

# **International Capital Flows and Economic Adjustment in Thailand**

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**Institute of Social Studies**  
The Netherlands

**Thailand Development Research Institute**  
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# Preface

**T**his study presents the results of a joint research project by the Thailand Development Research Institute (TDRI) and the Institute of Social Studies (ISS) in The Hague, Netherlands.

The study is part of the ISS project “International Capital Flows and Economic Adjustment in Developing Countries.” This project includes five detailed country studies (Thailand, Mexico, Pakistan, the Philippines, and Tanzania) and a comparative analysis. The project is financially supported by the Research Department of the Directorate-General for International Cooperation of the Ministry of Foreign Affairs of the Netherlands.

A joint team of TDRI and ISS staff worked on the Thailand study. Dr. Narongchai Akrasanee (TDRI) had the overall supervision of the Thailand study. Dr. Karel Jansen (ISS) was mainly responsible for Chapters 1, 2, 4 and 5 and contributed to Chapters 3 and 6. Dr. Jeerasak Pongpisanupichit (TDRI) was responsible for Chapters 3, 6 and 7.

TDRI and ISS express their gratitude to the Ministry of Foreign Affairs of the Netherlands for the financial support that made the project possible. The authors are grateful to TDRI's International Economic Relations (IER) Program Director, Dr. Wisarn Pupphavesa, for his encouragement and coordinating effort, as well as to Dr. Pichit Patrawimolpon and other workshop participants for their valuable comments. The authors also thank the research assistants and staff of the IER Program, especially Ms. Varaya Toraninpanich, Ms. Nootchanart Phumphruke, Ms. Udomlak Klathanghook, and Ms. Siranee Harnchaikittikul for their excellent support.



# Executive Summary

**T**his study analyzes the role of foreign capital in the economic development of Thailand. In the two decades under study (1970-1990) foreign capital has played a considerable role. While in the 1960s the inflow of external finance (or its counterpart, the current-account deficit) was always relatively small, it increased substantially in the 1970s and 1980s.

Two periods are identified in which foreign capital inflows played a central role. In the first period, roughly between 1975 and 1985, foreign commercial loans were received by the public sector. The second period, after 1986, was dominated by non-debt creating flows of direct and portfolio investments to the private sector.

To a considerable extent the origin of the two booms in foreign capital inflows have to be sought at the international supply side of funds. In the 1970s, oil dollars created excess liquidity in the international financial markets which, rather suddenly, increased the access of developing countries to commercial loans. In the late 1980s, the realignments of the major currencies led to an outflow of investments from Japan and the Asian newly-industrialized economies (NIEs).

This study traces the impact of these inflows on the patterns of Thailand's domestic savings and investment, on the rate and structure of economic growth, and on macroeconomic stability. There is particular focus on the policy problems that the inflows created, and on how actual economic policy responded to them. The methodology of the study starts with the macroeconomic balance identity, according to which investments are financed by, and are equal to, domestic savings and foreign capital inflows. The analysis of the impact of capital inflows on the patterns of investment and savings is the central feature of the study. It is shown that the aggregate savings and investments are the sum of the savings and investments of distinct institutions (such as households, private corporations, state enterprises, and government) among which each has its own specific behavior and, therefore, its own specific reaction to the inflows of foreign finance.

In the first period mentioned, capital inflows financed a higher level of public sector investment, particularly investment by state enterprises. The inflows were also associated with a decline in public sector savings rates. In fact, the public sector deficit increased by more than the rise in capital inflows, so that the claims on the domestic capital market also increased. The outcome of this process was a

rapid increase in external and domestic public sector debt and debt servicing obligations. The combination of an expansionary public sector policy and a cautious monetary policy led to tight conditions on the domestic financial markets. Furthermore, the (too) conservative exchange rate policy led to an appreciation of the exchange rate with respect to major trading partners' currencies. The combination of these factors resulted in a fall in private sector confidence and in very low levels of private investment and growth.

These problems were attacked with a set of radical adjustment policies in the mid-1980s. The Baht was devalued, a cap was placed on public sector external borrowing, prices charged by state enterprises were increased and their investments were curtailed, and government spending was strictly controlled.

These adjustment policies were painful and they contributed to the recession of the mid-1980s. At the same time, the adjustments were very successful; when the second wave of foreign capital inflows started in 1987, macroeconomic balance had already been restored and the Thai economy was ready to fully benefit from the impulse provided by these new inflows.

The second boom in foreign capital inflows was dominated by foreign direct and portfolio investments. The nature of this period is quite different, because there is a direct link between the foreign funds and production and exports. The devaluation of 1984 and the currency realignments after the 1985 Plaza Agreement made Thailand an attractive place for investors from Japan and the NIEs. They invest in Thailand to do simple processing of products to be exported to the United States and the European Community (EC). The inflow was associated not only with a phenomenal increase in private investment and an unprecedented growth boom, but also with speculative binges in the Securities Exchange of Thailand (SET) and in the property markets.

Gradually, it has become clear that non-debt-creating capital inflows also lead to policy problems. The investments led to a very rapid increase in export production, but the growth of imports was faster still, leading to a very high current account deficit. Alternatively, one could say that domestic savings have not increased fast enough to keep track with the high level of investment. But apart from the macroeconomic concerns, the study also observes that the pattern of growth induced by foreign investment led to growing imbalances in the Thai economy. The productivity and income gaps between the modern industrial sector, on which the investments concentrate, and the large agricultural sector widened. The private sector investment boom also outran the capability of the public sector to provide the infrastructural support for the private sector.

The general conclusions of the study may be summarised in four points.

1. Foreign capital inflows are associated with an increase in the level of investment of the receiving sector. In the 1970s, this was the public sector and in the late 1980s the private sector.
2. The inflows also have an effect on the savings of the receiving sector. In the first period, the capital inflows were associated with a decline in the public sector savings ratio. Apparently, the access to foreign funds invited a relaxation of revenue efforts. The capital inflows in the more recent years had a different impact. The private savings ratio increased, but by far less than the investment ratio, so that the private

sector resource gap widened significantly. In both periods, therefore, foreign capital inflows were associated with growing macroeconomic imbalances.

3. But capital inflows are also associated with sectoral imbalances. The large increase in public sector investment in the first boom period eventually crowded out private investment. And in the recent period, the high level of private investment outpaced the ability of the public sector to provide the supporting infrastructure and also led to growing imbalances within the private sector. The modern industrial sector, on which the foreign investment concentrates, is growing away from the more traditional agricultural and rural sector, where most of the Thai labor force still works.
4. These growing macroeconomic and sectoral imbalances define the policy problems created by the foreign capital inflows. At the end of the first period a painful and radical adjustment program was necessary to restore the balances. In the more recent period, the financial surplus of the public sector would seem to make the increase in the public investment necessary to reduce the infrastructural bottlenecks and sectoral imbalances possible. But, on the other hand, given the high level of private investment, any increase in public spending will further undermine the macroeconomic stability. This policy dilemma was not yet fully resolved by the end of the period under study.

The study recommends that economic policy use public investments, and try to steer private investment, in order to reduce the sectoral imbalances. Macroeconomic stability is best defended by an increase in private savings, although it is not easy to identify policy instruments that are very effective in doing so. In the end, it would appear, that the relatively low level of domestic savings remains the main policy problem of Thailand.

# Chapter 1

## Introduction

### OBJECTIVES OF THE STUDY

The role of international finance in Thailand's economic development has become crucial in recent years. The growth boom since 1987 was initiated and sustained by high levels of foreign investment. The capital inflows were accompanied by quite effective macroeconomic management, so that several years of double-digit growth has so far not led to an unbearable acceleration of inflation. Recent experience has thus shown that external finance can significantly contribute to economic growth. This success is not just the outcome of the upturn in foreign investment since 1987. The Thai government's adjustment policies in the preceding years had restored macroeconomic balances from their highly unstable levels of the early 1980s. In particular, the public sector deficit had been drastically reduced. The analysis of these successful structural adjustment policies—which contrast very sharply with the ineffective efforts in many other countries—will be a worthwhile aspect of this study. Still, this study asserts that there are also serious questions about the longer-term sustainability of the current pattern of growth. It will be argued that the sustainability will be undermined by:

- The growing imbalance between the main productive sectors. The study concludes that one of the main features of foreign finance-driven development is that it concentrates investment in the modern sector of the economy and increases the segmentation of the economic structure into a low productivity segment (mainly agriculture) and a high productivity modern sector. A very uneven income distribution is the consequence of this unbalanced development.
- The emerging discrepancy between private sector growth and the provision of public goods. The present level of public services in, for example, infrastructure and education is considered by many to be below the levels necessary to sustain private sector development.
- Macroeconomic imbalances, in particular, the widening domestic savings gap and the inability even of a very high growth of export earnings to keep pace with the explosive growth of import demand.

These three sets of problems raise important questions on macroeconomic policy and management for which this study will formulate recommendations.

There were also earlier years in which international capital flows influenced the Thai economy's fate. In an earlier period, roughly between 1975 and 1985, the inflow of funds was mainly directed at the public sector. Macroeconomic management at that time was far less effective and serious imbalances emerged, which could only be corrected through a painful adjustment process in the 1980s.

The experience of both periods make clear that such large inflows of funds can lead to serious macroeconomic imbalances and to considerable policy problems. This study analyzes these problems and seeks to come to policy recommendations to deal with them.

The central focus of the study is on the interaction between international capital flows and domestic adjustment and macroeconomic policies. In the first period, the increase in capital inflows was directed at the public sector, while the recent years present a period of large capital inflows directed at the private sector. In both periods, the rise of inflows of foreign finance was associated with sharp increases in the investment ratio of the receiving sector. This is to be expected as foreign funds are often linked to specific investment projects. But, and probably less to be expected, the sectoral investment-savings gap increased by far more than the capital inflow. The public-sector lending boom was associated with a rise in public investment and a fall in the public-sector savings ratio, resulting in a drastic deterioration of the investment-savings gap.

The private-sector foreign investment boom of the last few years is associated with a very sharp increase in private investment and only a mild recovery of private savings. The outcome is that the savings surplus that the private sector used has changed into a very substantial savings gap.

The experience of the public-sector loan boom in the period 1975-1985 may contain some warnings for the present period. Initially, in the late 1970s, the loan-induced investment boom led to rapid growth, but when, around 1980, the world economy entered a period of instability this growth momentum could not be sustained. The external debt burden that accumulated in the earlier years then made the adjustment much more difficult. The capital inflows of the last few years are dominated by direct and portfolio investments and thus do not create an external debt. But such flows are very sensitive to foreign confidence in the Thai economy. If growing imbalances and instability were to undermine such confidence, capital inflows might quickly stop and even reverse. That is why the warning signs have to be taken seriously by policy makers.

## **THE ROLE OF POLICIES**

Another important undertaking of this study is the reassessment of the role of policy. Often a primary role is given to some preconceived set of "appropriate" adjustment policies to achieve economic stability and create a basis for sustainable growth. This study suggests that, in the realm of external financing, policies have been much more accommodating than motivating. Massive availability of foreign finance in the 1970s, in excess of the finance needed to adjust to external shocks, encouraged the public sector in particular to engage in large-scale investment pro-

grams it otherwise might not have undertaken. In the 1980s, after the debt crisis broke out, no adequate adjustment finance was available and what was there was heavily conditioned on policy reforms prescribed by multilateral creditor agencies and the donor community.

In these adjustment schemes, increasing weight is given to the private sector via privatization and liberalization programs. Presumed inefficient state intervention underlies such reform proposals. The role of the state has been always comparatively small in Thailand and the adjustments since the mid-1980s have reduced it further. These policy reforms have been very successful, as they made the recent private-sector investment boom possible. At the same time, this same private-sector boom raises serious questions about the proper balance between the public and private sectors and about the role of the state in indicative steering of private sector development.

## METHODOLOGY

This study tries to assess the role of external finance in the processes of growth and structural change in Thailand. The basic characteristic of the methodology is the focus on the interaction between international financial flows and the savings and investment behavior of the main institutional agents in the society that receives the funds. The minimal disaggregation of agents studied here already goes much beyond conventional approaches to debt and adjustment. It is hypothesized that structural differences in the spending behavior of households and unincorporated businesses, private (financial and non-financial) corporations, public enterprises and the government sector provide a complex environment to assess adjustment processes and evaluate the effectiveness of structural adjustment policies and debt management in a developing economy. Much of the argument will be centered around the macroeconomic accumulation balance disaggregated as follows:

$$\begin{aligned}
 I - S &= (I_h - S_h) + (I_c - S_c) + (I_s - S_s) + (I_g - S_g) \\
 &= M - E + R \\
 &= (F_h + F_c + F_s + F_g) - dRES
 \end{aligned} \tag{1.1}$$

where: I	=	Gross Domestic Investment
S	=	Gross National Savings
M	=	Imports of goods and services
E	=	Exports of goods and services
R	=	Net factor payments and current transfers overseas
F	=	Net capital inflows
dRES	=	Change in international reserves

for institutions (subscripts): h = households and unincorporated businesses;  
c = private corporate enterprises; s = public enterprises; and g = government.

The key argument of the study centers around two major hypotheses. The first is that the inflow of external finance is, to a large extent, determined by factors on the international supply side of funds, and that changes in these inflows have

significantly affected the domestic spending patterns of the various institutions in Thailand during the past two decades. This is not to belittle domestic factors, but this study shows that the major influence was external, to which particular domestic circumstances responded. Second, the capability of the economy to respond to shifts in the availability of different sources of external finance depends on the economy's structure and the diverging savings and investment behavior of the major institutional agents, thereby giving particular attention to the nature and adjustment behavior of private sector agents as they operate in different institutional and market contexts (for example, segmented financial markets, competitive versus oligopolistic markets, among others). In Thailand, there is a clear dichotomy between the savings and investment behavior of the large corporate business sector operating in oligopolistically-structured markets and with strong links with the formal banking system and that of the vast (in terms of units and people) and heterogeneous sector of small-scale firms and unincorporated businesses, including small farmers and informal service sector establishments. Unlike many other studies related to the main subject of this book, this study emphasizes the macroeconomic importance of this heterogeneous private sector behavior and hypothesizes that it strongly affects the scope of effective macroeconomic policies.

In the two decades under study, the relationship of developing countries like Thailand with international financial markets went through a process of fundamental change which was accompanied by many shocks. The central question of this study is how these changes and shocks in the area of international finance have affected the rate and pattern of economic growth, the stability of the economy and the role and effectiveness of economic policy.

In terms of the accounting identity represented by Equation 1.1, it is thus suggested that, first, an initial causality in the adjustment process would run from the external financing conditions ( $F$ ) to the investment-savings balances of the domestic institutions ( $I_i - S_i$ ) and the flow-of-funds interactions among them and then to the current account balance ( $M - E + R$ ) and, second, that the private sector accumulation balances  $[(I_h - S_h) + (I_c - S_c)]$  are not purely accommodating to the imbalances of the external sector ( $F$ ) and of the public sector  $[(I_g - S_g) + (I_s - S_s)]$ , but have their own behavioral autonomy which may limit the possibilities for adjustment.

To address the main hypotheses, this study integrates four methodological steps:

- An analysis of Thailand's economic structure and of the country's main economic agents. To this purpose, a simple Social Accounting Matrix (SAM) is designed, called the Macroeconomic Social Accounting Framework (MSAF). Two MSAFs, for 1975 and for 1985, are presented in Chapter 2. They describe the place and role of the institutions in Thailand's economic structure and the changes in this 10-year period.
- Changes in the availability of external finance and in other external variables affecting the Thai economy are used to identify five sub-periods in the two decades 1970-1990. Each of these periods is characterized by a particular set of international conditions, and the adjustment of the Thai economy to these conditions is analyzed in the

various chapters. Chapter 3 describes the international environment as it has affected Thailand and trends in international finance in the various periods under study. This chapter also includes a decomposition analysis of external shocks and domestic adjustment.

- The adjustment of the Thai economy is driven by the adjustments in savings and investment levels of the main economic agents. Chapter 4 presents a disaggregated analysis of savings and investment trends and behavior of the four main sectors, and Chapter 5 complements this with an analysis of the intersectoral financial intermediation. The focus is particularly on how external finance affected these patterns.
- These adjustments at the sectoral and intersectoral levels are guided by policy interventions. Economic policy both reacts to external events and steers the economy to generate rapid growth and maintain stability. Chapter 6 contains an analysis and an assessment of policy regimes.

These analytical steps provide the building bricks for the assessment of adjustment processes and the scope for macroeconomic management in Thailand, but they have also been designed to provide a comparative country analysis. In a larger project conducted by the Institute of Social Studies in The Hague, similar questions are asked and the same methodology is used in four other in-depth country studies, covering the Philippines, Pakistan, Tanzania and Mexico and, on a cross-section basis, key hypotheses are also tested for a sample of 25 other developing countries.

## PERIODIZATION

In the analysis of the impact of international finance and external shocks in Thailand's recent economic history, the last two decades are divided into five periods. Most tables present period averages rather than annual observations of economic variables, because we are more interested in medium-term adjustments than in short-run fluctuations.

The differences in the external conditions provide the basis for the definition of the periods.

In the first period (1970-1974), external shocks related mainly to prices: the average annual growth rates of export and import prices were phenomenal. Capital inflows in this period were still modest; the average current-account deficit of 1.5 percent of Gross Domestic Product (GDP) is still well in line with the longer-run average as observed over the 1960s.

The second period, 1975-1979, was the period in which access to international financial markets opened up for countries like Thailand. International borrowing expanded rapidly in response, as is reflected in the rapid rise of the average level of the current-account deficit, or in other words, the rapid growth of capital inflows.

The third period again shows high rates of growth for import prices (the second oil shock) and a substantial increase in the average level of international interest rates, while world trade stagnated in this period.



The third period again shows high rates of growth for import prices (the second oil shock) and a substantial increase in the average level of international interest rates, while world trade stagnated in this period.

The period 1983-1986 covers the years of debt crisis and adjustment: international lending became more costly after the increase in international interest rates after 1979 and access to international finance became more difficult after the Mexican debt crisis of 1982. The growth of world trade was very modest and terms of trade for developing countries declined.

The capital inflows of the final period are quite substantially in excess of the current-account deficit and their composition is fundamentally different from those of the preceding periods. The composition of the capital inflows shifted dramatically from public-sector borrowing to private-sector capital inflows. The relative exchange rates of the world's major currencies (yen and dollar) substantially changed from the previous period.

## OUTLINE OF THE STUDY

Chapter 2 aims to provide a description of the structure of the Thai economy and the major changes in it. To this purpose, an MSAF is constructed. The MSAF provides an integrated accounting system for the analysis as a whole and should be regarded as a particular format of a SAM. The MSAF links the incomes and outlays of the main institutional sectors studied in this book, i.e., households and incorporated businesses, private corporations, public enterprises, the government and foreign agents, to the structure of production and to the process of income generation and distribution. More than in most SAMs constructed for developing countries, the MSAF reserves substantial space for the financial structure of the economy. This is captured through the flow-of-funds block, which identifies the savings and investments of the main institutional agents, as well as the channels through which financial intermediation takes place. External finance is also part of the flow-of-funds block and the MSAF thus enables identifying the allocation of foreign resources in the economy and the channels through which these affect the rest of the system. As MSAFs have been constructed for several years (1975 and 1985), they permit an analysis of the structural change of the Thai economy during the past two turbulent decades. In addition, the chapter also discusses the macroeconomic stability during the process of growth and change.

