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Thailand

Coping with Structural Change in a Dynamic Economy

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FOREWORD

This report was prepared by a Mission that visited Thailand in February/March 1980. The Mission's objectives were to review the economic situation in Thailand with government agencies and to discuss the policies and programs that would be necessary to alleviate current economic problems and to improve Thailand's longer term prospects for sustaining high rates of growth and reducing poverty. The Mission consisted of John Shilling (Mission Chief), Ian Porter (Deputy Mission Chief), Madhusudan Joshi (Senior Fiscal Economist), Knud Ross (Monetary Economist), and Wafik Grais (Econometrician). The Mission was greatly assisted in their analysis and data gathering by the staffs of the Bank of Thailand, Ministry of Finance, and National Economic and Social Development Board, in particular, and by many other officials of the Thai Government. The Mission would like to express its heartfelt appreciation for their assistance. The analysis and conclusions of this report are nonetheless the responsibility of the Mission. Parvez Hasan (Chief Economist), Willem Bussink (Senior Economist) and Bela Balassa (Senior Advisor, DPS) joined the Mission for its final week of discussions. A draft version of this report was discussed with the Government in September 1980 by a mission led by Edward V. K. Jaycox (Director, East Asia and Pacific Country Programs Department) and including Messrs. Bussink, Shilling, Porter, and Roy Pepper (Economist).

This report has been prepared at a time when the Government itself is reviewing Thailand's emerging economic problems in detail as part of the process of preparing the Fifth National Economic and Social Development Plan. In February, 1980, the Government appointed a Steering Committee for the Fifth Plan. Twenty-four subcommittees have since been established to assist the Steering Committee in reviewing major economic problems and developing appropriate policies and programs. In October, 1980, the Government prepared a statement outlining major policies and strategies for the Fifth Plan. The National Economic and Social Development Board is now preparing a "Fifth Plan Frame" which will provide further details on the proposed policies and programs for the Fifth Plan period. The final draft of the Fifth Plan is scheduled for completion by October, 1981.

THAILAND

COPING WITH STRUCTURAL CHANGE IN A DYNAMIC ECONOMY

Table of Contents

	<u>Page No.</u>
SUMMARY	i-vii
I. <u>INTRODUCTION</u>	1
II. <u>THE DYNAMICS OF TWO DECADES OF DEVELOPMENT</u>	5
The Record of Growth: 1960-1979	6
Components of Growth: 1960-1979	7
Distribution of Growth	11
III. <u>STRESSES OF THE PAST HALF DECADE</u>	13
High Growth and Financial Imbalances	15
Production Growth	15
Trade Growth and the Current Account Deficit.	16
Fiscal Deficits	20
Inflation	22
Financial Sector Growth	23
Monetary Policy	24
Energy Policy	25
Production Constraints	30
Agriculture	30
Industry	32
Investment	33
Other Constraints on Growth	34
The Tensions and Tradeoffs	36
IV. <u>POLICY OPTIONS FOR STRUCTURAL ADJUSTMENT</u>	40
The Magnitude of the Required Adjustment	42
Policies for Structural Adjustment	47
Fiscal Policy and Public Resource Mobilization	47
Policy Recommendations	53
Monetary Policy, External Balances and Financial Sector Development.	55
Policy Recommendations	57
Energy Policy	58
Policy Recommendations	64
Industrial Development Policy	65
Policy Recommendations	68
Agricultural Policy	69
Policy Recommendations	71
Combined Policy Action	73

ANNEXES

I. Analytical Tools: The Social Accounting Matrix and the Simulation Model	77
II. Financial Institutions	125
<u>STATISTICAL APPENDIX</u>	133

Tables in Text

2.1 GDP Growth Rates	6
2.2 Inflation Rates	7
2.3 Agricultural Diversification	8
2.4 Sources of Industrial Growth	9
2.5 Energy Consumption	10
2.6 Poverty Indicators	11
3.1 Growth Rates by Sector	15
3.2 Growth in the Value of Exports and Production	17
3.3 Growth in the Volume of Exports and Production	18
3.4 External Balances	19
3.5 Shares of Public Sector Revenue and Expenditure in GDP	21
3.6 Structure of Taxes by Source	22
3.7 Financial Sector Growth.	24
3.8 Inflation and Interest Rates	26
3.9 Energy Price Movements	27
3.10 Actual and Appropriate Energy Prices	29
3.11 Petroleum Revenues	30
3.12 Resource Mobilization	34
3.13 Growth of Gross Regional Product (GRP)	38
4.1 Selected Indicators in Reference Simulation	46
4.2 Impact of Greater Public Sector Resource Mobilization and Saving	52
4.3 Impact of Full Adjustment of Energy Prices	63
4.4 Impact of Policies to Accelerate Manufactured Exports	67
4.5 Impact of Increased Agricultural Production	71
4.6 Impact of Coordinated Policy Action	75

THAILAND

COPING WITH STRUCTURAL CHANGE IN A DYNAMIC ECONOMY

SUMMARY

1. During the 1960s and early 1970s, Thailand managed with extraordinary success to achieve high aggregate growth, maintain price stability, and make major strides in reducing the incidence of poverty. This was accomplished by expanding land under cultivation, by providing economic infrastructure, by encouraging the private sector to expand production without introducing severe price distortions and controls, and by opening the economy to external trade without heavy dependence on foreign capital. Despite adverse external factors and declining land availability, Thailand has maintained high growth rates in the latter half of the 1970s. In this period, however, growth has been accompanied by accelerating inflation, growing dependence on foreign borrowing, large budgetary deficits, and probably less success in furthering poverty alleviation. As a result, Thailand is currently facing severe economic problems.

2. The magnitude of these problems is evident in the size of the current account deficit, which was over B 40 billion (8% of GDP) in 1979, in the high inflation rate, and in the size of the public sector deficit, which is over B 20 billion for the Central Government (about 4% of GDP) and over B 30 billion for the public sector as a whole. These deficits are unprecedented, and they are not expected to decrease in 1980. They are the result of internal problems within the economy, including failure to fully adjust energy prices, price distortions, and excessive liquidity creation, as well as adverse external factors, including oil price increases and declining terms of trade, slow growth in developed countries, and rising interest payments which have nearly eliminated the traditional surplus on the service and transfer account. Some corrective measures have been initiated, but unless significant further measures are taken, the deficits will continue growing into the 1980s, and the economy may not be able to sustain satisfactory growth performance.

3. The Basic Economic Report, Thailand, Toward a Development Strategy of Full Participation (No. 2059-TH, September 1, 1978) identified some of the fundamental structural issues of raising productivity in agriculture and industry and sustaining Thailand's commendable progress in poverty alleviation, and it proposed a strategy for continuing that progress. The issues of poverty alleviation were further refined in the report, Income Growth and Poverty Alleviation (No. 2566-TH, June 20, 1980). Specific analyses, evaluations, and recommendations for the industrial and energy sectors were made in recent reports, An Industrial Development Strategy for Thailand (No. 2804a-TH, June 5, 1980) and Thailand: Energy Issues and Prospects (No. 2813-TH, May 1980). The results of these studies are incorporated into this report's analysis of the current economic imbalances in Thailand.

4. The World Bank's analysis indicates that the outlook for the world economy does not offer prospects for sustained improvement over the coming decade: oil prices will continue to rise in real terms, OECD growth will not recover very rapidly, and inflation and high interest rates will continue. Favorable transitory factors notwithstanding, the Thai economy will have to make fundamental adjustments to accommodate itself to this changed environment, to rectify the domestic imbalances that have developed over the past five years, and to restore the balanced growth pattern that has led to the impressive rate of poverty alleviation of the past two decades.

5. Thailand has maintained an exceptionally high real GDP growth rate over the past five years (9% p.a.) despite sharply decreased availability of additional land resources for increasing agricultural production, stagnation of yields of many crops, declining terms of trade, and a tendency toward more restrictions in external markets. In the process, however, it has increased its exposure to price and volume fluctuations resulting from its longer participation in external trade, and its reliance on foreign saving. Growth has been facilitated by exceptionally good export performance for both agricultural exports and manufactured exports, with total export growth averaging 15% p.a. in real terms. Aggregate demand and investment rates were high, savings, particularly in the public sector, did not match the growth in investment, and import values grew more rapidly than in the past, all of which contributed to an increase in the trade account deficit. Rising net service payments led to even more rapid growth of the current account deficit.

6. Due to frequent changes in government during this period, it was not easy to pursue a coherent economic strategy, although there was a consensus, in principle, in favor of promoting growth, restraining inflation, and alleviating poverty. In practice, the hard economic policy choices tended to be resolved in favor of measures that promoted demand and more growth in the short run without due consideration of the longer-term consequences for inflation, the balance of payments, poverty alleviation, or even the longer-term growth potential of the economy. Measures that rapidly increased public sector expenditures without increasing revenues, policies that seriously underpriced energy and several other key goods such as cement, actions that created excessive liquidity to accommodate government budgetary deficits and speculation in the financial sector, interest ceilings that resulted in low or negative real interest rates, and protectionist policies that increased price distortions in the productive sectors are all part of this pattern of policy making. It has stimulated in unsustainably too high a level of activity in the economy in the past five years while allowing severe domestic structural imbalances and extraordinary external and fiscal deficits to emerge.

7. The policies the country has pursued have also favored the modern, urban sectors at the expense of the rural, agricultural sectors. The shift in the relative growth rates in favor of the former and a systematic decline

in the agriculture-nonagriculture terms of trade since 1975 also suggest that it is unlikely that much progress has been made in rural poverty alleviation since 1975, despite high aggregate growth.

8. Attempts to maintain high growth in the near and medium term by policies similar to those used in the past several years will only exacerbate the imbalances and undermine the stability of the economic structure that has permitted sustained economic growth in all sectors and facilitated widespread distribution of the benefits of that growth. This has been recognized and some corrective measures have been initiated. Initial evidence indicates these measures are having some positive impact; however, this report concludes that significantly more action will be required. If it can be initiated quickly and implemented in an effective manner, the short-term costs to the economy will be moderate, and the long-term potential for growth and poverty alleviation will be enhanced.

9. In addition to overcoming the effects of the adverse external factors and the inadequate or inappropriate domestic policies that have led to the large current account and fiscal deficits, fundamental structural changes in the productive sectors of the economy will also be necessary to transform agriculture to more intensive patterns of production and to stimulate more export-oriented industrial production. These transformations are a normal part of the dynamics of development. If these processes can be facilitated and accelerated, the need to reduce the growth rates of consumption and imports will be mitigated and the adjustment process eased. Conversely, if they are retarded, the measures required to reduce the external and fiscal deficits may lead to a prolonged period of slow growth.

10. It appears that the limits of expanding the area of land under agricultural use have been reached during the past half decade, although agricultural production growth rates have remained at nearly historical levels - 4-1/2% to 5% - during most of this period. This has been the result of rapid expansion of export crops (cassava, pineapples, rubber, etc.) as markets were opened and high-yielding rubber varieties introduced. Some of these crops are now facing market limitations. Even maintaining these recent growth rates will require a significant effort to devise appropriate supporting policies in agriculture and to increase use of modern inputs.

11. The industrial sector has grown rapidly, and manufactured exports have increased even faster during the 1970s. Maintaining high export growth rates in the future will require more intensive export-promotion activity, both through specific measures and through appropriate macroeconomic policies. Some branches of industry have turned toward more export orientation and their efficiency has improved. However in other branches, protection, price controls, and other restrictive measures such as domestic value-added requirements have increased, which has introduced inefficiencies into the industrial sector. A number of large, capital-intensive investment projects are also being considered which could strain the resources

available to the economy and move it away from its comparative advantage. The combined effect of these developments could impair the growth potential of Thai industries and reduce the competitiveness of Thai exports.

12. Thailand has been able to maintain its high growth rates in recent years without adequately adjusting to the exogenous increases in energy prices and without raising domestic savings commensurate with investment because it has been able to borrow increasing amounts from abroad to finance the domestic saving deficit, which has been largely in the public sector. The full impact of debt incurred since the mid-1970's is now being felt in rising debt service payments. The debt-service ratio for the public sector has increased from 4.5% in 1978 to an expected 10% in 1981. Concerns are increasing about Thailand's creditworthiness. Its gross borrowing requirement to fund increasing current account deficits is expanding very rapidly. To maintain even a constant net borrowing requirement (i.e., current account deficit) in these circumstances, the trade balance would have to improve significantly since service payments will continue to grow. It is unlikely that Thailand will enjoy its current high credit standing and access to foreign resources much longer unless it undertakes a comprehensive program to reduce its dependence on growing levels of foreign resources.

13. Thailand has already taken policy actions in a number of areas, including sharp increases in prices for most petroleum products and for electricity in 1979 and 1980, measures to increase government revenues in 1980, and introduction of regulations to increase financial stability and exercise more monetary restraint in 1979 and 1980. These actions are beginning to have noticeable effects on the economy. In conjunction with favorable but transitory developments in the trade and capital accounts,^{/1} they have led to some short-run improvement in the balance of payments and may keep the absolute level of the government deficit from increasing.

14. The report analyzes the effects of these policy actions given the expected trends in the world economy over the next several years.^{/2} For this analysis, it is assumed that some of the recent energy price increases would be passed on to consumers; that more domestic energy would be produced and consumed; that there would be no increased pressure from excess demand to drive up the demand for imports, increase inflationary pressure, and reduce the competitiveness of Thai exports; and that export growth would be sustained at about 10% p.a. Under these assumptions, import growth would be reduced to under 5% per annum. Slower import growth is expected to result from increased use of domestic energy resources, the tapering of the investment boom, lower overall demand, and some import substitution.

^{/1} Including acceleration of rice exports in the first half of 1980 and short term capital inflows in response to changing interest rates differentials.

^{/2} These estimates are based on a simulation model developed for the report and used in simulating the effects of alternate policy measures.

15. Although this scenario is based on relatively optimistic assumptions about external developments, takes into account recent policy action, and assumes some further action as noted above, the outcome is still not favorable. The fiscal and external deficits would continue to grow and the debt situation would become exceedingly difficult before 1985, if no further policy adjustments are made. The current account deficit would rise to \$4 billion by 1985, still over 7% of GDP,^{/1} and the public sector deficit would remain well above 5% of GDP. Growth would fall below 6% p.a. in 1980-85, and in 1985 the economy would be in even more difficult straits than now. It is unlikely that external resources will be available to finance current account deficits rising from nearly \$3 billion in 1980 to approximately \$4 billion in 1985 and \$5 billion in 1990. Accumulated debt would exceed \$20 billion in 1985 and \$40 billion in 1990, and the debt service ratio would be about 25% and 30%, respectively. If the relatively favorable trade assumptions were not realized, as is clearly possible in the present world situation, the Thai economy would indeed be in even greater difficulty before 1985.

16. Even taking account of the positive response of the economy to recent policy changes, the Thai Government cannot afford to postpone undertaking further adjustment measures. The risk is too great that external deficits would grow to levels that would lead foreign lenders to force rapid and severe adjustments by reducing access to foreign borrowing. This would severely disrupt the long-run growth potential of the economy and seriously affect the prospects of the poor for rising out of poverty. However, if the Government were to commit itself to a comprehensive adjustment program to be implemented over a period of, say, five years and if this program were perceived to be sufficient to effect the adjustment, then it should be possible to mobilize the necessary foreign resources to finance the deficits that would occur during the adjustment period. The Bank would certainly be able to support Thailand in seeking that additional financing. In these circumstances, a reasonable rate of growth could be maintained and the deficit reduced gradually for the rest of the decade. After about 1985, the economy could again accelerate its growth rate and return to a stable growth path with sustainable external and fiscal accounts.

17. If a comprehensive set of policy adjustments of the order of magnitude discussed in this Report were implemented over the next five years, the size of the current account and public sector deficits would be reduced to approximately 4-1/2% and 4% of GDP, respectively, by 1985. If productivity increases are also achieved, there would be little sacrifice in the long-term growth potential after 1985, and growth might accelerate

^{/1} The current account deficit would grow in absolute size because of the initial size of the trade deficit and because of the growing service payments. The favorable trade growth rates would actually begin to reduce the trade deficit before 1985, but interest payments would increase faster and raise the current account deficit.

moderately above 6% p.a. before 1985. In these circumstances, Thailand would be able to return to its longer-term growth rate of 7-8% p.a. in the latter half of the 1980's and have firm control of its balance-of-payments and public sector deficits. Current account deficits would not exceed \$3 billion p.a.; the debt service ratio would barely exceed 20% in the mid-1980s and could decline below that level by 1990. It would be possible to eliminate the current account deficit by 1990, but gross borrowing requirements to service the debt outstanding would still exceed \$3 billion per year. At that point, the economy would have a number of options to pursue regarding the current account balance it would accept.

18. This report discusses five areas of crucial importance where policy measures should be implemented as part of a comprehensive program to minimize the risk that the growth process would be seriously disrupted. These are: (a) resource mobilization, particularly in the public sector; (b) monetary policy, including measures to maintain high rates of private saving and to manage external debt and the capital account; (c) energy policy and conservation, with particular attention to pricing; (d) industrial policy and measures to promote industrial exports; and (e) agricultural policy and measures to maintain high rates of growth of agricultural production and exports. Specific policy proposals in each area are presented in the Report and their rationale discussed in detail.

19. A comprehensive adjustment program should consist of coordinated measures in each of these areas. The burden of placing too much of the adjustment in one or two areas would be too great and probably introduce further distortions into the economy. The objectives of the program should be to move quickly to begin reducing the share of the fiscal and current account deficits in GDP in the short run and to increase the productivity of the economy in the longer term in order to restore high growth rates in the changed world economic situation. The fiscal and external deficits will be improved by policies which lessen demand growth and encourage more saving. A large part of this adjustment will fall on the public sector, which will have to control its expenditures and increase revenues, including public enterprise tariffs. To influence the private sector, appropriate monetary and interest rate policies will have to be followed to encourage continued high levels of savings and appropriate allocation of investment. These policies will tend to reduce aggregate demand growth and the savings-investment gap by both increasing savings and slowing the rate of investment. This will reduce the demand for imports in general and free additional domestic resources for export.

20. Reducing the savings-investment gap will also lessen the demand for foreign saving, as expressed in the growing current account deficit. However, because of the structure of import demand and of the supply of exportables, attempts to increase domestic saving will not reduce the external deficit fast enough unless quite severe measures are taken. Specific measures to reduce the demand for imports relative to domestic goals are also necessary. For example, failure to adjust energy prices fully has led to an excessive oil import bill - nearly one third of current

imports. Further upward adjustment of energy prices will be an essential element in any adjustment program. Such price increases will directly reduce demand for and imports of petroleum. These price adjustments should reflect the considerations of raising sufficient revenues from the energy sector, reducing consumption and imports, and a long-run policy on the development and use of energy resources. Direct action to increase the supply of both agricultural and manufactured exports will complement the measures reducing aggregate demand and help speed the reduction in the external deficit. In addition to reducing the investmentsavings gap, excess demand, and the demand for imports, these measures will also tend to reduce consumption and income growth, particularly in the modern sector, and to improve the relative position of the rural and exporting sectors. These shifts are essential if the economy is to effect an adequate adjustment.

21. Measures to improve industrial and agricultural policy should also be initiated quickly, although their full effect can only be felt over a longer time horizon. These measures will contribute to raising production and productivity and to improving the terms of trade for the agricultural and other exporting sectors. They will be necessary complements to policies which reduce the savings gap and part of the dynamic adjustment to declining land availability and increasing need to absorb more labor into the modern sector. Over the medium term, successful measures in these areas will enable the economy to restore its historical growth rates, albeit with a changed domestic production structure more adapted to the changed external environment of the 1980's. Implementation of policies in all these areas will not only involve making and enforcing difficult economic decisions, but it will also involve making fundamental institutional changes to improve the responsiveness and effectiveness of government agencies in supporting the necessary policy changes.

22. The analysis of this report implies that the risks of not taking further concerted action to reduce the external and fiscal deficits would be very high. Relatively small adverse developments, either domestic or external, could have very damaging economic consequences. On the other hand, a coordinated program of measures along the lines suggested below would greatly reduce the exposure of the economy to such risks while enhancing its medium- and longer-term prospects for sustaining high rates of growth and meeting its objectives of reducing poverty. Implementing such a policy would require making difficult policy decisions and possibly forgoing some growth in the short term, but it would significantly improve the economy's longer-term stability and capacity to withstand future economic shocks without severe disruption. Within the constraints imposed by external economic and political developments, the outcome depends primarily on the Government's ability to implement appropriate policy measures.

23. The Government recognizes that Thailand is facing a difficult economic situation due both to adverse external factors and to certain inappropriate domestic policies. During the past year, it has taken action to alleviate some of the economic difficulties through measures to increase domestic resource mobilization, to improve the viability of public enterprises, and to stimulate exports. The Government also recognizes that further measures are still required and that they should be coordinated within an appropriate development of the Thai economy. To this end, a statement outlining major policies and strategies for the Fifth National Economic and Social Development Plan has been prepared, and the National Economic and Social Development Board (NESDB) is now in the process of preparing a "Fifth Plan Frame", which will provide further details concerning Government policies and programs for the Fifth Plan period. This work, as well as the ultimate preparation of a plan which includes detailed policy measures and programs, are important steps in ensuring that the Government will be able to implement a comprehensive adjustment program. The objectives of the program are to reduce fiscal and current account deficits in the short term while improving income distribution and increasing the longer term productivity of the Thai economy.

THAILAND

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I. INTRODUCTION

1.01 Thailand's achievements in economic growth and development over the past two decades have been impressive. Real GDP has quadrupled, and GDP per capita has more than doubled. Life expectancy has increased from 51 to 61 years, primary education has reached essentially the entire population, and the incidence of poverty has been cut in half to about 31% of the population. Thailand's growth pattern has been relatively free from distortions, has maintained consistently high agricultural growth rates, and has generated widespread improvements in the standard of living, but it has not relied heavily on foreign capital or concessional assistance. This past success, however, provides no assurance that such development can continue without major adjustments in Thai policy. Growth since 1975 has been accompanied by increasing public sector deficits, accelerating inflation, depletion of tangible and intangible assets, and current account deficits that cannot be sustained into the 1980s. These are serious disequilibria that must be resolved if Thailand is to continue its rapid rate of development.

1.02 Favorable endowments of arable land, a responsive labor force, improving external terms of trade until the mid-1970's, and expanding export markets have contributed to Thailand's commendable growth record. But the country has not escaped the tensions associated with rapid growth and the transition from a traditional, subsistence-oriented economy to a modern, market-oriented economy. Differences in income levels and life styles between rural and urban areas have become more pronounced. Traditional production practices cannot sustain historic growth rates. Regional issues are becoming more important. Events during the 1970's have aggravated these tensions and added new dimensions to the structural adjustments required of the Thai economy.

1.03 Several major structural problems in the productive sectors of the economy have been identified since the early 1970's. They pertain to the longer-term development issues of transforming agricultural production, increasing the role of industry in sustaining high growth rates, and creating enough additional employment for the growing labor force. The impending exhaustion of additional arable land will require a transition to more intensive production techniques; the completion of the easy, first stages of import substitution in consumer goods industries will require either pushing import substitution into intermediate and capital goods or

giving further encouragement to the economy's export activities; and the modernization of the economy will require the Government to improve its supply and distribution of supporting economic and social infrastructure and to make the bureaucracy more responsive to the needs of an increasingly complex and integrated economy./1 These issues are an integral part of the dynamics of sustaining rapid economic growth and modernization, and they need to be addressed by the country's long-run development strategy.

1.04 Elements of these transformations are occurring. In agriculture, yields have increased significantly in the central plain and other areas susceptible to water control. New cash crops have been widely adopted. But in many rainfed areas, the appropriate technology is not well known and less progress has been made. The industrial sector, led by textiles, is developing an export orientation and is becoming a major foreign exchange earner. It is also increasing its absorption of new increments into the labor force. However, protection is increasing and export incentives do not fully compensate for the impediments to local production for export. Industry remains concentrated in the Bangkok area, and outlying areas have little access to modern-sector employment. Programs are under way to improve the distribution of public services, including education beyond fourth grade, health care, and extension services, but they are still heavily concentrated in the more affluent areas. Accelerating the pace of all these transformations has now become more important as resource constraints arising from large public sector and balance of payments deficits weigh more heavily on the economy.

1.05 In the past five years, adverse external factors and insufficient domestic response have led to severe disequilibria in the external and fiscal accounts, adding to the structural adjustments required of the economy. The current account deficit reached a record high 8% of GDP in 1979, and will be at least as high in 1980. The public sector saving deficit reached 6% of GDP in 1979 and is unlikely to decline in 1980. The most significant changes in the external environment have been the rapid increases in the price of imported energy, the decline in net transfers and service payments to Thailand from abroad, and the conjunction of inflation and recession throughout the world. It is now clear that the economy's productive structure will have to adjust to much higher energy prices and correspondingly lower energy use than the pattern which was developing prior to 1973. Energy import prices more than doubled in 1979/80, and are expected to continue rising in real terms for the rest of the decade.

/1 These issues were identified and discussed in the Fourth Five-Year Plan and analyzed in the Basic Economic Report, Thailand, Toward a Development Strategy of Full Participation (Report No. 2059-TH, September 1, 1978).

Domestic energy prices had not fully adjusted to the earlier price increase, and the economy was ill-prepared to absorb the recent one. In the past, high net service and transfer inflows have allowed Thailand to carry large trade account deficits without negative impacts on the balance of payments. Declining international transfers and rising service payments abroad have significantly reduced this cushion and placed more of the burden of current account adjustment on the trade account. Thailand's participation in and dependence on trade have increased during the 1970's, but the terms of trade have deteriorated since 1974.

1.06 The domestic counterpart to the growing external deficit has been an increasing investment-saving gap, particularly in the public sector. Government revenues have stagnated in relation to GDP, and chronic budgetary deficits can no longer be financed by domestic savings. These deficits, as well as external price increases, have contributed to the recent acceleration of inflation to over 20% p.a. The fiscal imbalances are due to delays in adjusting to external energy price increases, instability in some financial markets, and the inability of the public administration to adjust rapidly enough to the changing circumstances. They threaten to undermine the stability of the growth process and of the domestic political economy.

1.07 The external financial community is not likely to continue to fund persistent current account deficits of the magnitudes of the past three years without evidence that efforts are being made to rectify these disequilibria. Adjustments will have to be made quickly to restrain the external deficits and the investment-savings gap, and to absorb external price increases while reducing inflationary pressures due to excessive demand. Some adjustments are already being implemented to increase government revenues, improve controls over the financial sector, and promote exports; and others are under consideration. However, the analysis of this report concludes that additional adjustments will be necessary to redress the financial imbalances and to promote production. While the impact of different measures will be felt over different time horizons, it is vitally important to initiate action quickly. There is a great danger that if these financial issues are not addressed immediately, the imbalances will worsen. The economy would then be forced to undertake more severe adjustments which would be more disruptive to its long-term development prospects.

1.08 The difficulty of making the domestic adjustments and restoring the external balance is increased by the fact that a significant part of the problem is due to the necessity of transferring large and increasing levels of real resources to energy exporting countries, with resulting losses in domestic real income growth. Failure to recognize this fact in practice, particularly with regard to raising energy prices, has been a major factor in retarding the adjustment process and exacerbating the financial imbalances. In the short run, consumption will have to be constrained to free resources for transfer abroad and for investing in the expansion of domestic productive capacity. To the extent this latter occurs, more resources will be available in the future for both external transfers and

for raising domestic consumption. These economic factors are compounded by political factors including both the difficult security situation in Indochina and the related refugee situation which are demanding growing levels of the Government's attention as well as larger defense expenditures, and the danger that the increasing perception of economic inequality among Thais will reduce the political stability and cohesion within Thailand.

1.09 In addition to the field work and evaluations of the Mission, the analysis and recommendations of this report draw on the general background provided by the Basic Economic Report and on the specific analyses and recommendations of several recent sector reports: "Industrial Development Strategy in Thailand," (Report No. 2804a-TH, June 5, 1980), "Income Growth and Poverty Alleviation in Thailand: Results of Some Special Studies," (Report No. 2566-TH, June 20, 1980), and "Thailand: Energy Issues and Prospects" (Report No. 2813-TH, May 1980, in green cover).

1.10 The next section will briefly review the growth record of Thailand over the past two decades to highlight the underlying dynamics of the growth process as they have worked so far. The third section will analyze the stresses of the past half decade, how they have led to the current situation, and what tensions and tradeoffs the economy faces in adjusting to a sustainable growth path. The fourth section will analyze the principal problems: resource mobilization, financial imbalances, energy policy, industrial expansion, and agricultural transformation. It will discuss their implications and interrelations, outline the necessary corrective responses, and propose appropriate policy options for consideration. These alternatives will be analyzed as components of a medium-term adjustment program to re-establish a sustainable growth path without seriously disrupting progress in poverty alleviation. A simulation model has been developed to aid in this analysis, and various options will be compared by means of sensitivity analyses. The model is presented in detail in Annex I.

II. THE DYNAMICS OF TWO DECADES OF DEVELOPMENT

2.01 Thailand's pattern of development has been based on exploitation of natural resources, in this case, agricultural land. Rapid growth in agriculture and rising exports have been major factors supporting the growth in the rest of the economy. The availability of additional land allowed expansion of traditional subsistence production, and helped absorb a growing labor force. It also facilitated the rapid diversification into new cash crops, which was the mainstay of the rapid growth of agricultural exports. These foreign exchange earnings allowed high levels of capital and intermediate goods imports for the whole economy. Agricultural expansion has contributed to the growth of commerce and trade, and agricultural incomes have been a major component in domestic demand, the primary source of industrial growth.

2.02 Economic markets have operated relatively efficiently in Thailand. The private market structure has provided outlets for agricultural surpluses at remunerative prices and supplied credit, support services, modern inputs, and "incentive" consumer goods to encourage the production of those surpluses. Industrial markets have been largely competitive, despite some protectionist policies, and dynamic indigenous entrepreneurs have been a primary factor in the sector's growth. There is no evidence of significant imperfections or segmentation in labor markets, and real wage rates for unskilled laborers do not vary widely throughout the country. There is considerable labor mobility, and the availability of a large potential supply of unskilled labor at relatively low and stable wages has been an important factor in Thailand's industrialization and competitiveness in manufactured exports.

2.03 The principal contributions of the public sector were to provide and maintain the basic social and economic infrastructure, to ensure the political stability necessary for the expansion of marketing throughout the country, to maintain a stable currency to facilitate foreign and domestic trade, and to encourage the monetization of the economy. After early adventures into direct involvement in productive activities in the 1950's, the Government recognized its relative inefficiency in that area and has since withdrawn from most production activities other than utilities. The Government has, however, intervened directly in the economy to promote or protect certain industries and to control certain prices for various reasons. This has had indirect effects on the structure of production and on productivity.

2.04 Large parts of the population in Thailand have enjoyed sustained real income growth, and their expectations for future growth are rising. This has led to increasing pressures on the Government from a variety of special-interest groups, particularly in Bangkok, to satisfy these expectations. These groups now represent not only the traditional business and military interests, but also various labor groups and

associations of small businessmen, such as commercial fishermen or truck drivers.

2.05 There is growing concern within the Government and among other influential groups in Thailand about the persistence of rural poverty. With additional arable land essentially exhausted, the traditional dynamic of rural growth and poverty alleviation will no longer function as effectively. It is also becoming increasingly clear that maintaining security throughout the rural parts of the country will depend on assuring that the rural population benefits from economic growth.

The Record of Growth: 1960-1979

2.06 Thailand has sustained an aggregate GDP growth rate of nearly 8% p.a. over this period. In the 1960's, agricultural expansion of over 5% p.a. and growing domestic demand were the major elements sustaining growth. Poor agricultural harvests, the impact of the 1973-74 oil price increase, fiscal restraint, and the world recession slowed growth somewhat in the first half of the 1970's. The sectoral growth rates shown in Table 2.1 indicate the stability and balanced growth among the various sectors. The rate of per-capita GDP growth was maintained in the 1970's despite a fall in aggregate growth rate because the population growth rate declined.

Table 2.1: GDP GROWTH RATES /a
(% per annum, constant Baht)

	1960- 65/b	1965- 70/b	1970- 75/c	1975- 79/c	1960- 70/b	1970- 79/c
GDP	7.4	8.6	6.4	8.9	8.2	7.6
Agriculture	5.2	5.7	5.1	4.8	5.3	5.3
Industry	11.3	10.7	7.3	13.0	11.8	10.1
Manufacturing	10.7	10.8	9.8	11.9	11.1	10.9
Tertiary	7.3	9.5	6.8	9.1	8.5	7.6
GDP per capita	4.0	5.1	3.4	6.4	4.7	4.8

/a Unless otherwise indicated, all growth rates in this report are calculated by time trend semi-log regression over the time period indicated, inclusive of end points.

/b 1962 constant Baht.

/c 1972 constant Baht, 1979 data preliminary.

Source: NESDB.

2.07 Thailand has enjoyed a remarkable degree of price stability during most of this period. The rate of inflation, as measured by either the GDP deflator or the Consumer Price Index (CPI), was low prior to 1973. Although price stability has been a primary objective of the government, it was not possible to isolate the economy from the external price increases that affected imports and exports in 1973-74, and inflation exceeded 20% in 1974 (CPI basis). Stringent monetary and fiscal policy in 1974/75 and lagging demand brought the rate down sharply in 1975 and 1976, as shown in Table 2.2.

2.08 During this period, government investment projects were delayed and GDP growth slowed, although a large part of the deceleration in growth can be attributed to poor agricultural performance in 1974. Current account deficits were quite low in 1973-74, averaging 0.6% of GDP. Export earnings and the terms of trade were favorable. The current account deficit grew to 4.1% of GDP in 1975 and has expanded thereafter as a result of rapid growth, declining terms of trade and what has become a secular decline in net transfers and service payments.

Table 2.2: INFLATION RATES
(% p.a.)

	1960-69	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
GDP deflator	2	-1	2	9	20	18	3	3	9	9	11
CPI index	2	0	0	5	15	24	5	4	8	8	10 <u>/a</u>

/a 15% on a December 1979 over December 1978 basis and 24% on a June 1980 over June 1979 basis. This slowed to 20% in July.

Sources: NESDB, Bank of Thailand.

Components of Growth: 1960-1979

2.09 The most striking feature of Thailand's growth pattern over the past two decades has been the sustained growth of the agricultural sector. Most of the growth of agricultural production can be explained by the expansion of land under cultivation at about 4% p.a. until the mid-1970's. Average yields have remained relatively stable. In most areas, it has been easier or more economic to bring more land under cultivation than to cultivate existing holdings more intensively. The expansion of cultivated area included both increasing the size of existing holdings and creating new farm units, which facilitated the absorption of labor.

2.10 There have been offsetting trends within the overall stability of average yields. Intensity of land use and yields have increased sharply in areas where there is water control or irrigation and where high-yielding

varieties have been introduced. On the other hand, in many areas cultivation has expanded into less fertile, marginal areas with lower average yields. The average increases in agricultural value added per unit of land have been limited, about 1% p.a.. They are due primarily to double cropping and diversification into higher value crops. The availability of additional land to bring into holdings is now rapidly diminishing in most parts of the country, and the area of farm holdings may even have declined in recent years.

2.11 Cash crops, such as maize, cassava, sugar and pineapples, have expanded rapidly and reduced Thailand's dependence on rice as the principal crop for sale and export (see Table 2.3). During the 1970's, production increased faster than domestic demand, and an increasing share of incremental output went into exports. This was a major factor in the rapid export growth during that decade.

Table 2.3: AGRICULTURAL DIVERSIFICATION
(% of value added, current Baht)

	1960-65	1966-70	1971-75	1976-79
Expansion in area of farm holdings (growth, % p.a.)	-	3.6/a	4.7	-1.0/b
Average share of all crops in agriculture	73.7	71.7	73.6	74.1
Average share in crops of:				
Rice (paddy)	49.1	47.6	44.0	36.7
Rubber	7.5	5.3	4.6	5.7
Maize	3.3	5.9	7.3	5.0
Sugarcane	2.0	2.2	5.2	5.7
Cassava	2.8	2.4	4.1	7.4
Other crops	35.1	36.5	34.8	39.5

/a 1962-71.

/b 1975-79.

Source: NESDB, Ministry of Agriculture, Office of Agricultural Economics.

2.12 Growth in the industrial sector throughout the period was based primarily on meeting the demands of the expanding domestic market. In the

1960's, import substitution was the next most important source, accounting for about one third of industrial sector growth. Export expansion became the second most important source of industrial growth in the 1970's, as shown in Table 2.4. The easy stage of import substitution into consumption goods had been essentially completed by the early 1970's, and there was little incentive for the private sector to press into substitution in the intermediate or capital goods sectors without substantial increases in protection, which declined from 1968 to 1974, but has since risen.

Table 2.4: SOURCES OF INDUSTRIAL GROWTH
(%)

	1966-72	1972-75	1975-78
Domestic demand	64.1	91.0	79.5
Import substitution	29.4	0.5	-7.7
Export expansion	6.5	8.5	28.2
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: Industrial Development Strategy in Thailand, Report No. 2804a-TH, June 5, 1980.

2.13 Rather than press import substitution further, export opportunities for manufactured goods were pursued. OECD quotas on imports of textiles and garments from certain other developing countries created a large potential for Thai textile exports. In conjunction with foreign direct investment and joint ventures, the economy was able to capture a relatively larger share of the growth in OECD textile markets. Thailand has since earned its own quotas, but only after firmly establishing an export orientation in the textile industry. Thailand has also entered a number of other export markets, and textiles and garments now account for only one-half of manufactured exports (defined as SITC 5-8 less 68).

2.14 Economic growth has led to increasing energy use. The demand for energy grew 1.8 times faster than GDP in the 1960's, and it slowed only to 1.3 times faster in the 1970s. There was a significant reduction in the growth of energy consumption in 1974, when it grew at 1.8%, or 0.3 times as

fast as GDP.^{/1} As indicated in Table 2.5, most of the reduction in energy demand occurred after 1975. In fact, a significant portion of the reduction in the elasticity is due to the exceptionally high growth in GDP in 1978, (led by agriculture) and a sharp reduction in hydro-electric production in that year due to the low water levels resulting from the drought in 1977. This elasticity is within the "normal" range observed for developing countries. Growth of energy consumption has been due to a number of factors: the extension of commercial agriculture relies heavily on the road-based transport system; agriculture is increasingly turning to mechanization and pumps to raise production; the growing industrial and commercial sectors consume large amounts of energy; and rising incomes are leading to higher private use of energy for automobiles, air conditioners, lighting and home appliances. Restrained energy price increases contributed to continued relatively high growth of demand and consumption after 1974. However, the decline in the relative demand growth for energy in recent years can be partly attributed to the effects of the price increases that took place. This indicates a significant negative price elasticity, and shows that is an effective policy.

Table 2.5: ENERGY CONSUMPTION

	1960-69	1970-74	1975-78	1979
Growth of commercial energy consumption (% p.a.)	15.6	10.6	9.2	
Elasticity of energy consumption with respect to GDP	1.8	1.9	1.0	
Share of total commercial energy imported (% of energy equivalent)	86.2	88.2	81.1	
Value of energy imports (B, billion)	1.5	5.1	18.0	32.6
Energy imports share of total imports (%)	9	13.4	21.1	21.3

Source: NESDB, Bank of Thailand Statistical Bulletin, NEA

2.15 The growth of productive activities was accompanied by significant developments in the financial sector. Banking and other financial institutions have spread throughout the country, and there are now branch banks in every provincial capital. In the 1960's, banks shifted their primary attention from financing foreign trade to supporting domestic production activities. Finance companies, which raise funds by issuing promissory notes, and face fewer regulations than banks, grew rapidly since 1964. They now have combined assets equal to about a quarter of those of commercial banks and engage in both industrial and consumer lending. A stock exchange was established in 1975 to broaden equity financing. Specialized financial institutions for lending in support of agriculture, small-scale industries, and long-term industrial activities have also been created.

^{/1} Supply shortages may also have contributed to slow consumption growth that year. Some domestic prices were not allowed to increase enough to cover producers' costs, and products were withheld from markets.

2.16 External resources were not a constraint throughout most of this period, and Thailand borrowed relatively little abroad. Thailand has long maintained a conservative attitude about incurring foreign debt and has had sufficient domestic resources and savings to sustain high growth rates without reliance on external resources. The current account deficit averaged less than 2% of GDP for the entire period 1960-75, and the external debt outstanding totaled about \$1.3 billion by 1975, including \$700 million of private non-guaranteed debt. Trade deficits were often larger during this period, but high net inflows on the transfer and service accounts reduced the external borrowing requirements.

Distribution of Growth

2.17 The benefits of growth have been relatively well distributed throughout the country. Since most agricultural production is by small-holders, most of the income growth in that sector has accrued to the rural producers themselves. The overall incidence of poverty has been reduced from about 57% in the early 1960's to about 31% by the middle 1970's, and from 61% to 35% in the rural sector. Poverty remains largely a rural phenomenon, and it is unevenly distributed throughout the country (see Table 2.6).

Table 2.6: POVERTY INDICATORS

	1962/63/a	1968/69	1975/76
Incidence of poverty (% of total population)	57	39	31
Rural	61	43	35
Urban	38	16	14
Distribution of poverty (% of poverty population)	100	100	100
Rural	88	94	90
Urban	12	6	10

/a Due to classification of sanitary districts as urban in the 1962/63 Household Expenditure Survey, these results are not strictly comparable to the later surveys where the sanitary districts are more appropriately classified as rural. As a result, the urban and total poverty incidence and urban poverty distribution are somewhat overstated in 1962/63, and the rural incidence and distribution slightly understated.

Source: Income Growth and Poverty Alleviation in Thailand, Report No. 2566-TH, June 20, 1980).

2.18 Most poverty is concentrated in the Northeast and parts of the North, where the fertility of the land is low. The rural areas have not been stagnant, however, as evidenced by the dramatic reduction in poverty. They have maintained average per-capita income growth rates comparable to those of the urban areas. On the basis of household survey data through 1975, average inter-regional and rural-urban per-capita household income differentials were not increasing as a function of rapid growth. However, the differences in average incomes between urban and rural areas remain large. Within the rural and urban sectors, income differentials have increased as some areas have enjoyed substantial growth in the past two decades while other areas have not experienced any real growth.

III. STRESSES OF THE PAST HALF DECADE

3.01 Thailand appeared to absorb the immediate impacts of the 1973/74 economic shocks with no significant disruption of its growth rate. Low agricultural growth and declining construction activity had depressed growth in the early 1970's, and the post-1973 record is no worse than 1970-73.^{/1} The initial balance of payments effect of the oil price increase was cushioned by high export prices and continued high transfer and service account earnings through 1975. Most of the other external price changes were absorbed in 1973 and 1974. Domestic inflation shot up and then was brought under control in 1975 as a result of tight fiscal policy. This fiscal restraint was in part unintentional.^{/2} There was great concern that this reaction had unduly retarded growth, which fell to 5.0% in real terms in 1974. However, the decline was at least as much due to slow agricultural growth of 1.4%, which was little affected by these factors, as it was to the decline in public investment expenditures. Agricultural growth recovered to 8.9% in 1975, and GDP grew at 7.6%. The nonagricultural sectors grew at 7.3% in 1974 and 6.8% in 1975, lower than 1972-73, but in subsequent years they averaged more than 10% p.a.

3.02 The one area where the economy had not fully adjusted by 1975 was in absorbing energy prices. Excise taxes and retail margins were reduced on petroleum products to keep domestic energy prices down, and only part of the import price increase was absorbed in 1974. It was not until 1977 that energy prices were allowed to rise and begin to restore earlier tax levels and margins. Thailand adopted a policy of gradual adjustment on energy prices because energy was viewed as essential for growth and some lower cost domestic energy sources were being developed. Also, the energy price was a very sensitive political issue. Failure to raise energy prices between 1974 and 1977 encouraged continued rapid growth of consumption and imports.

3.03 By 1975, most Thai officials and other observers felt that the Thai economy had largely adjusted to the shocks of 1973/74. Their primary concern was directed towards restoring the high growth rates of the 1960's, expanding public investment and social service expenditures in order to further poverty alleviation, and restraining inflation. The external deficits then projected were considered manageable and acceptable in the interests of growth, although they were larger than the economy was

^{/1} Average GDP growth in 1970-73 was 6.1% p.a. compared to 6.3% p.a. for 1973-75; for the nonagricultural sectors, the rates are 6.9% p.a. for the earlier period and 6.8% for the latter.

^{/2} The rise in trade values unexpectedly increased tariff and export tax collections, and domestic price increases required renegotiation of a number of government contracts which delayed capital expenditures. An overall budgetary surplus was recorded in FY74.

accustomed to. The analysis of the Basic Economic Report /1 supported this position and placed a greater emphasis on growth and distribution than on further adjustments of energy prices or on reducing the financial deficits.

3.04 Thailand has achieved a real growth rate of 9% p.a. since 1975, which is extraordinary in view of Thailand's deteriorating external situation and the general decline in growth rates experienced throughout the rest of the world. Unfortunately, this growth was not simply a continuation and acceleration of the growth pattern which dominated prior to the energy price increases, nor was it due to a successful adjustment to the changed external situation. The high 1975-79 growth rate is the result of several policies and other factors which are not likely to be repeated in the early 1980's.

3.05 Measures which promoted growth included controlling certain key prices, such as energy and cement prices, maintaining a ceiling on interest rates, increasing protection, expanding public sector expenditures and deficits, and permitting rapid credit creation to support higher demand. These actions were able to stimulate growth because excess capacity was available in 1975, export growth was exceptional, increasing levels of foreign resources could be mobilized to fill the growing external and domestic savings deficits, price stability had been re-established, and real oil import prices were stable or falling after the 1973 increase. With inflation again accelerating, capacity constraints binding in several sectors, large budgetary and current accounts deficits to be financed, continuing real oil price increases to be absorbed, and foreign commercial banks becoming more cautious about further extension of credit to developing countries, many of the growth-promoting measures of the late 1970's cannot be continued. In fact, these measures contributed to worsening several structural disequilibria, such as the budgetary and external deficits, and to excess demand. They have left the economy uncomfortably exposed to external shocks, such as the doubling of oil prices which occurred in late 1979.

3.06 Recent growth has also been sustained by depleting certain assets of the economy. High rice exports have been maintained by depleting stocks from an estimated 3 million tons in 1977 to a current level of about 0.7 million tons. This depletion is nearly equal to one year's rice exports. Controls on petroleum product prices and power tariffs have depleted the financial assets of public enterprises in the sector and greatly increased their indebtedness, which will only lead to higher price increases in the future and weaker financial situations for these enterprises. Price controls on goods such as cement have led to deferred or forgone investment in capacity and higher-cost imports, reducing the longer-term productive capacity of a major industry. Growing levels of borrowing abroad have absorbed a large part of Thailand's borrowing potential and future increases

/1 The report was prepared in 1978 on the basis of preliminary 1977 data, and was discussed with the Government in 1978.

will not be as easy to achieve once Thailand reaches its country credit limits with commercial banks. It is far more difficult to raise these limits to increase borrowing than it is to increase borrowing up to the established limits.

High Growth and Financial Imbalances

3.07 Production Growth. A number of separate elements contributed to the high rates of growth since 1975. Despite wide variation, agricultural production remained high throughout the period, falling only slightly below its average historical growth rate (compare Table 2.1 (p. 6) to Table 3.1). Expansion of double cropping in irrigated areas of the central plain, rapid expansion of upland crops such as sugar, cassava, and others, and the recovery of rubber production all contributed to agricultural growth. This added to the overall growth impetus in other sectors and supplied high levels of exports. The industrial and total nonagricultural sectors grew substantially more rapidly than agriculture in 1975-79 than in the previous half decade. The margin of the nonagricultural sectors' growth over agriculture in 1975-79 also exceeds that of the earlier decade and may indicate a change in the relative structure of growth in favor of the nonagricultural sectors.

Table 3.1: GROWTH RATES BY SECTOR
(% p.a., 1972 baht)

	1970-75	1976	1977	1978	1979
Agriculture	5.1	6.1	-0.6	14.7	-2.0
Crops	5.2	7.5	-4.7	18.6	-2.7
Industry	7.3	15.7	14.7	11.5	10.1
Manufacturing	9.8	15.5	13.3	9.8	9.8
Construction	-0.6	17.6	20.0	17.5	9.2
Tertiary	6.8	8.0	8.2	10.1	10.1
GDP	6.4	9.3	7.3	11.7	6.7

Source: NESDB.

3.08 Industrial growth was led by sharp increases in both the manufacturing and construction sectors. The former was due to a resurgence of domestic demand after the recession of 1974-75, to strong export demand, and to growing investment demand. Textiles and wearing apparel, various kinds of machinery, transport equipment, and beverages were important factors in sustaining growth throughout the period. The food (declining sugar production), tobacco, wood (exhaustion of forests and bans on logging), and petroleum refining (capacity limitations) branches were the principal elements

in the decline in manufacturing growth in 1978 and 1979. Supply or capacity constraints were reached. Growth in the other branches declined only slightly from the 1976-77 levels. As a result of efforts to promote domestic industrial growth and reduce the trade deficits, protection increased from an average nominal level of 35% in 1974 to 51% in 1978 for nonimport-competing goods, and from 25% to 36% for import-competing goods.^{/1} This has contributed to the demand for investment by import-substituting industries, but has allowed lower efficiency in the use of capital goods.^{/2 /3}

3.09 Construction activity benefitted from high private demand, the recovery of government capital expenditures, and the growing investment programs of the public enterprises. The growth of public sector demand for construction fell in 1979, but private sector demand continued at high levels. Policies which maintained low interest rates when inflation accelerated and which restrained the costs of major construction inputs, including petroleum products and cement, lowered the effective price of construction relative to other goods and to financial assets. This contributed to a construction boom as investors shifted into real estate. Tertiary sector output increased as a function of expanded activity in the primary and secondary sectors, the rapid growth in external trade, and the rapid expansion of government current expenditures, which grew at 25% p.a. in 1977-79.

3.10 Trade Growth and Current Account Deficits. Export growth rates substantially exceeded GDP growth in the 1970's, reversing the pattern of the 1960s. Thailand enjoyed relatively high demand for most of its agricultural exports, and its manufactured exports captured a growing share of a number of markets. Thailand now accounts for nearly 2% of all manufactured exports from developing countries, compared to less than 0.4% in 1970. The actual

^{/1} Potential effective protection rose from 39% to 99% for nonimport-competing goods and from 45% to 86% for import-competing goods over the same period. Import-competing goods are defined as goods where imports are 10% or more of domestic consumption; nonimport-competing goods are those where imports are less than 10% of domestic consumption. All of this protection was not realized in many sectors, where stiff domestic competition kept domestic prices below import-price-plus-duty levels. Data are from An Industrial Development Strategy for Thailand, Table 7.

^{/2} Since protection allows domestic value added to increase without there necessarily being a corresponding increase in real output measured in world prices, some of the recorded industrial growth may be due to the effects of protection rather than to real increases in production.

^{/3} Despite this growing protection, import substitution has declined slightly in 1975-78 as shown in Table 2.4. This further indicates the declining efficiency of import substitution industries, which cannot even maintain their market shares with this amount of increasing protection. See the Background papers to An Industrial Development Strategy for Thailand for more discussion of this.

growth rates for manufactured exports were higher in the early 1970's than in the latter half of the decade, but the earlier growth was from a very small base. The latter period is more remarkable because it occurred from a larger base and in spite of the imposition of import quotas on Thai textiles in OECD countries and a world-wide recession.

3.11 The growth in the value of exports greatly exceeded growth of domestic production at current prices.^{/1} This is most evident in the manufacturing sector, but also true for agriculture, as shown in Table 3.2. The value of imports grew less rapidly than exports in both halves of the 1970s, compared to twice the growth rate of exports in the 1960's. However, in recent years export growth slowed and imports accelerated so that import growth exceeded export growth in 1977-79 by 25% p.a. to 23% p.a. The demand for imports of energy and of capital and intermediate goods was high and their prices were rising. In addition to the deterioration in the trade balance since 1976, the declining net transfers and services contributed to the growing current account deficits (see paras. 3.14 and 3.15).

Table 3.2: GROWTH IN THE VALUE OF EXPORTS AND PRODUCTION
(Current prices, % p.a.)

	1960-70	1970-75	1975-79
Agriculture exports	3.2	28.9	17.3
Agricultural production <u>/a</u>	7.2	22.3	11.6
Manufactured exports	16.0	65.5	38.1
Manufacturing production <u>/a</u>	12.5	21.1	19.0
Total Exports	5.8	29.7	23.0
Total Imports	12.0	23.7	21.7
GDP	10.3	19.0	17.6

/a Value added.

Source: NESDB, Bank of Thailand.

3.12 A similar pattern holds in constant prices as shown in Table 3.3. Here the shift in the relative export and import growth rates is even more pronounced. Most of the growth in the value of agricultural exports in 1970-75 was due to price increases for rice, rubber, cassava, sugar and maize. The increase in export volume only kept pace with agricultural production. In contrast, with the exception of rising rubber prices, volume growth was the key factor in agricultural export growth in 1975-79, led by cassava exports to the EEC, rubber, rice and canned pineapple. Much of the

/1 Part of this is due to rice exports from stocks since 1977.

expansion of agricultural production in the latter period was in crops not consumed extensively in Thailand, so a larger share of the increment could be exported. Real import growth slowed substantially in 1970-75 as a result of external price increases and slower domestic growth, but it has since rebounded to more normal rates in relation to GDP growth. In the past three years, real import growth exceeded export growth, 10.3% p.a. to 7.7% p.a. Declining terms of trade have further aggravated the trade deficit.

Table 3.3: GROWTH IN THE VOLUME OF EXPORTS AND PRODUCTION
(Constant prices, % p.a.)

	1960-70	1970-75	1975-79
Agriculture exports	2.2/ <u>b</u>	5.0	18.7/ <u>c</u>
Agricultural production <u>/d</u>	5.3	5.1	4.8
Manufactured exports	17.2/ <u>b</u>	55.0	22.9/ <u>a</u>
Manufacturing production <u>/d</u>	11.1	9.8	11.9
Total exports	5.7	8.2	15.5
Total imports	13.4	4.4	11.4
Terms of trade (1975=100)	109.3	107.3	91.7
GDP	8.2	6.4	8.9

/a January - August in 1979.

/b 1961-70.

/c 1975-78.

/d Value added.

Source: NESDB, Bank of Thailand.

3.13 As a result of the rapid growth of trade in the 1970's, the economy has become much more open and subject to external influences. The share of imports in GDP rose from an average 20% of GDP in the 1960's to 24% in 1975-79 and 27% in 1979./1 Until the mid 1970's, rice was the only major agricultural export crop which was also widely consumed domestically, and its domestic price was effectively insulated from world price fluctuation by the rice premium and reserve requirement. In the past few years, several other crops have acquired large markets both domestically and abroad, e.g., maize,

/1 For nonoil imports as a share of GDP, the figures are 17%, 19%, and 21%, respectively.

sugar, fruits; and their domestic markets are much less insulated from the impact of external price and demand fluctuations than the rice market. As a result, it has become more difficult to isolate domestic prices and incomes from fluctuations due to changes in external prices and demand./1

3.14 Declining net transfer and service receipts have been a major factor in the growing size of the current account deficit in the latter half of the 1970's. As shown in Table 3.4, the 1979 trade deficit is slightly smaller relative to GDP than the average trade deficit for 1960-69, but the current account deficit is four times larger - 8% of GDP compared to 2% in the 1960's. The decline in transfers is primarily due to the withdrawal of the American presence in Indochina. The major change in the service account is the larger interest payments on a growing external debt, as shown by the sharp rise in net factor service payments. Rising tourism revenues have only been able to slow the decline in net service receipts.

Table 3.4: EXTERNAL BALANCES
(As % of GDP in Current Terms)

	1960-69	1970-72	1973-75	1976	1977	1978	1979
Trade balance	-8.4	-7.0	-7.5	-3.3	-6.5	-6.0	-8.3
Service balance	4.9	4.0	3.4	0.5	0.6	0.9	0.6
Net factor services	-	0.0	-0.1	-0.3	-0.4	-1.0	-1.7
Transfer balance	1.7	0.7	1.6	0.1	0.2	0.2	0.2
Current account balance	-1.8	-2.3	-2.5	-2.7	-5.7	-4.9	-7.5
Memo: Resource balance /a		-3.0	-4.0	-2.5	-5.5	-4.1	-6.0

/a Balance of trade in goods and nonfactor services.

Source: NESDB, Bank of Thailand Statistical Bulletin (various years).

3.15 The deterioration of the current account in the later 1970's is due primarily to three factors: the declining terms of trade, high volume growth of imports, and declining net invisible receipts. The first factor was beyond Thailand's control and primarily due to the oil price increase, although Thailand enjoyed favorable price increases for a number of its exports during the period. The second factor was largely a result of domestic policies which encouraged rapid growth, an investment boom, and high demand for goods that spilled over into imports. In particular, the failure to adjust domestic energy prices rapidly enough encouraged more

/1 For example, recent attempts to maintain domestic sugar prices below export prices have led to domestic shortages and eventually the necessity of importing sugar.

growth of petroleum imports than the economy could afford. The third factor resulted from a combination of external and internal causes. The decline in transfer receipts resulted mainly from reduced US activity in the area. Growing interest payments were a result of generally rising interest rates plus the larger level of external debt that was acquired during the period. These payments will continue to grow as a result of the high level of current borrowing. It is only due to the superlative export performance of the economy that these three factors have not resulted in even more serious balance of payments deficits.

3.16 Fiscal Deficits. Total central government expenditures (current and capital) have recovered from their unusually low levels of the mid-1970's, growing from about 14% of GDP in 1974-75 to about 17% in 1976-79 as shown in Table 3.5. This compares to 18% in 1970-73 (see Table 3.5). The growth of current expenditures was led by central government expenditures on defense and administration, which grew at 35% per annum. These categories now comprise 40% of total current expenditures, compared to 35% in FY71. Current expenditures have been increasing more rapidly than capital expenditures and now account for 67% of total central government expenditures, compared to 60% in FY71. Despite the objectives of the Fourth Plan, the capital expenditure share of the total budget has fallen from 16% to 12% for the economic sectors. Lagging central government investment has been offset by public enterprise and local government investments. They now account for 41% and 14% of total public sector investments, respectively, compared to 24% and 9% in FY71. As a result of the growth of public enterprise investments, total public sector expenditures now account for over 20% of GDP, compared to 18% in 1970-75.

3.17 Growth in central government expenditures since 1975 was not matched by a similar growth in revenues, and large budgetary deficits ensued. Total central government revenues as a share of GDP have stagnated at about 13%, and taxes at a little more than 12%, both down marginally from their share in 1970-75. Central government savings have been slightly negative in most years since 1975, and the central government deficit has grown to over 4% of GDP, or about B 20 billion (\$1 billion). This has been financed to a much greater degree by borrowing abroad - 57% of the deficit in FY79 compared to an average of 17.8% in FY71-75. Domestic financing of the budget deficit from monetary authorities increased from 55% of the total in FY71 to 72% in FY79. Given the much larger total deficits, this has had a significant inflationary impact.

3.18 The overall buoyancy of the tax system is about unity, and the tax incidence is roughly proportional across income groups, with a slight tendency toward being regressive at the extremes.^{/1} About 80% of revenues

^{/1} See An Analysis of Fiscal Activities in Thailand, A Background Paper to the Basis Economic Report, November 1978.

Table 3.5: SHARES OF PUBLIC SECTOR REVENUE AND EXPENDITURE IN GDP
(% of current GDP)

	1970-75 (Average)	1976	1977	1978	1979p
Central government revenue	14.1	13.1	13.3	13.4	13.5
Central government current expenditure	13.0	13.3	12.8	13.5	13.6
Central government saving	1.1	-0.1	0.5	-0.1	-0.1
Central government investment <u>/a</u>	3.6	3.1	3.6	3.3	3.1
Net central government	-2.5	-3.2	-3.1	-3.4	-3.2
Public enterprise investment	1.6	1.8	2.4	3.3	2.8
Self-financing of public enterprise investment	0.6	0.4	0.9	0.9	0.7
Net public enterprise	-1.0	-1.4	-1.5	-2.4	-2.1
Net deficit, other <u>/b</u>	-0.3	-1.2	-0.4	0.0	-0.8
<u>Total Public Sector Deficit</u>	-3.8	-5.8	-5.0	-5.8	-6.1

/a Budget basis, which excludes capital expenditures financed directly by loans and grants.

/b Includes repayments of state enterprise debt, savings of local governments (some of which is from transfers from the central budget), government capital expenditures financed by foreign aid, and miscellaneous net transactions on public capital account.

Source: Bank of Thailand, Bulletin of Statistics.

are still derived from indirect taxes, although the structure of revenue sources has changed over the past decade as shown in Table 3.6. Indirect taxes are not very elastic with respect to GDP and tend to be regressive in their impact. A greater share of revenues is now generated by the business tax, excise taxes, and the corporate income tax, and a lower share is supplied by taxes on external trade. This latter effect is the result both of a reduction in the relative importance of rice export taxes and of policies reducing or eliminating tariffs on petroleum and certain imports used by the manufacturing sector. The business tax, a gross turnover tax,

is inefficient and has distortionary effects on the structure of production. Excise taxes tend to be regressive, but can be useful as a part of demand management policies and as a substitute for protectionist import tariffs. Despite very rapid growth of personal incomes and the modern sector, revenues from personal income taxes have hardly increased their share in the past two decades, and the corporate income tax share, which rose from 3% of revenues in 1961 to 10% in 1976, has increased only slightly thereafter. The structure of taxes has not evolved as rapidly as the economy and has been unable to generate adequate revenues.

Table 3.6: STRUCTURE OF TAXES BY SOURCE
(% share of government tax revenues)

	FY61	FY71	FY76	FY77	FY78	FY79
<u>Direct taxes</u>	<u>10.2</u>	<u>13.7</u>	<u>18.0</u>	<u>17.3</u>	<u>19.9</u>	<u>19.7</u>
Corporate income	3.3	5.6	10.0	9.7	11.1	10.9
Personal income	6.9	8.1	8.0	7.6	8.8	8.8
<u>Indirect taxes</u>	<u>89.8</u>	<u>86.3</u>	<u>82.0</u>	<u>82.7</u>	<u>80.1</u>	<u>80.3</u>
Imports	34.2	30.0	25.0	25.0	24.6	23.6
Exports	18.9	2.5	3.5	3.5	3.1	3.9
Business	13.9	22.7	23.5	23.2	22.8	21.2
Excise	11.0	18.5	20.5	20.1	18.4	20.5
Others	11.8	12.6	11.7	10.9	11.2	11.0
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: Bank of Thailand.

3.19 The public enterprises' record of generating adequate saving for investment is also poor, in large part due to the refusal of the government to enact adequate tariff increases to cover rising operating costs and expanded investment programs. In 1979, their internal resources managed to contribute only 25% of their capital investment, compared to some 67% in 1970; the rest came from external borrowing (59%) and contributions from the central government (16%). The public enterprises' savings deficit in 1979 amounted to more than 2% of GDP. Including local government saving and other factors, the public sector deficit reached 6.1% of GDP in 1979, as shown in Table 3.5.

3.20 Inflation. The rate of inflation has accelerated since 1976 as a result of excess domestic demand and foreign price increases. The increase was moderate in 1977. But as higher external prices worked their way into the economy and as the government's expansionary policy began to have its effects, inflation has since accelerated and exceeded 20% in mid-1980.

There is now some evidence that the inflation rate is moderating as food prices are falling. But this may be only transitory as energy and cement price increases cannot be postponed much longer. When international prices are rising, it is not possible to avoid some degree of inflation in an economy as open as Thailand's; however, domestic policy also contributed to the inflation.^{/1} Government efforts to slow inflation have concentrated on attempting to control certain highly visible prices. But, at best, the price controls can only delay price increases and are not effective antiinflation measures. Other policies affecting aggregate demand have augmented inflationary pressures, including rapid credit expansion to support the finance companies, large public sector deficits financed by borrowing from the central bank, and low interest ceilings.

3.21 Financial Sector Growth. The rapid growth of production in the late 1970's was accompanied and facilitated by a rapid expansion of the financial sector. The Bank of Thailand actively encouraged expansion of branch banking outside of Bangkok and mandated higher levels of lending to agriculture to stimulate growth in rural areas. The banks themselves grew very rapidly and became more aggressive in seeking new domestic business and participating in external markets (see Table 3.7). In the late 1970's, commercial banks borrowed abroad heavily to meet growing domestic demands for credit. Net foreign liabilities of the banking sector grew rapidly from about \$200 million in the early 1970's to \$700 million in 1977 and over \$1.5 billion in mid-1979. Net liabilities abroad have since declined moderately. However, because usury laws set upper limits on interest rates which could be changed by banks, rates payable to savers were also limited and when foreign rates rose above the Thai rates, short-term capital quickly moved abroad, and there were outflows of several hundred million dollars in short periods in 1978 and 1979 due to interest rate differentials. This caused a great deal of concern at the Bank of Thailand and was a major factor leading to raising the usury ceilings in January 1980.

