

CHAPTER 4

EMPIRICAL RESULTS: 1

A. Thailand's Total Terms of Trade

The exports or imports in this study will be defined by the BTN code from 010000 to 990699. The others include the goods which are diplomatic items, re-imported items, samples, etc. The symbols in the tables of this study will be defined as follows:

PN = net barter terms of trade calculated from Paasche indices

LN = net barter terms of trade calculated from Laspeyres
indices

FN = net barter terms of trade calculated from Fisher indices

PG = gross barter terms of trade calculated from Paasche
indices

LG = gross barter terms of trade calculated from Laspeyres
indices

FG = gross barter terms of trade calculated from Fisher
indices

PI = income terms of trade calculated from Paasche indices

LI = income terms of trade calculated from Laspeyres indices

FI = income terms of trade calculated from Fisher indices

PS = single factorial terms of trade calculated from Paasche
indices

LS = single factorial terms of trade calculated from Laspeyres
indices

FS = single factorial terms of trade calculated from Fisher
indices

Calculating Thailand's total terms of trade, the commodity items which were used to calculate the terms of trade, were about 9,160 items in export side, and 19,962 items in import side. Although, they had many items, they did not cover all the total exports and imports of Thailand. Table 4.1 shows the average coverage of the selected commodity for calculation Thailand's total terms of trade. On the import side, the average coverage was around 94 percent in 1973-1976, 90 percent in 1977, and around 97 percent in 1978-1979. On the export side, it was low in 1973, 1976 and 1977, and constant around 97 percent in 1974, 1975, 1978 and 1979.

TABLE 4.1
AVERAGE COVERAGE OF THE SELECTED COMMODITY
(IN PERCENTAGE)

	1973	1974	1975	1976	1977	1978	1979
Imports	94.25	94.10	94.58	93.46	90.56	97.22	97.33
Exports	90.69	97.65	95.81	90.89	88.16	99.52	98.82

Source: The data are calculated from the Annual Statement of the Foreign Trade of Thailand. So do they in any other tables in this study, except otherwise specified.

The results in Table 4.2 and Fig. 4.1 show that during 1973-1979, the net barter terms of trade of Thailand had the unfavorable trends (except in 1974); the gross barter terms of trade of Thailand also had the unfavorable trends; and the income terms of trade of Thailand had the favorable trends.

1. Net barter terms of trade.

The net barter terms of trade of Thailand had the unfavorable trends during 1973-1979 (except in 1974). The unfavorable trends in 1975-1979 meant that Thailand received a smaller quantity of imports, on the basis of price relation only, in exchange for a given quantity of exports than in 1973 (the base year of this study). The unfavorable trends in 1975-1979 were caused by increasing in import prices of oil and manufactures in this period. The import prices of oil increased around 344 percent (calculated from Fisher price index) from 1973 to 1979, and the import prices of manufactures increased around 100 percent (also calculated from Fisher price index). In 1974, the net barter terms of trade of Thailand improved, which meant that Thailand, in 1974, received a larger quantity of imports, on the basis of price relation only, in exchange for a given quantity of exports than in 1973. The improvement of the net barter terms of trade of Thailand in 1974 was caused by increasing in export prices of principal exports of Thailand (rice, rubber, maize, tapioca product, tin).

2. Gross Barter Terms of Trade.

The gross barter terms of trade of Thailand were unfavorable during 1974-1979 period, which indicated that Thailand received a smaller quantity of imports in exchange for a given quantity of exports than in 1973. The deterioration of the gross barter terms of trade of Thailand was caused by increasing in quantities of exports of Thailand over time. The gross barter terms of trade of Thailand