Chapter 3 analyzes in detail Thailand's commercial and financial relationships with the rest of the world. The role of foreign capital in the Thai economy is studied by disaggregating the capital inflows into direct investment, portfolio investment and loans. The issues of capital flight and external debt are also discussed. The country's external trade of goods and services are analyzed, as are the outward remittances of interest payments and of profits and dividends as a result of the foreign direct and portfolio investment boom in recent years. In the last section of Chapter 3, a decomposition method is applied to assess the nature of the impact of external shocks on the Thai economy and the country's adjustment to the shocks. The analysis identifies shocks in terms of trade, the world interest rate, world trade growth and debt accumulation burden. It further identifies whether the adjustment

has fallen on consumption (and savings) or investment spending on import or export growth.

As the decomposition analysis is based on ex-post information, it is possible that the observed trends in the current account balance underestimate the actual shocks—some (anticipated) domestic adjustments may compensate for them. Therefore, external shock variables are also included in the analysis of the savings and investment behavior of the principal institutional agents. Chapters 4 and 5 analyze these patterns and the main determinants underlying their savings, investment and portfolio decisions. This is done, after a description of the institutional setting (i.e., the operations of firms and of commodity and financial markets) in which these take place, through econometric tests.

Chapter 4 attempts to make an analysis of the relationship between external finance and accumulation behavior at a disaggregated level concerning the four economic agents. By doing so, the analysis consequently tests the hypothesis that accumulation behavior, savings and investments, differ considerably between the four economic agents. Deriving estimates of total savings and investments from the sum of these component parts should make it possible to indicate the effect of capital inflows on the country's economic stability.

Chapter 5 extends the analysis of Chapter 4 by looking at the domestic intersectoral financial relationships using Flow-of-Funds statistics. The analysis of financial intermediation and portfolio behavior in this chapter extends the flow-of-funds analysis of Chapter 2 (see MSAFs). The analysis identifies public and private sector agents' demand for and claims on domestic and foreign financial assets. The main channel for intersectoral financial intermediation is the financial system. The chapter analyzes the interaction between international financial flows and domestic financial intermediation and tries to identify the mechanisms and determinants of financial 'crowding-out' of private investment through public sector investment.

Chapter 6 describes and analyzes how economic policy-making has evolved over the period under study. Changes have occurred in objectives and instruments of policies and in the agencies involved and their relative influences. These changes are traced and the effectiveness of the policies is assessed. In particular, the analysis will focus on how successful economic policy has been in dealing with the challenges put up by the changing role of international finance.

Chapter 7 summarizes the findings of preceding chapters and provides an assessment of the success or failure of adjustment as it occurred. Policies are recommended on macroeconomic management concerning external finance for a more sustainable growth and sectorial balance.

The next chapter, Chapter 2, will first provide a discussion on the pattern of growth and structural changes in the Thai economy over the past two decades.

## Chapter 2

# Growth and Structural Change in the Thai Economy

### INTRODUCTION

Since the end of the Second World War, Thailand has gone through a process of rapid growth and dramatic structural change. Over these years, the country has changed from a solely agricultural economy into an emerging newly-industrializing economy (NIE).

Thailand's growth rates have always been high. In the 1960s, the country's average growth rate of real GDP was around 8 percent and in the 1970s it reached almost 7 percent a year. In the first half of the 1980s, when external and internal conditions were not so favorable, the growth rate fell to 6.1 percent a year. The years 1987-1990 surpassed any earlier achievements, with an average growth rate of 11.2 percent a year. The "World Development Report 1990" lists the average growth rates of some 100 developing countries between 1965 and 1988 (see World Bank 1990). Only seven of these countries, including, of course, Hong Kong, Korea and Singapore, experienced more rapid growth than Thailand. In the last few years, Thailand has certainly been the world's fastest growing economy.

Many have attempted to explain the Thai economy's good performance (see, for example, Jansen 1991). Factors that have been mentioned include the country's rich natural resource base, hardworking population, the relationships with the dynamic Southeast Asian region and political and macroeconomic stability.

The development strategy that has steered the process of growth and change has three outstanding characteristics: its outward perspective, its focus on modern industry, and its bias towards the private sector.

Thailand has always tried to maintain and intensify its trade and financial links with the world economy. The country's initial efforts at industrialization were, of course, accompanied by protection against imports, but these never took an excessive form. The "World Development Report 1987" (see World Bank 1987, p. 83) classifies the trade strategies—tariffs and import controls, export incentives and exchange rate policies, for example—of a sample of 41 developing countries into four categories: from strongly outward oriented to moderately outward to moderately inward and strongly inward oriented.

Two periods are studied (1963-1973 and 1973-1985). About three-quarters of the countries fall into the two inward-looking categories, but Thailand is included in the moderately outward oriented group for both periods. Protection did exist for some industries, but this did not result in a strong anti-export bias. At a relatively early stage, already in the 1970s, Thailand realized that rapid growth would only be possible if exports rose rapidly. Gradually the country shifted to an export orientation: the import protection remained, but was accompanied by a more active export promotion policy.

Also, the country's financial linkages to the world economy were relatively free. Foreign investment was and is welcomed and even actively invited through incentives. Large domestic corporations and Thai banks are increasingly active on international financial markets (see the section on financial development and structural change later in this chapter).

A second characteristic of Thailand's development strategy has been the priority given to the modern sector. Thailand's political power block consists of an alliance between the political elite and the economic bourgeoisie. This coalition is strongly biased in favor of modern industries in urban areas and against the agricultural sector and urban workers. This bias is shown in various policy interventions. The main thrust of public policy has been to create conditions for private industrial accumulation. That attempt has taken three main forms.

The first was through direct subsidy to industry in the form of investment incentives such as tax deductions. A second policy feature has been the attempt to shift relative prices in favor of industrial activities. Tariffs and import controls protected the domestic market and allowed corporations to increase product prices. At the same time, input prices, particularly of labor and imported inputs, were kept low. Food prices were also kept low, so that the real wage level did not need to be increased. In addition, trade union activity was repressed. The tariff structure and the overvalued currency helped to control the cost of imported inputs to the industrial sector at the expense of the exporting agricultural sector. A third form of public policy favoring industrial accumulation was the country's macroeconomic policies. Short-term monetary and fiscal policies were, for the most part, left to the technocrats, who executed rather conservative policies: the fiscal deficit was generally small and monetary policies were restricted to defending the exchange rate. With the exception of some periods, these policies were highly successful: inflation was generally low and largely determined by world inflation; up to the late 1970s the current-account deficit was modest and up to the 1980s the exchange rate was exceptionally stable. These conditions helped to create an economic environment of stability and confidence which must have helped to stimulate domestic and foreign investment (the macroeconomic conditions will be further analyzed later in this chapter and economic policies will be analyzed in detail in Chapter 6).

Thus, the three strands of economic policy directly and indirectly favored industrial accumulation. This modern sector bias was further strengthened by financial factors. Domestic financial institutions have shown a strong preference to lend to large-scale modern firms, rather than to small-scale household businesses. And, as we will analyze in more detail in Chapter 3, international financial inflows, upon which Thailand came increasingly to depend since the mid-1970s, were also primarily directed at the modern sector of the economy.

The third aspect of Thailand's development strategy has been its strong reliance on the private sector as the leading agent. Public sector policies are generally defined to serve private sector needs. There are close personal links between political leaders and major business leaders. The major political parties are run by, or closely associated with, modern business. There is no effective countervailing power in the form of, for instance, political parties representing labor or farmers' interests. The links between politicians and the business world are so tight that frequent allegations of corruption are made. The military leaders, who staged a coup in February 1991, stated as the main reason that the government was guilty of excessive corruption.

In this political context, the role of the public sector in the economy has been restricted. The size of the government is comparatively small and the role for state enterprises much more restricted than in most developing countries. The "World Development Report 1990" lists the 1988 Government Expenditure/Gross National Product (GNP) ratio of 54 developing countries (see World Bank 1990). Only 10 of these countries had a lower ratio than Thailand. The role of the public sector (government and state enterprises) can be seen from the ratio of public sector investment to GDP. FitzGerald and Sarmad (1990) have collected data on that ratio for a sample of 23 developing countries over the period 1970 to 1988. The average public investment/GDP ratio of the sample ranged between 8 and 10 percent over this period. The same ratio for Thailand was much lower, between 6 and 8 percent.

Thailand's development strategy includes many elements—the bias towards the modern sector and against agriculture, or the close ties between government and dominant business groups are examples—that, in other countries, led to economic stagnation and inertia. Some reasons may be suggested why, in the case of Thailand, they did not inhibit a dynamic development. In the first place, the bias against agriculture did not prevent a rapid growth of agricultural output. The availability of new lands made growth and diversification possible and profitable without much investment or incentives. A second reason is that trade and other distortions have always been relatively modest, that is, not leading to a prohibitive anti-export bias. A third factor has been that, on the whole, cautious fiscal and monetary policies have created an atmosphere of confidence with domestic and foreign investors.

In the remainder of this chapter, some relevant aspects of the Thai economy's development are further analyzed. In the next section, the changes in the Thai economy's structure are studied. In the subsequent section, the social aspects of development are highlighted. The section after that will analyze domestic financial intermediation and the growing integration with international financial markets. The last section looks at macroeconomic stability during the process of growth and change.

## **THE STRUCTURE OF THE THAI ECONOMY**

Thailand's economic structure has changed considerably over the last few decades. The dominant features of this change are, of course, the rapid industrialization and the decline of the agricultural sector's share in production. But many other important shifts also occurred.

In this chapter the social accounting method is used as a framework to describe the economic structure and to analyze structural change. The SAM is a summary table that integrates the accounts of production and income generation with the accounts of income distribution and social groups. This presentation has the great advantage that the interrelations between the structure of production, distributional issues, employment and capital accumulation can be identified.

Social accounts have been constructed for the Thai economy for the years 1975 and 1985. These accounts emphasize the links between the principal economic agents of the economy in the process of production, income formation and capital accumulation. The principal agents in our presentation are: (1) households and unincorporated businesses, (2) private corporations, (3) government enterprises, (4) government, (5) financial institutions, and (6) the rest of the world. These agents are involved in four production activities and in the use of four types of commodities: (a) agriculture, (b) industry, (c) construction and public utilities, and (d) services. Most SAMs for developing countries give more detail, for example, breaking down households into many subgroups and specifying production sectors with much more disaggregation. On the other hand, our presentation gives full weight to the processes of capital accumulation and financial intermediation, where most SAMs are highly aggregated. In the context of this study, it was particularly desirable to design SAMs that would allow the analysis of flows of external finance and their interrelationships with the structure of production, income distribution and accumulation. The mainly aggregate nature of our accounts has led us to apply the label "Macroeconomic Social Accounting Framework" (MSAF).

The main purpose of the MSAFs presented here is to give a one-page summary of the circular flow in the Thai economy and the structural changes therein. In the Appendix to this chapter, the concept of the MSAF is further introduced and the compilation of the two MSAFs for 1975 and 1985 is explained. Table 2.1 presents the MSAF for 1975 and Table 2.2 the MSAF for 1985.

In Tables 2.1 and 2.2, rows 1 to 4 give a detailed breakdown of intermediate and final demand for four types of commodities, while columns 1 to 4 break down total supply into intermediate deliveries, domestic Value Added and imports. The block of row 5, column 1 (5,1) to row 7, column 4 (7,4) distributes the Value Added over the factors of production (wages and corporate and unincorporated profit incomes) and in block (8,5) to (10,7) these factoral incomes are allocated over the institutions (households, private corporations and state enterprises).

Very striking is the large role for the household sector, not only as a receiver of wage incomes but, even more so, as an earner of profits of unincorporated enterprises. These are the incomes of small-scale family-based businesses.

The savings of institutions are recorded in block (13,8) to (22,12). The savings of the private corporations are split into those of non-financial enterprises (14,9) and those of financial institutions (18,9; 19,9; and 20,9). Foreign savings, i.e., the current account of the balance of payments, are in cell (22,12). The investments undertaken by households, private and public corporations and the government are in block (1,13) to (4,16).

The flow-of-funds block (13,13) to (22,22) shows how the savings are used or how the investments are financed. The block distinguishes between direct financial transfers among non-financial institutions (cells [13,13] to [16,16]) and be-

tween domestic and international financial intermediation. All three channels of finance are very important. Direct transfers (for example, equity acquisition, bond purchases, trade credits) accounted, in 1985, for almost as much as the funds obtained from domestic financial institutions. International finance was an even more important source of funds (see Table 2.2). The advantage of the MSAFs becomes clear when they are used to describe the structure, and changes in the structure, of the Thai economy. Compared to other accounts of economic development, where sector-by-sector and issue-by-issue trends are analyzed, the MSAF allows not only an insight into these trends but also shows immediately (changes in) the interactions between sectors and institutions. In comparing MSAFs of two different years, it should be noted that the MSAFs are in current prices: any change between the two years is thus the result of volume changes and relative price changes. In this section we will look specifically at the changes in the structure of production and final demand.

The structure of production changed in predictable ways. As usually happens during the process of economic development, the agricultural sector's share in value added in current factor cost declined from 24.2 percent in 1975 to 15.7 percent in 1985, while the industrial sector's share increased from 24.2 to 27.8 percent, and that of the services sector increased from 46.2 to 50.7 percent.

In Table 2.3 we have brought together data on the sectoral distribution of value added (at constant 1972 market prices) for a longer period than covered by the two MSAFs. The major shift in the distribution of value added is the rapid decline of the share of agriculture; as a result, the share of most other sectors increased. In the constant prices of Table 2.3, the decline in the share of agriculture is somewhat less than in the MSAFs (which are in current prices), and the increase in the shares of the industrial and services sectors is also less. This shows that an important element of the process of structural change is the change in relative prices. The relative price of agriculture and of public utilities with respect to other economic activities declined, whereas the relative prices of manufacturing and services activities increased.

Industrialization in Thailand began in the 1960s; in 1961 the first Development Plan was published. The early attempts followed the usual pattern of import-substitution—tariffs and import controls, together with other investment incentives, aimed at creating an industrial sector producing for the domestic market, but rather quickly an export orientation emerged.

In the analysis of the pattern of industrialization in Table 2.4 (derived from Jansen 1991), the manufacturing sector of the MSAF is further detailed along two criteria. Natural resource-based industries (NR) are processing domestically-produced primary commodities for export or home consumption. Import-dependent industries (ID) import raw materials and intermediate goods for final processing or assembling into goods that are then exported or consumed locally. Both NR and ID industries may substitute local production for importation of final goods. A second criterion by which industries are classified in Table 2.4 is the market orientation. Depending on their export-output ratio, industries are grouped into those that have a significant export-orientation and those that are mainly or exclusively oriented towards the domestic market. The classification applied here has the advantage that it shows more immediately the extent of linkages between the various sectors of the economy and the balance-of-payments consequences of industrialization.

**Table 2.1 Macroeconomic Social Accounting Framework-Thailand-1975**

	1	2	3	4	SUB
	AGR	MFG	CONSTR	SERV	TOTAL
1 Agriculture	4,863	49,877	250	1,874	56,865
2 Mining and Manufacturing	10,447	68,391	19,141	24,840	122,818
3 Construction and Public Utilities	259	3,722	536	2,950	7,466
4 Services and Others	3,878	19,818	6,810	20,280	50,786
<b>SUBTOTAL</b>	<b>19,447</b>	<b>141,808</b>	<b>26,737</b>	<b>49,943</b>	<b>237,935</b>
5 Wages	5,389	14,230	3,053	39,871	62,542
6 Uninc. Profits	60,250	32,421	0	76,523	169,194
7 Corp. Profits	0	19,041	11,479	9,220	39,740
<b>TOTAL VALUE ADDED</b>	<b>65,639</b>	<b>65,692</b>	<b>14,532</b>	<b>125,614</b>	<b>271,477</b>
8 Households					
9 Private Corporations					
10 State Enterprises					
11 Government	4,532	17,906	728	8,676	31,842
12 Rest of World	3,020	60,697	5	5,961	69,683
13 Households					
14 Private Corporations					
15 State Enterprises.					
16 Government					
17 Other Wealth					
18 Bank of Thailand					
19 Commercial Banks					
20 Other Financial Institutions					
21 Informal Finance					
22 Rest of World					
<b>GRAND TOTAL</b>	<b>92,638</b>	<b>286,103</b>	<b>42,002</b>	<b>190,194</b>	<b>610,937</b>
<b>EMPLOYMENT ('000)</b>	<b>14,181</b>	<b>1,479</b>	<b>256</b>	<b>3,461</b>	<b>19,317</b>

As Table 2.4 shows, the growth rates of the ID industries surpassed those of the NR industries in most of the periods presented. Only in the years 1980-1985, when overall industrial growth was very modest under the impact of adverse internal and external conditions, did the NR industries grow somewhat faster (or rather, their growth rates declined somewhat less).

The main impetus for industrial growth in the 1960s came from the industries producing for the domestic market, but even at this early stage of industrialization the country's rich natural resource base provided a competitive advantage for some export-oriented industrial activities—food processing, for example.

In the 1970s, the export-oriented NR industries grew slightly faster than in the 1960s and a number of ID sectors (for example, textiles, basic metals and metal products, electrical machines and appliances) were able to shift from an exclusive orientation on the domestic market to export markets. By the 1980s, the export markets had become the leading force in the growth of the industrial sector.



(million baht)						
5 WAG	6 UIN.PR	7 CORP.PR	8 HH	9 PR.CORP	10 ST.ENT	11 GVT
			28,532			72
			87,616			4,141
			2,822			550
			92,322			26,527
			211,292			31,290
62,666	169,194			9,125	119	273
		35,015	1,046			2,688
		4,725				
			3,834	4,857	1,892	
			211	2,642	367	801
			26,094			
				24,158		
					2,347	
						7,957
				-25		
				1,592		
				287		
62,666	169,194	39,740	242,477	42,636	4,725	43,009

(Continued on page 16)

This pattern of industrialization, characterized by the rapid growth of import-dependent industries and the shift toward export-oriented industries, is also reflected in another aspect of structural change that the comparison of the two MSAFs brings out: the rapid increase in trade ratios. The share of exports of goods and services in total (intermediate and final) demand increased from 9.1 percent in MSAF75 to 10.8 percent in MSAF85, and the share of imports in total supply from 11.4 to 12.1 percent in the years between 1975 and 1985. The export/GDP ratio stood at 18 percent in the early 1970s and had increased to 24 percent by the early 1980s. In the most recent period (1987-1990), the ratio made a further jump to 34 percent. The import/GDP ratio followed a similar path—from around 20 percent in the early 1970s to 29 percent in the early 1980s, and further to 37 percent in the last few years (see Table 3.7 of Chapter 3). The spectacular rise in trade ratios in recent years is the outcome of an acceleration in the process of industrialization, characterized by the growth of export-oriented, but highly import-dependent, activities.

