit was 0.21 percent and 0.15 percent. Service exports are therefore more labor-intensive than capital-intensive, and not very import-intensive (Table 35).

3.5 The Impact of the Inflow of Foreign Capital

The inflow of capital of all kinds is encouraged. Direct foreign investment is actively promoted by the BOI, with an incentive scheme that competes with most of Thailand's neighboring countries. Portfolio investment is only subject to a foreign ownership ceiling on a company-by-company basis. The lack of a double-taxation treaty with some countries (particularly the United States), although not a deliberate policy to discourage investment, does have an adverse effect on the inflow of portfolio investment from that country. Finally, foreign loans are not discouraged. In fact, for loans of longer than three years maturity brought in by institutions (other than commercial banks) for their own use, the government exempts the withholding tax on the interest payment, (10 percent if lenders are financial institutions and 25 percent otherwise). Thailand's capital market development has had strong and growing participation from foreign investors. The share of securities transactions by foreigners in total market trading volume increased from 2 percent in 1982 to 10 percent in 1987 and to 12.7 percent in 1988--and this rising share of foreigners is continuing in 1989. It is believed that

^{1/}

See Subproject Number 5, op. cit.

Table 35 : The Impact of a One-Percent Increase in Traded Service Exports

	% Increased
Agriculture	0.02
Mining and Quarrying	0.04
Manufacturing	0.04
Transportation	0.17
Telecommunication	0.19
Banking	0.14
Insurance	0.15
Tourism	0.15
Other services	0.58
GDP	0.13
Imported	0.07
Value Added	
Wages	0.21
Profits	0.15
Depreciation	0.23
Indirect Tax	0.08
Sub Total	0.16
Current Account	1.4

Source : Susangkarn, I-O Tables (1984) ;
 Human Resource and Social Development Program.
 Computed by -1

$X = Y(I-A)$
 X = Total Output Vector
 I = Identical Matrix
 A = Technical Coefficient Matrix
 Y = Final Demand

this kind of capital market development contributes positively to the Thai economy, if it improves efficiency by reducing the cost of funds and increasing the return on investment.

The simple calculation based on statistics for the years 1984-1988 (Table 36) indicates that indeed the securities market is very efficient in resource (capital) allocation. On a five-year average, fund users pay less than loan rates for funds mobilized from the securities market: debenture, 10.4 percent; dividend yield, 6.7 percent; MOR/MLR, about 12.4 percent. Investors, at the same time, receive a higher return from stock investments than from investing in a fixed-deposit savings account, i.e. 67.5 percent vs. 8.1 percent

The impact of foreign direct investment has been far-reaching. Several studies suggest that FDI has contributed positively to the Thai economy.^{1/} However, the impact of FDI in recent years is much more far reaching. First, there has been a dramatic shift of FDI from import-substitution industries to export-oriented industries. The share of export-oriented projects in the total number of promoted FDI projects increased from about 10 percent in 1984 to more than 80 percent in 1988. This will further raise the share of foreign firms in the country's total and in manufactured exports. Second, if all projects approved for promotion during 1986-1988 go forward, it is estimated that 18,200 million baht in exports will be generated in 1989, and the amount will be increased to 141,000 million baht in 1993.^{2/} Of this total amount, a substantial proportion is contributed by FDI projects. Third, since most of the recently promoted FDI projects (1986-1988) involve relatively labor-intensive activities, they will greatly contribute, to the country's employment. If all these projects go ahead forward, about 300,000 persons will be directly employed--a number that is more than twice that of the cumulative total up to 1986. Finally, the export-oriented nature of most of the projects, means that product quality is important. Thus, this will have a significant impact on production efficiency due to more technology transfer and training.

Aside from the contributions discussed above, some local entrepreneurs complain that FDI caused a considerable increase in land prices and shortages of skilled labor in such fields as engineering and science. In addition, they believe that FDI had a crowding-out effect on local producers in the domestic product market and on local sources of raw materials.^{3/} Furthermore, some local entrepreneurs and academicians have also expressed concern about the increasing predominance of Japanese FDI in Thailand.

^{1/} See Subproject 6, op. cit.

^{2/} Business Economics Association of Thailand, Foreign Investment and Impact of Investment Promotion (1989-1994), (in Thai), Mimeo 1989, Page 70.

^{3/} Ibid.

Table 36 : The Cost of Capital and the Return on Investment

(Percentage)

Year	Comparison of Cost of Capital				Comparison of Return On Investment	
	MOR	MLR	Debenture	Dividend Yield	Fixed Deposit Rate	Stockholders Return
1984	16.5	16.5	-	8.3 8.1 a/	13.5	6.9 7.6 a/
1985	15.5	15.5	13.2	6.3	11	12.3
1986	13.5	13.4	-	9.3	8.6	140.2
1987	11.6	11.5	9.2	5.3 5.5 a/	7.3	65.7 75.9 a/
1988	11.6	11.6	10.3	6	7.4	101.5
Average	12.6	12.2	10.4	6.7	8.1	67.5

Note: a/ = average of all stock returns in two-year period.

Source: Compiled from SET Statistics. See also Subproject 6.

4. POLICY AND STRATEGY OPTIONS FOR THE EXTERNAL SECTOR

On the whole, the open trade and investment policy which the country has followed up to the present time (although without clear strategic initiative) has had generally favorable effects on the overall development of the Thai economy. Indeed, it is obvious that this policy has been favorable to economic growth, that it has transformed the production structure so that it is in tune with world production and trade, and that it has allowed the economy to adjust to world economic changes. In addition, the policy has contributed to the financial stability of the country in terms of higher foreign-exchange reserves, a lower debt service ratio, and relatively stable price and interest-rate levels. Only in the area of income distribution has this open trade and investment policy not been found to have a favorable effect.

Findings suggest that Thailand should continue to pursue this policy of open trade and investment--with some modifications--so that the growth of the external sector will contribute toward improved income distribution. Also, since the world economic environment of the 1990s will be different from the 1980s, certain strategy options must be considered.

4.1 Global Economic Scenarios Toward the Year 2000

The study team assessed global economic scenarios which have a bearing on the Thai economy, relying on existing work on future economic trends. The team focused on the growth of the world economy--especially of industrialized countries--and factors affecting the competitiveness of Thai exports (exchange rate, cost competitiveness, and marketing ability), which were found to have accounted for most of the export expansion of the 1980s.

Because of macroeconomic imbalances in industrialized countries and the debt problems of developing countries, there is a general consensus that the world economy will continue to grow relatively slowly during the 1990s. However, a recession on the scale of the early 1980s is not expected, as most industrialized countries are more capable of dealing with inflationary problems and the world oil market has developed more resilience to cushion future oil shocks. And, as Thai exports account for only about 0.5 percent of world imports, slow world economic growth should not pose more problems in the 1990s than it did in the 1980s.

But, as discussed earlier, if Thailand expects to continue to attain more than 20 percent growth in exports, the country must rely on those factors contributing to the "competitive effect," and the country must also consider the "commodity composition effect" as well as the "market effect."

The rates of exchange among major currencies will continue to fluctuate as macroeconomic variables undergo adjustment and as different governments manage short-term economic and financial instabilities. Exchange rate adjustment is likely to result in the appreciation of Asian NICs currencies, which should be favorable to Thailand. Exchange rates of other ASEAN countries may depreciate more than the Thai baht. Appreciation in the yen and key European currencies should also make Thai exports more competitive in these markets, *ceteris paribus*. And the parity between the baht and the US dollar is not expected to change very much. Thus, on the whole, the exchange-rate factor should be favorable to Thai exports, provided also that Thailand is able to maintain inflation rates at a level not higher than those of its major trading partners and competitors, especially the ASEAN countries.

Cost competitiveness depends on several factors. Because of our relatively high labor supply growth (which is continuing in to the 1990s), the cost of Thailand's unskilled labor should remain competitive. But because of the relatively low rate of students continuing on to secondary education and higher, Thailand will be faced with a shortage of skilled and semiskilled labor. Thus, on the average, the labor-cost advantage of Thai exports will likely fall.

In the 1990s technology will be one of the most important factors affecting the relative cost advantage among countries. As technological progress is labor saving, and material-saving or substituting, technology could create disadvantages for Thailand. And considering the fact that technological development in Thailand still faces numerous institutional problems (including the lack of a comprehensive, standardized system and incentives for research and development), technological developments in the 1990s could adversely affect the relative competitiveness of Thai exports.

The cost of capital is another element of cost competitiveness. There is no shortage of capital in the world. And there are relatively few places and projects to which capital can move. Thailand is considered to be one of the few attractive places for foreign capital flow. Also the domestic savings rate is more than 20 percent of the GNP. Thus, the cost of capital should not be a disadvantage to Thai exports.

In sum, considering the global and domestic factors affecting relative cost competitiveness, the study team concluded that the chances for improving cost competitiveness are limited. The best Thailand can expect is to maintain its existing position of relative cost competitiveness. To do so, Thailand also must maintain the inflation rate at about or below 5 percent, the ceiling rate set by most of Thailand's major trading partners and competitors.

With respect to the "commodity composition effect," the pattern of Thai exports is already moving away from "low demand growth" commodities (such as primary products), to "high demand growth" commodities (mainly manufactured goods). The service sector also has had high demand growth. It is expected that as industrialized countries move toward a post-industrial society and other countries

become more industrialized, world trade in manufactured goods and services will continue to grow faster than trade in primary products.

The study team assessed Thai export markets and concluded that in the 1990s the major markets will remain essentially as they are today. High-growth markets will be Japan and the East Asian economies, while low-growth markets will be North America and Europe. However, as the world trade system is likely to have more market interference, the market effect on exports will depend very much on the world trading system which is expected to undergo major changes in the 1990s.

World economic scenarios relating to foreign investment and capital flow are viewed to be generally favorable to Thailand. The trend toward securitization and the growth in demand for securities following the growth of pension funds and investment funds will lead to demand for portfolio investment in Thailand. Industrial integration among the East and Southeast Asian countries and the growth in international sourcing will continue to create demand for direct investment. Finally, the supply of international money and capital will tend to flow to countries perceived to have high growth prospects such as Thailand.

4.2 A System of World Economic Management and Its Impact on Thailand: the Present and the Future

The world trading system is moving toward a more managed-trade system rather than a free-trade system; Thai exports are increasingly influenced by managed trade--to the extent that the future performance of Thai exports also depends very much on how Thailand adjusts to the managed trade system.

The World Trading System in Perspective

Throughout the last four decades the world economy has witnessed two major forces: one attempts to liberalize while the other tends to interfere with trade. This has resulted in a world-trading system which is a mixture of a number of subsystems.

The Multilateral Trading System. There have been a series of attempts to liberalize and multilateralize trade through the General Agreement on Tariffs and Trade (GATT) which was set up in 1947 to negotiate the reduction and elimination of tariff and nontariff barriers. The major trade negotiation rounds were known as the Kennedy Round (1964-1967) and the Tokyo Round (1973-1979), which actually resulted in lower tariff rates overall, and with "the most-favored nations" (MFN) principle. At the same time the system allows the principle of "special and differential" (S&D) treatment, especially for developing countries. The most important S&D treatment is the Generalized System of Preferences (GSP) introduced by the United Nations Conference on Trade and Development (UNCTAD) in 1968, which provides developing countries with access to developed country markets at lower or zero tariff rates.

As trade negotiations did succeed in lowering tariff rates, the number of nontariff barriers (NTBs) applied by developed countries has grown. Also, more goods and service items have entered world trade and they are not adequately covered under GATT. This has led to a new round of trade negotiations, the Uruguay Round, which began on 15 September 1986. Issues included in the New Round are: agriculture, textiles, intellectual property rights, import tariffs, trade in services, tropical products, trade-related investment measures (TRIM), dispute settlement procedures, and trade policy review mechanisms.

So far, as revealed at its mid-term review (5-8 April 1989), the Uruguay Round has made considerable progress, but a delay in the original timetable is most likely.^{1/} Indeed, in the next few years GATT can be expected only to slow down the disintegration of the multilateral trading system.

Commodity Agreements. Only a few commodities are traded under agreements. Some of them were organized by UNCTAD, but the existing agreements do not always cover all world trade in a given commodity. Apart from OPEC, the better-known commodity agreements are: The International Natural Rubber Agreement (1987); the International Sugar Agreement (1987); the International Coffee Agreement (1983); the International Agreement for Jute and Jute Products (1982); and the International Tin Agreement. The effectiveness of commodity agreements has been varied. Since the mid-1970s UNCTAD has made a concerted effort to strengthen them by setting up the Integrated Program for Commodities (IPC) and the Common Fund; however, they have not been successful to date.

Regional Agreements. The most important regional agreement which influences the international flow of trade is the EC. The move by the EC to form a single market by 1992 should make this regional agreement even more important, especially because the EC now includes countries with varying degrees of industrial advancement.

The EC single market means that once goods enter the EC they will flow freely among markets of member countries. This will certainly affect entry conditions for goods, especially in the following areas. First, technical barriers or requirements at the regional level will replace national requirements. The EC will establish mutual recognition on product regulations other than health, safety, and the environment. They must also decide on technical harmonization in case of divergent national legislation which impedes intra-community trade. And a new certification system will have to be established to certify that the products concerned meet technical requirements. All these new arrangements mean that exporters of products with technical requirements will have to relearn EC export procedures. While the EC maintains that the new system to be used to administer technical requirements will be simpler than existing national requirements, it could nonetheless affect the export flow to the EC at least in the initial phase of the single market.

^{1/}

The original Uruguay Round timetable was December 1988.

Second, the EC will introduce several new systems. There will be new quotas, local content requirements, anti-dumping duties, and government procurement prices and practices. Finally, the EC will expect reciprocity in most cases which, in effect, could mean dropping the S&D principle except for countries with a special relationship with the EC such as the African, Pacific, and Caribbean (APC) countries. It is clear that the EC single market will affect trade among the EC member countries, and trade between the EC and the rest of the world.

Apart from the EC single market, the other regional agreement of interest to Thailand is ASEAN. Following the Manila Summit of 1987, the improved Preferential Trading Arrangement (PTA) and the ASEAN Industrial Joint Venture (AIJV) scheme (both of which allow designated products a substantial margin of preference--(90 percent in the case of AIJV--if traded among the member countries) is slowly creating more intra-ASEAN trade and joint investment.^{1/}

In the future there could be a Pacific regional agreement involving countries which border on the Pacific, especially countries with market economies. While at present a formal Pacific economic agreement is not expected, it is likely that a system which allows close, high-level consultation on economic issues of regional interest will be established. And this should contribute toward trade and investment expansion among the Pacific-Rim countries.

Bilateral Agreements. While several countries have entered into some form of bilateral trade arrangement between themselves, very few have formal trade agreements. The situation may be different in the future as some countries (especially the United States) have found that trade disputes can be negotiated more expeditiously at the bilateral level. The United States has had a free trade agreement (FTA) with Israel since 1985, signed an FTA with Canada in 1988, and is discussing a possible FTA with Mexico. For the United States, an FTA means more than just a trade agreement. In fact, it is really a general economic cooperation agreement.^{2/} A version of an FTA, which is essentially a framework agreement designed to promote economic cooperation and which also includes dispute settlement mechanisms, is being discussed between the United States and ASEAN and is known as

^{1/}

The study by Seiji Naya (1987) shows that the PTA accounted for 5 percent of intra-ASEAN trade before the ASEAN summit in December 1987. Since then trade due to PTA is being assessed, but is estimated to be not much changed due to the slow introduction of new products into the new PTA. And as of October 1989, seven AIJV projects had been implemented since December 1987.

^{2/}

See Subproject Number 2, "The Management Systems of the World Economy and the Response of Thailand's External Sector" (Annex 1) for more discussion on bilateral agreements.

the ASEAN-US Initiative (AUI).^{1/} Finally, the Caribbean Basin countries have an agreement with the United States, which allows their goods free access to the US market.

Australia and New Zealand also have a free trade agreement, known as the "Australia-New Zealand Closer Economic Relations and Trade Agreement-(ANCERTA)." Australia and New Zealand have started negotiating ANCERTA, originally aiming to achieve free-trade status between them by 1995; however, they have since moved the dates forward to July 1990.

So far, Thailand's trade has not been affected by FTAs. But, in the future, as more FTAs come into operation they could adversely affect the competitiveness of Thai exports.

Unilateral Action. Some countries--notably the United States, Japan, and the European Community --have taken unilateral action to intervene in trade, and many of these actions are against the spirit of GATT. The area of trade most affected by unilateral action is agriculture. And this is likely to continue. The US Farm Act of 1985 severely damaged Thai rice exports during that period because of its dampening effect on the world rice price. And while the EC's common agricultural policy (CAP) helped promote Thailand's tapioca pellet exports, its effect on rice, coarse grains, sugar and other crops was even more damaging^{2/} Finally, Japan's intervention in agricultural production and trade is widely known, although there are some signs that Japan's intervention is on the decline.^{3/}

Another area of unilateral action is the imposition of countervailing and/or antidumping duties (CVD and ADD). The United States and the European Community frequently resort to the use of CVD and ADD to restrain imports. So far, only a few Thai export items have been subject to the CVD^{4/}; however, with the adoption of the US Omnibus Trade and Competitiveness Act (the US Trade Act) in August 1988, Thai products have more frequently been subjected to US CVD.^{5/}

^{1/} See Seiji Naya, et.al, ASEAN-U.S. Initiative: Assessment and Recommendations for Improved Economic Relations, ISEAS, Singapore, 1989.

^{2/} See Subproject Number 3, op. cit.

^{3/} See Subproject Number 2, op. cit.

^{4/} The following products have been subject to CVD in the US : Ball Bearings, Iron Tubes or Pipe Fitting or Pipes, Textiles and Apparel, Nails, and Rice. The EC has imposed a CVD on Ball Bearings.

^{5/} The most prominent item is textiles.

Table 37 : Thailand's Exports under Managed Trade with Three Major Trading Partners

(Percentage)

	(1) In Terms of Exports to One Major Trading Partner.	(2) In Terms of Exports to Three Major Trading Partners. (United States, Japan, and the European Community)	(3) In Terms of Thailand's Total Exports
1 st Degree (quotas, anti-dumping, and countervailing duties)			
United States	24.54	8.66	4.91
-Primary commodities	14.76	1.57	0.82
-Manufactures	26.92	12.27	7.31
The European Community	49.27	18.03	10.23
-Primary commodities	69.16	26.79	13.97
-Manufactures	42.91	15.59	9.29
Japan	5.87	1.65	0.94
-Primary commodities	11.02	5.57	2.91
-Manufactures	0.58	0.11	0.06
Total	-	28.34	16.08
-Primary commodities	-	33.93	17.70
-Manufactures	-	27.97	16.66
2 nd Degree (included subsidies, sanitary, and phytosanitary regulations)			
United States	24.54	8.66	4.91
-Primary commodities	14.76	1.57	0.82
-Manufactures	26.92	12.27	7.31
The European Community	52.70	19.28	10.94
-Primary commodities	76.05	29.46	15.36
-Manufactures	44.97	16.33	9.73
Japan	13.57	3.81	2.16
-Primary commodities	26.11	13.21	6.89
-Manufactures	0.58	0.11	0.06
Total	-	31.75	18.01
-Primary commodities	-	44.24	23.07
-Manufactures	-	28.71	17.10

Table 37 (continued) : Thailand's Exports under Managed Trade with Three Major Trading Partners

(Percentage)

	(1) In Terms of Exports to One Major Trading Partners.	(2) In Terms of Exports to Three Major Trading Partners. (United States, Japan, and the European Community)	(3) In Terms of Thailand's Total Exports
3 rd Degree (included all other measures such as commodity agreements)			
United States	24.62	8.69	4.93
-Primary commodities	15.71	1.67	0.87
-Manufactures	26.92	12.27	7.31
The European Community	52.74	19.30	10.95
-Primary commodities	76.20	29.52	15.39
-Manufactures	44.97	16.33	9.73
Japan	13.61	3.82	2.17
-Primary commodities	26.19	13.25	6.91
-Manufactures	0.58	0.11	0.06
Total	-	31.61	18.05
-Primary commodities	-	44.44	23.17
-Manufactures	-	28.71	17.10

Source : Estimated and computed by using data from the Department of Business Economics, "Reports on Trade Disruptives Measures in the EC, US and Japan" (in Thai), Department of Foreign Trade. Interviews were then conducted in order to confirm the overall data calculated by the researchers. A list of products is shown in Subproject Number 2.

Table 38: Importance of Exports Eligible for GSP in Terms of Total Thailand's Exports

(Millions of US Dollar)

Year	Agriculture	%	Industry	%	Total Exports under GSP	Thailand's Total Exports	%
	(1)	(2)=(1)/(5)	(3)	(4)=(3)/(5)	(5)	(6)	(7) = (5)/(6)
1980	209.98	27.83	544.48	72.17	754.46	6513.31	11.58
1981	340.40	38.80	536.95	61.20	877.35	7018.38	12.50
1982	354.51	36.27	622.93	63.73	977.44	6950.75	14.06
1983	289.41	31.34	634.13	68.66	923.54	6373.88	14.49
1984	285.12	29.69	675.17	70.31	960.29	7422.17	12.94
1985	305.79	29.23	740.21	70.77	1046.00	7127.37	14.68
1986	448.48	27.49	1182.95	72.51	1631.43	8876.20	18.38
1987	541.03	21.55	1969.18	78.45	2510.21	11662.90	21.52
1988	676.38	19.90	2721.51	80.09	3397.89	15970.31	21.28

Source: Department of Foreign Trade, Ministry of Commerce.

Table 39 : Exports Eligible for GSP by Country, Classified in Terms of Country Value by Sector

(Percentage)

Countries	Agriculture			Industry			Total		
	1986	1987	1988	1986	1987	1988	1986	1987	1988
The United States	13.00	14.08	12.99	28.99	28.71	25.82	24.59	25.55	23.27
Japan	11.34	8.70	8.98	16.64	14.12	18.60	15.18	12.95	16.69
Canada	2.60	3.53	4.30	1.80	1.70	1.62	1.99	2.09	2.15
The European Community	64.14	65.85	64.58	47.79	50.58	48.12	52.29	53.87	51.40
West Germany	24.11	15.90	14.90	14.35	15.43	13.48	17.03	13.54	13.76
United Kingdom	9.41	11.14	10.82	9.29	10.09	9.46	9.32	10.32	9.73
France	10.93	13.16	10.80	6.71	7.48	7.73	7.87	8.70	8.34
Italy	9.07	11.46	12.73	6.17	5.79	5.55	6.97	7.01	6.98
Netherlands	4.70	6.29	5.33	4.09	4.44	4.70	4.26	4.94	4.83
Belgium	2.36	2.98	3.04	4.15	4.06	4.02	3.66	3.83	3.82
Denmark	2.06	2.21	2.18	2.47	2.30	2.14	2.36	2.29	2.15
Spain	0.95	1.93	3.67	0.31	0.58	0.58	0.48	0.87	1.19
EFTA	8.69	7.65	8.36	4.86	4.78	5.78	5.77	5.40	6.30
Switzerland	4.15	2.25	2.70	2.70	2.50	3.02	3.10	2.45	2.96
Sweden	1.80	1.88	1.66	0.58	0.88	1.06	0.91	1.10	1.18
Finland	1.76	2.38	2.80	0.21	0.17	0.26	0.64	0.65	0.77
Austria	0.34	0.54	0.54	0.86	0.65	1.11	0.72	0.87	1.00
Norway	0.65	0.60	0.66	0.31	0.26	0.33	0.40	0.33	0.39
Other	17.61	15.49	17.51	9.44	9.67	11.62	11.72	10.94	12.79
Total(in percentage)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total(in million US dollars)	448.52	541.08	676.38	1183.02	1969.23	2721.51	1631.54	2510.32	3397.88

Source: Department of Foreign Trade, Ministry of Commerce.

Table 40 : Tariff Saving of Articles over 100,000 US Dollars Exported under GSP to the United States

(Thousands of US Dollar)

Most-Favoured Nations	1984	1985	1986	1987 (Jan-Oct)
Cat. 0.01-5.00 percent	1146.30 (9.91)	1415.40 (8.84)	2755.20 (10.31)	4538.60 (13.81)
Cat. 5.01-10.00 percent	5296.50 (45.80)	7302.20 (43.60)	14168.60 (53.04)	18527.30 (55.14)
Cat. 10.01-15.00 percent	1643.50 (14.21)	2719.60 (18.98)	2645.00 (9.90)	2457.40 (7.31)
Cat. 15.01-20.00 percent	1005.70 (8.70)	994.90 (6.21)	1409.30 (5.28)	1497.60 (4.46)
Over 20.00 percent	2473.60 (21.39)	3581.90 (22.37)	5733.30 (21.46)	6477.40 (19.28)
Total tariff saving	1565.50 (100.00)	16014.00 (100.00)	26711.40 (100.00)	33598.30 (100.00)
Total GSP exports to the United States (millions US dollars)	182.90	227.50	342.70	436.80
Total tariff saving/ Total GSP exports to the United States (percentage)	6.33	7.04	7.79	7.69

Note: Numbers in parenthesis are in percentage.

Source: Chirathivat, S. and S. Tambunlertchai, "Effects of the GSP on the Thai Economy", Paper prepared for UNCTAD, 1988 (mimeograph).