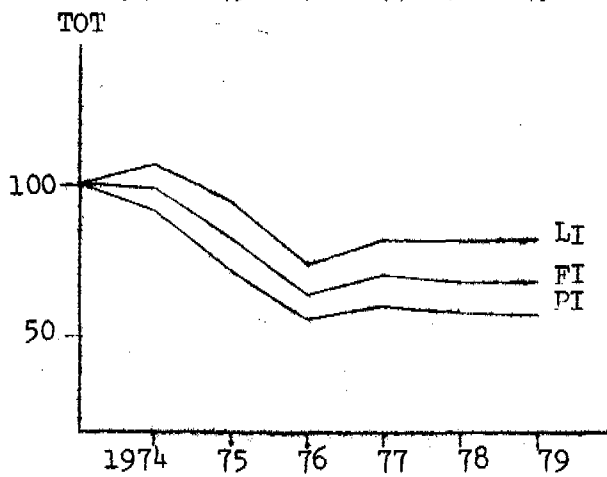
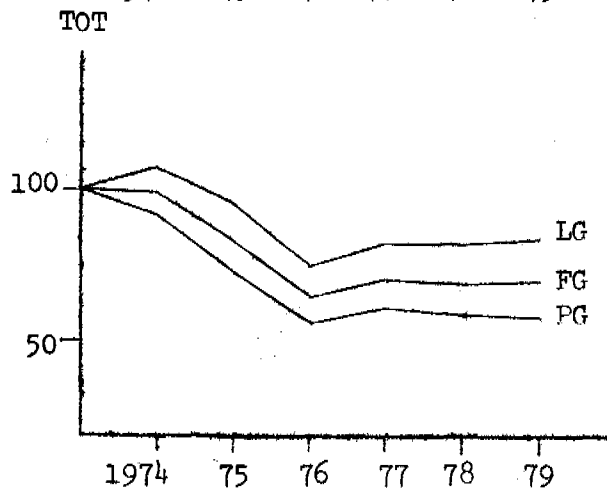
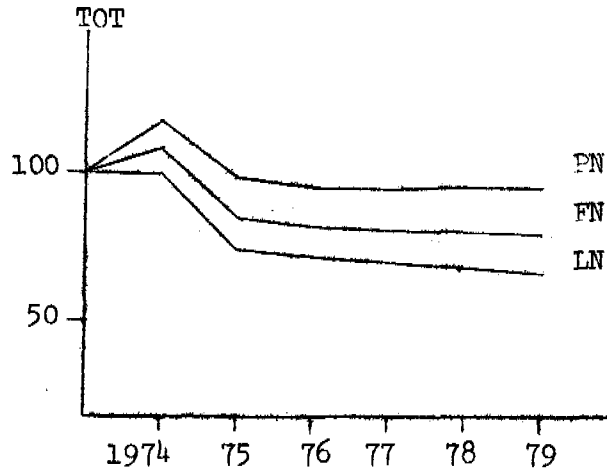
TABLE 4.2

TOTAL TERMS OF TRADE OF THAILAND

	1973	1974	1975	1976	1977	1978	1979
PN	100.00	115.31	96.42	93.27	93.05	93.73	93.39
LN	100.00	98.22	73.48	69.99	68.66	67.11	65.07
FN	100.00	106.42	84.18	80.80	79.32	79.31	77.96
PG	100.00	90.24	71.63	54.83	59.69	57.61	57.03
LG	100.00	105.95	93.99	73.07	80.91	80.47	81.85
FG	100.00	97.78	82.06	63.29	69.50	68.08	68.32
PI	100.00	90.24	71.63	54.83	59.69	57.61	57.03
LI	100.00	105.95	93.99	73.07	80.91	80.47	81.85
FI	100.00	97.78	82.06	63.29	69.50	68.08	68.32

FIGURE 4.1

TOTAL TERMS OF TRADE OF THAILAND



Source: Table 4.2.

were much unfavorable in 1976. That was because most quantity exports of principal exports of Thailand increased very much from 1973 to 1976, while the quantity imports were constant from 1973 to 1976.

3. Income Terms of Trade.

The income terms of trade of Thailand also had the unfavorable trends, which represented that the capacity to import of Thailand decreased during 1974-1979 (compared to 1973). Although, the value of total exports of Thailand has increased over time, the income terms of trade of Thailand had the unfavorable trends. That was because the increment of import prices has been faster than the increment of value of total exports.

Generally, total terms of trade of Thailand had the unfavorable trends during 1973-1979. Because Thailand is a small country, the change in its terms of trade is determined by changes in a foreign offer curve. Thus, the welfare of Thailand in international trade should deteriorate during 1974-1979, compared to 1973.

B. Terms of Trade of Thailand and ASEAN

The foreign trade between Thailand and ASEAN is important especially exports from Thailand to ASEAN. The proportion of trade between Thailand and ASEAN is shown in Table 4.3. In the export sides, the proportion of exports to ASEAN to total exports was high in 1973 and 1975 (around 19 percent), and low in 1978 (15.79 percent). The major export items from Thailand to ASEAN are rice, rubber, and maize which cover around 50-60 percent of total exports from Thailand to ASEAN. Thus, the movement of price, quantity, and value of exports of rice rubber, and maize from Thailand to ASEAN should affect the

movement of price, quantity, and value indices of total exports from Thailand to ASEAN. On the import side, the proportion of imports from ASEAN to total imports increased over time (2 percent in 1973 to 7 percent in 1979). The major import item from ASEAN is oil which covers around 50 percent of total imports from ASEAN.