Table 2.1 (Continued)

	12 RoW	13 HH	14 PR.CORP	15 ST.ENT	16 GVT
1 Agriculture	6,616	172			
2 Mining and Manufacturing	33,648	5,244	16,847	1,072	1,415
3 Construction and Public Utilities	97	8,418	16,600	3,850	8,265
4 Services and Others	15,333	1,338	3,384	478	939
<b>SUBTOTAL</b>	<b>55,694</b>	<b>15,172</b>	<b>36,831</b>	<b>5,400</b>	<b>10,619</b>
5 Wages	124				
6 Uninc. Profits					
7 Corp. Profits					
<b>TOTAL VALUE ADDED</b>					
8 Households	1,100				
9 Private Corporations	3,887				
10 State Enterprises					
11 Government	584				
12 Rest of World					
13 Households					
14 Private Corporations		3,116		1,171	
15 State Enterprises			928		2,495
16 Government		74	1,474	159	
17 Other Wealth		749	3,681	916	
18 Bank of Thailand		1,695		63	391
19 Commercial Banks		11,934	353	160	39
20 Other Financial Institutions		1,956		-120	-2,431
21 Informal Finance		2,428			
22 Rest of World	12,316		4,819	638	934
<b>GRAND TOTAL</b>	<b>73,705</b>	<b>37,124</b>	<b>48,086</b>	<b>8,387</b>	<b>12,047</b>
<b>EMPLOYMENT ('000)</b>					

As a result of these radical increases in trade ratios, Thailand has become a very open economy indeed. The development of the Thai economic structure has been more defined by its external relations than by an increased interdependence among the domestic sectors. This can be shown by using the MSAFs to calculate the multipliers that define the intersectoral linkages. In input-output analysis, the use of multiplier analysis is often used to show the interactions among sectors and to simulate the effects of exogenous changes.

In the input-output model, an endogenous vector of sectoral output ( $q$ ) can be derived from a matrix of (fixed) input-output coefficients ( $A$ ) and a vector of exogenous final demand ( $f$ ):

$$q = Aq + f = (I - A)^{-1}f$$

where  $(I - A)^{-1}$  is the Leontief multiplier matrix. By changing elements of the final demand vector, new sectoral output can be simulated under the assumptions of fixed production technology, fixed relative prices and no capacity constraints in production. The multipliers indicate the backward (in columns) and forward (in rows) inter-industry linkages.

							(million baht)
GDFCF	17 STOCKS	18 BoT	19 CO.BK	20 OTHFIN	21 IF.FIN	22 RoW	GRAND TOTAL
172	381						92,638
24,578	13,302						286,103
38,491	-7,424		1,039	336			42,002
6,139	-913	-17					190,194
<b>69,380</b>	<b>5,346</b>	<b>-17</b>	<b>1,039</b>	<b>336</b>			<b>610,937</b>
							62,666
							169,194
							39,740
							242,477
							42,636
							4,725
							43,009
							73,704
			6,286	2,316	2,428		37,124
			7,908	189		11,544	48,086
			-10	175		2,452	8,387
		-402	1,809	765		211	12,047
							5,346
			1,211	149			3,484
		3,285				1,906	19,269
		2,487	1,462			289	3,930
							2,428
		-1,869	-436				16,402
<b>69,380</b>	<b>5,346</b>	<b>3,484</b>	<b>19,269</b>	<b>3,930</b>	<b>2,428</b>	<b>16,402</b>	

Similar to the input-output table, the MSAF can be interpreted as a static model of the economy. Grouping the MSAF in endogenous and exogenous accounts is, however, somewhat more complicated than in the more technical input-output model. Usual assumptions are that government, rest-of-the-world and capital accounts are exogenous. The rationale is that government spending depends on discrete policy decisions, export demand is determined by the state of the world economy, and investment decisions are autonomous, dependent on firm strategy and perceptions of the future. Aggregating the exogenous accounts into one vector ( $x$ ), defining the total incomes of the endogenous accounts as vector  $y$ , and defining the transactions of the endogenous accounts relative to total income (average spending propensities) by matrix  $A$ , yields the following model:

**Table 2.2    Macroeconomic Social Accounting Framework - Thailand - 1985**

	1 AGR	2 MFG	3 CONSTR	4 SERV	Sub total
1 Agriculture	23,049	125,670	785	4,972	154,476
2 Mining and Manufacturing	45,354	300,377	79,601	132,776	558,108
3 Construction and Public Utilities	1,245	17,977	11,654	16,168	47,044
4 Services and Others	13,032	83,376	32,755	88,735	217,898
<b>SUBTOTAL</b>	<b>82,680</b>	<b>527,401</b>	<b>124,794</b>	<b>242,650</b>	<b>977,525</b>
5 Wages	23,104	74,058	17,543	167,735	282,440
6 Uninc. Profits	118,228	59,330	0	230,762	408,320
7 Corp. Profits	0	117,329	34,702	57,691	209,722
<b>TOTAL VALUE ADDED</b>	<b>141,332</b>	<b>250,717</b>	<b>52,245</b>	<b>456,188</b>	<b>900,482</b>
8 Households					
9 Privates Corporations					
10 State Enterprises					
11 Government: Net Direct Tax	1,859	89,480	1,571	21,007	113,917
12 Rest of World	14,545	237,508	963	21,057	274,073
13 Households					
14 Private Corporations					
15 State Enterprises					
16 Government					
17 Other Wealth					
18 Bank of Thailand					
19 Commercial Banks					
20 Other Financial Institutions					
21 Informal Finance					
22 Rest of World					
<b>GRAND TOTAL</b>	<b>240,416</b>	<b>1,105,106</b>	<b>179,573</b>	<b>740,902</b>	<b>2,265,997</b>
<b>EMPLOYMENT ('000)</b>	<b>18,090</b>	<b>2,159</b>	<b>664</b>	<b>5,346</b>	<b>26,259</b>

$$y = Ay + x = (I - A)^{-1}x$$

where  $(I - A)^{-1}$  is the aggregate multiplier matrix. This model can be used to simulate the effects of changes in the exogenous variables (for example an increase in government spending, or in capital inflows from abroad, or in private investment) on the endogenous production, consumption and income distribution structure. The MSAF multipliers are more comprehensive than the input-output multipliers. They include the effects of changes in exogenous demand on factor income generation, institutional income distribution and current transfer payments, and on consumption. Accordingly, the number of assumptions also increase: not only is it assumed that technology and relative prices are constant (as in the case of input-output multipliers), but also that linear relationships are assumed to exist between income and factor shares, current transfers and consumption patterns.

(million baht)						
5 WAG	6 UIN.PR	7 CORP.PR	8 HH	9 PR.CORP	10 ST.ENT	11 GVT
			62,916			276
			272,465			16,408
			9,354			4,877
			317,931			121,356
			662,666			142,917
304,227	408,320			70,266	226	1,199
		162,200	9,194			21,507
		47,522				
			22,551	16,945	13,273	
			675	22,721	13,323	8,802
			89,896			
				83,497		
					20,700	
						-3,090
				861		
				1,586		
				3,675		
304,227	408,320	209,722	784,981	199,551	47,522	171,335

(Continued on page 20)

In Table 2.5, the aggregate multipliers for the MSAF75 and MSAF85 are given. Multipliers are shown for column and row totals. Column multipliers give the effects of an exogenous injection in the respective accounts, and row multipliers those of an injection in all accounts. A high column multiplier means a high degree of integration of a particular account with the rest of the system in response to an exogenous injection into the system. Table 2.5 shows that the accounts "agriculture," "labor income," "unincorporated capital" and "services" have the highest sum of the column multipliers. They have thus the highest backward linkage effects. The accounts "households," "mining and manufacturing," "services," and "unincorporated capital" show the highest row multipliers, or the highest forward linkages.

Table 2.2 (continued)

	12 RoW	13 HH	14 PR.CRP	15 ST.ENT	16 GVT
1 Agriculture	13,871	700			
2 Mining and Manufacturing	171,890		86,683	7,989	2,663
3 Construction and Public Utilities	38	39,520	18,082	27,706	27,706
4 Services and Others	59,452		5,550	5,905	13,701
<b>SUBTOTAL</b>	<b>245,251</b>	<b>40,220</b>	<b>110,315</b>	<b>41,600</b>	<b>44,070</b>
5 Wages	21,787				
6 Uninc. Profits					
7 Corp. Profits					
<b>TOTAL VALUE ADDED</b>	<b>21,787</b>				
8 Households	743				
9 Privates Corporations	6,650				
10 State Enterprises					
11 Government: Net Direct Tax	4,649				
12 Rest of World					
13 Households			19,068	5,638	3,898
14 Private Corporations		25,227		939	649
15 State Enterprises			3,178		6,409
16 Government		7,784	618	2,035	
17 Other Wealth			35,451		
18 Bank of Thailand		362	20	99	33
19 Commercial Banks		52,322	-2,395	827	4,339
20 Other Financial Institutions		23,885			
21 Informal Finance		5,419			
22 Rest of World	40,514		23,505	19,294	10,794
<b>GRAND TOTAL</b>	<b>319,594</b>	<b>155,219</b>	<b>189,760</b>	<b>70,432</b>	<b>70,192</b>
<b>EMPLOYMENT ('000)</b>					

It is striking that, between 1975 and 1985, the values of most of the multipliers seem to have fallen. Normally, one may expect that, with economic development, the interdependencies between sectors and institutions would increase. The opposite seems to have occurred in Thailand. This could be attributed to the change in the structure of the economy, whereby the accounts with relatively high linkages, such as agriculture and households, have seen their share in total production and income falling, while some accounts with much lower linkages, such as corporate capital income and private corporations and state enterprises, saw their share rising. The decline of the value of the multipliers themselves can, however, also be observed for almost all accounts, and this may be related to the pattern of development whereby the economy has become more open and import dependent and leakages to abroad have increased. The Thai economy's increased openness to the world's commodity and financial markets is thus associated with the declining intersectoral linkages within the economy.

(million baht)						
17 WEALTH	18 BoT	19 CO.BK	20 OTHFIN	21 IF.FIN	22 RoW	GRAND TOTAL
8,177						240,416
-11,100						1105,106
1,168		2,542	1,536			179,573
-891						740,902
-2,645		2,542	1,536			2265,997
						304,227
						408,320
						209,722
						922,269
						784,981
						199,551
						47,522
						171,335
						319,594
6,487		21,505	3,308	5,419		155,219
		26,288	4,026		49,134	189,760
11,836		559	409		27,341	70,432
8,845	10,759	-2,849	16,676		29,414	70,192
		233				35,684
10,919		6,565	99		5,351	24,309
	2,000	1,391	2,617		-5,026	57,661
241	4,511	-1,437	162		-1,101	29,936
						5,419
	7,039	2,864	1,103			105,113
35,684	24,309	57,661	29,936	5,419	105,113	

## THE CHANGING SOCIAL STRUCTURE

The most striking structural characteristic of the Thai economy is the large role of the institutional sector "households" or, as its full title is, the sector of "households and unincorporated enterprises." The household sector in Thailand is not primarily a collection of consumption units. It is dominated by self-employed family businesses. This is clear from the MSAF85, which shows that capital income from unincorporated businesses is the main source of household income.

**Table 2.3 Value Added Per Sector in Constant (1972) Prices**

	(percentage distribution)				
	1970	1975	1980	1985	1990
Agriculture	27.0	24.8	20.6	19.9	14.4
Mining and Quarrying	2.9	2.1	2.6	2.5	2.9
Manufacturing	16.0	19.9	21.7	20.7	24.7
- light	11.0	13.8	14.3	14.6	16.5
- heavy	5.0	6.1	7.4	6.1	8.2
Construction	5.3	3.7	4.5	4.2	5.2
Electricity and Water Supply	1.0	1.6	2.0	2.5	3.0
Transportation and Communications	6.5	6.1	6.7	7.1	7.1
- public	1.4	1.6	2.4	3.4	3.7
- private	5.1	4.5	4.3	3.7	3.4
Wholesale and Retail Trade	17.4	17.1	16.9	16.3	17.6
Banking, Insurance and Real Estate	2.5	2.6	2.8	3.0	5.3
Ownership of Dwellings	5.6	5.5	4.8	4.4	3.6
Public Administration and Defense	4.4	4.7	5.2	5.4	3.8
Services	11.5	11.9	12.2	13.9	12.3
Gross Domestic Product (GDP)	100.0	100.0	100.0	100.0	100.0

**Table 2.4 Pattern of Industrialization (growth rates of Manufactured Value Added at constant 1972 prices)**

	1960-70	1970-80	1980-85	1985-88	Share in 1988 MFG GDP
<b>Natural Resource-based Industries</b>					
Export-oriented	7.3	8.2	7.0	9.9	24
Domestic demand-oriented	10.8	7.3	3.7	6.8	21
Total	9.1	7.7	5.3	8.4	45
<b>Import-dependent Industries</b>					
Export-oriented	-	12.3	5.1	14.1	33
Domestic market-oriented	15.8	11.7	1.5	11.9	22
Total	15.8	12.0	3.5	13.2	55
<b>TOTAL MANUFACTURING</b>	<b>11.6</b>	<b>9.8</b>	<b>4.3</b>	<b>11.0</b>	<b>100</b>

**Note:** The classification is based on information from Input-Output tables for 1975, 1980 and 1985. ID industries are those that have an import requirement per unit of output of 25 percent or more; for NR industries that requirement was below 25 percent. Export-oriented industries exported in 1980 10 percent or more of their output and domestic demand-oriented industries exported less than 10 percent of output. Before 1970 all ID industries were domestic demand-oriented; even in 1975 their export-output ratios were, in general, still low. Of course, over the years export orientation and import dependency may have changed so that the classification inevitably has an element of arbitrariness. It should, therefore, be used with caution.



Table 2.5 MSAF Multipliers

Sum of:	MSAF75		MSAF85	
	columns	rows	columns	rows
1 Agriculture	8.550	5.090	7.592	3.726
2 Mining and Manufacturing	6.267	11.452	5.274	11.411
3 Construction and Public Utilities.	6.893	1.492	6.615	1.646
4 Services	8.265	8.784	7.377	8.465
5 Labor Income	8.509	3.815	7.544	4.200
6 Unincorporate Capital	8.509	9.142	7.544	6.081
7 Corporated Capital	3.438	2.595	3.789	3.189
8 Households	7.509	14.708	6.544	12.562
9 Private Corporations	2.607	3.350	3.304	3.613
10 State Enterprises	1.189	1.309	1.031	1.723

The 1975 Social Accounting Matrix for Thailand (SAM75), constructed by the National Economic and Social Development Board (NESDB) and the World Bank, uses the term "informal sector" and describes it as a sector producing the same type of commodity as the formal sector, but under different conditions. The informal firms are said to operate neoclassically, with flexible wages and prices, and to have limited access to domestic and external credit. Formal sector corporations have more price rigidity and easy access to credit (see NESDB-IBRD 1982). It could also be added that informal sector firms (or unincorporated enterprises) generally are small-scale firms using predominantly family-labor in labor-intensive and simple production processes. According to the SAM75, informal firms dominate agriculture and are of substantial importance in light industries, transport, trade and services.

This informal or unincorporated sector overlaps with the institution "households" of the MSAF. The gross operating surplus of the small household firms in agriculture, industry, trade and services accounted for 62 percent of value added at factor cost in 1975. This proportion fell to 45 percent in the MSAF85. It is important to emphasize that, in a country such as Thailand, households are not just consumption units, but much more production units earning a profit income. In the analysis of accumulation behavior in Chapter 4, we will come back to this.

The declining share of the unincorporated business sector firms in value added is balanced by an increase in the wage share (from 23 to 31 percent) and in the share of the gross operating surplus of corporations (from 15 to 23 percent). There is a rapid process of concentration of capital going on in Thailand, shifting production and income to large-scale units using wage labor. This process is also reflected in employment data: the categories "own account workers" and "unpaid family workers" accounted for 83 percent of the labor force in 1975; by 1984 this share had fallen to 74 percent. This process is partly due to the changing production structure. The agricultural sector's share in value added—the sector where household firms dominate—had fallen from 24 percent in 1975 to 16 percent in 1985, whereas the share of the sectors where the corporate form dominates (manufacturing, construction, public utilities) increased from 30 to 34 percent. But

also within sectors the formalization of production occurs, with large firms growing faster than, or replacing, small-scale informal units.

The MSAFs give an impression of the changes in the distribution of that income over the various economic agents. With the formalization of the economy and the concentration of capital, as already observed, the income shares of "corporate capital" and "wages and salaries" increased and that of "unincorporated capital" declined. This pattern can be observed in all four production sectors.

Another factor influencing income distribution is the structure of labor productivity. Data on labor productivity, summarized in Table 2.6, show that the gaps between the sectors are wide. This table also shows that productivity growth rates have not been very different over the period studied; this implies, of course, that the absolute differences between the productivity level of the low productivity sectors (agriculture) and other sectors have widened. Gaps in productivity are thus widening and it is likely that this process is associated with a growing income inequality.

**Table 2.6 Value Added Per Worker (labor productivity)**  
(Value Added at constant, 1972, prices)

	('000 baht)				
	1972	1980	1985	1989	1989/1972
Agriculture	3.7	3.9	4.4	5.9	1.6
Manufacturing	25.3	36.3	39.4	40.7	1.6
Construction	31.0	30.9	28.6	24.3	0.8
Electricity and Water	95.3	98.9	97.8	141.4	1.5
Transport and Communications	34.1	44.0	53.0	56.6	1.7
Trade and Services	27.6	32.9	35.1	38.7	1.4
<b>TOTAL</b>	<b>10.6</b>	<b>13.3</b>	<b>15.2</b>	<b>21.1</b>	<b>2.0</b>

Note: Labor productivity has been estimated by dividing sectoral Value Added by sectoral employment.

The MSAFs show that between 1975 and 1985 there was a considerable transformation of the tax structure. Indirect taxes on the various types of commodities are shown in row 11, columns 1 to 4 of the MSAF. Direct taxes on institutions and other direct transfers to the government are shown in row 11, columns 8 to 10. There was a shift toward indirect taxes and, within that group, toward taxes on manufactured goods and away from agricultural commodities. There was also an increase in the direct tax burden on the household sector. If we assume, as is usually done, that all indirect taxes fall on household consumption, then the overall direct and indirect tax burden on households has significantly increased, from 11.8 percent of GDP (or 14.7 percent of household income) in 1975 to 13.4 percent (or 17.4 percent of household income) in 1985.