3.22 Finance companies also grew quite rapidly and, as a result of weak controls, rather precariously. They were highly levered and closely linked with the commercial banks, which were their primary source of funds. The finance companies were heavily involved in the expansion of consumer credit and lent extensively for purchasing (often speculative) equity shares. These companies contributed to the rapid expansion of credit during the 1970's that helped maintain the high level of aggregate demand.

3.23 The Securities Exchange of Thailand (SET) was established in 1975 and grew quickly in the ensuing three years. The paid-up capital of listed

^{/1} The Bank of Thailand estimates that, as a very rough calculation, a 1% increase in import prices adds almost 0.5% to domestic prices, including direct plus indirect effects. Import prices rose 46% from 1976 to the end of 1979, which would imply a 23% increase in domestic prices. The CPI grew 37% in the same period, and the WPI grew 35%. It is interesting to note that the WPI for imported goods rose only 15% during this period while the WPI for domestic goods rose 43%, also indicating that a significant amount of inflation is not due solely to rising import prices. Export prices may also have contributed to domestic price increases in 1974-75, but their effect on the general price level is not likely to have been significant since.

Table 3.7: FINANCIAL SECTOR GROWTH
(% p.a.)

	1970-75	1976	1977	1978	1979
Assets of Banks	24.4	18.4	24.1	25.9	19.9
Assets of Finance Companies			33.2	42.7	2.0
Credit to the Economy	22.5	23.4	27.2	26.6	20.2
Broad Money	20.5	20.0	20.0	18.5	14.8
Net liabilities of commercial banks abroad	31.3	0.5	70.3	81.7	9.2
Memo: GDP (current Baht)	19.0	13.0	16.4	21.5	18.2

Source: Bank of Thailand, Monthly Bulletin.

companies increased from B 90 million in 1975 to B 2.4 billion in 1978. Market values of the shares exceeded their original paid-up values by a large amount in 1978, reaching B 4.3 billion. Traded volume peaked in October 1978 at B 15 billion, and B 57 billion were traded that year. Influenced by tight money policies and weakening economic conditions in general, prices on the SET started to slide in December 1978. By February 1979 the volume traded was down to B 0.3 billion. Volume for 1979 as a whole only reached B 22 billion.

3.24 The decline of prices on the SET in 1979 placed a severe strain on the liquidity of the finance companies. As a result of speculation, share prices had been bid up well beyond realistic values. Many of these purchases were financed by loans from finance companies, and they became highly illiquid when share prices fell. This threatened the stability of the banking sector, which held a large proportion of finance-company liabilities. Although the Bank of Thailand would have preferred to impose some monetary restraint at this time, the potential illiquidity of the financial sector forced the Bank of Thailand to reduce reserve requirements and increase access to its credit facilities. This preserved the solvency of the financial sector at the cost of allowing more liquidity creation than was prudent. Various rescue operations enabled the sector to survive the failure of one of the largest finance companies in 1979. Credit growth was more restrained by late 1979 and early 1980, when a number of measures were implemented to rationalize the operations of the finance companies and stabilize the stock market. (See Annex II for details.)

3.25 Monetary Policy. Monetary policy in Thailand over the past 20 years has been, to a large extent, passive. It has controlled the rate of credit expansion as its primary instrument for supporting growth, maintaining price stability, and moderating the balance of payments. Interest rates were allowed to adjust to the rate of credit expansion, although the Bank of Thailand occasionally has used interest rate policies to iron out short-run fluctuations. So long as fiscal policy was not overly

expansionary and interest rates were not actually constrained, these policies were able to achieve their objectives of growth with stability. In the mid-1970's, the Bank of Thailand became more active in promoting development objectives with credit allocations to agriculture and branch banking requirements, but it did not assume such an active role in dealing with overall monetary policy, other financial sector developments, and external debt. The rapid growth of the financial sector, external borrowing, and debt outstanding, however, was accompanied by several disequilibrating factors, including the uncontrolled growth of the finance companies, extensive speculation on the SET, interest ceilings which resulted in negative real interest rates, and extensive participation in international money markets. These factors lead to more rapid expansion of credit than was prudent and contributed to excess domestic demand and inflation.

3.26 Until January 1980, usury laws constrained interest rates to ceilings established in times of price stability. Real interest rates became negative when inflation accelerated, as shown in Table 3.8. This discouraged private savings and encouraged high levels of demand for consumer goods. Credit was cheap and available, so people bought goods in anticipation of further price increases. The marginal savings rate declined from 22% in 1976 to 16% in 1979. Given the inflationary expectations about price increases for capital investment and manufactured goods, the constrained borrowing rates and relatively easy availability of credit made investment in capital goods and other real assets a very attractive option. This raised domestic demand in these areas and drove up prices in such sectors as real estate, spilled over into higher imports in other sectors as capital goods and consumer durables and generally increased domestic demand. Thailand's financial institutions had easy access to the Euro-dollar and Asian-dollar markets, and they were able to satisfy part of the excess demands for funds, and implicitly for foreign exchange, by increasing their liabilities abroad. This disrupted attempts by the Bank of Thailand to regulate credit expansion and restrain demand, and it contributed to higher growth and import levels.

Energy Policy /1

3.27 Thailand has not been immune from the disruptive effects of the energy price increase in 1973/74, although the direct impact on growth has been less than in many oil-importing developing countries. Most of the impact of rising energy prices has been absorbed in the growing current account and public sector deficits. Thailand has delayed adjusting domestic energy prices to changes in the cost of energy imports on the grounds that higher energy prices would adversely affect growth and inflation. As a result of these policies, the direct contribution of energy price increases to the overall inflation has been relatively modest on the basis of computed indices./2

/1 See Thailand: Energy Issues and Prospects (No. 2813-TH, May 1980, in green cover) for a more detailed discussion of these issues.

/2 The weight of petroleum products in the WPI is about 2.5% and their price has increased more than twice as fast as the whole index. The model used in this report estimates that the elasticity of domestic prices to increases in the import price of petroleum products is about 0.25, i.e., a 10% increase in the imported energy price leads to about 2.5% increase in domestic prices if the latter are not constrained.

Table 3.8: INFLATION AND INTEREST RATES

	1970-75	1976	1977	1978	1979	1980 (Jan)
Interest rates on time deposits over 12 months (%)	7.3	8.0	8.0	8.0	9.0	12.0
Changes in CPI (%)	9.9/ <u>a</u>	4.2	7.2	8.4	9.9	24.5/ <u>b</u>
Real interest rate (private savers)	-2.6/ <u>a</u>	3.6	0.7	-0.4	-0.8	-12.5
Interest rate bank loans, maximum (%)	14.3	15.0	15.0	15.0	15.0	18.0
Change in WPI for manufactured goods (%)	10.2	3.5	7.7	11.0	17.0	24.7/ <u>b</u>
Real interest rate (commercial borrowers) (%)	4.1	11.1	6.8	3.6	-1.7	-6.7
Change in Import Price Index (%)	18.5/ <u>c</u>	6.1	5.5	7.5	18.3	24.9/ <u>b</u>

/a Includes inflation rates of 16% in 1973 and 24% in 1974. In all other years, real interest rates were positive and averaged 4.6% vs. -10.6% in 1973/74.

/b May 1979 to May 1980.

/c Includes increase of 64% in 1974. Other years averaged 7%.

Source: An Industrial Development Strategy for Thailand, Report No. 2804a-TH, June 1980, Table 11; Bank of Thailand Monthly Bulletin.

3.28 Successive administrations have been unable or unwilling to enforce major price increases or to impose alternative measures to curtail demand. The Government has not developed a coherent energy policy despite measures limiting price increases and encouraging more domestic energy production. Between 1970 and 1978, domestic energy prices in Thailand have increased only slightly faster than the CPI (see Table 3.9). In 1979 and 1980, domestic energy prices finally grew significantly more rapidly than the CPI. As a result of the failure to curtail demand for energy and of the low hydroelectric potential in 1978-80 petroleum imports soared, and the impact of energy imports on the balance of payments is now being felt. Energy imports, which were about 9% of imports by value in 1970 (\$0.12 billion), rose to 21% of imports (\$0.7 billion) in 1975 and 22% of imports (\$1.6 billion) in 1979. They are expected to reach 35% of imports, or \$2.7 billion, in 1980.

3.29 Because domestic retail prices include processing and retail margins and various taxes, domestic prices may not need to increase as fast as import prices to pass on the full effects of rising petroleum import costs. The differences between the indices in Table 3.9 may overstate the lack

of adjustment. In fact, one means the Government used to slow the overall price increase was to reduce distribution margins and domestic taxes after 1973. They only returned to their pre-1973 levels in real terms in 1979,

Table 3.9: ENERGY PRICE MOVEMENTS

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Average import price of oil (B/bbl) Index	43.1 100.0	49.0 113.7	50.8 117.9	64.2 149.0	209.2 485.4	232.0 538.3	250.1 580.3	269.1 624.4	286.3 664.3	409.0 949.0	650.0/ <u>i</u> 1508.1
Electricity <u>/a</u> (B/kwh) Index	0.28 100.0	0.28 100.0	0.28 100.0	0.28 100.0	0.37 132.1	0.46 164.3	0.48 171.4	0.50 178.6	0.61 217.9	0.61 217.9	0.90 321.4
Premium gasoline <u>/b</u> (B/l) Index	2.10 100.0	2.10 100.0	2.10 100.0	2.30/ <u>c</u> 109.5	3.62/ <u>d</u> 172.4	3.62 172.4	3.62 172.4	4.22/ <u>e</u> 201.0	4.22 201.0	5.60/ <u>f</u> 266.7	9.80/ <u>h</u> 466.7
High speed diesel <u>/b</u> (B/l) Index	0.98 100.0	0.98 100.0	0.98 100.0	1.05/ <u>c</u> 107.1	2.33/ <u>d</u> 237.8	2.33 237.8	2.33 237.8	2.64/ <u>e</u> 269.4	2.64 269.4	4.88/ <u>f</u> 498.0	6.54/ <u>h</u> 667.3
Fuel oil <u>/b</u> (B/l) Index	<u>/g</u>	<u>/g</u>	<u>/g</u>	<u>/g</u>	1.44	1.44	1.44	1.61/ <u>e</u>	1.61	2.90/ <u>f</u>	3.61/ <u>h</u>
CPI Index	100.0	100.4	105.3	121.7	151.3	159.3	166.0	177.9	192.8	211.8	256.3/ <u>j</u>

/a EGAT price for bulk electricity to MEA.

/b Retail in Bangkok.

/c In July; gasoline raised to B 3.01 and diesel raised to B 1.60 in December.

/d Raised in February.

/e Raised in March.

/f Raised in January to B 5.60 for gasoline, B 2.98 for diesel and 1.77 for fuel oil, raised to figures shown in table in July.

/g Uncontrolled prior to October 1974.

/h Raised in February, diesel was raised to B 7.39, but rolled back to this level in March.

/i Estimate.

/j May 1980.

Source: Thailand, Energy Issues and Prospects (Report No. 2813-TH, May 1980, Green cover).
Bank of Thailand

when the government began to accept the necessity of making the economy absorb greater energy price increases.

3.30 Table 3.10 shows what "appropriate" prices would have been in selected years if taxes had been kept at the same level as in 1970-73 for petroleum products. The appropriate rate assumes processing and distribution costs grow at the same rate as the CPI, petroleum costs grow with the import price, and taxes are the same real level as 1970-72 (grow with the CPI), in appropriate rates A, or the same percentage of the retail price in appropriate rates B. For electricity, the appropriate rate is assumed to be that which generates an 8% return on revalued assets. As can be seen from the table, only about two thirds of the 1973/74 energy price increase had been absorbed by the economy by 1979, when the economy was faced with further major price increases for energy imports.^{/1}

3.31 In addition to the negative impact on the balance of payments, efforts to keep energy prices low have added to the public sector deficits. Government taxes on energy products were reduced and subsidies were paid to refiners at various times. As a consequence, public sector saving has suffered. It is estimated that such subsidies ran as high as B 3 billion in 1979.^{/2} The gross share of government revenues from petroleum product

^{/1} Technically, retail petroleum prices are now approximately equivalent to the import price of crude plus processing and distribution costs and some taxes. Fuel oil has often been priced below cost and cross-subsidized by higher prices of other products or borrowing by the Oil Fuel Organization [currently by the Petroleum Authority of Thailand (PTT)] to offset operating losses due to the low selling price of fuel oil. However, these retail prices have been well below those obtaining in other oil importing developing countries. They are too low to discourage consumption adequately, encourage investment in energy conservation, or encourage development of alternative domestic sources. Since Thailand is expected to remain a large net importer of energy, such retail prices are not consistent with restoring and maintaining a sustainable current account deficit. Import and excise taxes must be imposed to achieve domestic prices sufficient to encourage the conservation required to restrain the growth of petroleum imports to sustainable rates. Thus "absorbing price increases" and "appropriate" prices refer to pricing policies which achieve the objectives of constraining imports of energy by encouraging conservation and alternative domestic energy development.

^{/2} This includes allowances to refineries to offset the higher spot price of product imports that could not be passed on to consumers and guaranteed borrowing of the Oil Fund to maintain a low fuel price to the Electricity Generating Authority of Thailand (EGAT) when the Oil Fund's revenues were exhausted. To a large extent these subsidies to energy producers have been funded by government-guaranteed borrowing rather than by direct payments, and they do not appear on the government budget. They are difficult to trace. Unless a budgetary transfer is made, these debts will have to be repaid out of yet higher future tariffs and taxes on energy.

Table 3.10: ACTUAL AND "APPROPRIATE" ENERGY PRICES

	1970	1973	1975	1978	1979	1980
Average oil import price B/bbl	43.1	64.2	232.0	286.3	409.0	650.0 /d
Electricity actual (B/kWh)	0.28	0.28	0.46	0.61	0.61	0.90
Appropriate /a	-	-	n.a.	n.a.	1.00	1.50
Premium gasoline actual (B/liter)	2.10	2.30	3.62	4.22	5.60	9.80
Appropriate A /b	-	-	5.38	6.92	8.99	11.95
Appropriate B /c	-	-	7.86	9.09	12.42	17.21
High speed diesel actual (B/liter)	0.98	1.05	2.33	2.64	4.88	6.54
Appropriate A /b	-	-	3.17	4.26	5.67	7.83
Appropriate B /c	-	-	3.48	4.58	6.32	8.87
Fuel oil actual (B/liter)	0.70 /d	n.a.	1.44	1.61	2.90	3.61
Appropriate A /b	-	-	2.27	2.98	4.06	5.61
Appropriate B /c	-	-	2.35	3.10	4.25	5.91

/a Rate necessary to achieve 8% return on revalued assets.

/b Assuming that 80% of ex-refinery prices in 1975 and 90% of ex-refinery prices in 1978-80 represent oil import costs and grow at rate of oil import prices and that remaining share of refinery prices, taxes, and retail margins grow at CPI rate.

/c Same as (b) except taxes are assumed to be same percentage share of the retail price as in 1970-72: 43% for gasoline, 16% for diesel and 7% for fuel oil.

/d Estimate.

Source: Mission estimates.

taxes fell from 8% in 1970-73 to 6.6% in 1978 as a result of reducing these taxes, as shown in Table 3.11. Changes in the excise tax rates in 1979 raised the gross share of petroleum revenues to 8.9%. However, inclusion of subsidies would significantly reduce the net contribution of the energy sector to government revenues. Unfortunately, precise estimates of these subsidies are not yet available. The proper objective for taxes on petroleum in a net importing country such as Thailand, however, is not to raise any specific share of public revenues, or even to generate sufficient revenues to finance some share of investment in the transport or other user sectors. The proper objective has become to set a level of retail prices consistent with balance of payment equilibrium and appropriate incentives for conservation and development of indigenous energy. Tariff controls on public enterprises in the power sector have reduced their earnings and diminished their ability to finance their growing investment programs. This has placed more demands on the government budget and foreign borrowing to help fund these public enterprise investments.

Table 3.11: PETROLEUM REVENUES
(B million)

	1970-73 average	1974	1975	1976	1977	1978	1979
Petroleum excise taxes	1,368	2,496	2,258	2,204	3,080	3,378	5,669
Petroleum import duties	346	529	374	425	509	734	1,124
<u>Total /a</u>	<u>1,714</u>	<u>3,025</u>	<u>2,632</u>	<u>2,629</u>	<u>3,589</u>	<u>4,112</u>	<u>6,793</u>
Petroleum revenue as % of central government revenues	8.1	8.0	6.9	6.9	6.9	6.6	8.9 /b

Source: Bank of Thailand.

/a Excluding subsidies to petroleum refiners or users to maintain lower prices. These subsidies are rarely financed by budget items and have proved difficult to estimate precisely.

/b Excluding subsidy elements (financed primarily by borrowing of public enterprises) which may have amounted to 3% of government revenues.

Production Constraints

3.32 Agriculture. The evidence now indicates that the availability of new land for expanding agriculture has been nearly completely exhausted. The amount of arable land not currently within holdings is very small and often not easily accessible. Some 20% of land within holdings is not

currently cultivated and represents an additional resource, although there is a practical limit on the amount of land within a holding that can be cultivated at any one time because of fallow requirements, local topography, woodlots, house plots, etc. Against this must be discounted the land currently under cultivation which is poorly suited to that purpose and should be withdrawn for reasons of soil and watershed conservation, etc., when land-use patterns are rationalized.

3.33 Over the past five years, the total area under holdings does not appear to have expanded at all. Production increases must have been the result of more intensive use of land within holdings, including diversification to highervalued crops. In irrigated parts of the central plain and some other areas, significant intensification of land use is already taking place, and modern practices are replacing traditional techniques. The technology for this intensification into high-yielding varieties of rice and maize under water-controlled conditions has been well-researched and is widely applied in suitable areas. Where there is irrigation or adequate residual moisture, double cropping has increased the effective amount of land under cultivation: some 20% of irrigated land is double cropped. Currently about 10% of arable land is irrigated, and this could be raised to 20% by 1990.

3.34 Much less is known about the technologies for intensification of production and increasing yields in the more uncertain conditions of rainfed areas, which constitute the majority of Thai agriculture.^{/1} Sustained agricultural growth in those areas will have to be based on more intensive use of the available land through improved techniques, stabilization of water supply, and more diversification into higher value crops.

3.35 In addition to the natural water constraint in rainfed areas with relatively low rainfall, the availability of reliable water supply is becoming a constraint to expanding agricultural production in some irrigated areas. The potential sustained flow from reservoirs limits the amount of land that can be brought under irrigation, and there are conflicting demands for that water from the power sector. The "drought" that has reduced second cropping this year in the central plain to 30% to 40% of its normal extent is due in part to prior use of water for power generation in order to decrease the use of imported energy. Beyond this, rice is a very water-intensive crop, and its cultivation restricts the total areas that can be irrigated. Although some irrigated areas are suited only to rice cultivation, other areas may well be suitable to less water-using crops, which would allow larger areas to be irrigated. In some rainfed areas, a shift into less water-using crops would also increase the land's productive potential. The general availability and allocation of water resources will increasingly become a constraining factor in modernizing agriculture, and will require more careful planning.

^{/1} Farm-level techniques are now known for increasing production of cassava and sugarcane, where yields have been slipping in the past two years. It remains, however, to find means of disseminating and implementing these changes.

3.36 Industry.^{/1} Industrial output has expanded rapidly in the past decade. However, protection has also increased in the past six years, and a number of price controls have been introduced in an attempt to restrain inflation. These policies introduce distortions and lead to supply shortages in the economy that will adversely affect the growth prospects of several industries. For example, price controls on cement have reduced investment incentives and turned that branch from a net exporter into a net importer.

3.37 Tariff protection, import and export quotas or bans, and domestic value added requirements have allowed the rapid expansion of some industries. This has been achieved at high domestic resource cost in relation to their contribution to real growth, and there is no convincing evidence that these measures have reduced total imports.^{/2} For example, the automobile industry, which has grown faster than manufacturing as a whole, generates negative value added to world prices. Protection-induced price distortions raise the costs of other sectors, including those which produce for export. It is estimated that protection and other distortions can reduce an exporter's value added by up to 30% compared to a situation with no distortions, even allowing for tariff rebates on exports.^{/3} Protectionist measures also raise the domestic prices of the protected goods, fueling inflation, and eventually retarding investment and growth. Although many of these distortions have been introduced in the name of encouraging domestic production, they will act as a constraint on growth in the longer term.^{/4}

^{/1} See An Industrial Development Strategy for Thailand (No. 2804a-TH, June 5, 1980) for a detailed discussion of these issues.

^{/2} If imports of capital and intermediate goods into import-substitution industries and the higher domestic demand from protection-generated incomes are taken into account, increased protection may increase total imports.

^{/3} This estimate is based on effective rates of protection calculations.

^{/4} In Thailand, the first stages of import substitution behind protection contributed to growth in final goods industries and could be defended on infant-industry grounds. Because most import substitution occurred in consumer goods industries, the resulting price increases did not generally affect the cost structure of other industries. However, as attempts are made to encourage substitution in intermediate goods sectors by protection or domestic content regulations, the resulting distortions and inefficiencies could have more serious consequences on the growth prospects of other, efficient, import-substituting or exporting industries.

3.38 Thailand's rapid growth of manufactured exports has been based in large part on low production costs in relation to competitor countries. These low costs are a function of low wage rates and past price stability in Thailand. Domestic inflation is accelerating, driving up wage rates and other cost factors. The minimum wage has increased faster than the rate of inflation since 1977, and this must have had an effect on raising other wages. Under the existing exchange regime, these cost increases are passed directly onto the dollar cost of exported goods, which may endanger the competitiveness of Thai manufactured exports if the inflation of Thai costs in dollar terms is any higher than that of its competitors.

3.39 The structure of industrial incentives in Thailand has tended to favor relatively capital-intensive projects, which have had a relatively high import content. This tendency has been reinforced recently by several specific proposals for large-scale, capital-intensive projects seeking various forms of government assistance or support. In view of the serious savings and balance of payments constraints facing the economy at this time, continuation of such trends will tend to raise capital-output ratios and reduce the growth and employment impact of the investment resources available to the economy.

3.40 Investment. The adjustment process, as well as the underlying transformation of the economy to modern production techniques and to less energy using processes, cannot be achieved without continued substantial levels of investment in industry and in agriculture. The investment levels reached in the past two years, however, may have been too high and not very efficiently allocated. Achieving adequate levels of investment will depend on the efficacy of resource mobilization from both domestic or foreign sources. On average, the private sector has saved enough to meet its own investment needs; the public sector has not, as shown in Table 3.12.

3.41 In the past, the public sector has been able to mobilize private savings surpluses when available, or to borrow foreign resources. Until three years ago, the magnitudes involved were not large, and external financing was not a constraint. The availability of adequate private domestic savings to finance public investment cannot be counted on, however. Continued inflation, low or possible negative real interest rates, and slower real income growth will tend to reduce the private sector's propensity to save. Continued borrowing at present levels will increase Thailand's debt burden and impair its excellent credit standing. Under these circumstances, sufficient foreign resources may become more difficult, if not impossible, to obtain. In addition, commercial sources abroad may become less willing to risk exposure in LDCs in general./1

/1 Net foreign lending of US banks may slow down as a result of increased concerns over their LDC exposure, stricter surveillance by regulatory agencies, and concern regarding the adequacy of their capital base. Strict funding requirements laid down by the Ministry of Finance have slowed down net lending by Japanese banks.

Table 3.12: RESOURCE MOBILIZATION
(% of GDP)

	1970-75	1976	1977	1978	Prelim. 1979
Public saving	2.2	1.1	2.5	1.9	1.5
Public investment <u>/a</u>	6.0	6.9	7.5	7.7	7.6
Net	-3.8	-5.8	-5.0	-5.8	-6.1
Private saving	19.0	19.8	18.1	20.3	19.0
Private investment <u>/b</u>	18.1	16.3	18.5	18.8	20.2
Net	0.9	3.5	-0.4	1.5	-1.3
Total Saving	21.2	20.9	20.6	22.2	20.5
Total Investment	24.1	23.2	26.0	26.5	27.9
Total surplus/deficit (-)					
Domestic saving basis <u>/c</u>	-2.9	-2.3	-5.4	-4.3	-7.4
National saving basis <u>/d</u>	-2.0	-2.5	-5.6	-4.7	-8.3

/a Including government investment directly financed by foreign borrowing.

/b Including stocks.

/c Equivalent to the balance of goods and nonfactor services in the balance of payments.

/d Including net transfers and factor service payments. Equivalent to the current account balance.

Source: National Accounts, NESDB.

Although Thailand's access to private external sources of credit for the amounts needed seems reasonably assured in the short term, the possibility of foreign capital supply constraints developing cannot be discounted for the medium term. Thailand will not be able to continue relying so heavily on foreign borrowing as a means of postponing domestic adjustments to increase domestic saving and to reduce the external deficit.

Other Constraints on Growth

3.42 Despite its expansion in the 1970's, the financial sector has deficiencies which will inhibit growth in some areas. Formal financial activity is still concentrated around Bangkok, and it has fallen short of

meeting the credit needs of agriculture, smaller-scale enterprises, and productive activities in the regions outside of the greater Bangkok area. Bills and loans to agriculture amounted to only 5% of outstanding lending of commercial banks in 1979, up from 3% in 1975. The remainder of the mandated 13% credit allocation to agriculture (including 2% to agro-industries) is being satisfied by deposits with the Bank for Agriculture and Agricultural Cooperatives (BAAC). Efforts to promote lending to small-scale industry through the Small Industries Finance Office (SIFO) have met with little success, and local lending requirements on branch banks outside of Bangkok have primarily been satisfied by loans to finance commerce and consumer purchases. There is little long-term lending other than through the Industrial Finance Corporation of Thailand (IFCT), a semi-public development finance company which accounts for less than 2% of industrial lending.

3.43 The role of the Government in supporting economic development has been profoundly changed by the growth and dynamism of the Thai economy since 1960. However, due to the lack of continuity in political leadership during this period and the bureaucracy's resistance to change, the organization and operations of the public sector have been slow to adjust to the current requirements of social and economic development.

3.44 Growing awareness of the need to improve development management led to some important bureaucratic reforms during the second half of the 1970s, particularly in the internal organization of the civil service and the delegation of certain planning functions to provincial administrations. However, these measures did not form part of an overall long-term plan for the modernization and rationalization of public sector activity, and a number of critical institutional weaknesses still exist. Foremost among these is the absence of an authoritative and effective planning system for public sector expenditures and programs. Although the four national development plans produced since 1961 have provided clear statements of overall Government policies and objectives, they have generally failed to specify priorities, sectoral strategies, and development programs in sufficient detail to serve as a viable basis for annual budgeting and policy formulation. The actual allocation of resources within the public sector has tended to be more strongly influenced by internal bureaucratic pressures and short-term considerations than by a long-term national strategy.

3.45 The institutional structure of the Government limits its ability to implement programs to raise rural incomes and productivity or to improve access to social services. The highly centralized character of the public sector interferes with rural development programs and skews the distribution of the benefits of development. The general lack of delegation of authority, the centralized decision-making procedures, and the emphasis on maintaining rigid financial controls reduce the responsiveness of public agencies to local problems and local initiatives. The concentration of Government resources and personnel in Bangkok biases public programs and expenditures towards the service of urban needs. Coordination of departmental activities in the implementation of rural development programs is seriously impaired by the proliferation of departments and divisions with

overlapping functions and little incentive to cooperate. Lack of lateral mobility within the civil service tends to reinforce this compartmentalization. As resources are becoming more constrained and the requirements of structural adjustment more demanding, the quality of the Thai Government's economic analysis and policy formulation; its ability to mobilize, allocate, and manage public resources; and its capacity to provide services will become far more crucial./1

Tensions and Tradeoffs

3.46 Rectifying the financial disequilibria currently faced by the Thai economy will add to the tensions inevitably created by the rapid development in the productive sectors. Policy measures required in the short run to reduce public sector deficits and improve the balance of payments will unavoidably involve compromises and tradeoffs among economic objectives that have differential effects on the economic well-being of various groups within the economy. The problems of establishing and adhering to priorities are further complicated by the relatively open, but still uncertain, political system that is evolving in Thailand. There is a high probability that economically necessary measures will be politically difficult to implement. Thailand's policy making over the past several years has been affected by this tension and, as a result, it has been dominated by short-run, ad hoc measures in response to political as well as economic pressures. The Government has lacked an effective guiding framework for establishing priorities among different development objectives (although the Plan has laid down some general objectives). Frequent changes of administration have exacerbated this problem.

3.47 Since the brief recession of 1974, it appears that growth has emerged from the uncoordinated policy making process as the first priority of successive administrations, as revealed by their policy decisions. This results in part from the short planning horizons of successive governments. It was politically less risky to resolve hard economic problems by favoring measures which promoted demand and growth in the short run without due consideration being given the longer-term consequences. Implicit in this pattern of policy making is a willingness to accept large economic risks of higher rates of inflation, larger external deficits, and increased financial instability in the future in order to sustain near-term high rates of growth. As long as the foreign exchange resources were available to finance current account deficits and domestic savings deficiencies, this appeared to be the easiest way to satisfy conflicting pressures and avoid taking hard decisions to adjust to changing external factors, particularly rising energy prices. In part, this pattern of decision making was also a reflection of the strong growth orientation of those with a great deal of influence in shaping economic policy.

3.48 Although controlling inflation was nominally a high priority, policy action concentrated on controlling certain highly visible prices

/1 These problems are discussed in more detail in a report under preparation, Thailand: Development Management Strategy Review.

rather than restraining aggregate demand, and little attempt was made to educate the public on the necessity of absorbing external price increases. This has at best delayed price increases and at worst led to increased structural distortions. In general, price controls are ineffective as either an anti-inflation policy or an income policy. In the case of Thailand, price controls have led to deficit financing in the public sector and to excess demand, and both of these factors have contributed to overall inflationary pressures on the economy. Controlled prices will have to be raised in any case. Using price controls as a means of protecting the incomes of the poor is highly inefficient because most of the benefits accrue to the middle and upper classes, who are by far the largest consumers of the goods whose prices are controlled, e.g., energy, cement. Many of the poor do not even have access to electricity, in part because low power tariffs have reduced the funds available for extending rural electrification.

3.49 Maintaining internal and external financial stability no longer appears to command the pre-eminent position it once did among Thai policy objectives. Recent administrations have seemed to prefer specific measures to reduce the trade deficits by raising import bans, quotas, and tariffs over general macroeconomic measures to restrain demand. Financial stability has been endangered by budgetary deficits and acquiescence to pressures to expand liquidity in support of the speculative expansion of the SET and the finance companies.

3.50 The Government has placed a high priority on reducing poverty and income differentials throughout the country, even during the adjustment process. In the past, the Government provided infrastructure and promoted aggregate growth in the express belief that the private sector would be more effective than the government in assuring that the benefits of growth were widely spread. To a large extent this has worked in Thailand, and great strides were made in poverty alleviation and raising rural incomes between 1962 and 1975.^{/1} There is now growing recognition that there are limits to this strategy, and unaided market factors have not been as effective in areas with poor potential under existing technology. The modern sector, however, remains concentrated around Bangkok and grows in political as well as economic importance. This raises the potential for further "Bangkok bias" in growth and decreases the likelihood that as much growth will spread to rural areas as in the past.

3.51 The emphasis on growth in recent years is not likely to have produced the same degree of positive impact in rural areas as was the case in the past, particularly in the North and Northeast where most of the remaining poverty is concentrated (see Table 3.13).^{/2} The South has done relatively well due to rising tin and rubber prices. The increasing urban bias in growth

^{/1} See Income Growth and Poverty Alleviation, Report No. 2566-TH, June 20, 1980, for further discussion of these issues.

^{/2} Regional production data may not accurately reflect relative growth of per-capita incomes, but until the next Socio-Economic Survey, they are the only data available.

Table 3.13: GROWTH OF GROSS REGIONAL PRODUCT (GRP)
(% p.a.)

	Northeast	North	South	Central	Bangkok	Entire Kingdom
<u>1975-78 /a</u>						
GRP	4.2	6.0	8.2	9.2	9.4	9.1
GRP/cap	1.6	3.7	5.7	6.9	5.0	6.5
<u>1960-76</u>						
GRP	6.5	6.4	6.9	8.2	8.0	7.6
GRP/cap	3.1	3.2	3.2	4.6	3.8	4.2

/a Gross Regional Product Data for 1979 is not yet available.

Source: NESDB.

can be attributable to price controls, which have tended to favor urban areas where the controlled items are primarily purchased; demand stimulus, which has had a much greater impact on raising modern sector production and incomes in the short run; and protection, which has favored industry and the modern sector at the expense of consumers and the rural sector. The relative movements of commodity prices have added to this shift. As measured by GDP deflators, the agricultural-nonagricultural terms of trade have declined by more than 1% per year since 1975, which implies a significant redistribution in relative income growth away from agricultural producers. Although direct data is lacking, the indirect evidence of the domestic terms of trade, specific crop prices, and relative growth rates indicates that, despite the high aggregate growth rates in the past five years, it is unlikely that much further reduction in poverty has taken place since 1975, except in the South among rubber growers and tin miners. Several specific programs have been undertaken to supplement the traditional indirect mechanisms of reducing poverty, including the Tambon program, improved extension services, provincial planning funds, etc., but it is too soon to tell whether they have had a lasting effect in alleviating poverty.

3.52 The undercurrents of increased social tension arising from the dissonance between the effective priorities of the government and the stated objectives cannot be ignored, and there may be further serious visible manifestations of discontent from both rural and urban origins. Recent events have confirmed the political influence of Bangkok-based interest groups in promoting what are essentially Bangkok growth-oriented policies. Although the present government has affirmed the high priority it places on equity and raising rural incomes, there is a question of whether it can take the necessary action to achieve that priority at the expense of Bangkok. Some of the implicit priorities and directions of policies that have evolved over the past several years in response to the "Bangkok bias" would have to be reversed.

3.53 The problems faced by the economy on entering the 1980's are serious and not likely to submit to easy solutions. There will inevitably be tradeoffs between different objectives in the adjustment process, and the resulting tensions will test the cohesion of the political economy. Reducing the current account deficit from its estimated level of about 8% of GDP in 1980 will require major adjustments to reduce the growth in demand for imports and to sustain or increase recent high export growth rates. Restraining import demand will imply passing on external price increases, particularly for energy, more fully to the economy; reducing the domestic saving deficit, particularly in the public sector; and slowing some investment, particularly in large, capital-intensive projects. Aggregate demand and the public deficit will have to be reduced by raising taxes to generate more public saving and to effect the transfer of additional resources abroad. More domestic savings will also be necessary to service the growing volume of external debt. Absorbing external price increases will contribute to domestic inflation and slow real income growth, but this will be a necessary part of the adjustment process. Price stability cannot be achieved in the medium term.

3.54 Nevertheless, measures that moderate aggregate demand will have favorable effects on reducing domestic inflationary pressures. Unless the financial balances can be restored to sustainable levels over the next five years, it will be much more difficult to obtain the necessary external resources to support efforts to raise production in the longer term. It is highly unlikely that the economy can make all the necessary adjustments without some reduction in its aggregate growth rate. Because of the nature of the required adjustments, the impact of the decline in growth will probably fall more heavily on the urban and industrial sectors, and the conflicting claims on incremental income will then become more contentious.

3.55 On the positive side, growth should be aided in the medium term by measures to increase production and efficiency and to expand exports. However, even maintaining recent export growth rates will require continued rapid structural change in the productive sectors and implementing necessary supporting policy. Yields and productivity in agriculture will have to increase in order to expand its marketable surplus. These changes are occurring, but it is doubtful that they will occur fast enough without major modifications in the government's and private sector's support and marketing structures. Industry will have to continue its shift toward labor-intensive, export-oriented production, and price distortions will have to be reduced. This transformation will have to take place while the sector is adjusting to significant changes in the relative prices of basic inputs and while the growth rates of foreign and domestic demand are declining. Maintaining real per-capita income growth will be easier in the 1980's because the population growth rate is expected to continue the decline begun in the 1970s.

IV. POLICY OPTIONS FOR STRUCTURAL ADJUSTMENT

4.01 The above analysis of the current economic situation in Thailand indicates the scope and seriousness of the problems facing the Thai economy. Although recent growth rates have been satisfactory, they have been accompanied by levels of government and current account deficits that cannot be sustained. It is imperative that action be taken to reduce these deficits in the short term. Fiscal, monetary, and energy policy measures will be particularly important in this regard. There are also underlying structural issues affecting these deficits that need to be addressed at the same time: increasing the competitiveness and efficiency of industry, accelerating the transformation to more intensive agricultural techniques, and reducing the longer-term energy requirements of the economy. The effects of measures to reduce the financial balances should have an immediate impact, while those to improve the productivity of the economy will be felt over a period of years. Both sets of measures are, however, complementary: production increases are necessary to augment the net transfer of goods abroad, which is the counterpart of increased domestic saving, and rising production will reduce the amount of restraint on domestic consumption that will be required.

4.02 Policy action on both shorter-term financial issues and the longer-term production issues should be initiated immediately, since any delay would allow the disequilibria to become more severe. External pressures for adjustment, expressed primarily through increasing reluctance by commercial lenders to finance large external deficits, would then force more abrupt and disruptive short-term adjustments. Major expenditure cuts and other actions which would seriously retard development in the productive sectors could well be required in such circumstances, with adverse effects on Thailand's growth potential.

4.03 Defining a policy package to effect the adjustment without unduly sacrificing other objectives is a demanding task. The policies must reconcile conflicting domestic interests while maintaining a high degree of flexibility in adapting to changing external circumstances. Coordinated policy action will be required in several broad areas to accomplish the necessary structural adjustments while maintaining satisfactory growth rates: (a) resource mobilization, particularly in the public sector; (b) monetary policy, external debt management, and financial sector development; (c) energy policy, particularly energy pricing issues; (d) industrial development policies; and (e) promoting the transformation of agriculture.

4.04 It would be desirable for the adjustment program to be phased over a period of five years. Reasonable targets would be to reduce the current account deficit to about 4% of GDP, to increase public saving so the public sector deficit would fall to about 3% of GDP, and to fully absorb energy price increases. The objective of maintaining growth should not be abandoned, although setting aggregate or sectoral growth targets would not be wise at this point. The strategy should focus primarily on adjusting

specific disequilibria, but policies should be coordinated to minimize their negative impact on growth and to continue progress toward the objectives of poverty alleviation and development of the country outside of Bangkok. This will imply some major adjustments in the structure and relative distribution of growth compared to the recent past.

4.05 Among the most important elements of the adjustment program will be measures reducing the public sector deficit. There is some urgency in restraining expenditures in the short run, but most of the adjustment in the medium- and longer-term should come from higher tax collections. Higher public enterprise tariffs are also required in both the short- and longer-term. Increasing public and private sector saving will reduce aggregate demand and the savings gap. This will help improve the trade account, which will have to absorb most of the burden of reducing the current account deficit. However, additional measures will be needed to reduce the current account deficit, including adjusting energy prices to curtail the demand for petroleum imports, promoting industrial and agricultural production and exports, and encouraging efficient import substitution. Appropriate price adjustments will be a key element in the program. Price increases will be required for energy and energy products, and other price controls should also be reduced or eliminated. Some structural inflation will be associated with the adjustment process, and it is unlikely that domestic inflation will fall below the projected rate of international inflation in the 1980's, about 8% per annum. However, any domestic contribution to inflation from excess demand or protectionist policies should be curbed to restore as much domestic price stability as possible and to maintain the economy's external competitiveness.

4.06 The evolution of institutions affecting economic activity will have to be accelerated in the course of the adjustment process. Private sector financial institutions will have to adapt to the requirements of the adjustment program. Government institutions will have to be responsive to public needs throughout the country, but they will also have to set and implement national priorities for allocating scarce public financial resources and to design and apply a coherent energy policy./1

4.07 Policies that increase agricultural production and exports will aid rural poverty alleviation objectives, and the promotion of manufactured exports should complement efforts to reduce urban poverty, since most export industries are urban based and tend to be labor intensive in Thailand.

/1 More specific recommendations for improving government institutions will be contained in a report which is currently being prepared on Development Management in Thailand, and recommendations for the institutional development required in the energy sector are contained in Thailand, Energy Issues and Prospects (No. 2813-TH, May 1980, Green Cover).

However, a number of elements in the program may lower GDP and personal income growth, and this will make these policies difficult to implement. The Government will have to make a strong commitment to a several year program, particularly to the initial fiscal policy and price adjustments, and it will have to educate the public on the necessity of these policies.

The Magnitude of the Required Adjustment

4.08 The extent and magnitudes of the current disequilibria were analyzed in Chapter III. The general direction of the necessary adjustments and their interrelations were also discussed in qualitative terms. The rest of this chapter will be devoted to analyzing in greater detail the adjustments required in the five areas identified above, to suggesting policy alternatives, and to evaluating their impact on achieving the adjustment objectives. In order to support the quantitative analysis, a consistent macroeconomic accounting framework and a simulation model were constructed. A reference simulation was made, including positive assumptions about the effects of policy actions already taken by the government and the normal responses of the economy to changes in prices and incomes. This indicates the likely prospects for the macroeconomic variables without further policy action and the magnitude of the remaining adjustments to be accomplished in the Thai economy if no additional policy measures are initiated and if other factors evolve in a relatively favorable manner. Even in this case, significant further adjustment will be required. If the policy actions taken so far are ineffective, or the Government is unable to slow the growth of the budget deficit, or exogenous factors are less favorable, the economy will indeed reach a crisis before 1985.

4.09 A Social Accounting Matrix (SAM) ^{/1} provides the accounting framework to integrate data from the National Accounts, the input-output table, the balance of payments, and the fiscal accounts into a matrix format that presents a consistent and unified picture of all the principal flows in the economy. The macroeconomic simulation model is based on SAM accounting framework and specifies analytical functions for the implicit relations underlying the SAM. This analysis uses a highly aggregated, 23-sector SAM based on 1975 data. The structural parameters were estimated from data for the period 1960-79.

4.10 The SAM describes the income and production flows that the model simulates. Incomes of the institutions (households, companies and the government) are derived from the production activities, tax collections, and transfers among institutions. Incomes are allocated to saving, transfers, and various categories of consumption demand. This allocation exhausts the resources of each of the agents. The consumption demand for different goods

^{/1} See Annex I for further explanation of the SAM and its construction and for the specification of the model.

depends directly on the level of income, and indirectly on relative prices and historical trends in consumption behavior. Consumption demand plus investment demand generate final domestic demand. Intermediate demands are derived directly from the input-output relations and the level of activity, which depends on final demand. Intermediate demand plus final domestic demand give total domestic demand. The allocation of this demand between imported and domestic goods is determined by their relative prices and the degree of substitution possible between domestic goods and imports. Export demand plus the demand for domestic goods determines the level of domestic production in the industry, energy, and service sectors. With additional assumptions about the growth of agricultural output, the level of incomes accruing to the institutions is determined. Exports of manufactured goods and services are a function of foreign demand and prices, and exports of agricultural goods are a function of supplies available after satisfying domestic demand. Other transfers and factor service payments between Thailand and the rest of the world are included to complete the balance on external current account. The entire cycle of economic activity is recorded in the SAM and simulated in the model. This framework is a major extension of input-output analysis to encompass the relations between the income-generating activities, the distribution of that income to institutions, and the resulting determination of the composition of final demand. Completing the model in this way includes responses to policy or other changes that occur on the demand side and the secondary effects of policies on other variables.

4.11 The model is used in the following analysis to simulate the effects of various policy changes on the prospects for the economy. Values for the exogenous factors, such as prices of imports and exports, are assumed and policy variables, such as tax rates, are modified. The model then simulates consistent evolutions of the economy within the SAM framework and traces the effects of alternate assumptions about policy actions and external developments. When analyzing the simulation results, it is important to note certain features of the model:

- (a) the activity level in the agricultural sector (supply) is exogenously specified;
- (b) production in the industry, energy, and tertiary sectors is demand determined as a function of consumption patterns, income levels, relative prices, and external demand for industrial and service exports. This implicitly assumes that over the medium term, the investment levels are sufficient to provide the capacity increases required to satisfy demand growth;/1

/1 This is a Keynesian assumption in the medium term and states that both supply and capacity increments are responsive to demand growth in the medium term. The model does not address short-run stabilization issues of the availability of excess capacity to meet short-run demand fluctuations.

- (c) prices are cost determined;^{/1}
- (d) demand for imports is a function of aggregate domestic demand levels, relative prices, and the degree of substitutability of domestic goods and imports;
- (e) demand for goods by the public and household sectors is based on Engel curve relations;
- (f) investment behavior is exogenous; and
- (g) the trade and savings gaps are endogenously equated in arriving at a solution.

4.12 The reference simulation indicates how the economy would evolve during the 1980's if no further specific adjustment measures were taken. It will provide a measure of the extent to which additional adjustments will be required and a benchmark to help evaluate quantitatively the effects of the policy actions recommended. It should be emphasized, however, that the results of the model are not predictions; rather, they are internally consistent indicators of how the economy would evolve and of the relative magnitudes of the principal variables, given the specific assumptions that are made. Because of its fully closed structure, the model includes a number of endogenous adjustments: e.g., the demand for imports falls when their prices rise; lower real income growth slows the domestic demand for agricultural production and more is exported; slower domestic inflation increases the competitiveness of manufactured exports and they rise; and conversely in all cases. The accounting equilibrium generated may be judged not acceptable or sustainable because of its implications for certain variables, e.g., external borrowing and debt service payments that are too high. Policy parameters can then be varied to simulate policy measures that should produce a more acceptable equilibrium in the model.

4.13 Selected indicators from the reference simulation are shown in Table 4.1. In this case, it is assumed that the structural parameters of the economy do not change from their current levels; tax rates are not raised, the adjustment to external energy prices remains incomplete, the agricultural growth rate declines somewhat from its rate of the past five years to 4% p.a., export promotion is not accelerated, and current monetary and exchange policies are continued. World Bank price projections are assumed for imports and exports. Nevertheless, this simulation includes

^{/1} Hence the model can analyze cost-push and/or imported inflation, but not demand-pull inflation. This is a drawback, since excess demand is a matter of concern in Thailand; however, price-endogenous models are much more complicated to construct and require strong assumptions about price flexibility, both upward and downward, which may not be valid in the current Thai context.

a number of elements reflecting adjustments already made and the endogenous responses of the economy to price and income changes. These include implicit assumptions that the public sector deficit does not increase above about 6% of GDP, that domestic energy prices remain above a level that would require direct subsidies to the sector (but still less than full adjustment), and that monetary policy does not allow excess demand to augment domestic inflation and reduce the competitiveness of Thai exports and import substitutes. This simulation does make allowances for reactions by the government and other economic agents to deteriorating economic conditions, but not for major new policy initiatives.

4.14 Under these conditions, real GDP growth remains about 6% p.a. and real per capita growth is 3-4% p.a. because of declining population growth. The effects of the energy price increases implemented in 1979-80 have a significant effect on reducing energy imports, as will the use of domestic natural gas beginning in 1982. The decline in investment rates noted in late 1979 and early 1980 is evident. Because of declining growth rates, however, the investment share declines only slightly by 1985. Slower investment growth also reduces import demand. It has been argued that an import-intensive cycle of investments will terminate in the early 1980's, further reducing import demand. As a result of these factors and the effect of rising import prices on the demand for imports, they only grow at 4.7% p.a. in real terms in 1980-85, with an expenditure elasticity with respect to GDP of 0.9. A similar phenomenon occurred in 1970-75 when import growth trailed overall growth in real terms under comparable circumstances. Real export growth of 10% p.a. is implied in this simulation, implicitly assuming that the momentum of recent export growth is sustained by continued agricultural growth and dynamism in the manufactured exports despite slow growth abroad. The Thai share of manufactured exports of developing countries would continue to increase as Thai manufactures would grow at 12% p.a. in 1980-85, compared to a projected 9.5% for all LDCs./1 Although tax rates are not changed, public revenues and savings shares increase slightly because the shares of industry and services in GDP increase, and these sectors are relatively more heavily taxed. The private domestic savings share also increases, but rising factor service payments abroad (interest payments) result in a decline in the national savings share, despite the increase in domestic saving. Cost-based inflation during the 1980s will average about 7% p.a., and this will have to be absorbed by the economy. In many respects, this simulation shows an economy that is not on the verge of collapse. However, despite the significant changes already under way, the adjustments are inadequate to reduce the current account or fiscal deficits.

4.15 Although export and import performances are both very favorable, further deterioration in the terms of trade and rising interest payments increase the current account deficit to \$4 billion in 1985, which is still 7.3% of GDP. Annual borrowing requirements in that year reach nearly \$6 billion and the debt service ratio is nearly 25%. The trade and current account balances improve somewhat by 1990, but the debt-service ratio continues to climb above 30% and debt accumulation exceeds \$42 billion,

/1 Based on the projections of the World Development Report, 1980.

Table 4.1: SELECTED INDICATORS IN THE REFERENCE SIMULATION

	1975-79	1985	1990
GDP growth (% p.a. constant prices)	8.9	5.5 /a	6.0 /a
Investment share (% GDP)	25.8 /f	26.7	25.5
Gross national saving (% GDP)	21.0	19.4	20.2
Gross domestic saving (% GDP)	22.2	22.9	24.6
General government revenue /d (% GDP)	15.1	15.7	16.2
General government expenditure (% GDP)	12.7	13.2	14.2
General government saving /d (% GDP)	2.4	2.5	2.0
Public sector saving gap (% GDP)	5.7	5.5	6.0
Export growth (% p.a. constant prices)	15.2	9.9 /a	7.8 /a
Import growth (% p.a. constant prices)	11.6	4.7 /a	5.0 /a
Terms of trade (1975 = 100)	88.5	72.9	70.5
Resource balance (\$ billion)	-0.3	-2.0	0.9
Current account (\$ billion)	-1.1	-3.9	-4.9
Current account (% GDP) /e	5.3	7.3	5.3
Required annual borrowing (\$ billion) /g	1.0	5.7	9.9
Debt outstanding (\$ billion)	3.9 /b	20.2	42.4
Debt service ratio (%) /c	15.4 /b	24.4	31.5

/a For periods 1980-85 and 1985-90.

/b End 1979.

/c Including private.

/d Including central Government plus local jurisdictions, but excluding public enterprises.

/e Equals total saving-investment gap.

/f 28% in 1979.

/g Gross disbursements excluding use of reserves and IMF funds.

a level equal to nearly half of GDP in that year. The current account and fiscal deficits will not be brought under control fast enough to maintain the economy's creditworthiness, and foreign financing in the amounts required are unlikely to be forthcoming on acceptable terms. Even this simulation is not sustainable, and further adjustments will have to be made.

4.16 This reference simulation may well turn out to be optimistic for a number of reasons. Rising domestic production costs may prevent further penetration of Thai manufactured exports into world markets; agricultural production and export growth may not reach even the rate assumed; the budget deficit may continue to grow; continued expansionary deficit financing of budget deficits may lead to further excess demand and more inflation than that due to rising import costs. A significant shortfall in any of these

areas would severely aggravate the economic situation before 1985 and force more abrupt and disruptive adjustment. For example, a decline of one percentage point in the export growth rate in conjunction with a one-percentage point increase in the import growth rate would add more than \$1 billion to the current account deficit in 1985. An increase of the public sector deficit by 30% in 1985 would have a similar impact on the current account deficit. Recent pressures to increase defense and other expenditures are particularly worrisome in this regard. In either case, it is unlikely such deficits can be financed and some corrective action would become absolutely necessary.

4.17 By not taking strong adjustment measures, the Government would be taking a highly risky gamble that nothing worse happens than what is implied in the favorable reference simulation and that financing will continue to be available. The economy would be very exposed to adverse circumstances. The following sections will examine the adjustments that are needed, analyze their implications for the economy's prospects, and present appropriate policy options.

Policies for Structural Adjustment

4.18 Fiscal Policy and Public Resource Mobilization. The majority of resource mobilization in Thailand occurs in the private sector, which has typically generated about 19% of GDP in saving and has invested roughly comparable amounts. Both saving and investment have proven to be sensitive to real interest rates. If the financial sector can restore and maintain positive real interest rates on savings, the private sector should be able to generate sufficient savings to meet its investment needs, and possibly a small surplus that can be mobilized by the Government.

4.19 Most of the aggregate savings shortfall is due to the public sector. As discussed above, the central Government's current expenditure growth /1 has exceeded revenue growth, and budgetary savings have disappeared. The demands for higher levels of government expenditure for defense and security, supporting rural development programs, increasing civil service salaries, providing higher quality social services in rural areas, servicing the growing public debt and maintaining the capital stock that the Government has been building over the past 20 years will make it very difficult to slow expenditure growth in the future. Defense and administration, transfers to local governments, and interest payments now comprise 64% of total central government expenditure, and it is difficult to envisage significant cuts in these areas in the current political and economic situation. Capital expenditures have fallen from 26% of government expenditure in 1971 to 19% in 1979 (5.1% and 3.2% of GDP, respectively). Planned development projects in irrigation, transportation, communications and other infrastructure will all require continued government capital expenditure. While investment in these areas is necessary to support growth and increase production, the investment program must be carefully evaluated to assure that all projects have sufficiently high economic returns. Some, such as the airport extension or elevated rail system, may

/1 Including current transfers to local government and public enterprises.

well have to be postponed. However, blanket curtailment of public investment, to solve the short-run savings gap as occurred in 1974, could have large long-run costs in terms of forgone future growth. There would then be pressure to catch up on all these investments once the immediate crisis were past, and this could lead to a "stop-go" cycle that could further disrupt the economy.

4.20 There is not yet a detailed consolidated government or public sector investment program, and accessible information on current expenditures is not adequate to permit selective reductions to be easily made. It is very difficult to enforce centrally determined priorities for expenditure cuts by operating agencies with the current planning and budgeting processes, and such attempts may result in serious disruptions of the development programs. The prima facie discretionary elements in the budget do not seem to offer much scope for significant reductions in government expenditures. Work is currently under way in the Bureau of the Budget and the Comptroller General's Office to improve the budgeting and monitoring capabilities of the Government and increase its ability to control expenditures better in the future. These improvements should be given high priority, and in the meantime, every effort should be made to cut unnecessary expenditures. Reallocation of expenditures to support adjustment policies should also be possible, and the Government is taking initiatives in this direction to support rural development. Nevertheless in the short run, some expenditure constraint will be necessary as it will take time to increase the revenue share significantly. Increasing revenues in the medium term, however, will constitute a more permanent adjustment to the increasing demands for defense and public service expenditures being made on the government.

4.21 These public finance issues have been discussed with Thai authorities on a number of occasions and much progress has been achieved. However, it has not resulted in a significant increase in the share of revenues in GDP. Given the severe resource constraints now faced by Thailand, the lack of surplus private sector saving, and the necessity of reducing the aggregate savings gap, total public sector expenditures should not be allowed to rise above their current share of about 21% of GDP, including transfers and

capital expenditures of public enterprises. Central-government revenues should be increased from the current level of less than 14% of GDP to about 17% ^{/1} over a five-year period. Public enterprise tariffs should be allowed to rise to enable them to contribute a larger share of their own investment programs. Although different factors will determine the contribution of each enterprise, in aggregate they should be able to contribute at least half their investment program, which is expected to run about 3-4% of GDP. This implies a target of public sector resource mobilization of almost 19% of GDP. If this is achieved, the public sector deficit will fall toward 3% of GDP by 1985, compared to 6% in 1979 and 1980.

4.22 Achieving the government revenue target will require major efforts in tax policy over the coming five years. These can be separated into (a) increasing collections under existing taxes; (b) increasing rates of existing taxes; (c) expanding the tax base covered by existing taxes; and (d) instituting major tax reforms to restructure existing taxes and to introduce new taxes. There is potential for increasing revenues in all of these ways, and a coordinated program should include elements from each.

4.23 Increasing collection rates on existing taxes and selective tax rate increases offer the most immediate opportunities for increasing revenues in the short run, and they should be pursued immediately. Improving tax administration and procedures is necessary to any program aimed at raising the share of revenues in GDP, and the Thai government is working in this area. However, measures to expand tax bases and implement tax reforms will also be required to achieve the longer-term target and to improve the efficacy and equity of the tax system. Work should begin promptly on designing these reforms, which should be implemented over the next five years. They should introduce a greater degree of progressivity into the tax structure, increase its buoyancy above the current level of about unity, and provide more equitable treatment of different sources of income. In addition to the revenue and equity objectives, the Government should assure that the tax reforms do not introduce price distortions that adversely affect production and private saving decisions.

4.24 The public enterprise investment program is now nearly as large as that of the Government due to sharply rising costs of capital equipment, expanding coverage throughout the country, and programs to improve service of the utilities (e.g., rural electrification, provincial water supplies, improved internal communications). The contribution of the public enterprises to their investment programs from their own resources has declined from over 50% in 1970-72 to currently less than 25% because of restrictions on tariff increases and large investment programs. They have had to mobilize more resources abroad. The underpricing of their goods and services

^{/1} This target was established with the Thai authorities in 1974 in discussions of the Report "A Study of Public Finances in Thailand," (No. 574-TH, October 31, 1974).

has also increased the level of demand and contributed to higher investment requirements. Given the growing constraints on external resources and on central-government funds, the public enterprises' difficulties in mobilizing resources will grow. They should make greater use of domestic resources and increase their contributions to their own investment programs.

4.25 There are several criteria that can be applied to public enterprise tariff structures:^{/1} they can be required to meet quasi-market tests of earning a designated rate of return on assets; they can be used explicitly to mobilize resources for the public sector where they can exploit monopoly or monopsony power;^{/2} or they can be required to maintain specified and usually low tariffs in the interests of transferring income (or reducing expenditures) to the users, the majority of whom are assumed to be poor, with any losses made up by public subsidies. Various combinations of these criteria occur in Thailand, usually as the result of ad hoc decisions and not as part of a coherent strategy. In view of the importance of public enterprises in a number of key sectors and the impact their tariff policies have on economic activity, a general policy on public enterprise tariffs, the taxes they pay the Government, and their role in for public resource mobilization should be developed. In any event, reducing the public sector savings deficit will have to be achieved partly by raising public enterprise tariffs.^{/3}

4.26 Several implications of raising public revenues and saving must be recognized. As the investment-saving gap is reduced, disposable income will also be reduced, which will, ceteris paribus, lower both consumption demand and private savings. This implies disposable income and consumption will have to grow more slowly than GDP, reversing the recent trends. These effects will differ in impact depending on how various taxes and tariffs are adjusted. Raising public enterprise tariffs and certain indirect taxes will also temporarily increase the rate of inflation, since they figure in the CPI calculations. Policy measures in other areas may imply lower revenues from some traditional sources, so a larger total effort to raise revenues will be required to offset revenue losses elsewhere.

^{/1} Particularly for public utilities where natural or regulatory monopolies exist.

^{/2} This can even have a relatively progressive impact when the majority of the users of the enterprise's goods or services are in the higher income groups.

^{/3} The details of a number of these tariff issues are being specifically addressed in energy, water supply, and transportation, and other projects.

4.27 The Government has recognized the necessity of raising revenues and improving the tax structure, and it has recently taken several steps in this area. The IMF is providing technical assistance to improve the tax administration and collection procedures in the Revenue Department, and this effort is bearing fruit. Reforms announced in 1980 have increased the progressivity of the personal income tax, but they have also reduced rates for lower- and middle-income levels and increased standard deductions to help maintain the real disposable incomes of the middle and lower classes. While this improves the nominal income tax structure, it exempts too large a segment of middle-income levels and results in a revenue loss. The corporate income tax rate was raised from 30% to 35% for SET-listed companies and from 35% to 45% for others. Following the 1977 shift from progressive to uniform corporate tax rates, this will increase revenues from this source and may offset the loss on the personal income tax. Petroleum excise taxes have been converted to ad valorem rates, and other excise taxes have been raised. Some business tax rates and public enterprise tariffs have also been increased in the past year. These policy measures move partly in the right direction, and a great deal depends on whether the recent changes will become part of an overall reform of the tax system.

4.28 Increasing public sector saving and maintaining private sector saving at about its current share should reduce a major source of excess demand that has contributed to inflation and the large current account deficit. Raising taxes above their current share in GDP will reduce the disposable income of households and companies, reducing their demand for both domestic and imported goods and services. But, to reduce total demand, the Government's savings behavior must be improved and its expenditure growth restrained. Without such expenditure constraint, raising taxes will have little positive effect, as higher public demand would simply replace the forgone private demand. The simulation model gives some indication of the impacts on the rest of the economy of increasing government revenues and savings behavior./1

4.29 In a sensitivity test, the indirect tax rates /2 were raised in relation to those in the reference simulation to generate general government revenues of about 18.7% of GDP in 1985 and 18.7% in 1990 as shown in Table 4.2./3 The growth of total expenditures, including public and public enterprise investment, was restrained, reaching 21.5% of GDP in 1985 and 22% in 1990. As a result of higher tax rates and lower consumption levels, investment growth was assumed to be slower than in the reference simulation.

/1 The model is not sufficiently disaggregated to analyze the impacts of increasing public enterprise tariffs, although it is unlikely the effects would be very different.

/2 Direct taxes could also be raised with similar results. The major difference would be a slightly more adverse effect on private saving.

/3 This corresponds to the target of 17% of GDP for central-government revenues.

Table 4.2: IMPACT OF GREATER PUBLIC SECTOR RESOURCE MOBILIZATION
AND SAVING
(use of indirect tax increases)

	1975-79	1985	1990
GDP growth (% p.a. constant prices)	8.9	5.4 <u>/a</u>	5.8 <u>/a</u>
Investment share (% GDP)	25.8 <u>/f</u>	26.1	24.7
Gross national savings (% GDP)	21.0	19.6	21.4
General government revenues <u>/d</u> (% GDP)	15.1	18.0	18.7
General government expenditures <u>/d</u> (% GDP)	12.7	13.5	13.8
General government saving <u>/d</u> (% GDP)	2.4	4.5	4.9
Public sector saving gap (% GDP)	5.7	3.5	3.1
Current account (\$ billion)	-1.1	-3.5	-3.1
Current account (% GDP) <u>/e</u>	5.3	6.5	3.3
Debt service ratio (%) <u>/c</u>	15.4 <u>/b</u>	23.5	27.7

/a For periods 1980-85 and 1985-90.

/b End 1979.

/c Including private.

/d Including central Government plus local jurisdictions, but excluding public enterprises.

/e Equals total savings-investment gap.

/f 28% in 1979.

Source: Mission estimates.

4.30 Under these assumptions, the aggregate growth rate falls below the reference run as a result of increasing public saving and lower aggregate demand. Some improvement in the current account deficit is evident in 1985, and much more improvement is achieved by 1990. The resource balance becomes positive in that year, but high interest payments keep the current account in deficit. The cumulative impact of lower external deficits on borrowing requirements, debt service ratios and debt outstanding are clear by 1990. The effects are less noticeable in 1985 because of the large size of the initial deficit to be reduced. The Government expenditure share in GDP rises slightly compared to the reference run because of the continuation of current programs and the slower GDP growth. This simulation clearly

/1 Most comparisons in this and subsequent simulations will be in relation to the favorable reference simulation, unless otherwise stated.

indicates that improving public sector saving will have a positive effect on reducing the external deficit, and that effect will grow over time. There will, however, be some cost in lower aggregate growth. But fiscal policies alone are not sufficient to solve the immediate problems unless quite severe measures are taken. They help reduce the savings gap, but unless measures are taken at the same time to improve the real transfer of resources, i.e., raise exports and lower imports, the trade deficit will not be reduced sharply without quite severe measures.^{/1} The fiscal measures are necessary, but not sufficient to complete the adjustment. Action will have to be taken in other areas as well.

4.31 Policy Recommendations. These recommendations will focus on means to achieve the five-year targets of raising the share of central government revenue in GDP to 17% (general government to 18%), of increasing the public enterprises' contribution to their investment programs, and of restraining total public sector expenditures to about 21% of GDP. Measures to maintain high private sector saving will be discussed in the next section. A program of tax and fiscal policy reform should be implemented to achieve these targets by 1985, and further improvements should be continued thereafter. This will require careful study and development by the Ministry of Finance in consultation with other government agencies, particularly NESDB. However, initial action should be undertaken as soon as possible towards reducing the large public savings deficit. Because of possible difficulties in implementing measures to raise taxes, particular emphasis should be given to measures to control expenditures and raise public enterprise tariffs in the short run. Appropriate public enterprise tariffs are very important in the energy sector and to assure economic use of public enterprise goods and services. The Mission recommends consideration be given to:

- (a) reviewing government current and capital expenditures to eliminate wasteful or unnecessary expenditures and assure that the remaining ones conform to the government's priorities for development and adjustment. A comprehensive analysis and review of the public investment program and adequate economic evaluation of public and public enterprise investments should be a regular part of the planning and budgeting exercise;
- (b) exerting even more vigorous efforts to increase collections of existing taxes through improvements in tax administration for both direct and indirect taxes, building on the success of initial programs in this area;
- (c) introducing procedures for more prompt collection of tax liabilities and advance payments of some taxes;

^{/1} This is equivalent to saying, in Cordon's terminology, that not only must the aggregate level of demand be reduced, but also its structure must be shifted from tradables to nontradables.