TABLE 4.3

PROPORTION OF TRADE BETWEEN THAILAND AND ASEAN TO TOTAL TRADE OF THAILAND
(IN PERCENTAGE)

	1973	1974	1975	1976	1977	1978	1979
Exports	19.35	17.90	19.97	17.29	18.17	15.79	16.84
Imports	2.34	2.06	2.64	3.39	4.38	6.04	7.76

The results in Table 4.4 and Fig. 4.2 show that during 1974-1979, the net barter terms of trade of Thailand and ASEAN had the unfavorable trends; the gross barter terms of trade of Thailand and ASEAN were unfavorable during 1974-1977, and drastically improved in 1978-1979; the income terms of trade of Thailand and ASEAN had the unfavorable trends during 1974-1979.

1. Net Barter Terms of Trade.

The net barter terms of trade of Thailand and ASEAN had the unfavorable trends during 1974-1979, which meant that during 1974-1979, Thailand received a smaller quantity of imports from ASEAN, on the basis of price relation only, in exchange for a given quantity of exports to ASEAN than in 1973 (the base year). These terms of trade

had the unfavorable trends because the major import from ASEAN to Thailand was oil, and its prices have increased since 1973. In 1974, Although the export prices of major exports to ASEAN increased very much, the net barter terms of trade of Thailand and ASEAN had slightly deteriorated. That was because the increasing in the prices exports of major exports to ASEAN was offset by the increasing in the import prices of oil from ASEAN.

2. Gross Barter Terms of Trade.

The gross barter terms of trade of Thailand and ASEAN were unfavorable during 1974-1977, and drastically improved in 1978 and 1979. It meant that Thailand, during 1974-1977, received a smaller quantity of imports from ASEAN in exchange for a given quantity of exports to ASEAN than 1973; and Thailand, in 1978 and 1979, received a larger quantity of imports from ASEAN in exchange for a given quantity of exports to ASEAN than in 1973. In 1978 and 1979, the gross barter terms of trade of Thailand and ASEAN have drastically improved because the quantity imports from ASEAN have drastically increased.

3. Income Terms of Trade.

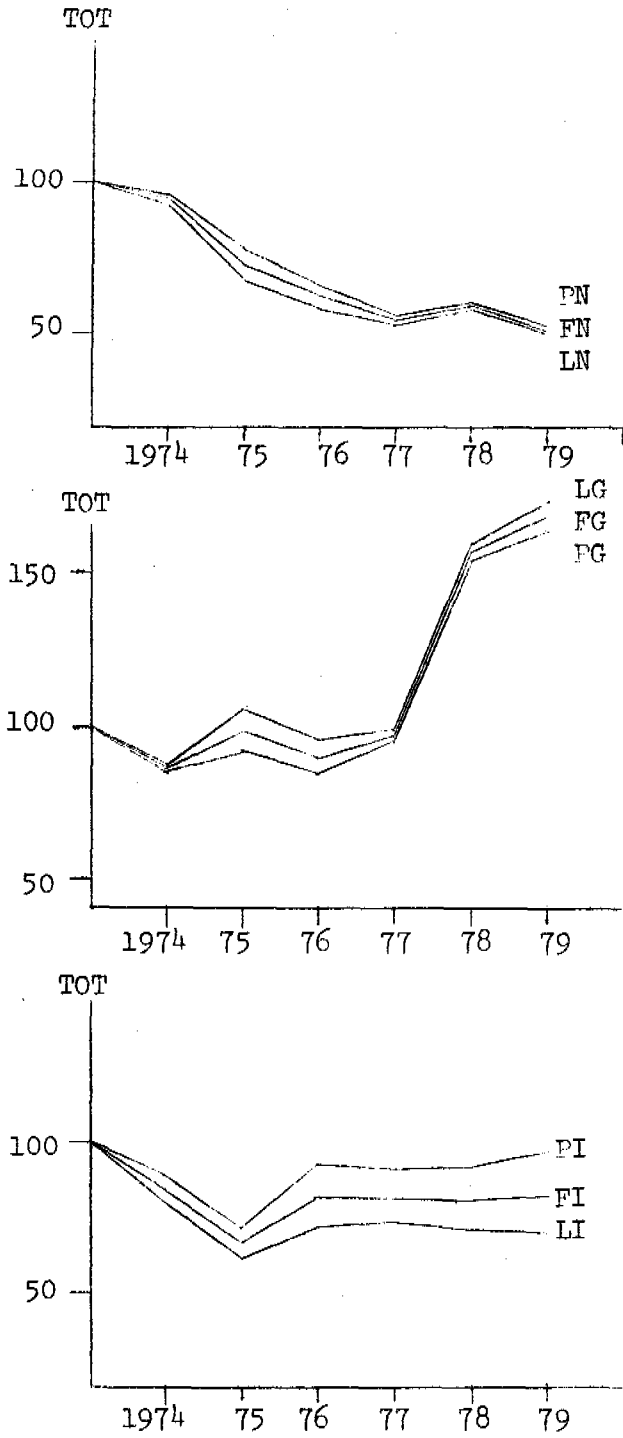
The income terms of trade of Thailand and ASEAN were unfavorable during 1974-1979, especially in 1975. It meant that Thailand, during 1974-1979, received a smaller quantity of imports from ASEAN in exchange for a given value of exports to ASEAN than in 1973. Although, the value of exports to ASEAN increased over time, the income terms of trade of Thailand and ASEAN were unfavorable. That was because the increment of prices of imports from ASEAN was faster than the