Another important unilateral action undertaken by the United States concerns intellectual property rights (IPR). The United States has requested other countries, including Thailand, to protect American IPR according to its standards, and has threatened to reduce or withdraw GSP privileges unless its IPR demand is met. The IPR dispute has therefore become a trade issue between the United States and Thailand.^{1/}

World Trading System and Thai Exports

The study team investigated the extent to which Thai exports are subjected to some form of trade intervention, and has concluded that, based on 1988 exports, one-third of all Thai exports to the United States, Japan and the European Community (18.1 percent of all Thai exports) fell under "managed trade" and two-thirds had no intervention other than tariffs (Table 37). Interestingly, exports to the EC had the highest proportion under "managed trade" (52.7%); the ratios for the United States and Japan were 24.6 percent and 13.6 percent. Primary commodity exports face more barriers in the EC and Japan, whereas US market barriers affect manufactures more than primary commodities. The exports subject to the highest degree of trade intervention are textiles and garments, tapioca pellets, steel pipe and tubes, ball bearings, canned fruits and canned seafood, sugar, tin, rice, coffee, frozen seafood, frozen chicken, and monosodium glutamate (MSG), in decreasingly order.

These findings on the extent to which Thai exports are subjected to trade intervention suggest that "managed trade" has become an important issue facing Thailand.

The study team assessed the importance of the GSP on Thai exports and found that, in 1988, 21.28 percent of all Thai exports were traded with GSP privileges, 80 percent of which were manufactured goods (Table 38). In terms of markets, the EC accounted for 51.4 percent of the exports which benefited from the GSP; the United States accounted for 23.3 percent; and Japan, 16.7 percent. Therefore, the GSP scheme is still very important to Thai exports (Table 39). However, the importance of the GSP scheme is more in terms of market opening or gaining market access, rather than cost savings. For example, the study team calculated GSP benefits from the United States during 1985-1987 and found that the tax saving amounted to only US\$ 27 million, or 7-8 percent of all Thai exports eligible for GSP offered by the United States (Table 40).

The study team also assessed the potential impact of the EC Single Market 1992 on Thai exports to the EC. Relying on estimates of average-price reductions within the EC and selecting 31 major export items (which account for 38 percent of all Thai exports to the EC), findings show that the Single Market could result in reducing Thai exports to the EC by about 1.5 percent *ceteris paribus*. The percentage reduction for agricultural exports would be about 1.5 percent, while manufactured exports would decline by 1.2 percent.

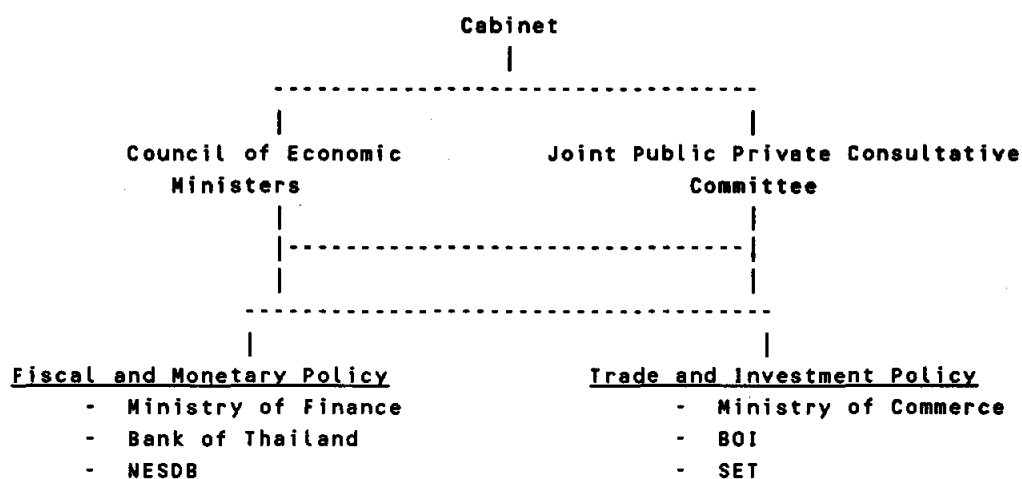
^{1/}

See Subproject Number 2, *op. cit.*

These reductions are due to price effects only (trade diversion), which could be offset at least partly by the expected income effect (trade creation).^{1/}

4.3 Thailand's Policy Formulation and Economic Decision Processes

For several years the Thai government has tried to systematize the economic policy formulation and decision-making processes. Three agencies have the responsibility for macroeconomic policy: the Ministry of Finance, the Bank of Thailand, and the National Economic and Social Development Board. The agencies responsible for trade and investment are the Ministry of Commerce and the Board of Investment, and the Securities Exchange of Thailand (SET). The Council of Economic Ministers coordinates economic policies and the government cooperates with the private sector on policy matters through the Joint Public-Private Consultative Committee (JPPCC). A diagram of the policy formulation and economic decision-making system and how it affects the external sector is presented below.



During the period 1981-1988 some technocrats (non-elected politicians)--who could work closely with the bureaucracy--were always included in the Cabinet. So, politicians, technocrats, and bureaucrats saw the merit in taking joint responsibility for economic policy. They, therefore, made a deliberate effort to strengthen the policy formulation and economic decision-making system. The economic adjustments and restructuring which took place during the period discussed earlier suggest that the system worked reasonably well. The only weak spot, perhaps, was that the group responsible for trade

^{1/}

Ibid.

negotiations was mainly limited to officials from the Commerce Ministry. There was an attempt to set up an Office of Trade Representatives with a broader mandate but it was unsuccessful.

Since August 1988 Thai politics have led us to a Cabinet consisting almost entirely of elected Members of Parliament. These elected politicians want to control economic policy and except for preparing materials and policy proposals, the technocrats/bureaucrats are left out. Thus, although the system of policy formulation and coordination set up earlier is still in place, it is not relied upon as much as before. With less coordination, macroeconomic policy has become inconsistent. For example, while fiscal policy is restrictive, monetary policy is expansionary.^{1/} And on foreign trade the government has set up an International Economic Relations Committee to coordinate the work. For the same political reasons, this Committee has not been very effective. There has been no change in administering direct foreign investment policy, i.e., largely by the BOI and especially for investment in manufacturing. Finally, the Securities Exchange of Thailand, the Ministry of Finance, and the Bank of Thailand administer portfolio investment policy--with no change. Therefore, it is the entire system involving macroeconomic policy and trade policy and practices which needs to be reconsidered.

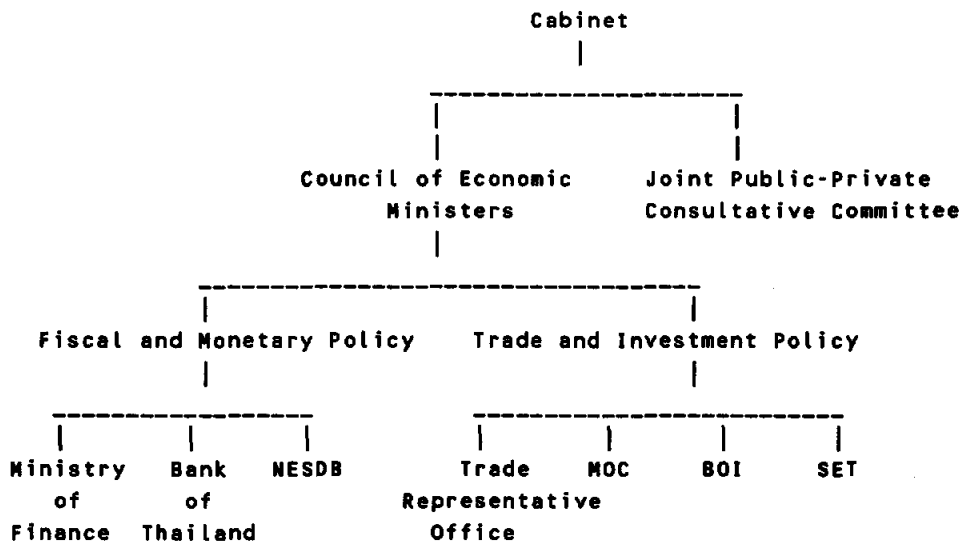
4.4 Trade Policy and Strategy Options

Before proceeding to discuss policy and strategy options for trade and capital flows, there is a need to consider whether the present policy formulation and economic decision-making system is adequate to deal with the changing international economic environment. In order for the system not to depend too much on leadership personality, it may be necessary to rely on legal means. There should be a law that makes the central bank system truly independent, so that monetary policy will be less subject to political factors. There should be an office with authority and facilities to conduct trade negotiations to oversee trade policy and practices. This Office, to be backed by special legislation, would be similar to the U.S. Trade Representative office and has been proposed previously. The Office should also allow private-sector participation. Ultimately, a scheme

^{1/}

During fiscal year 1988 the revenue surplus was B4,000 million while the money supply (M2) expanded by 24 percent.

of policy formulation and decision making for external economy-related matters would comprise the organizations illustrated below:



As pointed out earlier, the study team came to the conclusion that the basic policies of "fiscal and monetary conservatism" and "trade and investment promotion cum protection" have served Thailand very well in terms of enhancing economic growth and strengthening the country's financial position. These two basic policies should be continued, with some modifications. The system of economic policy formulation and decision making on macroeconomic policy as proposed above would provide a check-and-balance mechanism which would assure a policy of "fiscal and monetary conservatism."

While the general policy of "trade and investment promotion cum protection" has been successful, a number of strategies need to be reviewed and emphasis shifted. For example, a move toward less protection should be considered, because it would promote competition and hence efficiency, and would reduce the tendency toward trade retaliation. Also, our scenarios indicate that an emphasis on agricultural product exports would produce better income distribution; however, the problem is really whether trade in agricultural products can really grow at higher rates, considering supply and demand constraints. Another option often proposed is to liberalize trade in manufactures by reducing the overall protective rate. Our findings show that reducing the protective rate by a half would promote economic growth, but it would also worsen income distribution slightly as indicated by the increases in the GINI coefficient, by .164 percent (nominal terms) and .125 percent (real terms). This is mainly because tariffs reducing for some manufacturing industries has a positive impact on other nonagricultural sectors, while it leads to minimal incentives for more agricultural production. In contrast, export tax cuts should help improve income distribution due to the dependence of export taxes on agricultural products. Few export items are subject to export taxation; indeed, export tax revenue mostly comes from

exported rubber. The study found that a 50 percent general cut in export taxes would slightly improve income distribution, i.e. the GINI coefficient would decrease by 0.328 percent and 0.284 percent in nominal and real terms, respectively. The distributive impact of an export tax reduction was also found to be stronger than the impact of reducing import taxes.

The various policy options suggested above mean that Thailand cannot rely too much on trade policy to achieve its income distribution objective. But as proper trade policy would produce better growth and financial stability, the economy will be in a better position to undergo adjustment using tax-cum-expenditure measures to obtain better income distribution.

At the micro, sectoral and/or subsectoral levels there are several trade strategy elements necessary to maintain competitiveness. The basic trade strategy objective suggested here is to maintain and to improve "competitiveness," because competitiveness is a major challenge facing Thailand in its next phase of economic development. As many developing countries with cost advantage are now following Thailand in their pursuit of export development, Thailand will have to move up to produce products at higher levels of fabrication and sophistication--products in the domain of the NICs. Therefore, it is crucial that Thailand maintains and improves its relative competitiveness by improving productivity and conducting trade and investment policies and practices more efficiently.

In order for Thailand to maintain its competitiveness it needs to take action at the unilateral, bilateral, regional, and multilateral levels, with the strongest emphasis on unilateral and multilateral action.

- o Unilateral Action Unilateral action involves the strengthening of export capability in all sectors, with more emphasis on agricultural products than has been previously given. These unilateral actions may include:
 - (1) A general reduction in the overall protective (tariff) rates;
 - (2) A reduction in export taxes of agricultural products;
 - (3) A reduction in import duties on capital goods;
 - (4) Increasing the scope of tax rebates and refunds;
 - (5) Allocating export financing more toward small-scale exporters, especially of agricultural products;
 - (6) Reformulating investment promotion incentives to minimize the risk of CVD and ADD;
 - (7) Creating a Thai Trade Representative Office with the authority to negotiate trade matters with private-sector participation; and
 - (8) Strengthening Thailand's export promotion capability by creating an autonomous and semi-commercial export-promotion office.

- o Bilateral action. Thailand needs to strengthen its capability in bilateral trade negotiations. It should explore the possibility of entering into bilateral agreements with its major trading partners such as the United States, the European Community, Japan, Canada, Australia, The Republic of Korea, and Taiwan, for example. These agreements should be in a framework agreement form which provides mechanisms for dispute settlements and facilitating economic cooperation.
- o Regional approach. A regional organization to which Thailand belongs is ASEAN. So far, ASEAN's effectiveness as a vehicle for promoting trade and investment has been limited, in terms of both intra- and extra-ASEAN trade.

Considering the constraints on the promotion of intra-ASEAN trade, Thailand should concentrate on making use of ASEAN for extra-ASEAN trade expansion. With growing regionalism and bilateral agreements, Thailand should advocate economic or trade agreements between ASEAN and its other major trading partners. The candidates for these agreements are the United States (ASEAN-US Initiative), and the European Community. These agreements should be in framework agreement form which has procedures for trade negotiations and dispute settlements; they should also include other areas of economic cooperation. ASEAN, in fact, has an economic cooperation agreement with the EC, but it mostly contains statements of intention to cooperate.

Another area for potential regional cooperation is a "Pacific Regional Group." which may include Canada, the United States, Japan, South Korea, China, Taiwan, Australia, New Zealand, and ASEAN--the economic area which presently has the highest growth in trade among its members. There is no doubt about an economic justification for forming this regional group, but because of political considerations, the only feasible form a Pacific Economic Group can take at this time is as a loosely structured, quasi-official organization. Such an organization already exists--the Pacific Economic Cooperation Conference (PECC)--and can be further strengthened. A regular, high level meeting of ministers from the Pacific Basin countries would enhance the strength of the "Pacific Regional Group."

- o Multilateral trade negotiations. Ultimately, for a small open economy like Thailand, a fair and well-developed multilateral trading system will be in its best interest. Thailand should therefore make a concerted effort to help strengthen the GATT system. Working closely within the ASEAN group in the Uruguay Round of trade negotiations should contribute toward a more favorable outcome for Thailand. Another group Thailand can usefully work with is the Cairns Group, the group of major agricultural product exporters who are involved in

negotiations for agricultural and tropical products. The objective of the group should continue to be the liberalization of world farm trade.

It is important to recognize that industrialized countries are becoming less willing to offer S&D treatment to developing countries. At the same time, they have started to insist on reciprocity. Thailand, in conjunction with ASEAN, should continue to insist on S&D treatment, but must be prepared to negotiate on the phasing out of S&D treatment in a set timeframe. Indeed, as the GSP is a form of S&D treatment, Thailand should negotiate for its gradual phasing-out, if the GSP is to be abolished. And, further, Thailand should negotiate for gradual reciprocity.

The current Multi-Fibre Arrangement is due to expire in 1991, but it is very likely that there will be another agreement, as the new GATT Round is unlikely to succeed in bringing trade in textiles and garments under its auspices. Thailand must be prepared to negotiate on the new agreement. Finally, Thailand should rely on commodity agreements as necessary. It is expected that only a few agreements, such as the INRA, will be effective.

4.5 Foreign Investment and Capital Flow Policy and Strategy Options

Except for technological development and ownership structure, DFI in manufacturing has had a favorable impact on the Thai economy. The BOI has already started to remedy these shortfalls by promoting research and development (R&D) investment and requiring divestment. However, not many restrictions can be placed on FDI as there are more countries competing for FDI than countries looking for areas in which to invest.

The question is how liberal Thailand should be in the case of FDI in services. For nonfactor services such as banking and insurance, transportation and telecommunications, there are theoretical arguments for certain entry limitations.

Portfolio investment can be promoted best by increasing the supply and liquidity in the Securities Exchange of Thailand. This would mean that Thailand should have a more efficient system for listing stocks. Also, a double-taxation agreement with a country like the United States would help promote US investment in the Securities Exchange of Thailand.

The government already has a sound system for managing foreign public loans. Further, the government does not guarantee loans brought in by the private sector, which is a good policy. The government should monitor foreign private loans and should assure that short-term loans are not creating too much growth in the money supply, as this would put too much pressure on price levels.

ANNEX 1

THAILAND IN THE INTERNATIONAL ECONOMIC COMMUNITY

Project Director : Dr. Narongchai Akrasanee

PART I : THE FUTURE ROLE OF THAILAND IN THE GLOBAL ECONOMIC COMMUNITY

Project 1: *Thailand: Prospects and Perils in the Global Economy*

**Authors: Dr. David Dapice
Dr. Frank Flatters**

Project 2: *The Management Systems of the World Economy and the Response of Thailand's External Sector*

**Authors: Dr. Suthiphand Chirathivat
Dr. Chumphorn Pachusanond
Dr. Tanasak Wahawisan**

PART II: MANAGEMENT OF THE THAI EXTERNAL SECTOR IN THE CHANGED WORLD ECONOMY

Project 3: *Thai Agriculture in the World Economy*

**Authors: Dr. Ammar Siamwalla
Dr. Suthad Setboonsarng
Dr. Direk Patmasiriwat
Dr. Ruangrai Tokrisna**

Project 4: *Trade in Manufactured Goods and Mineral Products*

**Authors: Dr. Paitoon Wiboonchutikula
Dr. Rachain Chintayarangsan
Dr. Nattapong Thongpakde**

Project 5: *Trade in Services*

**Authors: Dr. Thammanun Pongsrikul
Dr. Somchai Ratanakomut**

Project 6: *Direct Foreign Investment and Capital Flow*

**Authors: Dr. Jeerasak Pongpisanupichit
Dr. Wisarn Pupphavesa
Dr. Somjai Phagaphasvivat
Dr. Pipat Pitayaachariyakul
Dr. Duangmanee Vongpradhip**

Project 7: *The Impact of the External Sector on the Thai Economy and its Determinants*

**Authors: Dr. Atchana Wattananukit
Dr. Teerana Bhongmakapat**

THAILAND IN THE INTERNATIONAL ECONOMIC COMMUNITY

Summary of Major Issues, Research Findings and Strategy Options

by

Narongchai Akrasanee

THAILAND DEVELOPMENT RESEARCH INSTITUTE

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THAILAND IN THE INTERNATIONAL ECONOMIC COMMUNITY

Summary of Major Issues, Research Findings and Strategy Options

by

Narongchai Akrasanee

The 1980s will be recorded in Thai economic history as a decade of drastic economic change. In the early 1980s the country experienced a moderate rate of GDP growth, a large current account deficit, a rising debt-service ratio, and high inflation. The impact of the second oil shock was widely felt. Economic stability was attained in the mid-1980s through restrictive fiscal and monetary measures, but at the cost of low GDP growth which reached its lowest level--of 3.5 percent--in 1985.^{1/} Finally, starting in 1986, the economy shifted into high gear, entering an era of very high GDP growth with financial strength, resulting mainly from booming exports, foreign investment, and tourism and reaching double-digit growth rates in 1988 and 1989. As a consequence, the economy has become much more internationalized with profound and wide-ranging effects on the economic activity and well-being of the Thai people.

This paper presents the work done on "Thailand in the International Economic Community," a research project carried out by a team of researchers at TDRI in 1989. (See Annex 1) The paper summarizes major issues, research findings, and strategy options as presented in individual reports. Part I discusses changes in the Thai economy during the 1980s as background to the report; Part II, the

dynamism of the external sector of the Thai economy; Part III, research results on the impact of the external sector on various aspects of the Thai economy; and, finally, policy and strategy options are presented in Part IV.

1. Recent Development of the Thai Economy

At the end of 1980s, Thai economy is drastically different from what it was at the beginning of the decade. When the rise in international interest rates followed the second major oil-price increase in 1979, the economy of the early 1980s felt the impact strongly. In 1981 the economy's dependence on imported petroleum was 99.32 percent of total domestic consumption^{2/} and foreign borrowing at very high interest rates was necessary to meet payment requirements. These events triggered off a series of economic difficulties which required major policy changes and structural adjustment throughout the first half of the 1980s.

The impact of the second oil shock and high international interest rates was immediate. In 1980 the trade deficit went up to 8.9 percent of the GNP (the current account deficit was 6.5 percent of the GNP) and the inflation rate was 19.7 percent (Table 1). In the next few years the government had to introduce a number of fiscal, monetary, and trade measures to restore economic and financial stability. Some of these measures are discussed as background information below.

First, in 1981, the value of the baht was devalued by 8.7 percent against the US dollar. There was little improvement in the economic situation in 1982. In 1983 speculation about further devaluation of the baht led to high investment expenditures, which were later dampened by imposing credit controls at the end of 1983. The government also curtailed its expenditures by introducing a zero-growth investment budget for fiscal 1983-1985 (฿35.1 - ฿35.4 billion)

In 1984, although the economic growth rate was high (registering at 7.1 percent) external conditions continued to worsen. The debt-service ratio was rising, while the foreign exchange reserve level was falling. The situation prompted the government to devalue the baht in November by 14.8 percent against the US dollar, and, in order to facilitate further adjustment either way,^{3/} the baht was untied from the US dollar and connected to a parity fixed to a basket of currencies. 1985 was therefore the year which bore the brunt of the impact of all of the adjustments since 1981, resulting in the very low growth rate mentioned earlier.

The average annual economic growth rate during 1980-1985 was 5.7 percent (Table 1). The rate of growth of agricultural value added was 4.7 percent, somewhat higher than the normal rate of about 3 percent. This relatively low growth rate was due mainly to the rather low growth rate of the industrial sector, which seemed to suffer the most during the period of major macroeconomic adjustment. Foreign trade in goods during this period did not grow very much, but trade in services about doubled both ways. In the meantime, the debt-service ratio reached a peak of 21.9 percent in 1985, the foreign exchange reserve was US\$ 3.0 billion, and the inflation rate was down to 2.6 percent (Table 1).

It should also be mentioned that in 1985 the world economic environment was favorable to Thailand. First, the international interest rate fell from its high of 13.7 percent in 1982 to 9.1 percent in 1985;^{4/} second, the oil price fell to about US\$ 25.73 per barrel;^{5/} and third, the US\$ was devalued (after the Plaza Accord in September) by about 14.4 percent against the Japanese Yen by the end

of 1985--and also substantially against other major currencies.^{6/} And, finally, the industrialized country economic growth rate recovered from -0.3 percent average rate in 1982 to 3.4 percent in 1985.^{7/}

When the Thai economy entered the second half of the 1980s, its financial position was more stable, with a more flexible exchange rate policy. The world economic environment was favorable to trade and investment. Exchange rate realignments also necessitated relocation of economic activities. The Thai government at that time, having achieved financial stability, wanted to see economic recovery through domestic and foreign private trade and investment. The industrial sector also had a surplus capacity following several years spent in economic doldrums. By all indications, it appeared that the Thai economy was ready for recovery and structural change.

The recovery took place first in the growth of manufactured exports, which increased by 35.09 percent in 1986, followed closely by inbound tourism and foreign investment.^{8/} The high growth of these three activities has persisted throughout the second half of the 1980s, with widespread impact on economic growth, structural change, and financial stability.

First, as shown in Table 1, the average growth rate of the GDP during 1986-1988 was 9.2 percent; then double-digit growth was recorded in 1988 and is also expected for 1989. In 1988 industry registered the highest growth rate, especially in manufacturing, and in 1989, the highest rate is in construction, followed closely by the service sector.

Second, the structure of production has shifted from agriculture to industry and services. The proportion of agricultural value added is expected to fall from 19.9 percent in 1985 to 15.8-16.1 percent in

1989, while industry and services will rise from 27.4 percent and 52.7 percent to 30.1-30.8 percent and 53.8-54.6 percent in the same period.

Third, one of the most notable changes was the increase in foreign merchandise trade which about doubled in value from 1985 to 1988, and is still growing strongly in 1989. Trade in services also had a large increase, especially on the export side. This impressive performance in goods and service exports resulted in a low current account deficit of about 3 percent of the GNP in 1988 and about 4 percent in 1989, and a debt-service ratio of 12.9 percent in 1989. Finally, in the second half of the 1980s, the inflation rate ranged between 3-6 percent.

Indeed, the recent development of the Thai economy has had much to do with the performance of the external sector.^{9/} It was the growth of the external sector which brought about economic recovery with very high GDP growth rates and structural change, from agriculture toward industry and services. It was also the external sector which provided the Thai economy with financial strength and stability.

In the following sections we shall analyze in more detail how important the external sector is to the Thai economy at present, how important it will be in the near future, and what policy options Thailand can pursue to optimize its impact on the economy and for the people of Thailand.

2. The Dynamics of the External Sector

2.1 The Current position of the external sector

The external sector continuously grows in importance to the Thai economy. Its structure is changing rapidly and it has assumed quite a different pattern when compared to what it was in the early 1980s.

First, exports of both goods and services have been growing at accelerated rates (Table 2). The average annual growth rate in nominal terms during 1986-1988 was 27.1 percent compared to 8.2 percent during 1980-1985. (The real growth rates were 22.6 percent and 5.3 percent.) This high export growth is continuing in 1989. As a consequence, the ratios of merchandise exports and of services to GNP increased from 20.2 percent and 6.7 percent in 1980 to 27.7 percent and 10.4 percent in 1988. These ratios are expected to rise further to 31.1 percent and 9.6 percent in 1989. Thus, at present, more than 40 percent of the total GNP of Thailand is generated from the export of goods and services.