In summary, as a result of these processes, incomes have shifted to the formal sector of the economy and the tax burden on households has increased. It is

likely that, as an outcome of that process, the size distribution of income has become more unequal. Available data confirm that impression. Household surveys have been conducted in 1962/63, 1968/69, 1975/76, 1980/81 and 1985/86. Over these years the income distribution (as measured by Gini-coefficients) has become increasingly unequal. Over the same period, the incidence of poverty (proportion of population living below the poverty line) has tended to fall. Thailand's rapid economic growth has ensured that many people could improve their standard of living, but the gains were very uneven, favoring those in the urban modern sector. Clearly, growth and diversification within agriculture occurred and rural households do have increasing access to non-agricultural incomes from rural non-farm activities or from urban employment, but these new opportunities have, so far, not been sufficient to start closing the gap. The surveys show that those households that are active in the agricultural sector, live in rural locations and have little education have the lowest incomes and have experienced the slowest growth of income over the years (see Krongkaew 1985 and Hutaserani and Jitsuchon 1988). A simulation exercise undertaken by Hutaserani and Jitsuchon relating the determinants of income distribution and poverty to the economic changes that occurred from 1985 to 1988 suggested that the recent growth spurt consolidated earlier trends: the income distribution remained highly unequal and poverty incidence fell further. The highly unequal income distribution is a main social problem. The gap between the top 20 percent of the population, who in the 1985/86 survey earned 56 percent of all income, and the bottom 20 percent, who earned only 5 percent of total income, becomes too large.

## FINANCIAL DEVELOPMENT AND STRUCTURAL CHANGE

The rapid process of concentration in production is certainly stimulated by the financial development over the period. Already in 1975, Thailand had a fairly well-developed financial system (see Jansen 1990, Chapter 2), and by 1985 the M2/GDP ratio had increased to 0.58, compared to, for example, only 0.20 in the Philippines.

The most striking development between 1975 and 1985 is Thailand's rapid integration into the international financial markets. This is shown in row/column 22 of the MSAF. Column 22 shows the funds received from international financial markets by private corporations (row 14), state enterprises (row 15), government (row 16) and financial institutions (rows 18 to 20). Row 22 shows the funds sent to international financial markets (including repayment of debts) by private corporations (column 14), state enterprises (column 15), government (column 16) and financial institutions (columns 18 to 20). In Table 2.7, the funds so obtained or spent are expressed as percentage of GDP.

The years 1975 and 1985 are comparable in the sense that the current account deficit was of the same order of magnitude at around 4 percent of GDP. This implies that the total net financial inflow was also equal, at 4 percent of GDP. But, in 1985, this net result is the outcome of a much higher level of financial inflows and outflows. The public sector (state enterprises and government) in particular has increased its involvement in international financial markets, although the private sector is still the biggest party.

**Table 2.7 Integration with International Financial Markets (as percentage of GDP)**

	1975	1985
Funds obtained from abroad		
- private corporations	3.81	5.39
- state enterprises	0.81	2.15
- government	0.07	2.90
- financial institutions	0.72	-0.08
<b>Total</b>	<b>5.41</b>	<b>10.36</b>
Foreign assets acquired		
- private corporations	1.59	2.32
- state enterprises	0.21	1.90
- government	0.31	1.06
- financial institutions	-0.76	1.08
<b>Total</b>	<b>1.35</b>	<b>6.36</b>
Net flows received		
- private corporations	2.22	3.07
- state enterprises	0.60	0.25
- government	-0.24	1.84
- financial institutions	1.48	-1.16
<b>Total</b>	<b>4.06</b>	<b>4.00</b>

Source: MSAF75 and MSAF85.

The increasing “financial openness” is combined with, and partly related to, the rise in the “trade openness” that was already observed: the export/GDP ratio and the import/GDP ratio increased rapidly. The Thai economy has always been comparatively open and, in recent times, this openness has further increased and has also been extended from commodity to financial markets. The growing openness reflects, on the one hand, the flexibility of the economy to respond to external opportunities but, on the other hand, has also increased the economy's vulnerability to external shocks (that aspect will be further explored in Chapter 3).

The interaction with the international financial markets is also reflected in the debt statistics. Thailand's long-term external debt increased from US\$0.7 billion in 1970 to US\$18.6 billion in 1990 (for further data and discussion, see Chapter 3). Particularly in the early 1980s, the imminent threat of a debt crisis was felt. The major share of this debt is held by the public sector. The substantial interaction of the private sector with the international financial markets, as shown in Table 2.7, is more of a two-way interaction wherein, in some years, shortages of funds are covered on foreign markets but, in other years, the loans are repaid or foreign assets are

accumulated. The interaction of the public sector with the international financial markets shows a more substantial net inflow of funds.

Table 2.7 also suggests that the interaction with the international financial markets is mainly undertaken directly by the main economic agents and not intermediated through the local financial system. But monetary institutions (central and commercial banks) also have increased their activities on the international financial markets, as is shown in Table 2.8. In fact, the net foreign asset position of the monetary system has always been positive, although in the period 1970-1983 the trend for this surplus declined. In that period, both the external asset position (as proportion of GDP) was falling and the borrowing from abroad was increasing. In the last two years, a very rapid accumulation of international reserves took place as the result of large capital inflows related to direct and portfolio investments, as well as to short-term capital inflows, in response to the high level of domestic interest rates and the high level of domestic credit demand. Over the entire period, foreign assets holdings as percentage of GDP remained relatively stable. These predominate (more than three-quarters) the foreign reserves in the hands of the central bank. Foreign liabilities are, again, about three-quarters, owed by the commercial banks. There have been fluctuations from year to year, reflecting the rise and fall in domestic demand for credit and supply of deposits.

**Table 2.8 Foreign Assets and Liabilities Monetary System (as percentage of GDP)**

	Foreign Assets	Foreign Liabilities
1970	13.04	2.41
1971	12.67	2.52
1972	14.15	3.77
1973	13.07	4.45
1974	13.82	4.27
1975	14.81	4.06
1976	13.00	3.64
1977	11.67	4.91
1978	12.87	6.95
1979	14.12	7.74
1980	11.85	4.89
1981	11.53	6.56
1982	10.65	5.55
1983	9.16	7.01
1984	10.66	7.44
1985	11.20	7.20
1986	12.84	5.26
1987	13.70	4.87
1988	14.88	5.21
1989	19.14	5.20
1990	20.33	5.36

**Note:** The stock of foreign assets and liabilities of the Bank of Thailand and of the commercial banks as percentage of GDP.

An important question that arises is whether the increasing role of international finance had an impact on the level or pattern of investment. Time series analysis (see Chapter 3) shows that total net capital inflows (as percentage of GDP) increased rapidly after 1976 and were, until 1985, at a substantially higher level than before. The analysis in Chapter 4 will show that these capital inflows financed a high level of public sector investment. The high capital inflows that were experienced in the more recent years are associated with a sharp increase in private sector investment. In Chapter 4, we will come back to the relationships between international finance and domestic accumulation patterns and behavior.

## STRUCTURAL CHANGE AND MACROECONOMIC STABILITY

Thailand's rapid growth and structural change was accompanied by, on the whole, a remarkable degree of macroeconomic stability. Information on some selected stability indicators is brought together in Table 2.9. A long period (three decades) is covered in the table in order to put the individual periods in the proper long-term perspective.

**Table 2.9 Stability Indicators**

	1960-64	1965-69	1970-74	1975-79	1980-82	1983-86	1987-90
Inflation (CPI)	1.7	2.7	9.0	7.0	12.6	2.2	4.4
Domestic inflation	2.2	2.8	0.9	3.7	6.9	2.0	-0.2
CAB	-0.5	-1.3	-1.6	-5.0	-5.4	-3.9	-3.0
Budget balance	-0.5	-1.7	-3.0	-3.0	-3.9	-3.2	+2.6
DSR	....	....	12.8	13	15.4	20.3	12.4
NER	20.9	20.8	20.6	20.3	21.7	24.9	25.5
RER	93	87	87	88	91	93	93*
growth	7.5	8.6	5.8	8.0	5.1	5.7	11.2

Note:	Inflation	=	rate of inflation, Consumer prices (CPI).
	Domestic inflation	=	rate of domestic inflation; CPI corrected for changes in import prices (weighted by the import share in GDP) and for changes in export prices (weighted by the export share in GDP).
	CAB	=	Current Account Balance as percentage of GDP.
	Budget balance	=	Government budget balance as percentage of GDP.
	DSR	=	External debt service payments as percentage of exports of goods and services.
	NER	=	Nominal exchange rate; baht per one US dollar.
	RER	=	Real exchange rate index: $NER * P_{usa} / P_{th}$ , where $P_{usa}$ is the wholesale price index of the USA and $P_{th}$ is the CPI of Thailand. 1960=100
	growth	=	growth rate real GDP.

\* 1987-1989

Inflation, as reflected in the consumer price index, is the outcome of domestic and external factors. International prices have a direct impact on the domestic price level. The Thai government has no active pricing policy and the import cost of most commodities are immediately translated into domestic consumer prices. The same applies to the export side. Thailand is an exporter of some major food items (rice, sugar, fruits). The domestic wholesale and consumer prices of these commodities are directly influenced by world market prices. Correcting the consumer price index for the direct impact of export and import prices gives the domestically-generated inflation (see Table 2.9). This domestic inflation is, in general, very low. Only in the period 1975-1982 was it somewhat higher. It may be surprising that the recent growth boom has, so far, not led to higher inflation. Over the final period reported in Table 2.9, the domestic inflation is, in fact, negative. This means that the price rises that did occur can be more than explained by the impact of changes in international prices. It should be noted that the period average of the final period is particularly due to the negative domestic inflation in 1987 and 1988. In the last two years, domestic inflationary pressures started to emerge.

The low rate of inflation and the direct links between domestic and international prices enabled Thailand to maintain a very stable exchange rate. There will be few developing countries where the nominal exchange rate devalued by only 22 percent over a 30-year period. This very modest nominal devaluation did not lead to a sharp overvaluation of the currency. Table 2.9 shows that the real exchange rate index of the baht never fell very far below its 1960 level. Also the other standard indicator of macroeconomic stability, the current-account deficit, stayed at a low level until the mid-1970s. The average level of the deficit was just enough to accommodate the structural inflow of international finance that consisted mainly of direct investment and official aid.

The increase in the deficit after 1975 should be seen in the context of the changing conditions on international financial markets. The main elements of these changes were the high liquidity of the market, owing to OPEC-surpluses, and the innovations that occurred, such as syndicated loans and variable interest rate loans. The outcome of these changes was that the access of developing countries to international bank loans suddenly increased sharply (for more detail, see Vos 1991).

The opportunities offered by the world financial markets were seized by many developing countries, including Thailand. After 1975 the net inflow of international finance increased sharply and, thus, the current-account deficit rose sharply, as Table 2.9 shows. But the composition of capital inflows also changed radically, with bank loans taking a major share (see Chapter 3 for more details).

The reasons behind the sharp increase in capital inflows were, thus, to be found more on the supply side than on the domestic demand side. But, of course, the inflows had a significant expansionary impact on domestic expenditure. In Chapter 4, we will analyze these events in detail and show that, in the period 1975-1985, the capital inflows had, in particular, an expansionary effect on public sector (i.e., government and state enterprises) investment. Table 2.9 shows that this period was associated with a relatively high level of budget deficit, a high rate of domestic inflation and a rapidly growing debt servicing burden. It could be suggested that the inflow of funds created demand pressures and made a tight monetary policy difficult to implement, but conclusions on these issues will have to await the detailed analysis in Chapters 5 and 6.

The balance-of-payments developments of the most recent period also deserve attention. Table 2.9 shows that in this period the current-account deficit as a percentage of GDP was sharply reduced but that capital inflows, nevertheless, were very high. Over all earlier periods, the current-account deficit had been more or less equal to the level of capital inflows, with the changes in foreign reserves of the financial system taking the (marginal) balance. But over the years 1987-1990, when the current-account deficit stood at 4.0 percent of GDP, net capital inflows were equivalent to 6.0 percent and the accumulation of international reserves accounted for 2.7 percent of GDP. The composition of the capital inflows also differed sharply with the earlier periods: now the capital inflows were aimed at the private sector and were dominated by private direct and portfolio investment (for details on the composition, see Chapter 3). The capital inflow led to a strong increase in private investment and an unprecedented acceleration of growth. Macroeconomic stability was maintained by three factors.

The first of these was the strong deflationary impact of the fiscal policy. As Table 2.9 shows, the fiscal deficit was turned into a surplus. This mitigated domestic demand pressures, which helped to keep inflation and the current-account deficit low. Public sector debt was being repaid, which contributed to the decline of the debt-service burden.

A second factor was that much of the investment activity was aimed at export activities. Export earnings rose sharply, which helped the current account. The third contributing factor was the devaluation of the baht in 1984, which led to an improvement in the competitiveness of Thai exports (see the real exchange rate index in Table 2.9). The improvement is, in fact, even stronger than shown in Table 2.9, where the real exchange rate is calculated only with respect to the US dollar. The devaluation with respect to the dollar in 1984 was followed in 1986 and 1987 by a strong depreciation of the baht with respect to the yen and the European currencies. The effects of this on imports and exports strengthened the current account of the balance of payments.

The events of this period will be further analyzed in Chapter 6, where it will be shown that the situation is precarious. Data for 1990 show that the current-account deficit in that year increased to 8.7 percent of GDP and that inflation rose to 6 percent. These figures suggest that the stability of the economy has been undermined and that more decisive policy interventions are required to defend it.

The experience of the two periods with high capital inflows is thus diverse. In the period 1975-1985, capital inflows were aimed at the public sector and were accompanied by substantial instability of the economy. The more recent period of the late 1980s, with capital flows aimed at the private sector, initially combined rapid growth with short-term stability, but the latest data suggest the undermining of the stability. These relationships between international finance and domestic growth and stability are the central focus of this study, and will be further explored in subsequent chapters.



## CONCLUSION

This chapter aimed to present the main dimensions of economic change in Thailand over the last two decades. Of all of the issues raised, three deserve to be summarized briefly because of their importance to the rest of this study.

1. The rapid growth and changes in the production structure have been associated with a formalization of the organization of production and a concentration of capital in the modern corporate sector. This process has widened the productivity and income gaps between the sectors and has contributed to further sectoral segmentation. In particular, the agricultural sector has stayed relatively behind in the process of rapid progress. Despite the growth and diversification that did occur in the sector, it could not keep pace with the rest of the economy.
2. The economy has become more integrated with world markets in terms of both trade and finance. International capital flows have increased strongly. In the period 1975-1985, these flows were mainly directed at the public sector and, in the post-1986 period, mainly at the private sector. In both cases, these inflows led to significant increases in the sectoral investment levels.
3. The capital inflows in both of the periods mentioned are associated with increased short-term instability. In the decade 1975-1985, all stability indicators (inflation, current-account deficit, fiscal deficit) were on the rise. The more recent years have shown surprising stability, but the last two years suggest that this balance may be precarious: both inflation and the current-account deficit are rising.

In the rest of this study, these three points and, in particular, the interactions among them will be further investigated. In Chapter 3, the composition of the capital inflows and their allocation to the economic sectors will be analyzed to investigate whether foreign capital contributed to the sectoral segmentation of the Thai economy. The interaction between capital inflows and institutional investment and savings levels is the subject of Chapter 4, while their impact on intersectoral financial flows will be analyzed in Chapter 5. Chapter 6 will assess how, and how successfully, economic policies have steered these processes.

## Chapter 3

# Thailand in the World Economy

### INTRODUCTION

In the previous chapter we noted the growing importance of linkages with the world economy through trade and finance. This chapter provides detailed information on the nature of Thailand's relationships with the world economy, focusing first on the trends in the level and type of foreign capital that the country has obtained over the years. Questions that will be raised are: "What were the levels of capital inflows?" "What was the composition of the flows?" "How have these funds been used?" and "What was the resulting debt burden?"

International linkages through trade and finance are, in themselves, a major cause of economic disturbance. In the period under study, international commodity prices (for example, of oil) have fluctuated violently and a major world debt crisis has occurred, among others. In this chapter we will analyze the impact of these external shocks on Thailand's foreign exchange balance.

Relationships with the world economy may be easily assessed through an analysis of the various components of a country's balance of payments. In its most aggregate form, the balance-of-payments equation is:

$$\text{CurAc} + \text{CapAc} + \text{MonAc} + \text{E\&O} = 0 \quad (3.1)$$

which states that the sum of the current-account balance (CurAc), the capital balance (CapAc), the account of monetary movements (MonAc) and the errors and omissions (E&O) should be equal to zero. For the purposes of this chapter, the current and the capital account may be disaggregated:

$$\text{CurAc} = X + T - M - \text{NFP} \quad (3.2)$$

and

$$\text{CapAc} = \text{DFI} + \text{PFI} + \text{NFL} + \text{NFS} \quad (3.3)$$

where:

X	=	exports of goods and services
M	=	imports of goods and services
T	=	net unrequited transfers received from abroad
NFP	=	net payments of factor services to abroad
DFI	=	net inflow of direct foreign investment
PFI	=	net inflow of portfolio investment
NFL	=	net inflow of long-term loans
NFS	=	net inflow of short-term loans.

The various components of the capital account and current account will be presented later in this chapter.

## PATTERN OF FOREIGN CAPITAL FLOWS

Foreign capital has played an important role in Thailand's economic development. Foreign capital has filled the gap when domestic savings were insufficient to finance the country's investment activities.

During the period 1970-1974, net capital inflows accounted for a moderate 8 percent of Thailand's domestic capital formation. This proportion increased to 15 percent during the period 1975-1979 and to more than 25 percent during the first half of the 1980s. Subsequently, it dropped to about 17 percent in the period 1983-1986, when the country adopted a restrictive policy by putting an annual limit of US\$1 billion on public foreign loans to fend off the danger of a foreign debt crisis. Since 1987, substantial foreign capital has come into the country, particularly in the forms of direct and portfolio investments.

Table 3.1 shows the net inflows of the various types of funds as a percentage of GDP for five periods from 1970. The available balance-of-payments statistics allow us to split up the total long-term loan inflow into flows directed at the private sector ( $NFL_{pr}$ ), state enterprises ( $NFL_{se}$ ) and the government ( $NFL_g$ ). The table confirms that, from the early to late 1970s and the early 1980s, there was a steady and rapid increase in the level of capital inflows from abroad and, after a slight decline in the period 1983-1986, there was another burst in the most recent years.

In the first period, 1970-1974, international lending had not truly begun. The current-account deficit and the capital-account balance were relatively small. Capital inflows were dominated by flows aimed at the private sector ( $DFI$ ,  $NFL_{pr}$ ). Only 18 percent of all capital inflows were directed to the public sector. In the second and third period, this changed dramatically. The size of the total capital inflow, and its share in GDP, increased considerably and the public sector's share in these inflows rose to over 50 percent.

Table 3.1 also shows that these shifts were caused by the rapid rise in inflow of long-term loans. The inflow of long-term loans from international financial markets rose from less than one percent of GDP in the early 1970s to over 5 percent of GDP in the period 1980-1982. Most of these loans were taken by the public sector, in particular the state enterprises.