TABLE 4.4
TERMS OF TRADE OF THAILAND AND ASEAN

	1973	1974	1975	1976	1977	1978	1979
PN	100.00	94.73	76.85	65.38	55.13	60.29	51.65
LN	100.00	92.31	67.12	57.99	53.34	58.57	48.88
FN	100.00	93.51	71.82	61.57	54.23	59.43	50.25
PG	100.00	85.68	92.53	84.42	95.76	154.58	163.88
LG	100.00	87.93	105.94	95.16	98.97	159.12	173.16
FG	100.00	86.79	99.01	89.63	97.35	156.83	168.45
PI	100.00	89.17	71.80	92.61	90.44	92.07	97.32
LI	100.00	80.56	61.38	72.16	73.78	71.54	70.41
FI	100.00	84.77	66.39	81.75	81.69	81.16	82.78

FIGURE 4.2

TERMS OF TRADE OF THAILAND AND ASEAN



Source: Table 4.4.

increment of value of export to ASEAN. In 1975, the value of exports to ASEAN increased by 31 percent from 1973 to 1975, while the prices of imports from ASEAN increased by 81 percent.

Generally, the terms of trade of Thailand and ASEAN were unfavorable for Thailand. Thus, Thailand had the losses in trading with other ASEAN countries during 1974-1979 period, compared to 1973.

C. Terms of Trade of Thailand and EEC.

Thailand is much concerned with EEC because the proportion of trade between Thailand and EEC to the total trade is high, as shown in Table 4.5. On the export side, the proportion of trade between Thailand and EEC increased from 13 percent in 1973 to 26 percent in 1979. The major export items to EEC are tapioca pellets, tin, and textile, which cover around 60 percent of total exports to EEC. On the import side, the proportion of trade between Thailand and EEC was high in 1973 and 1974, and low in 1976. There are no major import items from EEC, but we can conclude that the imports from EEC to Thailand are the manufactures.

TABLE 4.5

PROPORTION OF TRADE BETWEEN THAILAND AND EEC TO TOTAL TRADE OF THAILAND (IN PERCENTAGE)

	1973	1974	1975	1976	1977	1978	1979
Exports	13.41	15.55	14.85	21.90	22.00	26.95	26.69
Imports	19.03	19.03	17.03	12.84	14.35	14.59	14.43

The results in Table 4.6 and Fig 4.3 show that the net barter terms of trade of Thailand and EEC were generally unfavorable during 1974-1979 except in 1977 and 1979; the gross barter terms of trade had the unfavorable trends during 1974-1979; and the income terms of trade of Thailand and EEC had the favorable trends during 1974-1979.

1. Net Barter Terms of Trade.

The net barter terms of trade of Thailand and EEC were generally unfavorable during 1974-1979 except in 1977 and 1979. It meant that Thailand generally received a smaller quantity of imports from EEC during 1974-1979, on the basis of price relation only, in exchange for a given quantity of exports to EEC than in 1973. The deterioration of the net barter terms of trade of Thailand and EEC was caused by increasing in import prices of manufactures over time. In 1977 and 1979, the net barter terms of trade of Thailand and EEC were favorable because the price of major exports to EEC increased very much. In 1974, these terms of trade slightly deteriorated because the prices of imports from EEC increased by 30 percent but the prices of exports to EEC increased by 29 percent.