The high growth rate of merchandise exports has been due to the high growth of manufactured exports, which can be seen from the rising share of this product group in total merchandise exports, from 44.8 percent in 1980 to 65.4 percent in 1988. In contrast, during the same period, the share of agricultural product exports declined from 48.1 to 31.5 percent. The change in the composition of service exports reflects its more concentrated earnings from tourism, which, in 1988, accounted for more than half of all service exports. Along with tourism, earnings from transportation increased their share from 5.5 percent in 1980 to 8.5 percent in 1988 (Table 2). A major change

also took place in the direction of merchandise exports. Because of the extraordinary growth of manufactured exports, which grew the highest in the U.S. market, the share of the United States in total merchandise exports increased from 8.8 percent in 1980 to 18.5 percent in 1988. Japan also registered a substantial increase in export share, while the share of the EC market declined. A similar development took place in the directional change of service exports toward more concentration in the US and Japanese markets, although the change was not as pronounced.

While exports were growing rapidly in the second half of the 1980s, imports were growing at even higher rates. As shown in Table 3, the average annual nominal growth rates of imports were 7.0 percent and 31.4 percent during 1980-1985 and 1986-1988. This high growth was in both merchandise and services; the shares of both increased from 29.1 percent and 5.0 percent in 1980 to 34.8 percent and 6.6 percent in 1988. This pattern of high import growth is continuing in 1989.

The most important change in the composition of imports was a reduction in the concentration of fuel imports, from a high of 31.0 percent in 1980 down to 11.5 percent in 1988. This was due to both the fall in oil prices and to increased domestic production of petroleum products. In the meantime, there was high growth in manufactured imports, mainly for intermediate products and capital goods. There has been little change over the decade in the composition of services imports, however. Investment income (outlay) has continued to dominate payments. Excluding investment income, the three leading expenditure items are tourism, freight and insurance for merchandise, and transportation (Table 3).

The direction of imports has shifted away from the United States to Japan. The share of imports from the United States declined from 27.2 percent in 1980 to 12.1 percent in 1988, while Japan's share increased from 19.2 percent to 29.3 percent. There was also a decline in the EC share, from just above to just below 20 percent. A similar development was observed in the direction of service imports, although not to the same extent as merchandise imports. Therefore, on the import side, Thailand buys increasingly more from Japan, while it sells increasingly more to the United States.

There have also been major changes in the role and the pattern of foreign capital flows into and out of Thailand (Table 4). During the period 1980-1988 the annual average net capital flow growth rate was only 4.2 percent, lower than the growth rate of net capital formation. The net flow share in net capital formation has, therefore, been declining from an average of 34.9 percent during 1980-1982 to 14.3 percent during 1986-1988 (Table 4). In fact, the share declined substantially in 1986-1987, but then went up to 24.6 percent in 1988.^{10/} At the beginning of the decade loans accounted for as much as 88.7 percent of the net flow. The significance of foreign loans—especially long-term loans—has declined throughout the decade, having been replaced by direct and portfolio investment. Comparing the years 1980 and 1988 within each capital formation group (1) the share of foreign investment in private investment rose from 3.6 percent to 9.4 percent; (2) foreign portfolio investment increased from less than 2 percent of all security market trading volume to 12.9 percent; and (3) the share of foreign loans in commercial credit declined from 43.1 percent to 13.7 percent (Table 5).

2.2 Gaining shares through dynamism and competitiveness

Many factors, including world economic recovery and favorable exchange rates are cited as accounting for the rapid expansion of Thailand's external sector. However, as is shown in Table 6, the facts do not seem to support these arguments. The growth of Thai exports appears to be independent of both world economic growth and rate changes. In fact, Thailand's imports into its major trading partners grew much more than did their respective GDP growth rates.

Applying a constant market share (CMS) analysis to Thai export performance reveals that, on the average, the good export performance of 1982 to 1987 was due to gains in Thai product competitiveness.^{11/} Of the total increase in exports during this period, 59.4 percent was due to world-trade growth (Table 7). This means that if Thai exports had grown at the same rate as world-trade growth, Thai exports would have increased by only 59.4 percent of the actual increase. The "competitive effect," (the ability to gain bigger product shares in the world market) accounted for 37.4 percent. The third component of export change is the "commodity composition effect," which shows the extent to which export growth has resulted from Thailand's selling high-demand commodities on the world market. The CMS analysis shows that the commodity composition effect accounted for only 8.9 percent of the total export increase, which means that Thai exports were composed of goods with slow-growing world demand--mainly primary products--and goods of fast-growing world demand--manufactures--resulting in a rather low total commodity composition effect. Finally, the market effect was -5.6 percent, implying that Thailand's

export growth took place in slow-growing markets.

Another method we applied to explain Thai export performance was a "source of growth" analysis^{12/} and we found that the sources of export growth during 1984-1987 were: world income growth, 57.3 percent; cost competitiveness, which includes all elements of costs, 18.7 percent; and unexplained residual, 24.0 percent (Table 7). The residual should include the ability to penetrate markets. Viewed in this way, these results are consistent with the CMS analysis.

The success of Thai exports resulted in Thailand's having its world-market shares of primary products and manufactures increase from 0.68 percent and 0.25 percent in 1982 to 0.88 percent and 0.40 percent in 1987 (Table 7).

2.3 The Internationalization of the manufacturing sector

As the Thai economy underwent this export-oriented transformation, the manufacturing sector led the entire economy. As mentioned earlier, the share of manufactured exports has surpassed the agriculture share since 1985. Within this manufacturing group proper (SITC 5-8), all exports grew at rates higher than 20 percent (especially during the second half of the 1980s), which resulted in their increased export shares. Machinery (SITC7) and miscellaneous manufactured goods (SITC8) are products with significantly high export shares. The leading performers in these two groups are electronic products, plastic products, and toys. In the meantime, other, traditional manufactured exports (such as textiles, garments, jewelry) have continued to grow at high rates. By 1988, the shares of SITC6, SITC7 and SITC8 were 20.0 percent, 11.3 percent and 17.3 percent, significantly higher shares than in the 1960s and 1970s (Table 8).

Analyzing export growth by means of SITC product groups, of course, underestimates the share of manufactured exports, because a number of manufactured products are included under SITC0 (foods), SITC1 (beverage and tobacco), and SITC4 (animal and vegetable oils and fats). Including these products in manufacturing shows that processed-food exports have also expanded rapidly. Thus, Thailand's exports have grown in all categories, including those based on the agricultural sector.

A CMS analysis was applied to explain Thailand's export performance during 1982-1987. The summary of results is presented in Table 9. Results show that the market effect for manufactures was very small or negative and that the commodity composition effect was about 8.86 percent. However, competitive effects varied widely, ranging from -26 percent for SITC6 to 65 percent and 71 percent for SITC8 and SITC7. World-growth effects were high for SITC5 and SITC6, and low for SITC7 and SITC8.

Another method applied to explain export performance is the Revealed Comparative Advantage (RCA), which measures the export share of the product category in total Thai exports relative to a similar share of that product category in world exports. The results, shown in Table 10, indicate that Thailand has strong RCA in SITC0 and SITC1 (Foods), SITC2 (crude materials), and SITC6 and SITC8 (manufactured goods classified by material and miscellaneous manufactured articles). For other product categories the RCA ratios are less than 1, implying the lack of comparative advantage. Nevertheless, these ratios, except for animal and vegetable oils and fats, have been improving.

Finally the study team tested a hypothesis that industries with low Effective Rate of Protection (ERP) would tend to have high export-output ratios. Using the Corden formula of ERP, which is closely linked to the Domestic Resource Cost ratio, the Input-Output Table of 1985, and tariff rates of 1981 and 1984 ERP for 111 sectors were calculated (Table 11). A regression analysis was then performed on the ERP and export-output ratios of 1985. The results give the Kendall correlation coefficient of -0.1473 , which is statistically significant at the 0.05 significant level, thus confirming the hypothesis that industries with high efficiency (low ERP) tend to export more.

An attempt has been made to project future manufactured export growth through the year 2000. Using TDRI's computable general equilibrium (CGE) model, total export growth was first projected up to the year 2000. Then, subsectoral share trends were computed based on structural changes since 1960. These changes in subsectoral shares were then projected into the future to the year 2000. Combining this total export growth projection with the subsectoral share projection, the subsectoral values of exports were then derived; and, from these, the subsectoral growth rates were calculated. The results of this projection are shown in Table 12.

The manufacturing subsectors are projected to register double-digit growth rates in nominal terms until the year 2000. In fact, most subsectors will expand at close to or more than 20 percent per annum, while total exports are projected to grow between 16.3 percent to 20.6 percent per annum. This means that most manufacturing subsector shares in total exports will continue to rise.

2.4 The Structure of the mineral trade

During the 1980s mineral and fuel exports have changed composition significantly. In 1980 the group's concentration was dominated by tin, representing 88.8 percent of the total value of exports. Over the years the value of this export group continued to decline, with its 1988 value being less than half of what it was in 1980. The most important decline was tin exports, representing only 39.5 percent of the total export value in 1988. This was due to the collapse of the tin price in the mid-1980s following problems with the International Tin Agreement. However, rising shares of gypsum, lead, zinc and condensate exports (with a combined share of 52 percent in 1988 compared to practically zero share in 1980) (Table 13) are taking tin's place.

2.5 New patterns of agricultural trade

While agricultural products remain important as sources of export earnings, as discussed earlier, agriculture's share in total exports has continued to decline. Categorizing agriculture into crops, livestock, and fisheries, it has been found that crop exports, with the exception of rice and cassava, have not been increasing. Maize exports are almost nonexistent, and Thailand now needs to import maize for animal feed. Livestock exports continue to be, basically, poultry; however, poultry's share in total production (export-production ratio) has, in fact, been declining. Apparently, the domestic consumption of meat has been growing to absorb production, leaving less and less available to export. In contrast to livestock, fishery exports have been growing rapidly, mainly because of the

increased supply of squid and prawns and favorable export prices for these products^{13/} (Table 14).

An analysis of comparative advantage using the domestic resource cost (DRC) technique, which measures the domestic cost of earning a unit of foreign exchange, shows that the cost advantage is consistent with the changing pattern of exports. Based on 1986 statistics, DRC results show that the cost to Thailand of earning US\$ 1 by exporting fishery products is less than the cost of foreign exchange as measured at the official exchange rate of B26.2/US\$ 1, and especially at the shadow exchange rate (which was B 28.8 to US\$ 1). Applying this method to livestock and dairy products, we found that only chicken and egg production show a clear advantage for Thailand, while all others range in cost and show advantages only for production at certain locations (Table 15).

The ability to export crops was measured by projecting the growth of the crop sector using the Dynamics of the Thai Agriculture Model, World Bank crop-price forecasts, and information on our resource endowment.^{14/} Based on this technique, Thailand should be able to continue to export rice (although the quantity will decline), tapioca, sugar, and rubber. Maize and soybean, however, require a high degree of land intensity. As the land-man ratio has been declining, these two crops have become less and less competitive and Thailand will most likely have to import these crops in growing quantities. Projections of crop production changes by region are shown in Table 16.

Future price prospects for Thailand's major crops do not appear to be encouraging. According to the World Bank price forecast, the

prices of most crops (except for sugar) are expected to decline or increase at very low rates through the year 2000 (Table 17). During 1987-1995, the price of sugar is expected to increase at an annual rate of 8.7 percent, then decline to an annual average of 6.3 percent if the period is extended to the year 2000. The prices of other crops are expected to change between -0.4 percent to 3.7 percent during 1987-1995, and between -0.9 percent to 1.8 percent during 1987-2000. Thus, crop-price changes are expected to be increasingly less favorable over the long run.

2.6 The emerging role of trade in services

The fastest growing service item is income from tourism, which grew at 10 percent per year during 1980-1985, and accelerated to 34 percent per year during 1986-1988 with the share of income from tourism rising from 40.8 percent in 1980 to 51.4 percent in 1988. Tourism expenditures also increased as rapidly as income, but its magnitude was much lower and this resulted in a surplus in the tourism account. The next most important service item is income from labor, but it grew more slowly during the second half of the 1980s, with its share in total service receipts falling from 27.7 percent in 1985 to 16.2 percent in 1988. The other fastest-growing service item is income from transportation with an annual average rate of 72 percent during 1986-1988, and an earning share of 8.8 percent in 1988. In terms of payments, the most important item has been payments for banking and finance (recorded as investment income in the Balance of Payments), which accounted for 57.5 percent of all service payments in 1988 (Table 18).

Major service trading partners vary from one service category to another. As is shown in Table 19, in some categories, the pattern for receipts and payments of some services, has changed over time. Income from labor has continued to come mainly from the Middle East, but with a falling share. Income from tourism is well diversified, with Japan accounting for a growing share. Japan, the United States and Singapore contribute the most to income from transportation. Insurance contributors are the United States, the United Kingdom and Japan. The United States is a leader in all service categories on the payments side, together with Japan, Singapore and the United Kingdom.

The pattern of trade in services may be determined by either economic factors or noneconomic factors (Table 20). The former comprises relative prices, factor endowment (K/L), scale (GDP) and international trade factors; while the latter includes human capital (education and professional training), government policies, and so forth. Each service category is determined by different factors. The Least Square Estimation was used to estimate the coefficients of logarithmic equations and empirical results indicate that GDP significantly affects the pattern of all traded services, except insurance, labor and telecommunication services. The largest impact is on freight service, of which the estimated coefficient is -2.53. Factor endowment affects banking and tourism services, whose estimated coefficients are 1.005 and 1.382. The impact of the trade ratio on freight is significant; it is 3.630. Only insurance is significantly affected by the exchange rate, whose estimated coefficient is -3.741. Labor and telecommunication services are not significantly affected by

economic factors.

2.7 New capital flow patterns

Foreign direct investment and portfolio investment have replaced foreign loans (especially long-term loans), in terms of net inflow. Together they account for more than 73.7 percent, on the average, of Thailand's total net inflow during 1986-1988, compared to an average of only about 11.3 percent during 1980-1982. If short-term loans are excluded, the combined shares of direct investment and portfolio investment are about 206.21 percent in 1986-1988 (Table 21).

Thailand's levels of foreign direct investment and portfolio investment were moderate until 1987 and 1988. In 1988 the net inflow of direct foreign investment increased by 486.41 percent and the percentage increase of portfolio investment was 411.0 percent in 1987.

Foreign direct investment (FDI) in recent years came mainly from Japan, reaching 51.7 percent of the total FDI net inflow in 1988 compared to 23.3 percent in 1980 (Table 22). The next largest sources of FDI were Taiwan and Hong Kong, but each accounted for only about 11 percent of the total in 1988, which was about the same as the FDI from the United States. The share of the EC declined from the usual rate of more than 10 percent to only 8.0 percent in 1988.

FDI in the industrial sector accounted for most of the investment in 1987 and 1988, representing 52.5 percent and 57.9 percent of the net FDI inflow, respectively (Table 23). Within the industrial sector the industries which attracted the largest share of investment during these two years were textiles, electrical appliances, and chemicals. Outside the industrial sector, construction and trade activities attracted sizable shares of DFI in 1987 and 1988.

With respect to FDI in the industrial sector, it has been found that investment follows the product life cycle hypothesis (about 60 percent of projects and amount of registered capital), i.e., investments were made because foreign companies wanted to move technologically -not- advanced goods production into Thailand (Table 24). The most obvious cases of investment according to product life cycle are electrical appliances and parts, toys and plastic products, and motor vehicle components and parts. Apart from the product life cycle hypothesis, investigations were made to see if investment was due to capital stock adjustments, resource requirements, or industrial organizational considerations. As it turned out, only a very small percentage of foreign investment was found to be consistent with the capital stock adjustment hypothesis; a larger number of projects (13 percent to 30 percent) confirmed the natural resource consideration; and investment, particularly in electrical appliances (which includes parts and components) and electronic communication equipment and parts, was found to be consistent with industrial organizational considerations.^{15/} It was therefore concluded that, in recent years, FDI in Thailand has been mainly due to actions by foreign firms to maintain or regain cost advantages, and to make use of local natural resources.

Portfolio investment has been important in recent years and has come mainly from Singapore, the United Kingdom, the United States, Hong Kong, and, recently, Japan (Table 25). It should be noted that the nationality of funds invested in the securities market is difficult to identify because fund managers may choose to use funds from any office depending upon the portfolio of the office at that

time and the the double-taxation treaty. In fact, funds come to the Thai Securities Market from three major original sources--the United States, the United Kingdom, and Japan. Funds from the United States and the United Kingdom have dominated, but funds from Japan have started to grow rapidly with investments in securities of (1) banks and finance/security companies; (2) construction materials; (3) trading firms; and (4) textiles/clothing (Table 26).

We have found that the net inflow of foreign portfolio investment is influenced most by economic prospects as measured by the GDP and market-investment-return potential with a forward time lag of 14 months. In other words, SET (the Securities Exchange of Thailand) records show that in making investment decisions, investors consider economic prospects and market investment returns in 14 months from the time of investment. The elasticities with respect to GDP and the market rate of return with a forward time lag of 14 months are 2.4 and 1.04, respectively. Thus, if the GDP is expected to grow by 10 percent, foreign portfolio investment will grow by 24.0 percent. A 10 percent increase in the monthly market rate of return will increase foreign portfolio investment by 10.4 percent (Table 27).

The pattern of foreign loans has changed in concentration from public-sector to private-sector, especially when short-term loans are included (Table 21). The public-sector/private-sector share in 1980-1982 was about two-thirds to one-third, but in 1986-1988 these ratios were 8 percent and 92 percent, respectively (Table 28). As private-sector loans are mostly short-term (121.8 percent in 1988), the share of short-term foreign loans has increased from 24 percent in 1980-1982 to 120.6 percent in 1986-1988. There has been little change in loan sources except for the increase in bilateral sources, mainly from

Japan. Finally, it has been the borrowing of the central government, not state enterprises, which has accounted for most of the foreign public loans in recent years--for example, 444.32 during 1986-1988 (the net borrowing by state enterprises had a negative contribution of 360.13 percent).

Several factors were tested to examine their influence on private foreign loans. Results show that the current account balance and forward exchange rate with respect to the US\$ are the most important factors, while exchange rate risk, the domestic liquidity situation, and the withholding tax were insignificant. The elasticities of demand for private foreign loans with respect to the current account balance and the forward exchange rate are -0.54 and 0.31 for short-term loans, and -2.4 and 0.1 for long-term loans (Table 29). For example, for short-term loans this means a current account deficit larger by 100 percent will lead to an increase in short-term foreign loans by 54 percent. And, if the forward rate with the US\$ increases by 100 percent (devaluation of the baht with respect to the US\$ but appreciation with respect to most other currencies), the demand for short-term loans will increase by 31 percent. As expected, the current account deficit elasticity for long-term loans is higher, while the forward-rate elasticity is lower, when compared to elasticities with respect to short-term loans.

3. The Impact of the External Sector on the Thai Economy

3.1 The Impact of the external trade

Thailand's economic policy can be characterized as "fiscal and monetary conservatism" and "trade and investment liberalism." These basic economic policies have been followed side by side over the last few decades, with, of course, variations in emphasis depending upon problems and opportunities and the character of the leadership at the time. For example, during the first half of the 1980s, fiscal and monetary conservatism was emphasized, while during the second half, emphasis was more on promoting trade and investment. These basic policy approaches have resulted in the Thai economy's becoming more internationalized.

The government maintains a competitive macroeconomic policy environment by relying on fiscal and monetary policy instruments to keep exchange rates, interest rates, and the price of goods and services at competitive levels. Up until 1988 the performance of the external sector shows that the macroeconomic environment was very conducive to the growth of trade and investment. The situation is continuing in 1989, except for the rather high inflation rate due to monetary expansion.^{16/}

The government has been active in promoting both goods and service exports, the inflow of foreign capital, and loans. Although tariff protection of domestic sales remains high, there is a comprehensive export promotion scheme for both agricultural and manufactured products.^{17/}

To assess the impact of external trade growth on various aspects of the Thai economy, the study team built a short-term econometric model consisting of 73 behavioral equations, 84 identities, 101 exogenous variables, and 157 endogenous variables. Exports are endogenous to the system.¹⁸ The model was applied to measure the influence of a 1 percent change in the value of goods and service exports on several macroeconomic variables. The results are shown in Table 30.

According to the results, all macroeconomic variables are sensitive to export earning changes. With export growth of 1 percent, the nominal GDP will change by 0.46 percent while the real GDP will change by 0.32 percent. Effect on inflation as measured by a GDP deflator is 0.13 percent. Export growth of 1 percent will lead to import growth of 0.43 percent. The effect on the trade balance is rather small, i.e., 0.08 percent, because export growth also leads to import growth.

On aggregate demand, export growth is very favorable to gross capital formation, resulting in an increase of 0.40 percent for export growth of 1 percent. Government expenditures change by only 0.11 percent, while consumption expenditures respond with 0.27 percent growth.

Export growth has a positive effect on the public sector. A 1 percent increase in export earnings will lead to a 0.46 percent increase in government revenue, with a larger percentage increase in indirect tax than direct tax revenue. The effects on the government deficit and borrowing are especially favorable, with declines of -2.04 percent and -3.03 percent.

Results on income distribution are less clearcut. Export growth has a positive effect on all income classes, but to different degrees. Corporate income responds to an export earning increase of 1 percent at 0.61 percent, while the rates of response for unincorporated enterprise income and wage payments are 0.64 percent and 0.41 percent, respectively. These results show that wage earners benefit less from export growth than the other two income groups do. A comparison of the effect of export growth on ratios of income to GDP shows that nonwage income earners gain more from export growth than wage earners do.

Based on the above results, the effects of export growth on income distribution are not conclusive because most Thai households are not wage earners (75.20 percent). So, to test the impact of export growth on income distribution, the study team also used the CGE model, which has a much more detailed household income classification structure. The results are shown in Table 31.

The CGE model shows that a 10 percent increase in export earnings of goods and nonfactor services during 1983-1987 had a very small effect on Thailand's overall real income distribution. The GINI coefficient changed from 0.554 to 0.556, implying a slightly worse income distribution situation. But for each income group, and for classes within each group, the effects are different. Nonfarm income earners appear to gain the most from export growth while government and state enterprise employees gain the least, or become worse off. Within the nonfarm and farm groups the gains are quite similar for different income classes, as the percentage increase in income does not change very much as income classes change, i.e., 3.5 percent, 3.8

percent and 2 percent to 2.7 percent, respectively, as export earnings increase by 10 percent in real terms. Government employees (especially the high to middle income classes) and state enterprise employees (of all income classes) gain very little, or do not gain from export growth. Another set of CGE income distribution results (also shown in Table 31) indicates that the 10 percent increase in goods and service exports during 1983-1987 had practically no effect on the size distribution of income. The income share of the highest 20 percent household income class increased from 63.12 percent to 63.14 percent, while the income share of the lowest 20 percent declined from 3.04 percent to 3.03 percent. The results also show that the income classes in the top 40 percent had 2.9 percent growth in real income compared to 2.3 percent growth for the income class in the bottom 40 percent.

Export-led growth has had an impact on the production structure, leading to larger increases in value added in manufacturing and services and smaller increases in agriculture and mining. As shown in Table 32, a 1 percent increase in export earnings leads to 0.19 percent increases in value-added of agriculture. In contrast, value added increases in most manufacturing and service sectors are higher than 0.2 percent.

Finally, the impact of export growth on imports varies among different import categories. Export growth of 1 percent has led to a small rise of 0.15 percent in service imports. The highest import growth rates are in nonmetallic products (1.74 percent); engineering (1.68 percent); other industries (1.39 percent); wood (0.65 percent); and agriculture (0.72 percent). These last two categories had a very

low import base at the time. Other product groups also show high import increases following export growth (Table 33).

It was concluded that Thailand's export-led development strategy has had a very favorable effect on economic growth and financial stability, but has not helped improve the size distribution of income and has benefited the higher income classes more than the lower income classes.

3.2 The Impact of export-led industrialization

Trade policy for manufactures is to protect domestic production against imports (largely by means of tariff barriers) and to promote exports.^{19/} For most industries, effective protective rates have been moderate, and, in recent years, have moved toward more uniformity. The incentives provided for manufactured exports give tax-free status to export production. The Ministry of Finance provides tax refunds and rebates and the BOI also gives import tax reductions or exemptions on machinery and corporate income taxes.^{20/} In addition, exports are entitled to the export-credit facility provided by the Bank of Thailand.^{21/}

A test was made to verify the general belief that Thailand's industrialization has been export-led. Applying Chow's causation test to economic changes during 1984-1987, the study shows that causation runs from export growth to manufacturing growth and change.^{22/} Thus, indeed, industrialization in Thailand has been led by the overall growth of exports. Statistics also show that the export-output ratios of most manufacturing sectors have been increasing, confirming that the Thai economy has been undergoing a process of export-led industrialization.

The impact of export-led industrialization has been widespread. It has transformed the manufacturing sector, moving manufacturing away from its previous concentration in food, beverage, and tobacco production toward textiles, chemical products, metal products, machinery and transport equipment. The study team verified that high-growing manufactured exports all have positive employment share elasticities, implying that their growth has contributed to a higher degree of industrial labor intensity, although the increase was rather small (Table 34). It is also interesting to note that in several industrial subsectors this higher export intensity has led to less import content in production (for example, in textiles, wood products, chemical products, and even engineering products).

The CGE analysis of the effect of manufactured export growth on the size distribution of income shows no improvement, with higher income classes gaining more from export growth (Table 31) .

Another research project at TDRI measured the technological capability of selected industries, many of which are export-oriented. Taking the electronics industry as representative of these new export-oriented industries, it was found that the industry has a reasonable degree of operative and acquisitive capability, slightly less adaptive capability and practically no innovative technological capability.^{23/}

Finally, these new export-oriented industries have been set up mainly in and around Bangkok and in the Central Region. In effect, their development has reinforced industrial concentration in the metropolitan area.

