

# Chapter VI

## Thailand: The Ability to Move to Stable Growth in Question

### 1. Stagnant Exports in 1996

#### (1) Factors Contributing to the Decline in Export Growth

The economic growth rate for 1996 estimated by the National Economic and Social Development Board was 6.8%, 1.8 points lower than the previous year's figure. The estimate of the Bank of Thailand was 6.7%, a drop of two points from its figure for the previous year of 8.7%. A figure of 6.8% is still a high growth rate, but it is considered relatively low in Thailand, which has experienced very high rates of growth over the last 10 years. One reason for the slowdown in growth has been the tight-money policy instituted in 1995, but the main cause has been stagnant exports. Exports had been growing quickly: by 21.3% in 1994 and 23.6% in 1995. Together with investment, they comprised the engine for growth in the economy. However, in 1996, the brakes were applied. In its estimates based on

actual performance through September, the Central Bank predicted a drop of 0.1% compared with the previous year, and the National Economic and Social Development Board projected growth of only 0.2% from the previous year. This came as an enormous shock to the government of Thailand as well as in economic circles.

One reason for the slowdown in exports that was widely rumored in Thailand was that the value of exports in 1995 had been inflated by illegal claims for refunds of value-added tax on non-existent exports. The "Economic Review Year-end 1996," published by the Bangkok Post, claimed that the actual value of exports in 1995 was in fact approximately 100 billion baht less than the official figure. It provided as a specific example garment exports to the U.A.E., pointing out that there was an enormous discrepancy (30 to 1) between the export statistics reported by the Thai side and the import statistics reported by the U.A.E. Incidentally, the trade statistics from the Ministry of Commerce

**Table 6-1 Key Economic Indicators**

	1993	1994	1995	1996	1997
Real economic growth rate (%)	8.3	8.7	8.6	6.8	7.1
Agriculture	-1.9	5.5	3.0	3.6	3.0
Manufacturing	11.1	9.3	11.0	7.8	8.1
Construction	9.5	13.8	10.7	5.0	5.4
Services, other	9.1	8.6	8.2	6.9	7.4
GDP (billions of baht)	3,164	3,601	4,120	4,614	5,172
Per capita income (baht)	54,542	61,332	69,351	76,884	85,341
Consumer prices (%)	3.3	5.1	5.8	5.8	5.0
Fiscal balance (fiscal year, billions of baht)	63.5	72.0	117.5	100.0	76.2
Exports (billions of baht)	921.4	1,118.0	1,381.6	1,380.0	1,486.0
Growth rate (%)	13.0	21.3	23.6	-0.1	7.7
Imports (billions of baht)	1,143.1	1,344.8	1,755.4	1,814.0	1,960.0
Growth rate (%)	12.0	17.6	30.5	3.3	8.0
Trade balance (billions of baht)	-221.7	-226.8	-373.8	-434.0	-474.0
Current account balance (billions of baht)	-161.1	-203.1	-337.6	-384.0	-415.0
Proportion of GDP (%)	-5.1	-5.6	-8.1	-8.2	-7.9
Overall balance (billions of baht)	98.8	104.8	179.5	54.6	45.0
Debt service ratio (%)	10.7	11.3	11.4	11.7	-
Official foreign reserves (billions of dollars)	25.4	30.3	37.0	38.7	-

Note: Figures for 1996 are preliminary; figures for 1997 are estimates.

Sources: National Economic and Social Development Board and the Bank of Thailand

show textile exports to the U.A.E. as worth 2.9 billion baht in 1993, 3.8 billion baht in 1994, and then suddenly increasing to 10.2 billion baht in 1995. The total through October for 1996 is reported as 2.9 billion baht.

If this estimate is accurate and exports in 1995 were 100 billion baht less than the official figure, the growth rate for exports in 1995 would be slightly less than 15%, and that for 1996 around 8%. This would mean that exports did not suddenly slow down, but instead experienced a gradual deceleration.