- (d) discontinuing the present system of treating any corporation as a personal entity for income tax purposes if one of the shareholders owns more than half of the capital;/1
- (e) expanding the personal income tax base to include all income from property, capital gains, and eventually gifts and transfers;
- (f) simplifying the rate structure of the business tax into three broad categories with a standard basic rate, reduced rate on essential goods and a higher rate on nonessentials. The basic rate level should be kept high enough to increase revenues significantly, and rates should be applied uniformly to domestic goods and imports. Consideration should also be given to reforming the business tax into a single point tax (probably at the wholesale level) with the possibility of eventually moving to a value added tax;
- (g) implementing proposed reforms of the excise tax structure to consolidate nine separate excise codes into a single one, to integrate excises with business taxes on selected commodities, to widen the excise tax base to include luxury commodities such as electrical appliances, electronic devices, automobiles, watches, cosmetics, etc.; and to convert all remaining specific excise taxes to ad valorem;/2
- (h) increasing collections on the existing property tax, which are low because of widespread exemptions, concessional rates, low assessments, and poor administration. Introducing a new property tax should also be considered in the longer term;/2
- (i) reducing the "standard deductions" for professional incomes or replacing them with direct accounting of expenses;
- (j) introducing frequent and automatic tariff adjustments for public enterprises based on their operating costs and investment requirements so that they can cover a larger portion of their investment programs; and
- (k) issuing government bonds that offer positive real rates of interest to the public to reduce reliance on deficit financing from the banking system. Public enterprises should also be encouraged to issue bonds to the public.

/1 This would reduce tax avoidance arising from changing the juristic form of an enterprise, particularly in view of the recent reductions in the personal income tax and increases in the corporate income tax. Similar treatment should also be considered for some partnerships to increase the distinction between taxes on enterprises and those on individuals and allow for differential tax treatment.

/2 Legislation for these measures has been introduced and may be passed by Parliament in the near future.

4.32 Monetary Policy, External Balances and Financial Sector Development.

The current account deficit is a reflection of the structural disequilibria in the domestic economy: the savings deficiencies, accommodating monetary policy, and inadequate price adjustments. Because of rising interest payments, the relatively large trade deficits of the past two decades cannot be continued, and a surplus may be needed on that account. This will require measures to improve domestic resource mobilization, reduce import demand, and increase exports. Attempts to reduce the deficit directly by quotas, bans, higher tariffs on imports, or by large subsidies to exports will mask rather than redress the fundamental imbalances, aggravate distortions in the productive sectors, and diminish the long-run growth potential of the economy. They should be strictly avoided.

4.33 Monetary policy will have to assume greater responsibility for macroeconomic management of demand, resource mobilization and allocation, and the balance of payments. Restraint in the rate of credit expansion will be necessary to moderate demand pressure on prices and imports. This should complement measures to increase public saving discussed above, since the requirement for deficit financing from the Bank of Thailand and commercial banks should diminish. In addition to the rate of credit creation, interest rate policy will become a more important element in conducting monetary policy and influencing the balance of payments. Maintaining positive real interest rates on time deposits and at least some government securities will encourage more private saving while discouraging some marginal investment, thus helping reduce the savings gap. Interest rates are also important in influencing short-term capital flows in the balance of payments, and they should be kept high enough to prevent large interest-sensitive capital outflows, while other measures should be implemented to discourage excessive recourse to short-term private foreign borrowing to finance domestic credit expansion or the current account deficit. While higher interest rates will increase savings, they will also raise the debt servicing payments on the government's domestic debt, which will require more public resource mobilization. However, this is a necessary part of the adjustment process and higher interest rates reflect the cost of mobilizing domestic saving. Controlling government expenditures is not a sufficient reason for maintaining low interest rates.

4.34 Even with careful macroeconomic management, the magnitudes of the expected financing requirements pose certain problems for the mechanisms of foreign resource mobilization and domestic financial sector adjustments which will require direct policy action and improved financial intermediation. Careful management of the capital account and coordination of foreign borrowing, particularly by public enterprises and the private sector, will be required. Annual current account deficits will average about \$3 billion per year throughout most of the 1980's, even with significant adjustment, and gross annual disbursements of foreign loans will rise from \$2.4 billion in 1979 to nearly \$6 billion in 1985 and possibly as high as \$10 billion in 1990. Private sources will be a major source of capital in the 1980's, and government relations with foreign commercial banks will assume greater importance.

The level of medium- and longer-term private sector borrowing abroad should also increase, and the private Thai banks will play a role in mobilizing these foreign resources.

4.35 Given the size of the external deficit and the dependence on private commercial markets, it is important that a coherent debt management program be developed for all public foreign borrowing and that all foreign debt be monitored. The majority of foreign borrowing during the coming five years will be from private, nonconcessionary sources. It will be available only if the Thai economy continues to demonstrate its creditworthiness. Judgments about creditworthiness will depend inter alia on the perceived ability of the economy to manage its external borrowing prudently, to keep its inflation rate within acceptable bounds, to mobilize sufficient domestic resources, to generate exports over the long run, and to sustain the growth rates necessary to achieve these and other important goals. The Bank of Thailand will also have to be able to maintain adequate reserves and follow sound monetary and exchange rate policies to support the creditworthiness of the Thai economy.

4.36 The whole issue of creditworthiness will become more important in world capital markets in view of the high levels of borrowing expected to be undertaken by LDCs over the next five years. The changes occurring in the world economy, the large and continued surpluses that will be generated by oil-exporting nations, and the potentially chronic deficits of oil-importing countries are forcing a re-evaluation of most conventional wisdom on this subject. Higher levels of debt and debt service will probably be tolerated as the international monetary system continues to adapt to the changing economic balances. However, even though the international monetary system will be recycling larger volumes of money, that does not necessarily mean that countries which have large deficits will automatically gain access to those resources. Debtor countries such as Thailand will still have to demonstrate their creditworthiness. If Thailand is not perceived to have its current account deficit under control, its creditworthiness will suffer, and it may not be able to continue borrowing the amounts it desires.

4.37 Another objective of the monetary authorities should be to continue to support the stability and development of financial institutions after the recent difficult period. Several recent actions have increased the Bank of Thailand's control over financial sector development. The revision of the Commercial Banking Act, the Act on Finance Business in 1979, the special fund to stabilize the finance companies, and the Capital Market Development Fund have eased the liquidity situation of finance companies and stabilized the SET. These actions, along with more general credit restraint by the Bank of Thailand and higher interest rates, should help restore the somewhat shaken stability of the financial sector and reduce the pressure of excess demand. The financial sector should now be able to play an important

role in the adjustment process by continuing to facilitate private resource mobilization and allocation within the framework of appropriate interest-rate and other financial policies.

4.38 The increased integration of Thai financial institutions into international money markets has largely been a benefit to the economy. The banking system's ability to borrow in foreign exchange has helped balance the country's current account deficit; in fact, banks have been encouraged to do so on occasion. Such access to international money markets is not without cost, however. The magnitude of these short-term, uncovered liabilities makes the economy much more sensitive to external financial developments. The potential volatility of these liabilities and the size of the current account deficit increase the difficulty of managing international reserves and domestic monetary policy. Rising external interest rates in 1979 forced suspending taxes levied on interest paid on foreign loans, led to substantial short-term capital flight from early October, and threatened a liquidity squeeze. In January 1980, interest rate ceilings were raised, which relieved these pressures by reducing the domestic demand for funds, encouraging additional domestic saving, and curbing interest sensitive capital outflows.

4.39 The effects on the balance of payments and external borrowing requirements of measures to increase private saving or reduce the growth of aggregate demand through higher interest rates or less credit expansion will, by themselves, be similar to those of raising public sector saving. There will be some reduction in the growth of imports and some slowing in investment rates. In the simulation model, raising private saving by 1% of GDP compared to the reference simulation reduces the current account deficit to 6.4% of GDP in 1985. The growth rate falls slightly to 5.4% p.a. and public saving is little changed. As with the experiment raising public saving, the impact of improved savings behavior alone does not have a large impact on the external deficit without accompanying action to alter the flow of real resources through the trade balance. Given the magnitude of the adjustment, not only must the level of consumption demand be reduced, but its composition must be shifted away from imports, and the production of more exports must be encouraged. These issues will be addressed below.

4.40 Policy Recommendations. Improvements in the current account deficit will largely be the result of policies undertaken in other sectors, but appropriate monetary policy and debt management will be necessary to support these actions. The Bank of Thailand has adequate tools to pursue prudent monetary policy, to manage external borrowing, and to regulate and support financial institutions without having to resort to excessive liquidity creation. The Bank of Thailand, with the support of other government agencies, must use these tools as part of the overall adjustment process. Reducing the public sector deficit and public borrowing from the banking system will be major factors in reducing the pressure for monetary expansion, thereby helping to ensure adequate availability of bank credit to finance private sector requirements within an acceptable rate of total credit expansion. Assuring that interest rates are not artificially

constrained will be another important element. Stable monetary policy should reduce domestic inflationary pressures and allow the private sector to perform its resource mobilization and allocation functions more effectively. Supporting policies will be needed to guide institutional development with appropriate regulatory action and to assure proper foreign debt monitoring and capital account management. Action should be considered to:/1

- (a) establish and adhere to guidelines for rates of monetary expansion consistent with expected real growth plus exogenously generated price increases. Interest rates should be allowed to adjust as necessary (further increases in interest ceilings may be required);
- (b) assure that the Bank of Thailand maintains the interest rates that it regulates positive in real terms, and that other regulated rates move consistently with the overall rate structure./2
- (c) adjust interest-rate, reserve, and other financial policies to assure necessary capital account balances consistent with domestic objectives of growth and financial stability;
- (d) fully implement existing requirements for reporting to the Bank of Thailand all actual and intended foreign borrowing by all agents, public and private, and to develop debt management policies to coordinate public sector borrowing and provide guidelines for private borrowing;
- (e) improve financial intermediation by measures to increase credit availability for agriculture and small-scale industry through changes in institutional structures and/or regulations; and
- (f) encourage longer-term lending by commercial banks and the creation of specific institutions with long-term intermediation objectives, such as insurance companies and pension funds.

4.41 Energy Policy./3 Thailand's propensity for high and growing energy imports indicates that Thailand has not adequately adjusted domestic prices

/1 Policy measures directly relating to merchandise trade will be addressed in the following sections.

/2 Exceptions may be made for certain specific rates which are intentionally kept at low levels for other policy objectives, so long as these exceptions are not widespread.

/3 This section is based on the report Thailand, Energy Issues and Prospects, No. 2813-TH, May 1980 (Green Cover). That report has been discussed with the Government and presents the analysis and policy recommendations much more fully.

to the external energy price increases. After initial increases in 1974, energy prices remained roughly constant until 1977 and rose sharply only in 1979. This has retarded conservation and reduction of the energy intensity of the Thai economic structure. The combination of continued rapid growth, modernization, and a heavy dependence on energy imports has resulted in a large oil import burden on the balance of payments, particularly after the doubling of oil import prices in 1979/80. The exceptionally low GDP elasticity energy consumption in 1978 (the last year for which data are available) is apparently due to transitory factors of very high agriculture led GDP growth and supply shortages of hydroelectricity and some petroleum products. The longer-term trends for higher energy consumption growth are likely to continue unless further price adjustments are made. Maintaining low energy prices has also contributed to the fiscal deficit. Adjustments in energy price policy will be essential to any satisfactory adjustment program.

4.42 Recent discoveries of natural gas, which will be available in 1982, and expanded production capacity of lignite beginning in 1984 will reduce the use of imported energy for power generation through the 1980's and will lower the economy's dependence on imported energy./1 However, even with this substitution, the development of remaining domestic hydro potential, and the possible production of alcohol from sugarcane and cassava, some 50% of total energy requirements would still have to be imported by 1990. Without significant increases in domestic energy reserves, a large portion of incremental demand after 1990 will have to be satisfied by imports and the import bill could accelerate sharply in comparison to its slow growth in the 1980s. Thailand will not be able to break its dependence on imported energy in the foreseeable future, and thus will have to adjust its domestic energy policies to external developments in energy markets, including both expected price increases and possible supply shortages./2

/1 There are now indications of significantly larger reserves of both lignite and natural gas in Thailand than previously believed. If this turns out to be the case, they could meet Thailand's power generation requirements until the year 2000 and supply substantial amounts of energy directly to industry. There is also the possibility of meeting a substantial part of Thailand's incremental power generation requirements by the year 2000 if the potential of the Mekong and Salween rivers were to be developed. This would still be quasi-imported energy, as they are international rivers, and there are major political and social obstacles to be overcome. However, even if international hydro or expanded lignite and natural gas supplies could meet all Thailand's power demands, it would still be dependent on imports for liquid fuel after 1990, which amount to about 40% of total energy demand.

/2 Intermittent supply shortfalls in recent years have been due more to administrative problems within the Oil Fuel Organization and the activities of domestic oil refineries than to external supply problems. However, these procedures will have to be improved as well.

4.43 Energy use must be curtailed. The efficiency of energy use should be increased and demand reduced in order to lower the expenditure elasticity of energy demand to a level consistent with balance of payments equilibrium. This will require a number of difficult decisions. Higher consumer prices are one of the most effective ways of reducing consumption, inducing conservation, and encouraging investment in more energy-efficient equipment, particularly in a market-oriented economy such as Thailand's. However, price policies are also highly visible, and price increases are unpopular with a large part of the population. This is one reason why the Government has been reluctant to move very fast on this issue. Prices for energy products should be adjusted as rapidly as possible to fully reflect the import and processing costs of energy and a reasonable tax structure based on balance-of-payments and conservation objectives. Taking account of the 3% p.a. projected relative increases in oil prices, projected international inflation of about 9% p.a. between now and 1985, and the current price shortfall of 30% below "appropriate" levels based on the pre-1973 tax structure, average annual domestic petroleum price increases of nearly 20% p.a. will be required over the next five years for domestic petroleum prices to catch up with the "appropriate" price level.^{/1} More rapid increases are necessary for fuel oil. Higher rates of increase will be required for electricity, averaging about 25% p.a., if the 8% rate of return target is to be achieved.^{/2} The recent increases in power tariffs go about half way toward meeting these objectives of the power sector this year. Energy price increases are externally generated, and the Thai economy cannot avoid absorbing them for any prolonged period of time. The costs of delaying domestic energy price adjustments are larger current account deficits, unavailability of certain energy products, incorrect investment signals to the energy sector and to energy users, lower government revenues, and, at various times, significant levels of subsidies to energy consumers.

^{/1} This "appropriate" level is a first approximation of an appropriate level for the 1980's. Further adjustments may be required, depending on how well these prices slow the growth of energy consumption and imports. It is not yet possible to make more accurate estimates on the basis of available data in the energy sector.

^{/2} Current covenants between EGAT and the World Bank call for increases of 56% in 1980 and 19% in 1981 to restore the 8% rate of return by the end of 1982, plus further increases to match any additional increases in the cost of primary energy. This is approximately 25% p.a. between now and 1985.

4.44 In adjusting petroleum prices, taxes should be increased to achieve at least the pre-1973 real level of taxation as a first approximation (appropriate rates A in Table 3.10, adjusted forward). Further requirements will then be required as the overall energy policy is developed. Subsidies to the sector from the government budget, by guaranteed borrowing through the Oil Fund, or by other means, should be eliminated completely.^{/1} As more nonrenewable domestic energy sources (such as natural gas and lignite) are included in the energy mix, appropriate price and tax policy will become all the more important. Pressure to lower prices to levels commensurate with the current cost of production of these resources must be resisted, and retail prices must be kept high enough to reflect properly the depletion of these resources, to contribute an appropriate portion of public revenues, and to encourage conservation and the further development of alternative domestic energy sources. These alternative sources will be economic to develop only if domestic energy prices reflect world price levels.

4.45 Although energy demand is relatively inelastic in the short run, evidence indicates that demand is responsive to price changes in the medium term when the structure of investment and consumption can adjust to the new higher relative price. Since the energy input into almost all production processes is relatively small, less than 10% of total costs, energy cost increases should not have a very large indirect effect on other prices. Rough estimates indicate that a 10% increase in energy prices would lead to about a 2.3% general price increase. Appropriate energy prices will also improve resource allocation and reduce distortions resulting from low energy prices. Part of the delay in adjusting petroleum product prices has been accommodated by squeezing distribution margins, which also have to be restored in the adjustment process.

4.46 Energy price increases will directly reduce the demand for energy and indirectly reduce aggregate demand. Both factors will reduce the import demand for petroleum and, to the extent energy taxes and tariffs are increased, public saving can be raised. If demand growth can be slowed, some large investments in the power sector can be postponed, reducing future investment demand as well. Since most of the energy used in the economy is by the better-off groups, the taxes imposed may turn out to be slightly progressive on average. Special tariffs, such as lifeline electricity rates, can reasonably be used to mitigate the impact of tariff increases on the poor without incurring too great a cost in forgone revenues.

4.47 In addition to price adjustments, domestic energy resources should be developed to substitute for imported energy. This will reduce the burden on the balance of payments and assure more energy independence for the economy. Thailand has already made substantial progress in this direction in

^{/1} The gross share of petroleum revenues in government revenues was 8.9% in 1979. Total subsidies to the sector may have amounted to as much as 5% of total revenues in 1979, so the net effect of these measures on the public sector deficit would be much larger than just the increase in revenue.

natural gas and lignite and is actively encouraging more exploration for hydrocarbons. It is also investigating biomass alternatives (e.g., alcohol), but further attention should be directed toward other renewable energy resources.

4.48 At whatever level of prices that obtains, it is essential that the relative prices of different energy products be properly structured to reflect their relative scarcity and economic costs. Different energy products are substitutable to some extent, and deliberate policies to maintain lower prices for certain products to aid certain consumer groups or industries may result in excessive and costly shifting of demand,^{/1} e.g., converting automobiles to diesel if the price differential between gasoline and diesel fuel is too large, or wasteful adjustments to take advantage of a lower-priced but less energy-efficient fuel. In addition to defeating energy conservation objectives, shifting can become costly if it distorts the structure of demand too greatly from the structure of supply. Among petroleum products, if the demand structure exceeds the possible range of supply of the refinery output mix, balance will have to be achieved by trading in the external spot market, which has proved to be costly. The principal issue at the moment concerns the expansion of the oil refineries. The use of domestic energy (gas and lignite) in power generation displaces a large portion of fuel oil demand and complicates the issue of balancing supply and demand of petroleum products. At present there is insufficient refinery capacity in Thailand, and any proposed expansion must include greater cracking capacity in existing unit to reduce the expected surplus of fuel oil.

4.49 Direct energy conservation measures should be employed to complement the other policies. These should encourage and support retrofitting of energy-saving devices in existing facilities and promote energy-efficient design in new construction and machinery. Policies should also encourage energy saving among individual consumers and reduce energy-using activities in areas where individual action is not feasible, such as measures to improve traffic flows in Bangkok. These objectives can be accomplished by regulatory measures in some instances, education and energy audits in others, and tax or other market incentives in still other cases.

4.50 Thailand has not yet developed a long-run energy strategy for energy development, pricing, and use. As a result, it faces a continuing period of uncertainty about energy, with resulting shortages, contention over prices, demands for preferential allocations, and disruptive ad hoc measures to save energy in periods when energy supplies are simply inadequate, such as the recent measures to reduce electricity demand in Bangkok by restricting the hours of operation of a number of activities. Other countries have demonstrated that high growth rates can be maintained with lower energy inputs, but this requires long-range planning and a number of specific conservation measures. Without significant progress in this area, the availability of energy and its impact on the balance of payments could become the principal structural constraints on Thailand's future growth.

^{/1} This should be distinguished from social policies which lower the price of small amounts of certain energy products to poor consumers, such as "lifeline" electricity rates. By their nature, these policies do not permit large shifts in demand.

4.51 Although it is not possible to estimate the effects of conservation policies and better energy planning or predict future discoveries of domestic energy, the simulation model can help analyze the impact of higher energy prices and tax rates. In the reference simulation, it was assumed that some of the recent external price increases were passed on, but that tax rates were kept low. This already led to a significant reduction of demand growth compared to 1975-79. In simulating the effects of fully adjusting energy prices, the full effects of external price increases are passed on and tax rates on energy are increased to approximately restore their 1970-73 real rates. Government expenditure growth is restrained so public savings can increase. Other assumptions are the same as in the reference simulation. The results of this simulation are shown in Table 4.3.

Table 4.3: IMPACT OF FULL ADJUSTMENT OF ENERGY PRICES

	1975-79	1985	1990
GDP growth (% p.a. constant prices)	8.9	5.4 <u>/a</u>	5.8 <u>/a</u>
Investment share (% GDP)	25.8 <u>/f</u>	26.1	24.7
Gross national savings (% GDP)	21.0	19.5	21.0
General government saving <u>/d</u> (% GDP)	2.4	2.6	2.7
Public sector saving gap (<u>%</u> GDP)	5.7	5.4	5.3
Export growth (% p.a. constant prices)	15.2	10.0 <u>/a</u>	7.9 <u>/a</u>
Import growth (% p.a. constant prices)	11.6	4.6 <u>/a</u>	4.8 <u>/a</u>
Resource balance (\$ billion)	-0.3	-1.7	0.1
Current account (\$ billion)	-1.1	-3.5	-3.4
Current account (% GDP) <u>/e</u>	5.3	6.6	3.7
Debt service ratio (%) <u>/c</u>	15.4 <u>/b</u>	23.5	28.0

/a For periods 1980-85 and 1985-90.

/b End 1979.

/c Including private.

/d Including central Government plus local jurisdictions, but excluding public enterprises.

/e Equals total savings-investment gap.

/f 28% in 1979.

4.52 Raising energy prices and taxes has about the same impact on growth and reducing the current account deficit as improved fiscal policy. This is due to the direct effect of reducing the demand for energy imports in addition to the indirect effects of lower real aggregate demand. The higher energy prices imply slower growth of real incomes as well as some shift in demand away from energy. Raising energy taxes also augments government revenues in 1985, permitting a higher level of public saving than in the reference simulation but not as high as in the simulation of greater public resource mobilization. The impact in 1985 is not yet large because of the lags in response to the price changes and the assumed even phasing of the price increases over the period 1980-85. As in the previous simulation, the resource balance becomes positive by 1990, but the current account balance remains negative because of the debt-service payments. The debt-service ratio, however, remains below 30% and is generally lower than in the reference simulation. This simulation shows the direct effect of raising energy prices on reducing energy imports, and indicates that such price increases will not seriously retard growth. These policy actions improve the resource balance by reducing the demand for energy imports, and they are necessary complements to the policies to raise domestic savings discussed above. They improve the real transfer process by reducing the economy's use of foreign resources. But increasing energy prices alone is not sufficient to accomplish the entire adjustment.

4.53 Policy Recommendations. Energy is becoming a crucial constraint on development, particularly for oil-importing countries such as Thailand, and long-term energy strategies are becoming essential elements in overall development strategies. The importance of energy planning has become apparent only in the past few years, as both supplies and prices are becoming more and more uncertain. Thailand does not have a history of energy planning (neither do most countries), and it is imperative that long-range energy planning capacity be developed and integrated with economic planning. However, in the short run, policies must be undertaken to achieve the targets of reducing the energy elasticity, raising energy prices to fully reflect energy import costs, and raising the share of energy taxes in government revenues. The following recommendations should be considered:

- (a) announcing and implementing a program of regular and automatic adjustments of petroleum and other energy prices and power tariffs in response to changes in external energy costs;
- (b) raising excise, business and import taxes on energy products to at least their real pre-1973 level and higher if necessary to reflect the scarcity of energy resources and of the foreign exchange used to import energy;
- (c) using substitution or opportunity cost pricing of domestic energy resources to reflect the alternate costs of imports, to discourage investment in uneconomic energy-intensive projects and equipment, and to encourage further development of domestic energy resources;

- (d) enforcing a pattern of refinery expansion that assures an appropriate balance of petroleum product supply and demand;
- (e) developing adequate conservation measures for both commercial/ industrial and residential/individual uses, including more energy-efficient machinery, retrofitting to reduce energy losses, and improved energy design in the future; and
- (f) improving the capacity of energy sector institutions to influence the development of the energy supply structure, to manage demand and purchasing policies of petroleum and product supplies, to develop nonconventional sources, and to allocate scarce energy resources if necessary.

4.54 Industrial Development Policy.^{/1} Restoring the external and fiscal balances is a necessary part of the adjustment process in the short term. However, those adjustments should be designed so as not to interfere with the implementation of policies to raise production and productivity in the industrial and agricultural sectors.^{/2} As the preceding analysis has shown, unless measures to raise savings are complemented by improvements in the underlying structure and distribution of output toward more exports and toward reducing import demand, long-term growth and adjustment will be impaired. The growth record of industry over the past several years has been quite good. The sector is not subject to such severe distortions as in many other developing countries and manufactured exports grew quite rapidly during the 1970's. Their share in total exports is now about 20 percent. Although the industrial share in value added now exceeds that of agriculture, its share in employment is only about one-tenth that of agriculture. As new land is no longer available, agriculture will be less able to absorb labor force growth, and that burden will fall increasingly on industry.

4.55 After falling for over a decade, levels of protection began rising in the middle 1970's as a result of efforts to improve the balance of payments and encourage domestic growth. This has led to more inefficiency in the industrial sector, higher prices for industrial goods, and less labor absorption. In addition, recent initiatives to support large, capital-intensive projects threaten to move the economy toward an industrial structure that is not well suited to Thailand's comparative advantage, that would use disproportionate amounts of scarce investment resources, and that would tend to reduce its competitiveness abroad. Such action should be avoided. The recent growth of manufactured exports has increased labor absorption in some export-oriented branches, which are relatively labor intensive, and helped improve industrial efficiency. The Government is currently reviewing additional policies to promote exports as part of its strategy to reduce the current account deficit.

^{/1} This section is based largely on the report, An Industrial Development Strategy for Thailand No. 2804a-TH, June 5, 1980. That report has been discussed extensively with the government and presents the analysis and policy recommendations more fully.

^{/2} Agricultural policy will be discussed in paragraphs 4.62-4.68 below.

4.56 The industrial strategy should concentrate on encouraging efficient domestic production and increasing exports in addition to other development objectives. It should include measures to reduce protection and price controls, promote manufactured exports, increase labor absorption, and improve the regional distribution of industry. The value of increasing manufactured exports to reduce the balance of payments deficit has been widely recognized. Since these industries tend to be relatively labor intensive and use relatively lower amounts of capital per unit of output, they will also contribute significantly to job creation and ease the demand for investment resources per unit of incremental output. The value of lowering protection and eliminating other price and quantity controls in terms of improved efficiency and reduced domestic prices and price-related distortions is not so widely recognized, especially at a time of large balance of payments deficits. Raising protection (including nontariff trade restrictions) may lead to more import substitution in some sectors, but it does not necessarily reduce the overall current account deficit. It may also impair the competitiveness of exports and retard future industrial growth. Reducing and harmonizing the tariff structure is essential to a medium-term development strategy. Lowering tariffs in the short run, however, may lead to higher import demand and adjustment problems for affected industries. Policy adjustments would have to take this into account.

4.57 Increasing industrial output and exports will require continued substantial investment. The structure and processing of current investment incentives can be improved in this regard to assure that necessary rates of investment are maintained and directed toward the most efficient uses. However, major investment projects, even in the private sector, should be carefully reviewed for their impacts on foreign exchange requirements, employment creation, export growth, or import reduction. These projects often end up placing large demands on public resources or foreign exchange reserves and may well need to be postponed unless there is compelling economic justification for proceeding at a time when resources are as scarce as they are now.

4.58 Policies which will raise manufactured exports and improve the efficiency of industry will contribute to easing domestic resource constraints on the economy and to reducing the trade deficit. Improved efficiency will also enable the economy to displace some additional imports with comparative domestic products. More growth in the industrial sector will help offset the growth-depressing impacts of some of the other policies discussed above. On the other hand, increased export orientation of nonresource-based industries will tend to concentrate export industries in the greater Bangkok area and the Eastern Seaboard where they have best access to complementary inputs, communications, and finance.

4.59 The effects of policies to stimulate exports of manufactured goods and improve efficiency can be estimated with the simulation model. Policy variables were adjusted to increase the competitiveness of Thai exports, and external demand was assumed to increase as a result of increased sales efforts. This implies a growth rate of manufactured exports of about 13.5%

p.a., compared to about 11% p.a. in the reference simulation for 1980-90. Investment is assumed to increase in response to higher export demand, but other assumptions are as in the reference simulation. The results of this experiment are shown in Table 4.4.

4.60 Export promotion increases overall growth significantly throughout the decade, but the improvement in the current account deficit is less pronounced. Higher earnings from manufactured exports are partly offset by higher imports due to higher intermediate demand from industry and to higher final demand as incomes rise faster. Agricultural exports are somewhat lower as higher domestic demand absorbs a larger share of the available supply. Government savings performance improves slightly as revenues from industry and trade rise and interest payments on the public debt decline relative to the reference run. These policies clearly improve the growth performance of the economy and make moderate improvements in current account and fiscal deficits. However, without improved savings behavior, the contribution of increased manufactured exports to reducing the trade deficit is diminished by higher imports to satisfy a larger consumption demand. Both higher production and lower consumption demand are necessary to make a significant and sustained reduction in the current account deficit in a five-year time horizon. It should be noted that improved export performance depends on developments in importing countries and in third-country competitors. These factors are beyond Thailand's control, and the growth rate for manufactured exports, 14% p.a. in 1980-85, is optimistic. It implies that Thailand's share in manufactured exports of developing countries will increase from 2% in 1978 to nearly 3% in 1985.

Table 4.4: IMPACT OF POLICIES TO ACCELERATE MANUFACTURED EXPORTS

	1975-79	1985	1990
GDP growth (% p.a. constant prices)	8.9	6.1 <u>/a</u>	6.9 <u>/a</u>
Investment share (% GDP)	25.8 <u>/e</u>	26.2	24.5
Gross national saving (% GDP)	21.0	19.6	21.1
Public sector saving gap (%/GDP)	5.7	5.4	5.4
Export growth (% p.a. constant prices)	15.2	10.9 <u>/a</u>	9.3 <u>/a</u>
Import growth (% p.a. constant prices)	11.6	5.4 <u>/a</u>	5.9 <u>/a</u>
Resource balance (\$ billion)	-0.3	-1.8	0.2
Current account (\$ billion)	-1.1	-3.6	-3.4
Current account (% GDP) <u>/d</u>	5.3	6.6	3.4
Debt service ratio (%) <u>/c</u>	15.4 <u>/b</u>	22.5	25.9

/a For periods 1980-85 and 1985-90.

/b End 1979.

/c Including private.

/d Equals savings investment gap.

/e 28% in 1979.

4.61 Policy Recommendations. Industrial policy should concentrate on ways to increase manufactured exports, improve the efficiency of domestic production, and promote investment. Some of these measures may involve some contraction of the less efficient import-substitution industries, which will lead to a gradual restructuring of industry with more orientation toward trade and competitiveness in world markets. This will increase the importance of the more labor-intensive industries and augment job creation if Thai wages continue to be relatively low and if capital is not subsidized. This is consistent with the comparative advantage of the economy and will increase employment and accelerate growth. Consideration should be given to:

- (a) implementing measures currently under review to reduce biases against manufactured exports by full and prompt rebate of all taxes and tariffs paid on intermediate imports used directly and indirectly in the production of exports;^{/1}
- (b) reducing or eliminating export taxes and other export controls such as export licenses and minimum prices, except where foreign market limitations (e.g., quotas, inelastic demand) require management of Thai exports. Where licenses allocate foreign quotas, they should be easily transferrable among exporters and available to bona fide new exporters;
- (c) improving the export credit and guarantee schemes, simplifying their administration, and extending the facilities to cover pre-export and export investment credit requirements;
- (d) expanding institutional promotion measures and making export promotion incentives available to all trading firms;
- (e) replacing all nontariff restrictions on imports with ad valorem tariffs and moving toward a more homogenous tariff structure by initially reducing tariffs above 50% to 50% and raising tariffs below 10% to 10% as a first step toward a uniform tariff.^{/2} Infant industries could be allowed an additional 15% for limited periods of time, and an additional 20% could be imposed on luxury imports;^{/3}
- (f) eliminating domestic price controls;

^{/1} Legislation is currently pending to achieve most of this by eliminating the budget constraint on rebates and specifically authorizing calculation of ad valorem rebates by category.

^{/2} Some ad hoc adjustments in this direction are being made.

^{/3} If necessary, appropriate transitional arrangement could be made for those industries seriously threatened by the tariff reform.

- (g) establishing an authority for economic evaluation of all large projects requiring major public support in the form of equity, credit guarantees, protection, special incentives, or major specific infrastructure construction;
- (h) granting investment incentives on an automatic basis to all firms which meet certain stated objective development criteria except for specifically excluded industries;
- (i) implementing more effective measures to promote appropriate development of industry outside of Bangkok; and
- (j) developing effective ways to encourage higher employment generation per unit of industrial investment.

4.62 Agricultural Policy. The agricultural sector will remain a key factor in Thailand's development prospects for some time to come. It is an important source of employment, material, and, of course, foodstuffs for the rest of the economy. It is also a major foreign exchange earner. The high growth rate of agriculture and agricultural exports was a key factor in forestalling major balance of payments deficits over the past five years. In the past, the private sector has been the driving force in Thailand's rapid agricultural growth. But this unfettered development has not been without cost. It has led to inappropriate land use and destruction of valuable water sheds (external diseconomies), and it has introduced new techniques with only high, short-term profits. These factors are becoming increasingly detrimental to the objectives of growth and poverty alleviation. The Government will have to take more active measures to reduce external diseconomies and undertake programs where the external economies cannot be captured by the private sector (e.g. soil conservation, extension) or where economies of scale or long payback periods would make private action unlikely (e.g., land development, research and development).

4.63 Although the potential for further expansion of the area under cultivation is rapidly coming to an end, there is still potentially productive land within holdings that is not regularly cultivated, and there are possibilities for increasing crop yields. Realizing this potential will require greater development of research, extension, and supporting systems of marketing and credit; more use of purchased inputs such as fertilizer and pesticides; and better on-farm land development and water use. Appropriate producer incentives in the form of remunerative prices will also be necessary to induce greater production of marketable surpluses. In addition, the overall question of appropriate land classification and use must be faced as land becomes a scarce resource. Many of the necessary support services can and will be provided by the private sector. However, the government will also have to establish a viable policy framework which is conducive to sustained and intensive agricultural development and provide infrastructure, technology, and supplementary credit. In addition to general supporting measures, programs that respond directly to specific local problems will have to be developed, particularly for those areas unlikely to be attractive to private market activity.

4.64 There has been little planning of land use and development as agriculture expanded into uncultivated areas in the past. Large tracts of land are classified as nonagricultural, although they are, and should remain, under agricultural production. By not placing them in the appropriate classification, they are often deprived of necessary support services, and clear title cannot be granted to smallholders. This discourages fixed investments that would increase production and productivity. Significant sections of the country are also inappropriately cropped in terms of their land capabilities. In some areas, this is due to subsistence requirements of rice production; in others, to lack of adequate knowledge or adequate market outlets for more suitable crops. Appropriate land classification and use will greatly facilitate measures to implement more modern production techniques and raise productivity in agriculture. It will also aid conservation and help prevent further deforestation. Adjustments to the changing structure of agricultural production will have major implications for the development of appropriate agricultural research and extension in Thailand. More effort must be placed on developing appropriate crops and cropping patterns for all areas of the country (not just the irrigated rice areas) and for rapidly and effectively extending this knowledge to the farmers.

4.65 The largely private agricultural marketing system in Thailand has been a major factor in stimulating agricultural growth in the past two decades. Intensification and modernization in the agricultural sector will impose greater demands on the system, and the government may need to take measures to improve the efficacy of the marketing system, reduce price uncertainties, increase returns to farmers, and assist those parts of the country that are not adequately served by the existing systems. Improving the efficiency of the marketing system could result in higher producer prices without raising costs elsewhere in the economy, but rising energy costs in transport and handling are likely to absorb a significant part of these gains within the marketing system itself. Other mechanisms should be investigated for raising farmgate prices for various crops, including reducing and eventually eliminating the rice reserve requirement and the rice premium.

4.66 All of these measures will help raise incomes of rural producers and should bring forth a substantial supply response over time. Agricultural products account for 60% of exports, and continued high overall growth in the sector will be necessary to supply domestic demand and maintain the high export growth rate needed to help reduce the current account deficits. To the extent that poor farmers are able to produce surpluses for market, these measures will also help achieve poverty alleviation objectives. On the other hand, policies to promote agricultural growth may result in some reductions in revenue or increases in expenditure by the government. And they will most probably raise prices faced by consumers of agricultural products. These price increases will be necessary to shift incomes to agricultural producers in order to increase production and exports.

4.67 The effects of measures to stimulate agricultural production are simulated in the model by raising the assumed growth of agricultural output to 5% p.a., compared to 4% p.a. in the reference simulation. This also entails some increase in investment, but other assumptions remain unchanged. Export and GDP growth rates increase, but higher incomes without any increase in savings leads to higher import demand, and the current account deficit is only moderately diminished in 1985, as shown in Table 4.5. With this higher rate of agricultural growth, there is sufficient supply to sustain agricultural export growth throughout the decade. With the lower growth rate it began to decline at the end of the decade as a result of continued growth of domestic intermediate and final demand.

Table 4.5: IMPACT OF INCREASED AGRICULTURAL PRODUCTION

	1975-79	1985	1990
GDP growth (% p.a. constant prices)	8.9	6.1 <u>/a</u>	6.5 <u>/a</u>
Investment share (% GDP)	25.8 <u>/e</u>	26.3	24.7
Gross national saving (% GDP)	21.0	19.7	21.5
Public sector saving gap (% GDP)	5.7	5.4	5.3
Export growth (% p.a. constant prices)	15.2	10.9 <u>/a</u>	8.6 <u>/a</u>
Import growth (% p.a. constant prices)	11.6	5.2 <u>/a</u>	5.4 <u>/a</u>
Resource balance (\$ billion)	-0.3	-1.8	0.4
Current account (\$ billion)	-1.1	-3.6	-3.2
Current account (% GDP) <u>/d</u>	5.3	6.6	3.2
Debt service ratio <u>/c</u>	15.4 <u>/b</u>	23.1	26.4

/a For periods 1980-85 and 1985-90.

/b End 1979.

/c Including private.

/d Equals savings investment gap.

/e 28% in 1979.

4.68 Policy Recommendations. Agricultural policy is of major importance because of the number of people affected and the key role the sector plays in most economic activity. The transformation to more modern sector production should result in higher growth rates in agriculture and a shift in relative prices between agricultural and industrial output, reversing the decline in terms of trade of agriculture vis-a-vis nonagriculture. Supporting agricultural growth will raise rural incomes and make a positive contribution to further poverty alleviation in rural areas. In the longer run, higher incomes in rural areas will raise the reservation wage and increase wages in the urban areas as well if the labor market remains free of distortions. Policy should be considered to:

- (a) design a national land use and development policy and then implement an extensive program to reclassify land based on a national land suitability classification, to expand and coordinate land settlement and reform in areas reclassified as being suitable for agriculture, to improve credit availability for purchasing and improving land, and to improve accessibility to full land rights;
- (b) increase forest protection, accelerate reforestation in areas suitable only for forestry, and expand land conservation and improvement programs, especially in areas with low cropping intensities;
- (c) make better use of available water resources by further development of major water control and irrigation schemes, by improving existing schemes of on-farm development, by development of viable medium and small water resource projects, especially in the Northeast, by improving the Royal Irrigation Department's planning, monitoring and evaluation capacities, and by introducing comprehensive water management systems, including the levying of water charges;
- (d) coordinate research and extension activities providing applied technology for rainfed agriculture and to encourage changes in cropping patterns to achieve improvements in yields and farm incomes;
- (e) expand programs of government assistance for specialized crop development (particularly tree crops), livestock raising, and fish farming as supplementary sources of income for low-income farmers;
- (f) provide adequate institutional credit to farmers through better coordination of the government development agencies with the banking system and more systematic use of the Bank for Agriculture and Agricultural Cooperatives to complement the activities of the commercial banking and informal credit systems;
- (g) improve the efficiency and stability of the agricultural marketing and pricing system in order to increase returns to farmers, by examining the possibility of phasing out the present premia, taxes and reserve requirements for rice exports, reducing wholesale price fluctuations of major crops, and removing restrictions that introduce inefficiencies in private market development, such as limitation on livestock movement;

- (h) develop adequate mechanisms for grading and quality control for seeds and fertilizers; and
- (i) develop programs which respond to the specific problems and needs of different areas of the country, especially those which have been left behind in the development process.

4.69 Combined Policy Action. This report has attempted to establish the extent of the structural disequilibria facing the economy, to emphasize the importance of undertaking a coordinated adjustment program, and to suggest appropriate policy measures in five areas of major concern. These policy suggestions cover both actions which will have an immediate impact and programs which will bear fruit over a longer term. Putting together a coherent policy package will be a major undertaking and will require making a number of difficult policy choices. The difficulties stem primarily from two sources: most policies which have beneficial effects in their targeted areas have costs in other areas that will have to be compensated for by other policies or accepted, and the adjustment from a situation of overexpansive growth and high imports will require a certain amount of retrenchment and lowering of expectations, which will not be popular.

4.70 It is clear from the preceding analysis of policy actions in each specific area that implementing measures in one or two areas alone will not be sufficient to complete the necessary adjustments over even a five-year period. To some extent, this is due to the magnitude of the adjustments required, to the inherent lags involved in implementing and achieving significant structural adjustments, and to the phasing of policies so as not to unduly retard growth by abrupt imposition of severe adjustment measures. However, it is mostly due to the simple economic fact that coordinated adjustments are needed in several complementary areas in order to effect the necessary adjustments. Domestic savings, both public and private, must be increased and investment growth slowed in order to reduce the excess of domestic demand over production. At the same time, the structure of domestic production and demand must be altered so that the reduction in aggregate demand can be translated into reductions in the current account deficit through higher exports and lower imports. Fiscal and monetary policy should aim at improving the savings-investment behavior of the economy in the short run while policies for energy, industry and agriculture should accomplish the adjustment in the real goods flows that will reduce the structural external deficit in the longer run. It is not expected that all the policy recommendations in the previous sections will be implemented as part of the adjustment program, but significant action does need to be taken in each of the principal areas discussed.

4.71 While the impacts of all the policy suggestions discussed above cannot be represented in the simulation model, it can demonstrate the combined effects of the various policy measures examined separately in the previous simulations. This will provide a good indication of the economy's prospects when coordinated policy action is taken. In this case, the individual assumptions of the previous simulations are implemented together as part of a combined strategy, and the model's parameters are adjusted accordingly.^{/1} The effects of these policies and their interactions are shown in Table 4.6. It should be noted that a number of alternative combinations and levels of the policy variables could also be examined, but the results would not be different enough to warrant extensive analysis at this point. In constructing an actual adjustment program, specific policies and the levels of policy variables would have to be determined as a function of the actual economic and political options and constraints facing the policy makers. That would require much more detailed study by the government.

4.72 With this combination of policies, overall growth is higher than in the reference simulation or the other simulations. The effect of higher agricultural growth and demand for manufactured exports outweigh the effects of fiscal restraint and higher energy prices. Overall savings behavior improves as well as the savings effort of the public sector. Gross national saving increases as a share of GDP by 1985 as well as gross domestic saving. The resource deficit is reduced to \$1 billion by 1985 due to high export growth, but the current account deficit is \$2.6 billion because of the high factor service payments abroad. This is 4.6% of GDP, but falling in a satisfactory way. By 1990 there is a substantial resource surplus, and the current account deficit disappears in that year. After peaking at 21% in 1987, the debt-service ratio declines thereafter to 16% in 1990, and the debt outstanding is substantially lower than in the reference simulation. Most of the investment burden of adjusting lower energy use, more efficient industrial production, lower import use, and higher export production would have been absorbed by 1985, and thereafter growth could return to nearly its long-run trend. A larger current account deficit could be sustained if that would contribute to higher growth. Although policies in each of the areas discussed above contributed only a little to the adjustment by themselves, together they can have a significant impact on effecting a major structural adjustment.

^{/1} Because of interaction effects, variance of certain assumptions about public saving behavior and investment, and assumed improvements in private saving. The results of this simulation are different from the sum of the effects of the individual policy simulation.

4.73 A review of the policy analysis of this chapter and the results of the various simulation experiments points to several important conclusions. First is the difficulty in reducing the level of the current account deficit between 1980 and 1985 in comparison to the reference run, even with coordinated policy action. Much of what will happen then is already determined by the events and actions of 1975-79. We have assumed a five-year adjustment horizon, which results in substantial external borrowing during the adjustment period. That will be available only if the foreign creditors are confident that an adequate adjustment program is being implemented. If sufficient foreign resources do not prove to be available, then

Table 4.6: IMPACT OF COORDINATED POLICY ACTION

	1975-79	1985	1990
GDP growth (% p.a. constant prices)	8.9	6.5 <u>/a</u>	7.1 <u>/a</u>
Investment share (% GDP)	25.8 <u>/f</u>	25.8	23.5
Gross national saving (% GDP)	21.0	21.2	23.7
Gross domestic saving (% GDP)	22.2	24.0	25.8
General Government revenue (% GDP) <u>/d</u>	15.1	18.0	18.5
General Government expenditures (% GDP) <u>/d</u>	12.7	13.3	14.2
General Government saving (% GDP) <u>/d</u>	2.4	4.7	4.3
Public sector saving gap (% GDP)	5.7	3.3	3.7
Export growth (% p.a. constant prices)	15.2	12.1 <u>/a</u>	9.9 <u>/a</u>
Import growth (% p.a. constant prices)	11.6	5.9 <u>/a</u>	6.4 <u>/a</u>
Resource balance (\$ billion)	-0.3	-1.0	2.4
Terms of Trade (1975=100)	88.5	73.0	70.8
Current account (\$ billion)	-1.1	-2.6	0.2
Current account (% GDP) <u>/e</u>	5.3	4.6	0.2
Required annual borrowing (\$ billion)	1.0 <u>/g</u>	4.3	3.3
Debt outstanding (\$ billion)	3.8	20.1	24.9
Debt service ratio (%) <u>/c</u>	15.4 <u>/b</u>	19.4	16.5

/a For periods 1980-85 and 1985-90.

/b End 1979.

/c Including private.

/d Including central government plus local jurisdictions excluding public enterprises.

/e Equals savings investment gap.

/f 28% in 1979.

/g Excluding use of reserves and IMF funds.

stronger measures than those assumed in the simulations or more rapid implementation of measures to reduce the fiscal deficit and increase saving will be called for, which will imply accepting further reductions in the growth rate. Second, any successful adjustment depends critically on the ability of the economy to continue export growth rates of 10-11% p.a. while restraining import growth to 5-6% p.a. in real terms over the rest of the decade. This would be a much better sustained trade performance than has been achieved over the past two decades. It is in part necessitated by the increasing service account deficits. Sustaining these rates will require efforts both to stimulate production and to assure the competitiveness of Thai products at home and abroad in terms of price and quality. Third, the external debt that will be accumulated during the coming decade will be substantial in any case, and debt-service ratios will rise. Debt management will be an important part of overall policy formulation in itself and in relation to monetary policy. And, finally, it is possible to sustain satisfactory rates of growth during this adjustment period - at least 4% p.a. real per-capita GDP growth - if a proper mix of policies is pursued, e.g., to increase savings, expand exports, restrain imports, and stimulate production in agriculture and industry. It is not a question of whether appropriate policies exist. They do. It is a question of whether they will be implemented in a timely fashion.

Annex I

ANALYTICAL TOOLS:
THE SOCIAL ACCOUNTING MATRIX AND THE SIMULATION MODEL

Introduction

A Social Accounting Matrix (SAM) provides the accounting framework for the simulation model. It integrates national accounts, input-output, balance of payments and fiscal data into a matrix format that presents a unified picture of all the principal economic flows in the economy. Factor incomes are generated by the four production activities of agriculture, manufacturing, energy and services and flow to the different institutions: households, companies, and government. These institutions use their incomes to pay taxes (households and companies only), to save, to consume, and to make transfers to other institutions or to the rest of the world. Their consumption is domestic final demand, and it is added to the intermediate demand of activities to arrive at total domestic demand. This demand is satisfied by the supply of goods from the domestic production activities and by imports. Agriculture, manufacturing and services also export domestic production. Other transfers and factor service payments between Thailand and the rest of the world are included to complete the balance on external current account. In this way, the entire cycle of economic activity is recorded on a single table and the various interactions shown. Because of the matrix format, it is easy to check that all accounts balance simultaneously, and consistency checks are straightforward. The SAM is very much an extension of an input-output table to include flows between institutions, saving-investment activities, production activities, and relations with the rest of the world. It encompasses the important relations between the income generating activities,

the distribution of that income to institutions, and the resulting determination of the composition of final demand.

For our analysis, a base-year SAM was constructed for 1975 to take advantage of the data from the input-output table constructed for that year. This SAM, which has 23 basic accounts, is in fact highly aggregated. There is one factor of production, three institutions, four activities, three commodities and the rest of the world. The current accounts of the institutions, households, companies and government are separated; their capital accounts are consolidated into a single capital account. Agriculture, manufacturing and services activities produce domestic goods which are either mixed with imports, resulting in a composite good traded on the domestic market, or which are exported.^{1/} Energy is produced domestically and imported, and a composite good is traded on the domestic market. There is a single rest of the world account for international trade, net service payments, and transfers. The SAM structure is very flexible however, and any basic account can be expanded into any desired number of subaccounts, each balanced within the structure of the other accounts.

The macroeconomic simulation model uses the SAM accounting framework described above. Its structure derives from that of the SAM, and analytical functions have been specified for the implicit relations underlying the SAM. The structural parameters have been estimated from historical data for the period 1960-79, and 1975-79 was used as a reference period to validate the model. Given these parameters and a number of exogenous assumptions about future price movements, the potential for agricultural growth, and some other structural variables, the model produces all the elements in the SAM for each year of the

^{1/} The mix of domestic and imported goods in the composite good is partly a function of their relative prices and partly a function of the degree of substitutability assumed between imports and domestic production.

simulation. In this way, consistent evolutions of the economy can be traced under alternate assumptions about policy actions and external developments, and the results can be compared.

The essential features of the model are that:

- (a) the activity level in the agricultural sector is supply determined, and its growth rate is exogenously specified;
- (b) production in the industry, energy, and tertiary sectors is demand determined as a function of the demand patterns of the institutions, their income levels, relative prices and external demand for exports of manufactured goods and services;
- (c) prices are fixed in the sense that they do not respond to excess demand, but are cost determined. Hence the model can analyze cost-push and/or imported inflation, but not demand-pull inflation;^{1/}
- (d) demand for imports is a function of domestic aggregate demand levels and relative prices, but imports are not perfect substitutes for domestic goods and domestic and foreign prices will not generally be equal;
- (e) demand for goods by the public and household sectors is based on Engel-curve relations;
- (f) indirect tax collections are based on average tax rates applied to the relevant tax bases, direct taxes are included in the outlay patterns of households and companies (which is equivalent to assuming the taxes are imposed on income);
- (g) investment behavior is exogenous; and
- (h) the trade and savings gaps derive from the structure of the model and are endogenously balanced in arriving at a solution.

^{1/} This is a drawback since problems of excess demand are a matter of concern in Thailand. Furthermore, models where prices are fully flexible may not be relevant for an economy such as Thailand.

The Social Accounting Matrix

A brief description of the SAM

The accounting of an economy is best understood with the use of a social accounting matrix (SAM).^{1/} First, a SAM gives a clear and synthetic picture of the flows in the economy at a point in time. Second, it gives a consistent accounting framework to serve as the basis for direct analysis or to support a modeling effort. Table 1 shows a basic SAM for the Thai economy in the year 1975.

As in all SAMs the figure in any cell represents a payment from the column to the row account. For example, the figure in the cell at the intersection of column 4 and row 5 (6,877 million bahts) is a payment of government to the consolidated capital account and is thus government savings. Another accounting feature of SAMs is that all accounts must balance, hence each row sum has to be equal to the corresponding column sum. For example, the sum of row 2 gives total receipt of households from all services and the sum of column 2 is the total use of these receipts.

In column 1 the distribution of GNP at factor cost on the different institutions is shown, while row 1 shows how GNP at factor cost is generated. In row 1/columns 6,7,8,9 the value added at factor cost of each activity is shown, their sum is GDP at factor cost. When net factor income (-219) in row 1/column 23 is added, we get the GNP at factor cost.

Column 3 distributes the total income of companies. In fact they pay dividends (1,472), corporate taxes (3,629) and they save (26,175). The total income of companies is 31,276 million bahts, the sum of row 3, and is constituted from operating surplus (25,852), interest on consumer debt (1,972) and interest on public debt (3,452).

^{1/} For a detailed account of the SAM approach, see Pyatt, Roe and associates (1977), Social Accounting for Development Planning, with Special Reference to Sri Lanka, Cambridge, Cambridge University Press.

Government outlays are given in column 4. Reading down the column we see transfers to households (210), interest on public debt (3,452) government savings (6,877), government expenditure on manufactures (2,720), energy (831) and services (27,412), and transfers abroad (34). Row 4 gives the formation of government revenue from factors (2,502), household taxes (3,639), corporate taxes (3,629) and net indirect taxes (31,119).

Row and column 5 are, respectively, the receipts and outlays of the consolidated capital account. Row 5 shows the sources of saving and column 5 shows the investment demand.

The SAM gives the production activities in rows/columns 6 to 9, and the commodities in rows/columns 10 to 21. The sum of column 6 is the total expenditure of the agricultural sector, which is equal to its total production given as the sum of row 6. This total production (148,625) is either delivered to the domestic market (118,900) or exported (29,725). The deliveries to the domestic market are then combined with imports of agricultural product (1,495) plus indirect taxes (852) and that constitutes the total supply of the composite agricultural good on the domestic market (121,247). This supply is the sum of column 10 and is equal to the sum of row 10, which is the aggregate demand for the composite agricultural good. The other activities and commodities are organized in the same way except it is assumed there are no energy exports.

Indirect taxes are accounted for in row/column 22. In row 22/columns 10 to 21, the different sources of indirect taxes are given. They are levied on either domestically traded goods, or on internationally traded goods. In the latter case they are tariffs on imports or taxes on exports.

Finally, row 23 gives the flows out of the country whether they are transfers (columns 2 and 4), or imports (columns 12, 15, 18, 21). Column 23 accounts for the flows from abroad into the country. They are in row 1, net

factor income;^{1/} in rows 2 and 4, the transfers to households and government respectively; and in rows 11, 14 and 20, exports. The figure in row 5/column 23 is the current account deficit which is also equal to the savings gap.

Construction of the SAM

The distinctive features of this particular SAM are:

- i) it is consistent with the national accounts figures of 1975;
- ii) it distinguishes four activities^{2/} (sectors of production):
 - agriculture,
 - manufacturing,
 - energy,
 - services;
- iii) it distinguishes three commodities for each activity:
 - composite goods and services traded on the domestic market,
 - imported goods,
 - exported goods.

The three main sources of data that were used to build the SAM are:

- (1) the national accounts figures for 1975, as revised in the 1979 issue of the National Accounts of Thailand;
- (2) the input-output matrix for 1975 published by NESDB. It assumes competitive imports and is presented in purchasers prices and;
- (3) the Statistical Bulletin of the Bank of Thailand.

The main assumptions and procedures used to get a balanced SAM consistent with the national accounts are described below.

^{1/} The factor income balance is a deficit one and net factor income is actually a flow out of the country, that is why it is entered with a negative sign.

^{2/} Agriculture includes: crops, livestock, forestry and fisheries. Manufacturing includes all manufacturing (mining and quarrying and construction included); it excludes petroleum products. Energy includes petroleum products and electricity and water supply. Services include wholesale and retail trade, transportation and communication, banking, insurance and real estate services, public administration and defense.

There is only one factor of production which receives the value added created by the four activities (row 1/columns 6, 7, 8 and 9). This is gross value added at factor cost: it includes depreciation but excludes indirect taxes. The figures for agriculture and services are those of the national accounts. The split between manufacturing and energy is based on the decomposition of GDP at factor cost given in the input-output table. National accounts do not provide separate constant value GDP at factor cost for manufacturing and services and appropriate adjustments were made.

Three types of institutions are considered: households (including private nonprofit institutions); companies and government. Their current accounts are distinguished while their capital accounts are consolidated. The three current accounts and the consolidated capital account are given in rows/columns 2, 3, 4 and 5. Row 2 gives the receipts of households from the different sources. The figures in all the cells of this row are consistent with the national accounts figures. Dividends, however, have been taken out of property income and put as transfer from companies to households (row 2/ column 3). Row 3 gives the receipts of companies. The operating surplus (including provision for the consumption of fixed capital) appears in cell (3,1). It is derived residually. Cells (3,2) and (3,4) give the interest on consumer debt and the interest on public debt, respectively.

In row 4, all receipts of government appear:

- i) (4,1) is government income from property and entrepreneurship;
- ii) (4,2) is the sum of direct taxes on households and other transfers from households;
- iii) (4,3) is direct taxes on corporations and;
- iv) (4,22) is net indirect taxes.

The consolidated capital account is in row 5. All the figures are from the national accounts and they include:

- i) the savings of households and private nonprofit institutions (5,2);
- ii) the savings of corporations, including the provision for the consumption of fixed capital (5,3);
- iii) the savings of government (5,4) and;
- iv) "foreign savings" (5,23).

Rows 10, 13, 16 and 19 give the aggregate demand for agricultural commodities, manufacturing, energy and services, respectively. Column 2 in rows 10, 13, 16 and 19 gives the allocation of private consumption expenditure between the four sectors considered. We have taken the average propensities to consume out of total private consumption expenditure given in the I-0 table and applied them to the figure of total private consumption expenditure given in the national accounts. This assumes that purchaser prices and market prices used in the national accounts are the same and that over the interval considered, average and marginal propensities are equal.

Column 4 in rows 10, 13, 16 and 19 gives the allocation of government consumption expenditure between the different sectors. The assumptions made are the same as for private consumption expenditure, except where government consumption of agricultural products has been put to zero. In fact, according to the I-0 table it appears to be negligible.

Column 5 in rows 10, 13, 16 and 19 gives the distribution of total gross investment between sectors of origin. The same procedure was used as for private and government consumption. It was, however, performed separately for increases in stocks and for fixed capital formation. No fixed investment uses energy or services production and there is no accumulation of stocks in services.

The last elements in final demand are exports. It is reasonably assumed that there are no exports of energy.^{1/} Thus, exports consists of agricultural, manufactured and service exports. Total exports of goods and nonfactor services are given in the national accounts as 57,014 million bahts.^{2/} From the Basic Economic Report (September 1, 1978) it is possible to compute the value of agricultural exports (Tables 3.2 and 3.3 of the Appendix) which amount to 31,359 million bahts. Manufactured exports are also obtained from the same source and their value is 14,139 million bahts. Exports of nonfactor services are computed as the difference between total exports of goods and services, and agricultural and manufactured exports. Their value is 11,516 million bahts. These three figures of exports appear in (11,23), (14,23) and (20,23). They include export taxes paid by the rest of the world to exports which repay them to the account of indirect taxes. The export taxes^{3/} on agricultural and manufactured exports are assumed to be 1,634 million bahts and 471 million bahts (22,11) and (22,14) respectively. The value of exports from the agricultural sector is thus $31,359 - 1,634 = 29,725$ million bahts, and this figure enters (6,11). Likewise, the value of manufactured exports from the manufacturing sector is $25,655 - 471 = 25,184$ million bahts, and this figure enters (7,14). It is assumed that no export taxes are levied on exports of services. Hence, the figure in (9,20) is identical with that in (20,23).

To get the aggregate demand for the composite good in the four sectors one must add intermediate demand to the final domestic demand determined in rows 2, 4 and 5 and of columns 10, 13, 16 and 19 above. This implies the use of the

^{1/} In fact in 1975, 230 million bahts of petroleum products have been exported, this figure being 98 million bahts in 1976 and negligible afterwards. (See BOT Statistical Bulletin, Dec. 1979, p. 54). For 1975 we have considered the 230 million bahts to be exports of manufactures.

^{2/} These exports include export taxes.

^{3/} See below.

interindustrial flows. This requires several steps. First, information on indirect taxes and imports is needed. Net indirect taxes as given in the national accounts are 31,119 million bahts. For FY75 import duties are 8,270 and export taxes are 2,105 million bahts (See Table 5.6 of Statistical Appendix). Using these three figures, indirect taxes on domestic trade would be 20,744 million bahts. To allocate these taxes between domestic goods and imported goods requires further calculation.

For FY75 import duties are allocated according to Table 2 for consistency with the SAM classification, it is assumed that duties on foodstuffs and on agricultural imports are the same. Likewise, petroleum products are assumed to cover energy imports. The remaining duties are assumed to fall on imports of manufacturing products.

Table 2: Import Duties
(million bahts)

Petroleum products	374
Foodstuffs	394
Machinery	3,488
Textiles	443
Other	<u>3,571</u>
Total	8,270

Source: Basic Economic Report, Sept. 1, 1978

Import duties on agricultural imports (394) appear in (22,12) of the SAM, those on manufacturing imports (7,502) in (22,15), and finally import duties on energy imports (374) are put in (22,18). Figures for export taxes for FY75 are given in Table 3.

Table 3: Export Taxes
(million bahts)

Rice premium	795
Rice duty	514
Rubber	325
Other	<u>471</u>
Total	2,105

Source: Economic mission, Feb. 1980

For consistency with the SAM classification, the rice premium and the rice duty as well as taxes on rubber are considered as taxes on agricultural exports.

With these approximations, indirect taxes paid on the agricultural composite good are 852 in (22,10); on the composite manufacturing good, 12,072 in (22,13); on energy, indirect taxes are given in (22,16) with a value of 312; and finally, on services, indirect taxes are given in (22,19) with a value of 7,508 (all figures are in millions of bahts).

Even excluding "unallocated" imports given by the I-0 table, total imports from this source (98,554 million bahts) are still higher than the figure in the national accounts, which is 70,795 million bahts.^{1/} Furthermore, according to the I-0 table, no imports of nonfactor services occur. A first estimate of imports disaggregated by the four sectors of the SAM is obtained by applying the shares implicit in the I-0 table to total imports given in the national accounts (Table 4).

^{1/} Does not include import duties.

Table 4: Imports Excluding Tariffs - First Evaluation
(million bahts)

Agriculture	1,101
Manufacturing	55,623
Energy	14,071
Services	-0-

The figures for agriculture and energy in Table 4 are close to corresponding figures given by the BOT (Statistical Bulletin, Dec. 1979, pp. 46-9). The remaining amount, 55,623, includes imports of manufactured goods and implicitly services. Using the balance of total services: 6,160.8 (BOT, Statistical Bulletin, Dec. 1979, p. 76) and the balance of net factor services: -219, the figure for the balance of nonfactor services is obtained: 5,941.8. Given that exports of services are 11,516, imports of services are derived as 5,574.2 subtracting this from the previous figure for imports of manufactures in Table 4, a final figure for imports of manufactures is obtained, 50,048.8 (Table 5).

Table 5: Imports Excluding Tariffs - Final Evaluation
(million bahts)

Agriculture	1,101
Manufacturing	50,049
Energy	14,071
Services	5,574

The figures of Table 5 appear in (23,12), (23,15), (23,18) and (23,21) of the SAM.

Imports are an addition to supply and their value in that respect has to include import duties. By adding import duties to the value of imports cif, the value of the supply of imported goods is obtained. In (12,10) the value of imported agricultural goods including duties is given. For manufacturing imports the figure is given in (15,13), for energy imports it is put in (18,16), and for services it is in (21,19).

Now we return to the derivation of interindustrial flows, aggregate demand, intermediate demand and gross production. The approach followed is to obtain, as a first step, good estimates of total intermediate sectoral demands and total intermediate sectoral costs. A second step is to use these marginals and estimate a new matrix of interindustrial flows consistent with them by applying the RAS method.^{1/} In fact the procedure involves more than two stages because of the need to adjust some figures and ratios to information from different sources.