3.3 Agricultural trade and economic welfare

Thailand's agricultural sector has always been trade-oriented. It can be said that the development of the agricultural sector depends very much on agricultural product exports. In fact, cassava growth has been brought about because of export opportunities. Thus, the effect of agriculture on income, employment, and price levels is related to exports of these products and the way the government intervenes in their trade.

In general the government applies a free-trade policy to trade in agriculture. As shown in Table 35, rice exporters and producers were taxed, sometime at very high rates, until 1986. Until that time rice producers did not make as much on rice exports and consumers did not have to pay the international rice price. Maize was taxed for a few years, but has been tax-free since 1982. Rubber has been taxed continuously, at a rate of about 10-20 percent. On the other hand, cotton and soybeans have been protected, with very high nominal protection rates in certain years, and palm oil is also protected. Sugar is a special case which is subject to government intervention, with varying effects on different groups of people. Sugarcane growers and millers are protected by the government, while consumers must pay a much higher price than the free-trade price.

The government does provide assistance. There is an export financing scheme which provides export credit at interest rates about 2.5-3 percentage points below the market rate.^{24/} In 1988, out of the B 128.6 billion of export (packing) credit provided by the Bank of Thailand, 26.5 percent was utilized by agricultural exports.

On the whole--except for rice--until 1986 it can be said that agricultural trade benefited producers while consumers usually had to pay the world price or a price higher than the free trade price; thus there was a loss of consumer welfare.

As exporting agricultural products is very important to the Thai economy, the study team measured the effect of agricultural exports on certain macroeconomic variables by measuring the impact of price changes. During the 1980s, the prices of most agricultural products declined. The study team used the THAM-2 model, which is a form of a CGE model developed jointly by TDRI and the World Food Center in the Netherlands, to simulate a case in which the world price of four major crops (rice, coarse grain, sugar, and rubber) deviated (declined) from average 1980-1982 prices. The results show that these price declines have a very strong (negative) effect on the agricultural product price index, agricultural product exports, the trade deficit, and the GDP (Table 36). For example, if 1985 world prices for agricultural products were not different from average 1980-1982 prices, the GDP would have increased by 4.45 percent of the GDP growth rate; the trade deficit would have improved by 68.88 percent; and agricultural product exports would have increased by 29.02 percent of the growth that year. These price declines also had an adverse impact on the real income per capita of farmers, whereas, in most cases, nonfarmers gained in income, thus worsening the income gap between these two groups of income earners.

The CGE analysis shows that agricultural product export growth is very favorable to the size distribution of income, and the lower income classes gain substantially more from agricultural export growth

than do high income classes (Table 31). It is thus unfortunate that agricultural product exports have been growing at below average growth rates.

It can be concluded that trade in agriculture has been an important source of income to the Thai people. But developments in agricultural trade during the 1980s, because of commodity price declines, have not favored the overall development of the Thai economy.

3.4 Service trade and economic development

Policy on trade in services is specific to each type of service.^{25/} For net-income-earning services such as tourism, Thailand has an active promotion scheme involving several organizations; the export of labor is also encouraged; and air transportation is promoted. For other types of services which are net foreign exchange users, the policy is to protect the domestic providers of these services.

Service exports have contributed to the growth of the service sector and hence the overall growth of the economy. Using the 1985 Input-Output Table the study team found that 1 percent growth in export services resulted in 0.13 percent growth in GDP. The impact on imports was 0.07 percent, while the impact on increased wages and profit was 0.21 percent and 0.15 percent. Service exports are therefore more labor-intensive than capital-intensive, and not very import-intensive (Table 37).

3.5 The Impact of the inflow of foreign capital

The inflow of capital of all kinds is encouraged. Direct foreign investment is actively promoted by the BOI, with an incentive scheme that competes with most of Thailand's neighboring countries. Portfolio investment is only subject to a foreign ownership ceiling on a company-by-company basis. The lack of a double-taxation treaty with some countries (particularly the United States), although not a deliberate policy to discourage investment, does have an adverse effect on the inflow of portfolio investment from that country. Finally, foreign loans are not discouraged. In fact, for loans of longer than three years maturity brought in by institutions (other than commercial banks) for their own use, the government exempts the withholding tax on the interest payment, (10 percent if lenders are financial institutions and 25 percent otherwise). Thailand's capital market development has had strong and growing participation from foreign investors. The share of securities transactions by foreigners in total market trading volume increased from 2 percent in 1982 to 10 percent in 1987 and to 12.7 percent in 1988--and this rising share of foreigners is continuing in 1989. It is believed that this kind of capital market development contributes positively to the Thai economy, if it improves efficiency by reducing the cost of funds and increasing the return on investment.

The simple calculation based on statistics for the years 1984-1988 (Table 38) indicates that indeed the securities market is very efficient in resource (capital) allocation. On a five-year average, fund users pay less than loan rates for funds mobilized from the

securities market: debenture, 10.4 percent; dividend yield, 6.7 percent; MOR/MLR, about 12.4 percent. Investors, at the same time, receive a higher return from stock investments than from investing in a fixed-deposit savings account, i.e. 67.5 percent vs. 8.1 percent

The impact of foreign direct investment has been far-reaching. Several studies suggest that FDI has contributed positively to the Thai economy.^{26/} However, the impact of FDI in recent years is much more far reaching. First, there has been a dramatic shift of FDI from import-substitution industries to export-oriented industries. The share of export-oriented projects in the total number of promoted FDI projects increased from about 10 percent in 1984 to more than 80 percent in 1988. This will further raise the share of foreign firms in the country's total and in manufactured exports. Second, if all projects approved for promotion during 1986-1988 go forward, it is estimated that 18,200 million baht in exports will be generated in 1989, and the amount will be increased to 141,000 million baht in 1993.^{27/} Of this total amount, a substantial proportion is contributed by FDI projects. Third, since most of the recently promoted FDI projects (1986-1988) involve relatively labor-intensive activities, they will greatly contribute, to the country's employment. If all these projects go ahead forward, about 300,000 persons will be directly employed--a number that is more than twice that of the cumulative total up to 1986. Finally, the export-oriented nature of most of the projects, means that product quality is important. Thus, this will have a significant impact on production efficiency due to more technology transfer and training.

Aside from the contributions discussed above, some local entrepreneurs complain that FDI caused a considerable increase in land

prices and shortages of skilled labor in such fields as engineering and science. In addition, they believe that FDI had a crowding-out effect on local producers in the domestic product market and on local sources of raw materials. Furthermore, they are also somewhat concerned about the increasing predominance of Japanese FDI in Thailand.

4. Policy and Strategy Options for the External Sector

On the whole, the open trade and investment policy which the country has followed up to the present time (although without clear strategic initiative) has had generally favorable effects on the overall development of the Thai economy. Indeed, it is obvious that this policy has been favorable to economic growth, that it has transformed the production structure so that it is in tune with world production and trade, and that it has allowed the economy to adjust to world economic changes. In addition, the policy has contributed to the financial stability of the country in terms of higher foreign-exchange reserves, a lower debt service ratio, and relatively stable price and interest-rate levels. Only in the area of income distribution has this open trade and investment policy not been found to have a favorable effect.

Findings suggest that Thailand should continue to pursue this policy of open trade and investment--with some modifications--so that the growth of the external sector will contribute toward improved income distribution. Also, since the world economic environment of the 1990s will be different from the 1980s, certain strategy options must be considered.

4.1 Global economic scenarios toward the year 2000

The study team assessed global economic scenarios which have a bearing on the Thai economy, relying on existing work on future economic trends. The team focused on the growth of the world economy--especially of industrialized countries--and factors affecting the competitiveness of Thai exports (exchange rate, cost

competitiveness, and marketing ability), which were found to have accounted for most of the export expansion of the 1980s.

Because of macroeconomic imbalances in industrialized countries and the debt problems of developing countries, there is a general consensus that the world economy will continue to grow relatively slowly during the 1990s. However, a recession on the scale of the early 1980s is not expected, as most industrialized countries are more capable of dealing with inflationary problems and the world oil market has developed more resilience to cushion future oil shocks. And, as Thai exports account for only about 0.5 percent of world imports, slow world economic growth should not pose more problems in the 1990s than it did in the 1980s.

But, as discussed earlier, if Thailand expects to continue to attain more than 20 percent growth in exports, the country must rely on those factors contributing to the "competitive effect," and the country must also consider the "commodity composition effect" as well as the "market effect."

The rates of exchange among major currencies will continue to fluctuate as macroeconomic variables undergo adjustment and as different governments manage short-term economic and financial instabilities. Exchange rate adjustment is likely to result in the appreciation of Asian NICs currencies, which should be favorable to Thailand. Appreciation in the yen and key European currencies should also make Thai exports more competitive in these markets, *ceteris paribus*. And the parity between the baht and the US dollar is not expected to change very much. Thus, on the whole, the exchange-rate factor should be favorable to Thai exports, provided also that

Thailand is able to maintain inflation rates at a level not higher than those of its major trading partners and competitors.

Cost competitiveness depends on several factors. Because of our relatively high labor supply growth (which is continuing in to the 1990s), the cost of Thailand's unskilled labor should remain competitive. But because of the relatively low rate of students continuing on to secondary education and higher, Thailand will be faced with a shortage of skilled and semiskilled labor. Thus, on the average, the labor-cost advantage of Thai exports will likely fall.

In the 1990s technology will be one of the most important factors affecting the relative cost advantage among countries. As technological progress is labor saving, and material-saving or substituting, technology could create disadvantages for Thailand. And considering the fact that technological development in Thailand still faces numerous institutional problems (including the lack of a comprehensive, standardized system and incentives for research and development), technological developments in the 1990s could adversely affect the relative competitiveness of Thai exports.

The cost of capital is another element of cost competitiveness. There is no shortage of capital in the world. And there are relatively few places and projects to which capital can move. Thailand is considered to be one of the few attractive places for foreign capital flow. Also the domestic savings rate is more than 20 percent of the GNP. Thus, the cost of capital should not be a disadvantage to Thai exports.

In sum, considering the global and domestic factors affecting relative cost competitiveness, the study team concluded that the chances for improving cost competitiveness are limited. The best

Thailand can expect is to maintain its existing position of relative cost competitiveness. To do so, Thailand also must maintain the inflation rate at about or below 5 percent, the ceiling rate set by most of Thailand's major trading partners and competitors.

With respect to the "commodity composition effect," the pattern of Thai exports is already moving away from "low demand growth" commodities (such as primary products), to "high demand growth" commodities (mainly manufactured goods). The service sector also has had high demand growth. It is expected that as industrialized countries move toward a post-industrial society and other countries become more industrialized, world trade in manufactured goods and services will continue to grow faster than trade in primary products.

The study team assessed Thai export markets and concluded that in the 1990s the major markets will remain essentially as they are today. High-growth markets will be Japan and the East Asian economies, while low-growth markets will be North America and Europe. However, as the world trade system is likely to have more market interference, the market effect on exports will depend very much on the world trading system which is expected to undergo major changes in the 1990s.

World economic scenarios relating to foreign investment and capital flow are viewed to be generally favorable to Thailand. The trend toward securitization and the growth in demand for securities following the growth of pension funds and investment funds will lead to demand for portfolio investment in Thailand. Industrial integration among the East and Southeast Asian countries and the growth in international sourcing will continue to create demand for

direct investment. Finally, the supply of international money and capital will tend to flow to countries perceived to have high growth prospects such as Thailand.

4.2 A System of world economic management and its impact on Thailand : the present and the future

The world trading system is moving toward a more managed-trade system rather than a free-trade system; Thai exports are increasingly influenced by managed trade--to the extent that the future performance of Thai exports also depends very much on how Thailand adjusts to the managed trade system.

The World trading system in perspective

Throughout the last four decades the world economy has witnessed two major forces: one attempts to liberalize while the other tends to interfere with trade. This has resulted in a world-trading system which is a mixture of a number of subsystems.

The Multilateral trading system. There have been a series of attempts to liberalize and multilateralize trade through the General Agreement on Tariffs and Trade (GATT) which was set up in 1947 to negotiate the reduction and elimination of tariff and nontariff barriers. The major trade negotiation rounds were known as the Kennedy Round (1964-1967) and the Tokyo Round (1973-1979), which actually resulted in lower tariff rates overall, and with "the most-favored nations" (MFN) principle. At the same time the system allows the principle of "special and differential" (S&D) treatment, especially for developing countries. The most important S&D treatment is the Generalized System of Preferences (GSP) introduced by the United Nations Conference on Trade and Development (UNCTAD) in 1968,

which provides developing countries with access to developed country markets at lower or zero tariff rates.

As trade negotiations did succeed in lowering tariff rates, the number of nontariff barriers (NTBs) applied by developed countries has grown. Also, more goods and service items have entered world trade and they are not adequately covered under GATT. This has led to a new round of trade negotiations, the Uruguay Round, which began on 15 September 1986. Issues included in the New Round are: agriculture, textiles, intellectual property rights, import tariffs, trade in services, tropical products, trade-related investment measures (TRIM), dispute settlement procedures, and trade policy review mechanisms.

So far, as revealed at its mid-term review (5-8 April 1989), the Uruguay Round has made considerable progress, but a delay in the original timetable is most likely.^{28/} Indeed, in the next few years GATT can be expected only to slow down the disintegration of the multilateral trading system.

Commodity agreements. Only a few commodities are traded under agreements. Some of them were organized by UNCTAD, but the existing agreements do not always cover all world trade in a given commodity. Apart from OPEC, the better-known commodity agreements are: The International Natural Rubber Agreement (1987); the International Sugar Agreement (1987); the International Coffee Agreement (1983); the International Agreement for Jute and Jute Products (1982); and the International Tin Agreement. The effectiveness of commodity agreements has been varied. Since the mid-1970s UNCTAD has made a concerted effort to strengthen them by setting up the Integrated Program for Commodities (IPC) and the Common Fund; however, they have

not been successful to date.

Regional agreements. The most important regional agreement which influences the international flow of trade is the EC. The move by the EC to form a single market by 1992 should make this regional agreement even more important, especially because the EC now includes countries with varying degrees of industrial advancement.

The EC single market means that once goods enter the EC they will flow freely among markets of member countries. This will certainly affect entry conditions for goods, especially in the following areas. First, technical barriers or requirements at the regional level will replace national requirements. The EC will establish mutual recognition on product regulations other than health, safety, and the environment. They must also decide on technical harmonization in case of divergent national legislation which impedes intra-community trade. And a new certification system will have to be established to certify that the products concerned meet technical requirements. All these new arrangements mean that exporters of products with technical requirements will have to relearn EC export procedures. While the EC maintains that the new system to be used to administer technical requirements will be simpler than existing national requirements, it could nonetheless affect the export flow to the EC at least in the initial phase of the single market.

Second, the EC will introduce several new systems. There will be new quotas, local content requirements, anti-dumping duties, and government procurement prices and practices. Finally, the EC will expect reciprocity in most cases which, in effect, could mean dropping the S&D principle except for countries with a special relationship

with the EC such as the African, Pacific, and Caribbean (APC) countries. It is clear that the EC single market will affect trade among the EC member countries, and trade between the EC and the rest of the world.

Apart from the EC single market, the other regional agreement of interest to Thailand is ASEAN. Following the Manila Summit of 1987, the improved Preferential Trading Arrangement (PTA) and the ASEAN Industrial Joint Venture (AIJV) scheme (both of which allow designated products a substantial margin of preference--(90 percent in the case of AIJV--if traded among the member countries) is slowly creating more intra-ASEAN trade and joint investment.^{29/}

In the future there could be a Pacific regional agreement involving countries which border on the Pacific, especially countries with market economies. While at present a formal Pacific economic agreement is not expected, it is likely that a system which allows close, high-level consultation on economic issues of regional interest will be established. And this should contribute toward trade and investment expansion among the Pacific-Rim countries.

Bilateral agreements. While several countries have entered into some form of bilateral trade arrangement between themselves, very few have formal trade agreements. The situation may be different in the future as some countries (especially the United States) have found that trade disputes can be negotiated more expeditiously at the bilateral level. The United States has had a free trade agreement (FTA) with Israel since 1985, signed an FTA with Canada in 1988, and is discussing a possible FTA with Mexico. For the United States, an FTA means more than just a trade agreement. In fact, it is really a general economic cooperation agreement.^{30/} A version of an FTA, which

is essentially a framework agreement designed to promote economic cooperation and which also includes dispute settlement mechanisms, is being discussed between the United States and ASEAN and is known as the ASEAN-US Initiative (AUI).^{31/} Finally, the Caribbean Basin countries have an agreement with the United States, which allows their goods free access to the US market.

Australia and New Zealand also have a free trade agreement, known as the "Australia-New Zealand Closer Economic Relations and Trade Agreement-(ANCERTA)." Australia and New Zealand have started negotiating ANCERTA, originally aiming to achieve free-trade status between them by 1995; however, they have since moved the dates forward to July 1990.

So far, Thailand's trade has not been affected by FTAs. But, in the future, as more FTAs come into operation they could adversely affect the competitiveness of Thai exports.

Unilateral actions. Some countries--notably the United States, Japan, and the European Community --have taken unilateral action to intervene in trade, and many of these actions are against the spirit of GATT. The area of trade most affected by unilateral actions is agriculture. And this is likely to continue. The US Farm Act of 1985 severely damaged Thai rice exports during that period because of its dampening effect on the world rice price. And while the EC's common agricultural policy (CAP) helped promote Thailand's tapioca pellet exports, its effect on rice, coarse grains, sugar and other crops was even more damaging^{32/} Finally, Japan's intervention in agricultural production and trade is widely known, although there are some signs that Japan's intervention is on the decline.^{33/}

Another area of unilateral action is the imposition of countervailing and/or antidumping duties (CVD and ADD). The United States and the European Community frequently resort to the use of CVD and ADD to restrain imports. So far, only a few Thai export items have been subject to the CVD^{34/}; however, with the adoption of the US Omnibus Trade and Competitiveness Act (the US Trade Act) in August 1988, Thai products have more frequently been subjected to US CVD.^{35/}

Another important unilateral action undertaken by the United States concerns intellectual property rights (IPR). The United States has requested other countries, including Thailand, to protect American IPR according to its standards, and has threatened to reduce or withdraw GSP privileges unless its IPR demand is met. The IPR dispute has therefore become a trade issue between the United States and Thailand. ^{36/}

World trading system and Thai exports

The study team investigated the extent to which Thai exports are subjected to some form of trade intervention, and has concluded that, based on 1988 exports, one-third of all Thai exports to the United States, Japan and the European Community (18.1 percent of all Thai exports) fell under "managed trade" and two-thirds had no intervention other than tariffs (Table 39). Interestingly, exports to the EC had the highest proportion under "managed trade" (52.7 percent); the ratios for the United States and Japan were 24.6 percent and 13.6 percent. Primary commodity exports face more barriers in the EC and Japan, whereas US market barriers affect manufactures more than primary commodities. The exports subject to the highest degree of trade intervention are textiles and garments, tapioca pellets, steel

pipe and tubes, ball bearings, canned fruits and canned seafood, sugar, tin, rice, coffee, frozen seafood, frozen chicken, and monosodium glutamate (MSG), in decreasingly order.

These findings on the extent to which Thai exports are subjected to trade intervention suggest that "managed trade" has become an important issue facing Thailand.

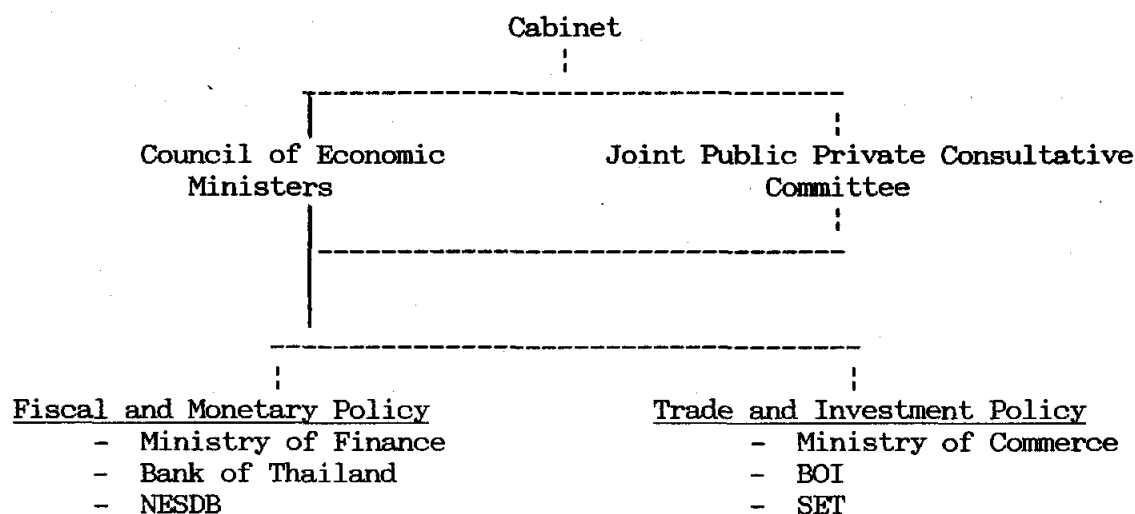
The study team assessed the importance of the GSP on Thai exports and found that, in 1988, 21.28 percent of all Thai exports were traded with GSP privileges, 80 percent of which were manufactured goods (Table 40). In terms of markets, the EC accounted for 51.4 percent of the exports which benefited from the GSP; the United States accounted for 23.3 percent; and Japan, 16.7 percent. Therefore, the GSP scheme is still very important to Thai exports (Table 41).

The study team also assessed the potential impact of the EC Single Market 1992 on Thai exports to the EC. Relying on estimates of average-price reductions within the EC and selecting 31 major export items (which account for 38 percent of all Thai exports to the EC), findings show that the Single Market could result in reducing Thai exports to the EC by about 1.5 percent *ceteris paribus*. The percentage reduction for agricultural exports would be about 1.5 percent, while manufactured exports would decline by 1.2 percent. These reductions are due to price effects only (trade diversion), which could be offset at least partly by the expected income effect (trade creation).^{37/}

4.3 Thailand's policy formulation and economic decision processes

For several years the Thai government has tried to systematize the economic policy formulation and decision-making

processes. Three agencies have the responsibility for macroeconomic policy: the Ministry of Finance, the Bank of Thailand, and the National Economic and Social Development Board. The agencies responsible for trade and investment are the Ministry of Commerce and the Board of Investment. The Council of Economic Ministers coordinates economic policies and the government cooperates with the private sector on policy matters through the Joint Public-Private Consultative Committee (JPPCC). A diagram of the policy formulation and economic decision-making system and how it affects the external sector is presented below.



During the period 1981-1988 some technocrats (non-elected politicians)--who could work closely with the bureaucracy--were always included in the Cabinet. So, politicians, technocrats, and bureaucrats saw the merit in taking joint responsibility for economic policy. They, therefore, made a deliberate effort to strengthen the policy formulation and economic decision-making system. The economic adjustments and restructuring which took place during the period discussed earlier suggest that the system worked reasonably well. The

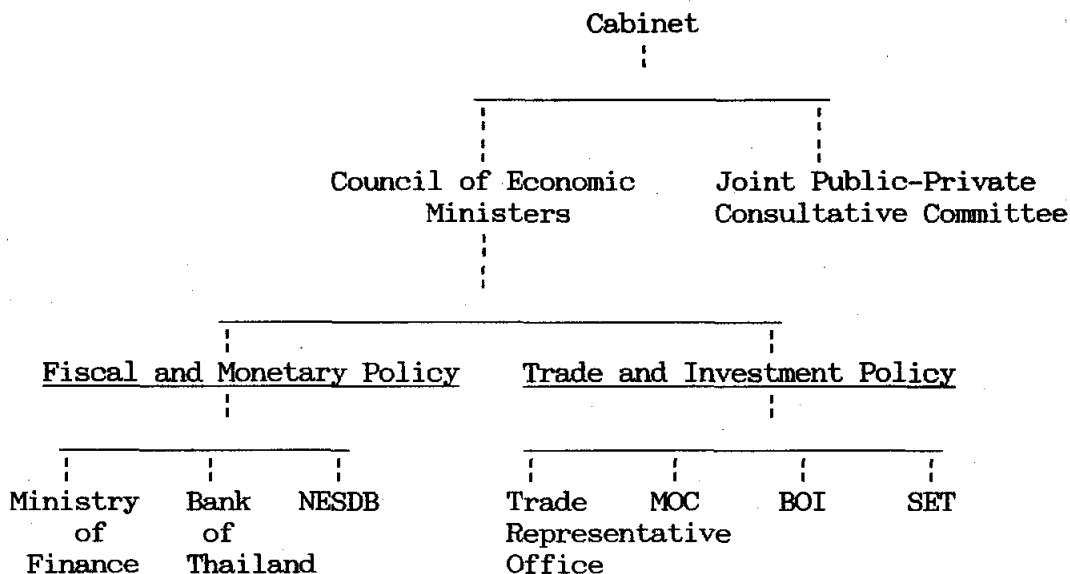
only weak spot, perhaps, was that the group responsible for trade negotiations was mainly limited to officials from the Commerce Ministry. There was an attempt to set up an Office of Trade Representatives with a broader mandate but it was unsuccessful.