The causes for the stagnation in exports can be divided roughly into temporary and cyclical factors on the one hand and structural factors on the other. On January 6, 1997 the Bank of Thailand released its figures for economic performance in 1996 and its forecast for 1997. They point out the following four items as causes for the export slump: (1) a drop in overseas demand; (2) changes in the economic environment (first, increased competition due to the halt in applying GSP to Thailand (fisheries products, fruit, and food products in the case of the EU); second, environmental issues such as the U.S. import ban on non-farmed shrimp in order to protect sea turtles); (3) increased competition due to trade liberalization and participation by low-wage countries such as China, Indonesia, and India in markets important to Thailand; and (4) decreasing competitiveness of labor-intensive products, although high-technology products were still doing well.

## (2) Change in the Export Market

If we examine the changes in the export market indicated in Table 6-2, we can see that, around

1990 or so, it was dependent on three large markets: the United States, the EU, and Japan. After this, ASEAN expanded quickly, creating a four-polar arrangement. More recently, the relative weight of four East Asian countries – China, Taiwan, Hong Kong, and South Korea – has increased rapidly (from 9.2% in 1991 to 11.9% in 1995 and to 13.3% for the first 10 months of 1996). These changes are taking a favorable course from the point of view of the creation of a balanced structure that is not overly dependent on specific market segments.

An examination of the export growth rate shows that it was bullish to the EU, with growth of 9% maintained in 1996 as well. Growth in exports to the United States was dulled from 1995 onward, and stopped suddenly to Japan and ASEAN in 1996. Within the ASEAN region, a drop of 12.4% in exports to Singapore had a large effect. Among the top 30 countries, exports to Hong Kong, Malaysia, Britain, South Korea, Indonesia, Belgium, the Philippines, Vietnam, Cambodia, Iran, and Israel grew at a high rate of between 12% and 53%. On the other hand, exports to Singapore, the U.A.E., Canada, Saudi Arabia, Switzerland, Myanmar, and India actually shrank.

It should be noted that export dependence on the top three importers – U.S. in first place, Japan in second, and Singapore in third – reached approximately 49% in 1995. Also, when only manufactured goods (which accounted for 66% of total exports) were considered and processed agricultural products excluded, this dependency on the top three countries – U.S., Singapore, and Japan, in that order – climbed to 51%. Compared with the previous year, exports of manufactured goods in the first 10 months of 1996 were down 0.5%. Exports to Japan were strong and grew by 6.1%, while those to the

**Table 6-2 Change in the Structure of Export Markets**

	Growth rate over the previous year			Percentage distribution				Change 1990 - 1995	1996*	
	1993	1994	1995	1990	1993	1994	1995		Growth rate	Percentage distribution
Export Markets	14.1	20.9	23.6	100.0	100.0	100.0	100.0	-	1.2	100.0
Japan	10.4	21.8	21.5	17.2	17.0	17.1	16.9	-0.3	1.9	17.0
U.S.A.	9.3	18.2	4.8	22.7	21.6	21.0	17.8	-4.9	1.6	18.0
ASEAN	43.4	35.1	35.2	11.4	16.3	18.2	19.9	+8.5	0.9	19.7
EU	-3.2	8.6	19.4	21.5	16.7	14.9	14.5	-7.0	9.1	16.0
Other	19.6	21.8	33.8	26.1	27.9	28.1	30.4	+4.3	-3.0	29.3

Note: Based on customs data. \* Actual performance for January through October.

Sources: Department of Business Economics, Ministry of Commerce

United States showed modest growth of 0.9%. However, exports to Singapore slumped by 12.7%. There were drops in the totals for plastic products, shoes, clothing, video and audio equipment, rubber, textiles, semiconductors, jewelry, and precious stones.

To sum up the foregoing trends, a desirable structure in which there is a balance between the markets of various regions is falling into place. Exports to the four major East Asian countries, to the ASEAN countries with the exception of Singapore, and to the countries of Indochina expanded, resulting in an increased relative importance for trade within the region. However, at the same time, dependency on the three top countries – U.S., Japan, and Singapore – remained high. This indicates that Thailand's exports are still largely dependent on advanced countries as markets.