The first step was the aggregation of the (33 x 33) interindustrial matrix^{2/} into a (4 x 4) matrix. In fact only the (32 x 32) first sectors were aggregated and the last sectors, "unallocated", was dropped. The matrix obtained in this way and the implied intermediate demand are given in Table 6.

Table 6: Interindustrial Flows
(million bahts)

	Agriculture	Manufacturing	Energy	Services	Intermediate Demand
Agriculture	17,762	52,595	-0-	5,790	76,147
Manufacturing	28,782	77,176	762	17,341	124,061
Energy	6,306	6,417	17,890	7,594	38,207
Services	15,544	9,456	1,202	17,131	43,333

^{1/} RAS is a method used to update matrices or to balance them. See Bacharach, M. (1970) Biproportional Matrices and Input-Output Change, Cambridge University Press.

^{2/} NESDB, Input-Output table, Competitive imports 1975.

Table 6 gives a first estimate of total intermediate demand. However, the fourth column includes the intermediate demand of the wholesale and retail trade sector, whereas the fourth row does not include any delivery of that sector to other sectors. In fact, total deliveries of wholesale and retail trade are lumped together in the published input-output table. Their value is 71,908 million bahts. This figure should be added to the intermediate demand of services. The figure in the last row and last column of Table 6 which is total intermediate demand of services, becomes 115,241 (43,333 + 71,980).

Using the above estimate of total intermediate demand and total non-export final demand, total domestic aggregate demand for the composite goods are calculated. These aggregate demands have to be equal to aggregate supplies, hence, given imports and taxes, one can compute the domestic supply of domestic goods. With the figures of exports, this allows for computation of the gross production of each sector. Having determined previously the vector of value added it is then easy to compute the vector of total intermediate costs (Table 7).

Table 7: Total Intermediate Costs - First Estimate
(million bahts)

Agriculture	90,934
Manufacturing	157,430
Energy	26,681
Services	78,611

The intermediate costs of Table 7 are consistent with the other figures of the SAM, however, they are not equal to the intermediate costs obtained by adding up the different columns of Table 6. However, before applying the RAS method to the data in Tables 6 and 7 to achieve a complete and balanced SAM, two additional adjustments must be made.

(1) The figure used for agricultural exports before taxes (6,11) corresponds to the trade classification used by the Bank of Thailand. However, the classification underlying the input-output table is the industrial classification. For the latter classification, any processing of an agricultural product is an activity of the manufacturing sector. Hence, when an exportable agriculture good is even slightly processed before export, it becomes a manufactured export according to the industrial classification. Thus, the figure in row 1/column 2 of Table 6 (52,595) contains deliveries of agricultural goods which are slightly processed by the manufacturing sector and then exported. But, in fact, these goods are already included in agricultural exports in (6,11) of the SAM. Consequently, the intermediate demand of agricultural goods as given in Table 6 is an overestimation of actual domestic intermediate demand.

(2) Imports of energy in (18,16) of the SAM are 14,445 million bahts. The figure given by the Bank of Thailand (Statistical Bulletin, Dec. 1979, p. 49, "Fuel and Lubricants") for imports of fuel and lubricants is 14,233 million bahts. However, imports of energy reported in the input-output table are 19,588 million bahts. Given the aggregate demand for energy (obtained by adding final demand for energy, to intermediate demand), the equality between aggregate demand and aggregate supply, and the chosen figure of imports (14,445); there would be an overestimate of domestic demand for domestic energy. Consequently we would over-

estimate domestic production of energy.

In order to take account of the above distortions, a reestimation of the vectors of intermediate demand and of intermediate costs was undertaken. The flows of intermediate demand of manufacturing from agriculture and of energy from energy have also been revised. With the two new marginal vectors, the RAS method was applied on the modified interindustrial matrix in order to get a final matrix of interindustrial flows. In that way the whole SAM is balanced.

The new vectors of intermediate demand and of intermediate costs are given in Table 8. The basic assumptions underlying them are:

i) Agricultural exports are 20% of gross agricultural production; this implies a gross production of 148,625 million bahts and a domestic demand for domestic goods of 118,900. Consequently aggregate supply and aggregate demand are 121,247 million bahts and total intermediate demand for agricultural goods is then 40,210 million bahts.

ii) The first row of Table 6 is modified to take account of the new figure for total intermediate demand. Intermediate demands of agricultural goods are assumed to be 17,191; 17,473; 5,546 for agriculture, manufacturing and energy, and service, respectively.

iii) Taking account of the difference between the figure of imports of energy given in the input-output table (19,588) and the figure chosen in the SAM (14,445), ^{1/} gross production of energy is estimated to be 27,895 million bahts.

1/ The 230 million bahts of exports of petroleum products are also taken into account.

Table 9 gives the matrix of interindustrial flows obtained after application of the RAS method. This matrix is consistent with the rest of the SAM, which is thus balanced.

Table 8: Intermediate Demand and Costs
(million bahts)

	<u>Total Intermediate Demand</u>	<u>Total Intermediate Costs</u>
Agriculture	40,210	54,997
Manufacturing	94,296	127,665
Energy	32,835	21,309
Services	109,300	72,670

Table 9: Matrix of Interindustrial Flows
(million bahts)

	<u>Agriculture</u>	<u>Manufacturing</u>	<u>Energy</u>	<u>Services</u>
Agriculture	11,875	22,105	-0-	6,230
Manufacturing	13,149	67,751	648	12,749
Energy	3,227	6,541	16,812	6,255
Services	26,746	31,268	3,849	47,436

The SIAM¹ Model

Economics of the Model

Given the SAM accounting framework defined above, a full model is obtained by specifying agents' behavior and market adjustments. This model, SIAM¹, is described below. It relies on several behavioral relations within the accounting structure imposed by the SAM.

Households, companies and government are assumed to allocate their total receipts across their different expenditure possibilities according to some utility maximization^{1/} principal assuming unchanged relative prices. Thus, Engel-curve relations are used to allocate total receipts of each of these institutions' current account of transfers between institutions, savings and government and private consumption. Firms are assumed to determine intermediate demands, household and government consumption, and exogenously given investment, total aggregate demands by sector are thus determined. These are demands for composite goods as demand baskets are composed of both imports and domestically produced goods.

Given aggregate demand for the composite goods, the question is then the determination of its composition between imports and domestically produced goods. It is assumed that given a level of the aggregate demand for the composite good, the ratio of imports to domestically produced goods is obtained through cost minimization.^{2/}

Agricultural exports are assumed to be the excess of agricultural production over the domestic demand for the domestic agricultural products. Exports of manufactures and services are assumed to be sensitive to the ratio of the world price of exports to the supply price of the Thai exports. These

^{1/} For companies and government this is more a convenient allocation rule than a truly behavioral assumption.

^{2/} This is again a convenient allocation rule and not a behavioral assumption.

are, in fact, demand functions of the rest of the world for Thai manufactures and services.

We now turn to the assumptions on market adjustments. Factor markets are not modeled. Net prices or value added coefficients in current prices in manufacturing, energy, and services are assumed exogenously. Production in the products markets is demand determined for manufacturing, energy and services. Agricultural production is assumed exogenous and, for this sector, the model is supply determined. However, the agricultural net price is endogenous.

SIAM¹ is a fixed-price model. Given import prices, tariffs and net prices in manufacturing, energy and services, domestic prices and prices of the composite goods are determined on a cost basis. This price assumption does not mean that prices are constant. It simply means that they do not react to excess demand; they are purely cost determined. Once the composite goods prices and domestic prices are determined, they jointly determine the net price of agriculture. The domestic prices of manufactures and services, with export taxes, determine the supply price of exports of manufactures and services. Subsequently, the ratio of the world price to the corresponding Thai supply price determines exports for manufactures and services.

At this stage, prices, investment, exports of manufactures and services and agricultural production are given. The rest of the model is a form of a multisectoral Keynesian model. All the remaining variables are determined simultaneously in order to find the level of activity which equalizes injections and leakages. The main features distinguishing SIAM¹ from a standard Keynesian model are the way agriculture is treated and the way imports are modeled.

As mentioned, agriculture is supply determined and is an exception to the usual assumption of demand driven production. Agricultural exports are not

injections, since they do not contribute to increased aggregate demand and do not raise the level of activity. They adjust to equalize supply and demand.

On the import side,^{1/} the main difference is that imports are not considered to be purely competitive. They are not simply added to domestic output to determine total supply. Rather they are more or less substitutable to domestic supply depending on whether an elasticity of substitution is close to infinity or to zero. Furthermore, this specification allows the existence of a difference between world and domestic prices for traded goods. Hence one can obtain a relative autonomy of movements of domestic prices vis-a-vis world prices. This is dependent, however, on the value of the elasticity of substitution.

Structural Relations of SIAM1

The above points give a general feeling of the model and of its working. In the following, a description of the variables and the relations is given. All variables with a bar are exogenous variables, and t is the time subscript.

PD_{it} , $i=1,2,3,4$ are the prices of domestic goods at time t; V_{jt} , $j=1,2,3,4$ are the net prices, with V_{1t} endogenous and the others exogenous; and P_{it} , $i=1,2,3,4$ are the prices of the composite goods \bar{a}_{ij} , $i,j=1,2,3,4$ denoting the input-output coefficients, and the prices of domestic goods are given by

$$\left. \begin{aligned} PD_{1t} &= V_{1t} + \sum_{i=1}^4 \bar{a}_{i1} P_{it} , \\ PD_{jt} &= \bar{V}_{jt} + \sum_{i=1}^4 \bar{a}_{ij} P_{it} , \quad j=2,3,4 \end{aligned} \right\} \quad (1)$$

^{1/} For an account of this approach, see De Melo and Robinson (1978), "Tradability in Trade Theory," World Bank; and Dervis, De Melo and Robinson, Planning Models and Development Policy, Chapter 7, (forthcoming).

Let $\bar{\tau}_{it}$, $i=1,2,3,4$ be the rates of indirect taxation on domestic goods traded domestically, hence the market prices of these goods $\tilde{P}D_{it}$, $i=1,2,3,4$ are given by

$$\tilde{P}D_{it} = PD_{it} (1 + \bar{\tau}_{it}), \quad i=1,2,3,4 \quad (2)$$

Landed prices of imports are denoted by PM_{it} , $i=1,2,3,4$ and obtained via the world prices $\bar{\pi}_{it}^m$, $i=1,2,3,4$ and the tariff rates $\bar{\tau}m_{it}$, $i=1,2,3,4$

$$PM_{it} = (1 + \bar{\tau}m_{it}) \bar{\pi}_{it}^m, \quad i=1,2,3,4 \quad (3)$$

This specification assumes that the supply of imports is perfectly elastic at the given prices.

The prices of the composite goods, P_{it} , $i=1,2,3,4$, are obtained using the cost function of the cost minimization rule used to allocate aggregate demand between imports and domestic goods.^{1/} Assuming a constant elasticity of substitution (CES) aggregation of imports and domestic goods, the specification of the cost function is

$$P_{it} = \frac{1}{\bar{\gamma}_i} \left\{ \bar{\delta}_i^{\bar{\sigma}_i} PM_{it}^{(1-\bar{\sigma}_i)} + (1-\bar{\delta}_i)^{\bar{\sigma}_i} \tilde{P}D_{it}^{(1-\bar{\sigma}_i)} \right\}^{1/(1-\bar{\sigma}_i)}, \quad i=1,2,3,4 \quad (4)$$

where $\bar{\delta}_i$ is a distribution parameter, $\bar{\gamma}_i$ is a scale parameter and $\bar{\sigma}_i$ is the elasticity of substitution. A $\bar{\sigma}_i$ close to zero means that there is not much scope for substitution between imports and domestic goods regardless of their relative prices. This is a case close to purely complementary imports. When $\bar{\sigma}_i$ goes to infinity, imports and domestic goods become pure substitutes, and their ratio is highly sensitive to their relative prices.

^{1/} See relations (15) and (16).

In SIAM¹, the domestic price of agricultural goods PD_{1t} , is determined by the exogenous world price of exports of these goods, with an allowance for export taxes. However, because of lack of market information, it is assumed that the current domestic price of agriculture PD_{1t} adjusts to both the current world price and the world price of last period. Hence, with $\bar{\pi}_{1t}^e$, the world price of agricultural exports and $\bar{\tau e}_{1t}$, the export tax on these goods:^{1/}

$$PD_{1t} = \frac{1}{2} \left(\bar{\pi}_{1t}^e + \bar{\pi}_{1(t-1)}^e \right) / (1 + \bar{\tau e}_{1t}) . \quad (5)$$

This specification assumes that Thai exporters of agricultural goods are price takers, and they bear the burden of any export taxes. One could argue that Thailand is a major exporter of rice and, hence, can influence its world price. However, considering agricultural exports as a whole, the price taking assumption seems reasonable.^{2/}

Exports of manufactures and services are assumed to be sensitive to relative world and Thai prices. World prices are exogenous and the supplier's prices, PE_{2t} and PE_{4t} , respectively, are linked to the corresponding domestic prices PD_{2t} and PD_{4t} with an allowance for export taxes:

$$PE_{2t} = (1 + \bar{\tau e}_{2t}) PD_{2t} , \quad PE_{4t} = (1 + \bar{\tau e}_{4t}) PD_{4t} \quad (6)$$

where $\bar{\tau e}_{2t}$ and $\bar{\tau e}_{4t}$ are the export tax rates.

All the preceding relations determine prices without any reference to quantities; this results from the fix-price nature of the model. However, prices intervene in the determination of quantities produced and incomes earned. The relations determining these variables are described below.

^{1/} This is one version of the model. In another the elasticity of the domestic price with respect to the current world price is assumed to be less than one.

^{2/} This seems also to be the relevant assumption in "Thailand: Towards a Development Strategy of Full Participation," IBRD.

Let Z_t be GNP at factor cost,^{1/} it is allocated between the different recipients of incomes assuming their shares vary with the level of GNP.

With R_{1t} = compensation of employees,
 R_{2t} = income from unincorporated enterprise,
 R_{3t} = income from property excluding dividends,
 R_{4t} = operating surplus of companies including the provision
for fixed capital consumption,
 R_{5t} = government income from property and entrepreneurship,

then

$$R_{it} = \left(\frac{-0}{\rho_i} + \frac{-1}{\rho_i} e^{-\bar{\beta} r / Z_t} \right) Z_t, \quad i=1,2,\dots,5 \quad (7)$$

with $\bar{\rho}_i^{-0}$ and $\bar{\rho}_i^{-1}$, $i=1,2,\dots,5$ parameters satisfying

$$\sum_{i=1}^5 \bar{\rho}_i^{-0} = 1 \quad \text{and} \quad \sum_{i=1}^5 \bar{\rho}_i^{-1} = 0 .$$

These constraints ensure that the adding up property $\sum R_{it} = Z_t$ is always fulfilled.

The allocation of the total of households' resources TRH_t ,^{2/} is treated in the same way as above.

1/ For the determination of Z_t , see relation (24).

2/ For the determination of TRH_t , see relation (20).

Let H_{1t} = interest on consumers' debt,
 H_{2t} = personal taxes and other current transfers to government,
 H_{3t} = households' savings,
 H_{4t} = consumption of the agriculture composite good,
 H_{5t} = consumption of manufactures,
 H_{6t} = consumption of energy,
 H_{7t} = consumption of services,
 H_{8t} = current transfers to the rest of the world,

then the allocation relations are

$$H_{it} = \left(\bar{h}_i^{-0} + \bar{h}_i^{-1} e^{-\bar{\beta}_h / TRH_t} \right) TRH_t, \quad i=1,2,\dots,8 \quad (8)$$

with again $\sum \bar{h}_i^{-0} = 1$ and $\sum \bar{h}_i^{-1} = 0$ in order to ensure that $\sum_{i=1}^8 H_{it} = TRH_t$ always holds.

The same type of relations are used to allocate the total income of companies^{1/} TIC_t . With the notations

C_{1t} = dividends,
 C_{2t} = corporate taxes,
 C_{3t} = corporate savings,

then

$$C_{it} = \left(\bar{c}_i^{-0} + \bar{c}_i^{-1} e^{-\bar{\beta}_c / TIC_t} \right) TIC_t, \quad i=1,2,3 \quad (9)$$

with $\sum \bar{c}_i^{-0} = 1$ and $\sum \bar{c}_i^{-1} = 0$ so that $\sum C_{it} = TIC_t$.

Finally, total government revenue,^{2/} $GREV_t$, is allocated again in the same way:

^{1/} For the determination of TIC_t , see relation (21).

^{2/} For the determination of $GREV_t$, see relation (22).

Let G_{1t} = transfers to households,
 G_{2t} = interest on public debt,
 G_{3t} = government savings,
 G_{4t} = government consumption of manufactures,
 G_{5t} = government consumption of energy,
 G_{6t} = government consumption of services,
 G_{7t} = government transfers to the rest of the world,

then

$$G_{it} = \left(\bar{g}_i^0 + \bar{g}_i^1 e^{-\beta} g^1 / GREV_t \right) GREV_t, \quad i=1,2,\dots,7 \quad (10)$$

with $\sum_{i=1}^7 \bar{g}_i^0 = 1$ and $\sum_{i=1}^7 \bar{g}_i^1 = 0$ ensuring that $\sum_{i=1}^7 G_{it} = GREV_t$.

These allocation rules with the above constraints on the parameters do not imply that the government budget is balanced. GREV is allocated between current outlays and savings, but government capital expenditure is not included. Thus, depending on the relative value of government savings and government investment, there may be either a deficit or a surplus.

Some comment on the postulated allocation relations is in order here. First, it is easily seen that the expression between brackets is a budget share and that it is dependent on total income (or expenditure). Second, \bar{g}_i^0 , \bar{c}_i^0 , \bar{h}_i^0 , and $\bar{\rho}_i^0$ have the interpretation of budget shares, for total expenditures shrinking to zero. Hence, for very low levels of total expenditures, the budget shares will tend to be very close to the value of these parameters. Third, for total expenditures becoming very large, the expressions between brackets will tend towards $\bar{g}_i^0 + \bar{g}_i^1$, $\bar{c}_i^0 + \bar{c}_i^1$, $\bar{h}_i^0 + \bar{h}_i^1$, and $\bar{\rho}_i^0 + \bar{\rho}_i^1$. Hence, these sums can be

interpreted as limit budget shares for very high levels of total expenditures. Implicit to this is the idea that \bar{g}_i^{-1} , \bar{c}_i^{-1} , \bar{h}_i^{-1} , and \bar{p}_i^{-1} , give the maximum possible variation of the budget shares. Fourth, the latter parameters can be either positive or negative, which allows us to include declining budget shares. Finally, the parameters $\bar{\beta}$ indicate^{1/} the level of total expenditures where budget shares are the most sensitive to variations of total expenditures. Near that level, they either increase or decrease more steeply, and beyond that level they start tapering off.

Let X_{jt}^d , $j=1,2,3,4$ be production in constant prices; \bar{X}_{1t}^d , is the exogenous, agricultural production, and X_{it}^d , $i=2,3,4$ are endogenous production of manufacturing, energy, and services respectively.

Then the value of the aggregate demand for the agricultural composite good, $P_{1t} U_{1t}$, is the sum of households' consumption H_{4t} , investment demand

$P_{1t} \bar{\theta}_{1t} \bar{I}_t$ and total intermediate demand $\sum_{j=1}^4 \alpha_{1j} P_{1t} X_{jt}^d$, hence

$$U_{1t} = \frac{1}{P_{1t}} \left(H_{4t} + P_{1t} \bar{\theta}_{1t} \bar{I}_t + \sum_{j=1}^4 \alpha_{1j} P_{1t} X_{jt}^d \right) \quad (11)$$

where \bar{I}_t is total investment demand in constant prices, and $\bar{\theta}_{1t}$ is the share of it which has to be supplied by agriculture. For manufacturing it is

$$U_{2t} = \frac{1}{P_{2t}} \left(H_{5t} + G_{4t} + P_{2t} \bar{\theta}_{2t} \bar{I}_t + \sum_{j=1}^4 \alpha_{2j} P_{2t} X_{jt}^d \right) \quad (12)$$

where H_{5t} is household consumption of manufactures, G_{4t} is government consumption,

$P_{2t} \bar{\theta}_{2t} \bar{I}_t$ is investment demand, and $\sum_{j=1}^4 \alpha_{2j} P_{2t} X_{jt}^d$ is intermediate demand. Similarly,

^{1/} There is an inflexion point when total expenditure is equal to $\beta/2$.

aggregate demand for the energy composite good is

$$U_{3t} = \frac{1}{P_{3t}} \left(H_{6t} + G_{5t} + P_{3t} \bar{\theta}_{3t} \bar{I}_t + \sum_{j=1}^4 \alpha_{3j} P_{3t} X_{jt}^d \right) \quad (13)$$

The notations are the same as before, but investment demand here covers only changes in stocks. Finally, the aggregate demand for services will be

$$U_{4t} = \frac{1}{P_{4t}} \left(H_{7t} + G_{6t} + \sum_{j=1}^4 \alpha_{4j} P_{4t} X_{jt}^d \right) \quad (14)$$

with no investment demand. It should be noted that \bar{I}_t is gross investment in

constant prices and that the relation $\sum_{i=1}^3 \bar{\theta}_{it} \bar{I}_t = \bar{I}_t$ holds, and hence $\sum_{i=1}^3 \bar{\theta}_{it} = 1$.

The next question to be addressed is the share of imports used in satisfying the sectoral aggregate demands. It is treated by assuming the following allocation rule: given prices and aggregate demand, the import intensity is determined by minimizing costs.^{1/} The problem is then the following optimization:

$$\begin{array}{l} \text{Min (PM.M + PD.D)} \\ \{M, D\} \end{array}$$

subject to

$$\gamma \left[\bar{\delta} M^{-\bar{\rho}} + (1-\bar{\delta}) D^{-\bar{\rho}} \right]^{-\frac{1}{\bar{\rho}}} - U = 0$$

where D is domestic goods, M is imports and a CES function is assumed for the aggregation of the two. This function contains a distribution parameter $\bar{\delta}$,

^{1/} See Dervis, DeMelo and Robinson, Chapter 7, (forthcoming).

a scale parameter $\bar{\gamma}$ and a substitution one $\bar{\rho}$. The elasticity of substitution, $\bar{\sigma}$ is defined as $1/(1+\bar{\rho})$. Solving the above problem leads to the following allocation relations which determine for each vector of prices and each level of aggregate demand the amount of imports and domestic demand required:

$$D_{it} = \bar{\gamma}_i^{\bar{\sigma}_i-1} (1-\bar{\delta}_i)^{\bar{\sigma}_i} (P_i/PD_i)^{\bar{\sigma}_i} U_i \quad (15)$$

$$M_{it} = \bar{\gamma}_i^{\bar{\sigma}_i-1} \bar{\delta}_i^{\bar{\sigma}_i} (P_i/PM_i)^{\bar{\sigma}_i} U_i, \quad i=1,2,3,4 \quad (16)$$

In fact, relation (4) determining the prices of the composite goods is obtained as the dual of the cost minimization problem considered here, which is why the parameters used here and there are the same.

Exports of agricultural products are obtained as the excess of production over domestic demand for the domestic goods

$$E_{it} = \bar{X}_{it}^d - D_{it} \quad (17)$$

where the three variables are in constant prices.

Exports of manufactures and services are assumed to be sensitive to the ratio of the world price to the domestic suppliers' price:

$$E_{it} = \bar{EB}_{it} (\bar{\pi}_{it}^e / PE_{it})^{\bar{\eta}_i}, \quad i=2,4 \quad (18)$$

where $\bar{\pi}_{it}^e$ is the world price (exogenous), $\bar{\eta}_i$ is a constant elasticity and \bar{EB}_{it} is a parameter giving the value of exports where $\bar{\pi}_{it}^e = PE_{it}$. \bar{EB}_{it} may vary with time in order to catch the movements in the world GDP growth.

Production is demand-determined in manufacturing, energy and services. It is obtained via the equilibrium condition:

$$\left. \begin{aligned} X_{it}^d &= E_{it} + D_{it} & i=2,4 \\ X_{3t}^d &= D_{3t} \end{aligned} \right\} \quad (19)$$

These relations simply equate supply to demand.

The remaining relations of the model are accounting relations.

Total households' resources TRH_t , are defined as

$$TRH_t = \sum_{i=1}^3 R_{it} + C_{1t} + G_{1t} + \bar{F}_{2t} \quad (20)$$

where \bar{F}_{2t} are current transfers from the rest of the world to households and are exogenous. This relation states that TRH_t is equal to factor incomes paid to households $\sum_{i=1}^3 R_{it}$, plus dividends C_{1t} , plus transfers from government G_{1t} , plus transfers from abroad \bar{F}_{2t} .

Total income of companies TIC_t , is obtained as the sum of their gross operating surplus R_{4t} , the interest on consumers' debt H_{1t} , and the interest on public debt G_{2t} :

$$TIC_t = R_{4t} + H_{1t} + G_{2t} \quad (21)$$

Government receives a factor income R_{5t} (which is government income from property and entrepreneurship), direct taxes from households H_{2t} , corporate taxes C_{2t} , net indirect taxes NIT_t and transfers from abroad \bar{F}_{4t} . Total government revenue is thus

$$GREV_t = R_{5t} + H_{2t} + C_{2t} + NIT_t + \bar{F}_{4t} \quad (22)$$

\bar{F}_{4t} is exogenous.

Net indirect taxes are given as the sum of taxes on domestic goods

$\sum_{i=1}^4 \bar{\tau}_{it} PD_{it} D_{it}$, duties on imports $\sum_{i=1}^3 \bar{\tau}_{it} \bar{\pi}_{it}^m M_{it}$, and taxes on exports

$\sum_{i=1}^2 PD_{it} \bar{\tau}_{it} E_{it}$, thus

$$NIT_t = \sum_{i=1}^4 \bar{\tau}_{it} PD_{it} D_{it} + \sum_{i=1}^3 \bar{\tau}_{it} \bar{\pi}_{it}^m M_{it} + \sum_{i=1}^2 PD_{it} \bar{\tau}_{it} E_{it} \quad (23)$$

GNP at current factor cost Z_t , is obtained as the sum of value added at factor cost in the four sectors and the net factor income from abroad \bar{F}_{1t} :

$$Z_t = v_{1t} \bar{x}_{1t}^d + \sum_{i=2}^4 \bar{v}_{it} \bar{x}_{it}^d + \bar{F}_{1t} \quad (24)$$

A characteristic feature of the model is that the sum of leakages must equal the sum of injections at an equilibrium level of activity. Since the economy is open, this can be put another way: equilibrium implies that the "savings gap" is equal to the current account deficit. This is indeed the case here because the preceding relations imply

$$SG_t = TG_t$$

where SG_t is the savings gap defined as

$$SG_t = \sum_{i=1}^3 P_{it} \bar{\theta}_{it} \bar{I}_{it} - (H_{3t} + G_{3t} + C_{3t}) \quad (25)$$

and TG_t is for the current account deficit:

$$TG_t = \left(H_{8t} + G_{7t} + \sum_{i=1}^4 \bar{\pi}_{it}^m M_{it} \right) - \left(\sum_{i=1,3,4} \bar{F}_{it} + \bar{\pi}_{1t}^e E_{1t} + PE_{2t} E_{2t} + PE_{4t} E_{4t} \right) \quad (26)$$

Domestic savings are equal to the sum of households savings H_{3t} , government savings G_{3t} and savings of corporations C_{3t} . Finally, H_{8t} are transfers from households to the rest of the world and G_{7t} are transfers from government to the rest of the world.

Data Base of the Reference Simulation

In order to make a reference simulation on the period 1980-90, assumptions on four sets of variables and parameters are needed: (1) the structural parameters; (2) the policy parameters; (3) the rest of the world variables; and (4) the domestic variables.

The Structural Parameters. These are mainly behavioral and technical parameters which can be classified into three groups:

(1) The parameters of the allocation relations 7, 8 and 9. To estimate their order of magnitude, the relations are estimated on time series national account data. The $\bar{\beta}$'s, the $\bar{\rho}_i^{-1}$, $i=1, \dots, 5$, the \bar{c}_i^{-1} , $i=1, 2, 3$ and the \bar{h}_i^{-1} , $i=1, \dots, 8$ are held at their estimated values, and the \bar{h}_i^{-0} , $i=1, \dots, 8$, the \bar{c}_i^{-0} , $i=1, 2, 3$ and the $\bar{\rho}_i^{-0}$, $i=1, \dots, 5$ are adjusted (using the appropriate entries in the SAM of 1975) in order to reproduce the data of that year (see Tables 10a, 10b, 10c).

(2) The input-output coefficients $\bar{\alpha}_{ij}$, $i, j=1, 2, 3, 4$ in relations 1 and 11 to 14 are obtained from the SAM of 1975 by standard procedures. The parameters allocating gross investment demand over sectors are also obtained from the SAM. They are $\bar{\theta}_1$, $\bar{\theta}_2$, and $\bar{\theta}_3$ of the aggregate demand relations 11 to 14.

(3) The parameters of the import demand functions (relations 15 and 16) and of the related price functions (relation 4) are the elasticities

of substitution $\sigma_1, \sigma_2, \sigma_3, \sigma_4$; the share parameters $\delta_1, \delta_2, \delta_3, \delta_4$; and the scale parameters $\gamma_1, \gamma_2, \gamma_3, \gamma_4$. The elasticities of substitution for the base scenario were assumed to be .8, 3.0, .15, 3.0 for agriculture, manufacturing, energy and services respectively. Using 1975 as the base year for prices, and the imports ratios implicit in the SAM, the elasticities of substitution determine the share and scale parameters. However, the share parameter for energy is independently changed in 1982 and onward to take account of the coming on stream of domestic gas production.

The parameters of the export-demand relations (18) are the elasticities $\bar{\eta}_i$ and the scale parameters \overline{EB}_i . An estimate for $\bar{\eta}_2$ of 2.50 is obtained using relative price movements on the period 1975-79. \overline{EB}_2 is determined subsequently using the SAM figure for exports and the ratio of the world price to the Thai price of exports of manufactures, as observed in 1975. The same procedure is followed to estimate \overline{EB}_4 , but with $\bar{\eta}_4=2.0$.

The Policy Parameters. The second set of assumptions is on the policy parameters. These are, on the one side, the indirect tax rates on domestically and internationally traded goods and, on the other side, the parameters allocating government revenue. Implicit in the SAM of 1975 are all indirect tax rates for that year. These base-year values are either maintained or lowered to take account of recent trends (see Table 11).

A first approximation of the parameters allocating government revenue (relation 10) is obtained by estimating that set of relations using a time series (1970-79) and nonlinear least squares. The result is a rapidly declining share of government savings, of transfers to households, and of transfers abroad. For the base scenario the same trend in the shares is maintained but at a much slower rate, and the drop is dampened (see Table 12). This assumption leads to a

somewhat optimistic view of the savings gap and hence of the current account deficit.

The Rest of the World Variables. Linkages between the domestic economy and the rest of the world are captured through export and import prices, parameters reflecting the performance of Thai exports of manufactures and services, and net factor income and other transfers. The import price of agricultural products ($\bar{\pi}_1^m$) is obtained in the following way. For 1980-82, 1985 and 1990 it is assumed to follow the same trend as a Laspeyres index of projected prices of cereals, fruits and vegetables and coffee, cocoa and tea.^{1/} Linear interpolations are made for the intervening intervals. On average this implies the import price of agricultural products grows at a rate between 10% and 11% after 1982 (see Table 13). The import prices of manufactures and services ($\bar{\pi}_2^m, \bar{\pi}_4^m$) are assumed to increase at the same rate as the projected trend in the International Price Index (IPI). This is a decreasing rate^{2/} from 10.5% between 1979-80, to 5.7% between 1989-90 (see Table 13). The import price of energy ($\bar{\pi}_3^m$) is based on the assumption that oil prices will be \$28 a barrel in 1980, \$47.3 in 1985, and \$73.6 in 1990, or an increase of 63% over the decade^{3/} (see Table 13).

The export price of agricultural products ($\bar{\pi}_1^e$) is assumed to follow the same trend as a Laspeyres index of projected prices of rice, rubber, maize, jute and other agricultural products^{4/} (see Table 14). The world prices of exports of manufactures and services ($\bar{\pi}_2^e, \bar{\pi}_4^e$) are assumed to increase at the same rate as

^{1/} See Report No. 814/80 Price Prospects for Major Primary Commodities, Jan. 1980, Table 5, p. 14.

^{2/} See Projections of IBRD, Table 16.

^{3/} See Report No. 814/80, Table 10, p. 19.

^{4/} See Report No. 814/80, Table 10, p. 19; Table 6, p. 14.

the projected IPI^{1/} (see Table 14). In relation (18) the world demand for Thai exports of manufactures and services are dependent only on relative prices. However, they should also depend on the overall world activity and on the success of Thai exporters over and above price changes. In order to catch these two aspects, the parameters \overline{EB}_i are assumed to grow at an exponential rate:

$$\overline{EB}_{it} = \overline{EB}_{i(t_0)} (1 + r_i)^{t-t_0}, \quad i=2,4$$

The growth rates in the base scenario are assumed to be 11%.

Net factor income outflow is obtained via a debt model. It is based on the mission estimates of (a) investment income receipts; (b) interest payments on medium- and long-term debt; and (c) interest payments on short-term debt and profit. Inflow of private transfers are assumed to remain at a nominal value of 300 million bahts. Finally, public transfer nominal inflows are assumed to grow at 13% annually.

Domestic Variables. The last set of assumptions concerns the domestic trends within the Thai economy. The relevant variables here are gross investment demand in constant prices, \bar{I}_t , gross agricultural production in constant prices, \bar{X}_{1t}^d , and the net prices of manufacturing, energy and services, \bar{V}_{2t} , \bar{V}_{3t} , \bar{V}_{4t} , respectively. Gross investment demand in constant prices \bar{I}_t is assumed to grow exponentially at an annual rate of 5%. Gross agricultural production in constant prices \bar{X}_{1t}^d is also assumed to grow exponentially but at the lower rate, 4%.

Net prices are defined as the ratio of sectoral GDP at current factor cost to gross production in constant prices. If L_j is employment, K_j is capital, W_j is the nominal average wage, and r_j is the nominal users cost of capital, then:

^{1/} See Projections of IBRD, Table 16.

$$\bar{v}_j = \frac{\bar{v}_j X_j^d}{X_j^d} = \frac{W_j L_j + r_j K_j}{X_j^d} = W_j \left(\frac{L_j}{X_j^d} \right) + r_j \left(\frac{K_j}{X_j^d} \right), \quad j=2, 3, 3$$

This means that net prices are determined by the mix of labor-output, the capital-output, wage, and the cost of capital. A complete set of assumptions on the trends of the \bar{v}_j , $j=2,3,4$ would require predictions on all of the mentioned variables, which is not feasible at this point. In the reference simulation a crude but reasonable "reduced form" assumptions are adopted:

(a) Net prices of manufacturing and services, \bar{v}_2 and \bar{v}_4 are assumed to grow slower than the GDP deflator for OECD North countries. They move from 86% of the value of that index in 1980 to 78% of its projected value in 1990.

(b) The net price of energy, \bar{v}_3 , grows also slower than the GDP deflator for OECD North countries, being roughly around 88% of the value of that index over the period 1980-1990. This is lower than the increase in the import prices of energy to reflect the government's delays in allowing domestic energy prices to rise, which has squeezed the value added margins of domestic energy producers. The assumption does roughly allow for the introduction of domestic production of natural gas (see Table 15).

Table 10a: Parameters of the Allocation Relations

Households: $H_i = \left(\bar{h}_i^0 + \bar{h}_i^1 e^{-\bar{\beta}_h / \left(\frac{TRH}{POP_t} \right)} \right) TRH$		$\bar{\beta}_h = 2,769.10$		
	1980-1990 \bar{h}_i^0	1980 \bar{h}_i^1	1981-1990 \bar{h}_i^1	1981-1990 $\bar{h}_i^0 + \bar{h}_i^1$
Interest on consumer debt	.004	.013	.013	.017
Taxes	.012	.012	.012	.024
Savings	.120	.010	.02	.14
Consumption	.863	-.034	-.044	.819
Agriculture	(.328)	-.209	(-.209)	(.119)
Manufacturing	(.292)	.196	(.186)	(.478)
Energy	(.033)	-.019	(-.019)	(.014)
Services	(.210)	-.002	(-.002)	(.208)
Transfers abroad	.001	-.001	-.001	.000

Table 10b: Parameters of the Allocation Relations

Companies: $C_i = \left(\begin{matrix} \bar{c}_i^0 \\ \bar{c}_i^1 \end{matrix} + \bar{c}_i^1 e^{-\bar{\beta}_c} / \text{TIC} \right) \text{TIC}$ $\bar{\beta}_c = 28240$

	1980-1990	1980-1990	1980-1990
	\bar{c}_i^0	\bar{c}_i^1	$\bar{c}_i^0 + \bar{c}_i^1$
Dividends	.042	.013	.055
Corporate taxes	.068	.118	.186
Corporate savings	.890	-.131	.759

Table 10c: Parameters of the Allocation Relations

Factors: $R_i = \left(\begin{matrix} -0 \\ \rho_i \end{matrix} + \begin{matrix} -1 \\ \rho_i \end{matrix} e^{-\bar{\beta}_r / Z} \right) Z$ $\bar{\beta}_z = 1294410$

	1980-1990 $\begin{matrix} -0 \\ \rho_i \end{matrix}$	1980-1990 $\begin{matrix} -1 \\ \rho_i \end{matrix}$	1980-1990 $\begin{matrix} -0 \\ \rho_i \end{matrix} + \begin{matrix} -1 \\ \rho_i \end{matrix}$
Compensation of employees	.265	.133	.398
Income from unincorporated enterprise	.532	-.200	.332
Income from property	.097	-.033	.064
Operating surplus of companies	.096	.103	.199
Government income from property and entrepreneurship	.010	-.003	.007

Table 11: Percentage Rates of Indirect Taxes

	τ_{m_1}	τ_{m_2}	τ_{m_3}	τ_{m_4}	τ_{e_1}	τ_{e_2}	τ_{e_4}	τ_1	τ_2	τ_3	τ_4
1980-1990	10.0	12.0	.03	0.0	3.5	3.4	0.0	.7	7.2	.03	4.3

Table 12: Parameters of the Allocation Relations

Government: $G_i = \left(\begin{matrix} -0 \\ g_i \end{matrix} + \begin{matrix} -1 \\ g_i \end{matrix} e^{-\beta_g} / \text{GREV} \right) \text{GREV}$ $\bar{\beta}_g = 750,000$

	1980-1990 $\begin{matrix} -0 \\ g_i \end{matrix}$	1980 $\begin{matrix} -1 \\ g_i \end{matrix}$	1981-1990 $\begin{matrix} -1 \\ g_i \end{matrix}$	1981-1990 $\begin{matrix} -0 \\ g_i \end{matrix} + \begin{matrix} -1 \\ g_i \end{matrix}$
Transfers to households	.005	-.005	-.005	.000
Interest on public debt	.083	.155	.155	.238
Government savings	.166	-.800	-.525	-.359
Consumption:				
Manufacturing	.065	.040	.040	.105
Energy	.020	.025	.025	.045
Services	.660	.586	.311	.971
Transfers abroad	.001	-.001	-.001	.000

Table 13: Import Prices^{a/}
(1975 = 1)

Year	Agriculture π_1^m	Manufacturing π_2^m	Services π_4^m	Energy π_3^m
1980	1.377	1.551		2.569
1981	1.417 (2.90)	1.690 (9.00)		2.935 (14.25)
1982	1.654 (16.72)	1.825 (8.00)		3.275 (11.58)
1983	1.779 (7.55)	1.953 (7.00)		3.597 (9.83)
1984	1.913 (7.55)	2.084 (6.75)		3.950 (9.83)
1985	2.057 (7.55)	2.220 (6.50)		4.338 (9.83)
1986	2.185 (6.72)	2.360 (6.30)		4.740 (9.23)
1987	2.321 (6.22)	2.505 (6.15)		5.178 (9.23)
1988	2.463 (6.22)	2.655 (6.00)		5.656 (9.23)
1989	2.615 (6.22)	2.810 (5.85)		6.180 (9.23)
1990	2.777 (6.22)	2.971 (5.70)		6.752 (9.23)
average growth rate	(7.27)	(6.72)		(10.14)

a/ Figures between brackets are rates of growth.

Table 14: Export Prices^{a/}
(1975 = 1)

Year	Agriculture $\bar{\pi}_1^e$	Manufacturing $\bar{\pi}_2^e$ Services $\bar{\pi}_4^e$ <u>b/</u>
1980	1.208	1.550
1981	1.277 (5.71)	1.690 (9.00)
1982	1.465 (14.72)	1.825 (8.00)
1983	1.581 (7.90)	1.953 (7.00)
1984	1.706 (7.90)	2.084 (6.75)
1985	1.841 (7.90)	2.220 (6.50)
1986	1.965 (6.78)	2.360 (6.30)
1987	2.097 (6.78)	2.505 (6.15)
1988	2.239 (6.78)	2.655 (6.00)
1989	2.391 (6.78)	2.810 (5.85)
1990	2.552 (6.78)	2.970 (5.70)
average growth rate	(7.77)	(6.72)

a/ Figures between brackets are rates of growth.

b/ $\bar{\pi}_2^e$ and $\bar{\pi}_4^e$ are world prices, not supply prices, of Thai exports.

Table 15: Changes in Net Prices^{a/}
(1975 = 1)

Year	Manufacturing V ₂ Services V ₄	Energy V ₃
1980	1.362	1.401
1981	1.442 (5.87)	1.497 (6.85)
1982	1.528 (5.96)	1.602 (7.01)
1983	1.619 (5.96)	1.713 (6.93)
1984	1.718 (6.11)	1.834 (7.06)
1985	1.818 (5.82)	1.960 (6.87)
1986	1.921 (5.67)	2.091 (6.68)
1987	2.028 (5.57)	2.227 (6.65)
1988	2.137 (5.37)	2.370 (6.42)
1989	2.250 (5.29)	2.518 (6.24)
1990	2.365 (5.11)	2.673 (6.15)
avg. growth rate	(5.67)	(6.67)

a/ Figures between brackets are rates of growth (%).

Assumptions Underlying Selected Simulations with SIAM1

Simulation 1, PRIRM. The purpose of this simulation is to simulate a change in the pattern of households' and corporations' savings behavior. The changes in parameters are as follows:

	<u>1979</u>	<u>1980-83</u>	<u>1984-90</u>
h_3^1	.010	.030	.04
h_5^1	.196	.176	.166
c_1^1	.013	.013	.013
c_2^1	.118	.108	.087
c_3^1	-.131	-.121	-.100

PRIRM is Private Resource Mobilization

Simulation 2, PRMIT. The purpose of this simulation is the increase in government revenue. PRMIT is Public Resource Mobilization through Indirect Taxes.

The modifications in assumptions are:

- i) a change in the pattern of government current outlays. This is done by changing the g_i^1 , $i = 1, 2, \dots, 7$ parameters of relations 10, in the following way.

	<u>1979</u>	<u>1980</u>	<u>1981-90</u>
g_1^1	-.005	-.005	-.005
g_2^1	.155	.100	+.050
g_3^1	-.800	-.300	+.200
g_4^1	.040	-.030	-.050
g_5^1	.025	-.020	-.020
g_6^1	.586	.256	-.174
g_7^1	-.001	-.001	-.001

- ii) an annual 2% increase in tariff rates;
- iii) an annual 2% increase in indirect tax rates;
- iv) a reduction in the rate of growth of investment in constant prices from 5.0% to 4.6% is assumed to result from the higher tax measure beginning in 1979/1980.

Simulation 3, MED. The purpose of this simulation is to analyze the outcome of fully passing on the world price increases in energy prices and increasing taxation of domestic consumption.

The modifications in assumptions are:

- i) a change in the pattern of government outlays. This is introduced in order to dampen the effect of the increase in government revenues on government consumption.

	<u>1979</u>	<u>1980</u>	<u>1981-1990</u>
g_1^1	-0.005	-0.005	-0.005
g_2^1	.155	.100	.100
g_3^1	-0.800	-0.400	.00
g_4^1	.040	-0.035	-0.024
g_5^1	.025	-0.020	-0.020
g_6^1	.586	.361	-0.050
g_7^1	-0.001	-0.001	-0.001

- i) a rate of growth of investment in constant prices of 4.6% to reflect the impact of higher energy prices (beginning 1979/80);
- iii) a rate of growth of the tariff rate on imports of energy of 6%;
- iv) an indirect tax rate on energy growing at 6%.

Simulation 4, EG (Export Growth). In this simulation an optimistic view of the world demand for Thai nonagricultural exports is taken. It is assumed:

- i) the pattern of government outlays is like in Simulation 2;
- ii) the parameters \overline{EB}_2 and \overline{EB}_4 of relations 18 are growing at 12% and 13% respectively;
- iii) exports tax rates are decreasing at an annual rate of 6%;
- iv) investment in constant prices is growing at 5.4% instead of 5% to reflect the demands of the production response to greater export demand;
- v) it is furthermore assumed that the pattern of government outlays shifts as follows:

	<u>1979</u>	<u>1980</u>	<u>1981-90</u>
g_1^1	-.005	-.005	-.005
g_2^1	.155	.100	.100
g_3^1	-.80	-.40	.00
g_4^1	.04	-.035	-.024
g_5^1	.025	-.020	-.020
g_6^1	.586	.361	-.050
g_7^1	-.001	-.001	-.001

Simulation 5, AGI. In this simulation it is assumed that agricultural production will be able to grow at 4% in 1980, at 4.5% in 1981 and at 5% afterwards, instead of the 4% rate assumed in the base run. The rate of growth of investment in constant prices is assumed to rise to 5.2% to support faster agricultural growth and a pattern of government outlays as in Simulation 4.

Simulation 6, OVAPI. This is an overall package comprising the previous modifications in assumptions where:

- i) the pattern of government outlays is

	<u>1979</u>	<u>1980-82</u>	<u>1981-90</u>
g_1^1	-0.005	-0.005	-0.005
g_2^1	.155	.100	.050
g_3^1	-0.500	.00	.200
g_4^1	.030	-.024	-.050
g_5^1	.020	-.020	-.020
g_6^1	.301	-.050	-.174
g_7^1	-0.001	-0.001	-0.001

ii) the pattern of outlays of households and corporations is:

	<u>1979</u>	<u>1980-90</u>
h_3^1	.020	.040
h_5^1	.086	.066
c_1^1	.013	.021
c_2^1	.118	.100
c_3^1	-.131	-.121

iii) rates of tariffs on imports are assumed constant except the rate on energy which is growing at an annual rate of 6%;

iv) rates of indirect taxation are growing at 2% except the rate on energy which is growing at 6%;

v) exports tax rates are decreasing at an annual rate of 6%;

vi) investment in constant prices is growing at 5.25%

vii) agricultural production is growing at 4% in 1980, at 4.1% in 1981 and at 5% afterwards;

viii) the parameters \overline{EB}_2 and \overline{EB}_4 of relations 18 are growing at 12% and 13% respectively.

THAILAND

COPING WITH STRUCTURAL CHANGE IN A DYNAMIC ECONOMY

Financial Institutions

Introduction

1. This annex will provide a brief history of commercial banks, finance companies, the Securities Exchange of Thailand (SET), and of recent measures to stabilize the financial sector. The organized financial sector in Thailand comprises a variety of institutions, both public and private, as shown in Table 1. The commercial banks and finance companies are the principal institutions of interest for monetary policy issues. Assets of these institutions account for the bulk of assets in the organized financial sector. Table 2 shows the combined assets of five groups of financial institutions and their relative size. The table does not include assets of the Government Housing Bank, insurance companies, mutual funds and credit cooperatives.^{/1} However, these omissions do not significantly alter the observation that commercial banks play a dominant role in the organized financial sector and that finance companies are the second largest group of financial institutions. This is confirmed when looking at advances to the private nonbanking sector shown in Table 3.

Commercial Banks

2. The first commercial bank in Thailand opened for business in 1888. This was a foreign bank, as were the next two to be established before 1900. The first Thai bank was established in 1906. Fourteen of the existing banks were established between 1939 and 1955, and Thai banks began to dominate the sector. By 1978, Thai banks accounted for more than 95% of bank deposits, and 16 of 29 commercial banking houses operating in Thailand. The first banks were established primarily to facilitate the import and export trade of European merchants. Financing international trade remained the dominant activity through the pre-World War II period. Lending to other sectors only took off in the early 1960s.

3. The bulk of total assets and liabilities of commercial banks are concentrated in relatively few banks. The share of the largest bank (Bangkok Bank) exceeds one third of the total, while the share of the five largest banks approach four-fifths of total assets. Ownership of commercial banks is also fairly concentrated. Of the 16 Thai commercial banks, 9 had less than 10 major shareholders controlling 50% of shares.

^{/1} They are likely to be less than 5% of the total assets of the organized financial sector.

4. Savings and time deposits constitute the largest source of funds for banks, exceeding 60% of total liabilities in the 1975-78 period as shown in Table 4. At the end of 1979, the share fell to 57%. Borrowings from foreign banks has been the fastest growing source of funds since 1975. Up from 7% in 1975, such funds comprised 14% of liabilities at the end of 1979.

5. Loans, overdrafts and discounts to the nonbank private sector accounted for 71% of assets at the end of 1979. This share has risen steadily from 64% in 1975. The share of government securities in the portfolio has declined from 15% in 1975 to 9% by end 1979 as the banks expanded credit to meet rising private demand. Private sector lending is for the most part short-term. Lending to the trade and other service sectors still dominates bank lending. There are few term loans, and overdrafts are often used to finance medium and long-term projects. As indicated by the small volume of term loans, collateral requirements tend to discourage the term financing of manufacturing investments. The emphasis on collateral is on land and less weight is given to the future prospects of the enterprise.

6. Commercial banks play a fairly small role in agricultural financing despite credit allocations. This is due to the high processing cost of agricultural loans, which tend to be very small, and to the high risk of default. Commercial banks can satisfy their credit allocation to agriculture of 13% of total lending by deposits with the Bank for Agriculture and Agricultural Cooperatives (BAAC), and 2% of the 13% can be satisfied by lending to agro-industries. Most of the allocation requirement is satisfied by deposits with the BAAC: only 5% of commercial bank lending is directly to agriculture. Lending from informal sources still dominates credit to agriculture./1

Finance Companies

7. The first finance company was started in 1964. However, it was not until 1969 that the sector started its rapid growth. By 1973, the number of companies had reached 54; at the beginning of 1979, 113 companies were in operation. Their combined assets were at that time equal to one fourth of those of commercial banks.

8. Finance companies came under formal regulatory control by monetary authorities in 1972. They are prohibited from soliciting deposits, and their main source of funds is the issuance of promissory notes. These notes are nonnegotiable debt instruments, carrying fixed terms and rates of interest. The rate depends on the maturity offered. Promissory notes constituted two-thirds of all finance company liabilities at the end of 1979, as shown in Table 5. This share has been stable over the last two years.

/1 Details of the informal financial sector are not available, but its share in agricultural financing is likely to be quite substantial, perhaps about three fourths of the total.

9. Loans to the private sector constitute the major use of funds. By end 1979, 85% of assets were held in this form, down from 91% at end 1976. This decrease was reflected in increased shares of cash, bank deposits, securities (including government securities) and capital funds. This change was the result of increased prudential concerns about the companies in the regulatory agencies, resulting in regulatory pressures to strengthen liquidity reserves and capital positions.

10. Stock market related lending caused severe liquidity strains on some finance companies in 1979. The Raja Finance Company became insolvent, and the government took extraordinary measures to preserve the stability of the financial sector in face of this collapse and the possibility that the same fate would befall other finance companies. The May, 1979 Act on Finance Business, Securities Business and Credit Frontier Business aimed at strengthening the financial position of finance companies, and circumscribed their opportunities to engage in stock market related activities. Companies now have to choose one major line of business. They can do business either by accepting or guaranteeing commercial bills, by lending medium and long-term funds for industry and agriculture, by financing consumer durables, land and housing purchases, or by establishing themselves as brokers on the SET.

SET and Capital Market Development Fund

11. The Securities Exchange of Thailand (SET) opened for stock trading in 1975. It grew quickly in the ensuing three years, both in terms of the paid-up capital of the companies whose shares were traded and in terms of turn-over or volume of sales. The paid-up capital increased from Baht 90 million in 1975 to Baht 2.4 billion in 1978. Market values of the shares exceeded their original paid-up values by a large amount in 1978, reaching Baht 4.3 billion. Traded volume peaked in October 1978 at Baht 15 billion. For the year as a whole, traded volume reached Baht 57 billion.

12. Influenced by some restriction of money policies and weakening economic conditions in general, prices on the SET started to slide in December 1978. By February 1979, the volume traded was down to Baht 0.3 billion. Volume for 1979 as a whole only reached Baht 22 billion. The decline of trade volumes to very low levels squeezed the liquidity of many finance companies and prompted several government support measures. One government-controlled commercial bank purchased stocks from finance companies to ease their liquidity position. These purchases were financed by a Baht 2 billion loan from the Bank of Thailand (BOT), and contributed to improvements in the liquidity situation by the end of 1979. A condition stipulating repurchase of the stocks by the finance companies at the same price and within three years was attached to the sales.

13. In addition, the Capital Market Development Fund (CMDf) was established in August 1979 to buy stocks on the SET on order to support prices and to motivate other investors to buy stocks. The Ministry of Finance, the Government Savings Bank (GSB), the BOT and 16 commercial banks cooperated in

the establishment of the fund. An initial operating fund of Baht 1 billion was established, with commercial banks, BOT and GSB providing Baht 420 million, 300 million and 280 million, respectively. Interest is earned on these contributions. IFCT acts as secretariat for the CMDF, which is not a separate juristic entity.

14. By March 1980 about Baht 800 million had been used to purchase stocks and book losses of about Baht 60-70 million were sustained. The CMDF is presently seeking increased funding in the amount of Baht 1 billion. The policy of the CMDF is now not to act vigorously against market trends, but rather to moderate declines. The CMDF also tries to increase the volume of stocks traded by both buying and selling in the market. It is CMDF policy only to trade in shares of recognized, substantial companies.

Table 1: FINANCIAL INSTITUTIONS IN THE ORGANIZED SECTOR
(as of mid-1976)

Institution	Year started operations /a
<u>Banks</u>	
<u>Government</u>	
Bank of Thailand	1942
Government savings bank	1946
Bank for agriculture and agricultural cooperatives	1966
Government housing bank	1953
<u>Private</u>	
Commercial banks	1906
16 incorporated in Thailand	1888
13 incorporated outside Thailand	
<u>Other Financial Institutions</u>	
<u>Government</u>	
Small industry finance office	1964
Government provident fund	-
<u>Private</u>	
11 life insurance companies	1929
Industrial Finance Corporation of Thailand	1959
Agricultural credit cooperatives	1916
Nonagricultural credit cooperatives	1938
Mutual funds	1963
97 finance companies	1964
Securities Exchange of Thailand	1975
Credit foncier companies	1969
202 pawnshops (as of September 30, 1973)	1866

/a Year when the first institution in each category started operations.

Sources: R.F. Emery, Financial Institutions of Southeast Asia, Praeger Publishers, 1970; P. Wattanasiritham, "Thailand's Financial Institutions", in P. Sondysuvan (ed.), Finance, Trade and Economic Development in Thailand, Sompong Press, 1975.

Table 2: MAJOR FINANCIAL INSTITUTIONS: TOTAL ASSETS AND LIABILITIES
(end of year, in % of total for institutions listed)

	1976	1977	1978	1979
Commercial banks	73	72	71	73
Finance companies	14	16	18	16
GSB	8	7	6	7
BAAC	4	4	4	4
IFCT	1	1	1	1
Sum, percent	100	100	100	100
Sum, Baht billions	192.4	240.9	308.0	356.4

Source: Bank of Thailand (BOT)

Table 3: LOANS, OVERDRAFTS AND DISCOUNTS TO THE PRIVATE NONBANKING SECTOR BY MAJOR FINANCIAL INSTITUTIONS
(Outstanding at end of year, as % of total for institutions listed)

	1976	1977	1978	1979
Commercial banks	72	72	71	76
Finance companies	21	21	23	18
GSB /a	-	-	-	-
BAAC	6	6	5	4
IFCT	1	1	1	1
Sum, percent	100	100	100	100
Sum, Baht billions	123.2	159.0	210.8	245.7

/a Less than 0.5%.

Source: BOT

Table 4: COMMERCIAL BANKS ASSETS AND LIABILITIES
(Billions of Baht at end of year)

	1970	1975	1976	1977	1978	1979
<u>Assets</u>						
Cash <u>/a</u>	0.9	2.3	2.7	4.0	4.3	5.2
Balances at banks	3.3	9.1	10.9	13.9	16.7	19.6
Government securities	5.9	17.6	20.9	22.3	24.4	23.9
Other securities	0.4	1.5	2.8	2.8	3.2	3.0
Loans, overdrafts, discounts to private nonbank sector	26.6	75.8	89.0	114.4	150.4	183.1
Fixed and other assets	4.1	11.6	13.3	15.9	19.2	24.4
Total assets and liabilities	<u>41.2</u>	<u>117.9</u>	<u>139.6</u>	<u>173.3</u>	<u>216.2</u>	<u>259.2</u>
<u>Liabilities</u>						
Demand deposits	7.6	14.0	16.8	19.1	23.5	25.4
Savings and time deposits	23.9	71.6	88.5	110.4	132.7	147.5
Borrowings from BOT	0.8	7.3	5.5	6.0	8.1	16.7
Borrowings from banks abroad	3.1	8.1	9.2	14.4	24.8	35.4
Other Liabilities <u>/b</u>	5.9	16.9	19.7	23.1	29.0	34.6

/a Including foreign currency on hand.

/b About half of these are paid-in capital and retained earnings.

Source: BOT

Table 5: FINANCE COMPANIES: ASSETS AND LIABILITIES
(Billions of Baht at end of year)

	1976	1977	1978	1979
<u>Assets</u>				
Private credits	25.3	33.7	48.1	47.6
Investment in securities <u>/a</u>	1.7	3.0	4.8	5.7
Cash balance at banks and other assets	0.7	1.1	2.0	2.7
Total assets and liabilities	27.7	37.8	54.9	56.0
<u>Liabilities</u>				
Local promissory notes	18.3	24.1	36.6	37.0
Borrowings from commercial banks	3.1	4.1	5.0	5.3
Borrowings from institution abroad	2.7	3.5	3.2	2.9
Other liabilities <u>/b</u>	3.6	6.1	10.1	10.8

/a About half in government securities.

/b Mostly paid-in capital and retained earnings.

Source: BOT

STATISTICAL APPENDIX

Contents

		<u>Page No.</u>	
Table	1.1	Population	136
	1.2	Employment Estimates	137
	2.1	Gross Domestic Product at Current Market Prices by Industrial Origin	138
	2.2	Percentage Distribution of Gross Domestic Product at Current Market Prices by Industrial Origin	139
	2.3	Gross Domestic Product at Current Factor Cost by Industrial Origin	140
	2.4	Gross Domestic Product at Constant Market Prices by Industrial Origin	141
	2.5	Growth of Gross Domestic Product at Constant Market Prices by Industrial Origin	142
	2.6	Implicit Price Deflators for GDP at Market Prices by Industrial Origin	143
	2.7	Expenditure on Gross Domestic Product at Current Market Prices	144
	2.8	Percentage Distribution of Expenditure on Gross Domestic Product at Current Market Prices	145
	2.9	Expenditure on Gross Domestic Product at Constant Prices	146
	2.10	Percentage Growth of Expenditure on Gross Domestic Product at 1972 Prices	147
	3.1	Summary Balance of Payments	148
	3.2	Principal Merchandise Exports	149
	3.3	Other Merchandise Exports	150
	3.4	Merchandise Exports by Countries	151
	3.5	Principal Merchandise Exports by Countries	152
	3.6	Merchandise Imports	154
	3.7	Financing of Merchandise Imports	155
	3.8	Merchandise Imports by Countries	156
	3.9	Services	157
	3.10	Investment Income	158
	3.11	Government	159
	3.12	Transfers	160
	3.13	Capital Movements	161
	3.14	International Reserves	166
	3.15	Trade Indices and Terms of Trade	167
	3.16	Duties on Imports by Economic Classification	168
	3.17	Imports and Exports of Crude Oil and Petroleum Products	169

Table 4.1	External Debt and Debt Service Obligations	170
4.2	External Public Debt Outstanding Including Undisbursed as of December 31, 1979	171
4.3	Projected Service Payments, Disbursements and Outstanding Amounts of External Public Debt as of December 31, 1979	172
5.1	Consolidated Public Sector Expenditures	173
5.2	Financing of Consolidated Public Sector Expenditures	174
5.3	Central Government Expenditures	175
5.4	Central Government Revenue	176
5.5	Financing of Central Government Expenditures	177
5.6	Local Government Accounts	178
5.7	State Enterprises Gross Fixed Capital Expenditures and Their Financing	179
5.8	Central Government Receipts, Budget FY77-80	180
5.9	Functional Classification of Central Government; Expenditure Budget, FY79/80	181
6.1	Evaluation of Monetary Situation - Calendar Years	182
6.2	Evaluation of Monetary Situation - Quarterly	183
6.3	Selected Data of Commercial Banks	184
6.4	Bills, Loans and Overdrafts of Commercial Banks Classified by Purpose	185
7.1	Area Planted, Field and Production of Major Crops, 1959-79	186
7.2	Proportion of Planted Area in Major Crops	187
7.3	Paddy and Rice Supply and Utilization, 1967-80 by Glutinous and Nonglutinous Varieties	188
7.4	Rice Export Premium	189
7.5	Export and Domestic Wholesale Prices of Rice for Selected Grades	190
7.6	Average Wholesale Prices (Bankgkok) of Selected Agricultural Commodities	191
7.7	Development of Producer Prices of Major Commodities in Thailand, 1968-78	192
7.8	Apparent Fertilizer Consumption, 1966-78	193
7.9	Fertilizer Use, by Crop and by Region, 1971 and 1975	194
7.10	Nutrient to Crop Price Ratios for Selected Fertilizers and Crops, 1968-78	195
7.11	Illustration of Yield Response of Rice and Economic Returns to Fertilizer, 1978	196
7.12	Replanting of Rubber	197

Page No.

8.1	Production and Capacity of Selected Manufacturing Industries	198
8.2	Gross Domestic Product Originating from Manufacturing at Current Market Prices	199
8.3	Gross Domestic Product Originating from Manufacturing at Constant Prices	200
8.4	Statistics of Promoted Investment	201
8.5	Mineral Production	202
8.6	Energy Consumption by Source of Energy	203
8.7	Tourism - Basic Data	204
8.8	Realized Rates of Effective Protection, 1969, 1971, 1974 Major Categories and Selected Items	205
9.1	Price Indices	206
9.2	Consumer Price Index for Whole Kingdom	207
Table R1.1	Regional Population	208
R2.1	Gross Regional Product - Bangkok (Current Baht)	209
R2.2	Gross Regional Product - Center (Current Baht)	210
R2.3	Gross Regional Product - North (Current Baht)	211
R2.4	Gross Regional Product - Northeast (Current Baht)	212
R2.5	Gross Regional Product - South (Current Baht)	213
R2.6	Gross Regional Product - Bangkok (Constant Baht)	214
R2.7	Gross Regional Product - Center (Constant Baht)	215
R2.8	Gross Regional Product - North (Constant Baht)	216
R2.9	Gross Regional Product - Northeast (Constant Baht)	217
R2.10	Gross Regional Product - South (Constant Baht)	218
R7.1	Area Planted, Yield and Production of Major Crops, 1959/60 - 1978/79, Central Region	219
R7.2	Area Planted, Yield and Production of Major Crops, 1959/60 - 1978/79, Northern Region	220
R7.3	Area Planted, Yield and Production of Major Crops, 1959/60 - 1978/79, Northeastern Region	221
R7.4	Area Planted, Yield and Production of Major Crops, 1959/60 - 1978/79, Southern Region	222
R9.1	Consumer Price Indices by Region	223

Table 1.1: POPULATION
(Millions)

	Mid-year	Growth rates (%) for 5-year period
1960	26.3	
1970	36.4	3.3 <u>/a</u>
<u>Estimates</u>		
1971	37.5	
1972	38.6	
1973	39.7	
1974	40.8	
1975	41.9	2.9 <u>/a</u>
1976	43.0	
1977	44.0	
1978	45.0	
1979	45.9	
<u>Projections</u>		
1980	46.5	2.1 <u>/b</u>
1985	51.9	2.2
1990	57.4	2.0
1995	62.8	1.8

/a Growth over 10-year period.