2. Gross Barter Terms of Trade.

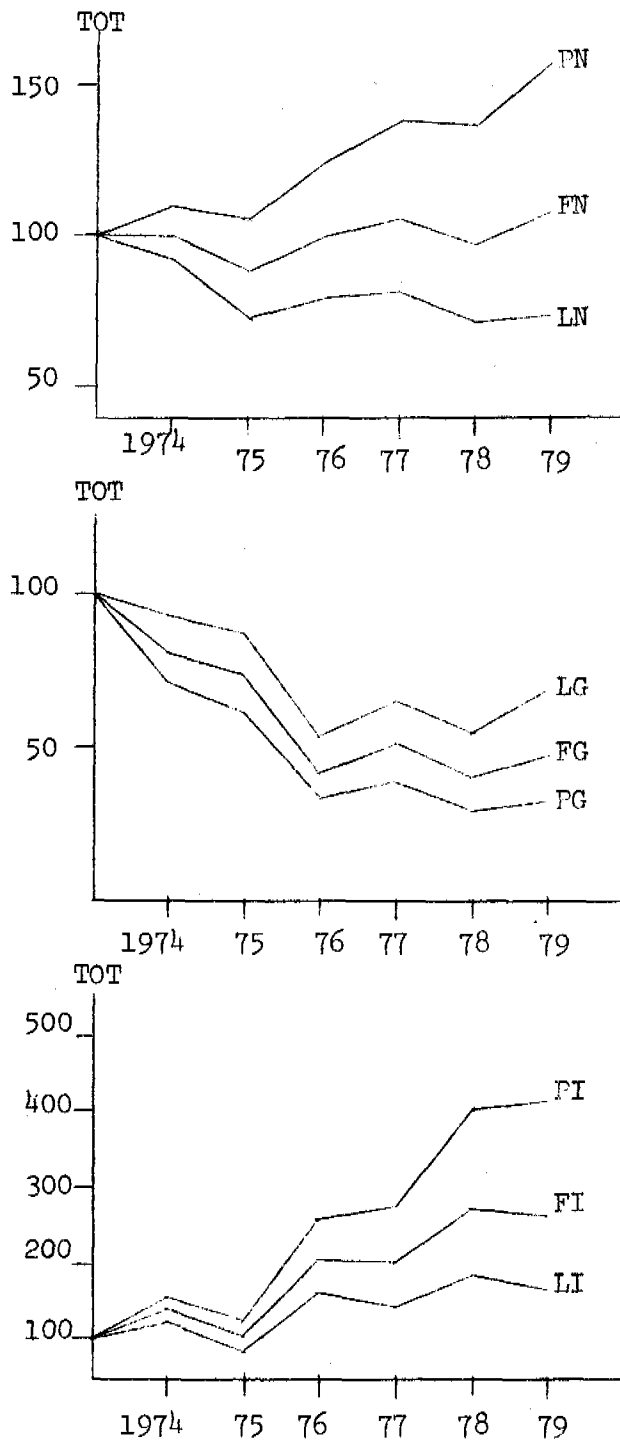
The gross barter terms of trade of Thailand and EEC deteriorated during 1974-1975, which indicated that Thailand, during 1974-1979, received a smaller of quantity of imports from EEC in exchange for a given quantity of exports to EEC than in 1973. These terms of trade had the unfavorable trends because the quantities of exports to EEC increased over time (increased by 147 percent from 1973 to 1979), while the quantities of imports from EEC were approximately constant.

TABLE 4.6
TERMS OF TRADE OF THAILAND AND EEC

	1973	1974	1975	1976	1977	1978	1979
PN	100.00	109.39	105.25	123.29	137.47	135.71	156.08
LN	100.00	91.16	73.22	78.63	80.74	70.52	73.34
FN	100.00	99.86	87.79	98.47	105.36	97.01	106.99
PG	100.00	70.92	60.92	32.71	38.73	28.01	32.13
LG	100.00	92.74	87.57	51.29	65.93	53.91	68.37
FG	100.00	81.10	73.04	40.96	50.53	38.86	46.87
PI	100.00	159.36	128.10	266.22	279.11	405.57	418.77
LI	100.00	125.28	87.22	163.87	146.92	185.47	167.14
FI	100.00	141.29	105.70	208.87	202.50	274.26	264.56

FIGURE 4.3

TERMS OF TRADE OF THAILAND AND EEC



Source: Table 4.6.

3. Income Terms of Trade.

The income terms of trade of Thailand and EEC had the favorable trends during 1974-1979, which indicated that Thailand, during 1974-1979, received a larger quantity of imports from EEC in exchange for a given value of exports to EEC than in 1973. That was because the value of exports to EEC increased drastically during 1974-1979. Although, the import prices of manufactures from EEC had increased since 1974, the income terms of trade of Thailand and EEC had improved. That was because the increment of value of exports to EEC was faster than the increment of import prices of manufactures from EEC.

Generally, Thailand had a slight gain from international trade between Thailand and EEC during 1974-1979, compared to 1973.