### (3) Change in the Structure of Export Products

Next, we will examine the categories of goods being exported. Manufactured goods, including processed agricultural products, accounted for 82% (in 1995) of the total value of exports. Table 6-3 classifies these manufactured goods as labor-intensive, processed resources, or technology-intensive. Growth in labor-intensive exports is slowing, and this category accounts for a little less than 21% of the total export structure. Exports of processed resources are subject to large variations, since they are affected by the weather and natural disasters, and their relative significance is tending to

decline. On the other hand, technology-intensive exports are showing a high rate of growth, and it can be seen that, within this category, the electronics industry is playing a leading role. Symbolic of this tendency is the fact that, in 1995, exports of computers and computer parts displaced clothing products from the number one position. In terms of their structural significance, the relative importance of technology-intensive exports has grown by 11.8% over five years to a level of 43%. Of this, the electronics industry grew by 8.3% and now accounts for 27% of the total. Consequently, it can be said that the export structure clearly changed during the first half of the 1990s due to exports of manufactured goods. Let us now examine in detail why the brakes suddenly were applied to exports in 1996, even as this structural shift was advancing.

Table 6-4 shows the growth rate compared with the previous year for the principal export products. If we focus on manufactured goods, the following characteristics become clear. First, exports were strong of technology-intensive products such as computers, computer parts, and other electrical and electronic goods including TVs and air conditioners, as well as products between the twentieth and thirtieth places, such as automobiles and car parts, motors and electric generators, bipolar tubes and transistors, and chemical products. Second, there were some cases among even technology-intensive products, of stagnation or negative growth being caused by the business climate. Examples include semiconductors as well as video and audio equipment.

**Table 6-3 Change in the Structure of Exported Product Categories**

	Growth rate over the previous year				Percentage distribution				Change 90-94
	1991	1992	1993	1994	1990	1992	1993	1994	
Industrial product types	25.6	14.7	18.6	22.5	74.7	76.9	80.4	81.1	6.4
Labor-intensive	21.7	5.6	6.3	16.6	25.1	23.0	21.6	20.7	-4.4
Resource-processing	11.0	9.9	-0.8	30.8	11.6	10.1	8.8	8.8	-2.8
Mid- and high-level technology-intensive	31.3	22.8	30.4	26.9	30.8	35.5	40.8	42.6	11.8
Electronics proportion:	35.0	25.4	22.2	34.7	18.8	22.7	24.5	27.1	8.3
Other	38.7	15.7	25.9	18.6	7.2	8.3	9.2	9.0	1.7
Fisheries	34.4	11.6	14.1	21.9	5.5	5.9	6.0	6.0	0.5
Agricultural	9.3	13.3	-10.6	17.0	17.0	15.0	11.8	11.4	-5.6
Other	15.1	-9.3	-4.2	2.4	2.8	2.2	1.8	1.5	-1.4
Total	23.0	13.6	13.5	21.5	100.0	100.0	100.0	100.0	-

Source: The Bank of Thailand

**Table 6-4 Growth Rates of the Top 20 Export Product Categories**

	1992	1993	1994	1995	1992-95 average	1996
1 Computers and computer parts	19.2	13.1	44.9	38.7	24.7	31.1
2 Garments	0.1	3.3	12.4	1.3	3.4	-21.7
3 Rubber	15.9	0.9	43.3	46.5	21.3	2.3
4 Integrated circuits	11.0	24.2	27.5	28.4	18.2	1.8
5 Jewelry and precious stones	2.9	10.8	8.3	11.5	6.7	7.0
6 Rice	18.7	-9.0	18.9	24.1	10.5	8.1
7 Shrimp	18.8	19.3	29.9	2.3	14.1	-16.3
8 Sugar	28.0	-35.6	41.2	67.2	20.2	11.5
9 Radios, TVs, and related parts	44.8	9.1	26.2	12.7	18.6	12.9
10 Shoes and shoe components	7.7	9.0	40.5	37.0	18.8	-40.7
11 Canned seafood	-5.1	5.1	24.7	4.1	5.7	-0.2
12 Air conditioners and related parts	49.0	13.4	62.1	49.6	34.8	28.8
13 Plastic products	32.5	160.0	-29.1	102.2	53.1	-57.3
14 Textiles	11.8	5.1	4.5	22.1	8.7	-3.8
15 Tapioca	19.0	-26.6	-13.6	-2.8	-4.8	19.0
16 Rubber products	27.9	24.2	13.6	58.6	24.9	-11.9
17 Furniture and furniture parts	12.9	18.1	20.0	6.9	11.6	1.0
18 Video and audio equipment, and related parts	12.1	-9.1	56.9	2.4	12.5	-24.3
19 Steel products	5.2	35.2	28.4	21.8	18.1	-2.4
20 Canned and processed fruit	5.2	-6.2	-2.2	2.2	-0.2	26.6

Note: Ranking of product categories is based on actual performance for January through October 1996.