Since August 1988 Thai politics have led us to a Cabinet consisting almost entirely of elected Members of Parliament. These elected politicians want to control economic policy and except for preparing materials and policy proposals, the technocrats/bureaucrats are left out. Thus, although the system of policy formulation and coordination set up earlier is still in place, it is not relied upon as much as before. With less coordination, macroeconomic policy has become inconsistent. For example, while fiscal policy is restrictive, monetary policy is expansionary.^{38/} And on foreign trade the government has set up an International Economic Relations Committee to coordinate the work. For the same political reasons, this Committee has not been very effective. There has been no change in administering direct foreign investment policy, i.e., largely by the BOI and especially for investment in manufacturing. Finally, the Securities Exchange of Thailand, the Ministry of Finance, and the Bank of Thailand administer portfolio investment policy--with no change. Therefore, it is the entire system involving macroeconomic policy and trade policy and practices which needs to be reconsidered.

4.4 Trade Policy and Strategy Options

Before proceeding to discuss policy and strategy options for trade and capital flows, there is a need to consider whether the present policy formulation and economic decision-making system is

adequate to deal with the changing international economic environment. In order for the system not to depend too much on leadership personalities, it may be necessary to rely on legal means. There should be a law that makes the central bank system truly independent, so that monetary policy will be less subject to political factors. There should be an office with authority and facilities to conduct trade negotiations to oversee trade policy and practices. This Office, to be backed by special legislation, would be similar to the U.S. Trade Representative office and has been proposed previously. The Office should also allow private-sector participation. Ultimately, a scheme of policy formulation and decision making for external economy-related matters would comprise the organizations illustrated below:



As pointed out earlier, the study team came to the conclusion that the basic policies of "fiscal and monetary conservatism" and "trade and investment liberalism" have served Thailand very well in terms of enhancing economic growth and strengthening the country's

financial position. These two basic policies should be continued. The system of economic policy formulation and decision making on macroeconomic policy as proposed above would provide a check-and-balance mechanism which would assure a policy of "fiscal and monetary conservatism."

While the general policy of "trade and investment liberalism" should be continued, a number of strategies need to be reviewed and emphasis shifted. For example, our scenarios indicate that an emphasis on agricultural product exports would produce better income distribution; however, the problem is really whether trade in agricultural products can really grow at higher rates, considering supply and demand constraints. Another option often proposed is to liberalize trade in manufactures by reducing the overall protective rate. However, our findings show that reducing the protective rate by a half would also worsen income distribution slightly as indicated by the increases in the GINI coefficient, by .164 percent (nominal terms) and .125 percent (real terms). This is mainly because tariffs reducing for some manufacturing industries has a positive impact on other nonagricultural sectors, while it leads to minimal incentives for more agricultural production. In contrast, export tax cuts should help improve income distribution due to the dependence of export taxes on agricultural products. Few export items are subject to export taxation; indeed, export tax revenue mostly comes from exported rubber. The study found that a 50 percent general cut in export taxes would slightly improve income distribution, i.e. the GINI coefficient would decrease by 0.328 percent and 0.284 percent in nominal and real terms, respectively. The distributive impact of an export tax

reduction was also found to be stronger than the impact of reducing import taxes.

At the micro, sectoral and/or subsectoral levels there are several trade strategy elements. In order for Thailand to maintain its competitiveness it needs to take action at the unilateral, bilateral, regional, and multilateral levels, with the strongest emphasis on unilateral and multilateral action.

- o Unilateral action Unilateral action involves the strengthening of export capability in all sectors, with more emphasis on agricultural products than has been previously given. These unilateral actions may include:
 - (1) A general reduction in the overall protective (tariff) rates;
 - (2) A reduction in export taxes of agricultural products;
 - (3) A reduction in import duties on capital goods;
 - (4) Increasing the scope of tax rebates and refunds;
 - (5) Allocating export financing more toward small-scale exporters, especially of agricultural products;
 - (6) Reformulating investment promotion incentives to minimize the risk of CVD and ADD;
 - (7) Creating a Thai Trade Representative Office with the authority to negotiate trade matters with private-sector participation; and
 - (8) Strengthening Thailand's export promotion capability by creating an autonomous and semi-commercial export-promotion office.

- o Bilateral action. Thailand needs to strengthen its capability in bilateral trade negotiations. It should explore the possibility of entering into bilateral agreements with its

major trading partners such as the United States, the European Community, Japan, Canada, Australia, The Republic of Korea, and Taiwan, for example. These agreements should be in a framework agreement form which provides mechanisms for dispute settlements and facilitating economic cooperation.

- o Regional approach. A regional organization to which Thailand belongs is ASEAN. So far, ASEAN's effectiveness as a vehicle for promoting trade and investment has been limited, in terms of both intra- and extra-ASEAN trade.

Considering the constraints on the promotion of intra-ASEAN trade, Thailand should concentrate on making use of ASEAN for extra-ASEAN trade expansion. With growing regionalism and bilateral agreements, Thailand should advocate economic or trade agreements between ASEAN and its other major trading partners. The candidates for these agreements are the United States (ASEAN-US Initiative), and the European Community. These agreements should be in framework agreement form which has procedures for trade negotiations and dispute settlements; they should also include other areas of economic cooperation. ASEAN, in fact, has an economic cooperation agreement with the EC, but it mostly contains statements of intention to cooperate.

Another area for potential regional cooperation is a "Pacific Regional Group." which may include Canada, the United States, Japan, South Korea, China, Taiwan, Australia, New Zealand, and ASEAN--the economic area which presently has the highest growth in trade among its members. There is no doubt about an economic justification for forming this regional group, but because of

political considerations, the only feasible form a Pacific Economic Group can take at this time is as a loosely structured, quasi-official organization. Such an organization already exists--the Pacific Economic Cooperation Conference (PECC)--and can be further strengthened. A regular, high level meeting of ministers from the Pacific Basin countries would enhance the strength of the "Pacific Regional Group."

- o Multilateral trade negotiations. Ultimately, for a small open economy like Thailand, a fair and well-developed multilateral trading system will be in its best interest. Thailand should therefore make a concerted effort to help strengthen the GATT system. Working closely within the ASEAN group in the Uruguay Round of trade negotiations should contribute toward a more favorable outcome for Thailand. Another group Thailand can usefully work with is the Cairns Group, the group of major agricultural product exporters who are involved in negotiations for agricultural and tropical products. The objective of the group should continue to be the liberalization of world farm trade.

It is important to recognize that industrialized countries are becoming less willing to offer S&D treatment to developing countries. At the same time, they have started to insist on reciprocity. Thailand, in conjunction with ASEAN, should continue to insist on S&D treatment, but must be prepared to negotiate on the phasing out of S&D treatment in a set timeframe. Indeed, as the GSP is a form of S&D treatment, Thailand should negotiate for its gradual phasing-out, if the GSP is to be

abolished. And, further, Thailand should negotiate for gradual reciprocity.

The current Multi-Fibre Arrangement is due to expire in 1991, but it is very likely that there will be another agreement, as the new GATT Round is unlikely to succeed in bringing trade in textiles and garments under its auspices. Thailand must be prepared to negotiate on the new agreement. Finally, Thailand should rely on commodity agreements as necessary. It is expected that only a few agreements, such as the INRA, will be effective.

4.5 Foreign Investment and Capital Flow Policy and Strategy Options

Except for technological development and ownership structure, DFI in manufacturing has had a favorable impact on the Thai economy. The BOI has already started to remedy these shortfalls by promoting research and development (R&D) investment and requiring divestment. However, not many restrictions can be placed on FDI as there are more countries competing for FDI than countries looking for areas in which to invest.

The question is how liberal Thailand should be in the case of FDI in services. For nonfactor services such as banking and insurance, transportation and telecommunications, there are theoretical arguments for certain entry limitations.

Portfolio investment can be promoted best by increasing the supply and liquidity in the Securities Exchange of Thailand. This would mean that Thailand should have a more efficient system for listing stocks. Also, a double-taxation agreement with a country like the United States would help promote US investment in the Securities

Exchange of Thailand.

The government already has a sound system for managing foreign public loans. Further, the government does not guarantee loans brought in by the private sector, which is a good policy. The government should monitor foreign private loans and should assure that short-term loans are not creating too much growth in the money supply, as this would put too much pressure on price levels.

Footnotes

- 1/ Bank of Thailand, Monthly Bulletin, May 1989.
- 2/ National Energy Policy Office.
- 3/ Wibulswas-di, C. "Thai Experience in Economic Management during 1980-87", Bank of Thailand, Quarterly Bulletin, September 1987, Vol. 27, No.3
- 4/ See International Financial Statistics, 1988 year book. This rate refers to London Interbank Offer Rates on US dollar deposits.
- 5/ Journal of Energy Policy, April-May 1989. This price refers to the average spot price of "Dubai" crude oil. The oil price fell further to about US\$ 12.98 in 1986.
- 6/ Balance of Payments Section, Bank of Thailand.
- 7/ World Economic Outlook, A Survey by the Staff of the International Monetary Fund, Washington D.C., April 1989.
- 8/ Growth rates of tourism and foreign investment in 1986 were 15.4% and 56.9% respectively. See Subproject Number 5, "Trade in Services" (Annex 1) and Number 6, "Direct Foreign Investment and Capital Flows." (Annex 1).
- 9/ This is quantified and analyzed in Subproject Number 7, "The Impacts of the External Sector on the Thai Economy and its Determinants" (Annex 1) and summarized under part III below.
- 10/ See Subproject Number 6, op. cit.
- 11/ For the CMS methodology, see Subproject Number 4, "Trade in Manufactured Goods and Mineral Products" (Annex 1).
- 12/ See Subproject Number 7, op. cit.

13/

Office of Agricultural Economics, Ministry of Agriculture & Co-operatives, Agricultural Statistics of Thailand (various issues). Also, see subproject 3, "Thai Agriculture in the World Economy" (Annex 1).

14/

Ibid.

15/

For a discussion of this methodology, see Subproject 6, op. cit.

16/

There is general consensus that the inflation rate in 1989 will be about 7%.

17/

See Subproject Number 4, op. cit.

18/

See Subproject Number 7, op. cit.

19/

See Subproject Number 4, op. cit.

20/

Ibid.

21/

The amount of extended to manufacturing exports was 872,523 million 1988, representing 56.4% of the total.

22/

See Subproject Number 7, op. cit.

23/

TDRI, "The Development of Thailand's Technological Capability in Industry." Report on Biotech, Mat Technology, Elect Technology, Bangkok, 1989.

24/

See Narongchai Akrasanee and others, Export Financing in Thailand, TDRI, July, 1989

25/

See Subproject Number 5, op. cit.

26/

See Subproject 6, op.cit.

27/

Business Economics Association of Thailand, Foreign Investment and Impact of Investment Promotion (1989-1994), (in Thai), Mimeo 1989, Page 70.

28/

The original Uruguay Round timetable was December 1988.

29/

The study by Seiji Naya (1987) shows that the PTA accounted for 5% of intra-ASEAN trade before the ASEAN summit in December 1987. Since then trade due to PTA is being assessed, but is estimated to be not much changed due to the slow introduction of new products into the new PTA. And as of October 1989, seven AIJV projects had been implemented since December 1987.

30/

See Subproject Number 2, "The Management of the World Economy and the Response of Thailand's External Sector" (Annex 1) for more discussion on bilateral agreements.

31/

See Seiji Naya, et.al, ASEAN-U.S. Initiative: Assessment and Recommendations for Improved Economic Relations, ISEAS, Singapore, 1989

32/

See Subproject Number 3, op. cit.

33/

See Subproject Number 2, op. cit.

34/

The following products have been subject to CVD in the US : Ball Bearings, Iron Tubes or Pipe Fitting or Pipes, Textiles and Apparel, Nails, and Rice. The EC has imposed a CVD on Ball Bearings.

35/

The most prominent item is textiles.

36/

See Subproject Number 2, op. cit.

37/

Ibid.

38/

During fiscal year 1988 the revenue surplus was \$49,000 million while the money supply (M_2) expanded by 24%.

Table 1 The Recent Development of the Thai Economy(1)

Item	1980	1985	1988	1989(a)	
Population (million persons)	46.7	51.7	54.5	55.0 (2)	
GNP (million baht,current prices)	653116.0	996802.0	1440406.0	1642639.8 (2)	
GNP per capita (baht,current prices)	13980.0	19287.0	26412.0	29860.0 (2)	
		1980-1985	1986-1988	1989(a)	
Real growth of GDP (%) (b)		5.7	9.2	9.0 to 10.0 (3)	
- Agriculture		4.7	3.1	3.0 to 4.0 (3)	
- Industry		5.0	11.8	12.4 to 14.3 (3)	
: Manufacturing		4.9	12.2	12.0 to 14.0 (3)	
: Mining and quarrying		5.1	9.8	10.0 to 11.0 (3)	
: Construction		5.1	10.3	16.0 to 18.0 (3)	
- Services		6.4	9.9	10.3 to 10.9 (3)	
		1980	1985	1988	1989(a)
Structure of value added (%)					
- Agriculture	20.6	19.9	16.9	15.8 to 16.1 (3)	
: Crops	13.3	13.1	10.7	8.9 (4)	
: Other	7.3	6.8	6.2	5.9 (4)	
- Industry	28.8	27.4	29.4	30.1 to 30.8 (3)	
: Manufacturing	21.7	20.7	23.0	23.4 to 24.1 (3)	
: Mining and quarrying	2.6	2.5	2.4	2.4 (3)	
: Construction	4.5	4.2	4.0	4.2 to 4.3 (3)	
- Services	50.5	52.7	53.7	53.8 to 54.6 (3)	
Foreign trade (billion baht)					
- Merchandise : exports	132.0	191.7	399.2	514.0 (3)	
: imports	190.0	253.3	501.4	640.0 (3)	
- Services : exports	43.5	85.9	149.1	157.7 (4)	
: imports	32.4	70.6	95.1	100.7 (4)	
Exchange rate (B/US\$)	20.5	27.1	25.3	25.6 (5)	
Balance of payments (billion baht)					
- Trade account	-58.0	-61.6	-102.2	-126.0 (3)	
- Percent of GNP	-8.9	-6.2	-7.1	-7.7 (2),(3)	
- Current account	-42.4	-41.9	-42.2	-55.0 to -60.0 (3)	
- Percent of GNP	-6.5	-4.2	-2.9	-3.3 to -3.7 (2),(3)	
- Balance of payments	8.8	9.5	28.1	n.a.	
Foreign exchange reserve (us\$ million)	3026.1	3003.5	7111.8	8950.6 (6)	
Debt service ratio (% of export)	14.8	21.9	12.5	12.9 (7)	
Inflation rates(%)	19.7	2.6	3.9	5.5 (3)	
Income distribution(Gini Coefficient(%)) (8)	45.3	50.0	50.0	n.a.	

Table 1 (Continued) : The Recent Development of the Thai Economy(1)

- Notes: (a) Estimates (from various issues)
(b) Growth rate computed by using log linear regression ($\ln y = a+bt$, where y = value of data series, t = time, b = annual growth rate)
- Sources: (1) Except as noted, the source of statistics is
Bank of Thailand, Monthly Bulletin, various issues. (in Thai)
(2) General Economic Section, Department of Economic Research,
Bank of Thailand.
(3) Overall Planning Division, Office of the National Economic and
Social Development Board, "Economic Report (Jan-June 1989) and
Trends in 1989", August 1989, (in Thai)
(4) TDRI, TDRI Quarterly Newsletter, June 1989, vol.4 No.2, p.5.
(5) Balance of Payments Section, Department of Economic Research,
Bank of Thailand. Actual Data in Jan-Aug 1989
(6) Balance of Payments Section, Department of Economic Research,
Bank of Thailand. Actual Data at July 1989
(7) Department of Economic Research, Bank of Thailand,
"Performance of the Thai Economy in the First Half of 1989", July 1989, p.3
(8) Hutaserani, S., and S. Jitsuchon, "Thailand's income distribution
and poverty profile and their current situations", Paper presented at 1988
TDRI Year-End Conference on Income Distribution and Long-Term Development,
Thailand, December 17-18, 1988, p.17

Table 2: Growth and Structural Changes of Exports

	1980-1985		1986-1988	1989 e/	
Annual growth rates a/					
Nominal	8.20		27.06	21.77	
Real b/	5.29		22.57	16.18	
	1980	1985	1987	1988	1989 e/
Share in GNP					
Merchandise	20.22	19.23	24.61	27.72	31.05
Services	6.66	8.62	8.85	10.35	9.60
Composition of exports (%)					
Merchandise c/	100.00	100.00	100.00	100.00	
Agriculture d/	48.10	48.19	38.56	31.53	
Minerals	3.04	0.88	0.58	1.89	
Manufacturing	44.75	50.09	60.19	65.35	
Other	4.11	0.84	0.67	1.23	
Services	100.00	100.00	100.00	100.00	
Freight and insurance on merchandise	8.89	10.76	9.38	7.78	
Other transportation	5.54	4.17	7.88	8.51	
Tourism	40.81	36.99	46.67	52.89	
Investment income	12.21	7.75	6.19	6.25	
Government, n.i.e.	5.81	4.53	2.98	2.20	
Other services	26.74	35.81	26.90	22.37	
Direction of exports (%)					
Merchandise	100.00	100.00	100.00	100.00	
US	8.81	17.30	16.96	18.45	
JP	12.34	11.09	13.79	16.04	
EC	28.56	21.96	22.01		
Other	50.29	49.65	47.24	65.51	
Services	100.00	100.00	100.00	100.00	
US	16.68	21.96	20.27	18.03	
JP	9.98	10.12	11.77	13.48	
EC	24.22	12.94	16.84		
Other	49.12	54.99	51.12	68.49	

Notes : a/ Exports include merchandise and services. Annual average growth rates are computed by log linear regression ($\ln y = a+bt$) ; y = value of exports
t = time
b = annual growth rates

b/ Deflated by GDP Deflator at 1972 prices.

c/ Exports classified by Input-Output table 1975.

d/ Agriculture includes food processing industry.

e/ Estimates based on projection of annual value by Bank of Thailand (merchandise) and TDRI (services).

- Sources: 1. Bank of Thailand, Monthly Bulletin (Oct. 1975, Apr. 1989), Table 39 - Balance of Payments
2. Balance of Payments Section, Bank of Thailand, Balance of Payments with US, EC and Japan.
3. General Economic Section, Department of Economic Research, Bank of Thailand, data of merchandise and GNP for 1989.
4. TDRI, TDRI Quarterly Newsletter, vol.4 No.2 June 1989, p5, data of services for 1989.
5. Department of Customs, "Foreign Trade Statistics of Thailand 1980-1987."

Table 3: Growth and Structural Changes of Imports a/

	1980-1985	1986-1988	1989 f/		
Annual growth rates b/					
Nominal	7.00	31.36	24.18		
Real c/	4.09	26.95	18.25		
	1980	1985	1987	1988	1989 f/
Share in GNP					
Merchandise	29.10	25.42	28.23	34.81	38.96
Services	4.96	7.09	6.48	6.60	6.13
Composition of imports (%)					
Merchandise d/	100.00	100.00	100.00	n.a.	
Agriculture e/	7.00	7.85	8.35	n.a.	
Minerals	20.86	16.01	8.31	n.a.	
Manufacturing	65.91	72.38	79.22	n.a.	
Other	6.23	3.76	4.12	n.a.	
Oil/Merchandise imports	31.04	25.75	17.85	11.46	
Services	100.00	100.00	100.00	100.00	
Freight and insurance on merchandise	8.09	6.19	6.54	7.62	
Other transportation	6.39	5.00	4.82	4.63	
Tourism	15.41	10.79	12.62	16.00	
Investment income	52.50	63.47	61.28	55.80	
Government, n.i.e.	2.27	2.76	3.43	2.46	
Other services	15.35	11.79	11.31	13.49	
Direction of imports (%)					
Merchandise	100.00	100.00	100.00	100.00	
US	27.18	12.02	14.49	12.09	
JP	19.16	25.42	24.05	29.26	
EC	20.34	18.62	15.85		
Other	33.32	43.94	45.62	58.65	
Services	100.00	100.00	100.00	100.00	
US	32.13	28.29	25.49	27.93	
JP	7.13	10.78	12.57	17.07	
EC	12.43	10.53	9.52		
Other	48.31	50.40	52.42	55.00	

Notes : a/ Excluding military aid imports

b/ Imports include merchandise and services. Annual average growth rates are computed by log linear regression ($\ln y = a+bt$) ; y = value of imports
t = time

b = annual growth rates

c/ Deflated by GDP Deflator at 1972 prices.

d/ Import classified by Input-Output table 1975.

e/ Agriculture includes food processing industry.

f/ Estimates based on projection of annual value by Bank of Thailand (merchandise) and TDRI (services).

Sources: 1. Bank of Thailand, Monthly Bulletin (Oct. 1975, Apr. 1989),
Table 39 - Balance of Payments

2. Balance of Payments Section, Bank of Thailand, Balance of Payments with US, EC and Japan.

3. General Economic Section, Department of Economic Research, Bank of Thailand, data of merchandise and GNP for 1989.

4. TDRI, TDRI Quarterly Newsletter, vol.4 No.2 June 1989. p.5,
data of services for 1989.

5. Department of Customs, "Foreign Trade Statistics of Thailand 1980-1987."

Table 4: Capital Flow Growth and Structural Change

	Structure (%)			Growth Rate (% p.a.)
	1980-82	1983-85	1986-88	1980-88
Total net capital flow				4.2
-Inflow	100.0	100.0	100.0	6.0
-Outflow	100.0	100.0	100.0	7.0
Net flow as share of net capital formation	34.9	28.8	14.3	
Direct investment	10.1	16.2	40.7	28.1
-Inflow	6.4	7.4	10.2	17.2
-Outflow	4.7	4.5	3.9	-0.3
Portfolio investment	1.2	2.8	33.0	34.7
-Inflow	0.5	1.1	8.5	49.8
-Outflow	0.1	0.7	5.2	101.1
Loans	88.7	81.0	26.3	-4.6
-Inflow	93.2	91.4	81.3	6.4
-Outflow	95.2	94.8	90.8	10.7

Source: Balance of Payment Section, Bank of Thailand.

Table 5: Share of Capital Flow in Capital Formation

(Million Baht)

	1980	1985	1986	1987	1988
1. Direct foreign investment					
1.1 Net direct foreign investment	3,816.00	4,379.20	6,880.20	4,711.50	27,628.70
1.2 Private investment a/	107,104.00	148,363.00	153,869.00	213,010.00	293,441.00
1.3 Share of net direct foreign investment in private investment (% of 1.1/1.2)	3.56	2.95	4.47	2.21	9.42
2 Direct Portfolio Investment					
2.1 Total securities transacted by foreigners b/	238.35 c/ 5,965.72 c/	1,596.05 16,482.86	4,617.20 29,848.22	25,501.10 123,420.90	40,276.07 156,649.36
2.2 Market trading volumes	2.00 c/	4.84	7.73	10.33	12.86
2.3 Share of foreign activity in market d/ (% of 2.1 / 2.2)					
3 Foreign loan					
3.1 Change in domestic credits e/	60,802.00	80,637.00	76,345.00	144,054.00	198,806.00
3.2 Net foreign loan inflows	45,887.00	43,196.00	1,956.00	3,559.00	31,472.00
3.3 Total (3.1 +3.2)	106,389.00	123,833.00	78,301.00	147,593.00	230,278.00
3.4 Share of net foreign loans in total loans (% of 3.2 / 3.3)	43.10	34.90	2.50	2.40	13.70

Notes: a/ does not include depreciation.

b/ total = purchases + sale.

c/ data refer to 1982.

d/ calculated by $\{(perchaes + sale)/2\}$ /trading volume.

e/ in financial survey (consolidated accounts of all banks and other financial institutions i.e. bank of Thailand, commercial banks, finance companies, government housing bank, government saving bank, bank of agriculture and agriculture co-operatives and the industrial finance corporation of Thailand.

Sources: 1. Bank of Thailand, Monthly Bulletin, various issues.
2. Securities Exchange of Thailand.
3. Bank of Thailand, Research Department.

Table 6 : Export Performance and International Economic Development

Real, Compound Annual Growth Rates
of OECD GDP and Thai Exports

	1966-73	1973-80	1980-84	1984-86
GDP growth rate of Rich nations	4.5%	2.8%	2.0%	2.8%
Growth in Thailand Export volume	66%	9.8%	10.6%	16.1%

Growth of GDP and Imports from Thailand

Rich Nations	Growth in Thai Imports 1983-1988	Growth in	
		Real GDP	Ratio
Canada a/	349%	24%	14.5
United Kingdom	280%	17%	16.5
U.S.A.	182%	22%	8.3
France	161%	11%	14.6
West Germany	48%*	13%	3.7
Japan	121%	24%	5.0

Less Developed Nations (1982-84 average base period for imports)

Singapore	107%	31%	3.5
South Korea	108%	60%	1.8
Hong Kong	89%	46%	1.9
China	89%	61%	1.5
Malaysia	15%	22%	0.7

Note : a/ Imports include Thai exports to the Netherlands and Germany.

Thailand - Real Effective Exchange Rate and Export Growth
All % Changes are in Annual Rates

	1970	1975	1980	1984	1987
Real exchange rate index a/	63	86	100	93	125
% Growth in competitiveness		6.4	3.1	-1.8	10.4
% Growth in real exports		8.1	13.3	8.4	11.1

Note : a/ An increase in the index implies increased competitiveness.

Source: David Dapice and Frank Flatters, Thailand: Prospects and Perils in the Global Economy, June 1989.