D. Terms of Trade of Thailand and Japan

Japan is the biggest trading partner of Thailand, thus it is interesting to examine the terms of trade of Thailand and Japan. The proportion of trade between Thailand and Japan to total trade of Thailand is also very high, as shown in Table 4.7. On the export side, the proportion of trade between Thailand and Japan to total trade decreased from 26 percent in 1973 to 21 percent in 1979. The major export items to Japan are rubber, sugar, tin, shrimp, and maize, which cover around 50-70 percent of total exports from Thailand to Japan. On the import side, the proportion of trade between Thailand and Japan to total trade decreased from 36 percent in 1973 to 26 percent in 1979. The major import items from Japan are: vehicles which cover around 20-30 percent of total imports from Japan; iron which covers around 10 percent.

TABLE 4.7

PROPORTION OF TRADE BETWEEN THAILAND AND JAPAN TOTAL TRADE OF THAILAND
(IN PERCENTAGE)

	1973	1974	1975	1976	1977	1978	1979
Exports	26.58	26.30	26.16	26.16	19.87	20.57	21.38
Imports	36.22	31.76	32.97	32.97	33.08	31.46	26.57

The results in Table 4.8 and Fig. 4.4 show that the net barter terms of trade of Thailand and Japan deteriorated during 1974-1979; the gross barter terms of trade of Thailand and Japan also deteriorated during 1974-1979 except in 1977; and the income terms of trade of Thailand and Japan also deteriorated during 1974-1979 except in 1976.

1. Net Barter Terms of Trade.

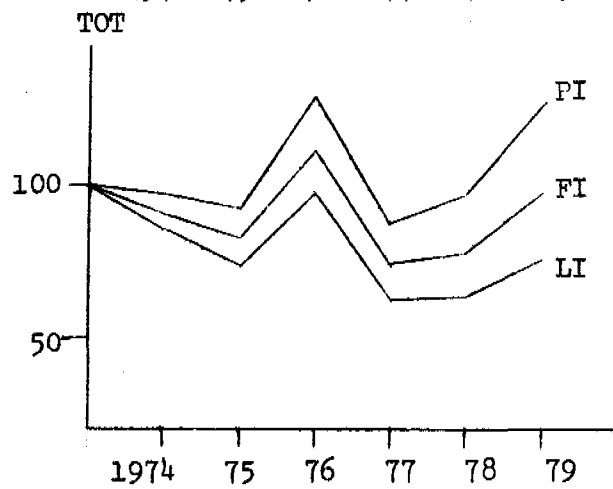
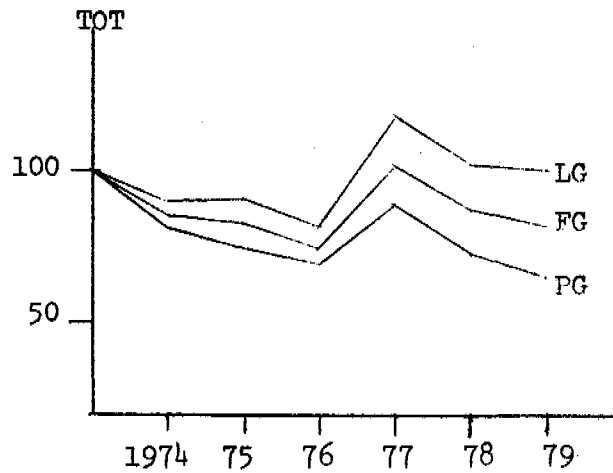
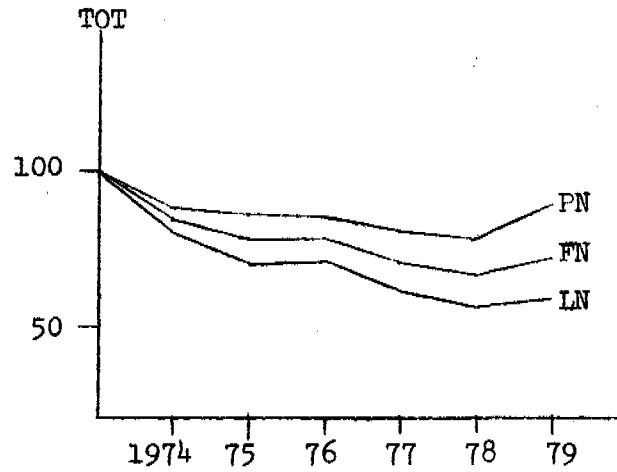
The net barter terms of trade of Thailand and Japan had the unfavorable trends during 1974-1979, which indicated that Thailand, during 1974-1975, obtained a smaller quantity of imports from Japan, on the basis of price relation only, in exchange for a given quantity of exports to Japan than in 1973. That was because the prices of manufactures had much increased during 1974-1979. The movement of prices of imports from Japan was similar to the movement of import prices of manufactures because Thailand imported a lot of manufactures from Japan. And, the movement of prices of exports to Japan was similar to the movement of export prices of primary products of Thailand because Thailand exported a lot of primary products to Japan.