Sources: Department of Business Economics, Ministry of Commerce

Third, exports of labor-intensive goods were stagnant or showed negative growth. This was due, in the case of canned seafood, furniture, and furniture parts, to difficulty in obtaining raw materials, and, in the case of clothing, shoes and shoe parts, and textiles, to a loss of competitiveness in the export market because of rising labor costs. Exports of clothing increased by an average annual rate of only 3.4% between 1992 and 1995. If the figures for the value of exports in 1995 really are padded, the 12.4% growth in 1994 marks a peak, after which exports shrank both in 1995 and 1996. Although the United States (27% share in 1995) and Japan (9% share in 1995) are stable as markets, the drop in the market for common goods has been large. This is because importers such as the U.A.E., Saudi Arabia, Poland, and Russia are switching their suppliers from Thailand to countries where wages are even lower.

A sudden increase in exports of shoes and shoe components to Russia and Poland caused substantial growth in 1994 and 1995. Then, in 1996 there was a drop of more than 40%. The United

States is the largest market (with a 19% share in 1995), but here too, exports are on the decline. In other categories, "travel goods" is just barely maintaining its position in the top 30, but "toys" has already dropped out of the top 30.

As the foregoing figures show, exports of some technology-intensive products are growing at a slow rate or even declining due to changes in business cycles, but most are growing steadily. On the other hand, labor-intensive products are gradually losing their competitiveness due to factors such as raw material-related problems and labor costs. The general view is that the slump in exports caused by temporary and cyclic factors may be followed by a rebound in 1997. Growth of about 10% in semiconductor exports is anticipated. Consequently, export forecasts for 1997 assume recovery, with the National Economic and Social Development Board predicting growth of 12.6% and the Bank of Thailand growth of 7.7%. Of the product categories for which the Ministry of Commerce sets export targets, the target is 10% or more for 211

categories (1.4% for agricultural goods, 5.2% for processed agricultural goods, 10.4% for manufactured goods), and growth of 19.7% is predicted for other categories (accounting for 16% of the total value of exports). It appears that exports will expand by around 10% and the economy will grow by more than 7%.

However, it is not reasonable to expect growth of over 20%, as has occurred in the past. According to a survey of businesses carried out by the Siam Commercial Bank Research Institute (SCBRI), which is one of the governor banks of the Thai Bankers Association, problem points for export promotion include the tax system (for example, high taxes on imported raw materials; the fact that it takes six months for value added tax to be assessed), insufficient infrastructure (transport via seaports and airports), rising labor costs, and the increasing difficulty of obtaining raw materials. Of these, there is a strong awareness of the urgent need to reform the tax system. However, achieving a full-scale recovery in exports will require an awareness that the golden age of labor-intensive industry has ended and, as a mid- and long-term issue, efforts to promote the competitiveness of exports and make the industrial structure more sophisticated.

## 2. Concerns About Stable Growth

The high growth in the first half of the 1990s was sustained by investment and a business cycle that was favorable for exports. When the brakes were suddenly applied to exports in 1996, worries again began to be voiced about the progress of the Thai economy. The expanding deficit in the current account balance and the debt burden, which had not been considered problems during the period when development was advancing steadily, became the focus of attention, and concerns about stable development came to the surface. The need to respond to the new problems that had arisen during the first half of the 1990s, as liberalization of trade, investment, and credit were being promoted, was becoming urgent.

The deficit in the current account balance grew substantially during the second half of the 1980s, a period when investment was expanding, and between 1992 and 1995, when investment was again expanding. Up until now, however, there has been an influx of capital that has exceeded the amount of this deficit in the current account bal-

ance, allowing the overall balance of payments and expenditures to remain in the black. This situation has not changed to date. Nevertheless, the reason for the increased concern about it as a possible cause of instability is that significant changes have occurred in the structure of the capital balance that has been used to finance the deficit.