/b Fertility decline which began in the late 1960s could not be documented until the mid-1970s when a number of fertility surveys were taken. Therefore, the rate of growth of population between 1970-75 overestimates the real rate of growth and the whole amount of the fertility decline over the 1970s is allocated to the 1975-80 period, probably understating the real rate of growth in this latter period.

Note: The Population and Housing Census taken in April 1970 yielded a population estimate of 34.4 million. Since the census is believed to be an underenumeration, the 1970 population estimate was adjusted upwards to 36.1 million by the Working Group on the Population Projection of the Subcommittee of Population Policy.

Source: Population and Manpower Planning Division, NESDB.

Table 1.2: EMPLOYMENT ESTIMATES

	<u>Employment /a ('000)</u>			Thousands new jobs added annually	<u>Composition of work force, 1970</u>	
	1960	1970	1976	1970-76	% female	% age 11-14
Agriculture	11,332	13,202	14,838	273	50	12
Mining and quarrying	30	87	39	-8	27	7
Manufacturing	470	683	1,215	89	43	6
Construction	69	182	255	12	14	3
Electricity, gas, water and sanitary services	16	25	39	2	13	-
Commerce	779	876	1,392	86	54	4
Transport, storage and communication	166	268	353	14	6	-
Services	654	1,184	1,470	48	36	3
Unknown	234	146	n.a.	..	..	..
<u>Total</u>	<u>13,749</u>	<u>16,652</u>	<u>19,601</u>	<u>290</u>	<u>47</u>	<u>10</u>

/a Economically active population, age 11 years and older, employed in April.

Note: These figures should be used with caution as the 1970 census, which was published in mid-1974, apparently underestimated the population, and perhaps also the work force. The census figures differ significantly from those given in the annual labor force surveys for 1969 and 1971. In addition, sectoral employment reported in 1969 and 1971 to 1973 surveys shows improbably large annual fluctuations.

Source: Census Reports, 1960, 1970.

Table 2.1: GROSS DOMESTIC PRODUCT AT CURRENT MARKET PRICES BY INDUSTRIAL ORIGIN
(Billions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Agriculture	38.5	40.8	49.9	73.2	84.7	94.1	104.7	110.9	131.2	145.6
Crops	26.8	28.1	36.0	56.4	62.2	69.7	77.5	79.1	99.3	109.1
Livestock	4.8	5.5	5.9	6.3	10.6	11.5	12.3	14.4	12.7	16.9
Fisheries	4.1	4.5	5.2	7.0	7.3	8.4	9.8	12.5	14.1	14.6
Forestry	2.8	2.7	2.9	3.5	4.6	4.5	5.0	5.0	5.0	5.1
Mining, quarrying	2.8	3.0	2.9	2.9	4.5	4.1	5.2	8.1	10.6	13.8
Manufacturing	21.8	24.9	27.9	35.6	47.6	53.9	63.0	74.7	87.7	108.9
Construction	8.3	7.3	7.2	8.3	10.7	12.8	15.8	20.3	25.9	31.5
Electricity, water supply	1.6	1.9	2.2	2.7	2.8	3.3	3.7	4.4	5.2	5.7
Transportation, communications	8.6	9.0	10.5	13.2	16.0	18.8	21.8	24.7	29.8	35.3
Trade	25.9	26.3	29.9	41.1	53.4	54.7	59.4	74.9	94.6	113.0
Banking, insurance, real estate	5.6	6.3	6.9	8.8	12.2	14.6	16.1	19.5	25.3	31.4
Ownership of dwellings	2.9	3.1	3.2	3.6	4.2	4.4	4.8	5.3	5.9	6.9
Public administration, defense	6.1	6.7	7.2	8.3	10.5	12.3	13.6	14.8	17.9	21.3
Other services	13.9	15.5	16.8	18.9	23.0	25.9	29.5	35.4	43.3	51.1
<u>Gross Domestic Product</u>	<u>136.1</u>	<u>144.6</u>	<u>164.6</u>	<u>216.5</u>	<u>269.7</u>	<u>298.8</u>	<u>337.6</u>	<u>393.0</u>	<u>477.3</u>	<u>564.4</u>
Net factor income from abroad	+0.4	0.0	-0.3	-0.4	+1.1	-0.2	-1.3	-2.0	-3.7	-7.7
Gross national product	136.4	144.6	164.3	216.1	270.7	298.6	336.4	393.0	473.6	556.8

/a Estimate.

Note: Totals may not add because of rounding.

Source: NESDB.

Table 2.2: PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC PRODUCT
AT CURRENT MARKET PRICES BY INDUSTRIAL ORIGIN

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Agriculture	28.3	28.2	30.3	33.8	31.6	31.5	31.0	28.2	27.5	25.8
Crops	19.7	19.4	21.8	26.1	23.5	23.3	23.0	20.1	20.8	19.8
Livestock	3.6	3.8	3.6	2.9	3.8	3.8	3.6	3.7	2.7	3.0
Fisheries	3.0	3.1	3.2	3.2	2.8	2.8	2.9	3.2	3.0	2.6
Forestry	2.0	1.9	1.7	1.6	1.5	1.5	1.5	1.3	1.0	0.9
Mining, quarrying	2.0	2.1	1.8	1.3	1.8	1.4	1.5	2.1	2.2	2.4
Manufacturing	16.0	17.2	16.9	16.5	17.2	18.0	18.7	19.0	18.4	19.3
Construction	6.1	5.1	4.4	3.9	3.9	4.3	4.7	5.2	5.4	5.6
Electricity, water supply	1.2	1.3	1.4	1.2	1.0	1.1	1.1	1.1	1.1	1.0
Transportation, communications	6.3	6.2	6.4	6.1	5.9	6.3	6.5	6.3	6.2	6.3
Trade	19.1	18.2	18.1	19.0	19.9	18.3	17.6	19.1	19.8	20.0
Banking, insurance, real estate	4.1	4.3	4.2	4.1	4.6	4.9	4.8	5.0	5.3	5.6
Ownership of dwellings	2.2	2.1	1.9	1.6	1.6	1.5	1.4	1.3	1.2	1.2
Public administration, defense	4.5	4.6	4.4	3.8	3.9	4.1	4.0	3.8	3.8	3.8
Other services	10.2	10.7	10.2	8.7	8.6	8.7	8.7	9.0	9.1	9.1
<u>Gross Domestic Product</u>	<u>100.0</u>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

/a Estimate.

Source: NESDB.

Table 2.3: GROSS DOMESTIC PRODUCT AT CURRENT FACTOR COST BY INDUSTRIAL ORIGIN
(Billions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Agriculture	38.2	40.4	49.6	73.0	84.7	93.6	104.2	110.4	130.6	145.0
Crops	26.6	27.9	35.7	56.3	62.4	69.4	77.3	78.8	99.0	108.7
Livestock	4.8	5.5	5.9	6.3	10.6	11.5	12.4	14.4	12.7	16.9
Fisheries	4.1	4.5	5.2	7.0	7.3	8.5	9.8	12.5	14.1	14.6
Forestry	2.7	2.6	2.7	3.4	4.5	4.3	4.8	4.8	4.8	4.9
Mining, quarrying	2.4	2.6	2.5	2.4	3.7	3.5	4.4	6.5	8.1	10.1
Manufacturing	16.7	19.2	21.4	27.9	35.3	41.5	50.4	57.4	68.7	89.3
Construction	8.1	7.2	7.0	8.1	10.4	12.6	15.6	19.9	25.4	30.9
Electricity, water supply	1.6	1.9	2.2	2.7	3.0	3.3	3.8	4.6	5.4	6.0
Transportation, communications	8.3	8.7	10.1	12.8	15.5	18.2	21.2	24.1	29.1	34.8
Trade	17.5	18.3	21.5	29.3	37.3	40.6	43.7	55.0	70.6	83.2
Banking, insurance, real estate	5.3	5.9	6.5	8.2	11.5	13.5	14.9	18.2	23.4	28.9
Ownership of dwellings	2.7	2.8	2.9	3.2	3.8	4.0	4.3	4.6	5.1	5.9
Public administration, defense	6.1	6.7	7.2	8.3	10.5	12.3	13.6	14.8	17.9	21.3
Other services	13.2	14.7	16.0	17.9	22.0	24.6	28.2	33.8	41.3	48.8
<u>Gross domestic product at factor cost</u>	<u>120.3</u>	<u>128.4</u>	<u>146.8</u>	<u>193.8</u>	<u>237.3</u>	<u>267.7</u>	<u>304.2</u>	<u>349.3</u>	<u>425.6</u>	<u>504.3</u>
Plus indirect taxes less subsidies	15.8	16.2	17.8	22.7	33.4	31.1	33.4	43.7	51.7	60.1
<u>Gross domestic product at market prices</u>	<u>136.1</u>	<u>144.6</u>	<u>164.6</u>	<u>216.5</u>	<u>270.7</u>	<u>298.6</u>	<u>336.4</u>	<u>391.0</u>	<u>473.6</u>	<u>556.8</u>
<u>Gross domestic product at factor cost</u>	<u>120.3</u>	<u>128.4</u>	<u>146.8</u>	<u>193.8</u>	<u>237.3</u>	<u>267.7</u>	<u>304.2</u>	<u>349.3</u>	<u>425.6</u>	<u>504.3</u>
Plus net factor income from rest of world	0.4	0.0	-0.3	-0.4	1.1	-0.2	-1.3	-2.0	-3.7	-7.7
Less provision for consumption of fixed capital	10.3	11.6	12.8	14.8	17.7	21.0	24.0	28.6	34.4	42.0
<u>Net National Income</u>	<u>110.4</u>	<u>116.9</u>	<u>133.7</u>	<u>178.6</u>	<u>219.9</u>	<u>246.5</u>	<u>278.9</u>	<u>318.7</u>	<u>387.5</u>	<u>454.7</u>

/a Estimate.

Note: Totals may not add because of rounding.

Source: NESDB.

**Table 2.4: GROSS DOMESTIC PRODUCT AT CONSTANT MARKET PRICES
BY INDUSTRIAL ORIGIN
(Billions of 1972 baht)**

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Agriculture	48.3	50.5	49.9	56.2	57.0	62.1	65.9	65.5	75.1	73.6
Crops	35.5	37.0	36.0	41.7	41.8	45.6	49.0	46.8	55.5	54.0
Livestock	5.0	5.6	5.9	6.3	6.7	7.4	7.6	8.1	8.2	8.6
Fisheries	5.0	5.0	5.2	5.4	5.3	5.7	5.9	7.5	8.4	8.1
Forestry	2.8	3.0	2.9	2.9	3.2	3.3	3.4	3.1	2.9	2.9
Nonagriculture	101.8	106.6	114.7	123.9	132.2	141.4	156.6	173.3	191.8	211.1
Mining, quarrying	2.6	2.9	2.9	2.7	2.9	2.5	2.9	3.5	4.1	4.6
Manufacturing	23.3	25.2	27.9	31.5	33.6	36.8	42.5	48.1	52.8	58.0
Construction	8.7	7.7	7.2	7.2	7.5	8.5	10.0	12.0	14.1	15.4
Electricity, water supply	1.6	1.9	2.3	2.6	2.8	3.2	3.6	4.1	4.5	5.1
Transportation, communications	9.2	9.4	10.5	11.3	12.1	13.4	14.6	16.1	18.4	20.8
Trade	26.5	27.2	29.9	33.4	33.7	35.8	38.8	41.2	43.5	47.0
Banking, insurance, real estate	5.8	6.6	6.9	7.6	8.6	9.6	10.2	11.6	13.8	15.3
Ownership of dwellings	3.0	3.1	3.2	3.3	3.5	3.6	3.7	3.8	4.1	4.4
Public administration, defense	6.5	7.0	7.2	7.7	7.9	8.4	8.9	9.6	10.2	11.4
Other services	14.5	15.7	16.8	18.5	19.8	19.7	21.3	23.3	26.3	29.1
Gross domestic product	150.1	157.1	164.6	180.1	189.2	203.5	222.5	238.8	266.8	284.7
Net factor income from abroad	0.3	0.0	-0.3	-0.4	0.9	-0.2	-1.0	-1.6	-2.7	-5.4
Gross national product	150.4	157.1	164.3	179.8	190.1	203.3	221.5	237.3	264.1	279.3

/a Estimate.

Note: Totals may not add because of rounding

Source: NESDB.

Table 2.5: GROWTH OF GROSS DOMESTIC PRODUCT AT CONSTANT MARKET PRICES
BY INDUSTRIAL ORIGIN
(1972 Baht, %)

	1971	1972	1973	1974	1975	1976	1977	1978	1979/ <u>e</u>
<u>Agriculture</u>	4.6	-1.2	12.7	1.3	9.0	6.1	-0.5	14.5	-1.9
Crops	4.0	-2.7	16.0	0.1	9.3	7.4	-4.5	18.7	-2.7
Livestock	11.5	4.8	6.7	6.7	10.1	3.3	6.3	1.2	4.7
Fisheries	0.9	4.0	3.0	-1.2	8.6	2.9	27.1	11.9	-3.5
Forestry	6.3	-3.3	0.2	11.8	3.5	1.0	-6.6	-6.5	-1.7
<u>Nonagriculture</u>	4.7	7.7	8.0	7.3	6.8	10.7	10.7	10.7	10.1
Mining, quarrying	11.8	1.1	-7.0	8.8	-14.8	16.9	21.3	16.3	12.8
Manufacturing	8.1	10.6	13.1	9.1	8.0	15.6	13.0	9.7	10.0
Construction	-11.6	-6.9	0.7	3.3	14.1	17.7	19.7	17.9	8.7
Electricity, water supply	14.7	19.8	16.7	6.1	13.7	14.5	13.8	8.6	12.4
Transportation, communications	1.9	12.2	7.7	7.0	2.8	9.0	10.2	14.4	13.0
Trade, wholesale and retail	2.5	9.9	5.1	9.1	5.5	8.5	6.2	5.4	8.2
Banking, insurance, real estate	13.0	5.5	10.0	17.4	10.7	6.0	13.4	19.5	10.7
Ownership of dwellings	3.5	3.0	3.6	4.2	3.0	3.1	4.3	6.7	7.3
Public administration, defense	8.0	2.6	7.2	2.3	6.3	6.4	7.4	6.4	12.3
Other services	8.0	7.5	9.7	1.5	18.4	8.0	9.3	13.1	10.5
<u>Gross domestic product</u>	4.7	4.8	9.4	5.4	7.4	9.3	7.3	11.7	6.7

/a Based on preliminary data.

Source: NESDB.

Table 2.6: IMPLICIT PRICE DEFLATORS FOR GDP AT MARKET PRICES
BY INDUSTRIAL ORIGIN
(1972 = 100)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
<u>Agriculture</u>	79.6	80.7	100.0	130.2	148.8	151.5	158.8	169.3	174.8	197.8
Crops	75.3	76.0	100.0	135.3	149.1	152.6	158.1	169.0	178.9	201.9
Livestock	96.2	97.6	100.0	100.0	158.0	155.5	162.1	177.8	171.9	169.9
Fisheries	82.1	89.7	100.0	130.1	137.3	147.4	166.0	166.1	168.0	180.0
Forestry	100.3	92.3	100.0	122.9	144.5	134.2	148.6	159.0	170.2	176.3
<u>Nonagriculture</u>	95.9	97.4	100.0	115.7	139.1	144.8	148.8	162.8	180.2	198.4
Mining, quarrying	108.0	103.7	100.0	106.5	155.2	163.5	178.0	230.8	258.6	298.2
Manufacturing	93.5	98.8	100.0	113.0	138.4	146.5	148.2	155.3	166.2	187.6
Construction	94.9	95.3	100.0	115.5	143.5	151.2	157.5	168.8	182.9	204.8
Electricity, water supply	99.2	101.3	100.0	102.1	100.1	103.4	102.8	105.8	114.8	113.2
Transportation, communications	93.4	95.5	100.0	116.9	132.1	139.6	149.0	153.1	161.6	169.5
Trade	97.7	96.6	100.0	130.8	155.8	152.9	153.0	181.8	217.8	240.3
Banking, insurance, real estate	96.9	95.3	100.0	115.5	137.4	151.2	157.5	168.8	182.9	204.3
Ownership of dwellings	97.8	99.8	100.0	107.2	120.9	124.2	132.1	137.8	143.8	157.0
Public administration, defense	94.9	95.3	100.0	107.8	133.9	147.4	152.6	155.0	176.5	186.5
Other services	95.7	98.6	100.0	101.9	122.2	131.3	138.9	152.2	164.7	175.7
<u>Gross domestic product at market prices</u>	90.7	92.1	100.0	120.2	142.0	146.8	151.7	164.6	178.9	198.2
Implicit terms of trade - agriculture and nonagriculture	83.0	82.9	100.0	112.5	107.0	104.6	106.7	104.0	97.0	99.7

/a Preliminary.

Source: NESDB.

Table 2.7: EXPENDITURE ON GROSS DOMESTIC PRODUCT AT CURRENT MARKET PRICES
(Billions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Consumption	108.0	116.0	128.1	159.3	203.4	229.5	262.1	302.2	358.2	427.9
Private	92.4	99.1	110.3	138.0	177.4	198.5	225.0	260.5	304.6	362.0
Durable goods	4.4	4.1	4.6	6.5	9.4	9.8	11.2	15.3	16.4	21.1
Nondurable goods	69.8	75.1	84.2	105.8	136.4	152.7	171.3	197.1	232.0	273.4
Services	18.2	19.8	21.5	25.8	31.6	36.0	42.5	48.1	56.2	67.5
General government	15.6	17.0	17.9	21.2	26.0	31.0	37.1	41.7	53.6	65.8
Gross investment	35.6	34.9	33.7	51.7	65.9	75.7	78.4	102.2	126.5	157.2
Private fixed capital /b	22.2	22.3	23.2	33.5	48.9	50.7	50.1	69.0	79.7	103.0
Public fixed capital	10.5	10.4	11.4	10.7	10.2	15.4	23.2	29.7	36.8	43.0
Change in stocks	2.9	2.1	-0.9	7.5	6.8	9.6	5.2	3.6	10.0	11.2
Exports of goods and services	22.7	25.2	31.9	42.5	61.7	57.0	71.2	82.2	99.6	128.3
Goods	14.3	16.7	21.8	31.2	49.0	44.5	60.4	70.6	82.3	
Nonfactor services	8.4	8.5	10.1	11.3	12.7	12.7	10.8	11.2	17.3	
Imports of goods and services	29.3	29.7	33.8	46.1	68.4	70.8	79.4	103.4	119.9	163.0
Goods	26.5	26.6	30.6	42.1	63.3	64.7	71.4	96.1	110.0	
Nonfactor services	2.8	3.1	3.2	4.0	5.1	6.1	8.0	7.3	9.9	
Expenditure on gross domestic product	137.1	146.4	159.8	207.4	262.6	291.4	332.4	383.2	464.4	550.4
Statistical discrepancy	-1.0	-1.8	4.8	9.1	7.0	7.4	5.2	9.8	12.9	14.0
<u>Gross domestic product</u>	<u>136.1</u>	<u>144.6</u>	<u>164.6</u>	<u>216.5</u>	<u>269.7</u>	<u>298.8</u>	<u>337.6</u>	<u>393.0</u>	<u>477.3</u>	<u>564.4</u>
Memo:										
Gross domestic savings	29.1	30.4	31.7	48.1	59.2	61.9	70.3	81.0	106.2	122.5
Public	2.9	1.8	2.1	3.8	11.4	6.9	3.5	9.9	9.1	8.7
Private	26.2	28.6	29.6	44.3	47.8	55.0	66.8	71.1	97.1	113.8

/a Estimate.

/b Excludes private on-farm investment other than purchases of agricultural machinery.

Note: Totals may not add because of rounding.

Source: NESDB

**Table 2.8: PERCENTAGE DISTRIBUTION OF EXPENDITURE ON GROSS DOMESTIC PRODUCT
AT CURRENT MARKET PRICES**

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Consumption	79.4	80.2	77.8	73.6	75.4	76.8	77.6	76.9	75.0	75.8
Private	67.9	68.5	67.0	63.7	65.8	66.4	66.6	66.3	63.8	64.1
General government	11.5	11.8	10.9	29.8	9.6	10.4	11.0	10.6	11.2	11.7
Gross investment	26.2	24.1	20.5	23.9	24.4	25.3	23.2	26.0	26.5	27.9
Private fixed capital	16.3	15.4	14.1	15.5	18.1	17.0	14.8	17.6	16.7	18.2
Public fixed capital	7.7	7.2	6.9	4.9	3.8	5.2	6.9	7.7	7.7	7.6
Change in stocks	2.1	1.5	-0.5	3.5	2.5	3.2	1.5	0.9	2.1	2.0
Exports of goods and services	16.7	17.4	19.4	19.6	22.9	19.1	21.1	20.8	20.9	22.7
Goods	10.5	11.5	13.2	14.4	18.2	14.9	17.9	18.0	17.2	18.9
Nonfactor services	6.2	5.9	6.1	5.2	4.7	4.3	3.2	2.8	3.6	3.8
Imports of goods and services	21.5	20.5	20.5	21.3	25.4	23.7	23.5	26.3	25.1	28.9
Goods	19.5	18.4	18.6	19.4	23.5	21.7	21.1	24.5	23.0	27.2
Nonfactor services	2.1	2.1	1.9	1.8	1.9	2.0	2.4	1.9	2.1	1.7
Expenditure on gross domestic product	100.7	101.2	97.1	95.8	97.4	97.5	98.5	97.5	97.3	97.5
Statistical discrepancy /b	-0.7	-1.2	2.9	4.2	2.6	2.5	1.5	2.5	2.7	2.5
<u>Gross domestic product</u>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memo:										
Gross domestic savings	21.4	21.0	19.3	22.2	22.5	20.7	20.8	20.6	22.3	21.7
Public	2.1	1.2	1.3	1.8	4.2	2.3	1.0	2.5	1.9	1.5
Private	19.3	19.8	18.0	20.5	18.3	18.4	19.8	18.1	20.3	20.2

Note: Totals may not add up because of rounding.

/a Preliminary.

/b Probably unrecorded private consumption.

Source: NESDB.

Table 2.9: EXPENDITURE ON GROSS DOMESTIC PRODUCT AT CONSTANT PRICES
(Billions of 1972 baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Consumption	114.4	121.2	128.2	139.2	145.5	155.3	171.2	185.7	200.5	219.5
Private	98.0	103.7	110.3	119.6	125.7	134.4	146.2	158.5	168.7	183.0
General government	16.4	17.5	17.9	19.7	19.8	21.9	25.0	27.3	31.8	36.5
Gross investment	43.0	42.0	32.7	43.2	46.1	50.1	49.5	63.9	66.3	78.6
Private fixed capital /b	27.9	27.5	23.2	28.9	35.3	32.9	31.6	43.2	45.5	52.2
Public fixed capital	12.1	11.8	11.4	9.0	6.4	9.5	13.5	16.7	19.4	20.1
Change in stocks	3.2	2.6	-0.9	5.3	4.0	7.7	4.4	4.0	1.4	6.3
Exports of goods and nonfactor services /c	24.0	26.8	31.9	30.5	30.0	28.9	36.4	40.7	45.8	48.8
Goods	14.1	18.3	21.8	20.3	23.1	22.3	31.1	35.6	38.4	41.1
Nonfactor services	9.9	8.5	10.1	10.2	7.0	6.6	5.3	5.1	7.4	7.7
Imports of goods and nonfactor services /c	34.4	29.6	33.8	41.7	37.7	36.8	39.2	47.4	51.0	58.6
Goods	31.1	26.5	30.6	38.1	34.9	33.7	35.2	44.1	46.8	55.2
Nonfactor services	3.3	3.1	3.2	3.6	2.8	3.2	3.9	3.3	4.2	3.4
Expenditure on gross domestic product /c	147.0	160.4	159.0	171.2	183.9	197.5	217.9	242.9	261.6	288.3
Statistical discrepancy	3.1	-3.3	5.6	8.9	6.1	6.0	4.6	-4.1	5.2	-3.6
Gross domestic product	150.1	157.1	164.6	180.1	190.0	203.5	222.5	238.8	266.8	284.7

/a Preliminary.

/b Excludes private on-farm investment other than purchases of agricultural machinery.

/c IBRD mission estimates. Derived from Table 2.7 and unit value indices, Table 3.15, assuming deflator for exports of nonfactor services deflated by import unit value index.

Note: Totals may not add because of rounding.

Source: NESDB and IBRD mission estimates.

Table 2.10: PERCENTAGE GROWTH OF EXPENDITURE
ON GROSS DOMESTIC PRODUCT AT 1972 PRICES

	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Consumption	5.9	5.8	8.6	4.5	6.7	10.2	8.5	8.0	9.5
Private	5.8	6.4	8.4	5.1	6.9	8.8	8.4	6.4	8.5
General government	6.7	2.3	10.1	0.5	10.6	14.2	9.2	16.5	11.9
Gross investment	-2.3	-19.8	28.2	6.7	8.7	-1.2	29.1	3.8	18.6
Private fixed capital	-1.4	-15.6	24.6	22.1	-6.8	-4.0	36.7	5.3	14.7
Public fixed capital	-2.5	-3.4	-21.1	-23.3	37.7	42.1	23.7	16.2	3.6
Change in stocks									
Exports of goods and nonfactor services	11.7	19.0	-4.4	-1.6	-3.7	26.0	11.8	12.5	6.6
Goods	19.8	19.1	-6.1	13.8	-3.5	39.5	14.5	7.9	7.0
Nonfactor services	-14.1	18.8	1.0	-31.4	-5.7	-19.7	-3.8	45.1	4.1
Imports of goods and nonfactor services	-14.0	14.2	23.4	-9.6	-2.4	6.5	20.9	7.6	14.9
Goods	-14.8	15.5	24.5	-8.4	-3.4	4.5	25.3	6.1	17.9
Nonfactor services	-6.1	3.2	12.5	-22.2	14.3	21.9	-15.4	27.3	-19.0
Expenditure on gross domestic product	9.1	-0.9	7.7	7.4	7.4	10.3	11.5	7.7	10.2
Gross domestic product	4.7	4.8	9.4	5.5	7.1	9.3	7.3	11.7	6.7

/a Preliminary

Sources: NESDB and IBRD mission estimates.

Table 3.1: SUMMARY BALANCE OF PAYMENTS
(Millions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Merchandise exports, f.o.b.	14,269.7	16,692.1	21,750.2	31,252.5	49,002.4	44,382.4	60,361.2	70,462.8	82,250.8	106,879.0
Merchandise imports, c.i.f.	26,406.7	26,606.4	30,634.8	42,054.9	63,304.6	64,527.0	71,446.1	96,004.8	109,956.1	153,463.5
Nonmonetary gold imports /a	107.8	26.4	-	-	-	-	-	56.8	834.7	470.8
Trade balance	-12,244.8	-9,940.9	-8,884.6	-10,802.4	-14,302.2	-20,144.6	-11,084.9	-25,598.8	-28,540.0	-47,055.3
Service receipts	10,094.8	9,899.6	11,322.7	12,723.1	15,634.2	16,551.6	13,993.3	14,771.7	22,123.9	29,815.7
Service payments	4,058.6	4,495.5	4,739.7	5,886.7	8,033.5	10,390.8	12,350.8	12,336.5	17,844.8	26,274.5
Net service	6,036.2	5,404.1	6,583.0	6,836.4	7,600.7	6,160.8	1,642.5	2,405.2	4,279.1	3,541.2
Transfers (net)	1,011.7	904.1	1,238.8	2,968.8	4,916.9	1,632.1	464.5	801.9	816.0	1,255.8
Private	(57.4)	(131.1)	(630.7)	(2,398.9)	(4,375.6)	(1,134.5)	(100.8)	(443.3)	(128.0)	487.0
Government	(954.3)	(773.0)	(608.1)	(569.9)	(541.3)	(497.6)	(363.7)	(358.6)	(688.0)	768.8
Current account balance	-5,196.9	-3,632.7	-1,062.8	-997.2	-1,784.6	-12,351.7	-8,977.9	-22,391.7	-23,444.9	-42,258.3
Capital inflow (net)	2,478.8	1,733.1	3,643.2	2,937.6	9,054.7	7,754.7	9,263.6	13,966.9	14,858.3	33,769.1
Private sector	2,326.0	1,463.1	3,406.6	1,910.1	7,801.0	5,696.3	5,060.4	8,360.9	3,595.3	13,077.5
Direct investment	(890.5)	(808.4)	(1,427.1)	(1,604.9)	(3,836.3)	(1,744.8)	(1,614.1)	(2,163.8)	(1,010.8)	(1,047.7)
Medium & long-term loans and credits	(1,007.7)	(397.0)	(1,392.5)	(-1,199.0)	(2,637.1)	(1,316.7)	(689.3)	(867.2)	(689.3)	(6,314.5)
Other	(427.8)	(257.7)	(587.0)	(1,504.2)	(1,327.6)	(2,634.8)	(2,757.0)	(5,329.9)	(1,895.2)	(5,715.3)
Public sector	152.8	270.0	236.6	1,027.5	1,253.7	2,058.4	4,203.2	5,606.0	11,263.0	20,691.6
Loans to the Central Gov't	(445.1)	(360.3)	(214.7)	(387.2)	(126.4)	(-105.0)	(2,157.2)	(770.8)	(6,057.8)	(8,890.8)
Loans & credits to state enterprises	(90.7)	(60.2)	(388.3)	(372.7)	(1,173.9)	(2,203.0)	(1,839.3)	(4,767.3)	(5,170.8)	(12,143.6)
Other Central and Local Gov't	(-383.0)	(-96.5)	(-316.4)	(267.6)	(-46.6)	(-39.6)	(206.7)	(67.9)	(34.4)	(-342.8)
Allocation of SDR	-	-	-	-	-	-	-	-	-	493.6
Errors and omissions	66.1	1,266.2	1,009.3	-1,076.2	741.9	1,739.0	-368.5	886.9	-4,711.4	70.6
Change in reserves (increase = -)	2,652.0	633.4/a	-3,670.7/a	-864.2/a	-8,012.0/b	2,858.0/b	82.8	7,537.9	13,298.0	7,925.0

/a Including timing adjustments and official gold imports for the minting of commemorative coins.

/b Excluding SDR allocations of \$14.3 million (B 298.2 million) in 1971 and \$15.4 million (B 320.7 million) in 1972, and reserve valuation adjustments.

Source: Bank of Thailand.

Table 3.2: PRINCIPAL MERCHANDISE EXPORTS

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
1. Rice										
Value (million of baht)	2,517	2,909	4,437	3,594	9,778	5,852	8,603	13,382	10,425	15,592
Volume (thousands of tons)	1,064	1,576	2,112	849	1,029	951	1,973	2,946	1,607	2,797
Unit value (baht per ton)	2,366	1,846	2,101	4,235	9,500	6,152	4,359	4,542	6,488	5,575
2. Rubber										
Value (million of baht)	2,232	1,905	1,862	4,573	5,035	3,474	5,297	6,164	8,030	12,351
Volume (thousands of tons)	276	308	318	391	363	332	373	402	442	521
Unit value (baht per ton)	8,098	6,188	5,861	11,710	13,887	10,458	14,184	15,339	18,160	23,706
3. Maize /a										
Value (million of baht)	1,969	2,286	2,085	2,969	6,078	5,705	5,676	3,345	4,275	5,643
Volume (thousands of tons)	1,448	1,873	1,844	1,386	2,302	2,105	2,419	1,542	1,972	2,014
Unit value (baht per ton)	1,360	1,220	1,131	2,142	2,641	2,711	2,346	2,169	2,167	2,802
4. Tin (metal)										
Value (million of baht)	1,618	1,569	1,664	2,035	3,096	2,247	2,972	4,541	7,229	9,253
Volume (thousands of tons)	22.2	21.9	21.8	22.7	20.8	16.7	20.0	21.4	28.9	31.3
Unit value (baht per ton)	72,732	71,738	76,190	89,762	149,083	134,842	148,244	211,830	249,767	295,623
5. Tapioca Products										
Value (million of baht)	1,223	1,240	1,547	2,537	3,836	4,597	7,527	7,720	10,892	9,891
Volume (thousands of tons)	1,327	1,123	1,311	1,836	2,396	2,385	3,721	3,954	6,288	3,961
Unit value (baht per ton)	922	1,104	1,180	1,381	1,601	1,927	2,023	1,952	1,732	2,497
6. Kenaf and Jute										
Value (million of baht)	719	935	1,087	1,054	845	643	579	418	448	391
Volume (thousands of tons)	258	272	255	264	247	158	138	81	91	79
Unit value (baht per ton)	2,790	3,442	4,261	3,991	3,421	4,080	4,185	5,146	4,920	4,949
7. Sugar										
Value (million of baht)	94	382	1,264	1,161	3,757	5,696	6,843	7,445	3,969	4,797
Volume (thousands of tons)	56	175	408	275	444	595	1,124	1,655	1,040	1,190
Unit value (baht per ton)	1,671	2,188	3,102	4,216	8,462	9,566	6,088	4,500	3,816	4,031
8. Shrimp										
Value (million of baht)	224	247	340	804	602	891	1,347	1,170	1,500	2,372
Volume (thousands of tons)	6.4	5.6	6.7	14.9	10.3	13.5	15.2	13.7	15.4	18.6
Unit value (baht per ton)	34,886	44,162	50,558	54,050	58,726	65,800	88,514	85,645	97,542	127,527
9. Teak										
Value (million of baht)	156	183	208	422	402	445	749	545	253	118
Volume (thousands of cu m)	29	40	52	52	35	43	72	39	15	6
Unit value (Baht per cu m)	5,424	4,868	5,161	8,168	11,434	10,344	10,380	13,842	16,432	19,667
10. Tobacco Leaves										
Value (million of baht)	197	236	284	309	445	596	699	924	1,160	1,243
Volume (thousands of tons)	11	13	18	16	15	17	22	28	35	34
Unit value (baht per ton)	18,266	17,936	15,689	18,761	30,454	32,359	31,735	33,022	33,323	36,559
Value of principal exports	10,949	11,892	14,778	19,458	33,874	30,146	40,292	45,654	48,181	61,651
Other exports	3,823	5,383	7,713	12,768	15,925	14,861	20,505	25,544	34,884	46,528
Total merchandise exports	14,772	17,275	22,491	32,226	49,799	45,007	60,797	71,198	83,065	108,179
Adjustments for B/P	-502	-583	-741	-974	-797	-642	-800	-735	-814	-1,300
Merchandise exports, f.o.b.	14,270	16,692	21,750	31,252	49,002	44,365	60,361	70,463	82,251	106,879

/a Including maize groat and meal.

Source: Bank of Thailand

Table 3.3: OTHER MERCHANDISE EXPORTS
(Million of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
<u>Agricultural Products</u>	<u>1,114</u>	<u>1,301</u>	<u>1,522</u>	<u>2,178</u>	<u>2,542</u>	<u>2,323</u>	<u>3,150</u>	<u>3,645</u>	<u>4,001</u>	<u>4,839</u>
Mungbeans and black matpe beans	255	255	277	374	454	464	945	1,058	1,161	1,375
Soybeans	16	17	23	76	47	133	49	81	51	68
Sorghum	103	157	138	241	426	482	374	300	372	495
Kapok fibre	134	141	149	179	195	169	272	245	237	264
Castor seeds	93	124	97	272	215	103	251	515	281	205
Seedlae and stick lac	36	60	107	191	287	95	91	56	57	86
Hides and skins	52	47	102	98	70	34	55	50	76	143
Cattle	73	91	115	139	120	111	146	215	251	207
Other agricultural products	352	409	514	608	728	732	952	1,125	1,515	1,996
<u>Fishery Products</u>	<u>143</u>	<u>249</u>	<u>430</u>	<u>779</u>	<u>786</u>	<u>957</u>	<u>1,360</u>	<u>1,867</u>	<u>2,687</u>	<u>3,481</u>
Cuttle fish, fresh	† 38	† 96	141	273	340	505	602	622	944	6
Cuttle fish, salted in brine	†	†	68	56	83	102	125	195	301	12
Other fishery products	105	153	221	450	363	350	633	1,050	1,442	3,463
<u>Forestry Products</u>	<u>63</u>	<u>83</u>	<u>108</u>	<u>260</u>	<u>214</u>	<u>223</u>	<u>306</u>	<u>240</u>	<u>89</u>	<u>45</u>
<u>Mineral Products</u>	<u>440</u>	<u>795</u>	<u>673</u>	<u>737</u>	<u>1,174</u>	<u>791</u>	<u>1,056</u>	<u>1,267</u>	<u>1,522</u>	<u>1,549</u>
Fluorite	222	311	222	224	289	204	267	229	206	252
Tungsten	83	329	322	260	467	376	531	799	1,020	620
Iron ores and concentrates	8	1	-	-	-	-	-	-	-	-
Other mineral products	127	154	129	253	418	211	258	239	296	677
<u>Manufacturing Products</u>	<u>808</u>	<u>1,344</u>	<u>2,618</u>	<u>5,509</u>	<u>6,906</u>	<u>6,423</u>	<u>8,977</u>	<u>10,449</u>	<u>14,853</u>	<u>19,570</u>
Pineapple, canned	55	44	51	75	280	346	561	897	n.a.	1,244
Garments	18	67	258	660	795	987	1,535	1,495	2,562	3,541
Molasses	45	86	91	312	500	479	498	746	507	528
Cement	83	90	218	314	650	506	378	217	33	33
Petroleum products	36	132	248	379	303	230	99	1	71	191
Spinning	5	27	112	159	166	141	337	618	n.a.	776
Silk, fabrics	34	30	29	39	34	26	29	29	34	39
Textiles	23	62	271	1,027	787	803	2,040	2,162	n.a.	4,378
Jute yarn & jute fabrics, twine										
cordage rope, cable of jute	16	63	81	198	485	314	430	308	n.a.	732
Gunny bags	63	178	170	312	330	283	116	159	425	624
Iron & steel products	41	46	118	174	335	165	217	235	n.a.	684
Household utensils of wool	18	33	72	135	16	205	238	324	n.a.	355
Precious stones and jewelry	137	232	383	641	763	768	882	969	1,711	2,753
Other manufacturing products	215	249	516	1,084	1,312	1,170	1,620	2,289	n.a.	3,692
<u>Temporary exports</u>	<u>366</u>	<u>625</u>	<u>916</u>	<u>989</u>	<u>801</u>	<u>858</u>	<u>951</u>	<u>1,389</u>	<u>1,871</u>	<u>2,557</u>
<u>Re-Exports</u>	<u>522</u>	<u>598</u>	<u>875</u>	<u>1,080</u>	<u>1,161</u>	<u>935</u>	<u>608</u>	<u>801</u>	<u>1,813</u>	<u>1,882</u>
<u>Diplomatic Shipments</u>	<u>63</u>	<u>82</u>	<u>92</u>	<u>165</u>	<u>135</u>	<u>27</u>	<u>23</u>	<u>60</u>	<u>56</u>	<u>112</u>
<u>Personal Household Effects</u>	<u>32</u>	<u>53</u>	<u>55</u>	<u>66</u>	<u>74</u>	<u>83</u>	<u>74</u>	<u>110</u>	<u>85</u>	<u>94</u>
<u>Others</u>	<u>272</u>	<u>253</u>	<u>424</u>	<u>1,005</u>	<u>2,132</u>	<u>2,304</u>	<u>4,005</u>	<u>5,716</u>	<u>7,907</u>	<u>12,399</u>
<u>Total</u>	<u>3,823</u>	<u>5,383</u>	<u>7,713</u>	<u>12,768</u>	<u>15,925</u>	<u>14,891</u>	<u>20,510</u>	<u>25,544</u>	<u>34,884</u>	<u>46,528</u>

Source: Bank of Thailand.

Table 3.4: MERCHANIDISE EXPORTS BY COUNTRIES

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
----- Millions of baht -----										
Japan	3,770	4,274	4,660	8,410	12,853	12,420	15,686	14,029	16,866	22,901
United States	1,985	2,261	2,834	3,261	3,945	4,968	6,098	6,929	9,153	12,106
Netherlands	1,276	1,386	1,794	2,927	4,328	4,547	8,064	9,564	12,185	12,260
Singapore	1,018	1,225	1,955	2,661	4,142	4,068	4,114	4,505	6,723	9,222
Hong Kong	1,113	1,152	1,674	2,362	3,171	2,716	3,036	3,342	4,436	5,260
Malaysia	830	731	1,120	1,952	2,433	2,099	2,552	3,769	4,296	4,759
Germany, Fed. Rep.	533	604	556	770	1,115	1,116	1,979	2,491	3,441	4,391
Taiwan	720	498	830	1,308	3,316	1,070	1,871	3,167	1,088	1,365
United Kingdom	305	435	368	622	664	529	980	1,017	1,283	1,989
Other	3,222	4,673	6,700	7,953	13,832	11,474	16,417	22,375	23,594	33,916
<u>Total Mechan-</u> <u>dise Exports</u>	<u>14,772</u>	<u>17,275</u>	<u>22,491</u>	<u>32,226</u>	<u>49,799</u>	<u>45,027</u>	<u>60,797</u>	<u>71,198</u>	<u>83,065</u>	<u>108,179</u>
----- Percentage of total -----										
Japan	25.5	24.7	20.7	26.1	25.8	27.6	25.8	19.7	20.3	21.2
United States	13.4	13.1	12.6	10.1	7.9	11.0	10.0	9.8	11.0	11.2
Netherlands	8.6	8.0	8.0	9.1	8.7	10.1	13.3	18.4	14.7	11.3
Singapore	6.9	7.1	8.7	8.3	8.3	9.0	6.8	6.3	8.1	8.5
Hong Kong	7.5	6.7	7.4	7.3	6.4	6.1	5.0	4.7	5.3	4.9
Malaysia	5.6	4.2	5.0	6.0	4.9	4.6	4.2	5.3	5.2	4.4
Germany, Fed. Rep.	3.6	3.7	2.5	2.4	2.2	2.5	3.3	3.5	6.1	4.1
Taiwan	4.9	2.9	3.7	4.1	6.7	2.4	3.1	4.5	1.3	1.3
United Kingdom	2.9	2.5	1.6	1.9	1.3	1.2	1.6	1.4	1.5	1.8
Other	21.9	27.1	29.8	24.7	27.8	25.5	27.0	31.4	28.5	31.4

/a Preliminary.

Source: Bank of Thailand.

Table 3.5: PRINCIPAL MECHANDISE EXPORTS BY COUNTRIES

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
----- Millions of baht -----										
<u>Rice</u>	<u>2,516</u>	<u>2,909</u>	<u>4,437</u>	<u>3,594</u>	<u>9,778</u>	<u>5,852</u>	<u>8,603</u>	<u>13,382</u>	<u>10,425</u>	<u>15,592</u>
Hong Kong	552	482	627	526	1,153	900	654	600	660	723
Singapore	392	432	839	438	867	716	906	1,082	1,017	1,324
Malaysia	300	210	274	172	748	121	524	881	891	667
Indonesia	277	175	371	797	1,168	74	2,243	3,683	813	3,056
Saudi Arabia	296	171	61	324	601	317	479	155	298	274
India	54	138	184	-	-	679	1	-	2	-
Philippines	-	328	519	91	383	405	278	61	-	-
Sri Lanka	50	89	-	-	-	615	328	529	-	2
Japan	66	45	30	78	224	45	20	147	134	69
Other	529	839	1,532	1,168	4,634	1,980	3,170	6,244	6,610	9,477
<u>Rubber</u>	<u>2,232</u>	<u>1,905</u>	<u>1,862</u>	<u>4,573</u>	<u>5,035</u>	<u>3,474</u>	<u>5,297</u>	<u>6,164</u>	<u>8,030</u>	<u>12,351</u>
Japan	1,153	996	1,091	2,464	2,354	1,923	2,805	3,271	4,391	7,220
United States	210	216	162	250	342	312	842	854	910	1,123
Singapore	134	138	235	707	1,031	446	619	800	1,515	1,816
Malaysia	140	127	190	650	508	296	396	423	501	622
Italy	207	124	32	96	118	17	2	10	-	-
Other	388	304	152	406	682	480	633	806	713	1,570
<u>Maize</u>	<u>1,969</u>	<u>2,286</u>	<u>2,085</u>	<u>2,969</u>	<u>6,078</u>	<u>5,705</u>	<u>5,676</u>	<u>3,345</u>	<u>4,275</u>	<u>5,643</u>
Japan	878	1,109	899	966	2,653	2,252	2,226	754	1,068	1,140
Taiwan	599	398	570	691	1,339	355	1,076	804	-	203
Singapore	152	204	278	366	722	1,337	839	420	686	778
Hong Kong	160	178	155	318	384	355	342	382	411	666
Malaysia	130	116	132	248	377	433	296	484	773	1,217
Other	50	281	51	350	603	973	897	501	1,337	1,634
<u>Tin (metal)</u>	<u>1,618</u>	<u>1,569</u>	<u>1,664</u>	<u>2,035</u>	<u>3,096</u>	<u>2,247</u>	<u>2,972</u>	<u>4,541</u>	<u>7,229</u>	<u>9,253</u>
United States	1,104	1,119	1,003	650	775	1,044	1,064	1,491	1,832	3,185
Netherlands	445	405	380	681	1,217	330	983	1,760	3,857	4,341
Japan	69	45	281	492	774	780	925	1,290	1,530	1,727
Other	-	-	-	212	330	93	0	0	10	-
<u>Tapioca Products</u>	<u>1,223</u>	<u>1,240</u>	<u>1,547</u>	<u>2,537</u>	<u>3,836</u>	<u>4,597</u>	<u>7,527</u>	<u>7,720</u>	<u>10,892</u>	<u>9,891</u>
Netherlands	723	827	1,190	1,753	2,483	3,664	6,140	6,216	7,053	6,464
Germany, Fed. Rep.	267	126	81	145	167	181	188	345	750	546
United States	113	114	89	102	142	115	121	126	117	97
Japan	78	93	77	183	538	256	293	313	267	243
Other	42	80	110	354	506	381	785	720	2,705	2,541
<u>Kenaf & Jute</u>	<u>719</u>	<u>935</u>	<u>1,087</u>	<u>1,054</u>	<u>845</u>	<u>643</u>	<u>579</u>	<u>418</u>	<u>448</u>	<u>391</u>
Japan	207	188	163	116	103	25	66	78	15	24
Belgium	71	126	90	71	58	34	25	5	8	3
France	56	72	70	56	65	50	37	1	-	-
United Kindom	54	68	64	25	37	9	10	6	-	4
Germany, Fed. Rep.	23	58	40	21	22	13	12	6	5	7
United States	21	23	19	42	37	34	48	25	40	29
Italy	36	40	10	16	21	8	10	1	2	1
Portugal	21	28	32	21	6	6	4	-	-	-
Spain	42	7	51	53	4	2	17	14	13	9
Poland	20	24	25	22	18	33	19	19	20	9
Other	168	301	523	611	474	429	331	263	345	305
<u>Sugar</u>	<u>94</u>	<u>382</u>	<u>1,264</u>	<u>1,161</u>	<u>3,757</u>	<u>5,696</u>	<u>6,843</u>	<u>7,445</u>	<u>3,969</u>	<u>4,797</u>
Malaysia	-	11	240	481	131	633	634	695	418	456
Viet Nam	-	111	178	247	-	-	-	-	-	1
Japan	62	69	85	-	2,120	3,098	4,243	2,753	1,532	2,740
United States	32	59	93	60	156	1,041	427	-	267	129
Hong Kong	-	-	43	-	9	1	1	1	-	38
Other	-	76	625	373	1,341	923	1,538	3,996	1,752	1,433

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
----- Thousands of metric tons -----										
<u>Rice</u>	<u>1,063.6</u>	<u>1,576.1</u>	<u>2,112.1</u>	<u>848.7</u>	<u>1,029.3</u>	<u>951.3</u>	<u>1,973.4</u>	<u>2,946.4</u>	<u>1,606.7</u>	<u>2,796.9</u>
Hong Kong	195.6	210.3	245.2	97.5	113.9	121.8	125.8	113.6	93.0	109.8
Singapore	139.4	202.4	342.2	84.6	86.5	103.6	178.9	220.3	141.4	192.9
Malaysia	127.9	117.5	113.0	38.3	74.3	18.0	120.4	204.6	160.3	103.7
Indonesia	144.0	104.8	164.4	266.9	129.1	11.5	530.2	851.2	170.1	633.2
Saudi Arabia	120.6	95.1	27.3	48.8	73.8	56.5	108.3	26.0	41.4	43.2
India	33.5	78.4	106.6	-	-	142.6	0.3	-	0.3	-
Philippines	0.1	213.1	310.0	14.0	47.2	74.8	55.9	19.4	-	-
Sri Lanka	22.8	49.2	-	-	-	103.7	86.2	163.6	-	1.1
Japan	31.5	30.4	15.6	18.9	23.7	8.4	6.8	42.0	19.0	14.5
Other	248.1	474.9	787.8	279.7	480.8	310.4	760.6	1,305.7	981.2	1,698.5
<u>Rubber</u>	<u>275.6</u>	<u>307.9</u>	<u>317.7</u>	<u>390.5</u>	<u>362.6</u>	<u>332.2</u>	<u>373.5</u>	<u>401.9</u>	<u>442.2</u>	<u>521.0</u>
Japan	142.8	161.7	189.5	216.1	178.2	185.3	193.3	213.0	246.8	303.4
United States	25.9	34.3	27.4	22.6	23.0	27.7	58.4	55.2	48.5	46.5
Singapore	16.7	22.7	37.8	58.4	72.5	44.3	44.8	53.2	80.8	75.9
Malaysia	17.9	21.7	31.8	53.4	36.0	29.8	29.2	28.2	28.0	27.3
Italy	24.3	19.2	5.7	6.9	7.2	1.7	0.3	0.6	-	-
Other	48.0	48.3	25.5	33.1	45.7	43.4	46.3	51.7	38.1	67.9
<u>Maize</u>	<u>1,448.0</u>	<u>1,873.5</u>	<u>1,843.6</u>	<u>1,386.4</u>	<u>2,301.6</u>	<u>2,104.7</u>	<u>2,419.2</u>	<u>1,542.0</u>	<u>1,972.4</u>	<u>2,014.0</u>
Japan	649.9	925.3	842.2	468.6	978.4	826.5	989.6	400.0	545.4	468.9
Taiwan	447.3	322.1	502.8	311.2	468.0	119.8	457.9	389.7	-	71.9
Singapore	109.7	169.5	226.0	172.8	351.3	516.4	344.3	176.6	314.8	269.3
Hong Kong	112.1	143.8	120.0	142.6	144.4	130.8	139.7	158.4	186.6	231.0
Malaysia	92.8	92.8	108.0	121.9	143.3	161.5	120.0	205.2	349.9	411.4
Other	36.2	220.0	44.6	169.3	216.2	349.7	367.7	212.1	575.7	561.5
<u>Tin (metal)</u>	<u>22.2</u>	<u>21.9</u>	<u>21.8</u>	<u>22.7</u>	<u>20.8</u>	<u>16.7</u>	<u>20.0</u>	<u>21.4</u>	<u>28.9</u>	<u>31.3</u>
United States	15.3	15.6	13.2	7.4	5.3	7.8	7.3	7.2	7.2	10.8
Netherlands	6.0	5.6	4.9	7.7	8.0	2.4	6.6	8.2	15.6	14.6
Japan	0.9	0.6	3.7	5.4	5.1	5.8	6.1	6.1	6.1	5.8
Other	-	-	-	2.2	2.4	0.7	-	-	-	-
<u>Tapioca Products</u>	<u>1,326.9</u>	<u>1,123.2</u>	<u>1,311.0</u>	<u>1,836.5</u>	<u>2,395.7</u>	<u>2,385.4</u>	<u>3,720.7</u>	<u>3,954.4</u>	<u>6,288.0</u>	<u>3,961.2</u>
Netherlands	845.9	816.0	1,068.9	1,360.4	1,732.2	1,968.8	3,173.2	3,299.6	4,208.7	2,404.1
Germany, Fed. Rep.	308.8	125.4	75.8	114.9	116.3	101.3	93.2	186.6	435.9	223.9
United States	76.7	68.9	49.2	48.2	52.8	35.5	35.2	33.6	33.0	20.8
Japan	57.0	59.0	42.6	82.0	187.2	100.5	94.9	97.0	94.3	56.9
Other	38.5	53.8	74.5	231.0	307.2	179.3	320.2	337.6	1,516.1	1,255.5
<u>Kenaf & Jute</u>	<u>257.7</u>	<u>271.7</u>	<u>255.1</u>	<u>264.1</u>	<u>247.0</u>	<u>157.6</u>	<u>138.4</u>	<u>81.2</u>	<u>91.1</u>	<u>79.0</u>
Japan	77.6	52.7	39.6	27.3	32.3	5.8	14.3	13.9	2.9	5.5
Belgium	25.6	37.8	23.6	18.5	17.0	8.3	5.8	1.3	2.1	0.7
France	17.3	21.2	15.6	12.8	16.5	12.3	8.4	0.2	-	-
United Kingdom	18.2	17.4	14.0	6.7	10.4	3.2	2.3	1.2	0.4	1.1
Germany, Fed. Rep.	9.4	19.9	11.6	6.3	7.4	3.6	2.6	1.2	1.2	1.4
United States	11.6	8.5	6.0	15.8	16.2	12.4	15.8	11.2	17.5	10.9
Italy	12.4	12.1	2.5	3.9	6.7	2.2	2.0	0.2	0.4	0.2
Portugal	7.9	7.4	7.2	5.1	1.7	1.5	0.7	-	-	-
Spain	13.4	1.9	11.5	12.0	1.1	0.4	3.5	2.6	2.0	1.5
Poland	6.6	6.4	5.4	5.3	5.0	7.8	4.4	3.6	3.0	1.7
Other	57.7	86.4	118.1	150.4	132.7	100.0	78.6	45.8	61.6	56.0
<u>Sugar</u>	<u>56.2</u>	<u>174.5</u>	<u>407.5</u>	<u>275.4</u>	<u>443.8</u>	<u>595.4</u>	<u>1,124.0</u>	<u>1,654.6</u>	<u>1,040.1</u>	<u>1,189.8</u>
Malaysia	-	5.1	78.8	112.5	26.2	69.6	110.7	173.7	108.4	123.3
Viet Nam	-	55.3	48.7	54.2	-	-	-	-	-	0.2
Japan	38.0	32.9	37.4	-	244.5	318.4	693.1	627.1	411.4	657.9
United States	18.2	21.0	30.2	17.8	23.7	118.6	66.7	-	65.0	33.8
Hong Kong	-	-	16.3	-	2.7	0.5	0.6	0.7	0.1	9.2
Other	-	34.6	196.1	91.0	146.7	88.3	252.9	853.1	455.2	365.5

/a Preliminary.

Source: Department of Customs.

Table 3.6: MERCHANDISE IMPORTS
(Millions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Capital Goods	<u>9,371</u>	<u>8,628</u>	<u>9,783</u>	<u>12,826</u>	<u>19,808</u>	<u>22,239</u>	<u>19,405</u>	<u>24,393</u>	<u>31,317</u>	<u>39,835</u>
Machinery and parts	6,142	5,770	6,420	8,215	13,458	14,703	12,946	16,147	21,730	25,941
Nonelectrical	(4,723)	(4,558)	(5,087)	(6,386)	(10,978)	(11,973)	(9,861)	(12,592)	(15,894)	(18,627)
Electrical	(1,419)	(1,212)	(1,333)	(1,829)	(2,480)	(2,730)	(3,085)	(3,555)	(5,836)	(7,314)
Metal manufactures	1,047	860	1,003	1,019	1,398	1,544	1,436	1,887	2,272	2,986
Fertilizers and pesticides	582	503	877	1,142	1,710	1,933	1,861	2,736	2,937	3,948
Scientific and optical instruments	415	421	465	541	694	742	831	1,074	1,365	1,692
Construction material /a	185	109	91	105	223	144	160	198	587	1,731
Other	1,000	965	927	1,804	2,325	3,173	2,171	2,351	2,426	3,537
Intermediate Products & Raw Materials	<u>6,725</u>	<u>7,764</u>	<u>9,131</u>	<u>13,621</u>	<u>18,370</u>	<u>16,105</u>	<u>20,219</u>	<u>26,921</u>	<u>29,598</u>	<u>43,462</u>
Chiefly for consumer goods	4,139	4,996	5,880	8,538	11,345	10,318	12,530	16,060	16,937	26,086
Chemicals	(1,962)	(2,293)	(2,713)	(4,136)	(5,893)	(5,522)	(6,795)	(8,363)	(9,573)	(14,848)
Textile fibres	(602)	(849)	(1,046)	(1,749)	(1,878)	(1,902)	(2,475)	(3,134)	(2,236)	(3,183)
Paper and paperboard	(509)	(558)	(504)	(781)	(970)	(935)	(988)	(1,206)	(1,356)	(1,921)
Tobacco	(279)	(507)	(588)	(382)	(628)	(693)	(539)	(896)	(730)	(811)
Textile yarn and thread	(435)	(406)	(503)	(725)	(696)	(393)	(459)	(366)	(441)	(729)
Other	(352)	(383)	(526)	(765)	(1,280)	(873)	(1,274)	(2,095)	(2,601)	(4,594)
Chiefly for capital goods	2,586	2,768	3,251	5,083	7,025	5,787	7,686	10,861	12,661	17,376
Iron and steel	(1,647)	(1,704)	(2,046)	(3,037)	(4,322)	(3,236)	(4,669)	(6,352)	(7,765)	(10,029)
Other base metals	(813)	(854)	(1,043)	(1,838)	(2,400)	(2,131)	(2,301)	(3,454)	(3,842)	(6,104)
Other	(126)	(210)	(162)	(208)	(303)	(420)	(716)	(1,055)	(1,054)	(1,243)
Consumer Goods	<u>5,229</u>	<u>4,390</u>	<u>4,950</u>	<u>6,311</u>	<u>7,955</u>	<u>8,455</u>	<u>9,418</u>	<u>11,114</u>	<u>12,942</u>	<u>15,992</u>
Nondurable goods	3,486	2,859	3,291	4,066	5,167	5,148	5,586	6,346	7,544	9,327
Food and beverages	(1,114)	(1,044)	(1,224)	(1,403)	(1,851)	(2,005)	(2,377)	(2,644)	(3,104)	(4,266)
Clothing and footwear	(1,427)	(909)	(966)	(1,345)	(1,695)	(1,585)	(1,475)	(1,658)	(2,122)	(2,224)
Medicinal & pharmaceutical products	(741)	(715)	(859)	(977)	(1,208)	(1,198)	(1,280)	(1,511)	(1,615)	(1,937)
Other	(204)	(191)	(242)	(341)	(413)	(360)	(454)	(533)	(703)	(900)
Durable goods	1,743	1,531	1,659	2,245	2,828	3,307	3,832	4,768	5,398	6,665
Household goods	(506)	(534)	(627)	(722)	(902)	(969)	(1,117)	(1,348)	(1,616)	(2,012)
Electric appliances	(637)	(503)	(581)	(874)	(994)	(1,054)	(1,312)	(1,655)	(2,045)	(2,463)
Cycles, motorcycles, carts	(305)	(237)	(246)	(405)	(591)	(810)	(919)	(1,257)	(1,037)	(933)
Other	(295)	(257)	(205)	(244)	(341)	(474)	(484)	(508)	(700)	(1,257)
Other Imports	<u>5,684</u>	<u>6,012</u>	<u>7,011</u>	<u>9,426</u>	<u>17,871</u>	<u>20,036</u>	<u>23,838</u>	<u>31,749</u>	<u>35,042</u>	<u>46,841</u>
Fuels and lubricants	2,329	2,721	3,115	4,661	12,571	14,233	16,695	20,889	22,851	32,650
Vehicles and parts	2,204	2,191	2,213	3,399	4,182	4,542	5,174	7,958	7,550	7,030
Other /b	1,151	365	1,683	1,366	1,118	1,261	1,969	2,902	4,641	7,161
Total Imports	<u>27,009</u>	<u>26,794</u>	<u>30,875</u>	<u>42,184</u>	<u>64,044</u>	<u>66,835</u>	<u>72,877</u>	<u>94,177</u>	<u>108,899</u>	<u>146,130</u>
Adjustment for B/P /c	-494	-554	-559	-492	-739	-2,309	-1,431	-1,094	-1,187	-1,682
Gold imports	-108	-26	-	-	-	-	-	-57	-834	-471
Thai military imports /d	-	392	126	363	-	-	-	416	1,691	5,625
Other imports /d	-	-	193	-	-	-	-	2,563	1,382	3,827
Merchandise imports, c.i.f.	<u>26,407</u>	<u>26,606</u>	<u>30,635</u>	<u>42,055</u>	<u>63,305</u>	<u>64,526</u>	<u>71,446</u>	<u>96,005</u>	<u>109,951</u>	<u>153,429</u>

/a Including cement.

/b Including gold bullion imports

/c Diplomatic shipments, personal effects, tempports, etc.

/d Not included in customs return, e.g. aircraft for Thai International

Source: Bank of Thailand.

Table 3.7: FINANCING OF MERCHANDISE IMPORTS
(Millions of US dollars)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979p
Imports under grants	<u>33.3</u>	<u>25.9</u>	<u>21.1</u>	<u>19.0</u>	<u>17.6</u>	<u>17.7</u>	<u>12.7</u>	<u>11.4</u>	<u>22.9</u>	<u>20.5</u>
US grants	17.9	14.5	12.5	9.1	6.8	4.7	3.0	0.9	3.5	3.1
UN & other special- ized agencies	11.8	6.8	6.1	5.6	8.7	9.3	5.6	4.7	8.5	6.7
Colombo Plan	3.6	4.6	2.5	4.3	2.1	3.7	4.1	5.8	10.9	10.6
Imports under project loans	<u>42.4</u>	<u>35.1</u>	<u>55.3</u>	<u>68.9</u>	<u>145.8</u>	<u>147.3</u>	<u>246.9</u>	<u>322.2</u>	<u>661.0</u>	<u>1,077.9</u>
Official	42.1	34.5	47.6	59.6	88.0	130.7	220.0	305.9	585.5	1,057.1
Private	0.3	0.6	7.7	9.3	57.8	16.6	26.9	16.3	75.5	20.8
Imports under suppliers' credits	<u>175.0</u>	<u>139.2</u>	<u>103.2</u>	<u>67.9</u>	<u>129.3</u>	<u>110.3</u>	<u>71.4</u>	<u>80.0</u>	<u>59.9</u>	<u>111.0</u>
Official /a	16.4	7.4	0.7	0.7	-	-	-	1.7	-	-
Private:	158.6	131.8	102.5	67.2	129.3	110.3	71.4	78.3	59.9	111.0
Machinery & parts	88.8	55.0	51.8	53.0	110.1	88.3	50.3	48.2	35.3	93.1
(of which: weaving machinery)	(50.9)	(38.9)	(37.8)	(25.1)	(61.0)	(57.4)	(40.3)	(3.6)	(2.4)	(32.2)
Cars, buses and trucks	48.9	31.9	29.8	7.4	8.2	9.3	5.8	5.0	6.1	4.6
Tractors, rollers, graders	6.0	5.0	5.0	3.1	5.2	7.8	9.3	20.5	15.1	10.2
Other	14.9	39.9	15.9	3.7	5.8	4.9	6.0	4.6	3.4	3.1
Imports under foreign investment	0.5	0.5	0.1	-	0.1	-	-	-	-	-
Imports induced by US military expenditures	<u>106.5</u>	<u>96.3</u>	<u>112.8</u>	<u>109.7</u>	<u>90.3</u>	<u>70.3</u>	<u>20.2</u>	-	<u>0.1</u>	<u>1.1</u>
Direct	20.0	18.1	21.2	20.6	17.0	13.2	3.8	-	-	0.2
Indirect	86.5	8.2	91.6	89.1	73.3	57.1	16.4	-	0.1	0.9
Imports not subjected to foreign exchange payments	23.8	26.6	26.9	24.3	37.0	115.4	71.5	54.7	58.1	82.2
Subtotal	<u>381.5</u>	<u>323.6</u>	<u>319.4</u>	<u>289.8</u>	<u>420.1</u>	<u>461.0</u>	<u>422.7</u>	<u>468.3</u>	<u>802.0</u>	<u>1,292.7</u>
Imports financed by own resources	917.0	964.6	1,165.0	1,784.0	2,782.1	2,880.8	3,221.1	4,389.5	4,703.0	6,327.9
<u>Total Imports</u>	<u>1,298.5</u>	<u>1,288.2</u>	<u>1,484.4</u>	<u>2,073.8</u>	<u>3,202.2</u>	<u>3,341.8</u>	<u>3,643.8</u>	<u>4,859.8</u>	<u>5,505.0</u>	<u>7,620.6</u>

/a Including local governments.

Source: Bank of Thailand.