TABLE 4.8
TERMS OF TRADE OF THAILAND AND JAPAN

	1973	1974	1975	1976	1977	1978	1979
PN	100.00	88.65	86.65	86.37	81.75	78.96	90.49
LN	100.00	81.08	71.30	72.54	61.91	56.19	59.78
FN	100.00	84.78	78.60	79.15	71.14	66.61	73.55
PG	100.00	82.46	76.52	69.00	90.13	73.82	66.45
LG	100.00	90.17	92.99	82.15	118.99	103.72	100.60
FG	100.00	86.23	84.36	75.29	103.56	87.50	81.76
PI	100.00	97.73	93.52	129.62	88.81	98.29	127.71
LI	100.00	86.44	74.36	97.08	62.11	64.17	76.07
FI	100.00	91.91	83.39	112.18	74.27	79.42	98.56

FIGURE 4.4

TERMS OF TRADE OF THAILAND AND JAPAN



Source: Table 4.8.

2. Gross Barter Terms of Trade.

The gross barter terms of trade of Thailand and Japan had the unfavorable trends during 1974-1979 except in 1977. Generally, during 1974-1979, Thailand received a smaller quantity of imports from Japan in exchange for a given quantity of exports to Japan than in 1973. In 1977, Thailand received a larger quantity of imports from Japan in exchange for a given quantity of exports to Japan than in 1973. In 1977, the quantities of imports from Japan increased by 8 percent from 1973 to 1977, while the quantities of exports to Japan increased by 4 percent.

3. Income Terms of Trade.

The income terms of trade of Thailand and Japan were also unfavorable for Thailand during 1974-1979 except in 1976. It meant that Thailand received a smaller quantity of imports from Japan during 1974-1979 (except in 1976) in exchange for a given value of exports to Japan than in 1973. In 1976, these terms of trade improved because the value of exports to Japan increased very much in this year.

It can be concluded that Thailand had the losses from international trade between Thailand and Japan during 1974-1979 compared to 1973.

E. Terms of Trade of Thailand and United States.

United States is the second biggest trading partner of Thailand, thus it is also interesting to examine the terms of trade of Thailand and United States. The proportion of trade between Thailand and United States to total trade of Thailand is shown in Table 4.9.

On the export side, the proportion was constant around 9 percent, and the major export items to United States were tin which covered around 17-26 percent of total exports to United States, rubber which covered around 9-14 percent, textile which covered around 9-16 percent; and canned pineapple which covered around 5 percent. On the import side, the proportion was also constant around 13 percent. Mostly, the import goods from United States have been the manufactures.

TABLE 4.9

PROPORTION OF TRADE BETWEEN THAILAND AND UNITED STATES TO TOTAL TRADE OF THAILAND (IN PERCENTAGE)

	1973	1974	1975	1976	1977	1978	1979
Exports	9.22	7.44	9.78	9.79	9.39	10.99	11.11
Imports	13.31	13.00	13.99	12.70	11.38	12.46	13.83

The results in Table 4.10 and Fig. 4.5 show that the net barter terms of trade of Thailand and United States deteriorated during 1974-1976 and improved during 1977-1979; the gross barter terms of trade of Thailand and United States deteriorated during 1975-1979; and the income terms of trade of Thailand and United States improved drastically during 1975-1979.

1. Net Barter Terms of Trade.

The net barter terms of trade of Thailand and United States deteriorated during 1974-1976 and improved during 1977-1979. It meant that Thailand received a smaller quantity of imports from

United States during 1974-1976, and a larger quantity of imports during 1977-1979, on the basis of price relation only, in exchange for a given quantity of export to United States than in 1973.

During 1974-1976, the deterioration of these terms of trade were caused by increasing much in manufacture prices. However, the export prices of major exports to United States also increased during 1974-1976. During 1977-1979, the improvement of these terms of trade were caused by increasing very much in tin prices and textile prices.

2. Gross Barter Terms of Trade.

During 1975-1979, the gross barter terms of trade of Thailand and United States deteriorated, which indicated that Thailand received a small quantity of imports from United States in exchange for a given quantity of exports to United States during 1975-1979 than in 1973. During 1975-1979, the quantities of exports to United States increased over time. However, the quantities of imports to United States also increased. In 1974, these terms of trade improved because the quantities of exports to United States decreased by 7 percent from 1973 to 1974, but the quantities of imports to United States increased by 6 percent.