Up until now, the influx of capital has consisted primarily of long-term capital [SBO1]. However, since the launch in 1993 of BIBF (Bangkok International Banking Facilities), which aims to turn the region into an international financial center, the influx of capital via the banking sector and based on BIBF accounting is growing. According to the Bank of Thailand, the reasons for the sudden increase are as follows: (1) external loans that had been based on existing commercial bank accounting were transferred to BIBF accounting, (2) existing non-bank overseas direct loans were transferred to BIBF accounting, (3) existing non-bank debt was repaid using loans from BIBF, and (4) direct investment loans from overseas parent companies were repaid or refinanced using loans from BIBF. It is said that there are a particularly large number of cases of type (4) involving Japanese-owned enterprises.

Table 6-5 illustrates the flow of capital. It shows that case (1) was a phenomenon of 1993, and that cases (2) and (3) were phenomena that occurred in 1993 and 1994. As for case (4), we can see that direct investment shrank in 1993 and 1994. This increase in the relative weight of short-term capital has brought with it concern about increased risk.

**Table 6-5 Trend in Value of Private Capital Influx**

(Unit: billions of dollars)

	1991	1992	1993	1994	1995
1. Banking sector	-0.3	1.9	3.6	13.9	11.2
Commercial banks	-0.3	1.9	-4.1	3.8	3.1
BIBF	-	-	7.7	10.1	8.1
2. Non-banking sector	10.6	7.6	6.7	-1.9	9.6
Direct investment	2.0	2.2	1.7	1.3	2.0
Portfolio investment	0.2	0.6	4.9	1.1	3.3
Non-bank loans	5.7	2.8	-2.4	-5.8	1.5
Others*	2.7	2.0	2.5	1.5	2.8
3. Total	10.3	9.5	10.3	12.0	20.8

Note \* Includes baht accounts of non-residents.

Source: Bank of Thailand Economic Focus, Vol. 1, No. 3, July – September 1996

Then, when the Mexican currency crisis of January 1995 occurred, rumors spurred by the outward similarities between Mexico and Thailand that the exchange rate was going to drop caused selling of baht. This triggered a withdrawal of capital by American investors and resulted in a crash in stock prices. Then more recently, in July of 1996, rumors of a drop in the value of the baht due to sluggish exports and the expansion of the deficit in the current account balance again caused selling of baht, and again triggered a crash in stock prices.

In Thailand, where investment from overseas and expanded imports have served as the levers of economic development, it is considered imperative to avoid any situation in which investors might feel tempted to withdraw. Therefore, the Bank of Thailand has taken a variety of countermeasures, taking the Mexican currency crisis as a lesson. Part of this effort was the formation of a currency-protection association by the central banks of seven leading Asian nations, including Japan, Hong Kong and Singapore, to engage in mutual lending of foreign currency if exchange rates should be manipulated by speculation. During the July 1996 baht crisis, for the first time in history, the Bank of Thailand engaged in market intervention by selling dollars and buying baht on the overseas markets (Hong Kong and Singapore). Thus, a crisis was averted for the short term.

Aiming to restore confidence in the government's economic policies, the Chawalit six-party coalition cabinet formed in December of 1996 mobilized an "economic team" including Vice-Premier Amnuay, who was also acting as Finance Minister, and Commerce Minister Narongchai. They produced a number of policies one after another, such as authorization of the establishment of additional off-shore branches of BIBF foreign banks, a 10-item policy to deal with the slump in the real estate market, and a 5% reduction in government expenditures as a measure to reduce the current account deficit.

Governor Rerngchai of the Bank of Thailand urged the government to implement fiscal policies aimed at reducing the current account deficit. With the appointment of the new administration, he received the support of Finance Minister Amnuay, and government expenditures were reduced. This occurred because the economic slowdown was threatening to convert the fiscal surplus that had continued for nine years into a deficit, and because

the current account deficit had reached 8.2% of GDP. The government also determined that maintaining a sound fiscal posture and taking firm policies to keep the current account deficit under control were necessary steps in order to regain the confidence of investors, both foreign and domestic.