Table 7: Overall Competitiveness of Thai Exports

(1)	1982	1987
Share in World Exports		
- Primary products	0.68	0.88
- Manufactured products	0.25	0.40

(2)	(Percentage)			
Constant Market Share Analysis, 1982-1987	World Growth Effect	Commodity Composition Effect	Competitiveness Effect	Market Effect
Total exports	59.4	8.9	37.4	-5.6

(3)	a/		
Source of Growth Analysis, 1984-1987	World income	Cost competitive	Residual
Total Exports	57.29	18.67	24.04
Major Manufactured Exports			
Food processing	85.39	13.85	0.76
Textiles	34.71	0.15	65.13
Wood	1.56	20.15	78.29
Rubber	36.78	24.44	38.77
Non-metallic	21.47	32.01	46.51
Engineering	30.32	12.77	56.92

Note : a/ Exports are measured at constant 1984 price.

Sources: (1) Subproject Number 1
 (2) Subproject Number 4
 (3) Subproject Number 7

Table 8: Growth and Shares of Exports : 1965-1988

(percentage)

SITC	Item										
		1965-1969		1969-1974		1974-1979		1979-1983		1984	
		Growth 1/	Share	Growth 1/	Share	Growth 1/	Share	Growth 1/	Share	Growth 1/	Share
0	Food	(0.73)	60.60	28.70	47.79	11.89	54.02	9.67	49.52	15.92	49.35
1	Beverages & tobacco	13.43	1.03	21.84	1.17	20.29	1.21	9.62	1.25	(9.11)	8.97
2	Crude materials	(1.54)	31.10	13.47	25.43	13.46	16.01	(2.31)	12.47	14.74	10.77
3	Mineral fuel & lubricants	0.00	0.32	45.34	0.76	(49.19)	0.27	(2.38)	0.03	261.74	0.23
4	Animal & vegetable oils & fats	(21.18)	0.05	53.25	0.08	(13.40)	0.06	62.68	0.14	47.00	0.25
5	Chemicals	10.69	0.12	53.57	0.36	15.36	0.54	21.01	0.82	26.79	1.25
6	Manufactured goods	32.04	11.65	26.15	15.58	21.64	17.52	2.50	19.19	11.55	16.66
7	Machinery	9.19	0.08	63.63	0.24	50.82	2.21	18.59	5.06	35.85	6.82
8	Miscellaneous manufactured goods	11.86	0.25	73.62	1.54	24.73	4.28	21.88	7.63	28.17	11.16
9	Miscellaneous transaction goods	29.44	1.53	17.32	3.59	19.13	2.16	(17.58)	1.85	(3.51)	0.73
10	Re-exports	18.23	3.27	12.48	3.46	9.24	1.73	3.85	2.04	38.57	1.80
		3.22	100.00	24.55	100.00	15.34	100.00	7.58	100.00	17.93	100.00

Table 8 (Continued): Growth and Shares of Exports : 1965-1988

(percentage)

SITC	Item	1984		1985		1986		1987		1988		1985-1988	
		Growth 1/	Share	Growth 1/	Share	Growth 1/	Share	Growth 1/	Share	Growth 1/	Share	Growth 1/	Share
0	Food	15.92	49.35	0.12	44.78	16.02	43.55	7.31	36.46	39.38	40.27	20.91	71.26
1	Beverages & tobacco	(9.11)	0.97	(2.99)	0.85	(5.17)	0.67	(9.16)	0.48	85.14	0.83	23.61	0.71
2	Crude materials	14.74	10.77	3.83	10.14	4.57	8.80	26.47	8.92	3.05	6.85	11.37	8.68
3	Mineral fuel & lubricants	261.74	0.23	178.44	1.27	(28.99)	0.78	13.61	0.70	(171.77)	0.09	(62.38)	0.71
4	Animal & vegetable oils & fats	47.00	0.25	29.98	0.30	(95.21)	0.10	31.07	0.10	70.14	0.15	2.00	0.16
5	Chemicals	26.79	1.25	10.95	1.26	32.62	1.45	29.21	1.51	45.27	1.77	35.70	1.50
6	Manufactured goods	11.55	16.66	20.59	18.55	19.07	18.59	30.30	19.59	30.29	19.76	26.55	19.12
7	Machinery	35.85	6.82	35.04	8.78	38.10	10.65	35.73	11.85	24.35	11.25	32.72	10.63
8	Miscellaneous manufactured goods	28.17	11.16	20.59	12.43	32.22	14.21	55.50	19.27	18.89	17.33	35.54	15.81
9	Miscellaneous transaction goods	(3.51)	0.73	10.82	0.74	6.22	0.65	52.97	0.86	41.50	0.97	33.56	0.81
10	Re-exports	38.57	1.80	(58.93)	0.91	(30.88)	0.55	(52.36)	0.25	133.40	0.72	16.72	0.61
		17.93	100.00	9.84	100.00	18.86	100.00	25.06	100.00	29.47	100.00	24.45	100.00

Note : 1/ Calculated by simple regression method

Source : Bank of Thailand, Monthly Bulletin, 1965-1988

Table 9: Constant Market Share Analysis of Export Performance (1982-1987)

Sector	World Growth Effect		Commodity Composition Effect		Competitive Effect		Market Effect		Total Export Growth	
	Million dollar	Percentage	Million dollar	Percentage	Million dollar	Percentage	Million dollar	Percentage	Million dollar	Percentage
0 Food and live animals chiefly for food	1310.89	177.82	-181.76	-24.66	-182.31	-24.73	-209.53	-28.43	737.09	100
1 Beverages and tobacco	41.11	-142.81	-0.37	1.29	-71.01	246.69	1.49	-5.17	-28.79	100
2 Crude materials, inedible, except fuel	296.79	96.58	-104.13	-33.89	169.73	55.23	-55.08	-17.92	307.31	100
3 Mineral fuel, lubricants and related materials	0.95	1.48	-1.68	-2.60	65.21	101.15	-0.02	-0.02	64.47	100
4 Animal and vegetable oil, fat and wax	4.61	206.47	-5.96	-266.50	0.68	30.58	2.89	129.45	2.24	100
5 Chemicals and related products, n.e.s.	37.75	52.85	25.01	35.01	6.89	9.64	1.79	2.51	71.44	100
6 Manufactured goods classified chiefly by material	474.79	90.60	181.66	34.66	-136.61	-26.07	4.24	0.81	524.08	100
7 Machinery and transport equipment	152.98	13.63	180.05	16.04	798.01	71.08	-8.31	-0.74	1122.73	100
8 Miscellaneous manufactured articles	235.87	15.55	288.45	19.02	988.20	65.17	3.92	0.26	1516.44	100
9 Commodities and transactions not classified elsewhere	20.73	97.84	3.07	13.62	-17.86	-19.14	16.63	73.68	22.57	100
Total	2576.28	59.37	384.34	8.86	1620.93	37.35	-241.98	-5.58	4339.56	100

Source: UN, Commodity Trade Statistics and Subproject Number 4

Table 10: Thailand's Revealed Comparative Advantage(RCA)

SITC Section Code	Revealed Comparative Advantage(RCA)					
	1980	1982	1983	1986	1987	
0+1	Food and live animals chiefly for food & beverage and tobacco	4.5351	5.4268	5.0741	4.7074	4.0821
2	Crude materials, inedible except fuels	2.2440	1.6949	1.9564	1.6920	1.6700
3	Mineral fuel, lubricants and related materials	0.0027	0.0011	0.0010	0.0642	0.0632
4	Animal and vegetable oil, fat and wax	0.3011	0.3736	0.3363	0.2221	0.2574
5-8	Manufactured goods	0.6128	0.5306	0.5776	0.6593	0.7446
5	Chemicals and related products, N.E.S.	0.0995	0.1087	0.1508	0.1752	0.1763
7	Machinery and transport equipment	0.2221	0.1858	0.1984	0.3183	0.3464
6+8	Manufactured goods classified by material & miscellaneous manufactured articles	1.1681	1.0746	1.1744	1.2433	1.4199
9	Comodities and transactions not classified elsewhere	2.1126	1.4343	0.9156	0.4207	0.3361

Note : Calculated by the formula : $\{(E_{ij}/ E_j) / (W_i/W)\}$
 where E = exports of each country
 i = industry
 j = country
 W = world export

Source: Subproject number 6

Table 11 : Nominal Rate of Protection and Effective Rate of Protection (Corden & Balassa) : 111 Sectors

IO-Sector 1/	1981		1984		1987				
	NRP	ERP	NRP	ERP	NRP	ERP			
		Corden Balassa		Corden Balassa		Corden Balassa			
002 Maize	0.009	0.009	0.002	0.009	0.009	0.002	0.008	0.008	0.002
003 Other Cereals	0.007	0.007	0.010	0.007	0.007	0.010	0.003	0.003	0.005
004 Cassava	0.005	0.005	0.006	0.006	0.006	0.008	0.003	0.003	0.004
005 Other root crops	0.026	0.026	0.028	0.026	0.026	0.028	0.027	0.027	0.030
006 Beans and nuts	0.039	0.039	0.048	0.038	0.038	0.047	0.042	0.042	0.052
007 Vegetables	0.087	0.087	0.101	0.092	0.092	0.107	0.093	0.093	0.108
008 Fruits	0.107	0.107	0.130	0.104	0.104	0.126	0.109	0.109	0.133
010 Coconut	0.012	0.012	0.013	0.012	0.012	0.013	0.544	0.544	0.631
012 Kenaf and jute	0.095	0.095	0.110	0.095	0.095	0.110	0.057	0.057	0.065
013 Crops for textile and matting	0.044	0.044	0.051	0.073	0.073	0.085	0.073	0.073	0.085
015 Coffee and tea	0.056	0.019	0.021	0.060	0.019	0.021	0.132	0.012	0.013
017 Other agriculture products	0.056	0.056	0.070	0.060	0.060	0.074	0.132	0.132	0.167
020 Other livestock	0.037	0.037	0.053	0.229	0.229	0.354	0.100	0.100	0.146
025 Logging	0.097	0.097	0.119	0.080	0.080	0.098	0.098	0.098	0.121
027 Other forestry products	(0.187)	(0.187)	(0.206)	0.076	0.076	0.087	0.081	0.081	0.093
031 Petroleum and natural gas	0.024	0.024	0.027	0.000	0.000	0.000	0.255	0.255	0.301
032 Iron ore	0.032	0.032	0.058	0.032	0.032	0.058	0.037	0.037	0.066
034 Tungsten ore	0.097	0.097	0.167	0.097	0.097	0.167	0.098	0.098	0.167
035 Other non-ferrous metal ore	0.098	0.098	0.133	0.098	0.098	0.133	0.099	0.099	0.133
036 Fluorite	0.015	0.015	0.025	0.029	0.029	0.048	0.049	0.049	0.084
037 Chemical fertilizer minerals	(0.020)	(0.020)	(0.027)	(0.020)	(0.020)	(0.027)	(0.028)	(0.028)	(0.038)
038 Salt evaporation	0.017	0.017	0.018	0.017	0.017	0.018	0.008	0.008	0.008
041 Other mining and quarrying	0.086	0.086	0.198	0.123	0.123	0.294	0.163	0.163	0.411
042 Slaughtering	0.094	0.094	0.360	0.094	0.094	0.360	0.084	0.084	0.316
043 Canning and preservation of meat	0.029	0.029	0.038	0.029	0.029	0.038	0.020	0.020	0.027
044 Dairy products	0.137	0.137	0.183	0.099	0.099	0.130	0.221	0.221	0.302
045 Canning of fruits and vegetables	0.159	0.159	0.198	0.140	0.140	0.174	0.141	0.141	0.175
046 Canning and preserving of fish	0.075	0.075	0.181	0.102	0.102	0.255	0.099	0.099	0.246
047 Coconut and palm oil	0.011	0.011	0.047	0.009	0.009	0.040	0.200	0.200	0.322
048 Other vegetable animal oil	0.048	0.048	0.072	0.061	0.061	0.090	0.067	0.067	0.101
049 Rice millings	(0.089)	(0.089)	(0.364)	(0.089)	(0.089)	(0.363)	(0.064)	(0.064)	(0.285)
050 Tapioca milling	0.006	0.006	0.010	0.006	0.006	0.010	0.011	0.011	0.017
051 Drying and grinking of maize	0.018	0.018	0.020	0.018	0.018	0.020	0.320	0.320	0.391
052 Flour and other grain milling	0.061	0.061	0.112	0.061	0.061	0.113	0.043	0.043	0.079
053 Bakery products	0.482	0.482	0.561	0.482	0.482	0.561	0.514	0.514	0.647
054 Noodles and similar products	0.025	0.025	0.043	0.025	0.025	0.043	0.006	0.006	0.010
055 Sugar	0.732	0.732	0.828	0.012	0.012	0.022	0.009	0.009	0.018
056 Confectionary	0.053	0.053	0.083	0.051	0.051	0.080	0.071	0.071	0.112
058 Monosodium glutamate	0.384	0.384	0.418	0.384	0.384	0.468	0.078	0.078	0.104

Table 11 (Continued): Nominal Rate of Protection and Effective Rate of Protection (Corden & Balassa) : 111 Sectors

IO-Sector 1/	1981		1984		1987				
	NRP	ERP		NRP	ERP		NRP	ERP	
		Corden	Balassa		Corden	Balassa		Corden	Balassa
059 Coffee and tea	0.054	0.054	0.064	0.054	0.054	0.064	0.280	0.280	0.345
060 Other food products	0.311	0.311	0.469	0.311	0.311	0.470	0.222	0.222	0.410
061 Animal feed	(0.601)	(0.601)	(0.792)	(0.601)	(0.601)	(0.792)	0.044	0.044	0.118
062 Distilling spirits blending	0.315	0.315	0.361	0.315	0.315	0.361	0.274	0.274	0.313
063 Breweries	0.009	0.009	0.010	0.006	0.006	0.007	0.144	0.144	0.170
064 Soft drinks and carbonated water	0.060	0.060	0.077	0.060	0.060	0.077	0.066	0.066	0.084
065 Tobacco processing	0.165	0.165	0.231	0.165	0.165	0.231	0.194	0.194	0.267
067 Spinning	0.152	0.556	0.450	0.166	0.435	0.613	0.222	0.000	0.000
068 Weaving	0.436	0.152	0.226	0.431	0.166	0.248	0.425	0.222	0.340
070 Made-up textile goods	0.426	0.436	0.634	0.614	0.431	0.623	0.643	0.425	0.612
071 Knitting	0.090	0.426	0.647	0.126	0.614	0.751	0.122	0.643	0.727
072 Wearing apparels, except footwear	0.037	0.090	0.125	0.038	0.126	0.178	0.078	0.122	0.171
073 Carpet and rugs	0.144	0.037	0.059	0.202	0.038	0.061	0.164	0.078	0.128
074 Cordage, rope and twine products	0.131	0.144	0.217	0.137	0.202	0.313	0.157	0.164	0.251
075 Tanneries and leather finishing	0.050	0.131	0.171	0.041	0.137	0.179	0.049	0.157	0.206
076 Leather products	0.178	0.050	0.070	0.177	0.041	0.058	0.141	0.049	0.069
077 Footwear and except of rubber	0.147	0.178	0.320	0.204	0.177	0.319	0.405	0.141	0.248
078 Saw mills	0.203	0.147	0.222	0.300	0.204	0.314	0.333	0.405	0.689
079 Wood and cork products	0.097	0.203	0.357	0.011	0.300	0.562	0.124	0.333	0.640
080 Wooden furniture and fixtures	0.038	0.097	0.150	0.070	0.011	0.016	0.077	0.124	0.196
081 Pulp, paper and paperboard	0.116	0.038	0.071	0.205	0.070	0.134	0.167	0.077	0.148
082 Paper products	0.217	0.116	0.224	0.235	0.205	0.428	0.299	0.167	0.338
083 Printing and publishing	0.028	0.217	0.370	0.119	0.235	0.404	0.121	0.299	0.536
084 Basic industrial chemicals	0.241	0.028	0.044	0.322	0.119	0.198	0.304	0.121	0.201
085 Fertilizer and pesticides	0.069	0.241	0.407	0.055	0.322	0.569	0.275	0.304	0.532
086 Synthetic resin and plastics	0.240	0.069	0.180	0.341	0.055	0.141	0.167	0.275	0.338
087 Paints, varnishes and lacquers	0.243	0.240	0.462	0.248	0.341	0.710	0.249	0.167	0.305
088 Drugs and medicines	0.230	0.243	0.387	0.280	0.248	0.397	0.289	0.249	0.398
089 Soap and cleaning preparations	0.369	0.230	0.312	0.311	0.280	0.385	0.411	0.289	0.399
090 Cosmetics	0.432	0.369	0.496	0.621	0.311	0.782	0.596	0.411	0.618
092 Other chemical products	0.242	0.432	0.547	0.331	0.621	0.774	0.323	0.596	0.689
093 Petroleum refineries	0.003	0.242	0.300	0.000	0.331	0.416	0.004	0.323	0.406
094 Other petroleum products	0.144	0.003	0.004	0.152	0.000	0.001	0.212	0.004	0.006
095 Rubber sheets and block rubber	0.037	0.144	0.242	0.043	0.152	0.227	(0.370)	0.212	(0.138)
096 Tyres and tubes	(0.003)	0.037	0.055	0.121	0.043	0.064	0.198	(0.370)	(0.463)
097 Other rubber products	0.042	(0.003)	(0.005)	0.144	0.121	0.186	0.164	0.198	0.317
098 Plastic wares	0.091	0.042	0.055	0.270	0.144	0.194	0.227	0.164	0.222
099 Ceramic and earthen wares	0.273	0.091	0.154	0.269	0.270	0.519	0.270	0.227	0.423
100 Glass and glass products	0.319	0.273	0.563	0.351	0.269	0.552	0.364	0.270	0.554

Table 11 (Continued): Nominal Rate of Protection and Effective Rate of Protection (Corden & Balassa) : 111 Sectors

IO-Sector 1/	1981		1984		1987				
	NRP	ERP		NRP	ERP				
		Corden	Balassa		Corden	Balassa	NRP	ERP	
							Corden	Balassa	
101 Structural clay products	0.444	0.319	0.707	0.444	0.351	0.800	0.493	0.364	0.841
104 Other non-metallic products	0.097	0.097	0.381	0.090	0.090	0.347	0.095	0.095	0.371
105 Iron and steel	0.036	0.036	0.066	0.029	0.029	0.052	0.052	0.052	0.095
106 Secondary steel products	0.129	0.129	0.220	0.126	0.126	0.214	0.186	0.186	0.328
107 Non-ferrous metal	0.018	0.018	0.092	0.014	0.014	0.069	0.094	0.094	0.687
108 Cutlery and hand tools	0.147	0.147	0.210	0.161	0.161	0.233	0.241	0.241	0.359
109 Metal furniture and fixtures	0.060	0.060	0.077	0.269	0.269	0.367	0.290	0.290	0.399
110 Structural metal products	0.118	0.118	0.162	0.142	0.142	0.197	0.111	0.111	0.153
111 Other fabricated metal products	0.153	0.153	0.198	0.194	0.194	0.253	0.269	0.269	0.356
112 Engines and turbines	0.339	0.339	0.672	0.328	0.328	0.457	0.296	0.296	0.358
113 Agricultural machinery equipment	0.073	0.073	0.127	0.258	0.258	0.520	0.259	0.259	0.524
114 Wood and metal work machinery	0.148	0.148	0.234	0.295	0.295	0.506	0.295	0.295	0.506
115 Special industrial machinery	0.156	0.156	0.240	0.305	0.305	0.505	0.304	0.304	0.501
116 Office and household machinery	0.254	0.254	0.417	0.316	0.316	0.535	0.377	0.377	0.660
117 Electrical industrial machinery	0.186	0.186	0.247	0.278	0.278	0.378	0.319	0.319	0.439
118 Radio, television and communication	0.217	0.217	0.281	0.364	0.364	0.488	0.237	0.237	0.308
119 Household electrical appliances	0.286	0.286	0.430	0.386	0.386	0.602	0.361	0.361	0.558
120 Insulate wire and cable	0.290	0.290	0.372	0.290	0.290	0.372	0.336	0.336	0.437
121 Electrical accumulators and batteri	0.329	0.329	0.477	0.260	0.260	0.368	0.353	0.353	0.516
122 Other electrical apparatus	0.219	0.219	0.403	0.219	0.219	0.404	0.262	0.262	0.497
123 Ship building and repairing	0.043	0.043	0.101	0.258	0.258	0.344	0.321	0.321	0.494
124 Railroad equipment	0.050	0.050	0.079	0.234	0.234	0.411	0.102	0.102	0.166
125 Motor vehicles	0.164	0.164	0.245	0.277	0.277	0.435	0.697	0.697	1.351
126 Motor cycles and bicycles	0.256	0.256	0.367	0.262	0.262	0.376	0.335	0.335	0.492
128 Aircraft	0.000	0.000	0.001	0.000	0.000	0.000	0.049	0.049	0.163
129 Scientific equipment	0.106	0.106	0.167	0.174	0.174	0.285	0.198	0.198	0.327
130 Photographic and optical goods	0.240	0.240	0.383	0.251	0.251	0.403	0.305	0.305	0.502
131 Watches and clocks	0.288	0.288	0.584	0.291	0.291	0.590	0.362	0.362	0.779
132 Jewellery and related articles	0.149	0.149	0.180	0.140	0.140	0.168	0.175	0.175	0.211
133 Sporting and athletic equipment	0.082	0.082	0.210	0.121	0.121	0.326	0.119	0.119	0.320
134 Other manufactured goods	0.150	0.150	0.266	0.213	0.213	0.396	0.254	0.254	0.485
172 Motion picture production	0.072	0.072	0.115	0.072	0.072	0.115	0.014	0.014	0.022
180 Unclassified	0.005	0.005	(1.000)	0.005	0.005	(1.000)	0.004	0.004	(1.000)

Note : 1/ Excluding nontraded goods sectors

Source : These figure were calculated by Industry Trade and International Economic Relations.

Table 12: Average Annual Nominal Growth Forecast for Manufactured Exports and Imports

(Percentage)

	1988-1990	1990-1995	1995-2000
a/ Exports			
Food	16.28	8.96	10.52
Beverages and tobacco	15.85	10.66	10.09
Crude materials	10.27	3.68	4.50
Mineral fuel and lubricants	11.55	5.28	5.78
Animal and vegetable oil and fat	23.74	20.52	17.97
Chemicals	29.49	27.70	23.72
Manufactured goods	19.89	15.71	14.13
Machinery	27.79	23.88	19.20
Miscellaneous manufactured goods	29.03	25.66	20.63
Total	20.61	17.53	16.28
b/ Imports			
Food	17.76	16.82	17.14
Beverages and tobacco	17.63	10.42	10.74
Crude materials	19.36	17.02	17.34
Mineral fuel and lubricants	39.50	17.32	17.64
Animal and vegetable oil and fat	8.14	12.82	13.14
Chemicals	24.24	16.01	16.33
Manufactured goods	12.50	15.22	15.54
Machinery	7.83	15.66	15.98
Miscellaneous manufactured goods	33.11	17.12	17.44
Total	17.06	16.06	16.42

Sources : a/ Narongchai Akrasanee and others, " Export Financing in Thailand";

a Report Submitted to the ADB, Thailand Development Research Institute,

July, 1989.

b/ Own estimation following the same methods as the export forecast.

Table 13: Mineral and Fuel Exports

(Million Baht)			
Mineral	1980	1985	1988
Tin	13259.10 (88.82)	5900.90 (57.66)	2869.10 (39.51)
Tungsten	638.30 (4.28)	133.20 (1.30)	87.00 (1.20)
Fluorite	299.88 (2.01)	362.00 (3.54)	118.10 (1.63)
Gypsum	47.50 (0.32)	265.10 (2.59)	946.60 (13.03)
Barite	277.50 (1.86)	213.30 (2.08)	87.60 (1.21)
Feldspar (sodium)	1.40 (0.01)	28.60 (0.28)	114.00 (1.57)
Lead	165.00 (1.11)	189.90 (1.86)	332.90 (4.58)
Zinc	-	508.40 (4.97)	350.86 (4.83)
Condensate	-	2416.80 (23.62)	2142.80 (29.51)
Other	240.18 (1.61)	215.60 (2.11)	213.43 (2.94)
Total Value	14928.86	10233.80	7262.39

Note: Number in parenthesis is percentage share in total value.

Source: Mineral Statistics of Thailand, Department of Mineral Resources, Ministry of Industry, Royal Thai Government, 1985 and 1989.