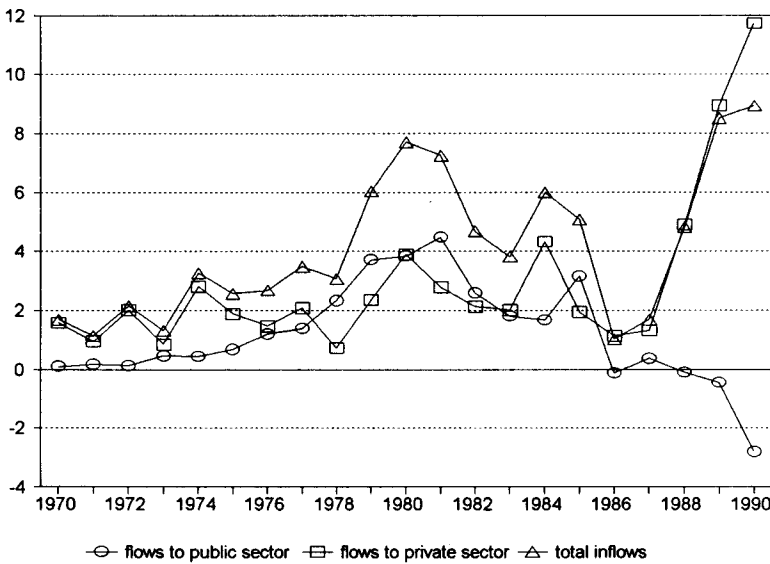
**Table 3.1 International Capital Flows to Thailand**  
(as percentage of GDP)

	DFI	PFI	NFL	NFLpr	NFLse	NFLgv	NFS	CaAc
1970-74	0.81	0.11	0.78	0.43	0.18	0.17	0.20	1.90
1975-79	0.39	0.08	2.29	0.43	1.13	0.72	0.79	3.56
1980-82	0.65	0.08	5.08	1.69	2.39	0.99	0.74	6.54
1983-86	0.74	0.16	2.57	0.46	1.18	0.93	0.51	3.98
1987-90	1.88	1.10	0.33	1.09	-0.46	-0.29	2.67	6.01
(percentage distribution)								
1970-74	42.7	5.8	41.1	22.8	9.3	8.9	10.4	100.0
1975-79	11.1	2.3	64.4	12.2	31.9	20.3	22.2	100.0
1980-82	9.9	1.2	77.6	25.9	36.5	15.1	11.3	100.0
1983-86	18.5	4.0	64.7	11.7	29.6	23.4	12.8	100.0
1987-90	31.3	18.3	5.5	18.1	-7.7	-4.9	44.5	100.0

Source: This table is based on the capital account of the balance of payments of Thailand.

The main explanation for this dramatic change can be found on the supply side. Traditionally, developing countries had limited access to the market for commercial international loans. But, after the first oil crisis, the international financial markets were very liquid with deposits of oil dollars, while the demand for credit from the rich countries was limited because of a recession. Against that background, lending to developing countries became attractive. Through instruments such as consortium loans and variable interest rate loans, the risk of Third World lending was reduced (for a full account of changes in the international financial markets, see Vos 1991). International financial institutions concentrated their lending on the public sector. Two reasons for this bias may be suggested. First, international financial markets only deal in large loans, and the capacity to manage and absorb such large amounts is concentrated in the public sector. Second, international financial institutions demand a government guarantee on loan servicing to try to reduce the sovereign risk implied in international loans. In most countries, such a guarantee is only provided to public sector agencies.

Figure 3.1 shows that the capital inflows to the public sector began to rise in 1975 and, from then on, increased rapidly until 1981. Capital inflows to the private sector show more fluctuation and not a clear trend, so that the movement of the line of total capital inflows is, over the medium term, dominated by the public sector. That was at least the picture until 1987. Since then, the situation has drastically changed, with capital flows to the public sector becoming negligible and private sector inflows rising very rapidly.



**Figure 3.1 Foreign Capital Inflows (as percentage of GDP)**

Obviously, the trends observed in Table 3.1 and Figure 3.1 were only made possible through changes on the international financial markets. That the trends did occur is the result of the Thai government's decision to make use of the new opportunities. The impact of this decision can only be assessed after a detailed analysis of the various elements of the capital inflows.

### Direct Foreign Investment

Thailand's import substitution policy attracted a significant amount of inflows of foreign direct investment (DFI) in the 1960s and early 1970s. In the period 1970-1974, DFI accounted for over 40 percent of total foreign capital inflows. This share leveled off to a moderate level of around 10 percent, however, during the second half of the 1970s and the early 1980s. Not until 1987 did a new wave of DFI from Japan and the Asian NICs come into Thailand.

Table 3.2 provides the distribution of total direct investment by country of origin. The distribution in the periods between 1970 and 1986 is relatively stable, but the sharp changes in the period 1987-1990 underline the special characteristics of the recent foreign investment boom. The main aspect of Thailand's recent boom is, of course, the enormous increase in the size of the inflow of funds. Over the period 1970-1983, the average annual inflow of direct investment funds amounted to almost 3 billion baht per year, equivalent to about 4 percent of annual private investment in Thailand. In 1988, the net inflow was 27 billion baht, in 1989 44 billion baht, and in 1990, with an amount of 57 billion baht, it came to nearly 10 percent of total private investment.

**Table 3.2 Net Inflows of Direct Foreign Investment in Thailand by Investing Country (percentage distribution)**

Country/Region	1970-79	1980-82	1983-86	1987-90
<b>North America</b>	35.72	27.03	30.57	11.29
U.S.A.	35.56	27.25	29.71	11.06
Canada	0.16	(0.22)	0.86	0.23
<b>Japan</b>	29.78	22.89	32.87	44.39
<b>Asian NIEs-3</b>	10.32	14.06	11.06	23.36
Hong Kong	9.59	13.88	9.68	11.58
Republic of Korea	0.35	0.07	0.09	0.74
Taiwan	0.38	0.11	1.29	11.05
<b>ASEAN</b>	6.38	7.57	4.00	7.87
Brunei	0.00	-	0.04	0.00
Indonesia	0.10	0.24	0.05	0.07
Malaysia	0.61	1.12	0.74	0.38
Philippines	0.28	0.00	(0.12)	0.01
Singapore	5.11	6.21	3.28	7.41
Australia	0.46	1.39	0.93	0.21
<b>China</b>	0.00	0.00	0.44	0.34
<b>EC and other W.Europe</b>	15.40	19.16	11.73	7.78
<b>Others</b>	1.94	7.90	8.40	4.76
<b>Total</b>	100.00	100.00	100.00	100.00

Source: Bank of Thailand.

A second characteristic of the recent boom is the sharp increase in Japanese and Taiwanese shares and the emergence of South Korea as an investor. The reasons for this lie within international factors. After the Plaza Agreement of 1985, the yen began to appreciate, and the currencies of the Asian NIEs also appreciated against the dollar. Combined with these countries' rising labor costs, this undermined the international competitiveness of their labor-intensive export industries. These factors forced investors in the three countries to move their production bases abroad. Thailand became one of the preferred destinations and, as a result, DFI inflow grew rapidly in 1988 and 1989.

Note that the shares presented in Table 3.2 may give a wrong impression. The U.S. share in total DFI is falling, but it is a falling share within a rapidly growing total. The average level of DFI inflows from the U.S. was around 800 million baht per year in the period 1970-1983. In 1988 the inflow was over 3 billion baht and in 1989 was more than 5 billion baht. Also, total inflows from Hong Kong and Singapore, for example, increased substantially. The increasing Japanese share is somewhat distorted by the realignment of major currencies since 1985. The appreciation of the yen implies that a given amount of Japanese investment (valued in yen) translates into a higher amount in terms of baht. Despite these reservations, the "real" value of Japanese and other Asian investments dramatically increased in recent years.

There were also some shifts in sectoral allocation of foreign investments. In the period 1970-1986, direct investments had concentrated on the trade, construction, mining and manufacturing sectors (see Table 3.3). The allocation pattern of the last four years shows some significant differences. Mining has almost disappeared as a destination for foreign investment. The dominant destinations are now the trade, manufacturing and services sectors. Within the manufacturing sector, the very large share of the electrical appliances industry is striking. This sector is the prototype of an import-dependent, labor intensive, export-oriented activity that characterizes much of recent direct investments. The increase in the role of the services sector is a result of investment in housing and real estate, reflecting the participation of foreigners in the Thai property boom.

**Table 3.3 Distribution of Net Inflows of Direct Foreign Investment by Sector 1970-1990**

(percentage)

Sector	1970-79	1980-82	1983-86	1987-90
1. Financial Institutions	13.75	0.14	1.45	6.86
2. Trade	21.46	13.19	22.10	16.91
3. Construction	11.76	19.12	15.84	7.17
4. Mining and Quarrying	11.93	20.83	17.10	1.64
4.1 Oil Exploration	10.40	18.48	15.13	1.43
4.2 Others	1.54	2.35	1.97	0.21
5. Agriculture	0.23	1.59	1.35	1.35
6. Industry	33.15	32.63	31.54	49.48
6.1 Food	3.53	-0.06	3.44	3.73
6.2 Textiles	12.66	2.65	2.09	3.14
6.3 Metal-based and Non-metallic	1.32	2.19	3.26	5.56
6.4 Electrical Appliances	7.11	11.89	8.00	18.69
6.5 Machinery and Transport Equipment	2.03	3.07	1.91	2.97
6.6 Chemicals	4.00	3.40	5.50	6.22
6.7 Petroleum Products	1.34	7.66	3.22	0.32
6.8 Construction Materials	-0.42	0.16	0.24	0.09
6.9 Others	1.59	1.68	3.89	8.76
7. Services	7.71	12.49	10.62	16.07
7.1 Transportation and Travel	5.33	5.55	2.87	1.51
7.2 Housing and Real Estate	0.82	1.10	1.84	7.61
7.3 Hotel and Restaurants	0.60	2.17	1.56	4.68
7.4 Others	0.96	3.67	4.35	2.27
8. Others	-	-	-	0.70
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
Cummulative Total Over the Period	16,631.9	14,624.0	29,218.3	145,221.1
Average Amount Per Year (million baht)	1,615.3	4,874.7	7,304.6	36,305.3

Source: Bank of Thailand.

The upshot of the recent investment boom has been the rapid growth of export-oriented industrial activities. In the process, Thailand has become increasingly included in the pattern of distribution of labor and trade in Asia, dominated by Japan.

### **Portfolio Investments**

Foreign portfolio investment (PFI), as regards its contribution to total foreign capital inflows, has never been significant (see Table 3.1). However, when the capital market in Thailand became more developed and overall economic growth and the rate of return on investment were attractively high, PFI increased very rapidly in 1987, 1988 and 1989. In 1989 there was a net inflow of over 36 billion baht. It is estimated that foreign portfolio capital transactions in the Securities Exchange of Thailand (SET) accounted for about 100 billion baht in 1989, equivalent to about 13 percent of all market transactions. In 1990, the net inflows fell back to the still very significant level of 11 billion baht.

The main sources of PFI have been the U.K., the U.S., Hong Kong, Singapore and, lately, Japan. A significant proportion of Singapore and Hong Kong funds, however, originally come from other countries. Many foreign investors prefer to make their PFI in Thailand through Singapore because there is a double taxation agreement between Thailand and Singapore. In the case of Hong Kong, several U.K. funds are identified as Hong Kong funds when they are invested in Thailand.

The sectors that have attracted significant shares of total PFI are banking, finance and securities, construction materials, and commerce—sectors which grew relatively fast in recent years and offer relatively high rates of return.

These factors are important in determining the PFI pattern in recent years (Jeerasak, 1989, p. 78).

### **Foreign Loans**

On average, during the past two decades, foreign loans contributed most to the net foreign capital inflow. The share in total capital inflows was about 40 percent during the period 1970-1974, but increased sharply thereafter, reaching an extreme high of almost 80 percent during the first half of the 1980s (see Table 3.1).

The foreign loan pattern was dominated by private-sector loans during the period 1970-1974, but this quickly changed to a public-sector predominance during the years 1975-1986. Only in recent years was the private-sector dominance restored, following the restrictive policy on foreign public loans. Foreign private loans as a percentage of GDP have remained relatively steady for two decades, but foreign public loans have fluctuated, causing changes in the foreign loan pattern. The share of foreign public loans in the total net capital flows rose from 18 percent during the 1970-1974 period to 52 percent during the next three periods and then dropped to a net outflow of funds (i.e., repayments of loans) during the 1987-1989 period (Table 3.1 and Figure 3.1).

Among the inflows to the public sector, official development assistance also played a role. Since the early 1970s, however, its role has been less significant—once a country becomes more developed, the need for foreign development assistance lessens. Of the outstanding public sector debt in the early 1970s, most



came from official sources: multilateral and bilateral sources accounted for 90 percent of all public and publicly-guaranteed debt in 1970 and 1975, with private sources, such as commercial bank loans, bond market issues and suppliers' credit, accounting for only 10 percent. But after 1975, funds from private sources began to flow and, by 1980, 40 percent of the then-outstanding debt had come from such private sources. Capital inflows to the public sector that came on concessional terms (i.e., had an aid component) accounted for 74 percent of the total debt in 1970. By 1980, that proportion had fallen to 31 and by 1988 to 27 percent. The decline is due to two processes: first, the increase in the share of funds obtained from private sources and, second, with the increasing income level in the country, Thailand was less qualified for concessional funds from official sources. In addition, the end of the U.S. military presence in Thailand after the Vietnam war was accompanied by a decline in American aid to Thailand.

The destination of foreign loans within the Thai economy is not always easy to trace. As Table 3.1 shows, most loans go to the public sector and, within the public sector, to state enterprises. State enterprises in Thailand are mainly found in the public utilities sector.

Table 3.4 reproduces World Bank data on the sectoral allocation of the long-term public and publicly-guaranteed debt. It may be assumed that the debt has accumulated from the loans made to government and state enterprises, because the Thai government does, as a rule, not give a guarantee on private-sector loans. The table shows that the debt concentrated on the electricity, gas and water, and transport and communications sectors and, at a much lower level, on agriculture and manufacturing.

**Table 3.4 Sectoral Distribution of Long-term Publicly-guaranteed Debt**

(in million US dollars)

	1970	1975	1980	1985	1988
Agriculture, Forestry, Fishing	34	37	272	851	1,226
Construction	0	0	0	0	27
Petroleum, Natural Gas	0	0	138	272	0
Electricity, Gas and Water	126	270	1,060	2,863	3,580
Manufacturing	18	46	151	880	889
Mining	0	0	14	3	12
Financial Institutions	0	0	0	0	25
Services	4	9	186	281	341
Transport and Communications	116	233	933	2,090	2,900
Trade	0	0	0	18	41
Public Adm. and Defense	7	2	65	284	386
Bal. of Payments Support	0	0	166	288	478
Debt Reorganization	0	0	0	300	1,576
Other Uses	18	19	1,085	1,807	1,918
<b>Grand Total</b>	<b>323</b>	<b>616</b>	<b>4,070</b>	<b>9,937</b>	<b>13,399</b>

Source: World Bank.

Non-guaranteed, private sector foreign loans only reached a high level in the first few years of the 1980s (see Table 3.1). It is likely that the strong public sector expansion in these years led to a crowding out of private credit demand on the domestic financial markets (see Chapter 5 for further analysis of these processes). In response, the private sector took refuge in the international market. In the last few years, there was another increase in foreign long-term loans to the private sector (and, even more so, of short-term loans), reflecting the private sector's need for funds to finance its investment boom.

No complete information on the sectoral allocation of foreign long-term loans to the private sector is available. The data that are available suggest that sectoral distribution is very close to that of direct foreign investment (see Table 3.3), with the greatest share going to the manufacturing sector and with significant amounts going to financial institutions, and the trade and services sectors. Sectors such as mining, construction and agriculture received only minor proportions of loan inflows.

### **Short-term Foreign Loans**

During the 1980s, for which meaningful data are available, the share of short-term loans increased from over 10 percent of all capital inflows during the first half of the decade to over 40 percent in the most recent years. Over the same period, the public sector tended to rely mostly on long-term loans, so that nearly all of the short-term loan inflows were directed to the private sector.

This analysis of trends in the various types of capital inflows in Thailand shows the importance of the changes in the international financial markets for the development of the Thai economy. The main feature of the 1970s and 1980s was the increased flows of international loans to the public sector. The accumulated net inflow of funds, which the Thai public sector received from various international sources during the public-sector lending boom in the 1975-1985 period, was equivalent to 32 percent of total public sector investment. These proportions are substantial and strongly suggest that increased access to international funds made significant additional resources available to the public sector, which may have financed a higher level of public sector investment than otherwise would have been undertaken. The relation between foreign capital flows and public sector investment is explored further in Chapter 4.

The total net capital inflows to the private sector (including DFI, PFI and long-term and short-term loans) were also quite significant. From 1970 to 1990, the accumulated net capital inflows received by the private sector were equivalent to about 30 percent of private corporate investment. In the last four years (1987-1990), this proportion increased to 41 percent. These proportions are somewhat misleading, as not all foreign funds go to finance investments and some are used to finance trade and working capital needs. Still, the size of the proportions suggest the very significant impact of capital inflows on the Thai economy.

The sectors that particularly benefited from the various forms of capital inflows from abroad were, in the public sector, electricity, gas and water and public transport and communications and, in the private sector, predominantly manufacturing and, to a lesser extent, financial institutions, trade, construction, and services. The analysis of the changes in the production structure presented in Chapter 2

(see, in particular, Table 2.3) shows that most of the sectors that were the main receivers of foreign capital did increase their share in value added. Table 2.6 further suggests that these were the sectors with the highest levels of productivity. These observations suggest that international finance contributed to the process whereby the most productive sectors draw in funds and grow fastest, deepening the segmentation of the economic structure. Of course, it is to be expected that international finance is attracted by and directed at the most dynamic sectors of the economy. But the question arises whether the government should have intervened to correct these trends and maintain a better sectoral balance. This question will be taken up later.

### **Capital Flight**

The account "Errors and Omissions" of the balance of payments is sometimes used as an estimate of capital flight, i.e., unrecorded transfers of funds by the private sector to foreign financial markets. Such transfers could be inspired by economic or political instability or by unfavorable conditions for domestic investment. As Thailand had not at that time had any serious internal and external socio-economic and political unrest and, given the fact that, in general, economic growth had been rapid and the domestic financial market relatively free, one would not expect that there would be substantial incentives for such a capital flight. It is noted that the entry "Errors and Omissions" is, at best, only a very indirect, narrow and unsatisfactory statistical proxy for capital flight and that more elaborate methods to estimate capital flight have been designed. But, to the extent that it has meaning, the balance on the "Errors and Omissions" account has been positive in most years—suggesting a net inflow rather than outflow of funds. The International Banking Statistics collected by the International Monetary Fund (IMF) recorded as deposits held by non-bank Thai residents with banks outside Thailand in 1990 an amount of US\$0.9 billion; this would be less than 4 percent of Thailand's total outstanding external debt.