The details of the cut in expenditures were that government outlays were to drop by 100 billion baht over two years in fiscal 1997 and 1998. Leading candidates for reassessment included a switch from the Thai state airline's previous policy of purchasing airports to one of leasing them, and reductions and postponements in the military's procurement schedule for both weapons and equipment. Targets for cuts in military equipment procurement included previously planned purchases of two submarines, a communications satellite earmarked for military use, a new-model tank, and jet fighters. Prime Minister Chawalit first emphasized that cutting annual expenditures by 50 billion baht in fiscal 1997 would reduce the current account deficit to 7.2% of GDP in 1997. He also announced guidelines to speed up plans for privatizing the state-owned telephone and petroleum companies as pump-priming measures to attract investment.

In addition to these government policies, a publication by the Economic Research Department of the Bank of Thailand called "Economic Focus" was published in English every three months, beginning in 1996, perhaps to present the case to foreign and domestic investors that the fundamental condition of the Thai economy was good. The first issue analyzed the current account deficit, the second issue dealt with private savings, and the third issue analyzed the short-term debt situation. The main points from issues one and two are summarized next, but in short, the new publication was intended as an answer to concerns regarding the expansion of the current account deficit and the increase in short-term debt.

First, the publication emphasized the view that the deficit in the current account balance was not a cause for concern. Its reasons were as follows: (1) Thailand's current account deficit is not due to excessive consumption but rather to a cyclic expansion in investment, (2) the deficit is occurring against a background of steady economic development and growing exports, (3) the government fiscal policy continues to be firmly in the black, (4) the influx of high-quality capital is greater than the current account deficit, and (5) there is little exter-

nal debt and sufficient repayment capacity.

The analysis of short-term debt was written after the July baht crisis. It therefore concluded that the risk entailed by Thailand's short-term debt was much smaller than it had at first appeared to be. The results of the analysis were that (1) most of the current account deficit is financed by long-term capital, so the increased influx of short-term capital caused a rise in foreign currency reserves, (2) foreign currency holdings, including those of commercial banks, were sufficiently large to provide a cushion should short-term capital suddenly be withdrawn, (3) most of the inter-bank loans concluded through BIBF were transactions between the overseas headquarters and branches of the same banks, so the parent bank provided support in the case of foreign banks and there was little risk involved, and (4) in view of Thailand's economic power, constructive use of debt (for example, investment in manufacturing industries), and the term structure of the short-term debt, the risk of capital flight was small.

However, even though it could be shown in this way that the risk was small, the uneasiness in the market could not be completely dispelled. With this point in mind, the Central Bank adopted policies intended to suppress the inflow of short-term capital and encourage a switch-over from short-term to long-term capital. It has since been shown how these policies have borne fruit.

### 3. *Factors Affecting Sustained Growth in the Latter Half of the 1990s and Prospects for the Solution of Problems*

#### **(1) Growing Sophistication of the Industrial Structure and Equipping of the Infrastructure**

The Eighth Economic and Social Development Plan was put into effect in October of 1996. The plan states that Thailand's per capita income will be \$12,000 (based on 1993 prices) in the year 2020. The forecast was performed by the Thailand Development Research Institute. According to Mr. Chalongsob, the Institute's President, the economy will sustain a growth rate of about 8% through the year 2000. This will then gradually slow down – to 7.5% through 2010 and to 7% through 2020 – while

still remaining relatively high. As a result, per capita GDP will rise from \$2,425 in 1995 to \$3,403 in 2000, \$6,432 in 2010, and \$11,914 in 2020.

But can Thailand sustain the high growth that is predicted in this forecast? The countries of Asia, which experienced an export slump and worsening of the business climate in 1996, are hurrying to increase the competitiveness of their exports and make their industrial structures more sophisticated. The liberalization of trade and investment in the Asian region continues to advance. In order to achieve a more sophisticated industrial structure under such circumstances, it is essential to win the competition for enticing high-technology enterprises from advanced countries to come and set up shop. An attractive investment climate for foreign capital to support high-technology must offer political stability, government policies aimed at encouraging investment, abundant cheap labor, and a well-equipped infrastructure. In addition, there is demand for a wide range of supporting industries and producers of raw materials, high-quality personnel, and technical development capacity.