Table 3.8: MERCHANDISE IMPORTS BY COUNTRIES

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
----- Millions of baht -----										
Japan	10,107	10,093	11,401	15,078	20,102	21,085	23,649	30,469	33,461	37,636
United States	4,011	3,807	4,838	5,915	8,642	9,566	9,739	11,570	14,831	22,754
Germany, Fed. Rep.	2,288	2,075	2,279	3,211	4,676	3,482	3,469	5,194	6,300	7,936
United Kingdom	2,014	2,054	1,620	2,715	2,970	3,032	2,623	3,808	4,164	4,708
Australia	852	864	981	1,392	1,904	1,536	1,560	1,882	2,457	3,268
Saudi Arabia	536	752	967	982	3,062	6,012	5,538	7,789	6,076	9,403
Taiwan	603	747	1,058	1,383	1,541	1,608	1,759	2,336	3,690	4,027
Italy	488	428	475	601	1,105	1,226	940	1,184	1,305	2,182
Netherlands	368	316	349	508	743	681	815	1,189	1,314	1,749
Hong Kong	374	314	417	589	867	640	756	1,086	1,230	1,546
Other	5,368	5,344	6,490	9,810	18,432	17,967	22,029	27,670	34,071	50,952
<u>Total Mechan-</u> <u>dise Imports</u>	<u>27,009</u>	<u>26,794</u>	<u>30,875</u>	<u>42,184</u>	<u>64,044</u>	<u>66,835</u>	<u>72,877</u>	<u>94,177</u>	<u>108,899</u>	<u>146,161</u>
----- Percentage of total -----										
Japan	37.4	37.7	36.9	35.8	31.4	31.6	32.5	32.4	30.7	25.7
United States	14.8	14.2	15.7	14.0	13.5	14.3	13.4	12.3	13.6	15.6
Germany, Fed. Rep.	8.5	7.7	7.4	7.6	7.3	5.2	4.8	8.5	5.8	5.4
United Kingdom	7.5	7.7	5.3	6.4	4.6	4.5	3.6	4.0	3.8	3.2
Australia	3.2	3.2	3.2	3.3	3.0	2.3	2.1	2.0	2.3	2.2
Saudi Arabia	2.0	2.8	3.1	2.3	4.8	9.0	7.6	8.3	5.6	6.4
Taiwan	2.2	2.8	3.4	3.3	2.4	2.4	2.4	2.5	3.4	2.8
Italy	1.8	1.6	1.5	1.4	1.7	1.8	1.3	1.2	1.2	1.5
Netherlands	1.4	1.2	1.1	1.2	1.2	1.0	1.1	1.2	1.2	1.2
Hong Kong	1.4	1.2	1.4	1.4	1.3	1.0	1.0	1.1	1.1	1.1
Other	19.8	19.9	21.0	23.3	28.8	26.9	30.2	29.4	31.3	34.9

/a Preliminary.

Source: Bank of Thailand.

Table 3.9: SERVICES
(Millions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/c
Receipts	10,094.8	9,899.6	11,322.7	12,723.1	15,634.2	16,551.6	13,993.3	14,771.7	22,123.9	29,815.7
Freight & insurance on merchandise	313.4	494.2	639.0	925.5	1,453.7	1,229.3	1,604.9	1,730.1	2,144.1	2,593.6
Other transportation	298.6	330.8	455.9	513.7	1,200.1	1,269.0	1,131.3	1,468.6	1,384.9	2,343.3
Travel	2,170.0	2,208.9	2,718.0	3,393.8	3,805.1	4,482.2	3,990.0	4,606.9	8,894.5	11,232.1
R & R /a	(389.8)	(239.7)	(62.8)	(13.3)	(10.9)	(-)	(-)	(-)	(-)	(-)
Other /b	(1,780.2)	(1,969.2)	(3,380.5)	(3,794.2)	(4,482.2)	(3,482.2)	(3,990.0)	(4,606.9)	(8,894.5)	(11,232.1)
Investment income	1,636.6	1,423.2	1,206.7	1,448.1	2,919.6	3,887.0	3,145.8	3,036.1	3,366.5	4,227.8
Government, n.i.e.	4,839.8	4,514.2	5,262.5	5,034.3	4,238.3	3,519.8	2,052.9	1,081.4	1,336.2	2,206.4
Other	836.4	928.1	1,040.6	1,407.7	2,017.4	2,164.3	2,069.3	2,848.6	4,997.7	7,212.5
Workers' remittances	(24.9)	(35.7)	(29.4)	(113.5)	(265.0)	(375.3)	(485.1)	(911.7)	(2,111.6)	(3,818.3)
Payments	4,058.6	4,495.5	4,739.7	5,886.7	8,033.5	10,390.8	12,350.8	12,366.5	17,844.8	26,041.7
Freight & insurance on merchandise	202.9	338.7	431.9	504.1	1,005.0	822.0	1,039.9	1,289.5	1,720.8	2,078.8
Other transportation	186.4	202.8	204.5	386.7	749.0	643.5	544.5	690.0	974.4	1,635.9
Travel	1,267.4	1,294.5	1,286.8	1,449.4	1,634.0	2,735.3	3,881.3	3,183.7	3,579.0	4,647.9
Investment income	1,257.3	1,393.8	1,534.0	1,872.4	2,933.9	3,775.9	3,993.3	4,513.5	8,178.2	13,439.9
Government, n.i.e.	395.3	399.0	336.8	444.8	318.5	303.7	457.2	448.4	523.0	563.8
Other	749.3	866.7	945.7	1,229.3	1,393.1	2,110.4	2,380.6	2,234.4	2,869.4	7,675.4
Net Services	6,036.2	5,404.1	6,583.0	6,836.4	7,600.7	6,160.8	1,642.5	2,405.2	4,279.1	3,774.0
Freight & insurance on merchandise	110.5	155.5	207.1	421.4	448.7	407.3	510.1	440.6	423.3	314.8
Other transportation	112.2	128.0	251.4	127.0	451.1	625.5	586.8	778.6	410.5	707.4
Travel	902.6	914.4	1,431.2	1,944.4	2,171.1	1,746.9	108.7	1,423.2	5,315.5	6,584.2
Investment income	379.3	29.6	-327.3	-424.3	-14.3	111.1	-847.5	-1,479.4	-4,811.7	-9,212.1
Government, n.i.e.	4,444.5	4,115.2	4,925.7	4,589.5	3,919.8	3,216.1	1,595.7	633.0	813.2	1,642.6
Other	87.1	61.4	94.9	178.4	624.3	53.9	-311.3	609.2	2,128.3	3,537.1

/a Estimated expenditures of US soldiers on rest and recreation leave.

/b Estimated expenditures of other tourists made by the Tourist Organization of Thailand.

/c Preliminary.

Source: Bank of Thailand.

Table 3.10: INVESTMENT INCOME
(Millions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 ^{/b}
<u>Receipts</u>	<u>1,636.6</u>	<u>1,423.4</u>	<u>1,206.7</u>	<u>1,448.1</u>	<u>2,919.6</u>	<u>3,887.0</u>	<u>3,145.8</u>	<u>3,036.1</u>	<u>3,366.5</u>	<u>4,227.8</u>
Private sector	104.2	12.55	126.3	198.1	508.5	468.8	508.3	482.0	431.5	743.5
Interest	63.1	64.1	50.2	87.4	285.6	285.5	229.0	193.7	166.0	336.0
Profits of branches	38.9	59.1	69.6	108.8	222.2	181.6	278.6	286.0	261.1	402.6
Other	2.2	2.3	6.5	1.9	0.7	1.7	0.7	2.3	4.4	4.9
Public sector	1,532.4	1,297.9	1,080.4	1,250.0	2,411.1	3,418.2	2,637.5	2,554.1	2,935.0	3,484.3
Interest	1,532.4	1,297.9	1,080.4	1,250.0	2,411.1	3,418.2	2,637.5	2,554.1	2,935.0	3,484.3
<u>Payments</u>	<u>1,257.3</u>	<u>1,393.8</u>	<u>1,534.0</u>	<u>1,872.4</u>	<u>2,933.9</u>	<u>3,775.9</u>	<u>3,993.3</u>	<u>4,515.5</u>	<u>8,178.2</u>	<u>13,517.1</u>
Private sector	962.8	1,086.3	1,114.9	1,349.9	2,350.2	3,045.2	3,058.6	3,198.7	5,938.6	10,009.8
Interest ^{/a}	378.2	477.6	510.1	663.7	1,391.6	1,587.1	1,409.5	1,512.0	4,181.5	7,998.7
Profits of branches	404.9	383.7	355.5	330.5	428.8	690.3	629.3	654.0	540.5	731.8
Dividends	170.9	200.9	210.0	315.0	474.0	719.9	983.5	983.7	1,120.3	1,240.4
Other	8.8	24.1	39.3	40.7	55.8	47.9	36.3	49.0	90.3	38.9
Public sector	294.5	307.5	419.1	522.5	583.7	730.7	934.7	1,316.8	2,245.6	3,507.3
Interest ^{/a}	294.5	307.5	419.1	522.5	583.7	730.7	934.7	1,316.8	2,245.6	3,507.3
- Central Government	(244.5)	(238.4)	(352.9)	(426.2)	(478.4)	(481.0)	(386.0)	(601.8)	(941.0)	(1,813.9)
- State enterprises	(50.0)	(65.1)	(59.6)	(91.8)	(102.1)	(247.8)	(548.2)	(715.0)	(1,304.6)	(1,693.8)
- Local Government	(-)	(4.0)	(6.6)	(4.5)	(3.2)	(1.9)	(0.5)	(-)	(-)	(-)
<u>Net Investment Income</u>	<u>379.3</u>	<u>29.6</u>	<u>-327.3</u>	<u>-424.3</u>	<u>-14.3</u>	<u>111.1</u>	<u>-847.5</u>	<u>-1,479.4</u>	<u>-4,811.7</u>	<u>-9,289.3</u>
Private sector	-858.6	-960.8	-988.6	-1,151.8	-1,841.7	-2,576.4	-2,550.3	-2,716.7	-5,501.1	-9,266.3
Public sector	1,237.9	990.4	661.3	727.5	1,827.4	2,687.5	1,702.8	1,237.3	689.4	-2.3

^{/a} Excluded interest on suppliers' credits, information on which is not available.

^{/b} Preliminary.

Source: Bank of Thailand.

Table 3.11: GOVERNMENT, n.i.e.
(Millions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
<u>Receipts</u>	<u>4,839.8</u>	<u>4,514.2</u>	<u>5,262.5</u>	<u>5,034.3</u>	<u>4,238.3</u>	<u>3,519.8</u>	<u>2,052.9</u>	<u>1,081.4</u>	<u>1,336.2</u>	<u>2,206.4</u>
Military	4,192.6	3,788.7	4,413.2	4,210.3	3,393.4	2,643.7	763.2	4.6	5.7	42.8
US military personnel and agencies	(4,159.4)	(3,755.1)	(4,398.2)	(4,130.5)	(3,373.5)	(3,601.7)	(2,601.7)	(3.1)	(5.7)	(41.5)
US contractors for military projects	(4.6)	(11.0)	(12.7)	(74.2)	(19.6)	(40.8)	(1.2)	(0.8)	(-)	(-)
Other military	(28.1)	(22.6)	(2.3)	(5.6)	(0.3)	(1.2)	(1.0)	(0.7)	(-)	(-)
Nonmilitary	647.7	725.5	849.3	844.9	876.1	1,844.9	876.1	1,076.8	1,330.5	2,163.6
<u>Payments</u>	<u>395.3</u>	<u>399.0</u>	<u>336.8</u>	<u>444.8</u>	<u>318.5</u>	<u>303.7</u>	<u>457.2</u>	<u>448.4</u>	<u>523.0</u>	<u>563.8</u>
Military	14.9	24.8	2.0	4.0	0.2	0.2	-	28.6	95.3	182.2
Nonmilitary	380.4	374.2	334.8	440.8	315.3	303.5	457.2	419.8	427.7	381.6
Services under aid programs	(193.0)	(162.7)	(106.2)	(113.3)	(43.4)	(25.3)	(17.9)	(19.0)	(19.9)	(13.6)
Other	(187.4)	(211.5)	(228.6)	(327.5)	(271.9)	(278.2)	(439.3)	(400.8)	(407.8)	(368.0)
<u>Net Government, n.i.e.</u>	<u>4,444.5</u>	<u>4,115.2</u>	<u>4,925.7</u>	<u>4,589.5</u>	<u>3,919.8</u>	<u>3,216.1</u>	<u>1,595.7</u>	<u>633.0</u>	<u>813.2</u>	<u>1,642.6</u>
Military	4,177.2	3,763.9	4,411.2	4,206.3	3,390.2	2,643.5	763.2	-24.0	-79.6	-139.4
Nonmilitary	267.3	351.3	514.5	383.2	529.6	572.6	832.5	657.0	898.8	1,782.0

/a Preliminary.

Source: Bank of Thailand.

Table 3.12: TRANSFERS
(Millions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/ <u>b</u>
Private transfers	57.4	131.1	630.7	2,398.9	4,375.6	1,134.5	100.8	443.3	128.0	487.0
Inflow	203.7	280.1	761.1	2,528.7	4,527.5	1,323.2	331.0	675.0	371.4	755.2
Outflow	146.3	149.0	130.4	129.8	151.9	188.7	230.2	231.7	243.4	268.2
Government transfers	954.3	773.0	608.1	569.9	541.3	497.6	363.7	358.6	688.0	768.8
US grants	613.0	519.0	417.9	356.3	228.9	166.3	105.8	53.8	107.3	93.5
Other grants <u>/a</u>	320.2	238.3	179.9	201.3	215.8	258.7	193.6	210.0	394.5	352.6
Other (net)	21.1	15.7	10.3	12.3	96.6	72.6	64.3	94.8	186.2	322.7
<u>Total transfers</u> <u>(net)</u>	<u>1,011.7</u>	<u>904.1</u>	<u>1,238.8</u>	<u>2,968.8</u>	<u>4,916.9</u>	<u>1,632.1</u>	<u>464.5</u>	<u>801.9</u>	<u>816.0</u>	<u>1,255.8</u>

/a Breakdown by countries not available

/b Preliminary.

Source: Bank of Thailand.

Table 3.13: CAPITAL MOVEMENTS
(Millions of baht)

	1970			1971		
	Credit	Debit	Net	Credit	Debit	net
A. Private Medium- & Long-term	<u>5,329.1</u>	<u>3,186.5</u>	<u>2,142.6</u>	<u>5,041.4</u>	<u>3,733.1</u>	<u>1,308.3</u>
1. Direct investment	1,014.1	123.6	890.5	1,027.8	219.4	808.4
1.1 Equity capital	(685.3)	(23.7)	(661.6)	(793.1)	(101.1)	(692.0)
1.2 Loans	(328.8)	(99.9)	(228.9)	(234.7)	(118.3)	(116.4)
2. Loans to private enterprises	736.6	515.6	221.0	1,100.3	1,036.7	63.6
3. Suppliers' credits to private enterprises	3,298.9	2,512.2	786.7	2,742.4	2,409.0	333.4
4. Portfolio investment	272.1	35.1	237.0	168.5	68.0	100.5
5. Other	7.4	-	7.4	2.4	-	2.4
B. Public Medium- & Long-term	<u>1,314.2</u>	<u>1,156.4</u>	<u>157.8</u>	<u>1,356.2</u>	<u>970.5</u>	<u>385.7</u>
1. Loans to state enterprises	138.2	249.1	-110.9	218.0	238.0	-20.0
2. Suppliers' credits to state enterprises	289.1	87.5	201.6	153.7	73.5	80.2
3. Loans to the Central Government	833.8	388.7/a	445.1	579.5	273.2/a	306.3
4. Other Central Gov't	-	431.1	-431.1	341.4	373.1	-31.7
4.1 Import credits	(-)	(35.4)	(35.4)	(-)	(-)	(-)
4.2 Export credits	(-)	(-)	(-)	(-)	(-259.4)	(-259.4)
5. Suppliers' credits to local Governments	53.1	-	53.1	63.6	12.7	50.9
C. Total Medium- & Long-term	<u>6,643.3</u>	<u>4,342.9</u>	<u>2,300.4</u>	<u>6,397.6</u>	<u>4,703.6</u>	<u>1,694.0</u>
D. Short-term /b	<u>607.0</u>	<u>428.6</u>	<u>178.4</u>	<u>605.9</u>	<u>566.8</u>	<u>39.1</u>
1. Private	586.2	402.8	183.4	483.1	328.3	154.8
1.1 Trade credits	(586.2)	(402.8)	(183.4)	(483.1)	(328.3)	(154.8)
2. Public	20.8	25.8	-5.0	122.8	238.5	-115.7
E. Total Capital Movements	<u>7,250.3</u>	<u>4,771.5</u>	<u>2,478.8</u>	<u>7,003.5</u>	<u>5,270.4</u>	<u>1,733.1</u>

/a Including Bank of Thailand participation in IBRD Loans (Sirikit Dam and Third Highway Project) of B 357.3 million in 1969, B 236.4 million in 1970, B 98.6 million in 1971 and B 44.3 million in 1972.

/b Less than one year.

Source: Bank of Thailand.

	1972			1973		
	Credit	Debit	Net	Credit	Debit	Net
A. <u>Private Medium- & Long-term</u>	<u>6,640.5</u>	<u>3,543.0</u>	<u>3,097.5</u>	<u>5,332.5</u>	<u>4,704.8</u>	<u>617.7</u>
1. Direct investment	1,553.9	126.8	1,427.1	2,172.0	567.1	1,604.9
1.1 Equity capital	(1,165.7)	(11.0)	(1,154.7)	(1,408.8)	(33.0)	(1,375.8)
1.2 Loans	(388.2)	(115.8)	(272.4)	(763.2)	(534.1)	(229.1)
2. Loans to private enterprises	2,622.7	1,142.0	1,480.7	1,516.4	2,030.4	-514.0
3. Suppliers' credits to private enterprises	2,132.6	2,220.8	-88.2	1,370.0	2,055.0	-685.0
4. Portfolio investment	330.7	53.4	277.3	263.0	52.0	211.0
5. Other	0.6	-	0.6	1.1	0.3	0.8
B. <u>Public Medium- & Long-term</u>	<u>1,287.3</u>	<u>1,120.5</u>	<u>166.8</u>	<u>1,750.8</u>	<u>723.3</u>	<u>1,027.5</u>
1. Loans to state enterprises	661.0	261.4	399.6	763.8	319.5	444.3
2. Suppliers' credits to state enterprises	13.9	75.2	-61.3	13.5	85.1	-71.6
3. Loans to the Central Government	437.8/b	223.1/a	214.7	610.1/b	222.9	387.2
4. Other Central Gov't	174.6	535.4	-360.8	363.4	70.3	293.1
4.1 Import credits	(-)	(-)	(-)	(-)	(-)	(-)
4.2 Export credits	(-)	(-)	(-)	(-)	(-)	(-)
5. Suppliers' credits to local Governments	-	25.4	-25.4	-	+25.5	-25.5
C. <u>Total Medium- & Long-term</u>	<u>7,927.8</u>	<u>4,663.5</u>	<u>3,264.3</u>	<u>7,073.3</u>	<u>5,428.1</u>	<u>1,645.2</u>
D. <u>Short-term /c</u>	<u>634.7</u>	<u>255.8</u>	<u>378.9</u>	<u>4,285.6</u>	<u>2,993.2</u>	<u>1,292.4</u>
1. Private	544.8	235.7	309.1	4,285.6	2,993.2	1,292.4
1.1 Trade credits	(544.8)	(235.7)	(309.1)	(4,285.6)	(2,993.2)	(1,292.4)
2. Public	89.9	20.1	69.8	-	-	-
E. <u>Total Capital Movements</u>	<u>8,562.5</u>	<u>4,919.3</u>	<u>3,643.2</u>	<u>11,358.9</u>	<u>8,421.3</u>	<u>2,937.6</u>

/a Including Bank of Thailand participation in IBRD Loans (Sirikit Dam and Third Highway Project) of B 357.3 million in 1969, B 236.4 million in 1970, B 98.6 million in 1971 and B 44.3 million in 1972.

/b Including refund from Bank of Thailand participations in IBRD Loans (Third Highway Projects) of B 1.4 million in 1972, B 18.9 million in 1973 and B 30.9 million in 1974.

/c Less than one year.

Source: Bank of Thailand.

	1974			1975		
	Credit	Debit	Net	Credit	Debit	Net
A. <u>Private Medium- & Long-term</u>	<u>11,593.1</u>	<u>4,923.1</u>	<u>6,669.7</u>	<u>9,567.0</u>	<u>6,471.0</u>	<u>3,096.0</u>
1. Direct investment	4,683.3	847.0	3,836.3	3,391.4	1,646.6	1,744.8
1.1 Equity capital	(3,026.3)	(289.0)	(2,737.2)	(1,654.1)	(358.0)	(1,296.1)
1.2 Loans	(1,657.1)	(558.0)	(1,099.1)	(1,737.3)	(1,288.6)	(448.7)
2. Loans to private enterprises	4,073.3	2,012.3	2,061.1	3,907.0	2,726.3	1,180.7
3. Suppliers' credits to private enterprises	2,586.9	2,010.9	576.0	2,205.6	2,069.6	136.0
4. Portfolio investment	248.5	53.3	195.2	55.9	28.5	27.4
5. Other	1.1	-	1.1	7.1	-	7.1
B. <u>Public Medium- & Long-term</u>	<u>1,986.0</u>	<u>732.3</u>	<u>1,253.7</u>	<u>2,986.1</u>	<u>927.7</u>	<u>2,058.4</u>
1. Loans to state enterprises	1,586.8	314.4	1,272.4	2,739.1	451.0	2,288.1
2. Suppliers' credits to state enterprises	0.2	98.7	-98.5	-	85.1	-85.1
3. Loans to the Central Government	399.0/a	272.6	126.4	213.2/a	318.2	-105.0
4. Other Central Gov't	-	22.5	-22.5	33.8	50.4	-16.6
4.1 Import credits	(-)	(-)	(-)	(-)	(-)	(-)
4.2 Export credits	(-)	(-)	(-)	(32.2)	(-)	(32.2)
5. Suppliers' credits to local Governments	-	24.1	-24.1	-	23.0	-23.0
C. <u>Total Medium- & Long-term</u>	<u>13,579.1</u>	<u>5,655.7</u>	<u>7,923.4</u>	<u>12,553.1</u>	<u>7,398.7</u>	<u>5,154.4</u>
D. <u>Short-term /b</u>	<u>9,835.8</u>	<u>8,704.5</u>	<u>1,131.3</u>	<u>12,893.0</u>	<u>10,292.7</u>	<u>2,600.3</u>
1. Private	9,835.8	8,704.5	1,131.3	12,893.0	10,292.7	2,600.3
1.1 Trade credits	(9,835.8)	(8,704.5)	(1,131.3)	(12,694.2)	(10,292.7)	(2,410.8)
2. Public	-	-	-	-	-	-
E. <u>Total Capital Movements</u>	<u>23,414.9</u>	<u>14,360.2</u>	<u>9,054.7</u>	<u>25,446.1</u>	<u>17,691.4</u>	<u>7,754.7</u>

/a Including refund from Bank of Thailand's participation in IBRD Loans (Third Highway Projects) of B 1.4 million in 1972, B 18.9 million in 1973, B 30.9 million in 1974, B 47.1 million in 1975, B 40.6 million in 1976 and B 42.2 million in 1977.

/b Less than one year.

Source: Bank of Thailand.

	1976			1977		
	Credit	Debit	Net	Credit	Debit	Net
A. <u>Private Medium- & Long-term</u>	<u>8,834.7</u>	<u>6,552.8</u>	<u>2,281.9</u>	<u>10,646.1</u>	<u>7,511.6</u>	<u>3,134.5</u>
1. Direct investment	3,063.9	1,449.8	1,614.1	4,286.0	2,122.2	2,163.8
1.1 Equity capital	(1,565.5)	(238.7)	(1,326.8)	1,325.3	209.2	1,116.1
1.2 Loans	(1,498.4)	(1,211.1)	(287.3)	2,960.7	1,913.0	1,047.7
2. Loans to private enterprises	4,277.0	2,961.0	1,316.0	4,620.6	3,291.0	1,329.6
3. Suppliers' credits to private enterprises	1,428.1	2,054.8	-626.7	1,565.1	2,027.5	-462.4
4. Portfolio investment	65.7	87.2	-21.5	71.4	69.9	1.5
5. Other	-	-	-	103.0	1.0	102.0
B. <u>Public Medium- & Long-term</u>	<u>5,152.7</u>	<u>949.5</u>	<u>4,203.2</u>	<u>7,396.1</u>	<u>1,790.2</u>	<u>5,606.0</u>
1. Loans to state enterprises	2,423.4	500.9	1,922.5	5,465.1	648.3	4,816.8
2. Suppliers' credits to state enterprises	-	83.2	-83.2	33.8	83.3	-49.5
3. Loans to the Central Government	2,504.2/a	347.0	2,157.2	1,372.7/a	601.9	770.8
4. Other Central Gov't	225.1	5.3	219.8	524.6	456.7	+69.9
4.1 Import credits	(-)	(-)	(-)	(447.1)	(447.1)	(-)
4.2 Export credits	(73.9)	(-)	(83.9)	(74.0)	(-)	(74.0)
5. Suppliers' credits to local Governments	-	13.1	-13.1	-	-	-
C. <u>Total Medium- & Long-term</u>	<u>13,987.4</u>	<u>7,502.3</u>	<u>6,485.1</u>	<u>18,042.3</u>	<u>9,301.8</u>	<u>8,740.5</u>
D. <u>Short-term /b</u>	<u>16,979.6</u>	<u>14,201.1</u>	<u>2,778.5</u>	<u>21,105.8</u>	<u>15,879.4</u>	<u>5,226.4</u>
1. Private	16,979.6	14,201.1	2,778.5	21,105.8	15,879.4	5,226.4
1.1 Trade credits	16,477.2	(14,201.1)	(2,276.1)	(20,248.6)	(15,879.4)	(4,369.2)
2. Public	-	-	-	-	-	-
E. <u>Total Capital Movements</u>	<u>30,967.0</u>	<u>21,703.4</u>	<u>9,263.6</u>	<u>39,148.1</u>	<u>25,181.2</u>	<u>13,966.9</u>

/a Including refund from Bank of Thailand's participation in IBRD Loans (Third Highway Projects) of B 1.4 million in 1972, B 18.9 million in 1973, B 30.9 million in 1974, B 47.1 million in 1975, B 40.6 million in 1976 and B 42.2 million in 1977.

/b Less than one year.

Source: Bank of Thailand.

	1978			1979		
	Credit	Debit	Net	Credit	Debit	Net
A. Private Medium- & Long-term	<u>16,749.9</u>	<u>14,850.8</u>	<u>1,899.1</u>	<u>26,324.3</u>	<u>16,816.3</u>	<u>+9,508.0</u>
1. Direct investment	6,364.8	5,354.0	1,010.8	5,999.5	4,951.8	+1,047.7
1.1 Equity capital	(1,111.8)	(427.0)	(+684.8)	(1,412.7)	(227.6)	(+1,185.1)
1.2 Loans	(5,253.0)	(4,927.0)	(+326.0)	(4,586.8)	(4,724.2)	-137.4
2. Loans to private enterprises	8,908.3	7,587.4	1,320.9	15,899.3	9,831.2	+6,068.1
3. Suppliers' credits to private enterprises	1,218.2	1,849.8	-631.6	2,266.9	2,020.5	+246.4
4. Portfolio investment	184.0	59.6	124.4	2,144.1	12.8	+2,131.3
5. Other	74.6	-	+74.6	14.5	-	+14.5
B. Public Medium- & Long-term	<u>13,392.0</u>	<u>2,129.0</u>	<u>11,263.0</u>	<u>24,067.5</u>	<u>3,400.3</u>	<u>+20,667.2</u>
1. Loans to state enterprises	6,247.1	982.2	5,264.9	13,862.9	1,628.9	+12,234.0
2. Suppliers' credits to state enterprises	1.4	95.5	-94.1	-	90.3	90.3
3. Loans to the Central Government	7,024.7/a	984.9	6,057.8	10,123.3/a	1,232.5	+8,890.8
4. Other Central Gov't	100.8	60.1	40.7	81.3	448.6	-367.3
4.1 Import credits	(-)	(-)	(-)	(-)	(-)	(-)
4.2 Export credits	(74.2)	(-)	(74.2)	(81.3)	(-)	(+81.3)
5. Suppliers' credits to local Governments	-	6.3	-6.3	-	-	-
C. Total Medium- & Long-term	<u>30,141.9</u>	<u>16,979.8</u>	<u>13,162.1</u>	<u>50,391.8</u>	<u>20,216.6</u>	<u>+30,175.2</u>
D. Short-term /a	<u>24,331.1</u>	<u>22,634.9</u>	<u>1,696.2</u>	<u>32,847.4</u>	<u>29,253.4</u>	<u>+3,594.0</u>
1. Private	24,331.1	22,634.9	1,696.2	32,695.3	29,125.8	+3,569.5
1.1 Trade credits	(22,986.8)	(22,632.4)	(+354.4)	(31,049.8)	(29,024.2)	(+2,025.6)
2. Public	-	-	-	152.1	127.6	+24.5
E. Total Capital Movements	<u>54,473.0</u>	<u>39,614.7</u>	<u>14,858.3</u>	<u>83,239.2</u>	<u>49,470.0</u>	<u>+33,769.2</u>

/a Including refund from Bank of Thailand's participations in IBRD loans (Third Highway Projects) of B 45.9 million in 1978 and B 34.6 million in Jan-Sep 1979.

/b Less than one year.

Source: Bank of Thailand.

Table 3.14: INTERNATIONAL RESERVES
(Millions of US dollars)

End of period	Monetary authorities					Commercial banks				
	Gold	SDRs	IMF gold tranche position	Foreign exchange	Total	Assets	Liabilities /a	Net	Total net	Change
1960	104.3	-	11.3	256.0	371.6	35.4	53.0	-17.6	354.0	+44.9
1961	104.2	-	11.3	338.9	454.4	45.5	67.3	-21.8	432.6	+78.6
1962	104.2	-	11.3	407.9	523.4	43.9	72.4	-28.5	494.9	+62.3
1963	104.2	-	11.3	460.6	576.1	57.4	93.0	-35.6	540.5	+45.6
1964	104.2	-	11.3	544.8	660.3	66.3	117.0	-50.7	609.6	+69.1
1965/a	96.4	-	19.0	623.9	739.3	82.9	117.2	-34.3	705.0	+95.4
1966	91.7	-	23.8	808.1	923.6	95.0	154.7	-59.7	863.9	+158.9
1967	91.7	-	23.8	893.0	1,008.5	76.7	168.8	-92.1	916.4	+52.5
1968	91.7	-	23.8	905.5	1,021.0	108.0	191.0	-83.0	938.0	+21.6
1969	91.7	-	23.8	869.4	984.9	129.1	220.0	-90.9	894.0	-44.0
1970	82.0	-	33.5	790.3	905.8	126.0	265.3	-139.3	766.5	-127.5
1971/b	81.9	14.3	36.4	736.1	877.0	181.8	281.8	-100.0	765.8	+10.5
1972	88.9	31.0	36.4	896.2	1,052.5	213.2	301.9	-83.7	968.8	+191.8
1973/c	98.8	34.4	40.4	1,121.6	1,295.2	274.9	488.1	-213.2	1,082.0/d	+113.2
1974/e	100.3	36.2	41.0	1,680.9	1,858.4	279.7	573.9	-294.2	1,564.2	+482.2
1975	95.9	34.6	39.2	1,605.4	1,775.1	257.9	664.2	-406.3	1,368.8	-195.4
1976	95.2	33.6	38.9	1,725.2	1,892.9	344.5	753.0	-408.5	1,484.4	+115.6
1977	101.9	37.1	40.7	1,735.2	1,914.9	435.5	1,131.0	-695.5	1,214.4	-265.9
1978/f	548.3	34.6	-	1,974.4	2,557.3	513.5	1,776.9	-1,263.4	1,293.9	+74.5
1979	1,286.2	48.8	-	1,794.0	3,129.0	718.2	2,098.1	-1,379.9	1,749.1	+455.2

/a Starting with 1965, figures for commercial banks' liabilities exclude capital funds of branches of foreign banks.

/b Beginning December 1971, gold, SDRs and IMF gold tranche position are valued at US\$38 per fine ounce and foreign currencies are converted to dollars at realigned rates.

/c From February 1973, gold, SDRs and IMF gold tranche position are valued at US\$42.22 per fine ounce and foreign currencies are converted to dollars at newly realigned rates.

/d Of total net increase of US\$113.2 million in 1973, US\$76 million was due to revaluation of reserve assets after exchange rate changes.

/e Beginning July 1974, gold, SDRs and IMF gold tranche position are valued at the respective US\$/SDR transaction value, as measured by the "basket" valuation of the SDR. Foreign currencies are valued at end-of-month market rates.

/f Beginning December 1978, gold holdings are revalued monthly on the basis of the London gold price on the last working day of each month.

Source: Bank of Thailand.

Table 3.15: TRADE INDICES & TERMS OF TRADE
(1975 = 100)

Period	Exports			Imports			Terms of trade (7)
	Volume (1)	Unit value (2)	Value (3)	Volume (4)	Unit value (5)	Value (6)	
1966	59.94	52.27	31.33	58.86	47.05	27.69	111.09
1967	60.72	51.85	31.48	70.84	46.87	33.20	110.63
1968	58.74	51.74	30.39	80.66	44.71	36.06	115.72
1969	61.04	53.54	32.68	88.66	43.82	38.85	122.18
1970	64.71	50.72	32.82	91.14	44.34	40.41	114.39
1971	84.23	45.58	38.39	76.72	52.26	40.09	87.22
1972	99.80	50.06	49.96	88.83	52.01	46.20	96.25
1973	93.27	76.78	71.61	109.85	57.46	63.12	133.62
1974	104.39	105.99	110.64	101.67	94.25	95.82	112.46
1975	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1976	138.86	97.26	135.06	103.40	105.46	109.04	92.22
1977	159.14	99.40	158.19	124.24	113.42	140.91	87.64
1978	171.83	107.41	184.56	133.23	122.30	162.94	87.83
1979	184.67	130.16	240.36	151.13	144.70	218.69	89.98

Source: Bank of Thailand, Annual Report.

Table 3.16: DUTIES ON IMPORTS BY ECONOMIC CLASSIFICATION /a

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
----- (Receipts in millions of baht) -----										
1. <u>Consumer Goods</u>										
Nondurable	1,188	932	968	1,007	1,026	1,172	1,387	1,571	1,934	1,893
Durable	476	429	469	597	799	962	1,165	1,471	1,602	1,581
Subtotal	<u>1,664</u>	<u>1,361</u>	<u>1,437</u>	<u>1,604</u>	<u>1,825</u>	<u>2,134</u>	<u>2,552</u>	<u>3,042</u>	<u>3,536</u>	<u>3,474</u>
2. <u>Intermediate Products and</u>										
<u>Raw Materials</u>										
Chiefly for consumer goods	967	1,272	1,330	1,607	1,867	1,710	2,041	2,639	2,794	3,728
Chiefly for capital goods	258	275	269	381	391	314	393	534	559	640
Subtotal	<u>1,225</u>	<u>1,547</u>	<u>1,599</u>	<u>1,988</u>	<u>2,258</u>	<u>2,024</u>	<u>2,434</u>	<u>3,173</u>	<u>3,353</u>	<u>4,368</u>
3. <u>Capital Goods</u>	<u>1,175</u>	<u>1,165</u>	<u>1,327</u>	<u>1,550</u>	<u>2,129</u>	<u>1,893</u>	<u>2,263</u>	<u>3,179</u>	<u>4,009</u>	<u>4,312</u>
4. <u>Other Imports</u>										
Vehicles and parts	724	787	830	1,298	1,561	1,621	1,642	2,254	2,696	2,221
of which: Passenger cars	(302)	(215)	(205)	(364)	(381)	(227)	(201)	(332)	(200)	(58)
Buses & trucks	(234)	(368)	(396)	(656)	(780)	(974)	(863)	(1,169)	(1,721)	(1,391)
Chassis & bodies	(148)	(175)	(206)	(254)	(366)	(394)	(537)	(697)	(731)	(729)
Tires	(40)	(29)	(23)	(24)	(34)	(26)	(41)	(56)	(44)	(43)
Fuels & lubricants	524	257	239	301	451	364	369	531	891	1,138
Miscellaneous	33	30	72	28	55	77	148	37	51	51
Subtotal	<u>1,281</u>	<u>1,074</u>	<u>1,141</u>	<u>1,627</u>	<u>2,067</u>	<u>2,062</u>	<u>2,159</u>	<u>2,822</u>	<u>3,638</u>	<u>3,410</u>
<u>Total</u>	<u>5,345</u>	<u>5,147</u>	<u>5,504</u>	<u>5,769</u>	<u>8,279</u>	<u>8,114</u>	<u>9,408</u>	<u>12,216</u>	<u>14,536</u>	<u>15,561</u>
----- (Receipts as percentage of imports) -----										
1. <u>Consumer Goods</u>										
Nondurable	34.1	32.6	29.4	24.8	19.9	22.8	24.8	24.8	25.6	22.5
Durable	27.3	22.6	19.3	20.0	24.9	26.1	30.4	30.9	29.7	25.7
Subtotal	<u>31.8</u>	<u>28.6</u>	<u>25.1</u>	<u>22.7</u>	<u>21.8</u>	<u>24.2</u>	<u>27.1</u>	<u>27.4</u>	<u>27.3</u>	<u>23.8</u>
2. <u>Intermediate Products and</u>										
<u>Raw Materials</u>										
Chiefly for consumer goods	23.4	25.5	22.6	18.8	16.5	16.6	16.3	16.4	16.5	15.5
Chiefly for capital goods	10.0	9.9	8.3	7.5	5.6	5.4	5.1	4.9	4.4	4.0
Subtotal	<u>18.2</u>	<u>19.9</u>	<u>17.5</u>	<u>14.6</u>	<u>12.3</u>	<u>12.6</u>	<u>12.0</u>	<u>11.8</u>	<u>11.3</u>	<u>10.9</u>
3. <u>Capital Goods</u>	<u>12.5</u>	<u>13.5</u>	<u>13.6</u>	<u>12.1</u>	<u>10.7</u>	<u>8.5</u>	<u>11.7</u>	<u>13.0</u>	<u>12.8</u>	<u>11.9</u>
4. <u>Other Imports</u>										
Vehicles and parts	32.8	35.9	37.5	38.2	37.3	35.8	31.7	28.3	35.7	33.0
of which: Passenger cars	n.a.	(66.4)	(65.7)	(66.9)	(68.0)	(72.3)	(70.5)	(71.7)	(93.0)	(37.4)
Buses & trucks	n.a.	(30.6)	(38.5)	(38.7)	(40.8)	(40.6)	(42.6)	(43.1)	(53.6)	(54.7)
Chassis & bodies	n.a.	(29.0)	(25.0)	(23.0)	(22.5)	(22.4)	(19.7)	(15.1)	(18.3)	(19.9)
Tires	n.a.	(47.5)	(46.9)	(41.4)	(40.0)	(28.9)	(31.8)	(34.1)	(33.9)	(27.0)
Fuels & lubricants	22.5	33.0	35.0	27.6	20.6	16.9	13.0	12.0	14.1	13.9
Miscellaneous	2.9	4.2	7.9	4.5	7.5	8.9	7.5	1.3	1.1	0.8
Subtotal	<u>22.5</u>	<u>29.2</u>	<u>30.0</u>	<u>31.8</u>	<u>29.1</u>	<u>27.3</u>	<u>21.6</u>	<u>18.4</u>	<u>19.7</u>	<u>16.1</u>
<u>Total</u>	<u>19.8</u>	<u>20.7</u>	<u>19.4</u>	<u>17.5</u>	<u>15.4</u>	<u>14.8</u>	<u>15.9</u>	<u>15.7</u>	<u>15.7</u>	<u>13.9</u>

/a Figures are on calendar year basis.

Source: Bank of Thailand.

Table 3.17: IMPORTS AND EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
<u>Imports c.i.f.</u>										
Crude oil										
Volume (mn barrels)	27.8	39.6	47.9	56.0	50.2	52.6	55.4	61.0	61.2	64.4
Average price (US\$/barrel)	2.05	2.33	2.41	3.15	10.33	11.48	12.51	13.22	13.20	17.82
Value (mn US\$)	57.1	91.4	115.8	175.0	518.6	603.8	692.8	806.3	808.1	1,147.2
Petroleum products										
Volume	10.5	7.4	5.4	8.0	6.9	5.5	7.4	11.0	17.7	16.1
Average price (US\$/barrel)	5.16	5.24	6.15	6.75	11.6	14.89	15.1	14.98	17.47	28.06
Value (mn US\$)	54.2	38.8	33.2	54.0	79.5	81.9	111.8	164.8	309.2	451.8
<u>Exports f.o.b.</u>										
Petroleum products										
Volume	0.3	1.3	3.2	4.1	0.9	0.7	0.3	-	-	-
Average price (US\$/barrel)	5.67	4.85	3.69	4.46	15.0	15.9	16.7	-	-	-
Value (mn US\$)	1.7	6.3	11.8	18.3	13.4	11.1	5.0	-	-	-
<u>Net Imports</u>										
Petroleum products										
Volume (mn barrel)	10.2	6.1	2.2	3.9	6.0	4.8	7.1	11.0	17.7	16.1
Value (mn US\$)	52.5	32.5	21.4	35.7	66.1	70.8	106.8	164.8	309.2	451.8

Source: Bank of Thailand.

Table 4.1: EXTERNAL DEBT AND DEBT SERVICE OBLIGATIONS /a
(US \$'000)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
PRIVATE SECTOR										
Loans										
Disbursements	38,185	47,675	108,556	83,809	214,890	211,661	216,577	284,296	522,170	702,267
Repayments	16,863	39,637	24,282	97,775	56,880	130,191	136,412	165,432	441,204	411,832
Interest payments	16,910	21,217	21,091	29,736	57,056	69,277	62,611	65,892	102,037	168,318
Amount disbursed and outstanding	177,074	185,112	269,396	255,430	413,440	494,910	575,075	693,939	774,905	1,065,340
Suppliers' Credit										
Disbursements /b	131,116	111,886	87,199	55,666	109,901	92,328	60,900	64,603	50,659	96,820
Repayments /b, /c	90,544	95,847	91,443	85,894	81,102	85,524	92,234	88,715	80,820	74,504
Amount disbursed and outstanding	224,159	240,198	235,954	205,726	234,525	241,329	209,995	185,883	155,722	178,038
Loans & Suppliers' Credits										
Disbursements	169,301	159,561	195,765	139,475	324,791	303,989	277,477	348,899	572,829	799,087
Debt service payments	124,317	156,701	136,816	213,405	195,038	284,992	291,157	320,039	624,061	654,654
Amount disbursed and outstanding	401,233	425,310	505,350	461,156	647,965	736,239	785,070	879,822	930,627	1,243,378
PUBLIC SECTOR										
Central Government /e, /f										
Disbursements	28,723	23,120	18,709	28,960	18,407	8,306	123,179	66,523	343,698	493,356
Repayable in foreign currencies	(28,723)	(23,120)	(18,709)	(28,960)	(18,407)	(8,306)	(123,179)	(66,523)	(343,698)	(493,356)
Repayable in baht	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Repayments	9,022	8,396	8,384	10,017	12,086	13,557	15,319	27,984	46,202	57,940
In foreign currencies	(8,916)	(8,271)	(8,241)	(9,854)	(11,903)	(13,354)	(15,094)	(27,737)	(45,932)	(57,646)
In baht	(106)	(125)	(143)	(163)	(183)	(203)	(225)	(247)	(270)	(294)
Interest payments	7,795	9,368	10,603	12,955	13,727	14,448	16,584	25,287	38,144	(60,265)
In foreign currencies	(7,566)	(9,142)	(10,381)	(12,738)	(13,516)	(14,244)	(16,278)	(25,098)	(37,964)	(69,095)
In baht	(230)	(226)	(222)	(217)	(211)	(204)	(306)	(189)	(180)	(170)
Amount disbursed and outstanding	176,505	191,229	210,060 /d	238,563	243,819	235,660	348,220	402,187	729,156	1,134,390
Repayable in foreign currencies	(170,007)	(184,856)	(203,831) /d	(232,497)	(237,936)	(229,980)	(342,764)	(396,978)	(724,217)	(1,129,744)
Repayable in baht	(6,498)	(6,373)	(6,229)	(6,066)	(5,883)	(5,680)	(5,456)	(5,209)	(4,939)	(4,646)
State Enterprises /e										
Disbursements	20,545	17,871	21,446	37,934	79,348	136,954	211,169	274,947	307,004	678,929
Repayable in foreign currencies	(20,545)	(17,871)	(21,446)	(37,934)	(79,348)	(136,954)	(211,169)	(274,947)	(307,004)	(678,929)
Repayable in baht	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Repayments	16,183	14,976	16,216	19,848	20,655	26,804	29,201	36,583	53,037	84,197
In foreign currencies	(14,931)	(13,677)	(14,837)	(18,393)	(19,120)	(25,184)	(27,577)	(34,956)	(51,319)	(82,383)
In baht	(1,252)	(1,299)	(1,379)	(1,455)	(1,535)	(1,620)	(1,624)	(1,627)	(1,718)	1,814
Interest payments	9,497	9,996	10,617	12,833	15,534	22,136	27,412	35,751	64,210	87,208
In foreign currencies	(8,699)	(9,190)	(9,885)	(12,177)	(14,958)	(21,645)	(27,011)	(35,438)	(63,487)	87,081
In baht	(806)	(806)	(732)	(656)	(576)	(491)	(401)	(313)	(223)	127
Amount disbursed and outstanding	167,849	170,733 /d	191,803 /d	217,018	282,125	386,635	481,909	748,731	1,059,199	1,578,778
Repayable in foreign currencies	(152,833)	(157,016) /d	(179,464) /d	(206,135)	(272,777)	(378,907)	(475,806)	(744,255)	(1,056,441)	(1,577,834)
Repayable in baht	(15,016)	(13,717)	(12,338)	(10,883)	(9,348)	(7,728)	(6,103)	(4,476)	(2,758)	(944)
Local Government /g										
Disbursements	2,552	3,060	-	-	-	-	-	-	-	-
Repayments	-	611	1,327	1,249	1,204	1,150	656	-	308	-
Interest payments	-	160	315	220	162	93	23	-	126	-
Amount disbursed and outstanding	3,662	6,111	5,308 /d	3,549	2,390	1,031	262	296	-	-
Total Public Sector /e										
Disbursements	51,820	44,051	51,155	66,894	97,755	145,260	244,348	341,770	650,702	1,172,285
Repayable in foreign currencies	(51,820)	(44,051)	(51,155)	(66,894)	(97,755)	(145,260)	(244,348)	(341,770)	(650,702)	(1,172,285)
Repayable in baht	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Repayments	25,205	23,983	25,927	31,114	33,945	41,511	45,176	64,567	99,547	142,137
In foreign currencies	(23,847)	(22,559)	(24,405)	(29,496)	(32,227)	(39,688)	(43,327)	(62,693)	(97,559)	(140,029)
In baht	(1,358)	(1,424)	(1,522)	(1,618)	(1,718)	(1,823)	(1,849)	(1,874)	(1,988)	2,108
Interest payments	17,293	19,524	21,535	26,008	29,423	36,677	44,019	61,038	102,480	156,474
In foreign currencies	(16,185)	(18,492)	(20,581)	(25,135)	(28,636)	(35,982)	(43,312)	(60,536)	(102,077)	(156,176)
In baht	(1,108)	(1,032)	(954)	(873)	(787)	(695)	(707)	(502)	(403)	(297)
Amount disbursed and outstanding	348,016	368,073 /d	407,171 /d	459,130	528,334	623,326	830,391	1,151,214	1,788,355	2,713,168
Repayable in foreign currencies	(326,502)	(347,983) /d	(388,605) /d	(442,181)	(513,103)	(609,918)	(818,832)	(1,141,529)	(1,780,658)	(2,707,578)
Repayable in baht	(21,514)	(20,090)	(18,566)	(16,949)	(15,231)	(13,408)	(11,559)	(9,685)	(7,697)	(5,590)
TOTAL EXTERNAL DEBT & DEBT SERVICES /h										
Amount disbursed and outstanding	727,735	773,293	893,955	903,337	1,161,068	1,346,157	1,603,902	2,021,351	2,711,285	3,950,956
Debt service payments	164,349	197,752	181,802	268,036	255,901	360,662	377,796	443,268	823,697	950,859
Private sector	(124,317)	(156,701)	(136,816)	(213,405)	(195,038)	(284,992)	(291,157)	(320,039)	(624,061)	(654,654)
Public sector	(40,032)	(41,051)	(44,986)	(54,631)	(60,863)	(75,670)	(86,639)	(123,229)	(199,636)	(296,205)
Debt service payments as percentage of exports /i	15.0	16.3	11.8	12.8	8.3	12.6	10.6	10.8	16.8	14.7
Private sector	(11.3)	(12.9)	(8.9)	(10.2)	(6.3)	(10.0)	(8.2)	(7.8)	(12.7)	(10.1)
Public sector	(3.7)	(3.4)	(2.9)	(2.6)	(2.0)	(2.6)	(2.4)	(3.0)	(4.1)	(4.6)

/a Debt with a maturity of over one year.
 /b Net of downpayments and prepayments.
 /c Including interest payments.
 /d Reflects revaluation of lenders' currencies.
 /e Loans and suppliers' credits.
 /f Net of Bank of Thailand participation in IBRD loans.
 /g Suppliers' credit.
 /h Repayable in foreign currencies.
 /i Goods and nonfactor services.

Source: Bank of Thailand.

Table 4.2: EXTERNAL PUBLIC DEBT OUTSTANDING INCLUDING UNDISBURSED
AS OF DECEMBER 31, 1979
(US\$'000)

Type of creditor/ Creditor country	Debt Outstanding		
	Disbursed	Undisbursed	Total
<u>Suppliers Credits</u>			
Belgium	801	-	801
Germany, Fed. Rep. of	-	79,680	79,680
India	286	-	286
Italy	99	-	99
Japan	45,584	-	45,584
Sweden	-	14,655	14,655
United Kingdom	222	-	222
<u>Total Suppliers Credits</u>	<u>46,992</u>	<u>94,335</u>	<u>141,327</u>
<u>Financial Institutions</u>			
Austria	9,609	6,096	15,705
Canada	8,628	5,923	14,551
France	57,846	13,795	71,641
Germany, Fed. Rep. of	112,704	44,092	156,796
Japan	148,576	121,354	269,930
Netherlands	-	9,457	9,457
Switzerland	-	32,278	32,278
United Kingdom	-	4,619	4,619
United States	35,670	14,042	49,712
Multiple lenders	611,443	237,533	848,976
<u>Total Financial Institutions</u>	<u>984,476</u>	<u>489,189</u>	<u>1,473,665</u>
<u>Bonds</u>			
Multiple lenders	30,000	-	30,000
<u>Total Bonds</u>	<u>30,000</u>	<u>-</u>	<u>30,000</u>
<u>Multilateral Loans</u>			
Asian Development Bank	211,671	259,440	471,111
IBRD	556,210	619,775	1,175,985
IDA	28,053	96,957	125,010
IMF Trust Fund	126,650	-	126,650
OPEC Special Fund	599	13,401	14,000
<u>Total Multilateral Loans</u>	<u>923,183</u>	<u>989,573</u>	<u>1,912,756</u>
<u>Bilateral Loans</u>			
Canada	11,942	9,419	21,361
Denmark	4,063	11,390	15,453
France	21,024	436	21,460
Germany, Fed. Rep. of	59,835	125,838	185,673
Japan	399,728	609,301	1,009,029
Kuwait	4,006	43,593	47,599
New Zealand	-	5,917	5,917
United Kingdom	4,081	9,040	13,121
United States	209,925	82,571	292,496
<u>Total Bilateral Loans</u>	<u>714,604</u>	<u>897,505</u>	<u>1,612,109</u>
<u>Total External Public Debt</u>	<u>2,699,255</u>	<u>2,470,602</u>	<u>5,169,857</u>

/a Only debts with an original or extended maturity of over one year. Includes only debt repayable in foreign currency and goods committed January 1, 1900-December 31, 1979.

Source: World Bank.

**Table 4.3: PROJECTED SERVICE PAYMENTS, DISBURSEMENTS AND OUTSTANDING AMOUNTS
OF EXTERNAL PUBLIC DEBT AS OF DECEMBER 31, 1979 /a**
(US\$'000)

Year	Debt outstanding at beginning of period		Total transactions during period					Other changes	
	Disbursed only	Including disbursed	Commitments	Disbursements	Service payments			Cancellations	Adjustment /b
					Principal	Interest	Total		
Actual									
1975	512,799	1,122,060	231,366	150,050	38,705	34,483	73,188	21,079	-12,380
1976	615,538	1,281,262	408,986	241,703	43,425	44,263	87,688	-	16,311
1977	821,689	1,663,134	793,911	268,415	63,414	58,311	121,725	884	95,755
1978	1,067,613	2,488,502	1,109,756	742,606	98,159	96,799	194,958	17,694	169,672
1979	1,700,492	3,652,077	1,844,230	1,124,378	132,291	145,695	277,986	1,840	192,320
1980	2,699,255	5,169,856							
Projected									
1980	2,699,255	5,169,856	-	737,495	216,187	232,761	448,948	-	5
1981	3,220,568	4,953,674	-	601,067	248,018	269,386	517,404	-	15
1982	3,573,625	4,705,671	-	468,627	300,656	282,531	583,187	-	3
1983	3,741,600	4,405,018	-	310,115	323,189	273,865	597,054	-	5
1984	3,728,530	4,081,834	-	176,587	395,449	254,270	649,719	-	6
1985	3,509,672	3,686,391	-	100,217	383,387	226,243	609,630	-	15
1986	3,226,516	3,303,019	-	47,942	351,311	198,921	550,232	-	4
1987	3,923,152	2,951,712	-	21,233	317,546	174,375	491,921	-	8
1988	2,626,845	2,634,174	-	5,676	325,744	150,951	476,695	-	8
1989	2,306,785	2,308,438	-	1,268	304,244	127,707	431,951	-	7
1990	2,003,816	2,004,201	-	318	218,237	106,484	324,721	-	6
1991	1,785,903	1,785,970	-	62	203,068	92,827	295,895	-	9
1992	1,582,906	1,582,911	-	5	189,610	79,908	269,518	-	5
1993	1,393,306	1,393,306	-	-	166,257	68,643	234,900	-	8
1994	1,227,057	1,227,057	-	-	162,831	58,551	221,382	-	10
1995	1,064,236	1,064,236	-	-	150,210	48,799	199,009	-	3
1996	914,029	914,029	-	-	141,531	39,908	181,439	-	4
1997	772,502	772,502	-	-	125,682	31,768	157,448	-	4
1998	646,824	646,824	-	-	117,598	24,563	142,161	-	4
1999	529,230	529,230	-	-	83,898	18,396	102,294	-	5

/a Includes only debt committed January 1, 1900 - December 31, 1979. Debt repayable in foreign currency and goods.

/b This column shows the amount of arithmetic imbalance in the amount outstanding including undisbursed from one year to the next. The most common causes of imbalances are changes in exchange rates and transfer of debts from one category to another in the table.

Source: World Bank.

Table 5.1: CONSOLIDATED PUBLIC SECTOR EXPENDITURES /a
(Millions of baht)

	FY70 Actual	FY71 Actual	FY72 Actual	FY73 Actual	FY74 Actual	FY75 Actual	FY76 Actual	FY77 Actual	FY78 Actual	FY79 Actual	FY80 Estimate
Current Expenditures	17,590	19,629	21,972	24,784	29,122	35,955	41,606	48,577	60,950	73,858	96,022
Defense, Admin., etc.	8,836	10,041	10,444	12,513	13,739	16,293	18,709	22,807	30,897	37,381	43,649
General admin. /b	1,755	2,128	2,090	2,047	2,464	2,956	3,509	3,456	4,005	5,000	6,876
Defense & police	5,241	6,369	6,930	7,340	8,840	10,102	12,480	15,312	20,774	27,128	30,375
Pensions	860	580	747	764	908	1,143	1,155	1,421	1,333	1,735	2,845
Miscellaneous	980	964	677	2,362	1,527	2,092	1,565	2,618	4,785	3,518	3,553
Economic Services	1,968	2,063	2,031	2,275	2,770	3,332	4,059	4,813	5,103	5,717	7,745
Agriculture /c	1,012	1,046	1,003	1,103	1,399	1,671	2,008	2,229	2,667	3,116	4,361
of which: Irrigation	(398)	(402)	(392)	(409)	(538)	(572)	(702)	(739)	(807)	(1,049)	(1,723)
Industry and mining	74	76	85	92	129	182	193	213	214	259	396
Power	9	17	9	13	18	22	31	82	70	67	87
Trans. & Communications	727	781	799	920	1,052	1,262	1,569	1,390	1,584	1,852	2,376
of which: Highways	(609)	(667)	(684)	(817)	(905)	(1,078)	(1,112)	(1,168)	(1,348)	(1,568)	(1,868)
Other economic services	146	143	135	147	172	195	258	899	568	423	525
Social Services	2,481	2,554	3,573	3,254	4,184	5,235	5,955	7,321	8,265	10,388	13,482
Education	1,332	1,268	2,202	1,896	2,481	2,991	3,716	4,177	4,827	6,189	8,370
Health	638	720	735	825	1,065	1,227	1,657	2,213	2,374	3,025	3,647
Other social services	511	566	636	533	638	1,017	582	931	1,064	1,174	1,465
Local Government /d	2,606	2,822	3,150	3,531	4,712	7,195	8,655	8,586	10,041	11,472	19,537
TA Trust Fund /d /e	92	72	67	54	41	28	10	4	1	-	-
Non-US external grants /d /f	235	287	287	305	332	372	385	369	659	996	1,083
Interest payments	1,372	1,790	2,420	2,852	3,344	3,501	3,832	4,677	5,984	7,904	10,526
Internal debt	1,193	1,590	2,183	2,596	3,072	3,217	3,511	3,827	5,136	6,496	8,249
External debt	179	200	237	256	272	284	321	850	848	1,408	2,279
Capital Expenditures	9,525	11,122	11,783	11,546	11,699	14,599	21,027	27,033	35,791	36,645	59,118
Agriculture /c	1,656	1,925	1,440	1,221	1,125	1,379	2,765	3,954	4,614	5,691	7,329
of which: Irrigation	(1,368)	(1,656)	(1,201)	(989)	(883)	(1,128)	(2,233)	(2,732)	(3,281)	(3,949)	(5,106)
Industry and mining	127	86	101	136	200	239	293	647	471	442	951
Power	1,283	1,476	1,955	2,390	1,991	2,525	3,284	3,666	6,115	4,738	15,199
Trans. & Communications	3,561	3,566	5,620	3,236	3,442	4,067	5,546	8,417	10,848	12,498	16,537
of which: Highways	(2,273)	(2,349)	(2,845)	(2,336)	(2,092)	(2,551)	(3,653)	(5,057)	(5,025)	(5,597)	(8,227)
Education	697	1,259	735	974	1,043	671	1,678	2,505	3,042	3,192	3,872
Health	95	170	224	163	165	160	272	464	792	826	863
Water supply & sewerage	283	430	504	555	353	160	497	1,266	2,105	1,580	2,620
Miscellaneous	890	956	1,461	1,200	1,407	1,629	1,503	2,457	2,745	3,415	4,610
of which: Land settlement	(25)	(21)	(19)	(25)	(33)	(33)	(60)	(83)	(133)	(162)	(252)
Admin. bldgs. etc.	(865)	(935)	(1,142)	(1,175)	(1,374)	(1,596)	(1,443)	(2,373)	(2,612)	(3,253)	(4,358)
Local Government /d	670	1,020	1,558	1,493	1,765	3,536	4,959	3,445	4,708	3,890	6,496
Non-US external grants /d /g	670	234	185	178	208	233	230	212	351	373	641
Transfers	433	313	486	430	-1	608	201	1,206	1,660	1,922	-735
Central Gov't transfers to state enterprises to finance operating deficits	433	313	486	430	-1	608	201	1,206	1,545	850	-891
Other	-	-	-	-	-	-	-	-	115	1,072	156
Adjustments for double counting etc.	-13	-16	-8	-15	-	-	-	-	-	-	-
Total Expenditures	27,535	31,048	34,233	36,745	40,820	51,163	62,834	76,816	98,401	112,425	154,405

/a Consolidated expenditures of the Central and Local Governments plus gross fixed capital expenditures of state enterprises, including those financed out of external loans and grants. Figures are for disbursements during Thai fiscal years running from October 1 to September 30. Expenditures financed out of external loans and US grants are entered under the functional line headings. Local Government expenditures and expenditures financed out of non-US external grants are entered as separate items because no functional breakdown is available.

/b Including Justice.

/c Including Forestry, Fishing, and Hunting.

/d Functional breakdown not available.

/e Expenditure financed out of the technical assistance counterpart fund account.

/f Expenditure on services of experts and technicians, fellowships, foreign voluntary services, and other costs of a current nature.

/g Expenditure on equipment imported into Thailand.

Note: Details do not add to total due to rounding.

Source: Bank of Thailand.

Table 5.2: FINANCING OF CONSOLIDATED PUBLIC SECTOR EXPENDITURES /a
(Millions of baht)

	FY70 Actual	FY71 Actual	FY72 Actual	FY73 Actual	FY74 Actual	FY75 Actual	FY76 Actual	FY77 Actual	FY78 Actual	FY79 Actual	FY80 Estimate
<u>Total Expenditures</u>	<u>27,535</u>	<u>31,048</u>	<u>34,233</u>	<u>36,745</u>	<u>40,820</u>	<u>51,163</u>	<u>62,834</u>	<u>76,816</u>	<u>98,401</u>	<u>112,425</u>	<u>154,405</u>
<u>Revenues</u>											
<u>Central Government</u>	<u>19,744</u>	<u>20,263</u>	<u>22,036</u>	<u>26,192</u>	<u>38,688</u>	<u>39,034</u>	<u>43,004</u>	<u>52,349</u>	<u>63,120</u>	<u>76,338</u>	<u>96,452</u>
Tax revenue	16,969	17,274	18,872	22,721	35,240	34,410	37,874	47,286	57,442	69,783	88,271
Nontax revenue	1,753	1,824	2,272	2,625	2,685	3,838	4,349	4,428	4,580	5,128	6,379
Foreign grants	1,022	1,165	892	845	763	787	781	635	1,098	1,427	1,802
Local government revenue	1,159	1,338	1,191	1,450	2,209	2,809	3,154	3,806	4,523	5,035	5,811
Extra budgetary receipts	773	1,559	654	1,225	991	1,033	753	-162	1,073	-1,108	-1,000
State enterprise self-financing /b	1,994	1,850	2,028	1,972	2,141	2,172	1,190	4,643	5,306	4,976	9,341
<u>Total Revenues</u>	<u>23,670</u>	<u>25,010</u>	<u>25,909</u>	<u>30,847</u>	<u>44,029</u>	<u>45,049</u>	<u>48,101</u>	<u>60,636</u>	<u>74,022</u>	<u>85,241</u>	<u>110,604</u>
<u>Cash Deficit</u>	<u>-3,865</u>	<u>-6,038</u>	<u>-8,324</u>	<u>-5,898</u>	<u>+3,209</u>	<u>-6,114</u>	<u>-14,733</u>	<u>-16,180</u>	<u>-24,379</u>	<u>-27,184</u>	<u>-43,801</u>
Financing by:											
<u>External Borrowing</u>											
Drawings	623	657	975	1,494	1,574	2,042	4,196	4,713	11,300	16,250	23,500
Repayments services	-634	-469	-461	-507	-529	-671	-721	-1,256	-1,799	-2,057	-3,208
Net external borrowing	-11	188	514	987	1,045	1,371	3,475	3,457	9,501	14,193	20,292
<u>Domestic Financing (Net)</u>											
Borrowing from public	81	8	138	668	108	392	991	1,783	1,859	2,086	2,422
Borrowing from Banking System	591	2,886	6,638	4,793	2,224	3,267	5,203	4,747	7,159	2,533	10,155
Government savings bank	435	766	1,454	2,211	1,929	457	1,223	2,361	1,898	1,600	3,200
Commercial banks	156	2,120	5,184	2,582	295	2,810	3,980	2,386	5,261	933	6,955
<u>Monetary Authorities and</u>											
<u>Currency Issue</u>	<u>3,204</u>	<u>2,956</u>	<u>1,034</u>	<u>-550</u>	<u>-6,586</u>	<u>1,084</u>	<u>5,064</u>	<u>6,193</u>	<u>5,860</u>	<u>8,372</u>	<u>10,932</u>
Bank of Thailand	3,405	2,167	174	1,525	-838	639	4,465	7,687	7,086	9,468	7,479
Exchange Equalization Fund	15	191	244	-370	-119	137	128	259	331	-	-
Counterpart Fund	-120	51	-94	-17	27	28	3	12	9	6	7
Coin issue	55	138	17	121	149	100	53	92	116	135	240
Net use of cash balances	170	1,101	641	-1,598	-5,366	431	762	-1,547	-1,225	-244	3,496
Other	-321	-692	52	-211	-439	-251	-347	-310	-457	-993	-240

/a Figures are for receipts and disbursement during Thai fiscal years (October 1 to September 30).