### **External Debt**

Persistent external borrowings to finance a part of investments will accumulate the stock of external debt, resulting in a burden on the country to service the accumulated external debt. This section examines the extent of Thailand's external debt in relation to the size of the economy and its debt service burden.

Although direct investment and portfolio investment do not create a debt, they may, sooner or later, draw on foreign exchange reserves to repatriate profits. In this section, however, foreign debt includes only the foreign loans to the private and public sectors.

Looking at the total debt presented in Table 3.5, the size of foreign debt was small until the end of the 1970s. In 1979, there was a big increase in foreign borrowing. The size of foreign loans continued to grow rapidly after 1979 until 1985 (see Figure 3.1). As a result, the debt outstanding increased from 3 billion baht in 1978 to 14.7 billion baht in 1985 and 25 billion baht in 1990. In relation to the economy, the ratio of debt to GDP rose sharply from a mere 11.8 percent in 1977 to an all-time high of 39.3 percent in 1985. Over the same period, the ratio of debt to exports also increased sharply from 61 percent in 1978 to 147 percent in

1985, after which it fell back to 82 percent in 1990 because of the rapid growth of exports. Over 85 percent of the annual foreign debt outstanding was long-term debt.

**Table 3.5 External Debt and Debt Ratios**

Year	Total External Debt (million US\$)			Ratio of Debt to GDP (%)		Ratio of Debt to Exports (%)	
	Long-term	Short-term	Total	Long-term	Total	Long-term	Total
1970	749.3	n.a.	n.a.	10.6	n.a.	15.0	n.a.
1971	793.3	n.a.	n.a.	10.8	n.a.	16.3	n.a.
1972	912.6	n.a.	n.a.	11.2	n.a.	11.8	n.a.
1973	920.2	n.a.	n.a.	8.5	n.a.	12.8	n.a.
1974	1,176.3	n.a.	n.a.	8.7	n.a.	38.1	n.a.
1975	1,359.6	n.a.	n.a.	9.1	n.a.	47.7	n.a.
1976	1,615.5	n.a.	n.a.	9.6	n.a.	45.4	n.a.
1977	2,031.0	296.5	2,327.5	10.3	11.8	49.4	56.6
1978	2,719.0	329.5	3,048.5	11.8	13.2	54.7	61.4
1979	3,956.6	453.7	4,410.3	15.5	16.1	61.3	68.3
1980	5,704.1	1,107.2	6,811.3	17.7	21.2	68.6	81.9
1981	7,175.4	1,625.6	8,801.0	20.6	25.3	79.8	97.9
1982	8,317.6	1,811.0	10,128.6	23.3	28.4	90.7	110.5
1983	9,528.3	1,640.2	11,168.5	24.1	28.2	105.9	124.1
1984	10,796.9	2,041.8	12,838.7	26.2	31.2	105.9	125.9
1985	12,775.6	1,922.8	14,698.4	34.2	39.3	127.8	147.0
1986	14,071.4	1,958.0	16,029.4	33.8	38.4	118.0	134.4
1987	15,747.7	1,772.6	17,520.3	32.3	36.0	101.4	112.9
1988	15,378.9	2,530.6	17,909.5	25.8	30.0	71.7	83.5
1989	16,299.7	3,117.2	19,416.9	23.6	28.1	61.9	73.7
1990	18,593.4	6,466.7	25,060.1	22.8	30.7	61.0	82.2

Source: Bank of Thailand.

The rapid accumulation of external debt has led to a rapid increase in interest payments. Interest payments on external debt rose from less than one percent of GDP during the early 1970s to 3.2 percent in 1982 then levelled off, but remained over 2 percent after that. During the 1970s, the majority of interest payments on external debt were the responsibility of the private sector. However, the situation changed during the 1980s when the public sector accounted for a majority of interest payments on external debt. The share of the public sector in external interest payments rose from 34 percent in 1970 to 47 percent in 1980 and 71 percent in 1989. Implications on the government budget are explored in Chapter 5.

The debt service payments (interest charges plus repayments) as a percentage of exports also rose sharply from 11 percent in 1977 to 22.7 percent in 1985 (Table 3.6). This rising debt service ratio alarmed many economists because the burden caused a substantial drain on domestic investable resources. In 1985, interest payments on foreign debt represented 57 percent of the current-account deficit. Add profits and dividends outward remittances to interest payments, and the size was about two-thirds of the current-account deficit. By 1990, the debt service ratio had

decreased to 9 percent, a result of the government restriction on foreign public loans since 1986 and of the rapid growth of exports—the denominator of the debt service ratio.

**Table 3.6 External Debt Service**

Year	Debt Service Payments (million US\$)			Debt Service Ratio (Debt service payments as % of exports)		
	Long-term	Short-term	Total	Long-term	Short-term	Total
1970	64.4	n.a.	n.a.	15.0	n.a.	n.a.
1971	197.8	n.a.	n.a.	16.3	n.a.	n.a.
1972	181.8	n.a.	n.a.	11.8	n.a.	n.a.
1973	268.0	n.a.	n.a.	12.8	n.a.	n.a.
1974	255.9	n.a.	n.a.	8.3	n.a.	n.a.
1975	360.7	n.a.	n.a.	12.6	n.a.	n.a.
1976	377.8	n.a.	n.a.	10.6	n.a.	n.a.
1977	443.6	9.4	453.0	10.8	0.2	11.0
1978	823.7	20.5	844.2	16.6	0.4	17.0
1979	944.2	49.9	994.1	14.6	0.8	15.4
1980	1,227.4	68.9	1,296.3	14.8	0.8	15.6
1981	1,328.8	156.4	1,485.2	14.8	1.7	16.5
1982	1,522.7	138.2	1,660.9	16.6	1.5	18.1
1983	1,742.3	98.5	1,840.8	19.4	1.1	20.5
1984	2,032.5	87.3	2,119.8	19.9	0.9	20.8
1985	2,189.0	83.5	2,272.5	21.9	0.8	22.7
1986	2,396.8	65.1	2,461.9	20.1	0.5	20.6
1987	2,586.2	72.5	2,658.7	16.7	0.5	17.2
1988	2,678.3	81.0	2,759.3	12.5	0.4	12.9
1989	2,637.3	162.2	2,792.9	10.0	0.6	10.6
1990	2,558.1	190.7	2,748.8	8.4	0.6	9.0

Source: Bank of Thailand.

## EXTERNAL TRADE

Over the past 20 years, sustained real growth has been accompanied by persistent trade deficits, averaging about 6 percent of GDP. When non-factor services are included, the deficit becomes smaller, because of the growing contribution of earnings from tourism. Net factor payments become more important over the period. The inflow of workers' remittances, which in the 1980s became substantial, is more than balanced by rapidly increasing net payments of investment incomes.

Because the current-account deficit may be one of the reasons for increased foreign borrowing, the performance of the balance of goods and services, of net factor payments and of net transfers becomes crucial for the ability of the country to control debt problems and overall economic performance. This section examines in some detail the growth and structural change of external trade.

Equation 3.2, presented earlier in this chapter, defines the current account:

$$\text{CurAc} = X + T - M - \text{NFP} \quad (3.2)$$

In Table 3.7, the variables of this equation are further disaggregated. The trends in merchandise trade, services payments and receipts (including tourism), net factor payments (including investment income payments and workers' remittances receipts) and net private and public transfers are all expressed as percentage of GDP. A brief commentary on each of the entries may be useful.

**Table 3.7 Current Account Balance (as percentage of GDP)**

	1970-74	1975-79	1980-82	1983-86	1987-90
<b>TRADE</b>					
Merchandise exports	13.0	17.1	19.7	18.4	26.9
Tourism earnings	1.5	1.5	2.8	3.0	5.1
Other services rec.	3.4	1.6	1.4	1.8	2.5
Total exports of goods and services	17.9	20.2	23.9	23.3	34.4
Merchandise imports	19.0	23.1	26.9	24.5	34.3
Services payments	1.3	1.8	1.7	1.9	2.5
Total imports of goods and services	20.3	24.9	28.7	26.4	37.0
Balance goods and services	-2.4	-4.7	-4.8	-3.1	-2.6
<b>NET FACTOR PAYMENTS</b>					
Net investment income	-0.0	-0.6	-2.5	-3.3	-2.6
Workers' remittances	-0.1	0.3	1.3	2.0	1.5
Total net factor payments	-0.1	-0.4	-1.2	-1.3	-1.3
<b>NET TRANSFERS</b>					
Net private transfers	0.6	0.1	0.2	0.2	0.1
Net official transfers	0.4	0.1	0.4	0.3	0.3
Total net transfers	1.0	0.3	0.6	0.5	0.4
<b>CURRENT ACCOUNT BALANCE</b>	<b>-1.5</b>	<b>-4.9</b>	<b>-5.5</b>	<b>-4.0</b>	<b>-4.0</b>

## Exports

The longer-term role of exports in the Thai economy may be seen within the share of merchandise exports in total GDP. In 1970, the share of merchandise exports was 10 percent of GDP; it increased to 20 percent in 1980 and reached 28 percent in 1990. If trade in non-factor services is included, in 1990, the share of goods and service exports was as high as 37 percent.

From Table 3.7, it can be seen that the share of merchandise exports to GDP increased sharply in the 1970s, was relatively stable from the late 1970s to the mid-1980s, and increased rapidly again after that. In the first half of the 1970s, even with the first oil crisis in 1973-1974, the value of merchandise exports grew by 29 percent per year. This increase in export value was due mainly to the commodity boom which increased the price of Thailand's major export items, such as rice, rubber, maize, tin and sugar. The export value declined by about 10 percent in 1975,

but gradually picked up throughout the second half of the 1970s. In the early 1980s, Thai merchandise exports slumped again because of the second oil crisis, the worldwide economic recession, the depressed commodity prices of Thailand's major exports and, as we will see in Chapter 6, the inappropriate domestic economic policies. The export value growth rate during the first half of the 1980s was, on the average, 10.7 percent per year. However, when the Thai economy regained its growth momentum after the third quarter of 1986, export values grew by about 30 percent annually.

Thailand has gone through a period of rapid growth and structural change for more than two decades. Not only have exports expanded, but also the export composition has changed (see Table 3.8). Manufactured goods play an increasing role in Thailand's merchandise exports: its share increased from 10 percent in 1971 to 32 percent in 1980 and reached 75 percent in 1990. In 1985, manufactured exports outpaced agricultural exports for the first time. This was not merely a short-run phenomenon resulting from a price slump in Thailand's primary commodity exports. Since then, manufactured goods have maintained the top spot in Thailand's merchandise exports, with an increasing share.

**Table 3.8 Merchandise Exports, Classified by Sector**

Year	Agriculture	Fishing	Forestry	Mining	Manufacturing	Others	Re-export	Total
1977	51.40	4.35	1.16	9.04	30.84	2.10	1.12	100.00
1978	49.19	5.18	0.43	10.87	29.77	2.38	2.18	100.00
1979	47.88	5.58	0.16	10.77	31.40	2.51	1.70	100.00
1980	46.93	4.16	0.05	11.58	32.33	2.85	2.10	100.00
1981	47.77	4.34	0.09	7.73	35.82	1.60	2.64	100.00
1982	45.80	4.78	0.06	6.15	39.57	1.33	2.31	100.00
1983	45.39	5.62	0.07	4.65	41.89	0.91	1.47	100.00
1984	44.68	4.96	0.06	4.33	43.42	0.75	1.80	100.00
1985	37.96	5.48	0.19	5.24	49.45	0.79	0.91	100.00
1986	34.02	6.36	0.27	2.69	55.35	0.76	0.55	100.00
1987	27.77	6.06	0.27	1.95	62.71	0.99	0.25	100.00
1988	26.37	5.16	0.20	1.89	65.35	0.71	0.31	100.00
1989	22.95	5.53	0.14	1.55	68.59	1.02	0.22	100.00
1990	16.96	5.51	0.13	1.26	74.67	1.20	0.28	100.00

Source: Bank of Thailand, *Monthly Bulletin*, various issues.

In Chapter 2 (see Table 2.4), it was observed that since the 1970s both the natural resource-based and import-dependent industries had increasingly shifted to production for export markets. The manufacturing sector has become more export-oriented since the share of exports over output increased in many sectors. The export-oriented industries with export-output ratios higher than 20 percent in 1985 were rubber and rubber products, nonferrous metal, electrical machinery and appliances, and food. The industries with export-output ratios between 10 and 20 percent were textiles, leather, wood, plastic products, ceramics, iron, and steel (see Wattananukit and Bhongmakapat 1989, p. 8).

Japan and the United States were the main outlets for Thailand's exports in the 1960s and 1970s, until the United States became the leading market. The share of Thai exports to the United States was around 13 percent in the 1970s and increased to 23 percent in 1990. More recent trade statistics suggest that the share of exports to Asian countries, including Japan, is increasing, probably the outcome of the attempts to boost intra-regional trade. In contrast, the share of Thai exports to Japan dropped from 25 percent in 1970 to 15 percent and 16 percent in 1980 and 1988 respectively, and rose slightly to 17 percent in 1990. These trade figures confirm the hypothesis raised earlier about direct foreign investment: a significant share of direct foreign investment in recent years came from Asian countries (predominantly Japan) to produce for exports that, for a substantial part, go to the U.S.

The share of non-factor services exports to GDP was relatively high during the Vietnam War era. The share declined after that, during the late 1970s. Since then, the share of services exports to GDP has risen rapidly. This rising trend has been the result of a growth in tourism. The share of tourism earnings to GDP has increased since 1977, from 1.1 percent to 5.6 percent in 1990.

The Thai economy has become more export-oriented, judging from the higher exports to GDP ratio. The rising importance of exports is seen in both merchandise and services. For merchandise exports, there was structural change from a dependence on primary commodities to manufactured goods with a great variety of products, which should help to cushion the economy against the effects of world primary commodity price shocks. The structure of merchandise exports has also changed in terms of market orientation: merchandise exports now depend more on U.S. and EC markets. The growing protectionism within these two markets, however—if the Uruguay round of the GATT negotiations does not lead to positive results—could pose a threat to Thailand's merchandise exports.

## Imports

The value of merchandise imports increased more than 30-fold, from 27 billion baht in 1970 to 832 billion baht in 1990. A dramatic increase in merchandise import value occurred between 1973 and 1981 because of skyrocketing oil prices. As the Thai economy gradually picked up after the second half of 1986 and achieved dramatic growth during the 1987-1989 period, import values increased from 241 billion baht in 1986 to 832 billion baht in 1990.

As a share of GDP, merchandise imports increased from 18 percent in 1970 to 29 percent in 1980. After 1981, the share declined to 22 percent in 1986. The economic boom after 1986 resulted in a sharp rise in merchandise imports, reaching 40 percent of GDP in 1990.

As shown in Table 3.9, the composition of merchandise imports changed radically over the years. Oil imports rose rapidly in comparison to non-oil imports between 1970 and 1980 because of the two oil crises. However, after 1985, the weakening price of oil and the growing reliance on alternative energy sources led to a rapid fall in the share of oil imports in GDP.

Thailand's industrialization process during the past few decades has been accompanied by an increasing dependence on imports. Although the country has developed its manufacturing sector, increased manufactured output has induced a



corresponding acceleration of imports. The share of imports of final consumer goods was already relatively low in the 1970s and has not fallen much since then. It seems that, by 1970, the import substitution of consumer goods had been completed.

At the same time, however, the share of intermediate products and raw materials increased from 4.5 percent of GDP in 1970 to 7.5 percent in 1985. The increase in this share in recent years, up to 14 percent in 1990, is spectacular and confirms the import-dependent nature of the current foreign investment-led boom.

The ratio of imports to total demand provides basic information on the degree of import dependence of the Thai manufacturing sector. Among the industries with high import dependence are machinery, transport equipment, and electrical machinery and appliances. Low import dependence was found in labor-intensive or natural resource-based industries, including the food, textile, leather, beverage, tobacco, wood product, rubber, ceramic, plastic, and other nonmetal industries (see Wattananukit and Bhongmakapat 1989, p. 13).

**Table 3.9 Merchandise Imports by Type of Commodity (as percentage of GDP)**

Year	Consumer Goods	Intermediate Products and Raw Materials	Capital Goods	Vehicles and Parts	Fuel and Lubricants	Others	Total
1970	3.55	4.56	6.36	1.50	1.58	0.78	18.33
1971	2.86	5.06	5.62	1.43	1.77	0.72	17.46
1972	2.91	5.37	5.75	1.30	1.83	0.99	18.15
1973	2.84	6.13	5.77	1.53	2.10	0.62	18.99
1974	2.86	6.58	7.09	1.50	4.50	0.40	22.94
1975	2.79	5.31	7.33	1.50	4.69	0.42	22.03
1976	2.72	5.83	5.60	1.49	4.82	0.57	21.03
1977	2.75	6.67	6.04	1.97	5.18	0.72	23.34
1978	2.65	6.06	6.41	1.55	4.68	0.95	22.31
1979	2.85	7.78	7.14	1.28	5.84	1.26	26.15
1980	2.93	6.88	7.00	1.05	8.92	1.88	28.65
1981	2.40	7.64	7.50	1.26	8.56	1.18	28.51
1982	2.18	6.47	5.88	0.94	7.41	1.10	23.98
1983	2.45	7.30	7.67	1.25	6.27	1.05	26.00
1984	2.33	7.15	7.56	1.22	5.89	1.03	25.19
1985	2.36	7.47	7.43	0.92	5.59	0.99	24.76
1986	2.23	7.70	7.15	0.82	2.95	1.18	22.03
1987	2.70	9.56	8.45	1.21	3.53	1.22	26.67
1988	2.57	11.93	13.53	1.97	2.58	1.47	34.05
1989	3.08	13.09	13.39	2.20	3.26	1.63	36.66
1990	3.69	13.70	15.98	2.71	3.82	0.99	41.17

Source: Bank of Thailand, *Monthly Bulletin*, various issues.

In addition, the share of capital goods also showed an increasing trend, from 6.4 percent of GDP in 1970 to 7.4 percent in 1985 and over 16 percent in 1990.

The two countries on which Thailand's merchandise imports have most depended are Japan and the U.S. The share of total imports coming from Japan was 26.5 percent in 1985 and rose to 30.7 percent in 1990. Imports from the U.S. in 1990 accounted for 10.9 percent of the total, reflecting a rather low share compared to imports from Japan. Nevertheless, Japan and the U.S. supplied 35.6 percent of all Thai imports in 1980 and 41.6 percent in 1990, indicating the heavy and uneven reliance of the Thai economy, especially the manufacturing sector, on these two countries. The trade relationships with these two partners are quite uneven. In 1990, 31 percent of Thai imports came from Japan and 17 percent of Thai exports went to Japan. In the same year, 11 percent of Thai imports came from the U.S. and 23 percent of exports went there. Japanese investments in Thailand explain much of the difference. Japanese firms in Thailand, dependent on imported inputs from Japan, produce for export to the U.S. Unfortunately, this pattern implies that Thailand is caught up in the trade disputes between these two major economic powers.