The Thai government is aware that there is a dire shortage of supporting industries. Beginning in 1994, the Board of Investment identified 14 types of supporting industries as suitable for investment promotion and has been working to attract foreign capital. The targets of their enticements are small- and medium-sized enterprises from Japan. A look at the performance of this program shows that, of the 284 Japanese enterprises for which promotion was approved in 1995, 154 – more than half – are involved in the automobile or electrical/electronics parts industries. The efforts to attract supporting industries are beginning to succeed. Furthermore, in comparison with neighboring countries, Thailand has a definite edge, especially in the automotive industry. It has already established a position for itself as a manufacturing base in Southeast Asia. The fact that America's GM and Ford have decided one after the other to set up manufacturing plants there indicates that the concentration of supporting industries in Thailand is comparatively heavy.

But what of personnel training and technical development? There is a shortage of technical and management personnel. The competition to recruit employees from other companies and high salary levels have had a negative effect on the ability of enterprises to run their businesses. The government is working to enhance the universities and vocational

schools, but as Table 6-6 shows, the shortage of technical personnel has not been eliminated. Rather, the gap between supply and demand has grown.

**Table 6-6 Supply and Demand Estimates for University Graduates in Technical Fields**

	1995	1996	1997	1998	1999	2000	2001
Supply	10,630	11,770	12,970	13,620	14,450	15,200	15,470
Demand	13,750	15,720	16,330	18,610	21,030	23,900	27,080
Deficit	3,120	3,950	3,360	4,990	6,580	8,700	11,610

Note: Figures for the supply population are based on the assumption that 90% of university graduates (4-year courses) will enter the labor market.

Source: Ministry of Science, Technology and Environment, *Science and Technology Development Plan by Field*, July 1996

Also, there has recently been word that not only are there insufficient technical personnel, but also that the supply and demand gap for industrial workers is becoming serious. Localized labor shortages have occurred in the region from the capital, Bangkok, to the industrial belt along the eastern seaboard. There have been cases in which plans to expand production have had to be abandoned because of an inability to obtain enough factory workers. This shortage of labor has had the effect of pushing labor-intensive enterprises out into rural areas. This shift of enterprises to rural regions is continuing. Consequently, it is thought that localized labor shortages will continue to occur, even though the problem is not acute throughout the entire country.

We next come to the issue of technical development. As a percentage of GDP, R&D expenditure dropped from 0.22% in 1987 to 0.18% in 1993. Measures to promote R&D have been adopted, such as the establishment of a technical development fund, exemption from taxes of a sum equivalent to 150% of R&D expenditure, and reduced taxes on equipment purchases. However, in actual practice, more than half of the enterprises taking advantage of the tax exemption privilege are simply classifying training costs as "R&D expenditure." Only a small fraction of the large corporations are actually doing R&D work. In actual fact, R&D is only just getting underway in Thailand. In this sense, technology transfer based on foreign capital has a very important role to play. However, most such transfers are confined to production management. Technology

transfer in the areas required for increasing added value is still not extensive.

## (2) Improving the Competitiveness of Exports

The objectives of the Thai government, as it works to increase the competitiveness of exports while bringing in foreign capital, can be classified into two categories: (1) advancing the move to a more sophisticated industrial structure by encouraging a shift from labor-intensive to technology-intensive industry; and (2) advancing the development of technology in labor-intensive industries, and encouraging the improvement of raw materials and enhanced added value. As for (1), structural change is moving forward, as we have already seen. In particular, expectations are high for the electrical/electronic and automotive industries as likely future leaders of the Thai economy. Regarding (2), two laboratories, one for textiles and clothing products and the other for food products, were established in September 1996 with support from the Export Development Fund. Particular emphasis is being placed on promoting products with added value. The program is looking five to ten years ahead in the textiles and clothing industry with the objective of improving technology, design, and raw materials.

Also, the Board of Investment has identified the following four points regarding industry-specific promotion objectives:

- (1) Promotion of investment in technology for providing added value in traditional industries (textiles, clothing, toys, shoes, and other light industries).
- (2) R&D aid for new product development and quality improvement in industries that are already competitive (for example, the processing of agricultural and fisheries products).
- (3) Investment to further improve productivity and sharpen competitiveness in industries with high potential (car parts and high-technology industries such as ICs, semiconductors, and silicon wafers).
- (4) Reduction of production costs to compete more effectively domestically and overseas in new industries (petrochemicals and steel).