Table 14: Agriculture: Production, Exports and Imports

(Quantity : Metric ton)

PRODUCT	1980					1981					1982				
	Q	X	M	Q	X	Q	M	X	Q	M	X	Q	M	X	M
Rice	11,636,560	2,799,724	-	13,576,880	3,962,240	-	12,088,140	4,443,301	-	13,936,000	5,701,458	*	-	13,936,000	5,701,458
Maize	2,998,000	2,175,331	136	4,934,000	2,752,417	18,520	2,781,000	1,628,397	288	4,675,163	1,208,762	547	288	4,675,163	1,208,762
Cassava pellets	6,891,667	4,811,225	-	8,026,250	6,474,503	-	8,147,500	5,771,137	-	9,771,183	7,334,446	-	-	9,771,183	7,334,446
Raw sugar	1,707,444	451,668	-	2,071,998	1,703,556	-	2,338,426	1,876,587	-	3,153,425	1,656,605	14	-	3,153,425	1,656,605
Rubber smoked sheets	465,000	343,931	44	773,000	554,778	31	851,000	715,040	3	861,820	687,021	-	3	861,820	687,021
Milk Products (a)	17,505(b)	4,073	41,634	51,370(b)	2,593	51,246	79,094(b)	8,789	69,462	99,449(b)	13,322(c)	79,450(c)	69,462	99,449(b)	13,322(c)
Sweetened Milk	n.a.	8,087	-	111,665**	3,082	*	143,732**	16,734	7	n.a.	n.a.	n.a.	7	n.a.	n.a.
Poultry	n.a.	18,503	6	n.a.	37,840	15	496,620(d)	81,905	7	n.a.	n.a.	97,420	7	n.a.	97,420
Cotton (e)	67,550	10,654	77,562	35,700	11,263	134,555	25,900	10,818	258,030	36,939	11,409	219,103	258,030	36,939	11,409
Paper and products	n.a.	20,456	348,001	n.a.	32,320	428,056	n.a.	89,801	563,838	n.a.	74,449	560,969	563,838	n.a.	74,449
Soybeans	100,000	3,394	15,297	309,000	2,342	1	338,000	142	-	511,000	16	33,277	-	511,000	16
Soybean meal (f)	(78,000)	100	154,782	(241020)	13	155,023	(263640)	-	239,564	398,580	4	(225404)	239,564	398,580	4
Fishery products	n.a.	142,370	43,019	n.a.	328,505	153,105	n.a.	498,947	227,103	n.a.	598,108	343,905	227,103	n.a.	598,108
- Shrimp	n.a.	17,915	578	n.a.	24,041	819	n.a.	33,909	735	n.a.	49,810	771	735	n.a.	49,810
- Squid	n.a.	38,641	159	n.a.	46,290	470	n.a.	61,633	2,919	n.a.	58,764	2,224	2,919	n.a.	58,764
- Fish	n.a.	41,436	9,282	n.a.	96,437	129,205	n.a.	130,386	191,410	n.a.	149,499	299,039	191,410	n.a.	149,499
- Other	n.a.	44,378	33,000	n.a.	161,737	22,611	n.a.	273,019	32,039	n.a.	340,035	41,871	32,039	n.a.	340,035
Fishmeal	n.a.	114,343	466	n.a.	74,791	-	n.a.	73,004	n.a.	n.a.	473,000	72,301	n.a.	473,000	72,301

Notes : p : preliminary

n.a. : not available

* : data is not significant

** : data collected from Bank of Thailand

a) whole milk products including sweetened milk

b) fresh milk

c) butter fat, cheese and curd, other milk foods

d) refer to quantity of chicken meat in 1986 (see source 2)

e) cotton raw and linters

f) byproduct of soybeans

Sources: 1. Center of Agricultural Statistics, Office of Agricultural Economics, Agricultural Statistics of Thailand Crop year 1984/1985, 1987/1988

2. Competitiveness of Feed Stuffs and Livestock Products in Thailand,

TDRI, Research Report submitted to ADB, 1989

Table 15 : Comparative Advantage in Agricultural Production

Product	DRC*	DRC**
Livestock/1		
Chicken	16.15-17.01	14.67-15.45
Eggs	13.26-15.57	13.26-15.57
Pork	24.22	22.01
Beef	19.03-45.85	17.29-41.66
Dairy	32.87-36.91	29.86-33.53
Fishery/2		
Shrimp	8.85-10.95	7.86-9.95
Shrimp farming/a	7.21-11.53	6.55-10.48
Squid	12.97-26.53	11.79-24.10
Fish	12.40-17.88	11.26-16.24

Notes : DRC: Domestic Resource Cost (DRC) = $Cd / (Pb\$ - Cb\$) * SER$
 where Cd is the primary and nontrade input cost for producing one unit of an output in baht
 Pb\$ is the border price of output, in dollars,
 Cb\$ is the traded input cost per unit of output, in dollars,
 SER is the shadow exchange rate
 DRC is based on year 1986.
 DRC* is computed by shadow exchange rate (\$ = B 28.84)/b
 DRC** is computed by official exchange rate(\$ = B 26.2)

a/ Shrimp farming consists of extensive farming, semi-intensive, and intensive farming
 b/ Siamwalla and Setboonsang (1987), Agricultural Pricing Policy in Thailand, 1960-1985.

Sources : 1) Setboonsang S., "Competitiveness of Livestock and Feedgrain Subsectors in Thailand", Paper Presented at the Pacific Economic Cooperation Conference, Seoul 1989
 2) Tokrisna, R., Comparative Advantage of Thai Agriculture; Fisheries, mimeo, Thailand Development Research Institute, 1989

Table 16: Crop Forecasts : Results of Simulation of the share Supply Equation, 1986-1995

Region	CA	GN	KN	MB	MZ	PD	SB	SC	RB	OP	CO	IB	PI	CH	SH	GL
Upper North		↑				↑							↓		↑	↑
Lower North				↑	↓	↑	↑	↑								
Northeast	↑	↓	↑			↓		↑								
Central Plain				↓	↓	↑		↓							↓	
East	↑	~				↓		↑				↑				
West						↓		↓				↑		↑		↓
South						↓			↑	↓	↓			↑		

Notes: ↑ denote an increase in crop share
 ↓ denote a decrease in crop share
 ~ denote remain unchanged

Upper North : rise in groundnut, garlic; fall in tobacco
 Lower North : mungbean, soybean, sugarcane; fall in maize
 West : fall in rice, sugarcane, rise in pineapple, and coconut
 East : rise in coconut and sugarcane
 Central Plain : fall in maize, sugarcane; rise in rice
 Northeast : rise in sugarcane, cassava and kenaf; a fall in rice and groundnut
 South : rise of rubber, pineapple;
 CA cassava
 GN groundnut
 KN kenaf
 MB mungbean
 MZ maize
 PD paddy
 SB soybean
 SC sugarcane
 RB rubber
 OP oilpalm
 CO coconut
 IB tobacco
 PI pineapple
 CH Chilli
 SH shallot
 GL garlic

Source : IDRI estimate. See also Subproject Number 3.

Table 17 : Forecast of Agricultural Product Price Growth
Percent

Crop	1987-1995	1987-2000
Rice	-0.3	-0.5
Maize	2.0	1.8
Sugar	8.7	6.3
Sorghum	1.3	1.5
Soybean	2.2	-0.9
Rubber	3.7	1.6
Palm Oil	2.7	0.9
Cotton	-0.4	-0.7
Copra	3.1	0.9
Jute	-0.3	-0.4
Tobacco	0.2	-0.2

Note : Growth rate was computed by using the following formula :

$$\text{Growth Rate} = \left[\exp\left(\frac{1}{t}(\text{LN}Y_n/Y_o)\right) - 1 \right] \times 100$$

Where t = time

Y_n = Price in 1995, 2000

Y_o = Price in 1987

Source : World Bank, Price Prospects for major Primary Commodities, 1989

Table 18 : The Structure of the Service Trade

Service Category	1980				1985				1988			
	Receipts		Payments		Receipts		Payments		Receipts		Payments	
	80-85	80-85	80-85	80-85	80-85	80-85	80-85	80-85	86-88	86-88	86-88	86-88
Service Sector	100	100	100	100	100	100	100	100	100	100	100	100
Tourism	41	10	37	10	8	8	51	34	17	33	17	33
Labor	18	1	28	23	2	19	16	5	2	18	2	18
Transportation	6	4	4	11	4	10	9	72	5	14	5	14
Insurance and Freight(b)	9	42	11	15	32	6	8	12	5	-49	5	-49
Banking & Finance(c)	12	33	8	2	47	16	6	20	57	5	57	5
Others	14	9	12	9	8	7	9	-3	14	15	14	15
Total(d)	43,528	50,792	85,879	0.13	95,510	0.1	144,529	0.24	92,054	-0.02	92,054	-0.02

Notes : (a) Growth Rate = Computed by Linear Regression, Set $\ln(y) = a + bt$, Given $y = \text{Actual Value}$, $t = \text{Time}$
 (b) Actual and Imputed Value Estimated by the Bank of Thailand
 (c) Investment Income in Balance of Payments Statistics
 (d) Actual Value (millions of baht)

Source : Balance of Payments Section, Bank of Thailand ; Worksheet in Respective Years.

Table 19 : Service Sector Receipts and Payments by Major Country : 1985 and 1988

(millions of baht)

Service	1985				1988							
	Country	Receipt	%	Country	Payment	%	Country	Receipt	%	Country	Payment	%
Labor	1.Saudi Arabia	11,698	49	1.U.S.A.	305	16	1.Saudi Arabia	8,911	38	1.Japan	804	36
	2.Kuwait	707	3	2.Japan	299	16	2.Singapore	420	2	2.U.S.A.	400	18
	3.Singapore	609	3	3.Singapore	213	11	3.Hongkong	389	2	3.Netherlands	239	11
	4.Others	10,782	45	4.Others	1,042	56	4.Others	13,715	59	4.Others	819	36
	Total	23,795	100	Total	1,859	100	Total	23,436	100	Total	2,262	100
Tourism	1.Malaysia	3,600	11	1.U.S.A.	3,114	41	1.Japan	10,583	13	1.U.S.A.	5,347	35
	2.U.S.A.	3,105	10	2.Japan	1,121	15	2.Malaysia	6,900	9	2.Japan	2,512	17
	3.Japan	2,475	8	3.Hongkong	679	9	3.Hongkong	6,395	8	3.Singapore	1,030	7
	4.Others	22,587	71	4.Others	2,709	36	4.Others	54,980	70	4.Others	6,319	42
	Total	31,767	100	Total	7,622	100	Total	78,858	100	Total	15,208	100
Transportation	1.Japan	1,509	42	1.U.S.A.	1,299	37	1.U.S.A.	1,544	13	1.U.S.A.	1,520	35
	2.U.S.A.	1,151	32	2.Singapore	482	14	2.Singapore	563	4	2.Singapore	570	13
	3.Singapore	620	17	3.Saudi Arabia	475	13	3.U.K.	471	4	3.Japan	453	10
	4.Others	299	8	4.Others	1,275	36	4.Others	10,003	79	4.Others	1,859	42
	Total	3,579	100	Total	3,532	100	Total	12,681	100	Total	4,401	100
Insurance	1.U.K.	110	31	1.U.K.	410	11	1.U.S.A.	102	22	1.U.K.	448	7
	2.U.S.A.	99	28	2.U.S.A.	208	6	2.Japan	96	20	2.U.S.A.	335	5
	3.Hongkong	75	21	3.Hongkong	145	4	3.U.K.	57	12	3.Hongkong	202	3
	4.Others	186	19	4.Others	2,809	79	4.Others	95	46	4.Others	5,560	85
	Total	470	100	Total	3,572	100	Total	351	100	Total	6,545	100

Note : Telecommunications and Banking = Data not Available

Sources : 1). Balance of Payments Section, Bank of Thailand ; In Respective Years
2). Tourism Authority of Thailand; Annual Statistical Report on Tourism in Thailand 1985 and 1988

Table 20 : Factors Determining Pattern in Traded Services.

Service Sectors	Factor Endowment	Scale	Trade Ratio	Relative Price	Exchange Rate	R-squared	F-statistic
1 Transportation							
1.1 Freight	-0.423	-2.533 **	3.630 *	-	-	0.952	33.155
1.2 Passengers	-0.107	0.127 *	0.090	-	-	0.827	4.771
2 Banking	1.005 **	-1.515 **	-	-0.048	-	0.706	4.798
3 Insurance	0.361	-0.360	-	-	-3.741 **	0.970	53.863
4 Tourism	1.382 *	-1.478 **	-	-	-0.215	0.867	10.902
5 Labor	-2.102	0.442	-	0.156	-1.087	0.701	2.347
6 Telecommunications	-4.715	1.914	-	-	-0.009	0.224	0.483

Notes : ** = Indicate 0.01 significance levels.
 * = Indicate 0.05 significance levels.

Source : Estimated by Logarithmic Equations.

Table 21: Share of Foreign Capital Inflow

	(Percentage)									
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989p a/
1. Direct Investment										
(a)	7.52	11.54	11.31	23.62	16.49	8.51	60.60	22.32	39.31	25.63
(b)	7.64	15.20	13.59	24.13	22.65	9.88	299.61	30.37	68.42	45.27
2. Portfolio Investment										
(a)	2.04	0.03	1.59	0.98	(0.15)	7.50	22.17	60.92	15.92	20.34
(b)	2.07	0.05	1.91	1.00	(0.20)	8.70	109.60	82.91	27.71	35.92
3. Foreign Loans										
(a)	90.44	88.42	87.10	75.40	83.66	83.98	17.23	16.76	44.77	54.02
(b)	48.87	84.75	84.50	74.86	77.55	81.42	(309.21)	(113.28)	3.86	18.81
3.1 Private										
(a)	45.05	30.11	36.90	37.23	66.80	26.36	160.99	(30.05)	101.27	97.19
(b)		23.31	14.45	27.35	47.40	1.69	87.83	329.34	127.18	141.37
3.2 Public										
(a)	54.95	69.89	63.10	62.77	33.20	73.64	(60.99)	130.05	(1.27)	2.81
(b)		76.69	85.55	72.65	52.60	98.31	12.17	(229.34)	(27.18)	(41.37)

Table 21 (Continued): Share of Foreign Capital Inflow
(Percentage)

	1980-1982	1983-1985	1986-1988	1989p a/
1. Direct Investment				
(a)	10.13	16.21	40.74	25.63
(b)	12.15	18.89	132.80	45.27
2. Portfolio Investment				
(a)	1.22	2.78	33.00	20.34
(b)	1.34	3.17	73.41	35.92
3. Foreign Loans				
(a)	88.65	81.01	26.25	54.02
(b)	72.71	77.94	(106.21)	18.81
3.1 Private				
(a)	37.35	43.46	77.40	97.19
(b)	18.88 b/	25.48	181.45	141.37
3.2 Public				
(a)	52.65	56.54	22.60	2.81
(b)	81.12 b/	74.52	(81.45)	(41.37)

Notes: (a) refer to share of Foreign Capital Inflow.
 (b) refer to share of Foreign Capital Inflow.
 without Short-Term loans
 a/ : Data refer to January-June.
 b/ : Data refer to share in 1981-1982
 p : Preliminary.

Source: Bank of Thailand

Table 22 : Foreign Direct Investment Patterns a/ by Country of Origin
(Percentage)

Country	Percentage Share b/					
	1980	1985	1986	1987	1988	1989p c/
U.S.A	18.9	54.2	18.7	20.1	11.3	14.2
Japan	23.3	34.8	44.1	36.1	51.7	50.2
EEC.	20.0	9.7	7.4	10.4	8.0	9.3
U.K	2.1	2.8	3.6	3.6	3.1	3.6
W.Germany	6.8	3.8	2.3	5.0	2.2	1.5
France	0.3	3.3	1.3	1.5	1.0	3.0
Netherlands	0.6	(1.0)	(0.8)	0.8	1.0	0.3
Italy	4.0	0.3	1.1	0.1	0.1	0.4
Australia	1.0	(1.8)	2.1	0.3	0.1	0.4
Canada	(1.1)	0.8	0.5	0.1	0.2	0.1
Switzerland	1.9	1.8	4.0	8.7	2.0	3.5
Asian NICs	36.2	(6.9)	21.7	22.6	28.4	20.2
Hong Kong	28.7	14.7	13.8	8.8	10.8	10.1
Korea	0.3	(0.1)	0.1	0.2	1.1	0.5
Singapore	7.2	(25.5)	5.8	5.9	5.4	(0.9)
Taiwan	0.0	3.9	1.9	7.6	11.2	10.5
Asean-4	4.0	0.9	(0.6)	(0.0)	0.3	0.0
Brunei	0.0	0.1	0.1	0.0	0.0	0.0
Indonesia	0.1	0.2	0.1	0.1	0.1	
Malaysia	3.9	0.4	0.1	(0.1)	0.2	0.0
Philippines	(0.0)	0.2	(0.9)	0.0	0.0	(0.1)
Other	2.1	6.5	2.1	1.7	1.9	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total amount (Million baht)	3,878.2	4,402.2	6,908.1	9,043.7	28,243.8	17,132.8

Table 22 (Continued): Foreign Direct Investment Patterns a/ by Country of Origin
(Percentage)

Country	Annual Growth Rate b/				
	1980-85	1985-86	1986-87	1987-88	1988-89 c/
U.S.A	26.7	(65.5)	7.2	(44.0)	77.9
Japan	11.2	26.7	(18.1)	42.9	42.1
EEC.	(7.7)	(23.8)	41.1	(23.4)	112.4
U.K	8.1	31.9	0.0	(14.0)	390.8
W.Germany	(6.4)	(38.6)	113.8	(55.6)	0.1
France	61.7	(59.4)	11.4	(32.0)	140.2
Netherlands	(23.8)	(14.6)	(200.0)	24.4	(2.5)
Italy	(14.0)	360.0	(93.0)	25.0	335.4
Australia	(24.7)	(217.8)	(86.8)	(46.4)	169.1
Canada	13.1	(38.1)	(76.9)	75.0	(15.8)
Switzerland	1.3	121.7	117.8	(77.1)	177.0
Asian NICs	(12.3)	(412.1)	4.2	26.1	(0.1)
Hong Kong	(7.2)	(6.2)	(36.4)	22.8	23.4
Korea	(10.5)	(187.5)	257.1	324.0	(23.6)
Singapore	(38.2)	(122.9)	1.4	(9.1)	(116.7)
Taiwan	145.1	(50.5)	295.8	47.2	45.4
Asean-4	(11.7)	(165.9)	(100.0)	0.0	(39.3)
Brunei	999.9	(37.5)	(60.0)	(100.0)	(28.6)
Indonesia	11.8	(37.5)	(30.0)	14.3	255.0
Malaysia	(13.4)	(74.4)	(190.9)	(270.0)	(296.2)
Philippines	52.8	(473.9)	(100.0)	0.0	26.1
Other	28.5	(67.8)	(17.3)	(213.4)	(20.1)

Total					
Total amount (Million baht)	2.6	56.9	30.9	212.3	36.5

Notes: a/ Equity and loans from parent or related companies including capital funds of foreign commercial banks.

b/ The calculations are based on net inflow of foreign direct investment and do not include net capital outflow of Thai investors (equity investment).

c/ = January-June.

Source: Bank of Thailand

Table 23 : Foreign Direct Investment Patterns a/ by type of Business

(Percentage)

Type of Business	Percentage Share b/					
	1980	1985	1986	1987	1988	1989p c/
1 Financial institution	(4.5)	(29.1)	7.4	4.9	9.6	11.5
2 Trade	19.4	24.6	25.8	9.4	13.9	17.7
3 Construction	20.2	36.0	17.9	14.9	6.9	9.2
4 Mining & quarrying	15.4	11.7	3.5	2.1	1.7	1.8
4.1 Oil exploration	11.4	9.8	3.4	2.8	1.4	1.7
4.2 Other	4.0	2.0	0.1	(0.7)	0.3	0.1
5 Agriculture	5.4	1.8	2.9	3.2	1.1	(0.1)
6 Industry	26.2	30.9	30.7	52.5	57.9	47.1
6.1 Food	2.4	9.0	4.2	4.8	4.4	3.5
6.2 Textiles	(0.0)	1.4	1.2	11.0	4.0	(1.1)
6.3 Metal based and non-metallic	1.2	(2.9)	(0.3)	4.0	5.9	7.0
6.4 Electrical appliances	11.6	6.4	8.9	12.6	22.3	18.9
6.5 Machinery & transport equipment	2.4	0.7	(0.2)	1.8	2.6	2.2
6.6 Chemicals	5.5	11.1	7.0	9.6	6.9	6.7
6.7 Petroleum products	0.1	0.0	0.1	(0.2)	3.0	0.0
6.8 Construction materials	0.1	0.9	0.1	0.1	0.1	0.3
6.9 Other	3.1	4.3	9.8	8.8	7.8	9.8
7 Services	18.0	24.2	11.8	13.0	8.9	12.7
7.1 Transportation & travel	5.5	4.5	3.7	2.4	1.4	1.0
7.2 Housing & real estate	3.9	6.9	0.6	3.6	3.2	4.8
7.3 Hotels & restaurants	2.3	5.1	1.5	1.1	2.0	4.9
7.4 Other	6.3	7.7	6.0	5.8	2.4	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.00
Total amount (Million baht)	3,878.2	4,402.2	6,908.1	9,043.7	28,243.8	17,132.8

Table 23 (Continued): Foreign Direct Investment Patterns a/ by type of Business

(Percentage)

Type of Business	Annual Growth Rate b/				
	1980-85	1985-86	1986-87	1987-88	1988-89 c/
1 Financial institution	(49.2)	139.9	(13.2)	515.1	166.3
2 Trade	7.6	64.9	(52.2)	360.9	102.5
3 Construction	15.2	(22.1)	9.2	43.7	109.2
4 Mining & quarrying	(2.6)	55.4	(20.1)	146.1	19.7
4.1 Oil exploration	(0.5)	(45.0)	6.3	58.8	23.8
4.2 Other	(7.7)	(95.6)	(1,660.5)	(224.1)	(23.4)
5 Agriculture	(10.3)	162.8	41.4	7.5	(111.5)
6 Industry	6.0	56.4	123.6	244.2	2.7
6.1 Food	34.1	27.3	52.2	181.6	45.2
6.2 Textiles	109.0	43.1	1,061.8	12.4	(166.3)
6.3 Metal based and non-metallic	(29.3)	82.0	(1,715.5)	436.9	13.9
6.4 Electrical appliances	(6.6)	120.4	84.2	455.1	(15.8)
6.5 Machinery & transport equipment	(10.6)	(146.6)	973.2	354.8	(9.0)
6.6 Chemicals	18.0	(0.8)	79.4	124.3	59.7
6.7 Petroleum products	(14.8)	999.9	(292.7)	(5,375.9)	100.0
6.8 Construction materials	93.8	(85.9)	16.7	325.4	1,166.9
6.9 Other	9.7	254.0	18.2	175.1	40.1
7 Services	8.8	(23.5)	44.0	115.5	110.6
7.1 Transportation & travel	(1.5)	29.2	(13.7)	85.0	7.1
7.2 Housing & real estate	15.2	14.0	668.6	171.4	267.7
7.3 Hotels & restaurants	20.5	55.0	(5.6)	490.0	243.8
7.4 Other	6.7	23.0	27.3	26.3	(14.4)

Total					
Total amount (Million baht)	2.6	56.9	30.9	212.3	36.5

Notes: a/ Equity and loans from parent or related companies including capital funds of foreign commercial banks.

b/ Calculations are based on net inflow of foreign direct investment and do not include net capital outflow of Thai investors (equity investment).

c/ = January-June.

p = Preliminary

Source : Bank of Thailand.

Table 24 : Factors Affecting FDI in Thailand's Promoted Projects (Application Approved)
1986-1988 a/

Type of Motive	Number of Projects			Value of FDI : Registered Capital (million baht)		
	1986	1987	1988	1986	1987	1988
1. Resource utilization	37 (32.5)	44 (13.3)	190 (27.5)	431.9 (14.6)	1,232.0 (15.0)	2,201.8 (9.0)
1.1 Primary products	9 (7.9)	5 (1.5)	20 (2.9)	133.1 (4.5)	24.8 (0.3)	95.9 (0.4)
1.2 Resource-based industries	28 (24.6)	39 (11.8)	170 (24.6)	298.8 (10.1)	1,207.2 (14.7)	2,105.9 (8.6)
2. To regain or maintain cost advantage along dynamic comparative advantage	53 (46.5)	244 (73.9)	444 (64.2)	1,756.7 (59.4)	5,485.9 (66.7)	16,972.3 (69.3)
2.1 To regain or maintain cost advantage: export	50 (43.9)	222 (67.3)	411 (59.5)	1,296.4 (43.9)	4,799.1 (57.7)	10,101.2 (41.2)
2.2 To regain or maintain cost advantage: export base (industrial organization pattern) b/	1 (0.9)	3 (0.9)	16 (2.3)	430.0 (14.5)	345.0 (4.2)	2,740.5 (11.2)
2.3 To regain or maintain cost and demand advantages	2 (1.8)	19 (5.8)	17 (2.5)	30.3 (1.0)	391.8 (4.8)	4,130.6 (16.9)
3. To gain or maintain demand advantage	21 (18.4)	38 (11.5)	53 (7.7)	646.7 (21.9)	1,450.6 (17.6)	5,282.0 (21.6)
4. Capital stock adjustment	3 (2.6)	4 (1.2)	4 (0.6)	120.8 (4.1)	55.5 (0.7)	47.9 (0.2)
Total	114 100.0	330 100.0	691 100.0	2,956.1 100.0	8,224.0 100.0	24,504.0 100.0

Notes : a/ Figures in parentheses are percentage share of the total
b/ Based on selective investigation

Source : Compiled from data from the Office of the BOI. See also subproject number 6.