The imports mostly consisted of capital goods, intermediate goods and raw materials required by the manufacturing sector. Because of this heavy reliance on imports, the strength of the U.S. dollar in the first half of the 1980s and the strong yen in the second half of the 1980s had important implications for Thailand's import values and its balance of trade.

Although service imports have been relatively small compared to merchandise imports, the value has increased steadily, while the ratio of services imports to GDP tended to rise slowly over the two decades.

### **Net Factor Payments**

Table 3.7 gives data on the two major items of factor payments: net payments of investment income and workers' remittances. Net payments of interest, and transfer of profits and dividends and other investment income, accounted for a minor share of GDP in the 1970s. By the early 1980s, however, the effects of debt accumulation became clear: net investment income payments accounted for around 3 percent of GDP. The restrictive policy on external debt after the mid-1980s stopped the rapid growth of the outstanding debt. This, together with the rapid growth of GDP, helped to reduce the debt/GDP and the investment-payments/GDP ratio. While interest payments as a percentage of GDP may not increase very fast in the near future, outward remittances of profits and dividends are expected to increase rapidly when the foreign investors who came to Thailand in the last few years start remitting profits and dividends back home. Actually, a rising trend in profit remittances has been observed since 1986.

Remittances from workers overseas, particularly those in the Middle East, began to grow from 1977 onwards, and became significant in the early 1980s. The ratio of remittances to GDP increased up until 1985 and, although absolute amounts of remittances received continued to grow slowly after that, receipts as a percentage of GDP began to decline, standing at 1.2 percent in 1990.

### **Net Unrequited Transfers**

Unrequited transfers received from and paid to the rest of the world reached a high level in the early 1970s because of payments related to the U.S.

military presence in Thailand. After the Vietnam war ended, these payments quickly fell. Since then, net private and public transfers received by Thailand have been a small share in GDP.

## EXTERNAL SHOCKS

In Chapter 2, it was observed that the Thai economy has already become more open to the world's commodity and financial markets. In the preceding sections, more detail on the patterns of international financial and commercial transactions were provided. Inevitably, an increased openness implies an increased vulnerability to disturbances arising from the world economy. In the period under study, these disturbances have taken the form of fluctuations in commodity prices on the world market (and thus in Thailand's export and import prices), in the growth of world trade (and thus in the demand for Thailand's exports), in international interest rates (and thus in the servicing burden on the external debt) and in the conditions of international financial markets. In Chapter 1, external conditions were used to characterize the nature of the subsequent sub-periods that are used in this study.

In this section, the nature of the external shocks are examined and their impact on the external balance of Thailand's economy assessed. The next chapter analyzes the impact of external conditions on domestic balances (savings and investment).

Financial shocks mainly concern two aspects: the level of interest rate and the conditions on international capital markets. A substantial increase in interest rates on international capital markets not only causes the domestic interest rate to increase and discourages investment, it also raises the country's external debt burden. The international interest rate (LIBOR) was quite low until 1977, after which it rose, reaching its peak in 1981. Tightening of the international capital market condition—with substantial increases in real interest rates and shorter maturities in 1979, as well as in the early 1980s after the second oil shock—had a great impact on a vulnerable Thai economy. Besides a higher oil price, the country experienced substantial domestic imbalances, resulting in a high current account deficit of 43 billion baht in 1979 (7.6 percent of GDP), a low level of foreign exchange reserves and double-digit inflation in 1980 and 1981. The world recession also weakened the demand for Thai exports and led to a worsening of commodity prices. Foreign loans were attracted to fill the gap and, as a result, Thailand's external debt burden worsened and approached high levels in the mid-1980s. Since 1983, international interest rates have stabilized somewhat.

Access to international financial markets, for countries like Thailand, have improved radically since the mid-1970s. The international debt crisis that began in Mexico in 1982 reduced the willingness of international banks to lend to developing countries, making governments of such countries acutely aware of the dangers of further borrowing. Following that shock, the Thai government attempted to reduce the reliance on international loans. The reduction in public-sector borrowing on international markets, since the mid-1980s, helped to bring the external debt burden down. The external debt service ratio stood at only 9 percent in 1990.

Since 1986, however, the international financial markets provided another "shock" to the Thai economy in the form of the sudden and drastic increase in private capital inflows. Shifts in the value of major world currencies, the appreciation of the Japanese yen and the depreciation of the American dollar, since 1985, have had a deep impact. Because the Thai baht remained closely tied to the dollar, the baht depreciated with respect to the yen. The appreciation of the yen is potentially harmful to Thailand, because there is a substantial trade deficit with Japan and a large part of the external debt is denominated in yen. Another factor, however, outweighed these harmful effects. The appreciation of the yen and of the currencies of some of the other Asian NICs made the exports of these countries less competitive on the international market, resulting in a strong outward flow of direct investment from these countries and bringing simple and labor-intensive export-oriented production to Thailand and other ASEAN countries. Trade shocks refer to substantial changes in oil prices, commodity prices, and growth of world trade. In the case of oil prices, the domestic and external environment at present is quite different from what Thailand experienced in 1973-1974 and 1979-1980. Dependence on oil as an energy source has been reduced to a relatively low ratio of oil imports to GDP at 3 percent, compared to almost 9 percent during the second oil crisis.

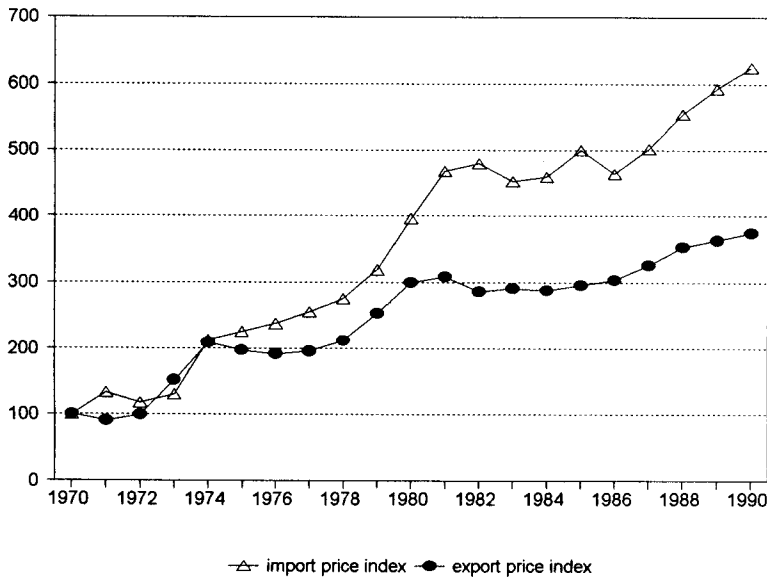
The oil price is only one of the many import prices. In Figure 3.2, trends in the import price index and Thailand's export price index are depicted. The figure shows that the sharp increase in oil prices, and in other import prices, around 1973-1974 was accompanied by an equally sharp rise in export prices. On balance, the two trends neutralized each other. In 1979-1980, there was another spurt in the import price index, again led by a rise in oil prices. On this occasion, export prices could not keep pace. Since 1986, both import prices and export prices show a rising trend. Over the entire period since 1970, Thailand's terms of trade deteriorated as the import price index rose more sharply than the export price index. It would appear, however, that since the early 1980s the import and export price indices have moved in parallel. Diversification of exports has led to an export composition that is similar to the composition of imports: in both exports and imports, manufactured commodities are predominant. It could thus be expected that Thailand would, in the future, suffer less from terms-of-trade shocks than it has in the past.

A growing share of total production is aimed at export markets. This increases the sensitivity to trends in world trade; any slowdown in the world economy, particularly within developed countries, will affect the market for Thailand's exports. Thailand relies heavily on the U.S. and EC markets for its exports—over 40 percent of total exports in 1990.

### **External Shocks and Domestic Adjustment**

The international economic and financial shocks of the last two decades have resulted in economic crises in and considerable adjustment problems for most developing countries.

This section seeks to measure the nature and extent of the external shocks to Thailand and the ways in which they have been absorbed.



**Figure 3.2 Import and Export Price Index (1970 = 100)**

External shocks relate to: (a) availability of foreign finance (i.e., changes in access to international financial markets for LDCs and shifts in the supply of aid); (b) terms of trade (i.e., changes in export and import prices); (c) debt burden (changes in the international interest rate); and (d) world demand for exports (growth in the volume of world exports). To study the extent and impact of external shocks, a simple disaggregation methodology will be used along the lines of work initiated by Balassa (see, for example, Balassa 1981 and Balassa and McCarthy 1984) and the UNCTAD (Helleiner 1987). Further elaboration of their methodology used in this section depends heavily on FitzGerald and Sarmad (1990), where the equations described below are derived and applied to a sample of 24 developing countries.

The UNCTAD methodology, on which FitzGerald and Sarmad partly base their approach, is based on the decomposition of the current-account deficit (CAD) in any one year ( $t$ ) between imports of goods and non-factor services ( $M$ ), net payments of factor services to abroad (NFP), exports of goods and non-factor services ( $X$ ) and unrequited transfers received from abroad ( $T$ ). Rephrasing equation 3.2 to express the current-account deficit:

$$CAD_t = M_t + NFP_t - X_t - T_t \quad (3.4)$$

Imports and exports are disaggregated between price indices ( $P_m$ ,  $P_x$ ) and volumes ( $J$ ,  $E$ ) at constant domestic currency prices:

$$M_t = P_{mt} \cdot J_t \quad (3.5)$$

$$X_t = P_{xt} \cdot E_t \quad (3.6)$$

Imports are linked to real domestic absorption (A)—in other words, consumption (C) plus investment (I)—by a single coefficient (j):

$$J_t = j_t \cdot A_t \quad (3.7)$$

$$A_t = C_t + I_t \quad (3.8)$$

Export volume (E) is linked to world trade volume (W) by an “overall export coefficient” (x) which, in effect, measures export penetration as the country's share of world trade:

$$E_t = x_t \cdot W_t \quad (3.9)$$

Finally, factor services to abroad (NFP) are broken down into net interest payments to abroad ( $V_i$ ), net investment income payments to abroad ( $V_d$ ) and net workers' remittances from abroad (R). Net interest payments to abroad are defined as the product of the current dollar interest rate (r) and the debt stock (in local currency at the official exchange rate) from the previous year ( $F_{t-1}$ ):

$$NFP_t = V_{it} + V_{dt} - R_t \quad (3.10)$$

$$V_{it} = r_t \cdot F_{t-1} \quad (3.11)$$

It should be noted that all coefficients (x, j, r) are, in practice, derived from these equations, so that the definitional identities do always add up to the observed current-account deficit (CAD).

Substituting Equation 3.5 to Equation 3.11 into Equation 3.4 yields the complete decomposition formula:

$$CAD_t = P_{mt} \cdot j_t (C_t + I_t) + r_t \cdot F_{t-1} + (V_{dt} - R_t) - P_{xt} \cdot x_t \cdot W_t - T_t \quad (3.12)$$

Finally, a base year or period (s) is chosen to calculate the first differences (d) of the variables, which then define the separate effects identified in the UNCTAD study:

$CAD_t$	$=$	$(j_s \cdot A_s) dP_{mt}$	terms-of-trade effect
		$+ (F_{s-1}) dr_t$	interest rate shock
		$- x_s \cdot P_{xs} \cdot d(W_t)$	world trade effect
		$+ r_s \cdot d(F_{t-1})$	debt accumulation burden
		$+ d((V_{dt} - R_t - T_t))$	other external variables
		$+ j_s \cdot P_{ms} \cdot d(A_t)$	domestic absorption
		$+ (P_{ms} \cdot A_s) dj_t$	import replacement
		$- (P_{xs} \cdot W_s) dx_t$	export penetration
		$+ \text{interaction terms}$	

(3.13)

Equation 3.13 allocates the observed change in the current-account deficit between two years or two periods to the component parts of the account. The first term measures the impact of changes in import and export prices, assuming that trade volumes would not change between the periods. The second term measures the impact of changes in international interest rates on an assumed unchanged debt stock. The third term measures the impact of fluctuations in world trade, assuming that the export prices and export share do not change. These three terms express the real external shocks that developing economies experience.

Other variables in the current account also have a significantly exogenous character. The "other external variables" mentioned in Equation 3.13 include changes in "workers remittances" received and in "current transfers." The amount of workers' remittances may depend more on the (exogenous) demand for such labor than on any domestic factors (in the case of Thailand, there have been no significant changes in remittance rules or incentives over the period under study) and the "current transfers" are grants etc., the amount of which is determined by external donors.

It may be concluded that changes in export and import prices, interest rates, world trade growth, workers' remittances and current transfers are exogenous influences on the current account of Thailand.

Equation 3.13 also includes a number of variables that have a closer connection with domestic variables and are, therefore, more of an endogenous nature. The term "debt accumulation burden" measures the change in the debt servicing burden that occurs due to an increase in debt stock. "Other external variables" also includes net investment income payments to abroad which flow from previous direct foreign investments. Together, these two terms measure the "external finance servicing burden," the effect on the current account of earlier inflows of funds.

"Domestic absorption" measures the change in the current account that arises from increases in domestic demand (both consumption and investment) with unchanged import propensities and unchanged import prices. "Import replacement" term measures the impact of changes in the import propensity, and "export penetration" measures the effect of changes in Thailand's share of world trade. The absorption and trade coefficients are influenced not only by external shocks but also by policy interventions and the private sector's reaction to them.

The UNCTAD methodology defines the difference between the sum of the terms explicitly defined in Equation 3.13 and the observed change in the current account deficit as "interaction terms" and makes no further analysis. FitzGerald and Sarmad (1990) develop the methodology further by pointing out that these missing terms are, in fact, cross products of changes in two or more variables which should tend to be zero for small changes in the variables but which, in the presence of relatively large shifts associated with adjustment to external shock, can be as significant as the current-account deficit itself. These effects are particularly important when identifying shifts in structural coefficients over a number of years, which should come about where "adjustment" (as opposed to demand restriction) has taken place.

The difference (Res) between the observed change in the deficit and the specified terms as defined in Equation 3.13 is made up of the following three "interaction effects":

$$\begin{aligned}
\text{Res} = & \text{sum of secondary effects of:} \\
& \text{interaction between:} \\
& \quad \text{domestic demand and unit imports} \\
& \quad (A_t - A_s)(j_t \cdot P_{mt} - j_s \cdot P_{ms}) \\
& \quad \text{displacement and import price} \\
& \quad + A_s(j_t - j_s)(p_{mt} - p_{ms}) \\
& \text{less interaction between:} \\
& \quad \text{world demand and unit exports} \\
& \quad - (W_t - W_s)(x_t \cdot p_{xt} - x_s \cdot p_{xs}) \\
& \quad \text{penetration and export price} \\
& \quad - (W_s)(x_t - x_s)(p_{xt} - p_{xs}) \\
& \text{plus interaction between:} \\
& \quad \text{debt stock and interest rate} \\
& \quad + (r_t - r_s)(F_t - F_s)
\end{aligned} \tag{3.14}$$

These five phrases might be expected to have determinate signs, derived from the respective demand and supply elasticities.

Table 3.10 gives the result of the described methodology as applied to Thailand. The columns decompose the change in the current-account deficit from one period to the next. For the period 1970-1974, this could not be done as the data for the preceding years were not available. Data for the 1960s are available but in 1970 a new series of National Accounts estimates starts, so that the data would not be fully comparable. The first period is, therefore, divided into two sub-periods: 1970-1971 and 1972-1974. The data in the first column decomposes the change in the current-account deficit between the two sub-periods. The second column decomposes the current-account shift from 1970-1974 to 1975-1979. The final period runs up to 1989, not 1990, because of data availability problems.

Table 3.10 measures the shocks and adjustments by comparing the levels from one period to the next. The table decomposes the increase in the deficit, measured in millions of baht; thus, a positive value for the variables in Table 3.10 indicates an expansionary impact of the variable on the deficit and a negative sign means that it reduces the deficit. Table 3.11 expresses these values as a percentage of the average GDP at the end period of each of the comparisons.

The two tables make it clear that, over the longer term, the movements of the current-account deficit are dominated by three long-term processes that were already identified in Chapter 2: income growth, export orientation and financial integration.

Growth of production and income leads to a rapid rise in domestic spending on both consumption and investment which, in turn, leads to an increased demand for imports. This process is reflected in the large entries in the rows for "domestic spending" and interaction effects "demand/unit imports" of Tables 3.10 and 3.11. The long-term process of rapid growth implies, therefore, a strong upward pressure on the current-account deficit.