There have been reports detailing more specific ways of providing aid. The SCBRI survey mentioned in Section 1 and the views of the Thai Bankers Association, upon which its discussion is based, are two examples. From among the topics covered at the hearings, two particularly noteworthy points are summarized next.

- (1) There are expectations that high-technology industries will play a significant role in increasing the sophistication of Thailand's industrial structure. However, as things stand now, raw materials are dependent on imports, and the percentage of value added domestically is low. According to the SCBRI calculations, the percentage of domestic added value is 36% for computers, 28% for semiconductors, 60% for electrical products, 50% for textile products, and 47% for automobiles and motorbikes. The added value is particularly low in the case of semiconductors. It is reported that continuing with only the labor-intensive assembly processes used now will halt progress about three years in the future, and that more efforts to increase added value are necessary.
- (2) Among the labor-intensive industries, it is considered likely that some will lose their competitiveness within five years. The possibility of moving the production (either within Thailand or to neighboring countries) of low-added-value products is being studied, but enhancing technology in order to boost competitiveness and upgrading manufacturing equipment is also necessary. For this to occur, support in the form of low-interest loans for upgrading machinery, reforming the tax system – including taxes on the import of raw

materials – and providing better marketing data are all needed.

As the foregoing comments indicate, there are many problems that need to be overcome. Nevertheless, a look at the trend in foreign investment shows that Thailand is retaining its status as an attractive choice for investors. Table 6-7 lists the number of enterprises approved for promotion by the Board of Investment. For the whole of 1996, the number of cases and the amount invested both dropped slightly from the 1995 figure; the number of projects involving jointly managed enterprises and Thai enterprises dropped, while in the case of 100% foreign-owned enterprises, the number of projects as well as the total amount invested grew.

One characteristic of foreign capital is that it is concentrated on investments in three industries: metals and machinery, electrical/electronics, and chemicals/plastics/papermaking. In contrast to the past, when light industry and final assembly operations were favored, investment in parts and raw materials is presently growing. Large-scale investments are being made one after another in fields such as steel, petrochemicals, automobiles and electronics. But the biggest topics of conversation are the decisions by Ford and GM to set up automobile plants, the decision by IBM to set up operations in the electrical/electronics field (Thailand is second to Singapore as a producer of hard disk drives), and the move by Texas Instruments to start production of silicon wafers. The Investment Committee feels that the prospects for the introduction of foreign capital in 1997 are even brighter than they were in 1996.

**Table 6-7 Foreign Investment from Major Countries (Based on Approvals)** (Unit: millions of baht)

	1992		1993		1994		1995		1996 (Jan. - Oct.)	
	Number of cases	Value of investment	Number of cases	Value of investment						
Total	369	275,930	849	176,352	1,173	251,218	1,197	580,058	833	407,866
Foreign capital	248	254,553	378	108,734	507	147,753	615	410,899	464	289,491
Japan	88	49,972	125	68,497	190	64,276	284	196,613	220	140,432
U.S.A.	29	31,321	42	10,919	56	32,915	59	64,335	45	58,296
Taiwan	44	7,393	60	5,328	88	11,937	102	45,098	56	67,206
Singapore	20	12,247	33	5,905	54	14,263	51	38,055	48	28,156
South Korea	12	707	14	804	13	740	16	42,467	19	22,134
Britain	16	15,189	26	4,012	29	4,933	24	7,520	26	12,027
Germany	3	7,697	16	6,880	14	4,873	12	4,352	17	7,498

Source: The Board of Investment. Firms with their foreign investment more than one country are doubly counted.

We can summarize the foregoing studies by saying that the export stagnation of 1996 was due to cyclical and structural factors, and that the drop in exports caused by cyclical factors will be erased by a recovery in 1997. However, for exports to experience a genuine recovery, they must become more competitive and the industrial structure must become more sophisticated. In addition, during this process, the deficit in the current account balance and how it is financed must be kept in mind. At present, what Thailand needs for the industrial structure to become

more sophisticated is the fostering of supporting industries and raw materials industries, as well as continued personnel training and technical development. Foreign enterprises view Thailand as a good place to invest, and they anticipate that Thailand will overcome the problems already mentioned. Based on the present state of development in Thailand, it seems likely that the problems will be gradually surmounted, and that the country will proceed toward continued smooth development at the beginning of the twenty-first century.