Table 25: Portfolio Investment Patterns

(Million Baht)

Source	1981-1985 a/				1986				1987			
	Inflow	Outflow	Net	Share	Inflow	Outflow	Net	Share	Inflow	Outflow	Net	Share
Hongkong	1454.1	790.6	663.5	12.7	1,320.9	453.0	867.9	34.5	8,597.6	885.7	7,711.9	60.0
Japan	74.7	58.4	16.3	0.3	5.4	13.1	(7.7)	(0.3)	254.1	149.6	104.5	0.8
Singapore	475.7	64.5	411.2	7.9	351.6	41.8	309.8	12.3	2,536.7	1,345.7	1,191.0	9.3
United Kingdom	4160.6	40.8	4119.8	79.0	795.3	16.4	778.9	30.9	4,347.3	1,575.0	2,772.3	21.6
United States	232.7	98.0	134.7	2.6	518.2	8.2	510.0	20.3	1,213.2	232.2	981.0	7.6
Other	272.5	402.8	-130.4	(2.5)	62.1	4.2	57.9	2.3	199.4	98.4	101.0	0.8
Total	6670.3	1455.1	5215.1	100.0	3,053.5	536.7	2,516.8	100.0	17,148.3	4,286.6	12,861.7	100.0

Table 25 (Continued): Portfolio Investment Patterns

(Million Baht)

Source	1988				1989 b/			
	Inflow	Outflow	Net	Share	Inflow	Outflow	Net	Share
Hongkong	2,050.4	2,090.6	(40.2)	(0.4)	2,844.8	22.3	2,822.5	20.8
Japan	1,385.0	197.6	1,187.4	10.6	74.5	37.8	36.7	0.3
Singapore	10,172.4	6,201.1	3,971.3	35.5	9,196.0	2,916.1	6,280.0	46.2
United Kingdom	9,984.7	6,180.2	3,804.5	34.0	6,199.7	2,638.6	3,561.1	26.2
United States	3,064.4	727.5	2,336.9	20.9	884.3	653.5	230.7	1.7
Other	1,103.1	1,171.8	(68.7)	(0.6)	943.7	278.0	665.7	4.9
Total	27,760.0	16,568.8	11,191.2	100.0	20,143.0	6,546.3	13,596.7	100.0

Notes: a/ Total 1981-1985

b/ Only quarter 1, 2

Source: Balance of Payments Section, Bank of Thailand.

Table 26: Foreign Portfolio Investment Patterns Classified by Sector

(Million baht)

Sector	1987	Share	1988	Share
Banking	10,024.88	32.69	11,633.21	20.56
Finance and Securities	2,734.41	8.92	4,271.48	7.55
Insurance	389.24	1.27	826.40	1.46
Commerce	2,689.89	8.77	10,796.43	19.08
Service	437.23	1.43	327.88	0.58
Industrial	1,483.81	4.84	2,182.85	3.86
Construction Materials and Interior Furnishing	6,457.39	21.06	14,224.36	25.14
Automotive	258.08	0.84	465.83	0.82
Textile / Clothing	1,789.88	5.84	2,823.13	4.99
Mining	964.25	3.14	1,604.56	2.84
Food / Beverage	1,271.90	4.15	2,192.97	3.88
Electrical Equipment	61.91	0.20	265.58	0.47
Other	2,103.50	6.86	4,971.52	8.79
Total	30,666.37	100.00	56,586.20	100.00

Source: Securities Exchange of Thailand

Table 27 : Factors Affecting Portfolio Investment

Elasticities a/

Factor	Independent	Elasticities (NEPt 1/)
Economic prospects	: GDpt 3/	2.39
Return potential	: Rt 2/	1.04

Where : NEPt 1/ = Monthly net inflow of portfolio (Jan 1984, Dec 1988)

Rt 2/ = Monthly market rate of return (Jan 1984, Dec 1988)

GDpt 3/ = Monthly gross domestic production (Jan 1984, Dec 1988)

Note : a/ Elasticities are computed by $(dy/dx) \cdot (x/y)$.

Sources : 1/ Balance of Payment Section, Department of Economic Research,
Bank of Thailand.

2/ Securities Exchange of Thailand.

3/ General Economic Section, Department of Economic Research,
Bank of Thailand.

Table 28 : Foreign Loan Patterns

	Cumulative values			Percentage Share (%)		
	1980-82	1983-85	1986-88	1980-82	1983-85	1986-88
Net inflow of foreign loans(million baht)	128,032	118,171	36,967	100.00	100.00	100.00
-Public	80,358	64,437	3,010	67.10 a/	54.50	8.10
: Long term	74,668	71,276	3,438	61.20 a/	60.30	9.30
: Short term	5,690	(6,839)	(428)	5.90 a/	(5.80)	(1.20)
-Private	47,674	53,733	33,957	32.90 a/	45.50	91.90
: Long term	12,167	23,179	(11,040)	14.80 a/	19.60	(29.90)
: Short term	14,833	30,554	44,997	18.10 a/	25.90	121.80
-Net long term	62,441	94,455	(7,602)	76.00 a/	79.90	(20.60)
-Net short term	19,704	23,715	44,569	24.00 a/	20.10	120.80
Public source of loans (Debt outstanding in million U.S \$)	15,051	23,696	36,189	100.00	100.00	100.00
-Multilateral	4,101	7,909	9,256	27.25	33.38	25.58
-Bilateral	4,020	6,401	11,377	26.71	27.01	31.44
-Private credit	6,645	8,583	14,130	44.15	36.22	39.05
-Suppliers credit	285	803	1,426	1.89	3.39	3.94
Net inflow of public foreign loans (million)	86,357	64,437	3,010	100.00	100.00	100.00
-Central Government	22,269	39,122	13,374	25.79	60.71	444.32
-State enterprises	58,837	40,519	(10,840)	68.13	62.88	(360.13)
-Short-term loans	5,689	(6,839)	(428)	6.59	(10.61)	(14.22)
-Other long-term loans	(438)	(8,365)	904	(0.51)	(12.98)	30.03

Note: a/ Data refer to 1981-1982.

Source: Balance of Payments Section, Bank of Thailand.

Table 29 : Factors Affecting Private Foreign Loans

Factors	Elasticities	
	Net Private Short-Term Loans	Net Private long-Term Loans
- Current account balance (CAD)	-0.544	-2.380
- Forward rate (forw)	0.310	0.089
- Exchange rate risk	n.s	n.s
- Domestic liquidity situation	n.s	n.s
- Regulations (withholding tax)	n.s	n.s

Note: n.s = Not significant

Source: Bank of Thailand

Table 30 : Impact of the External Sector on Domestic Economic Performance

Impact of 1 % increase in export on Macro economic variables	
	Percentage change
Nominal GDP	0.46
Real GDP (at 1984 price)	0.32
GDP deflator	0.13
External Sector	

Balance of trade	0.08
Real imports	0.43
Aggregate Demand	

Consumption expenditures	0.27
Gross Capital formation	0.40
Government expenditures	0.11
Public Sector	

Government revenue	0.46
- Direct tax revenue	0.46
- Indirect Tax	0.47
Government deficit	-2.04
Government borrowing	-3.03
Distribution of Income	

Wage payment	0.41
Income of unincorporated enterprises	0.64
Corporate factor income	0.61
Wage payment / GDP	0.04
Income of unincorporated enterprises / GDP	0.09
Corporate factor income / GDP	0.08

Source : Subproject Number 7.

Table 31 Effect of 10% Increase in Goods and Service Exports
on Real Household Income

Household	Real Household Income Growth (%)	
	Base	Counterfactual
All Households	0.000	2.741
Farm 1	0.000	2.036
Farm 2	0.000	2.270
Farm 3	0.000	2.153
Farm 4	0.000	2.048
Farm 5	0.000	2.112
Non-farm 1	0.000	3.677
Non-farm 2	0.000	3.821
Non-farm 3	0.000	3.726
Non-farm 4	0.000	3.560
Non-farm 5	0.000	3.530
Government 1	0.000	0.785
Government 2	0.000	0.774
Government 3	0.000	0.837
Government 4	0.000	1.028
Government 5	0.000	1.023
State enterprise 1	0.000	0.403
State enterprise 2	0.000	-0.176
State enterprise 3	0.000	-0.803
State enterprise 5 *	0.000	-0.007
Gini index	0.000	0.239

Note : * including state enterprise 4.

Table 31 (Continued) : Effect of 10% Increase in Exports of Goods and Services on Size Distribution of Real Household Income

Household Income groups	Percentage share		% Growth
	Pre-change	Post-change	In income level
Quintile 1	63.12	63.14	2.79
Quintile 2	18.58	18.61	2.89
Quintile 3	9.81	9.80	2.62
Quintile 4	5.45	5.43	2.32
Quintile 5	3.04	3.03	2.32
All	100.00	100.00	2.75

Effect of 10% Increase in Agricultural Export Demand on Size Distribution of Real Household Income

Household Income groups	Percentage share		% Growth
	Pre-change	Post-change	In income level
Quintile 1	63.12	62.96	-0.11
Quintile 2	18.58	18.61	0.29
Quintile 3	9.81	9.87	0.70
Quintile 4	5.45	5.50	0.98
Quintile 5	3.04	3.06	0.96
All	100.00	100.00	0.13

Effect of 10% Increase in Manufactured Export Demand on Size Distribution of Real Household Income

Household Income groups	Percentage share		% Growth
	Pre-change	Post-change	In income level
Quintile 1	63.12	63.14	0.30
Quintile 2	18.58	18.59	0.33
Quintile 3	9.81	9.80	0.16
Quintile 4	5.45	5.44	0.00
Quintile 5	3.04	3.03	0.02
All	100.00	100.00	0.27

Source : Subproject Number 7.

Table 32 : Impact of Export Growth on Value Added by Sector

Economic Sector	Percentage changes in real value added
Agriculture	0.19
Manufacturing sector	
Food	0.65
Textiles	0.48
Chemical, rubber, petroleum	0.26
Wood and wood products	0.14
Paper and paper products	0.42
Non-metallic	0.02
Engineering	0.24
Service	
Trade	0.51
Transportation & telecommunications	0.44
Public utilities	0.45
Banking & insurance	0.40
Other services	0.31

Source : Subproject Number 7.

Table 33 : Impact of Export Growth on Imports

Imports	Percentage change in real imports for 1 % export growth
Agriculture	0.62
Manufacturing sector	
Food	0.44
Textiles	0.56
Wood and wood products	0.65
Paper and paper products	0.37
Chemical, rubber, petroleum	0.26
Non-metallic	1.74
Engineering	1.68
Other industries	1.39
Services	0.15

Source : Subproject Number 7.

Table 34 Employment Share Elasticities and Import Content with Respect to Export-output Ratios.

Industry	Elasticities of Employment Share		Elasticities of Import Content		
	1979-84	1984-87	1975-80	1980-82	1982-84
Food processing	-3.51	-0.14	1.48	-0.74	1.74
Textiles	1.13	0.35	-0.20	-0.60	-1.58
Wood and wood products	-0.29	-0.10	-4.41	1.15	-2.79
Paper and paper products	0.70	-0.05	0.02	-2.36	8.10
Chemical and chemical products	0.03	-0.09	0.41	-0.08	-0.35
Nonmetallic mineral products	0.30	0.05	1.27	2.29	4.32
Engineering	-0.83	0.02	-0.11	0.54	-1.83
Miscellaneous	-1.12	0.26	0.29	-0.19	-6.40

Sources: 1. Thailand's Input-Output Tables 1975, 1980, 1982 and 1984
 2. Ministry of Industry
 3. Subproject Number 4

Table 35: Level of Government Intervention in Major Crops

Year	Nominal Protection Rate*									
	(proportionate difference)									
	Rice	Maize	Sugar			Rubber	Cassava	Cotton	Soybean	Palm Oil
		Grower	Miller	Consumer						
1970	-0.20	-0.03	0.24	0.41	0.49	-0.13	0.00	1.18	0.00	0.00
1971	-0.26	-0.04	0.02	0.28	0.43	-0.11	0.00	1.17	0.00	0.00
1972	-0.27	0.06	-0.22	0.03	0.15	-0.11	0.00	1.04	0.00	0.00
1973	-0.40	-0.10	-0.29	-0.11	-0.15	-0.17	0.00	1.11	0.00	0.00
1974	-0.48	-0.03	-0.62	-0.41	-0.56	-0.19	0.00	0.31	0.00	0.00
1975	-0.32	-0.07	-0.56	-0.41	-0.64	-0.17	0.00	0.42	0.00	0.00
1976	-0.16	-0.03	-0.21	-0.11	-0.25	-0.21	0.00	0.18	-0.08	0.00
1977	-0.22	0.00	-0.03	-0.03	-0.11	-0.22	0.00	0.03	0.18	-0.02
1978	-0.32	-0.02	0.35	0.04	0.15	-0.23	0.00	0.10	0.16	-0.04
1979	-0.24	-0.05	0.39	0.10	0.21	-0.24	0.00	0.07	0.17	-0.08
1980	-0.27	-0.05	-0.03	0.21	0.36	-0.26	0.00	0.09	0.14	-0.08
1981	-0.27	-0.09	-0.10	-0.01	-0.01	-0.19	0.00	0.03	0.12	0.00
1982	-0.12	0.00	0.36	0.08	0.60	-0.13	0.00	0.03	0.29	0.07
1983	-0.08	0.00	0.52	0.35	1.36	-0.18	0.00	0.38	0.25	0.09
1984	-0.06	0.00	0.53	0.49	1.28	-0.15	0.00	0.22	0.26	-0.14
1985	-0.04	0.00	0.97	0.24	1.88	-0.11	-0.21	0.45	0.16	-0.12
1986	0.00	0.00	0.81	0.06	1.65	-0.11	-0.25	0.64	0.34	0.32
1987	0.00	0.00	0.26	0.19	1.26	-0.12	-0.01	0.38	0.88	0.50
1988	0.00	0.00	0.17	0.18	0.84	-0.09	-0.21	0.05	0.47	0.49

Note: *Nominal Protection Rate = $(P_d - P_w) / P_w$

Where P_d = domestic price

P_w = border price

Source : ARD(Agriculture and Rural Development Program, TDRI), Selected Development Policy Issues, 1989.

Table 36: The Effects of Declining World Agricultural Product Prices on the Thai Economy 1980-1988

(Unit : Percent)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
Price Index for Agricultural products	1.91	2.99	(5.98)	(5.78)	(5.30)	(11.57)	(12.35)	(10.88)	(3.24)
Output Index for Agricultural Products	0.00	0.00	0.00	(0.39)	(1.62)	1.14	(0.34)	(2.22)	(1.98)
Exports from Agricultural Products	3.97	12.14	(17.11)	(18.98)	(25.67)	(29.02)	(34.12)	(35.25)	(20.17)
Trade Deficit	(8.40)	(29.12)	65.35	37.24	49.00	68.88	108.04	61.15	32.07
Gdp	0.62	2.14	(2.31)	(3.90)	(3.55)	(4.45)	(4.80)	(4.33)	(3.09)
Real Income Per Capita:									
Farmers									
-Northeast	0.20	0.94	(2.10)	(2.53)	(2.19)	(4.06)	(5.95)	(4.02)	(0.13)
-Upper North	0.28	1.23	(2.56)	(2.73)	(2.62)	(3.13)	(4.79)	(3.46)	0.42
-Lower North	1.29	1.87	(3.79)	(4.08)	(3.84)	(8.22)	(10.00)	(8.90)	(5.15)
-Central Plain	0.15	4.02	(6.67)	(9.69)	(10.50)	(15.21)	(21.81)	(18.10)	(3.67)
-East & West	1.28	5.28	(7.80)	(10.56)	(6.55)	(14.25)	(16.30)	(12.03)	(6.29)
-South	11.25	1.11	(13.05)	(6.65)	(4.59)	(14.18)	(13.85)	(7.24)	(0.08)
Non-farmers									
-Northeast	(0.02)	(0.06)	0.14	0.18	0.19	0.77	1.68	1.35	0.30
-North	0.15	0.08	0.03	(0.25)	(0.37)	(0.05)	0.88	(0.28)	(1.33)
-Central Region	0.21	0.44	(0.70)	0.21	(0.24)	1.12	3.45	2.27	0.49
-South	1.06	0.22	(1.27)	1.02	0.97	0.19	3.90	2.48	0.57
-Bangkok	0.07	0.21	0.10	0.77	(0.77)	2.12	2.17	1.26	(0.04)

- Notes: 1) Because of the openness of the Thai agricultural sector, it is very much influenced by world price fluctuations. The general decline in world commodity prices, particularly after 1981, affected not only the agricultural sector but the rest of the economy. In order to evaluate the impact of these declining world prices, the THAM-2 (as an applied general equilibrium model) was used to simulate the case in which world prices of four major crops (rice, course grain, and rubber) deviated from the average 1980-1982 price.
- 2) Rice, course grain, sugar, and rubber were chosen for this simulation because they were the major exports in the agricultural sector and their world prices declined significantly.
- 3) Figures in the Table are the percentage change of variables from the actual scenario simulation, compared to those in the constant world-price simulation.

Source : Subproject Number 3.

Table 37 : The Impact of a One-Percent Increase in Traded Service Exports

	% Increased
Agriculture	0.02
Mining and Quarrying	0.04
Manufacturing	0.04
Transportation	0.17
Telecommunication	0.19
Banking	0.14
Insurance	0.15
Tourism	0.15
Other services	0.58
GDP	0.13
Imported	0.07
Value Added	
Wages	0.21
Profits	0.15
Depreciation	0.23
Indirect Tax	0.08
Sub Total	0.16
Current Account	1.4

Source : Susangkarn, I-O Tables (1984) ; Human Resource and Social Development Program.
 Computed by $x = y(I-a)^{-1}$

x = Total Output Vector
 I = Identical Matrix
 a = Technical Coefficient Matrix
 y = Final Demand

Table 38 : The Cost of Capital and the Return on Investment.

(Percent)

Year	Comparison of Cost of Capital				Comparison of Return On Investment	
	Mor	Mlr	Debenture	Dividend Yield	Fixed Deposit Rate	Stockholders Return
1984	16.5	16.5	-	8.3	13.5	6.9
1985	15.5	15.5	13.2	6.3	11	12.3
1986	13.5	13.4	-	9.3	8.6	140.2
1987	11.6	11.5	9.2	5.3	7.3	65.7
1988	11.6	11.6	10.3	6	7.4	101.5
Average	12.6	12.2	10.4	6.7	8.1	67.5

Note: a/ = average of all stock returns in two-year period.

Source: Compiled from SET Statistics. See also Subproject 6.

Table 39 Thailand's Exports under Managed Trade with Three Major Trading Partners.

	(Percentage)		
	(1) In Terms of Exports to One Major Trading Partner.	(2) In Terms of Exports to Three Major Trading Partners. (United States, Japan, and the European Community)	(3) In Terms of Thailand's Total Exports
1 st Degree (quotas, anti-dumping, and countervailing duties)			
United States	24.54	8.66	4.91
-Primary commodities	14.76	1.57	0.82
-Manufactures	26.92	12.27	7.31
The European Community	49.27	18.03	10.23
-Primary commodities	69.16	26.79	13.97
-Manufactures	42.91	15.59	9.29
Japan	5.87	1.65	0.94
-Primary commodities	11.02	5.57	2.91
-Manufactures	0.58	0.11	0.06
Total	-	28.34	16.08
-Primary commodities	-	33.93	17.70
-Manufactures	-	27.97	16.66
2 nd Degree (included subsidies, sanitary, and phytosanitary regulations)			
United States	24.54	8.66	4.91
-Primary commodities	14.76	1.57	0.82
-Manufactures	26.92	12.27	7.31
The European Community	52.70	19.28	10.94
-Primary commodities	76.05	29.46	15.36
-Manufactures	44.97	16.33	9.73
Japan	13.57	3.81	2.16
-Primary commodities	26.11	13.21	6.89
-Manufactures	0.58	0.11	0.06
Total	-	31.75	18.01
-Primary commodities	-	44.24	23.07
-Manufactures	-	28.71	17.10

Table 39 (continued) Thailand's Exports under Managed Trade with Three Major Trading Partners.

	(Percentage)		
	(1)	(2)	(3)
	In Terms of Exports to One Major Trading Partners.	In Terms of Exports to Three Major Trading Partners. (United States, Japan, and the European Community)	In Terms of Thailand's Total Exports
3 rd Degree (included all other measures such as commodity agreements)			
United States	24.62	8.69	4.93
-Primary commodities	15.71	1.67	0.87
-Manufactures	26.92	12.27	7.31
The European Community	52.74	19.30	10.95
-Primary commodities	76.20	29.52	15.39
-Manufactures	44.97	16.33	9.73
Japan	13.61	3.82	2.17
-Primary commodities	26.19	13.25	6.91
-Manufactures	0.58	0.11	0.06
Total	-	31.81	18.05
-Primary commodities	-	44.44	23.17
-Manufactures	-	28.71	17.10

Source : Estimated and computed by using data from the Department of Business Economics, "Reports on Trade Disruptives Measures in the EC, US and Japan" (in Thai), Department of Foreign Trade. Interviews were then conducted in order to confirm the overall data calculated by the researchers. A list of products is shown in Subproject Number 2.

Table 40 Importance of Exports Eligible for GSP in Terms of Total Thailand's Exports.

(Million US Dollars)

Year	Agriculture	%	Industry	%	Total Exports under GSP	Thailand's Total Exports	%
	(1)	(2)=(1)/(5)	(3)	(4)=(3)/(5)	(5)	(6)	(7) = (5)/(6)
1980	209.98	27.83	544.48	72.17	754.46	6513.31	11.58
1981	340.40	38.80	536.95	61.20	877.35	7018.38	12.50
1982	354.51	36.27	622.93	63.73	977.44	6950.75	14.06
1983	289.41	31.34	634.13	68.66	923.54	6373.88	14.49
1984	285.12	29.69	675.17	70.31	960.29	7422.17	12.94
1985	305.79	29.23	740.21	70.77	1046.00	7127.37	14.68
1986	448.48	27.49	1182.95	72.51	1631.43	8876.20	18.38
1987	541.03	21.55	1969.18	78.45	2510.21	11662.90	21.52
1988	676.38	19.90	2721.51	80.09	3397.89	15970.31	21.28

Source: Department of Foreign Trade, Ministry of Commerce.

Table 41 Exports Eligible for GSP by Country, Classified in Terms of Country Value by Sector.

Countries	(Percentage)								
	Agriculture			Industry			Total		
	1986	1987	1988	1986	1987	1988	1986	1987	1988
The United States	13.00	14.08	12.99	28.99	28.71	25.82	24.59	25.55	23.27
Japan	11.34	8.70	8.98	16.64	14.12	18.60	15.18	12.95	16.69
Canada	2.60	3.53	4.30	1.80	1.70	1.62	1.99	2.09	2.15
The European Community	64.14	65.85	64.58	47.79	50.58	48.12	52.29	53.87	51.40
West Germany	24.11	15.90	14.90	14.35	15.43	13.48	17.03	13.54	13.76
United Kingdom	9.41	11.14	10.82	9.29	10.09	9.46	9.32	10.32	9.73
France	18.93	13.16	10.80	6.71	7.48	7.73	7.87	8.70	8.34
Italy	9.07	11.46	12.73	6.17	5.79	5.55	6.97	7.01	6.98
Netherlands	4.70	6.29	5.33	4.09	4.44	4.70	4.26	4.94	4.83
Belgium	2.36	2.98	3.04	4.15	4.06	4.02	3.66	3.83	3.82
Denmark	2.06	2.21	2.18	2.47	2.30	2.14	2.36	2.29	2.15
Spain	0.95	1.93	3.67	0.31	0.58	0.58	0.48	0.87	1.19
EFTA	8.69	7.65	8.36	4.66	4.78	5.78	5.77	5.40	6.30
Switzerland	4.15	2.25	2.70	2.70	2.50	3.02	3.10	2.45	2.96
Sweden	1.80	1.88	1.66	0.58	0.88	1.06	0.91	1.10	1.18
Finland	1.76	2.38	2.80	0.21	0.17	0.26	0.64	0.65	0.77
Austria	0.34	0.54	0.54	0.86	0.65	1.11	0.72	0.87	1.00
Norway	0.65	0.60	0.66	0.31	0.26	0.33	0.40	0.33	0.30
Other	17.61	15.49	17.51	9.44	9.67	11.62	11.72	10.94	12.79
Total (in percentage)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total (in million US dollars)	448.52	541.08	676.38	1183.02	1969.23	2721.51	1631.54	2510.32	3397.88

Source: Department of Foreign Trade, Ministry of Commerce.

ANNEX 1

THAILAND IN THE INTERNATIONAL ECONOMIC COMMUNITY

Project Director : Dr. Narongchai Akrasanee

Part I : The Future Role of Thailand in the Global Economic Community

Project 1: Global Economic Senarios and Thai Economic Prospects

Authors: Dr. David Dapice
Dr. Frank Flatters

Project 2: The Management of the World Economy and the
Response of Thailand's External Sector

Authors: Dr. Suthiphand Chirathivat
Dr. Chumphorn Pachusanond
Dr. Tanasak Wahawisan

*Part II: Management of the Thai External Sector in the Changed
World Economy*

Project 3: Thai Agriculture in the World Economy

Authors: Dr. Ammar Siamwalla
Dr. Suthad Setboonsarng
Dr. Direk Patmasiriwat

Project 4: Trade in Manufactured Goods and Mineral Products

Authors: Dr. Paitoon Wiboonchutikula
Dr. Rachain Chintayarangsan
Dr. Nattapong Thongpakde

Project 5: Trade in Services

Authors: Dr. Thammanun Pongsrikul
Dr. Somchai Ratanakomut

Project 6: Direct Foreign Investment and Capital Flows

Authors: Dr. Jeerasak Pongpisanupichit
Dr. Wisarn Pupphavesa
Dr. Somjai Phagaphasvivat
Dr. Pipat Pitayaachariyakul
Dr. Duangmanee Vongpradhip

Project 7: The Impact of the External Sector on the Thai Economy and its Determinants

Authors: Dr. Atchana Wattananukit
Dr. Teerana Bhongmakapat