/b Includes external loan repayment.

Source: Bank of Thailand

Table 5.3: CENTRAL GOVERNMENT EXPENDITURES /a
(Millions of baht)

	FY70	FY71	FY72	FY73	FY74	FY75	FY76	FY77	FY78	FY79	FY80
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimate
Total Expenditures	24,791	28,449	30,325	32,177	35,658	44,453	55,028	64,526	80,362	94,124	123,742
Current Expenditures	14,984	16,807	18,822	21,252	24,410	28,761	32,951	39,991	50,909	62,386	76,485
Defense, Admin., etc.	8,836	10,041	10,444	12,513	13,739	16,210	18,709	22,807	30,897	37,381	43,646
Defense & police	5,530	6,369	6,931	7,340	8,840	10,102	12,480	15,313	20,774	27,128	30,374
General admin. /b	1,755	2,128	2,090	2,047	2,464	2,955	3,509	3,456	4,005	5,000	6,876
Pensions	571	580	747	764	908	1,060	1,155	1,420	1,333	1,735	2,845
Miscellaneous	980	964	677	2,361	1,527	2,093	1,565	2,618	4,785	3,518	3,553
Economic Services	1,968	2,064	2,030	2,276	2,770	3,332	4,059	4,813	5,103	5,716	7,745
Agriculture /e	1,012	1,046	1,003	1,104	1,399	1,671	2,008	2,229	2,667	3,116	4,361
of which: Irrigation	(398)	(402)	(392)	(409)	(538)	(572)	(702)	(739)	(807)	(1,049)	(1,723)
Industry and mining	74	76	85	92	129	182	193	213	214	259	396
Power	9	17	9	13	18	22	31	82	70	66	87
Trans. & Communications	727	781	798	920	1,052	1,262	1,569	1,390	1,584	1,852	2,376
of which: Highways	(609)	(667)	(684)	(817)	(905)	(1,078)	(1,112)	(1,168)	(1,348)	(1,568)	(1,868)
Other economic services	146	143	135	147	172	195	258	899	568	423	525
Social Services	2,481	2,553	3,574	3,254	4,184	5,318	5,956	7,321	8,265	10,388	13,483
Education	1,332	1,268	2,202	1,896	2,481	3,074	3,716	4,177	4,827	6,189	8,371
Health	638	720	736	825	1,065	1,227	1,657	2,213	2,374	3,025	3,647
Other social services	511	565	636	533	638	1,017	583	931	1,064	1,174	1,465
TA Trust Fund (Counterpart Fund Account)	92	72	67	53	41	28	10	4	1	-	-
Expenditures financed by non-US external grants /c	235	287	287	305	332	372	385	369	659	997	1,083
Interest payments /f	1,372	1,790	2,419	2,852	3,344	3,501	3,832	4,677	5,984	7,904	10,526
Internal debt	1,193	1,590	2,182	2,596	3,072	3,217	3,511	3,827	5,136	6,496	8,249
External debt	179	200	237	256	272	284	321	850	848	1,408	2,277
Capital Expenditures	6,211	7,372	7,245	6,310	6,164	6,593	10,203	14,189	15,936	17,338	23,601
Agriculture /e	1,623	1,888	1,426	1,201	1,103	1,347	2,534	3,764	4,418	5,154	6,559
of which: Irrigation	(1,368)	(1,656)	(1,201)	(989)	(883)	(1,128)	(2,037)	(2,586)	(3,281)	(3,949)	(5,106)
Industry and mining	24	15	16	18	22	28	52	130	119	98	104
Power	125	83	57	55	8	7	205	10	17	43	78
Trans. & Communications	2,444	2,606	2,987	2,464	2,224	2,750	3,856	5,336	5,208	5,511	8,554
of which: Highways	(2,274)	(2,439)	(2,845)	(2,336)	(2,092)	(2,551)	(3,653)	(5,057)	(4,942)	(5,083)	(7,810)
Education	697	1,259	735	974	1,043	671	1,677	2,505	3,042	3,192	3,872
Health	95	170	224	163	165	160	273	464	792	826	863
Water supply & sewerage	207	302	277	197	175	160	184	376	449	317	284
Miscellaneous	733	815	1,347	1,060	1,216	1,237	1,194	1,392	1,540	1,824	2,646
of which: Land settlement	(25)	(21)	(19)	(25)	(33)	(33)	(60)	(83)	(133)	(162)	(252)
Admin. bldg. etc.	(708)	(794)	(1,328)	(1,035)	(1,183)	(1,204)	(1,132)	(1,309)	(1,407)	(1,662)	(2,394)
Expenditures financed by non-US external grants /d	263	234	185	178	208	233	230	212	351	373	641
Transfers	3,609	4,286	4,257	4,630	5,084	9,099	11,874	10,346	13,517	14,400	23,656
To Local Governments	2,482	3,201	3,319	3,727	4,652	8,080	11,285	8,535	10,797	12,392	20,668
To state enterprise	1,127	1,079	938	903	432	1,019	589	1,811	2,720	2,108	2,988
Other	-	-	-	-	-	-	-	-	-	-	-
Adjustments for double counting etc.	-13	-16	-8	-15	-	-	-	-	-	-	-

/a This table presents the accounts of the Central Government inclusive of expenditure financed out of external loans and grants. Expenditures financed out of external loans and US grants are included under the respective headings. The breakdown of expenditures financed out of non-US grants is not available. Figures are for disbursements made during Thai fiscal years ending September 30.

/b Including Justice.

/c Expenditure on hiring services of experts and technicians, fellowships, foreign voluntary services, and other costs of current nature.

/d Expenditure on equipment imported into Thailand.

/e Includes Forestry, Fishing and Hunting.

/f Figures do not include principal repayments of the following amounts:

	FY70	FY71	FY72	FY73	FY74	FY75	FY76	FY77	FY78	FY79	FY80
Principal Repayment											
Internal Debt	40	516	860	701	1,665	2,384	2,990	1,123	3,159	2,142	498
External Debt	266	181	172	180	232	281	276	276	778	1,009	1,370

Source: Bank of Thailand.

Table 5.4: CENTRAL GOVERNMENT REVENUE /a
(Millions of baht)

	FY70	FY71	FY72	FY73	FY74	FY75	FY76	FY77	FY78	FY79	FY80
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimate
TOTAL REVENUE	18,722	19,098	21,144	25,346	37,925	38,248	42,223	51,714	62,022	74,911	94,650
Tax Revenue	16,969	17,274	18,872	22,721	35,240	34,410	37,874	47,286	57,442	69,783	88,271
Taxes on income	2,169	2,363	2,550	3,168	4,729	6,102	6,806	8,163	11,440	13,736	16,780
Personal	1,272	1,407	1,556	1,700	2,045	2,593	3,037	3,605	5,048	6,103	6,780
Corporate	897	956	994	1,468	2,684	3,509	3,769	4,558	6,392	7,033	10,000
Taxes on consumption	6,357	7,217	7,839	9,570	13,593	14,761	16,938	20,776	24,022	29,448	39,410
Business taxes	3,577	3,927	4,307	5,097	7,288	7,770	8,895	10,973	13,106	14,809	17,500
Excise taxes	2,686	3,192	3,413	4,341	6,162	6,810	7,776	9,490	10,548	14,267	21,510
Beverages	(647)	(716)	(874)	(1,455)	(1,767)	(2,262)	(2,712)	(3,188)	(3,828)	(4,778)	(5,672)
Petroleum products	(1,066)	(1,399)	(1,382)	(1,625)	(2,496)	(2,258)	(2,204)	(3,080)	(3,378)	(5,669)	(10,840)
Tobacco and snuff	(896)	(1,003)	(1,082)	(1,180)	(1,813)	(2,200)	(2,761)	(3,098)	(3,208)	(3,681)	(4,857)
Other	(77)	(74)	(75)	(81)	(86)	(90)	(99)	(124)	(134)	(139)	(141)
Entertainment tax	94	98	119	132	143	181	267	313	368	372	400
Profits of fiscal monopolies	672	748	864	993	1,020	1,370	1,728	2,163	2,088	2,106	2,520
Tobacco monopoly	500	579	650	771	795	931	931	1,417	1,292	1,260	1,280
State lottery	170	168	211	220	222	628	788	744	783	846	1,240
Other	2	1	3	2	3	7	9	2	13	-	-
Taxes on international trade	6,440	5,616	6,026	7,187	12,936	10,375	10,342	13,482	15,929	19,242	23,050
Import duties	5,393	5,185	5,617	6,366	8,563	8,270	9,052	11,802	14,154	16,488	19,650
Petroleum products	544	275	286	280	529	374	425	509	734	1,124	2,138
Foodstuffs	380	399	352	390	358	394	531	656	669	n.a.	n.a.
Machinery, equip. & vehicles	1,614	1,618	1,830	2,356	3,390	3,488	3,486	4,911	6,159	n.a.	n.a.
of which: Passenger cars	(326)	(204)	(221)	(279)	(441)	(259)	(201)	(332)	(200)	(n.a.)	(n.a.)
Textiles, yarn, thread	634	454	394	381	506	443	600	656	841	n.a.	n.a.
Other	2,221	2,439	2,755	2,959	3,780	3,571	4,010	5,070	5,751	n.a.	n.a.
Export taxes	1,047	431	409	821	4,373	2,105	1,290	1,680	1,775	2,754	3,400
Rice premium	654	262	163	276	2,752	795	42	-	-	-	-
Rice duty	135	117	192	151	583	514	415	576	524	608	710
Rubber	195	22	15	320	817	325	675	1,033	1,177	n.a.	n.a.
Other	63	30	39	74	221	471	158	71	74	n.a.	n.a.
Other taxes	1,331	1,330	1,593	1,803	2,962	1,802	2,060	2,702	3,963	5,251	6,511
Taxes on properties & property transfers	564	557	744	890	582	617	680	905	1,230	1,504	1,796
Automobile registration /b	(239)	(262)	(416)	(468)	(6	(-	(-	(-	(-	(-	(-
Transfer to immovable properties	(201)	(172)	(188)	(271)	(407)	(433)	(470)	(638)	(839)	(1,041)	(1,296)
Stamp duty	(124)	(122)	(140)	(151)	(169)	(184)	(210)	(267)	(391)	(463)	(500)
Other	(-)	(1)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Royalties	398	411	433	445	798	740	833	1,397	2,297	3,180	3,926
Other	369	362	416	468	1,582	445	547	400	436	567	789
Nontax Revenue	1,753	1,824	2,272	2,625	2,685	3,838	4,349	4,428	4,580	5,128	6,379
Contribution of Bank of Thailand	300	450	435	450	523	997	1,230	900	722	1,000	1,200
Contribution of State Enterprises/c	313	338	387	442	439	839	868	698	637	758	1,040
Other nontax revenue	1,140	1,036	1,450	1,733	1,723	2,002	2,251	2,830	3,221	3,370	4,139
of which: Extraordinary revenue	(12)	(9)	(5)	(3)	(5)	(19)	(-519)	(4)	(-)	(-)	(-)

/a Collections during the fiscal years ending September 30.

/b Prior to FY74 these taxes were collected by the Central Government, with part of the proceeds earmarked for transfer to local governments. In FY74 these taxes became a Local Government tax.

/c Excludes the negative net contribution of public utilities. (Government expenditures on social services have been increased correspondingly.)

Source: Bank of Thailand.

Table 5.5: FINANCING OF CENTRAL GOVERNMENT EXPENDITURES /a
(Millions of baht)

	FY70 Actual	FY71 Actual	FY72 Actual	FY73 Actual	FY74 Actual	FY75 Actual	FY76 Actual	FY77 Actual	FY78 Actual	FY79 Actual	FY80 Estimate
<u>TOTAL EXPENDITURES</u>	<u>24,791</u>	<u>28,499</u>	<u>30,325</u>	<u>32,177</u>	<u>35,658</u>	<u>44,453</u>	<u>55,028</u>	<u>64,526</u>	<u>80,362</u>	<u>94,124</u>	<u>123,742</u>
<u>Total Revenues</u>	<u>20,561</u>	<u>21,834</u>	<u>22,544</u>	<u>27,366</u>	<u>39,624</u>	<u>39,975</u>	<u>44,235</u>	<u>52,187</u>	<u>64,193</u>	<u>75,230</u>	<u>95,452</u>
Tax revenue	16,969	17,274	18,872	22,721	35,240	34,410	37,874	47,286	57,442	69,783	88,271
Nontax revenue	1,753	1,824	2,722	2,625	2,685	3,838	4,349	4,428	4,580	5,128	6,379
Extra budgetary receipts	817	1,571	508	1,175	936	940	1,231	-162	1,073	-1,108	-1,000
Foreign grants	1,022	1,165	892	845	763	787	781	635	1,098	1,427	1,802
<u>Cash Deficit</u>	<u>-4,230</u>	<u>-6,615</u>	<u>-7,781</u>	<u>-4,811</u>	<u>+3,966</u>	<u>-4,478</u>	<u>-10,793</u>	<u>-12,339</u>	<u>-16,169</u>	<u>-18,894</u>	<u>-28,290</u>
Financed by:											
External borrowing											
Drawings	300	272	195	433	311	161	594	1,074	4,871	6,774	7,951
Repayment	-266	-181	-172	-193	-201	-214	-239	-234	-939	-960	-1,349
Net external borrowings	<u>34</u>	<u>91</u>	<u>23</u>	<u>240</u>	<u>110</u>	<u>-53</u>	<u>355</u>	<u>840</u>	<u>3,932</u>	<u>5,814</u>	<u>6,602</u>
Domestic financing (net):											
Borrowing from public	80	-10	138	365	69	385	972	1,068	1,047	1,464	2,100
Borrowing from banking system	591	2,886	6,638	4,545	2,002	2,811	4,055	3,928	4,873	2,251	8,366
Government savings bank	435	766	1,454	2,073	1,929	446	1,223	2,257	1,890	1,600	3,200
Commercial banks	156	2,120	5,184	2,472	73	2,365	2,832	1,671	2,983	651	5,166
Monetary authorities & currency issues	3,525	3,648	982	-339	-6,147	1,335	5,411	6,503	6,317	9,365	11,222
Bank of Thailand	3,405	2,167	174	1,525	-938	639	4,465	7,687	7,086	9,468	7,479
Exchange equalization fund	15	191	244	-370	-119	137	128	259	331	-	-
Counterpart fund	-120	51	-94	-17	27	28	3	12	9	6	7
Coin issue	55	138	17	121	149	100	53	92	116	135	240
Net use of cash balances	170	1,101	641	-1,598	-5,366	431	762	-1,547	-1,225	-244	3,496
<u>Total Domestic Financing (net)</u>	<u>4,196</u>	<u>6,524</u>	<u>7,758</u>	<u>4,571</u>	<u>-4,076</u>	<u>4,531</u>	<u>10,438</u>	<u>11,499</u>	<u>12,237</u>	<u>13,080</u>	<u>21,688</u>

Source: Bank of Thailand.

Table 5.6: LOCAL GOVERNMENT ACCOUNTS /a
(Millions of baht)

	FY70 Actual	FY71 Actual	FY72 Actual	FY73 Actual	FY74 Actual	FY75 Actual	FY76 Actual	FY77 Actual	FY78 Actual	FY79 Actual	FY80 Estimated
Taxes and other revenue	1,159	1,338	1,191	1,459	2,209	2,809	3,154	3,806	4,523	5,035	5,811
Current expenditure	2,606	2,822	3,150	3,531	4,712	7,195	8,655	8,586	10,041	11,472	19,537
Current surplus	-1,447	-1,484	-1,959	-2,072	-2,503	-4,386	-5,501	-4,780	-5,518	-6,437	-13,726
Capital expenditure	670	1,020	1,558	1,493	1,765	3,536	4,959	3,445	4,708	3,890	6,496
Deficit	-2,117	-2,504	-3,517	-3,565	-4,268	-7,922	-10,460	-8,225	-10,226	-10,327	-20,222
Financed by:											
Transfer from Central Gov't	2,438	3,196	3,463	3,777	4,706	8,173	10,807	8,535	10,683	11,320	20,512
Grants and loans /b	(2,212)	(2,922)	(3,298)	(3,245)	(4,706)	(8,173)	(10,807)	(8,535)	(10,683)	(11,320)	(20,512)
Automobile registration fee /c	(226)	(274)	(167)	(532)	-	-	-	-	-	-	-
Loans and reserve funds /d	122	91	344	106	140	116	147	192	420	130	294
Cash balances	-443	-783	-298	-318	-578	-367	-494	-502	-877	-1,123	-584

/a Thai fiscal years ending September 30.

/b Grants and loans for financing fixed capital expenditure prior to FY74.

/c Automobile registration fees were collected by the Central Government and part of the proceeds were earmarked for transfer to Local Governments. In FY74 the entire fees were transferred to Local Governments.

/d Reserve funds held at Ministry of Interior against which Local Governments may borrow to finance approved projects.

Sources: Department of Local Administration (Ministry of Interior) and Bank of Thailand.

Table 5.7: STATE ENTERPRISES GROSS FIXED CAPITAL EXPENDITURES AND THEIR FINANCING
(Millions of baht)

	FY70 Actual	FY71 Actual	FY72 Actual	1973 Actual	FY74 Actual	FY75 Actual	FY76 Actual	FY77 Actual	FY78 Actual	FY79 Prelim.	FY80 Estim.
Power	<u>1,158</u>	<u>1,393</u>	<u>1,939</u>	<u>2,394</u>	<u>2,014</u>	<u>2,582</u>	<u>3,275</u>	<u>3,655</u>	<u>6,091</u>	<u>5,242</u>	<u>15,625</u>
Electricity Generating Authority /a	652	959	1,417	1,971	1,293	1,558	2,043	2,343	4,459	3,022	7,887
Metropolitan Electricity Authority	278	260	323	206	358	560	460	351	549	756	963
Provincial Electricity Authority	159	113	158	158	333	400	719	902	1,051	1,319	2,742
Petroleum Authority of Thailand /a	69	61	41	59	30	64	53	59	38	145	4,033
Transport and Communications	<u>1,116</u>	<u>960</u>	<u>547</u>	<u>710</u>	<u>1,208</u>	<u>1,305</u>	<u>1,688</u>	<u>3,080</u>	<u>5,744</u>	<u>6,987</u>	<u>7,984</u>
Airport Authority of Thailand /a	-	-	-	-	-	-	-	-	-	-	422
Thai Airways International Co., Ltd.	-	-	-	-	-	-	423	1,400	3,318	3,835	3,061
Thai Airways Co., Ltd.	83	35	73	1	3	4	3	164	56	73	257
State Railways of Thailand	276	251	129	202	471	418	225	182	111	630	651
Expressway and Rapid Transit Authority	-	-	-	-	-	-	18	28	173	514	1,017
Bangkok Mass Transit Authority	-	-	-	-	-	-	-	402	766	5	13
Port Authority of Thailand	125	53	79	178	155	263	139	105	51	125	171
Telephone Organization of Thailand	306	479	200	231	493	546	800	723	1,162	1,421	1,931
Communication Authority of Thailand /a	214	80	-	-	-	-	-	31	72	241	253
Other	112	62	66	98	86	74	80	45	35	143	218
Manufacturing	<u>103</u>	<u>71</u>	<u>85</u>	<u>118</u>	<u>181</u>	<u>213</u>	<u>241</u>	<u>517</u>	<u>352</u>	<u>344</u>	<u>848</u>
Thai Tobacco Monopoly	49	28	30	55	89	102	71	362	155	42	160
Thai Plywood Co., Ltd.	8	7	9	19	6	7	12	18	24	53	136
Mining Organization	-	-	-	-	-	-	8	8	8	8	10
Offshore Mining Organization /a	-	-	-	-	-	-	-	-	58	128	236
Industrial Estate Authority of Thailand	-	-	-	-	1	1	27	26	9	36	151
Other	46	36	46	44	85	103	123	103	98	77	153
Agriculture	<u>33</u>	<u>37</u>	<u>15</u>	<u>21</u>	<u>20</u>	<u>33</u>	<u>36</u>	<u>44</u>	<u>196</u>	<u>537</u>	<u>770</u>
Forest Industry Organization	20	17	10	10	7	7	20	15	87	141	315
Cold Storage and Ice Factory	-	-	-	-	-	10	5	7	13	223	191
Rubber Estate Organization	-	-	-	-	-	-	4	4	8	86	30
Other /b	13	20	5	11	13	16	7	18	88	87	234
Others	<u>95</u>	<u>135</u>	<u>241</u>	<u>377</u>	<u>262</u>	<u>244</u>	<u>821</u>	<u>2,102</u>	<u>3,564</u>	<u>2,811</u>	<u>4,300</u>
National Housing Authority	-	-	-	-	64	93	281	1,016	1,112	1,406	1,644
Metropolitan Water Works Authority	-	128	227	358	179	120	312	889	1,657	1,169	2,001
Provincial Waterworks Authority /a	-	-	-	-	-	-	195	146	703	94	334
Other	95	7	14	19	19	31	33	51	92	141	321
Total	<u>2,505</u>	<u>2,596</u>	<u>2,827</u>	<u>3,620</u>	<u>3,685</u>	<u>4,377</u>	<u>6,061</u>	<u>9,398</u>	<u>15,947</u>	<u>15,921</u>	<u>29,525</u>
Financed by:											
Own resources	1,643	1,429	1,052	955	1,467	1,163	1,419	3,410	4,461	3,877	7,482
Government grants and loans /c	539	746	449	473	430	408	1,799	709	1,968	1,663	4,383
Domestic borrowing /d	-	18	273	552	262	463	1,168	1,741	3,089	905	2,111
Government savings banks	-	-	8	139	-	11	-	104	8	-	-
Commercial banks	-	-	30	110	223	445	1,148	1,423	2,269	282	1,789
Other	-	18	235	330	39	7	20	214	812	623	322
External grants and loans	323	385	780	1,061	1,264	1,880	507	3,538	6,429	9,476	15,549

/a Yanhee Electricity Authority, Northeast Electricity Authority were merged into the Electricity Authority of Thailand (EGAT) on May 1, 1969. Oil Fuel Organization and Natural Gas Organization merged to Petroleum Authority of Thailand on December 20, 1978. Post and Telegraph had changed its name to be Communication Authority of Thailand on February 25, 1977. Provincial Waterwork Authority was established on December 24, 1979. Offshore Mining Organization was established on July 26, 1977.

/b Including expenditures on the Central Government's irrigation project administered by EGAT B 195 million, 146 million, 703 million, 461 million and 157 million in FY 1976-80.

/c Including disbursement from Syndicated loan B 1,104 million, 136 million, 925 million, 562 million and 2,571 million in FY1976-80, of which the Government repaid B 195 million, 371 million, 793 million, 504 million and 1,131 million in FY1976-80.

/d Bonds issued by EGAT for B 50 million in FY1972, B 234 million in FY1973, B241 million in FY1974, B 262 million in FY1975 and B 140 million in FY1976, and by National Housing Authority for B 500 million in FY1976 and B 500 million in FY1977 and by Telephone Organization of Thailand for B 18 million in FY1976, B 214 million in FY1977, B 216 in FY1978 B0.013 million in FY1979 and B 500 million in FY1980.

Source: Bank of Thailand.

Table 5.8: CENTRAL GOVERNMENT RECEIPTS, BUDGET FY 1977-80
(Millions of baht)

	1977	%	1978	%	% Change	1979	%	% Change	1980	%	% Change
			<u>/c</u>			<u>/c</u>			<u>/c</u>		
<u>Income</u>	50,372	73	62,000	77	23	72,000	78	16	88,000	81	22
Taxes and duties	43,002	63	54,352	67	27	62,959	68	16	78,878	72	25
Sales of goods & services	1,618	2	1,600	2	-1	2,382	3	49	2,230	2	6
Income from state enterprises <u>/a</u>	3,766	6	3,338	4	-11	3,635	4	9	4,102	4	13
<u>Loans</u>	13,730	20	16,800	21	22	16,700	18	-1	17,500	16	5
Bank of Thailand	7,730	11	8,600	11	11	7,600	8	-12	8,000	7	5
Government Savings Bank	1,700	3	2,400	3	41	2,500	3	4	3,200	3	28
Commercial banks, foundations, companies, private institutions	4,300	6	5,800	7	35	6,600	7	14	6,300	6	4
<u>Treasury Reserves</u> <u>/b</u>	4,590	7	2,200	3	-52	3,300	4	50	3,500	3	6
<u>Total</u>	<u>68,692</u>	<u>100</u>	<u>81,000</u>	<u>100</u>	<u>18</u>	<u>92,000</u>	<u>100</u>	<u>14</u>	<u>109,000</u>	<u>100</u>	<u>18</u>

/a Before netting subsidies to state enterprises budgeted for B 1,020 million in FY77 and 1,093 million in FY78.

/b In 1977 the amounts budgeted were B 2,590 reduction in cash balances and expenditure shortfall of B 2,000.

/c Based on budget estimates.

Source: Bureau of the Budget.

Table 5.9: FUNCTIONAL CLASSIFICATION OF CENTRAL GOVERNMENT
EXPENDITURE BUDGET, FY79/80
(Millions of baht)

Functional classification	FY79			FY80		
	Capital	Current	Total	Capital	Current	Total
Economic services	11,903	6,021	17,924	15,773	7,051	22,824
Education	5,340	12,459	17,799	6,779	15,804	22,583
Public health	894	2,986	3,880	1,037	3,503	4,540
Social security and welfare	1,441	4,596	6,037	2,244	5,439	7,683
Defense	-	19,001	19,001	-	22,350	22,350
Internal security	647	4,381	5,028	751	5,295	6,046
General administration	405	2,530	2,935	524	2,966	3,490
Debt services	-	10,033	10,033	-	12,393	12,393
Miscellaneous	900	8,463	9,363	900	6,191	7,091
<u>Total</u>	<u>21,530</u>	<u>70,470</u>	<u>92,000</u>	<u>28,008</u>	<u>80,992</u>	<u>109,000</u>

Source: Bureau of the Budget.

Table 6.1: EVALUATION OF MONETARY SITUATION - CALENDAR YEARS /a
(Millions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Monetary Position at Years' End										
Claims on Central Government	21,206	26,423	35,768	40,187	39,238	41,285	51,819	61,280	73,986	85,243
Less: Deposits of Central Government	<u>8,183</u>	<u>6,767</u>	<u>8,764</u>	<u>10,627</u>	<u>13,584</u>	<u>10,490</u>	<u>10,290</u>	<u>10,041</u>	<u>11,850</u>	<u>13,576</u>
Net Claims on Central Government	13,003	19,656	27,004	29,561	25,654	30,795	41,529	51,239	62,136	71,667
Claims on private sector	<u>27,842</u>	<u>30,816</u>	<u>34,578</u>	<u>49,406</u>	<u>66,211</u>	<u>81,448</u>	<u>96,876</u>	<u>124,869</u>	<u>160,911</u>	<u>196,535</u>
Domestic credit	40,865	50,472	61,582	78,967	91,865	112,243	138,405	176,108	223,047	268,202
Net foreign assets /b	15,916	15,581	19,950	21,644	29,788	28,400	27,475	20,857	9,878	14,848
Money	19,477	21,446	24,831	29,936	33,208	34,983	40,627	44,296	52,905	61,247
Quasi-money	<u>26,723</u>	<u>32,249</u>	<u>41,755</u>	<u>51,976</u>	<u>65,405</u>	<u>78,634</u>	<u>95,720</u>	<u>119,338</u>	<u>140,973</u>	<u>161,253</u>
Monetary resources	46,170	53,695	66,586	81,912	98,613	113,617	136,347	163,634	193,878	222,500
Capital accounts	10,955	12,539	14,273	17,113	21,651	27,245	29,487	34,494	42,366	63,035
of which: Bank of Thailand	(7,359)	(8,261)	(9,417)	(11,088)	(13,325)	(17,028)	(17,924)	(20,989)	(25,551)	(43,607)
Counterpart funds	295	216	345	384	340	298	319	303	-	-
Savings Bonds & Premium Bonds /c	1,231	1,308	1,406	1,551	1,530	1,515	1,539	1,585	1,683	1,765
Other (net) /d	-1,871	-1,706	-1,078	-349	-481	-2,032	-1,812	-3,051	-5,002	-4,250
Change During Year										
Net Claims on Central Government	4,550	6,633	7,348	2,557	-3,907	5,141	10,734	9,710	10,897	9,531
Claims on private sector	<u>4,920</u>	<u>2,974</u>	<u>3,762</u>	<u>14,828</u>	<u>16,805</u>	<u>15,237</u>	<u>15,428</u>	<u>27,993</u>	<u>36,042</u>	<u>35,624</u>
Domestic credit /b	9,470	9,607	11,110	17,385	12,898	20,378	26,162	37,703	46,939	45,155
Net foreign assets	-2,660	-335	4,369	1,694	8,144	-1,388	-925	-6,618	-10,979	4,970
Money	1,459	1,998	3,385	5,106	3,272	1,775	5,644	3,669	8,609	8,342
Quasi-money	<u>3,837</u>	<u>5,526</u>	<u>9,506</u>	<u>10,220</u>	<u>13,428</u>	<u>13,230</u>	<u>17,086</u>	<u>23,618</u>	<u>21,635</u>	<u>20,280</u>
Monetary resources	5,295	7,525	12,891	15,326	16,417	16,700	22,870	27,287	30,244	28,622
Capital accounts	1,817	1,584	1,734	2,840	4,538	5,594	2,242	5,007	7,872	20,669
of which: Bank of Thailand	(1,248)	(901)	(1,156)	(1,671)	(2,237)	(3,703)	(896)	(3,065)	(4,562)	(18,056)
Other (net) /b	-302	163	854	914	-196	-1,609	265	-571	-1,853	752

/a The term Central Government as used here includes the deposits and liabilities of some State enterprises (primarily public utilities and quasi-government agencies) at the Bank of Thailand. Deposits and liabilities of these enterprises at commercial banks are treated as part of the private sector, as are all the deposits and liabilities (i.e. both those at the Bank of Thailand and at the commercial banks) of the other State enterprises. Because of this method of classification, the statistics given here differ somewhat from those given for Central Government and public sector borrowing in Tables 5.5 and 5.2.

/b Beginning in 1971 Special Drawing Rights are included.

/c These bonds are held by private individuals and are therefore liabilities of the Government Savings Bank to the private (nonbank) sector.

/d Includes fixed assets and immovable properties of commercial banks, miscellaneous nonmonetary assets and liabilities of commercial banks, and adjustment for differences between exchange control and bank reporting figures.

Source: Bank of Thailand

Table 6.2: EVALUATION OF MONETARY SITUATION - QUARTERLY /a
(Millions of baht)

	1977				1978				1979			
	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
<u>Monetary Position at End of Quarter</u>												
Claims on Central Government	54,935	53,659	64,642	61,280	65,532	63,307	76,531	73,986	76,660	74,610	87,464	85,243
Less: Deposits of Central Government	13,389	13,593	20,307	10,041	13,880	13,592	21,739	11,850	13,763	14,411	24,055	13,576
Net Claims on Central Government	41,546	40,066	44,335	51,239	51,652	49,715	54,792	62,136	62,897	60,199	63,409	71,667
Claims on private sector	104,408	109,811	116,745	124,869	133,989	141,108	148,273	160,911	173,795	180,563	186,881	196,535
Domestic credit	145,954	149,877	161,080	176,108	185,641	190,823	203,065	223,047	236,692	240,762	250,290	268,202
Net foreign assets /b	29,577	28,072	23,502	20,857	23,586	20,922	13,797	9,878	20,250	18,193	14,448	14,848
Money	43,775	40,985	40,612	44,296	49,597	46,161	46,833	52,905	58,566	53,541	54,824	61,247
Quasi-money	101,215	107,220	113,506	119,338	123,797	130,558	133,489	140,973	145,290	151,746	153,915	161,253
Monetary resources	144,990	148,205	154,118	163,634	173,394	176,719	180,322	193,878	203,856	205,287	208,739	222,500
Capital accounts	31,708	31,521	32,869	34,494	37,814	38,771	40,583	42,366	57,953	58,489	60,822	(3,035)
of which: Bank of Thailand	(19,831)	(19,451)	(20,440)	(20,989)	(23,341)	(23,688)	(24,807)	(25,551)	(40,165)	(39,913)	(41,601)	(43,607)
Counterpart funds	314	309	308	303	300	-	-	-	-	-	-	-
Savings Bonds and Premium Bonds	1,552	1,558	1,572	1,585	1,626	1,651	1,672	1,683	1,723	1,736	1,764	1,765
Other (net)	-3,032	-3,646	- 4,284	- 3,051	-3,907	-5,396	-5,715	-5,002	-6,590	-6,557	-6,587	-4,250
<u>Change During Quarter</u>												
Claims on Central Government	+3,116	-1,276	+10,983	- 3,362	4,252	-2,225	13,224	-2,545	2,674	-2,050	12,854	-2,222
Less: Deposits of Central Government	+3,099	+ 204	+ 6,714	-10,266	3,839	- 288	8,147	-9,889	1,913	648	9,644	-10,479
Net Claims on Central Government	+ 17	-1,480	+ 4,269	6,904	413	-1,937	5,077	7,344	761	-2,698	3,210	8,258
Claims on private sector	+7,532	+5,403	+ 6,934	8,124	9,120	7,119	7,165	12,638	12,884	6,768	6,318	9,654
Domestic credit	+7,549	+3,923	+11,203	15,028	9,533	5,182	12,242	19,982	13,645	4,070	9,528	17,912
Net foreign assets /b	+2,102	-1,505	- 4,570	- 2,645	2,729	-2,664	-7,125	-3,919	10,372	-2,057	-3,745	400
Money	+3,148	-2,790	- 373	3,684	5,301	-3,436	672	6,072	5,661	-5,025	1,283	6,423
Quasi-money	+5,495	+6,005	+6,286	5,832	4,459	6,761	2,931	7,484	4,317	6,456	2,169	7,338
Monetary resources	+8,643	+3,215	+5,913	9,516	9,760	3,325	3,603	13,556	9,978	1,431	3,452	13,761
Capital accounts	+2,221	- 187	+1,348	1,625	3,320	957	1,812	1,783	15,587	536	2,333	2,213
of which: Bank of Thailand	(+1,907)	(- 380)	(+ 989)	(549)	(2,352)	(347)	(1,119)	(744)	(14,614)	(-252)	(1,688)	(2,006)
Other (net)	-1,202	- 613	- 625	1,241	-818	-1,764	-298	724	-1,548	46	-2	2,337

/a The term Central Government as used here includes the deposits and liabilities of some State enterprises (primarily public utilities and quasi-government agencies) at the Bank of Thailand. Deposits and liabilities of these enterprises at commercial banks are treated as part of the private sector, as are all the deposits and liabilities (i.e. both those at the Bank of Thailand and at the commercial banks) of the other State enterprises. Because of this method of classification, the statistics given here differ somewhat from those given for Central Government and public sector borrowing in Tables 5.5 and 5.2.

/b Beginning in 1971 Special Drawing Rights are included.

Source: Bank of Thailand.

Table 6.3: SELECTED DATA ON COMMERCIAL BANKS
(Millions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977				1978				1979			
	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
Total assets = total liabilities	41,187	48,834	60,069	78,363	98,752	117,878	139,631	149,783	155,056	161,285	173,277	186,170	194,920	202,263	218,241	225,190	232,325	243,239	252,731
Total deposits <u>/a</u>	31,885	37,759	47,746	58,372	73,486	86,559	106,418	113,522	118,772	124,364	131,080	138,645	144,810	149,119	158,524	163,732	166,755	166,880	175,625
Time deposits	20,931	25,771	33,293	30,741	52,063	63,893	78,944	83,934	90,073	95,968	99,772	103,524	108,703	113,850	117,770	119,782	123,557	124,929	129,364
As percent of total deposits	65.6	62.3	69.7	69.8	70.8	73.8	73.0	75.8	75.8	77.2	75.7	74.7	75.1	76.3	74.3	73.2	74.1	74.9	73.7
Borrowing from BOT	787	1,296	1,263	2,882	3,985	7,297	5,530	6,771	6,619	5,318	5,952	7,665	7,480	6,638	8,141	12,244	9,875	9,875	16,733
As percent of total liabilities	1.9	2.7	2.1	3.7	4.0	6.2	4.0	4.6	4.3	3.3	3.4	4.1	3.8	3.3	3.7	5.4	4.2	4.1	6.6
Borrowing from abroad	3,053	3,284	3,486	6,899	7,574	8,052	9,205	10,400	10,636	11,475	14,793	16,003	19,061	21,101	24,805	27,209	34,764	35,675	35,422
As percent of total liabilities	7.4	6.7	5.8	8.8	7.7	7.4	6.9	7.1	6.9	7.1	8.5	8.5	9.8	10.4	11.7	12.1	15.0	14.7	14.0
Cash and balances with BOT	2,466	2,986	3,456	3,682	5,314	6,553	6,372	6,822	6,897	6,296	7,092	7,294	8,134	7,559	8,594	7,972	7,900	7,377	7,894
As percent of total deposits	7.7	7.9	7.2	6.3	7.2	7.6	6.0	5.8	5.8	5.1	5.4	5.3	5.6	5.1	5.4	4.9	4.7	4.4	4.5
Government securities	5,897	8,261	13,792	14,897	15,772	17,581	20,911	21,573	22,123	22,311	22,263	24,915	23,776	25,324	24,439	25,854	24,476	22,769	23,862
As percent of total deposits	18.5	21.9	28.9	25.5	21.5	21.3	15.7	15.0	18.6	17.9	17.0	18.0	16.4	17.0	15.4	15.8	14.7	13.6	13.6
Liquid assets <u>/b</u>	7,732	11,228	17,819	17,800	18,028	21,45	28,662	31,015	22,091	31,622	32,944	35,059	35,913	35,319	36,283	35,620	39,615	37,388	38,877
As percent of total deposits	24.2	29.7	37.3	30.6	24.5	24.8	26.9	27.3	26.2	25.4	24.4	25.3	24.8	23.7	22.9	21.8	23.8	22.4	22.1
Loans, overdrafts and discounts	28,039	31,564	35,653	51,184	55,065	81,302	95,145	102,744	107,175	113,068	121,769	131,037	137,402	144,359	158,600	171,087	177,972	184,144	195,072
As percent of total deposits	87.9	83.6	74.7	87.7	92.0	93.9	89.4	90.5	90.2	90.9	92.9	94.5	94.9	96.8	100.0	104.5	106.7	110.3	111.1
Capital accounts	3,065	3,602	4,082	5,096	7,195	8,917	10,094	10,634	10,622	10,992	12,053	12,847	13,446	14,152	14,989	15,954	16,724	17,346	18,125
As percent of risk assets	10.5	11.0	11.5	10.0	10.0	11.3	11.2	10.9	10.6	10.4	10.7	10.8	10.7	10.7	10.4	10.5	10.6	10.7	10.7

/a Excludes interbank deposits

/b Comprises cash in hand, balance at BOT, balances at other noncommercial banks in Thailand, balances at banks abroad, gold and government securities other than those pledged or deposited as guarantee with the Bank of Thailand.

Source: Bank of Thailand

Table 6.4: BILLS, LOANS AND OVERDRAFTS OF COMMERCIAL BANKS CLASSIFIED BY PURPOSE /a
(millions of baht)

	1970	1971	1972	1973	1974	1975	1976	1977				1978				1979			
	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
Agriculture	638	743	771	990	1,305	2,224	4,121	4,428	4,824	5,806	6,341	6,935	7,533	8,316	8,657	8,613	9,332	10,123	10,775
Mining	408	427	419	468	542	608	1,116	717	1,003	786	668	1,093	816	861	1,079	1,428	1,022	1,143	1,252
Manufacturing	4,352	5,161	5,687	8,358	12,763	16,479	17,586	19,170	21,284	22,670	23,846	25,327	25,784	28,204	29,578	32,333	32,997	33,128	34,299
Construction	1,596	1,770	2,151	2,608	3,251	3,823	4,373	4,839	5,428	5,669	6,004	6,528	6,903	7,764	8,419	8,212	8,811	9,729	10,186
Real estate business	1,717	1,620	1,848	2,412	3,278	3,384	3,653	3,784	3,732	3,807	3,842	4,081	4,479	4,520	4,397	4,855	5,402	5,492	6,003
Imports	6,058	6,007	6,258	9,138	12,305	12,477	13,368	13,824	14,480	16,071	15,585	15,545	17,210	15,881	18,319	20,962	23,384	24,055	26,407
Exports	2,794	3,152	3,323	4,887	8,012	10,182	12,529	14,255	13,235	11,004	13,119	15,966	14,526	14,398	17,854	20,802	20,292	21,159	25,289
Wholesale & retail trade	6,038	7,229	8,226	12,215	13,569	16,175	20,813	22,801	23,202	26,253	28,130	30,740	32,686	35,849	38,498	42,650	44,379	45,359	44,358
Public utilities	324	474	388	605	794	920	1,306	1,346	1,579	2,045	2,631	3,118	3,313	3,678	3,959	4,167	3,279	4,804	4,503
Banking & other financial business	619	813	1,606	2,802	4,744	5,286	5,847	5,105	5,912	5,277	7,017	5,202	7,225	6,501	9,591	7,488	9,670	10,638	12,475
Services	1,527	1,969	2,074	2,318	3,079	3,542	4,067	4,186	4,513	4,759	5,426	5,554	5,645	5,993	6,312	6,772	7,571	6,857	6,913
Personal consumption	2,155	2,323	3,086	4,458	5,153	7,057	7,580	9,176	8,722	9,346	10,156	11,508	12,023	13,294	14,191	14,074	14,151	14,542	15,745
Others	9	23	10	31	21	52	19	31	31	26	45	20	59	42	26	130	77	97	159
Total	28,239	31,710	35,846	51,291	68,816	82,890	96,377	103,662	107,944	113,549	122,810	131,611	138,203	145,301	160,879	172,486	180,366	182,186	198,363

/a Including interbank transactions.

Source: Bank of Thailand.

Table 7.2: PROPORTION OF PLANTED AREA IN MAJOR CROPS
(in percentages)

	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78
Paddy	70.0	69.7	66.2	67.4	68.6	66.4	65.3	63.1	64.0	61.5	63.6	62.4	60.5
Rubber	10.0	9.2	11.8	11.3	11.2	11.3	11.4	11.5	10.5	10.8	10.1	10.6	9.9
Maize	6.1	6.1	6.7	6.3	6.2	7.4	8.8	8.6	8.8	9.6	9.4	9.4	8.1
Kenaf	4.1	5.0	3.5	2.4	3.4	3.7	4.0	4.1	3.3	3.1	2.3	1.2	1.7
Cassava	1.1	1.2	1.4	1.6	1.7	2.0	1.9	2.9	3.3	3.7	4.3	5.1	6.4
Sugarcane	1.5	1.2	1.5	1.7	1.1	1.2	1.2	1.6	2.0	2.4	2.8	3.6	3.8
Coconut	2.6	2.3	2.7	2.7	2.7	2.8	2.8	2.9	2.4	2.5	2.3	2.4	2.9
Other major crops	4.6	5.3	6.2	6.6	5.1	5.2	4.6	5.3	5.7	6.4	5.2	5.3	6.7
<u>Total</u>	<u>100.0</u>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table 7.1.

Table 7.3: PADDY AND RICE SUPPLY AND UTILIZATION, 1967-80
BY GLUTINOUS AND NONGLUTINOUS VARIETIES
(Million metric tons)

Crop year /a	Paddy Production			Milled rice equivalent /b			Stock change/c	Exports /d			Seed-feed-loss (15% milled product)			Popul. mid-year/e	Rice available for food & industry use			Apparent domestic rice utilization for food + industry (kilos per capita) Ng. + Gl.
	Total	Ng.	Gl.	Total	Ng.	Gl.		Total	Ng.	Gl.	Total	Ng.	Gl.		Total	Ng.	Gl.	
1967/68	9,625	6.80	2.80	6.25	4.05	2.20	-0.10	1.10	1.00	0.10	0.95	0.60	0.35	34.0	4.10	2.35	1.75	120
1968/69	10,430	6.85	3.55	6.80	4.45	2.35	-0.25	1.05	0.95	0.10	1.00	0.65	0.35	35.1	4.50	2.60	1.90	128
1969/70	13,410	8.60	4.85	8.70	5.60	3.10	-0.35	1.10	1.00	0.10	1.30	0.85	0.45	36.4	5.95	3.40	2.55	163
1970/71	13,570	8.40	5.15	8.80	5.45	3.35	+0.30	1.60	1.45	0.15	1.30	0.80	0.50	37.5	6.20	3.50	2.70	165
1971/72	13,744	8.90	4.85	8.95	5.80	3.15	+0.25	2.15	1.95	0.20	1.35	0.85	0.50	38.5	5.70	3.25	2.45	148
1972/73	12,413	8.35	4.05	8.05	5.40	2.65	+0.50	0.90	0.80	0.10	1.20	0.80	0.40	39.7	6.45	4.30	2.15	162
1973/74	14,898	10.10	4.80	9.70	6.55	3.15	-0.60	1.05	0.95	0.10	1.45	1.00	0.45	40.8	6.60	4.00	2.60	162
1974/75	13,386	9.00	4.40	8.70	5.85	2.85	-0.15	1.00	0.90	0.10	1.30	0.90	0.40	41.9	6.25	3.90	2.35	149
1975/76	15,300	10.10	5.20	9.95	6.55	3.40	+0.35	2.10	1.90	0.20	1.50	1.00	0.50	43.0	6.70	4.00	2.70	156
1976/77	15,070	10.30	4.80	9.80	6.70	3.10	+0.10	3.00	2.80	0.20	1.45	1.00	0.45	44.0	5.45	3.00	2.45	124
1977/78	14,010	10.10	3.90	9.10	6.55	2.55	-	1.60	1.45	0.15	1.35	1.00	0.35	45.1	6.15	4.10	2.05	136
1978/79	17,470	11.85	5.60	11.35	7.70	3.65	-0.10	3.00	2.80	0.20	1.70	1.15	0.55	46.1	6.55	3.65	2.90	142

/a Crop year begins July and ends June 30.

/b Paddy converted to rice at 0.65 x paddy production.

/c A minus change means a stock build-up during the CY; a plus change means a stock drawdown of nonglutinous rice only.

/d Exports are for calendar year; i.e., 1967/68 = 1968 CY exports; Glut. rice normally is less than 10% of total exports.

/e National Economic and Social Development Board.

Source: Ministry of Agriculture, Projects Division.

Table 7.4: RICE EXPORT PREMIUM
(Baht per metric ton)

	Mar 22, 1974 to Jun 25, 1974	Jun 26, 1974 to Oct 29, 1974	Oct 30, 1974 to Dec 22, 1974	Dec 25, 1974 to Jun 02, 1975	Jun 03, 1975 to Dec 03, 1975	Dec 04, 1975 to Jan 21, 1976	Jan 22, 1976 to Dec 15, 1977	Dec 16, 1977 to date
White rice 100%	5,100	4,500	3,750	2,100	1,700	1,000	700	900
White rice 5%	5,100	4,500	3,750	2,100	1,700	800	700	900
White rice 10%	4,600	4,000	3,250	1,700	1,300	700	500	700
White rice 15%	4,600	4,000	3,250	1,700	1,300	700	500	700
White rice 20%	4,600	4,000	3,250	1,700	1,300	700	500	700
White rice, lower than 20%	4,100	3,500	2,750	1,300	900	500	400	700
White broken rice, A1 super special	3,400	2,800	2,050	900	500	500	400	600
White broken rice, A1 super and special	2,350	2,000	1,250	600	200	200	200	500
White broken rice, A1 ordinary	2,350	2,000	1,250	600	200	200	200	500
White broken rice, C1 super, special & ordinary	2,050	1,700	1,000	500	100	100	100	500
White broken rice, C3	2,050	1,700	1,000	500	100	100	100	500
White broken rice, others	-	-	-	-	-	-	-	-
Glutinous rice, long grain 10%	4,100	3,500	3,000	1,600	1,200	700	400	900
Glutinous rice, long grain 15%	-	-	-	-	-	-	-	900
Glutinous rice, short grain 10%	4,100	3,500	3,000	1,600	1,200	700	400	900
Broken glutinous rice, A1 special	2,550	2,200	1,700	750	350	200	200	900
Broken glutinous rice, C1 special	2,550	2,200	1,700	750	350	200	200	900
Cargo rice, 100%	4,100	3,500	2,750	1,300	900	700	450	700
Cargo rice, 5%	4,100	3,500	2,750	1,300	900	700	450	700
Cargo rice, 10%, 15% and 25%	3,800	3,200	2,450	1,100	250	500	400	700
Cargo rice, lower than 20%	-	-	-	-	-	-	-	700
Broken cargo rice of all grades	2,050	1,700	1,000	500	100	100	100	500
Parboiled rice, 100% & 5%	3,600	3,000	2,250	1,050	450	400	400	700
Parboiled rice, 10% & 15%	3,400	2,800	2,050	1,050	450	200	200	700
Parboiled rice, 25%	3,400	2,800	2,050	1,050	450	200	200	700
Parboiled rice, lower than 25%	-	-	-	-	-	-	-	700
Broken parboiled rice of all grades	2,050	1,700	1,000	500	100	100	100	700
White rice flour	1,150	800	600	500	100	100	100	200
Glutinous rice flour: Fine	1,150	800	600	500	100	100	100	200
Ordinary	1,150	800	600	500	100	100	100	200
Vermicelli made from rice	600	400	300	200	-	-	-	100

- Notes: 1. Since January 22, 1976 the premium on exports of glutinous rice to Laos has been exempted.
2. Exporters were required to reserve rice for sale to the Government (mainly for domestic consumption) at a fixed price.
- (a) From December 25, 1974 to November 6, 1975 reserve 100% at B 2,750 per ton for white rice 5% and B 2,650 for white rice 10%.
- (b) From November 7, 1975 to December 3, 1975 reserve 50% at B 2,750 per ton for white rice 5% and B 2,650 for white rice 10%.
- (c) From December 4, 1975 to January 1, 1976 reserve 50% at B 3,150 per ton for white rice 5% and B 3,050 for white rice 10%.
- (d) From January 22, 1976 to October 18, 1976, there were no reserve requirements.
- (e) From October 19, 1976 to March 29, 1977 reserve 30% for white rice 100% and 5%, 15% for other rice rice, and 10% for broken rice to be delivered in the ratio 40% of 5% white rice at B 3,800 per ton and 60% of 15% white rice at B 3,000 per ton.
- (f) From March 30, 1977 to July 29, 1977, 20% for white rice 100% and 5%, 10% for others, except 5% for broken rice other than A-1 special delivered in same proportion and prices as (e).
- (g) From July 21, 1977 to November 18, 1977, 40% for white rice 100% and 5%, 20% for others except 10% for broken rice other than A-1 special delivered in 15% white rice at B 3,000 per ton.
- (h) From November 18 onwards, 50% for white rice 100% and 5%, 30% for other white rice, broken A-1 prime special, glutinous rice, and 20% of others delivered at 15% white rice at B 3,000 per ton.

Table 7.5: EXPORT AND DOMESTIC WHOLESALE PRICES OF
RICE FOR SELECTED GRADES
(B/metric ton)

Year	White rice 5%		White rice 25%		Price difference 5-25%	
	f.o.b.	Wholesale	f.o.b.	Wholesale	f.o.b.	Wholesale
1969	3,860	2,205	3,324	1,724	536	481
1970	2,989	1,905	2,591	1,580	398	325
1971	2,706	1,578	1,959	1,398	747	180
1972	3,092	1,974	2,163	1,697	929	277
1973	3,884	2,865	2,914	2,371	970	494
1974	10,976	3,773	10,001	3,646	975	127
1975	7,370	3,723	6,340	3,558	1,030	165
1976	n.a.	3,823	n.a.	3,600	n.a.	223
1977	5,417	3,866	4,326	3,569	1,091	297
1978	7,186	4,250	4,708	3,798	2,478	452
1979	6,956	4,522	4,893	4,195	2,063	327

Sources: Ministry of Commerce, Department of Business Economics (f.o.b. prices). Department of Internal Trade (wholesale prices).

Table 7.6: AVERAGE WHOLESALE PRICES (BANGKOK) OF SELECTED AGRICULTURAL COMMODITIES

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
<u>Crop</u>											
Nonglutinous, paddy, No. 2/a	1,093	1,011	848	1,101	1,538	2,248	2,310	2,254	2,261	2,469	2,584
Nonglutinous, rice (5%) /a	2,205	1,905	1,578	1,822	2,865	3,773	3,723	3,822	3,866	4,250	4,522
Nonglutinous rice (20%) /a	1,747	1,614	1,429	1,718	2,408	3,680	3,520	3,641	3,610	3,849	4,263
A1 broken (super) /a	1,186	1,197	1,022	1,513	1,962	2,808	2,682	2,480	2,733	2,842	3,026
Glutinous, rice (10%)/a	1,730	1,172	1,136	1,762	3,055	3,440	3,540	3,740	3,737	n.a.	n.a.
Maize /a	1,105	1,230	1,189	1,160	1,785	2,558	2,482	2,208	2,091	2,165	2,651
Mungbean, large /b	2,520	2,650	4,050	4,050	4,860	5,480	7,240	10,150	n.a.	n.a.	n.a.
Cassava, (tapioca flour), high grade /a	1,757	1,813	2,140	2,236	2,717	3,747	3,506	3,429	3,685	3,217	5,884
Cassava, pellets /a	699	762	817	828	1,033	1,195	1,571	1,688	1,543	1,450	2,493
Sesame (black), good /b	4,990	4,940	4,896	6,034	8,060	7,760	10,450	13,190	n.a.	n.a.	n.a.
Groundnuts (shelled), good /b	4,200	4,010	4,290	5,470	6,510	8,930	9,130	8,888	n.a.	n.a.	n.a.
Cotton, large /b	4,090	4,020	4,910	5,550	7,230	10,080	7,340	10,200	n.a.	n.a.	n.a.
Kapok (ginned), good /b	7,642	7,770	8,330	8,320	7,820	10,230	10,490	n.a.	n.a.	n.a.	n.a.
Kenaf, high grade /a	3,040	2,967	3,650	4,861	3,765	3,630	3,981	4,500	5,838	5,148	5,784
Sugarcane /b	136	145	150	180	200	299	300	300	n.a.	n.a.	n.a.
Rubber No. 1 /a	8,139	6,740	5,495	5,500	9,880	9,753	8,510	10,941	11,870	13,950	17,620
Rubber No. 3 /a	7,995	6,580	5,295	5,300	9,680	9,553	8,310	10,841	11,756	13,850	17,520

Sources: /a Bank of Thailand, Monthly Bulletin, various issues.

/b Ministry of Commerce, Department of Business Economics.

Table 7.7: DEVELOPMENT OF PRODUCER PRICES OF MAJOR COMMODITIES IN THAILAND, 1968-78

Year	Producer Prices, B/kg									
	Rice	Sugarcane	Rubber	Tobacco	Cassava	Maize	Sorghum	Mungbeans	Kenaf	Cotton
1968	0.97	0.11	5.49	13.46	0.33	0.71	0.75	2.73	1.89	3.75
1969	0.86	0.11	6.94	15.27	0.54	0.76	0.79	1.81	1.31	3.64
1970	0.63	0.11	5.72	15.18	0.47	0.84	0.84	2.30	1.68	3.85
1971	0.80	0.11	4.74	15.09	0.52	0.70	0.75	2.24	2.24	3.87
1972	1.31	0.11	4.77	15.74	0.47	0.86	0.91	2.57	2.83	4.45
1973	1.96	0.13	6.86	21.69	0.34	1.35	1.16	2.68	2.62	5.46
1974	2.23	0.18	7.38	21.74	0.30	2.06	1.85	1.54	2.35	6.75
1975	1.98	0.25	6.42	23.50	0.41	1.85	1.69	3.74	2.65	6.39
1976	1.87	0.28	9.15	24.14	0.46	1.67	1.49	4.98	2.99	6.07
1977	2.12	0.27	9.49	29.98	0.46	1.61	1.51	6.99	2.63	7.57
1978	2.53	0.27	10.74	30.24	0.36	1.64	1.53	5.64	2.91	-

Source: Ministry of Agriculture, Office of Agricultural Economics.

Table 7.8: APPARENT FERTILIZER CONSUMPTION, 1966-78
(metric tons)

Year	Opening inventory /a	Imports	Domestic production /b	Industrial use	Closing inventory /a	Apparent consumption /c	Nutrient Content		
							N	P ₂ O ₅	K ₂ O
1966	n.a.	141,428	20,275	1,383	n.a.	160,320	24,595	16,235	7,748
1967	"	218,244	36,187	1,696	"	252,738	44,485	28,056	13,152
1968	"	265,686	28,635	2,939	"	291,382	47,962	39,010	15,652
1969	"	265,830	20,049	3,965	"	281,914	42,839	41,480	20,272
1970	"	249,641	43,522	5,029	"	288,134	44,097	37,741	27,990
1971	"	226,544	39,568	7,189	"	258,923	44,242	26,933	21,728
1972	"	383,303	40,762	6,300	"	417,765	66,617	60,436	25,277
1973	"	398,863	34,351	7,246	"	425,968	67,914	62,870	23,732
1974	"	342,934	44,804	8,300	"	379,438	60,012	52,746	17,433
1975	50,000	465,958	54,695	12,300	125,000	433,353	70,394	56,916	18,996
1976	125,000	679,484	74,192	13,250	250,000	615,426	105,541	73,650	21,565
1977	250,000	952,476	74,211	13,020	400,000	863,667	149,553	110,547	30,402
1978	400,000	846,366	70,558	15,380	337,000	964,544	167,940	134,304	37,423

/a For 1975-78, opening inventory and closing inventory are IFDC estimates.

/b Data include Mae Moh, Bureau of Bangkok Municipal Fertilizer and estimated phosphate rock production. The years 1975, 1976, 1977 and 1978 include filler (clay) used in granulation plants - estimated at 20,000; 26,000; 25,000; and 33,000 tons, respectively.

/c No provision is made for product losses in handling in calculating apparent consumption.

Source: Ministry of Agriculture, Office of Agricultural Economics and IFDC estimates.

Table 7.9: FERTILIZER USE, BY CROP AND BY REGION. 1971 AND 1975
(¹000 metric tons)

	North	Northeast	Central Plain /a	South	Kingdom	% of Kingdom
<u>Rice</u>						
1971	4.12	80.61	61.60	16.28	180.25	69
1975	6.87	86.81	136.91	12.18	242.77	51
Annual growth (%)	13.60	1.90	22.10	-7.00	7.70	
<u>Field crops /b</u>						
1971	7.24	7.09	29.57	2.08	51.33	20
1975	27.71	15.61	73.51	2.06	118.89	25
Annual growth (%)	39.90	21.80	25.60	-0.20	23.40	
<u>Other /c</u>						
1971	2.84	0.89	10.03	16.28	29.04	11
1975	1.94	3.57	56.88	53.97	116.36	24
Annual growth (%)	-9.10	41.50	54.30	34.90	41.50	
<u>Total</u>						
1971	14.20	88.59	123.20	34.64	260.62	100
1975	36.52	105.99	267.30	68.21	478.02	100
Annual growth (%)	26.60	4.60	21.40	18.50	16.40	
% of Kingdom	5.40	34.00	47.30	13.30	100.00	

/a Includes Lower North.

/b Maize, sorghum, sugarcane, cassava, kenaf, cotton, tobacco, mung beans, soybeans, peanuts, watermelon pineapple, yam, sweet potato, potato.

/c Coconut, rubber, oil palm, fruit trees and flowering plants.

Source: Ministry of Agriculture, Office of Agricultural Economics.

Table 7.10: NUTRIENT TO CROP PRICE RATIOS FOR SELECTED FERTILIZERS AND CROPS, 1968-78

Year	Nutrient Price, B/kg				Nutrient:Crop Price Ratio				
	21-0-0	16-20-0	13-13-21	15-15-15	16-20-0: Rice	21-0-0: Sugarcane	13-13-21: Sugarcane	21-0-0: Cassava	15-15-15: Cassava
1968	9.76	6.75	5.62	6.20	6.96	88.73	51.09	29.58	18.79
1969	8.90	6.39	5.51	6.04	7.43	80.91	50.09	16.48	11.19
1970	8.90	6.61	5.51	6.04	10.49	80.91	50.09	18.94	12.85
1971	8.81	6.25	5.64	5.84	7.81	80.09	51.27	16.94	11.23
1972	8.81	6.72	6.26	6.11	5.13	80.09	56.91	18.74	13.00
1973	12.14	9.36	8.47	7.76	4.78	93.38	65.15	35.71	22.82
1974	20.05	15.39	11.17	11.38	6.90	111.39	62.06	66.83	37.93
1975	18.38	13.89	11.98	12.42	6.51	73.52	47.92	44.83	30.29
1976	12.00	10.50	10.06	10.40	5.61	42.86	35.93	26.09	22.61
1977	12.29	10.36	9.66	10.04	4.89	45.52	35.78	26.72	21.83
1978	14.19	11.11	10.60	10.69	4.39	52.56	39.26	39.42	29.69

Source: Ministry of Agriculture, Office of Agricultural Economics.

Table 7.11: ILLUSTRATION OF YIELD RESPONSE OF RICE AND ECONOMIC RETURNS TO FERTILIZER, 1978

Region	Nutrient rate, kg/ha			Nutrient Cost, B/ha	Yield increase		Increased value, B/ha	Avg value: Cost ratio
	N	P ₂ O ₅	K ₂ O		kg/ha	kg/kg N		
<u>Local Varieties</u>								
Central	32	20	-	627	550	10.6	1,392	2.22
Central	41	20	32	1,061	890	9.6	2,252	2.12
Northern	41	20	32	1,061	645	6.9	1,632	1.54
Northeastern	50	26	42	1,337	730	6.2	1,847	1.38
Southern	39	18	29	987	558	6.5	1,412	1.43
<u>High-Yielding Varieties</u>								
Central	30	10	-	512	465	11.6	1,176	2.30
Central	74	-	-	1,050	980	13.2	2,479	2.36
Central	71	20	-	1,181	750	8.2	1,898	1.61
Northern	26	13	21	682	680	11.3	1,720	2.52
Northern	48	-	-	682	530	11.0	1,341	1.97
Northeastern	32	16	25	831	475	6.5	1,202	1.45
Southern	77	20	-	1,066	1,065	11.0	2,694	2.53

Source: Fertilizer rates and yields reported by NESDB; economic returns recalculated based upon 1978 prices.

Table 7.12: REPLANTING OF RUBBER

Year of approval	Total Replanting		Rubber		Other Crops	
	No. of holdings	Area (ha)	No. of holdings	Area (ha)	No. of holdings	Area (ha)
1961	1,311	3,910	1,219	3,822	92	88
1962/a	7,420	12,348	7,140	12,121	280	227
1963	1,782	3,574	1,640	3,445	142	129
1964	3,886	6,004	3,658	5,829	228	175
1965	3,377	4,937	3,060	4,681	317	256
1966	2,773	3,869	2,493	3,655	280	214
1967	4,393	6,071	3,920	5,691	473	380
1968	7,511	10,959	6,629	10,242	882	717
1969	8,787	12,340	7,962	11,535	825	805
1970	9,187	12,904	8,685	12,373	502	531
1971	13,799	19,143	12,877	18,092	922	1,051
1972	18,853	24,826	17,596	23,514	1,257	1,312
1973	21,159	26,086	19,731	24,756	1,428	1,330
1974	16,737	21,437	15,732	20,503	1,005	934
1975	18,644	23,542	17,670	22,677	974	865
1976	19,363	25,764	18,442	24,887	921	877
1977	29,480	36,473	28,911	36,021	569	452
1978	36,847	44,729	34,136	42,493	2,711	2,236
1979/b	40,167	50,000	38,159	47,500	2,008	2,500
<u>Total</u>	<u>265,476</u>	<u>348,916</u>	<u>249,660</u>	<u>333,837</u>	<u>15,816</u>	<u>15,079</u>

/a 1962 replanting includes 5,412 holdings damaged by windstorm and given priority assistance.

/b Estimate.

Source: Office of the Rubber Replanting Aid Fund.