3. Income Terms of Trade.

During 1975-1979, the income terms of trade of Thailand and United States improved drastically, which shew that Thailand received a larger quantity of imports from United States in exchange for a given value of exports to United States during 1975-1979 than in 1973. That was because the value of exports to United States had increased very much during 1974-1979. In 1974, these terms of trade

deteriorated because the value of exports to United States increased little.

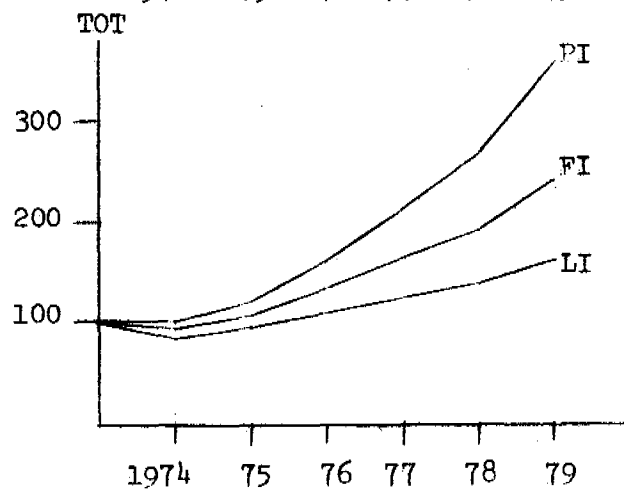
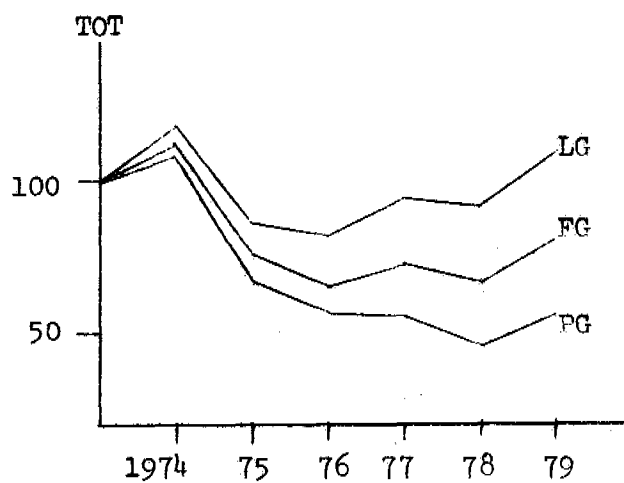
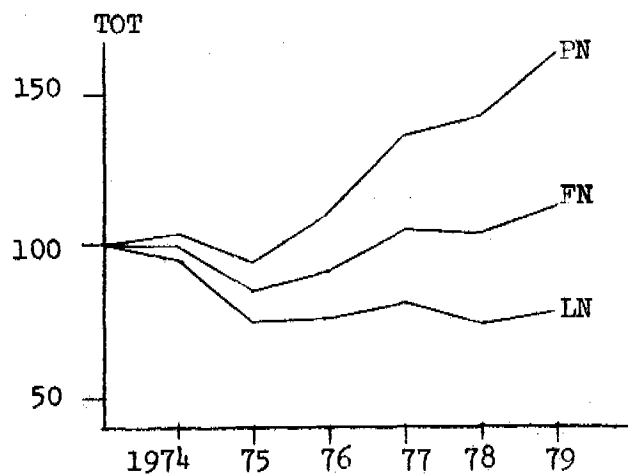
It can be concluded that Thailand had the gains from international trade between Thailand and United States during 1974-1979 compared to 1973 (this conclusion is similar to the case of the international trade between Thailand and EEC).

TABLE 4.10
TERMS OF TRADE OF THAILAND AND U.S.A.

	1973	1974	1975	1976	1977	1978	1979
PN	100.00	103.83	93.82	109.93	138.50	142.11	161.11
LN	100.00	95.12	73.99	75.37	81.38	74.06	76.62
FN	100.00	99.38	83.32	91.02	106.16	102.59	111.11
PG	100.00	108.49	67.95	55.55	55.73	47.76	56.19
LG	100.00	118.43	85.79	81.02	94.86	91.64	109.21
FG	100.00	113.36	76.35	64.83	72.71	66.16	81.48
PI	100.00	99.92	120.69	160.21	214.04	267.37	360.40
LI	100.00	85.91	93.24	109.34	125.93	137.08	162.14
FI	100.00	92.65	106.08	132.35	164.18	191.44	241.73

FIGURE 4.5

TERMS OF TRADE OF THAILAND AND U.S.A.



Source: Table 4.10