Table 8.1: PRODUCTION AND CAPACITY OF SELECTED MANUFACTURING INDUSTRIES

	Production											Production capacity		
	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1972	1973	1974
Sugar (1,000 metric tons)	320.0	406.6	580.0	585.6	725.0	968.0	1,105.8	1,603.6	2,212.3	1,584.5	1,795.2	675.0	988.0	1,666.0
Beer (million liters)	14.4	36.3	32.1	33.9	43.2	44.5	61.3	75.0	103.0	108.4	156.2	100.0	100.0	100.0
Tobacco (1,000 metric tons)	10.1	15.3	16.1	16.8	19.4	20.2	22.6	24.6	23.5	23.9	27.2	22.4	n.a.	n.a.
Man-made fabrics, woven (million sq yds)	2.7	77.4	145.4	208.5	287.0	278.0	337.5	437.5	463.1	628.0	656.0	n.a.	n.a.	n.a.
Cotton fabrics (million sq yds)	227.9	365.5	450.2	481.3	566.9	529.4	574.4	699.7	806.6	758.0	781.0	610.0	645.0	710.0
Gunny bags (million units)	40.4	52.7	63.7	81.6	91.2	110.1	107.4	97.0	111.0	144.9	n.a.	84.0	150.0	150.0
Knitting (million sq yds) /a	-	53.0	70.4	110.5	168.7	203.7	237.8	278.8	318.6	376.5	366.0	n.a.	n.a.	n.a.
Plywood (million sheets)	n.a.	3.0	3.2	3.5	3.6	3.1	3.0	2.9	4.3	2.3/b	n.a.	10.8	10.8	10.8
Paper (100 metric tons)	n.a.	31.7	37.7	42.4	39.7	33.8	25.1	26.4	30.9	33.4	n.a.	43.3	45.0	45.0
Cement (million metric tons)	1.2	2.6	2.8	3.4	3.7	3.9	4.0	4.4	5.1	5.0	n.a.	4.2	4.2	4.2
Galvanized iron sheets (1,000 metric tons)	65.5	85.5	97.3	103.8	86.1	72.1	83.1	88.8	101.7	84.8	101.5	192.0	192.0	192.0
Detergents (1,000 metric tons)	n.a.	27.1	32.2	40.0	46.6	37.2	44.6	53.6	59.0	60.9	n.a.	54.3	54.3	54.3
Chemical fertilizers (1,000 metric tons)	n.a.	39.8	38.0	31.1	23.2	30.6	153.3	17.6	144.5	n.a.	n.a.	88.2	n.a.	n.a.
Acetylene (metric tons)	n.a.	79.0	143.0	131.0	110.0	55.0	80.0	157.0	230.0	78.0/b	n.a.	80.0	n.a.	n.a.
Sulphuric acid (1,000 metric tons)	n.a.	15.0	14.3	47.3	47.1	46.9	37.8	41.7	48.2	25.7/b	n.a.	48.0	n.a.	n.a.
Petroleum products (billion liters)	n.a.	3.9	5.4	6.6	7.8	6.8	7.6	8.4	8.8	8.9	9.4	7.9	8.7	8.7
Motor vehicle assembly (1,000 units)	10.1	10.6	15.0	19.4	17.4	27.1	31.0	47.6	65.2	37.3/b	n.a.	53.0	53.0	53.0
Motorcycle assembly (1,000 units)	-	-	-	34.4	56.6	66.8	83.9	99.0	148.6	133.7/c	n.a.	68.0	68.0	68.0

n.a. = not available.

/a Total man-made and cotton fabrics.

/b 6 months.

/c 9 months.

Sources: Ministry of Industry and Bank of Thailand.

**Table 8.2: GROSS DOMESTIC PRODUCT ORIGINATING
FROM MANUFACTURING AT CURRENT MARKET PRICES
(Billions of baht)**

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Food	5.0	5.3	5.0	6.7	10.0	12.5	14.1	15.0	14.5	15.9
Beverages	2.2	2.2	2.5	3.1	4.3	4.3	5.3	6.4	7.7	9.6
Tobacco and snuff	2.0	2.4	2.6	2.9	3.7	4.1	4.8	5.7	6.0	6.5
Textiles	1.7	2.3	3.4	4.1	5.0	4.7	5.3	6.5	8.0	9.5
Wearing apparel and made-up textile goods	1.1	1.6	1.8	2.5	3.0	4.2	5.1	6.0	8.5	10.8
Wood and cork	0.6	0.6	0.7	1.0	1.5	1.4	1.7	1.8	1.7	1.9
Furniture and fixtures	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.8	1.0	1.2
Paper and paper products	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.7	0.9	0.9
Printing, publishing and allied industries	0.6	0.6	0.7	1.0	1.5	1.5	1.6	1.6	1.9	2.1
Leather and leather products (and footwear)	0.1	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.4
Rubber and rubber products	0.4	0.5	0.5	0.6	1.0	1.1	1.5	1.9	2.2	3.0
Chemicals and chemical products	1.5	1.6	1.8	2.0	2.4	2.9	3.3	4.3	5.0	5.7
petroleum refining and coal	1.6	2.1	2.4	3.0	4.2	4.9	5.3	6.1	7.5	13.3
Nonmetallic mineral products	1.4	1.5	1.6	2.0	2.4	2.8	3.4	4.7	5.8	6.9
Basic metals	0.3	0.3	0.4	0.8	1.1	1.0	1.2	1.6	2.0	2.6
Metal products (excl. machin- ery and transport equipment)	0.5	0.6	0.7	1.1	1.1	0.8	1.0	1.3	1.9	2.8
Nonelectrical machinery	0.4	0.5	0.6	0.7	0.9	0.8	1.0	1.1	1.3	1.6
Electrical machinery and supplies	0.3	0.3	0.4	0.5	0.6	0.7	1.2	1.5	1.9	2.7
Transport equipment	1.1	1.1	1.4	2.3	3.3	3.7	4.4	5.8	7.7	9.0
Miscellaneous, n.e.s.	0.5	0.6	0.6	0.7	0.6	1.2	1.5	1.6	1.9	2.4
<u>Total Value Added</u>	<u>21.8</u>	<u>24.9</u>	<u>27.9</u>	<u>35.6</u>	<u>46.4</u>	<u>53.9</u>	<u>63.0</u>	<u>74.7</u>	<u>87.7</u>	<u>108.9</u>

/a Preliminary.

Note: Totals may not add because of rounding.

Source: NESDB.

**Table 8.3: GROSS DOMESTIC PRODUCT ORIGINATING
FROM MANUFACTURING AT CONSTANT PRICES
(Billions of 1972 baht)**

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979/a
Food	4.8	5.2	5.2	5.4	6.0	6.3	7.3	8.4	8.6	8.9
Beverages	3.0	2.2	2.5	3.0	3.7	3.3	4.0	5.0	5.5	6.7
Tobacco and snuff	2.4	2.5	2.6	3.0	3.1	3.4	3.7	3.5	3.6	3.8
Textiles	2.2	2.7	3.4	4.2	4.5	5.1	5.7	6.3	7.5	8.3
Wearing apparel and made-up textile goods	1.1	2.5	1.7	1.9	1.9	2.7	3.3	3.6	4.8	5.8
Wood and cork	0.7	0.8	0.7	0.8	0.9	0.9	1.0	1.0	0.8	0.8
Furniture and fixtures	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.5
Paper and paper products	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.6	0.7	0.7
Printing, publishing and allied industries	0.5	0.6	0.7	0.8	1.0	1.0	1.3	1.3	1.4	1.5
Leather and leather products (and footwear)	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Rubber and rubber products	0.4	0.5	0.5	0.6	0.7	0.9	1.0	1.3	1.4	1.5
Chemicals and chemical products	1.5	1.5	1.6	1.7	1.6	2.0	2.3	3.1	3.4	3.8
Petroleum refining and coal	1.4	2.0	2.4	2.8	2.5	2.8	3.1	3.2	3.3	3.4
Nonmetallic mineral products	1.2	1.3	1.6	1.9	2.0	2.2	2.4	2.9	3.2	3.4
Basic metals	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.6	0.7
Metal products (excl. machin- ery and transport equipment)	0.4	0.5	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.5
Nonelectrical machinery	0.5	0.6	0.6	0.6	0.7	0.6	0.8	0.9	0.9	1.0
Electrical machinery and supplies	0.3	0.3	0.4	0.4	0.4	0.5	0.7	0.8	0.9	1.0
Transport equipment	1.2	1.2	1.4	1.8	2.4	2.4	3.0	3.8	4.2	4.5
Miscellaneous, n.e.s.	0.5	0.6	0.6	0.6	0.4	0.8	1.0	1.0	1.0	1.2
Total Value Added	23.3	25.2	27.9	31.5	33.6	36.8	42.5	48.1	52.8	58.0

/a Preliminary.

Note: Totals may not add because of rounding.

Source: NESDB.

Table 8.4: STATISTICS OF PROMOTED INVESTMENT /a

	Number of applications received	Number of applications approved /b	Number of promotion certificates issued /c	Investment /d (million baht)	Registered capital of promoted firms (million baht)			Number of projects starting operations	Number of new firms starting operations
					Thai owned	Foreign owned	Total		
Oct 1960- Dec 1967	n.a.	n.a.	340	12,466	2,627	1,145	3,772	n.a.	n.a.
1968	252	149	105	2,562	336	279	615	82	73
1969	242	121	86	4,157	801	445	1,246	89	80
1970	117	94	91	2,605	590	263	852	67	56
1971	103	52	76	1,496	410	178	588	59	43
1972	180	116	70	4,079	772	236	1,008	47	36
1973	552	325	116	7,773	988	296	1,284	58	40
1974	228	176	251	18,021	2,804	939	3,740	108	84
1975	111	83	86	4,638	907	311	1,217	69	52
1976	119	61	66	1,987	718	152	870	n.a.	83
1977	264	102	69	2,642	542	114	657	n.a.	48
1978	342	202	128	15,918	2,207	377	2,584	n.a.	54
1979	338	233	154	24,348	6,112	1,359	7,471	n.a.	n.a.

n.a. = not available.

/a Includes hotels and service industries such as cold storage, and, in recent years, mineral exploration. Over the past ten years, such nonmanufacturing investments have accounted for 8.7% of total investment in promoted industries.

/b When an application for investment promotion has been approved, the applicant is notified in writing of the privileges and conditions under which promotion is granted. The letter of notification will usually specify a six-month time limit for the applicant to satisfy the qualifying conditions (incorporation of the company, commercial registration, etc.). Two months are generally required, after submission of the application, to be notified of the Board's decision.

/c The Promotion Certificate, which is, in effect, the contract for investment promotion between the investor and the Royal Thai Government, is issued to the investor once he has complied with all the terms and conditions specified in the notification of approval. A two-year period is usually allowed to start operations. If operations do not start during this period, the certificate may be withdrawn.

/d Refers to projects approved and granted a promotion certificate; figures for investment projects actually implemented are not available.

/e January-June.

Source: Board of Investment.

Table 8.5: MINERAL PRODUCTION
(Thousands of metric tons)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Tin concentrates	31.2	32.8	28.8	29.7	29.6	30.1	28.6	27.8	22.4	27.9	33.0	41.2	46.4
Wolfram ore (tungsten)	0.8	1.0	1.3	1.4	4.9	6.5	5.0	4.3	3.5	4.0	4.3	6.2	3.5
Iron ore	549.2	499.5	477.4	22.5	39.5	27.8	36.3	36.3	32.5	25.0	63.5	88.1	10.3
Lead ore	8.2	6.5	4.2	3.0	5.5	4.3	8.7	3.6	3.6	2.1	1.3	3.9	20.5
Antimony	2.4	0.8	1.7	5.7	5.4	11.3	8.2	10.3	7.7	9.1	6.1	6.8	6.9
Manganese ore	79.1	41.0	29.9	23.9	14.0	19.8	36.3	30.2	25.2	50.2	77.0	67.2	35.3
Gypsum	61.7	128.1	92.0	144.2	167.9	87.8	236.3	311.8	255.2	267.8	380.1	280.9	595.4
Lignite	335.3	305.3	347.8	399.9	445.1	345.5	361.0	484.7	462.3	680.3	438.6	638.9	1,536.5
Fluorite ore	133.2	245.1	297.6	317.8	426.5	395.0	398.0	420.2	286.2	200.4	239.8	259.8	236.4
Marl	1,213.6	1,624.2	1,533.9	622.8	489.7	372.2	245.8	226.7	467.5	435.0	584.7	1,459.7	2,261.7

Source: Bank of Thailand.

Table 8.6: ENERGY CONSUMPTION BY SOURCE OF ENERGY
(Kilo calories x 10¹²)

Year	Petroleum products	Hydro- electric	Coal	Fuel wood	Charcoal	Paddy husk	Bagasse	Total
1967	29.8	4.5	1.2	0.7	0.7	0.5	1.0	38.4
1968	39.4	4.1	1.3	0.7	0.6	0.4	1.9	48.3
1969	42.6	3.1	1.4	0.4	0.5	0.3	2.2	50.6
1970	46.5	5.3	1.5	0.5	0.6	0.4	2.7	57.5
1971	58.4	6.1	1.7	0.6	0.6	0.4	2.6	70.4
1972	68.3	5.6	1.4	0.5	0.4	0.3	3.1	79.6
1973	77.8	6.1	1.4	0.5	0.4	0.4	4.2	90.8
1974	75.4	7.8	2.2	0.4	0.2	0.4	5.6	91.9
1975	78.0	10.6	2.2	0.4	0.1	0.4	5.9	97.6
1976	88.1	11.3	2.5	0.4	0.2	0.4	8.4	111.3
1977	98.6	10.2	2.3	0.4	0.2	0.4	8.3	120.4
1978	106.1	6.9	2.9	0.3	0.2	0.4	10.4	127.3

Source: National Energy Authority.

Table 8.7: TOURISM - BASIC DATA

	1965	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Foreign visitors (in thousands)	225.0	469.8	628.7	638.7	820.8	1,037.7	1,107.4	1,180.1	1,098.4	1,220.7	1,453.8
<u>Nationality</u>											
United States	73.8	133.3	159.2	147.0	151.6	161.4	156.8	116.2	116.7	124.1	131.4
of which: R&R	(15.0)	(70.7)	(44.3)	(26.6)	(7.7)	(4.4)	(3.5)	-	-	-	-
Japan	17.3	42.9	47.0	55.8	93.5	151.9	132.7	147.0	150.5	174.0	193.7
Malaysia	18.4	59.6	105.0	128.9	162.6	190.8	197.5	227.8	161.2	217.4	243.4
Germany	7.4	20.2	28.0	35.8	52.7	62.7	69.4	78.1	86.0	79.1	91.5
UK	20.3	31.3	37.0	37.7	46.9	58.3	65.4	76.4	72.7	72.0	98.5
France	6.7	12.7	21.1	17.9	31.7	45.0	42.6	46.9	48.5	51.1	64.0
Australia	10.1	22.2	28.2	26.4	31.9	48.2	75.8	78.9	80.5	69.5	67.5
Other	66.5	147.5	203.2	188.6	250.0	319.4	367.2	408.8	382.3	433.5	563.8
Average length of stay (days)	4.8	4.9	4.8	4.9	4.9	4.7	4.8	5.1	5.1	4.5	4.8
Hotel capacity in Bangkok (rooms)	2,469	7,984	8,763	9,127	9,028	9,746	9,861	10,331	10,485	11,104	11,286
Foreign exchange earnings (millions of Baht)	506	1,770	2,175	2,214	2,718	3,457	3,852	4,538	3,990	4,607	8,895
of which: R&R of US troops	(50)	(459)	(390)	(240)	(63)	(13)	(11)	-	-	-	-

Source: Tourist Organization of Thailand.

Table 8.8: REALIZED RATES OF EFFECTIVE PROTECTION, 1969, 1971, 1974 /a
MAJOR CATEGORIES AND SELECTED ITEMS
 (percent)

	1969		1971		1974		1978
	Balassa	Corden	Balassa	Corden	Balassa	Corden	Corden
<u>Processed Food</u>	<u>-66.5</u>	<u>-48.3</u>	<u>-10.1</u>	<u>-0.3</u>	-	-	-
Sugar	-	-	-9.8	2.9	-90.4	-84.0	-20.3
Sweet condensed milk	-	-	3.9	3.4	/b	1,766.1	33.6
Wheat flour	-	-	/b	186.6	153.9	30.3	466.6
Fruit canning	-	-	-56.7	-28.4	-34.2	-8.0	n.a.
Animal feeds	-	-	-10.6	-8.0	-11.0	-8.4	-2.1
<u>Beverages and Tobacco</u>	<u>-18.9</u>	<u>-16.5</u>	<u>177.9</u>	<u>107.4</u>	-	-	-
Beer	-	-	234.3	35.6	115.9	65.3	39.7
Cigarettes	-	-	n.a.	n.a.	-12.2	-12.1	-25.3
<u>Construction Materials</u>	<u>-6.9</u>	<u>-5.8</u>	<u>-17.6</u>	<u>-16.1</u>	-	-	-
Cement (Domestic sales)	-	-	-17.6	-16.1	-45.0	-42.9	n.a.
(Export sales)	-	-	-17.6	-16.1	-12.6	-11.7	-
<u>Intermediate Products I</u>	<u>0.7</u>	<u>0.8</u>	<u>9.9</u>	<u>5.3</u>	-	-	-
Veneer and plywood	-	-	264.2	90.2	144.5	62.7	-
Thread and yarn	-	-	49.2	39.3	23.6	19.9	-
Glass sheet	-	-	22.1	18.7	-8.1	-6.8	-
Iron and steel	-	-	44.0	18.4	97.9	37.7	-
Vegetable fibers	-	-	-1.9	-1.6	-1.6	-1.2	-
<u>Intermediate Products II</u>	<u>57.5</u>	<u>45.5</u>	<u>72.2</u>	<u>44.9</u>	-	-	-
Textile fabrics (noncotton)	-	-	95.3	64.0	-20.1	-16.0	-
Cotton fabrics	-	-	10.5	7.5	-33.5	-25.8	-
Rubber tires and tubes	-	-	44.3	25.2	012.7	-12.7	-
Paints and varnishes	-	-	70.2	13.7	/b	57.8	-
Chemical products, plastics and synthetics	-	-	32.6	25.0	45.4	34.8	-
Finished structural metal	-	-	29.6	24.9	58.6	49.1	-
Other metal products	-	-	19.7	18.6	61.3	57.6	-
<u>Consumer Nondurables</u>	<u>18.2</u>	<u>13.0</u>	<u>27.7</u>	<u>20.5</u>	-	-	-
Clothing	-	-	-10.4	-7.1	11.9	7.3	-
Textile articles	-	-	63.6	44.1	-5.5	-4.4	-
Shoes	-	-	77.9	60.1	8.0	6.8	-
Drugs and medicines	-	-	122.4	48.8	-19.2	-12.9	-
Soap and detergents	-	-	36.3	20.7	-16.6	-10.6	-
Electric bulbs	-	-	331.0	121.8	0.0	0.0	-
Flashlight batteries	-	-	-	-	29.2	-22.0	-
<u>Consumer Durables</u>	<u>132.1</u>	<u>69.1</u>	<u>21.4</u>	<u>17.2</u>	-	-	-
Motorcycle assembly and parts	-	-	78.7	56.3	48.4	36.4	-
TV and household appliances	-	-	79.8	58.6	/b	830.2	-
<u>Machinery</u>	<u>43.9</u>	<u>30.6</u>	<u>9.9</u>	<u>7.6</u>	-	-	-
Tractor assembly	-	-	9.9	7.6	6.6	5.9	-
Sewing machines	-	-	5.9	5.3	-11.2	-8.2	-
Nonelectrical machinery	-	-	n.a.	n.a.	4.0	3.4	-
<u>Transport Equipment</u>	<u>64.5</u>	<u>34.9</u>	<u>344.1</u>	<u>146.4</u>	-	-	-
Car assembly	-	-	/b	236.4	/b	353.9	-
Truck assembly	-	-	201.3	95.4	219.2	100.6	-

/a Calculated on the basis of selling market prices in Thailand. In many cases, the nominal tariffs would permit higher selling prices, but domestic competition keeps actual prices lower. Thus, the potential effective protection is higher than what is realized.

/b Very large.

Source: Mission estimates.

Table 9.1: PRICE INDICES (ANNUAL)

	Old index (1968=100)											New index (1968=100)					
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1974	1975	1976	1977	1978	1979
Wholesale Price Index for Thailand /a																	
Agricultural products	104.5	100.5	98.4	109.4	134.6	170.4	190.0	199.5	204.6	206.6	-	85.4	95.2	100.0	110.0	112.2	118.8
Foodstuffs	98.9	93.7	95.1	106.8	134.4	180.1	184.4	192.9	205.2	203.4	-	93.4	95.6	100.0	104.8	115.0	120.3
Beverages	99.8	105.4	111.0	113.4	117.2	131.8	142.5	145.0	139.8	149.0	-	n.a.	n.a.	100.0	101.0	107.3	113.2
Textiles and textile products /b	104.6	106.8	107.6	110.9	129.3	160.6	140.9	145.6	155.6	163.9	-	110.3	96.8	100.0	112.5	117.9	135.5
Construction materials	103.2	105.7	102.6	106.7	143.3	196.4	199.9	202.8	212.9	220.6	-	96.8	98.6	100.0	108.0	118.4	146.1
Chemicals and chemical products /c	108.8	116.1	120.0	127.8	158.0	211.1	217.9	198.9	194.9	204.2	-	106.1	109.5	100.0	106.1	112.2	128.5
Petroleum products	99.8	99.1	103.7	104.9	116.7	214.4	219.4	219.1	243.8	262.7	-	97.9	100.1	100.0	108.2	118.4	163.7
Paper and paper products	103.8	104.1	105.7	108.0	137.9	181.3	188.7	182.3	183.4	184.9	-	99.4	103.5	100.0	101.0	103.3	119.0
Hide and leather products /d	102.1	99.5	98.3	114.5	152.4	160.5	155.5	156.7	165.1	188.2	-	102.4	99.2	100.0	104.1	119.4	165.3
Rubber and rubber products	119.2	103.4	88.6	89.3	143.8	147.8	133.0	163.0	168.2	173.8	-	90.7	81.6	100.0	102.0	102.8	117.7
Transportation equipment	100.3	108.9	120.0	132.2	155.9	189.7	209.2	216.9	223.2	234.5	-	87.5	96.4	100.0	104.5	120.9	131.2
Machinery and equipment	100.4	104.2	106.8	110.2	129.9	158.3	162.2	175.7	199.2	213.9	-	90.1	92.3	100.0	107.0	116.4	119.1
Miscellaneous	107.7	117.1	112.1	117.2	134.2	176.5	159.3	170.7	205.3	283.6	-	103.4	93.3	100.0	126.8	165.9	165.1
Special Groups																	
Domestic commodities	103.3	99.3	98.4	107.8	133.6	175.4	182.6	191.4	202.8	216.7	249.8	-	-	-	-	-	-
Imported commodities	103.3	110.8	113.4	118.9	143.9	177.8	182.4	186.0	193.0	192.4	204.4	-	-	-	-	-	-
Exported commodities	112.5	107.8	103.9	111.7	154.9	195.4	190.4	202.4	218.5	246.3	292.7	-	-	-	-	-	-
All items	103.3	102.8	103.1	111.2	136.6	176.1	182.6	189.8	199.9	209.4	236.5	92.8	96.2	100.0	107.8	115.8	128.8

/a The new wholesale price index with base year 1968 has been reported by the Department of Business Economics since January 1971. This index includes the prices of 256 representative commodities, which are collected from markets in Bangkok-Thonburi and nine major provinces. The new series are not available for the years before 1968. The old index with base year 1958 includes the prices of 55 items, of which 21 are agricultural products and foodstuffs. These prices were collected in the Bangkok-Thonburi area.

/b Heading for old index is "Cloth."

/c Heading for old index is "Chemical Products."

/d Heading for old index is "Leather."

/e Weights and selected items are derived from a family expenditure survey conducted in 1962-65 among families of two or more persons in all occupational groups (except those whose main source of income is from agriculture) with annual income ranging from 3,000 baht to 60,000 baht.

Table 9.2: CONSUMER PRICE INDEX FOR WHOLE KINGDOM

	Old Series (October 1964-September 1965 = 100)											New Series (1976 = 100)						
	Weights /a	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Weights /b	1974	1975	1976	1978	1978	1979
All items	100.0	113.6	113.5	114.0	119.6	138.1	171.7	180.8	188.4	201.9	218.8	100.00	91.2	96.0	100.0	107.6	116.1	127.6
Food	49.5	123.6	121.6	119.3	127.8	153.7	198.8	209.1	218.4	236.6	260.2	43.68	91.0	95.7	100.0	109.4	119.1	129.9
Nonfood												56.32	91.1	96.2	100.0	104.9	112.0	123.8
Clothing	12.1	101.6	103.1	106.2	108.7	125.9	149.7	158.0	163.0	171.4	179.2	8.10	91.8	96.9	100.0	104.3	109.6	124.6
Housing	15.5	106.2	108.2	110.5	112.9	125.8	146.0	151.4	156.0	165.3	174.5	22.32	93.6	97.0	100.0	105.5	111.2	122.1
Personal & medical care	7.0	105.2	105.6	109.8	114.4	118.7	134.1	144.8	146.5	154.9	169.6	6.40	91.5	98.8	100.0	106.4	115.1	123.0
Transportation	4.9	99.4	100.1	104.3	106.1	115.0	159.0	169.2	185.3	191.7	208.3	7.37	85.8	91.3	100.0	103.1	118.4	138.2
Recreation, reading & education	6.1	103.0	103.9	109.4	112.5	121.2	138.4	148.3	155.1	161.4	168.0	8.18	89.2	95.6	100.0	102.9	109.5	120.9
Tobacco & alcoholic beverages	4.9	100.6	100.9	102.0	102.4	105.4	121.8	126.8	133.7	142.3	146.6	3.95	91.4	96.2	100.0	107.1	110.0	113.0

/a Weights and selected items are derived from a family expenditure survey conducted in 1962 among families of two or more persons in all occupational groups - except those whose main source of income is from agriculture - with annual income ranging from B 3,000 to B 60,000.

/b Weights and selected items are derived from a socio-economic survey conducted only in urban areas in 1975/76 among families of two or more persons, but not over 10, annual income ranging from B 1,000 to B 5,000.

Source: Department of Business Economics, Ministry of Commerce.

Table R1.1: REGIONAL POPULATION
('000)

	1960	1970	1976	1978	Annual growth rates (%)	
					1960-70	1970-78
Bangkok	2,136	3,253	4,343	4,736	4.3	4.8
Center	6,135	7,966	8,948	9,319	2.6	2.0
North	5,723	7,919	9,174	9,544	3.3	2.4
Northeast	8,992	12,715	15,169	15,941	3.5	2.9
South	3,272	4,517	5,323	5,558	3.3	2.6
<u>Whole Kingdom</u>	<u>26,258</u>	<u>36,370</u>	<u>42,957</u>	<u>45,098</u>	<u>3.3</u>	<u>2.7</u>

Source: 1960 and 1970 Census, NESDB.

Table R2.1: GROSS REGIONAL PRODUCT - BANGKOK
(Millions of current Baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	180	188	210	266	1,236	1,359	1,724	1,983	2,253
Livestock	254	211	229	255	18	22	24	21	21
Fisheries	3	1	1	1	2	3	3	3	-
Forestry	-	-	-	-	-	-	-	-	-
Subtotal	<u>437</u>	<u>400</u>	<u>440</u>	<u>522</u>	<u>1,256</u>	<u>1,384</u>	<u>1,751</u>	<u>2,007</u>	<u>2,274</u>
Mining & quarrying	-	-	-	-	-	-	-	-	-
Manufacturing	8,588	9,946	11,132	14,317	19,220	21,040	23,674	26,066	31,421
Construction	2,867	2,560	2,235	2,597	4,285	5,823	6,225	8,406	10,751
Electricity & water supply	453	458	588	850	821	811	808	1,033	1,223
Transportation & communication	4,379	4,700	5,401	6,637	6,109	6,476	7,886	8,988	9,974
Wholesale & retail trade	9,315	9,312	10,960	14,075	17,138	17,068	19,274	22,599	27,293
Banking, insurance & real estate	4,662	4,981	5,506	7,038	10,425	12,014	12,769	15,425	17,722
Ownership of dwellings	558	606	614	651	747	819	895	964	1,030
Public administration & defense	2,418	2,553	2,723	2,986	3,704	4,275	4,740	5,614	7,075
Services	5,830	6,500	6,972	7,929	10,005	11,404	13,342	15,787	18,071
<u>Gross Regional Product (GRP)</u>	<u>39,507</u>	<u>42,016</u>	<u>46,571</u>	<u>57,602</u>	<u>73,712</u>	<u>81,114</u>	<u>91,379</u>	<u>106,889</u>	<u>126,834</u>

Source: NESDB.

Table R2.2: GROSS REGIONAL PRODUCT - CENTER
(Millions of current Baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	7,427	8,914	11,966	18,948	22,145	22,969	25,682	25,637	29,702
Livestock	1,440	1,452	1,483	1,596	3,357	3,723	3,851	4,751	4,750
Fisheries	1,975	2,045	2,498	3,223	3,345	3,780	4,473	5,067	5,624
Forestry	1,075	825	903	862	964	935	1,052	1,001	973
Subtotal	<u>11,917</u>	<u>13,236</u>	<u>16,850</u>	<u>24,629</u>	<u>29,814</u>	<u>31,407</u>	<u>35,058</u>	<u>36,456</u>	<u>40,869</u>
Mining & quarrying	949	1,034	1,004	978	1,349	1,508	1,756	2,724	3,122
Manufacturing	8,202	9,809	11,132	14,470	21,284	23,258	28,318	33,182	38,224
Construction	2,026	1,596	1,707	2,064	1,970	1,815	2,918	3,408	4,017
Electricity & water supply	322	808	932	917	1,039	757	1,039	1,116	1,269
Transportation & communication	1,655	1,605	1,811	1,988	5,012	5,561	6,102	7,152	8,100
Wholesale & retail trade	6,450	7,069	7,904	10,732	15,002	14,326	17,493	20,621	25,328
Banking, insurance & real estate	307	341	390	533	748	873	1,042	1,206	1,376
Ownership of dwellings	1,374	1,444	1,501	1,694	2,041	2,149	2,358	2,570	2,837
Public administration & defense	1,320	1,466	1,592	1,912	2,465	2,911	3,172	3,585	4,260
Services	3,188	3,416	3,810	4,474	3,692	4,250	4,826	5,618	6,166
<u>Gross Regional Product (GRP)</u>	<u>37,710</u>	<u>41,824</u>	<u>48,633</u>	<u>64,391</u>	<u>84,415</u>	<u>88,815</u>	<u>104,082</u>	<u>117,638</u>	<u>135,568</u>

Source: NESDB.

Table R2.3: GROSS REGIONAL PRODUCT - NORTH
(Millions of current Baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	7,410	7,984	10,778	16,227	15,722	18,949	19,407	18,975	22,038
Livestock	1,038	1,376	1,495	1,614	2,516	2,443	2,614	3,137	2,886
Fisheries	134	192	85	183	302	295	304	397	435
Forestry	836	983	865	1,230	1,679	1,558	1,872	1,828	1,805
Subtotal	<u>9,418</u>	<u>10,535</u>	<u>13,223</u>	<u>19,254</u>	<u>20,219</u>	<u>23,245</u>	<u>24,197</u>	<u>24,337</u>	<u>27,164</u>
Mining & quarrying	494	526	479	506	734	552	596	825	972
Manufacturing	1,732	1,741	1,867	2,272	2,858	3,734	4,238	4,810	5,621
Construction	1,257	1,074	1,107	1,264	1,446	1,536	2,027	2,466	2,972
Electricity & water supply	613	453	491	574	674	1,383	1,549	1,797	2,089
Transportation & communication	869	825	1,104	1,608	1,451	1,784	1,915	2,128	2,527
Wholesale & retail trade	3,318	3,110	3,227	4,797	6,843	7,481	8,441	9,346	11,083
Banking, insurance & real estate	244	349	397	451	608	769	934	1,108	1,286
Ownership of dwellings	277	289	293	326	389	408	448	489	570
Public administration & defense	800	878	974	1,164	1,504	1,775	1,945	2,191	2,642
Services	1,486	1,567	1,723	1,819	2,633	3,078	3,539	4,091	4,588
<u>Gross Regional Product (GRP)</u>	<u>20,508</u>	<u>21,347</u>	<u>24,885</u>	<u>34,035</u>	<u>39,359</u>	<u>45,745</u>	<u>49,829</u>	<u>53,588</u>	<u>61,514</u>

Source: NESDB.

Table R2.4: GROSS REGIONAL PRODUCT - NORTHEAST
(Millions of current Baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	7,415	7,448	8,037	13,371	15,522	18,691	19,831	19,482	22,313
Livestock	1,592	1,833	1,966	2,000	3,443	3,745	4,245	4,334	4,408
Fisheries	251	246	369	572	910	952	985	1,257	1,290
Forestry	551	457	436	498	865	1,018	992	1,183	1,300
Subtotal	<u>9,809</u>	<u>9,984</u>	<u>10,808</u>	<u>16,441</u>	<u>20,740</u>	<u>24,406</u>	<u>26,061</u>	<u>26,556</u>	<u>29,331</u>
Mining & quarrying	207	214	190	178	113	165	320	321	419
Manufacturing	1,861	1,900	2,081	2,561	3,312	3,576	3,850	4,592	5,145
Construction	1,347	1,320	1,206	1,453	1,861	2,360	2,841	3,646	4,424
Electricity & water supply	105	95	136	207	158	200	208	263	258
Transportation & communication	885	979	1,213	1,622	1,764	1,542	1,679	1,827	2,045
Wholesale & retail trade	3,362	3,205	3,577	5,208	7,102	7,770	8,510	9,529	11,021
Banking, insurance & real estate	200	303	337	413	558	689	806	969	1,111
Ownership of dwellings	439	461	482	539	611	627	689	757	858
Public administration & defense	1,050	1,150	1,231	1,432	1,841	2,161	2,391	2,631	3,089
Services	2,163	2,488	2,719	2,940	3,289	3,816	4,209	4,954	5,478
<u>Gross Regional Product (GRP)</u>	<u>21,428</u>	<u>22,099</u>	<u>24,060</u>	<u>32,994</u>	<u>41,349</u>	<u>47,312</u>	<u>51,564</u>	<u>56,045</u>	<u>63,159</u>

Source: NESDB.

Table R2.5: GROSS REGIONAL PRODUCT - SOUTH
(Millions of current Baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	4,344	3,550	4,969	7,631	7,605	7,698	8,959	10,775	12,412
Livestock	519	602	709	813	1,249	1,540	1,523	1,951	1,906
Fisheries	1,711	2,005	2,253	2,996	2,711	3,424	4,027	4,410	5,321
Forestry	338	474	667	947	1,142	959	1,194	1,187	1,168
Subtotal	<u>6,912</u>	<u>6,631</u>	<u>8,598</u>	<u>12,387</u>	<u>12,706</u>	<u>13,621</u>	<u>15,703</u>	<u>18,323</u>	<u>20,807</u>
Mining & quarrying	1,109	1,189	1,213	1,195	2,334	1,837	2,502	4,281	5,310
Manufacturing	1,431	1,512	1,652	1,994	2,685	2,745	3,456	4,119	4,626
Construction	764	777	833	962	1,140	1,339	1,773	2,241	2,787
Electricity & water supply	132	90	104	134	97	123	128	159	165
Transportation & communication	800	846	985	1,382	1,630	1,887	2,404	2,568	3,012
Wholesale & retail trade	3,458	3,573	4,213	6,259	7,879	7,764	9,228	10,924	13,373
Banking, insurance & real estate	213	277	292	362	497	623	724	869	989
Ownership of dwellings	286	300	309	342	386	412	452	490	549
Public administration & defense	558	617	658	798	1,019	1,199	1,323	1,510	1,793
Services	1,244	1,509	1,620	1,706	2,160	2,676	2,944	3,413	3,710
<u>Gross Regional Product (GRP)</u>	<u>16,907</u>	<u>17,321</u>	<u>20,477</u>	<u>27,521</u>	<u>32,533</u>	<u>34,226</u>	<u>40,637</u>	<u>48,897</u>	<u>57,121</u>

Source: NESDB.

Table R2.6: GROSS REGIONAL PRODUCT - BANGKOK
(Millions of 1962 baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	166	168	148	148	138	129	101		
Livestock	205	171	179	197	180	175	165		
Fisheries	3	1	1	1	-	1	-		
Forestry	-	-	-	-	-	-	-		
Subtotal	<u>374</u>	<u>340</u>	<u>328</u>	<u>346</u>	<u>318</u>	<u>305</u>	<u>266</u>		
Mining & quarrying	-	-	-	-	-	-	-		
Manufacturing	7,926	9,279	10,324	12,177	12,249	13,324	14,294		
Construction	2,429	2,129	1,784	1,858	1,944	2,175	2,372		
Electricity & water supply	485	719	845	967	985	1,100	1,246		
Transportation & communication	4,061	3,955	4,342	4,316	4,780	4,943	5,327		
Wholesale & retail trade	7,474	7,935	8,537	9,182	9,445	9,593	9,951		
Banking, insurance & real estate	3,956	4,195	4,433	4,956	5,531	6,192	6,961		
Ownership of dwellings	439	466	469	492	511	533	554		
Public administration & defense	2,052	2,126	2,177	2,283	2,297	2,458	2,623		
Services	5,016	5,488	5,897	6,619	6,929	7,638	8,293		
Gross Regional Product (GRP)	<u>34,212</u>	<u>36,632</u>	<u>39,136</u>	<u>43,196</u>	<u>44,989</u>	<u>48,261</u>	<u>51,887</u>		

Source: NESDB

Table R2.7: GROSS REGIONAL PRODUCT - CENTER
(Millions of 1962 baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	6,677	7,518	7,615	8,795	9,604	10,063	10,542		
Livestock	1,213	1,240	1,286	1,394	1,545	1,654	1,665		
Fisheries	2,064	2,119	2,439	2,369	2,129	2,291	2,459		
Forestry	993	817	814	642	751	668	615		
Subtotal	<u>10,947</u>	<u>11,694</u>	<u>12,154</u>	<u>13,200</u>	<u>14,029</u>	<u>14,676</u>	<u>15,281</u>		
Mining & quarrying	602	644	632	603	726	634	677		
Manufacturing	7,460	9,305	10,502	11,932	12,231	13,354	14,440		
Construction	1,692	1,350	1,386	1,431	1,398	1,474	1,599		
Electricity & water supply	405	1,232	1,558	1,797	2,065	2,411	2,785		
Transportation & communication	1,539	1,543	1,670	1,623	1,829	1,894	2,044		
Wholesale & retail trade	5,102	6,126	6,259	6,789	7,017	7,113	7,460		
Banking, insurance & real estate	257	292	319	364	423	498	575		
Ownership of dwellings	1,087	1,124	1,176	1,199	1,253	1,295	1,343		
Public administration & defense	1,104	1,241	1,294	1,417	1,449	1,671	1,841		
Services	2,706	2,920	3,142	3,606	3,758	4,160	4,526		
<u>Gross Regional Product (GRP)</u>	<u>32,901</u>	<u>37,471</u>	<u>40,092</u>	<u>43,961</u>	<u>46,178</u>	<u>49,183</u>	<u>52,571</u>		

Source: NESDB

Table R2.8: GROSS REGIONAL PRODUCT - NORTH
(Millions of 1962 baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	7,004	6,809	6,257	7,265	7,476	7,406	7,792		
Livestock	874	1,164	1,237	1,344	1,444	1,673	1,754		
Fisheries	140	196	83	128	213	163	165		
Forestry	781	975	751	870	775	797	803		
Subtotal	<u>8,799</u>	<u>9,144</u>	<u>8,328</u>	<u>9,607</u>	<u>9,908</u>	<u>10,039</u>	<u>10,514</u>		
Mining & quarrying	317	328	290	296	378	319	281		
Manufacturing	1,594	1,655	1,695	1,778	2,042	1,996	2,199		
Construction	1,063	910	866	831	785	976	1,069		
Electricity & water supply	704	698	776	897	971	987	1,038		
Transportation & communication	775	741	904	1,135	1,099	1,267	1,419		
Wholesale & retail trade	2,655	2,700	2,461	2,877	3,266	3,276	3,389		
Banking, insurance & real estate	207	299	313	292	310	329	374		
Ownership of dwellings	231	237	240	247	254	263	271		
Public administration & defense	677	745	762	819	855	884	954		
Services	1,185	1,201	1,291	1,358	1,480	1,518	1,610		
<u>Gross Regional Product (GRP)</u>	<u>18,207</u>	<u>18,658</u>	<u>17,926</u>	<u>20,137</u>	<u>21,348</u>	<u>21,854</u>	<u>23,118</u>		

Source: NESDB

Table R2.9: GROSS REGIONAL PRODUCT - NORTHEAST
(Millions of 1962 baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	7,156	7,347	6,711	8,009	7,789	8,254	8,353		
Livestock	1,262	1,430	1,542	1,646	1,782	1,997	2,050		
Fisheries	247	233	357	396	526	524	572		
Forestry	528	460	396	382	493	415	398		
Subtotal	<u>9,193</u>	<u>9,470</u>	<u>9,006</u>	<u>10,433</u>	<u>10,590</u>	<u>11,190</u>	<u>11,373</u>		
Mining & quarrying	136	135	121	113	140	117	101		
Manufacturing	1,756	1,836	1,982	2,176	2,577	2,532	2,668		
Construction	1,167	1,136	1,054	1,037	1,077	1,081	1,184		
Electricity & water supply	120	146	215	322	331	370	435		
Transportation & communication	833	938	1,093	1,278	1,265	1,466	1,493		
Wholesale & retail trade	2,759	2,827	2,860	3,394	3,817	3,607	3,757		
Banking, insurance & real estate	173	264	279	290	332	481	572		
Ownership of dwellings	318	326	334	357	370	384	399		
Public administration & defense	911	991	1,011	1,093	1,140	1,264	1,377		
Services	1,774	1,872	2,006	2,040	2,300	2,353	2,508		
<u>Gross Regional Product (GRP)</u>	<u>19,140</u>	<u>19,941</u>	<u>19,961</u>	<u>22,533</u>	<u>23,939</u>	<u>24,845</u>	<u>25,867</u>		

Source: NESDB

Table R2.10: GROSS REGIONAL PRODUCT - SOUTH
(Millions of 1962 baht)

Industrial origin	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Agriculture</u>									
Crops	4,211	4,449	4,765	5,197	4,995	5,332	5,452		
Livestock	459	508	538	579	628	697	712		
Fisheries	1,876	2,051	2,110	1,796	1,434	1,488	1,422		
Forestry	326	489	623	715	865	977	1,093		
Subtotal	<u>6,872</u>	<u>7,497</u>	<u>8,036</u>	<u>8,287</u>	<u>7,922</u>	<u>8,494</u>	<u>8,679</u>		
Mining & quarrying	737	772	791	747	929	792	703		
Manufacturing	1,361	1,494	1,614	1,662	1,880	1,894	1,974		
Construction	668	685	700	675	726	658	727		
Electricity & water supply	151	139	165	210	188	208	233		
Transportation & communication	751	804	885	1,116	1,203	1,327	1,497		
Wholesale & retail trade	2,863	3,228	3,458	4,009	3,874	4,033	4,235		
Banking, insurance & real estate	187	247	248	250	288	325	370		
Ownership of dwellings	244	246	254	266	274	284	294		
Public administration & defense	487	544	554	599	610	687	751		
Services	1,072	1,259	1,349	1,420	1,634	1,737	1,960		
<u>Gross Regional Product (GRP)</u>	<u>15,393</u>	<u>16,915</u>	<u>18,054</u>	<u>19,241</u>	<u>19,528</u>	<u>20,439</u>	<u>21,423</u>		

Source: NESDB

Table R7.1: AREA PLANTED, YIELD AND PRODUCTION OF MAJOR CROPS,
1959/60-1978/79 CENTRAL REGION

	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79P	1979/80P
Area Planted (000 rai)																					
Paddy	12,588	12,563	12,825	12,525	13,225	13,477	13,576	13,938	13,789	14,154	13,410	13,040	13,170	14,363	15,494	14,980	15,055	15,149	15,277	17,276	13,689
Rubber	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maize	412	762	1,011	1,015	1,088	1,545	1,494	1,694	1,699	1,937	n.a.	n.a.	n.a.	n.a.	1,903	2,011	2,024	1,857	1,581	1,796	n.a.
Sorghum	-	-	-	-	-	-	123	211	172	74	119	126	197	159	349	550	615	n.a.	n.a.	537	n.a.
Kenaf	-	12	24	2	-	2	-	22	7	3	n.a.	n.a.	n.a.	n.a.	51	36	28	-	5	30	17
Cassava	342	376	547	659	738	525	451	618	679	883	n.a.	n.a.	n.a.	n.a.	1,624	1,627	1,888	2,151	2,168	2,426	2,346
Sugarcane	376	462	301	306	564	552	521	458	622	753	n.a.	n.a.	n.a.	n.a.	1,381	1,568	2,029	2,365	2,803	2,397	2,061
Tobacco (Virginia)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coconut	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	33	46	92	86	103	45	55	64	101	n.a.	n.a.	n.a.	n.a.	n.a.	37	32	28	27	171	130	n.a.
Groundnuts	209	311	141	127	93	97	105	146	125	118	n.a.	n.a.	n.a.	n.a.	146	142	128	138	87	130	n.a.
Soybeans	11	16	19	17	31	25	42	46	23	21	n.a.	n.a.	n.a.	n.a.	86	118	52	15	142	133	n.a.
Mung beans	74	99	96	75	72	77	144	225	207	166	220	n.a.	n.a.	n.a.	302	227	202	184	624	503	n.a.
Yield (kg/rai)																					
Paddy	226	277	286	294	322	308	305	288	277	252	299	285	296	312	352	322	309	337	350	351	337
Rubber	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maize	257	314	320	344	335	296	326	247	277	302	n.a.	n.a.	n.a.	n.a.	341	334	355	376	179	332	n.a.
Sorghum	-	-	-	-	-	580	402	305	371	314	287	294	284	229	216	256	254	n.a.	n.a.	190	n.a.
Kenaf	183	173	169	190	274	200	155	149	145	285	n.a.	n.a.	n.a.	n.a.	161	148	167	-	163	188	176
Cassava	2,971	2,933	2,939	2,907	2,542	2,511	2,521	2,528	2,516	2,581	n.a.	n.a.	n.a.	n.a.	2,174	2,165	2,188	2,344	2,341	2,717	1,719
Sugarcane	6,816	6,593	6,118	6,048	5,556	5,762	5,810	5,722	5,323	5,838	n.a.	n.a.	n.a.	n.a.	8,477	7,711	8,513	8,688	5,494	6,911	4,393
Tobacco (Virginia)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coconut	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	118	126	88	106	70	169	138	189	64	n.a.	n.a.	n.a.	n.a.	n.a.	157	202	144	201	167	192	n.a.
Groundnuts	216	218	215	215	202	215	197	196	180	203	n.a.	n.a.	n.a.	n.a.	187	211	180	191	161	190	n.a.
Soybeans	126	129	135	142	156	165	157	155	144	147	n.a.	n.a.	n.a.	n.a.	143	107	157	161	113	151	n.a.
Mung beans	159	178	168	174	158	155	158	160	131	171	129	n.a.	n.a.	n.a.	129	163	102	70	76	92	n.a.
Production (000 tons)																					
Paddy	2,845	3,476	3,668	3,681	4,265	4,145	4,141	4,011	3,818	3,570	4,010	3,720	3,895	4,483	5,451	4,829	4,647	5,193	5,351	6,059	4,617
Rubber	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maize	106	239	323	349	364	457	487	419	471	555	n.a.	n.a.	n.a.	n.a.	648	671	718	698	284	596	n.a.
Sorghum	-	-	-	-	-	5	50	64	64	223	34	37	56	36	76	141	156	n.a.	n.a.	102	n.a.
Kenaf	-	2	4	-	-	-	-	3	-	1	n.a.	n.a.	n.a.	n.a.	8	5	5	-	1	6	3
Cassava	1,016	1,104	1,607	1,914	1,877	1,317	1,137	1,563	1,709	2,282	n.a.	n.a.	n.a.	n.a.	3,531	3,522	4,133	5,044	5,075	6,590	4,033
Sugarcane	2,565	3,047	1,838	1,847	3,132	3,178	3,025	2,619	3,309	4,392	n.a.	n.a.	n.a.	n.a.	11,714	12,094	17,274	20,550	15,399	16,563	9,053
Tobacco (Virginia)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coconut	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	4	6	8	9	7	8	7	12	6	n.a.	n.a.	n.a.	n.a.	n.a.	6	6	4	5	29	25	n.a.
Groundnuts	44	69	30	27	19	21	21	29	22	24	n.a.	n.a.	n.a.	n.a.	27	30	15	26	14	25	n.a.
Soybeans	1	2	3	2	5	4	7	7	3	3	n.a.	n.a.	n.a.	n.a.	12	13	8	2	16	20	n.a.
Mung beans	12	18	16	13	11	12	23	36	27	28	28	n.a.	n.a.	n.a.	39	37	21	13	47	46	n.a.

Source: Office of Agricultural Economics, MOAC.

Table R7.2: AREA PLANTED, YIELD AND PRODUCTION OF MAJOR CROPS,
1959/60-1978/79 NORTHERN REGION

	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79P	1979/80P	
Area Planted (000 rai)																						
Paddy	7,050	7,081	7,394	7,673	7,906	9,775	8,714	9,446	9,085	9,569	10,030	9,980	9,203	9,471	11,496	10,390	12,004	10,795	11,952	13,212	12,485	
Rubber	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maize	308	399	535	732	1,248	1,616	1,749	1,875	2,329	2,157	n.a.	n.a.	n.a.	n.a.	3,503	3,624	4,032	3,502	3,757	4,795	n.a.	
Sorghum	-	-	-	-	-	4	46	112	208	100	90	114	314	193	185	701	820	n.a.	n.a.	545	n.a.	
Kenaf	5	16	65	18	33	26	33	50	33	153	n.a.	n.a.	n.a.	n.a.	21	1	3	-	13	11	-	
Cassava	3	7	11	17	19	19	18	34	32	22	n.a.	n.a.	n.a.	n.a.	157	92	179	105	186	155	161	
Sugarcane	233	197	222	121	125	151	101	120	147	145	n.a.	n.a.	n.a.	n.a.	144	225	243	439	462	392	369	
Tobacco (Virginia)	n.a.	n.a.	n.a.																			
Coconut	n.a.	n.a.	n.a.																			
Cotton	106	115	135	156	236	251	294	333	401	n.a.	n.a.	n.a.	n.a.	n.a.	86	205	77	66	214	158	n.a.	
Groundnuts	220	199	181	271	248	282	327	638	336	372	n.a.	n.a.	n.a.	n.a.	374	369	329	374	416	360	n.a.	
Soybeans	117	118	127	154	175	186	71	233	373	301	n.a.	n.a.	n.a.	n.a.	669	687	674	558	796	837	n.a.	
Mung beans	163	172	98	205	532	503	578	579	563	1,004	992	n.a.	n.a.	n.a.	1,105	866	738	1,173	2,030	2,018	n.a.	
Yield (kg/rai)																						
Paddy	323	346	345	360	366	252	368	353	301	267	383	408	387	286	347	373	360	391	309	416	351	
Rubber	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maize	253	296	351	331	337	251	258	306	257	283	n.a.	n.a.	n.a.	n.a.	329	333	357	346	244	341	n.a.	
Sorghum	-	-	-	-	-	500	326	339	298	270	267	61	274	326	314	153	183	n.a.	n.a.	202	n.a.	
Kenaf	200	188	169	167	212	192	212	180	212	150	n.a.	n.a.	n.a.	n.a.	175	152	118	-	128	147	-	
Cassava	1,332	1,857	1,818	1,412	1,895	1,632	2,000	1,794	1,844	2,227	n.a.	n.a.	n.a.	n.a.	2,268	2,428	2,559	2,594	2,399	2,395	1,857	
Sugarcane	4,657	5,294	5,347	4,372	4,304	4,305	4,119	4,208	3,879	4,531	n.a.	n.a.	n.a.	n.a.	8,456	7,128	6,649	8,146	5,099	5,365	6,238	
Tobacco (Virginia)	n.a.	n.a.	n.a.																			
Coconut	n.a.	n.a.	n.a.																			
Cotton	123	122	111	109	119	104	122	177	132	n.a.	n.a.	n.a.	n.a.	n.a.	149	171	139	136	164	165	n.a.	
Groundnuts	195	201	210	207	210	223	217	238	217	226	n.a.	n.a.	n.a.	n.a.	186	213	206	211	164	203	n.a.	
Soybeans	222	186	165	175	160	145	169	129	131	136	n.a.	n.a.	n.a.	n.a.	135	139	155	182	98	159	n.a.	
Mung beans	160	198	194	176	188	181	166	157	156	142	130	n.a.	n.a.	n.a.	138	146	123	93	76	100	n.a.	
Production (000 tons)																						
Paddy	2,280	2,450	2,554	2,761	2,897	2,213	3,210	3,335	2,738	2,559	3,840	4,070	3,557	2,710	3,984	3,872	4,322	4,111	3,692	5,501	4,385	
Rubber	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maize	78	118	188	242	421	406	451	574	598	610	n.a.	n.a.	n.a.	n.a.	1,154	1,207	1,441	1,212	917	1,633	n.a.	
Sorghum	-	-	-	-	-	2	15	38	62	27	24	7	86	63	58	107	150	n.a.	n.a.	110	n.a.	
Kenaf	1	3	11	3	7	5	7	9	7	23	n.a.	n.a.	n.a.	n.a.	4	-	-	-	2	2	-	
Cassava	4	13	20	24	36	31	36	61	59	49	n.a.	n.a.	n.a.	n.a.	355	224	310	272	446	370	299	
Sugarcane	1,085	1,043	1,187	529	538	650	416	505	578	657	n.a.	n.a.	n.a.	n.a.	1,216	1,604	1,619	3,575	2,355	2,102	2,302	
Tobacco (Virginia)	n.a.	n.a.	n.a.																			
Coconut	n.a.	n.a.	n.a.																			
Cotton	13	14	15	17	28	26	36	59	53	n.a.	n.a.	n.a.	n.a.	n.a.	13	35	11	9	35	26	n.a.	
Groundnuts	43	40	38	56	52	63	71	152	73	84	n.a.	n.a.	n.a.	n.a.	70	79	66	79	68	73	n.a.	
Soybeans	26	22	21	27	28	27	12	30	49	41	n.a.	n.a.	n.a.	n.a.	90	95	104	102	78	133	n.a.	
Mung beans	26	34	19	36	100	91	96	91	88	143	129	n.a.	n.a.	n.a.	153	126	91	109	153	202	n.a.	

Source: Office of Agricultural Economics, MOAC.

Table R7.3: AREA PLANTED, YIELD AND PRODUCTION OF MAJOR CROPS,
1959/60-1978/79 NORTHEASTERN REGION

	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79P	1979/80P
Area Planted (000 rai)																					
Paddy	15,419	14,556	15,406	17,820	16,970	15,471	15,332	19,630	15,160	17,860	20,240	20,460	21,471	18,241	22,199	20,633	25,017	23,760	24,794	27,978	29,159
Rubber	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maize	440	506	329	277	247	253	296	436	524	647	n.a.	n.a.	n.a.	n.a.	1,536	1,874	2,143	2,586	1,860	2,048	n.a.
Sorghum	-	-	-	-	-	-	21	29	26	17	13	9	7	6	19	8	13	n.a.	n.a.	17	n.a.
Kenaf	273	849	1,632	692	925	1,337	2,366	3,243	2,428	1,429	n.a.	n.a.	n.a.	n.a.	2,642	2,486	2,007	1,009	1,585	1,962	1,401
Cassava	26	34	32	39	53	51	79	71	81	57	105	127	211	n.a.	816	1,185	1,585	2,117	3,621	5,684	4,003
Sugarcane	275	283	229	187	230	296	244	169	149	211	176	n.a.	n.a.	n.a.	91	142	171	314	276	289	301
Tobacco (Virginia)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Coconut	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	161	186	130	130	116	122	122	125	200	n.a.	n.a.	n.a.	n.a.	n.a.	58	86	83	61	141	140	n.a.
Groundnuts	179	208	179	131	161	142	164	170	184	214	n.a.	n.a.	n.a.	n.a.	210	259	227	196	106	142	n.a.
Soybeans	9	5	4	3	3	2	4	5	3	7	n.a.	n.a.	n.a.	n.a.	10	17	12	62	20	40	n.a.
Mung beans	51	55	33	27	20	24	24	20	35	31	30	n.a.	n.a.	n.a.	28	22	21	35	55	73	n.a.
Yield (kg/rai)																					
Paddy	163	191	182	206	207	152	178	193	155	179	226	240	253	230	209	184	213	197	143	173	194
Rubber	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maize	255	304	230	246	261	251	234	254	234	200	n.a.	n.a.	n.a.	n.a.	297	295	329	288	212	272	n.a.
Sorghum	-	-	-	-	-	-	346	350	343	248	266	167	170	247	298	265	265	n.a.	n.a.	256	n.a.
Kenaf	180	208	199	187	221	222	220	200	200	205	n.a.	n.a.	n.a.	n.a.	173	152	151	182	154	169	156
Cassava	1,537	1,780	1,776	1,578	1,755	1,953	2,131	1,788	1,955	1,934	2,438	2,693	2,300	n.a.	1,929	1,970	2,195	2,278	1,861	2,009	1,700
Sugarcane	4,405	4,006	3,820	3,724	4,447	4,054	4,038	3,699	3,975	3,586	n.a.	n.a.	n.a.	n.a.	4,510	6,307	5,947	6,261	4,298	4,806	4,887
Tobacco (Virginia)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Coconut	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	129	138	116	113	117	127	130	138	102	n.a.	n.a.	n.a.	n.a.	n.a.	168	174	169	205	190	167	n.a.
Groundnuts	189	197	197	199	233	226	214	200	176	197	n.a.	n.a.	n.a.	n.a.	198	165	178	183	158	164	n.a.
Soybeans	178	176	158	163	170	164	154	155	125	91	n.a.	n.a.	n.a.	n.a.	133	143	116	154	117	140	n.a.
Mung beans	154	167	175	176	162	149	187	153	127	161	146	n.a.	n.a.	n.a.	138	142	126	93	93	112	n.a.
Production (000 tons)																					
Paddy	2,521	2,775	2,809	3,666	3,516	3,302	2,734	3,796	2,350	3,197	4,580	4,920	5,432	4,198	4,638	3,795	5,326	4,686	3,556	4,836	5,661
Rubber	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maize	112	154	76	68	64	63	69	111	123	129	n.a.	n.a.	n.a.	n.a.	456	553	704	744	394	557	n.a.
Sorghum	-	-	-	-	-	-	7	10	9	4	3	1	1	1	5	2	3	n.a.	n.a.	4	n.a.
Kenaf	49	176	324	130	204	297	521	649	485	293	n.a.	n.a.	n.a.	n.a.	457	379	303	183	243	331	219
Cassava	40	60	57	61	92	100	167	126	158	109	256	342	485	n.a.	1,574	2,335	3,479	4,822	6,738	11,420	6,804
Sugarcane	1,211	1,134	873	698	1,022	1,201	986	627	592	757	n.a.	n.a.	n.a.	n.a.	409	894	1,016	1,969	1,187	1,388	1,471
Tobacco (Virginia)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Coconut	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	21	26	15	15	14	15	16	17	20	n.a.	n.a.	n.a.	n.a.	n.a.	10	15	14	12	27	23	n.a.
Groundnuts	32	41	35	26	38	32	35	34	32	42	n.a.	n.a.	n.a.	n.a.	42	43	10	36	17	23	n.a.
Soybeans	2	1	1	-	1	-	1	1	-	1	n.a.	n.a.	n.a.	n.a.	1	2	1	9	2	6	n.a.
Mung beans	8	9	6	5	3	4	4	3	4	5	4	n.a.	n.a.	n.a.	4	3	3	3	5	8	n.a.

Source: Office of Agricultural Economics, MOAC.

Table R7.4: AREA PLANTED, YIELD AND PRODUCTION OF MAJOR CROPS,
1959/60-1978/79 SOUTHERN REGION

	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80
Area Planted (000 rai)																					
Paddy	2,850	2,813	2,994	3,150	3,129	3,149	3,340	3,441	3,578	3,590	3,720	3,360	3,199	3,856	3,081	3,836	3,526	3,891	4,421	4,020	3,638
Rubber	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maize	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83	86	23	n.a.
Sorghum	-	-	-	-	-	-	5	8	9	9	4	4	5	2	2	3	4	n.a.	n.a.	-	n.a.
Kenaf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.a.
Cassava	20	30	32	52	65	61	90	92	89	104	n.a.	n.a.	n.a.	n.a.	128	96	113	-	25	5	n.a.
Sugarcane	41	44	25	23	14	16	18	31	18	29	n.a.	-	-	-	-	-	-	-	-	-	n.a.
Tobacco (Virginia)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.a.
Coconut	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	n.a.
Groundnuts	17	18	21	15	18	24	24	29	28	38	n.a.	n.a.	n.a.	n.a.	44	44	52	52	32	29	n.a.
Soybeans	-	-	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	2	1	-	-	-	-	n.a.
Mung beans	-	-	2	3	5	27	8	15	26	48	55	n.a.	n.a.	n.a.	160	178	60	-	10	43	n.a.
Yield (kg/rai)																					
Paddy	284	275	286	281	290	223	267	234	201	286	263	256	268	265	268	232	285	300	299	267	301
Rubber	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maize	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	252	334	196	n.a.
Sorghum	-	-	-	-	-	-	291	260	258	239	214	260	274	242	150	151	164	n.a.	n.a.	-	n.a.
Kenaf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	175	-	n.a.
Cassava	1,192	1,516	1,367	1,468	1,655	1,778	1,492	1,530	1,539	1,650	n.a.	n.a.	n.a.	n.a.	1,623	1,660	1,403	-	4,474	3,443	n.a.
Sugarcane	3,629	3,625	3,418	3,476	3,001	2,856	2,907	2,522	2,589	2,451	n.a.	-	-	-	-	-	-	-	-	-	n.a.
Tobacco (Virginia)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.a.
Coconut	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	n.a.
Groundnuts	189	226	212	204	199	172	172	183	162	196	n.a.	n.a.	n.a.	n.a.	176	219	213	194	206	222	n.a.
Soybeans	156	153	148	148	152	141	92	114	104	153	n.a.	n.a.	n.a.	n.a.	104	110	114	114	96	-	n.a.
Mung beans	149	160	158	166	146	147	113	117	119	154	151	n.a.	n.a.	n.a.	85	120	106	-	92	73	n.a.
Production (000 tons)																					
Paddy	808	774	855	884	907	702	893	806	719	1,027	980	860	858	1,022	825	890	1,005	1,168	1,322	1,073	1,095
Rubber	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maize	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	29	5	n.a.
Sorghum	-	-	-	-	-	-	2	2	2	2	1	1	1	-	-	-	1	n.a.	n.a.	-	n.a.
Kenaf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.a.
Cassava	24	45	43	76	107	109	134	141	136	172	n.a.	n.a.	n.a.	n.a.	208	159	158	-	113	18	n.a.
Sugarcane	149	159	85	80	41	45	52	79	47	71	n.a.	-	-	-	-	-	-	-	-	-	n.a.
Tobacco (Virginia)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.a.
Coconut	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.a.
Groundnuts	3	4	4	3	4	4	4	5	5	7	n.a.	n.a.	n.a.	n.a.	8	10	9	10	7	6	n.a.
Soybeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.a.
Mung beans	-	-	-	-	1	4	1	2	3	7	8	n.a.	n.a.	n.a.	14	21	16	-	1	3	n.a.

Source: Office of Agricultural Economics, MOAC.

Table R9.1: CONSUMER PRICE INDICES BY REGION /a
(1976 = 100)

	Weights	1974	1975	1976	1977	1978	1979
Whole Kingdom	100.0	91.2	96.0	100.0	107.6	116.1	127.6
Bangkok Metropolis	35.0	91.5	95.3	100.0	108.4	117.9	130.0
Center & East	23.0	90.8	95.6	100.0	107.0	113.4	125.0
North	16.0	89.8	96.1	100.0	106.7	115.0	124.1
Northeast	15.0	93.6	97.7	100.0	105.7	114.0	123.3
South	11.0	88.9	96.2	100.0	106.0	113.6	125.2

/a Derived from a Socio Economic survey conducted only in Urban areas in 1975/76. Sub-indices are compiled for each region separately and are weighed by municipal population to arrive at the overall index for the Kingdom.