**Table 3.10 Decomposition of Current-account Deficit**

	(period averages—billions of baht)				
	1972/74 compared to 1970/1971	1975/79 compared to 1970/74	1980/82 compared to 1975/79	1983/86 compared to 1980/82	1987/89 compared to 1983/86
Observed Deficit Increase	-3.154	19.492	18.634	-2.691	0.970
<b>External Shocks</b>					
<b>TOTAL</b>	<b>-5.582</b>	<b>4.707</b>	<b>24.313</b>	<b>-6.969</b>	<b>-76.202</b>
Terms of Trade	-0.205	14.655	32.254	9.804	-30.444
Interest Rate Shock	0.365	0.635	2.556	-2.753	-1.037
World Trade Change	-5.743	-10.583	-10.497	-14.020	-44.720
<b>Other External Variables</b>					
<b>TOTAL</b>	<b>-2.026</b>	<b>1.941</b>	<b>-4.630</b>	<b>9.189</b>	<b>8.915</b>
Debt Accumulation Burden	-0.184	-0.498	1.708	13.023	9.005
Change Direct Inv. Income	0.347	2.665	6.027	7.819	2.465
Change Remittances	-0.106	-1.447	-9.244	-10.533	-1.773
Change Unrequited Trans.	-2.084	1.220	-3.120	-1.120	-0.781
<b>Domestic Adjustment</b>					
<b>TOTAL</b>	<b>5.058</b>	<b>10.267</b>	<b>-2.923</b>	<b>0.423</b>	<b>76.826</b>
Domestic Spending	4.058	15.580	24.007	39.049	70.924
Consumption	3.137	11.382	18.514	29.170	42.918
Investment	0.922	4.198	5.492	9.879	28.006
Trade Ratios	1.000	-5.313	-26.930	-38.626	5.902
Import Replacement	1.196	-0.256	-0.228	-3.547	101.734
Export Penetration	-0.196	-5.058	-26.702	-35.079	-95.831
<b>Interaction Effects</b>					
<b>TOTAL</b>	<b>-0.604</b>	<b>2.578</b>	<b>1.874</b>	<b>-5.333</b>	<b>-8.569</b>
Import Shock	2.363	13.863	14.957	1.520	58.499
Demand / Unit Imports	1.879	14.097	15.101	1.741	42.719
Displacement / Price	0.484	-0.234	-0.144	-0.221	15.780
Export Shock	-3.090	-12.161	-19.777	-3.765	-66.571
Demand / Unit Exports	-2.991	-9.013	-8.878	-3.088	-37.445
Penetration / Price	-0.100	-3.148	-10.899	-0.677	-29.126
Debt Shock	0.124	0.876	6.695	-3.088	-0.497
Stock / Interest	0.124	0.876	6.695	-3.088	-0.497

**Table 3.11 Decomposition of Changes in Current-account Deficit**

	(period averages as percentage of the average GDP of the end period)				
	1972/74 compared to 1970/71	1975/79 compared to 1970/74	1980/82 compared to 1975/79	1983/86 compared to 1980/82	1987/89 compared to 1983/86
Observed Deficit Increase	-1.41	4.64	2.50	-0.27	0.06
<b>External Shocks</b>					
<b>TOTAL</b>	<b>-2.49</b>	<b>1.12</b>	<b>3.26</b>	<b>-0.70</b>	<b>-5.02</b>
Terms of Trade	-0.09	3.49	4.32	0.98	-2.01
Interest Rate Shock	0.16	0.15	0.34	-0.28	-0.07
World Trade Change	-2.57	-2.52	-1.41	-1.40	-2.95
<b>Other External Variables</b>					
<b>TOTAL</b>	<b>-0.91</b>	<b>0.46</b>	<b>-0.62</b>	<b>0.92</b>	<b>0.59</b>
Debt Accumulation Burden	-0.08	-0.12	0.23	1.30	0.59
Change Direct Inv. Income	0.16	0.63	0.81	0.78	0.16
Change Remittances	-0.05	-0.34	-1.24	-1.06	-0.12
Change Unrequited Trans.	-0.93	0.29	-0.42	-0.11	-0.05
<b>Domestic Adjustment</b>					
<b>TOTAL</b>	<b>2.26</b>	<b>2.44</b>	<b>-0.39</b>	<b>0.04</b>	<b>5.06</b>
Domestic Spending	1.81	3.71	3.22	3.91	4.68
Consumption	1.40	2.71	2.48	2.92	2.83
Investment	0.41	1.00	0.74	0.99	1.85
Trade Ratios	0.45	-1.26	-3.61	-3.87	0.39
Import Replacement	0.53	-0.06	-0.03	-0.36	6.71
Export Penetration	-0.09	-1.20	-3.58	-3.51	-6.32
<b>Interaction Effects</b>					
<b>TOTAL</b>	<b>-0.27</b>	<b>0.61</b>	<b>0.25</b>	<b>-0.53</b>	<b>-0.56</b>
Import Shock	1.06	3.30	2.00	0.15	3.86
Demand / Unit Imports	0.84	3.36	2.02	0.17	2.82
Displacement / Price	0.22	-0.06	-0.02	-0.02	1.04
Export Shock	-1.38	-2.89	-2.65	-0.38	-4.39
Demand / Unit Exports	-1.34	-2.15	-1.19	-0.31	-2.47
Penetration / Price	-0.04	-0.75	-1.46	-0.07	-1.92
Debt Shock	0.06	0.21	0.90	-0.31	-0.03
Stock / Interest	0.06	0.21	0.90	-0.31	-0.03

This pressure is compensated for by the second long-term process. As Thailand's production capacity expands with economic growth, its export capacity also expands. This is reflected in two of the table entries. "World trade" measures the increase in exports that occurs when Thailand maintains its share in world trade. Its fluctuations are determined by volatilities in world exports. "Export penetration," a very important entry, shows that Thailand has been able to substantially increase its share in world trade. This is the result of the outward orientation that characterizes Thailand's development strategy.

Thailand's financial integration with the rest of the world is more directly reflected on the capital account and the account of monetary movements of the balance of payments. But the increased debt burden and the growing foreign ownership of domestic assets that result from direct and portfolio investments also lead to flows of investment income payments which are recorded on the current account. "Debt accumulation burden" measures the payments on outstanding debt. "Interest rate change" measures the impact of changes in international interest rates on the current debt servicing. "Direct investment income" measures changes in profit and dividend payments to abroad. The current payments related to financial factors constitute a growing share of total current-account transactions.

On top of the underlying long-term processes come medium- and short-term fluctuations resulting from international and domestic shocks and policy interventions.

In the first period, there were sharp increases in both import and export prices. As both occurred more or less simultaneously, the net effect on the current-account deficit was limited and, in fact, even positive (i.e., it helped to reduce the deficit). The rapid growth of world trade during this period also helped. Domestic spending expanded, but its growth was contained by the contractionary fiscal and monetary policies implemented in 1974 (for a further analysis of the policy response in this period, see Chapter 6).

The main "shock" of the second period was in the access to international financial markets, which increased suddenly and substantially. This invited a sharp increase in capital inflows, which led to a strong expansion of domestic demand and import demand, reflected in Tables 3.10 and 3.11 in the "domestic spending" and "demand/unit imports" interaction effect. The terms of trade were rather unfavorable during this period. The growth of world trade and the emerging process of export penetration could only partially compensate for these factors, and the current-account deficit expanded considerably.

In the third period, 1980-1982, the current-account deficit expanded further, reaching a very high level. Events in this period are dominated by the adverse terms-of-trade shocks resulting from an increase in oil prices and international inflation, which pushed import prices up. Also, the international interest rate increased sharply. Growth in the volume of world trade stagnated during this period, but the export penetration continued strongly. Workers' remittances became an important factor, helping to improve the current-account balance. Domestic demand policies of this period did not help to improve the current account. Domestic spending continued to have a strong expansionary effect. It is probable that the access to international credit (reflected in the high level of capital inflows during this period, see Table 3.1) induced the postponement of more appropriate macroeconomic policies (see Chapter 6).

External conditions during the fourth period were rather favorable: international prices were stable and the world interest rate declined somewhat, but the growth of world trade was still only modest. Table 3.10 shows that there was a small decline in the current-account deficit during this period, but the deficit itself remained at a relatively high level (see Table 3.7). Debt burden and investment income outflows increased substantially, reflecting the delayed effect on the current account of the debt accumulated in earlier periods. Given the relatively modest changes in the "external" variables, the change in the current-account deficit was dominated by domestic variables. Domestic spending continued to increase rapidly, but this was more than compensated for by the further growth of export penetration. The export performance will have been supported by the change in exchange rate policy that took place at the end of 1984 (see Chapter 6 for further analysis).

The last period, 1987-1989, is characterized by a very high level of capital inflows (see Table 3.1). The increase in capital inflows is much larger than the increase in the current-account deficit, because a substantial rise in official reserves took place. The inflow of capital led to substantial domestic shocks. The inflow of direct and portfolio investment funds was associated with a sharp rise in private investment, and the rapid growth of income that was related to this investment boom led to a sharp rise in consumption spending as well. But the investment boom seems to have had radical structural implications as well. "Import replacement" is strongly positive, reflecting a sharp increase in the import dependency ratio. "Export penetration" is also very large, suggesting a further acceleration in the ongoing process of export orientation. The import-increasing effects (i.e., "domestic spending" plus "import replacement" plus the "import shock" interaction effects) are stronger than the export-increasing effects (i.e., "world trade" plus "export penetration" and the "export shock" interaction effects). This raises the question whether the recent pattern of growth will lead to a sustainable growth path. In 1987-1989, positive terms-of-trade changes and the recovery of world trade helped to maintain the current-account deficit at a relative low level. But it can be questioned whether, when external conditions turn less favorable and the current spurt in foreign direct and portfolio investments leads to profit and dividend payments, the current-account deficit can be maintained at acceptable levels. A first warning is provided by the first estimates for 1990, which show a sharp increase in the deficit to a level equivalent to 7.3 percent of GDP.

## CONCLUSION

The analysis of international capital flows to Thailand shows that two main periods can be identified in which the flows moved to a substantially higher level. The first period, roughly 1975-1985, was dominated by long-term loans to the public sector, and the second period, after 1986, by direct and portfolio investment and loans to the private corporate sector. These capital inflows represented significant proportions of the total resources available to the sectors and were associated with increased investment levels (further elaborated upon in Chapter 4).

The period of public sector loan finance led to a rapid accumulation of external public debt. By the early 1980s, there was rising concern about the level of the debt and about the debt servicing burden it imposed on the Thai economy.

The growth of exports has been spectacular. Exports diversified from a traditional concentration on agricultural products to a heavy reliance on manufactured goods. However, exports of agricultural commodities and of manufactured goods that are basically processed agricultural commodities remain very important. Also, imports expanded very rapidly. The composition of imports has been dominated by intermediate and capital goods. Particularly in the last few years, imports have risen so fast that, despite the export boom, the current-account deficit reached very high levels.

Like other developing countries, Thailand has suffered from instabilities in the world economy. The analysis of the shocks that occurred concludes that the main shock in the first period, the oil price increase, could be easily handled, as Thai export prices were very high and a contractionary fiscal policy further contained the external deficit. In the second period, the inflow of international funds created an expansionary atmosphere within the Thai economy, leading to rapid growth but also to inflation and external imbalances. The shocks of the third period (the second oil shock and world recession) led to a further increase in the current-account deficit, suggesting that, in contrast to the first oil crisis, the shock was financed by external borrowing rather than absorbed through domestic adjustments. These adjustments came during the fourth period, when external conditions were rather stable, but when domestic policies attempted to steer the economy away from external imbalances. The final period shows the expansionary impact of international capital inflows: growth rates were very high and the contractionary fiscal policy helped to maintain stability despite an upsurge in private sector spending.

The five periods show that the growth and stability of the Thai economy has been very sensitive to the shocks that affected international trade and finance. It also shows that, in some periods, public policy was quite successful in coping with these international shocks. The role of policy in the adjustments that took place will be analyzed in more detail in Chapter 6.

## Chapter 4

# External Finance and Accumulation Behavior in Thailand

### INTRODUCTION

Chapter 3 analyzes the level, composition and sectoral destination of international capital flows received by the Thai economy. This chapter will analyze how these capital flows have affected investment, savings and growth.

There has been an extensive debate in the development economics literature on the relationship between external finance and domestic accumulation. This debate centered around the *ex-post* accounting identity:

$$I = S + F \quad (4.1)$$

according to which investments (I) are financed by and equal to domestic savings (S) and foreign savings (F). This identity can be linked to Harrod-Domar type growth models, in which output growth depends (through a fixed ICOR) on the level of investments. Adding behavioral hypotheses can give such identities economic meaning.

Initially, the interpretation was that investment and growth in developing countries were constrained by the availability of domestic savings or foreign savings. Any increase in F would lead to an increase in I, along the lines of Equation 4.1, and to an acceleration of growth (see, for example, the "locus classicus" of the two-gap approach in Chenery and Strout 1966).

Griffin (1970) attacked this position. He suggested that an increase in F would lead to a fall in S, as part of the capital inflow would induce increased consumption. In addition, the foreign funds may be used to finance inefficient projects so that the ICOR would rise. On the whole, the increase in the inflow of foreign funds could lead to a fall in the growth rate rather than an improvement.

Others have criticized Griffin by showing that, even if part of  $F$  is used to increase consumption, another part of it finances investment and increases the rate of growth (see Papanek 1972).

The debate has continued: for recent contributions see, for example, Gupta and Islam (1983), Mosley (1980), Bowles (1987), and Snyder (1990). The main elements in the recent contributions have been to discuss causality (do  $F$  lead to low  $S$  or do low  $S$  invite more  $F$ ?), and to emphasize the interaction between the variables (simultaneous equation systems to capture the interaction between  $I$ ,  $S$ , and  $F$ ). It would appear from these studies that the conclusions from empirical studies on the interaction between  $I$ ,  $S$  and  $F$  depend strongly on method (cross-country or time series), on the composition of the sample of countries and on the period covered. This would suggest that the relationships are more complex than can be captured by the analysis at the level of macroeconomic aggregates.

Still, almost all studies have studied the problem at that level; no disaggregation has been attempted. A few studies disaggregated capital inflows into component parts: direct investment, aid, commercial loans, etc. (see, for example, Papanek 1973 and Newlyn 1977). They found that the different components have different impacts on investment levels or growth rates. This is to be expected in developing countries where capital markets are imperfect and segmented. Such findings would suggest a further disaggregation. Different types of capital inflows are aimed at and received by different agents in the economy and one would expect that a change in the level of any type of capital inflow would affect, in the first instance, the accumulation behavior of the sector at which it is aimed. Aid flows (ODA), for instance, would be particularly related to a government's savings and investment patterns, whereas direct investment would be more related to those of the private sector.

This chapter will attempt to make an analysis of the interrelationships between external finance and accumulation behavior at such a disaggregated level. Four institutional sectors are distinguished (households, private corporations, state enterprises and government) and the paper analyzes how their investment and savings patterns relate to changes in the foreign exchange balance. It seeks to determine the interaction between, on the one hand, external finance and, on the other, the saving and investment patterns and behavior of the different economic agents in Thailand.

The debate on the interaction between external finance and domestic accumulation has, implicitly or explicitly, been conducted in the context of growth models. External finance is the exogenous factor which, if accompanied by an appropriate response of the recipient country in terms of quantity and quality of investments undertaken, will lead to an acceleration of growth. This may have been a suitable view in the 1960s when most financial flows consisted of aid flows.

As Chapter 3 has argued, the 1970s and 1980s have, however, shown a significant number of innovations and shocks on the international financial markets. Rather than steadily financing the growth process, international finance has become a major source of external shocks to which developing countries had to adjust. Whether countries could profitably use the new opportunities that these external innovations created and could stabilize their economies in the face of increasingly unstable world financial markets again depends crucially on the accumulation behavior and how it is affected by external shocks. An initial disturbance may lead to an excess demand situation. The condition for stabilization

is that, through adjustment mechanisms, this excess demand generates more additional real savings than investments (see, for example, Leff and Sato 1980; Taylor 1981). The adjustment mechanisms can be diverse and include changes in real output, in prices or in interest rates and adjustment may be automatic or induced and supported by policy interventions. The relative rise in savings would close the investment-savings gap and would bring the economy back to equilibrium. The access to international finance may reduce the effectiveness of the adjustment mechanisms and may reduce the urgency of stabilization policy. But the consequent accumulation of the debt burden will eventually make the adjustment even more demanding as the relative rise of savings would have to generate the funds to close the investment-savings gap and the resources to service the external debt.

The following analysis will, therefore, not exclusively focus on the longer-term impact of changes in  $F$  on the levels of  $S$  and  $I$  ratios, but also analyze the shorter-term adjustment mechanisms through which the economy reacts to external financial shocks.

## EXTERNAL SHOCKS AND DOMESTIC ACCUMULATION BALANCES

To investigate the interaction between external finance and domestic accumulation, total savings and investments are broken down into savings and investments of households ( $h$ ), private corporations ( $c$ ), state enterprises ( $s$ ) and government ( $g$ ); and total capital inflows are separated according to the receiving sector:  $F_c$ ,  $F_s$  and  $F_g$  (it may be assumed that households are not direct recipients of international capital inflows). Equation 4.1 then becomes:

$$F_c + F_s + F_g = I_h + I_c + I_s + I_g - S_h - S_c - S_s - S_g \quad (4.2)$$

where net capital inflows, investments and savings are split up over the four main economic agents and where it is assumed that the household sector does not receive any direct capital inflows from abroad.

It should be noted that, in the strict National Accounting sense, the  $F$ -variable in Equation 4.1 is the current-account deficit of the balance of payments. The analysis in this and the next chapter, however, will use the capital inflows as measured by the capital account of the balance of payments, because these estimates allow a split in the inflows to cover the various receiving institutions. The difference between capital inflows as measured by the current account and as measured by the capital account is reflected in the two other balance-of-payments accounts: the account of monetary movements and the errors and omissions account. The differences can be substantial in some years.

The justification for the breakdown of Equation 4.2 over the four institutions is, first of all, that the relationship of the four sectors to external finance and trade is quite different. Household firms and private corporations do produce for the domestic market and for export. State enterprises and government produce non-traded goods and services. Private corporations and state enterprises are strongly dependent on imported inputs (both intermediate and capital goods) for their production process, whereas the household firms and government are less import dependent. Initially, in the 1970s, the public sector had privileged access to external



finance, because international banks demanded government guarantees on loans and the Thai government did not give guarantees for private-sector loans. Private corporations have access to international finance in the form of direct foreign investment, long-term loans and short-term loans, including trade credits. It is expected that these differences in trade exposure and access to funds will be reflected in the way in which the various sectors are affected by the external shocks.

The main hypothesis of this analysis is that the accumulation behavior of the four main economic agents (households and unincorporated enterprises; private corporations; state enterprises and government) are determined through quite different mechanisms. To test this hypothesis, we need appropriately disaggregated data. The Appendix to this chapter describes the sources of the data and the definitions of the sectoral variables that will be used in the analysis that follows.

**Table 4.1 Sectoral Accumulation Balances (as percentage of GDP)**

	Sh	Ih	(S-I)h	Sc	Ic	(S-I)c	Sg
1970	8.78	2.93	5.86	7.70	13.74	-6.04	1.73
1971	10.04	2.94	7.10	8.33	13.67	-5.34	1.16
1972	8.87	3.04	5.83	8.51	12.96	-4.46	1.38
1973	12.13	3.34	8.79	8.79	14.01	-5.22	1.94
1974	10.60	4.12	6.48	7.96	15.45	-7.49	4.25
1975	8.60	3.16	5.45	8.50	14.54	-6.04	2.62
1976	9.48	3.34	6.15	8.75	12.78	-4.03	1.30
1977	10.14	3.65	6.49	8.64	14.90	-6.26	2.35
1978	12.59	3.40	9.19	8.27	14.19	-5.92	1.96
1979	10.78	3.20	7.58	8.58	14.77	-6.19	1.85
1980	10.59	2.86	7.73	8.15	13.40	-5.25	1.59
1981	10.64	3.39	7.25	8.40	12.41	-4.00	1.21
1982	11.20	3.53	7.67	7.02	11.81	-4.80	-0.39
1983	10.34	3.85	6.49	8.25	12.06	-3.81	1.19
1984	9.68	4.03	5.65	8.43	12.05	-3.63	0.63
1985	8.86	3.90	4.97	7.63	11.09	-3.46	-0.30
1986	9.07	4.15	4.92	8.05	10.06	-2.01	0.44
1987	9.36	4.86	4.50	8.63	12.87	-4.24	2.33
1988	10.62	5.76	4.86	9.00	17.92	-8.92	5.65
1989	10.23	6.46	3.77	10.05	19.85	-9.80	6.47
1990	9.21	7.24	1.97	10.67	24.16	-13.49	9.31

Source: National Income Accounts of Thailand (NESDB).

Note: For the approach followed to distribute the totals over the sectors, see the Appendix to this chapter.

In Table 4.1 the trends in the saving and investment shares in GDP of the four sectors are presented, while Table 4.2 gives data on the trends in the sectoral net capital inflows from abroad. The government savings ratio showed a declining trend until the early 1980s when fiscal reform was undertaken and, after some initial difficulties, gave results. Those reforms also extended to state enterprises, of which the saving share started to rise after 1981. The share of household savings shows strong fluctuations over the years, with very high peaks in 1974 and 1978 and deep falls in 1975 and 1985. In the difficult years of the early 1980s, the household savings ratio declined. The economic recovery after 1986 initially led to a rise of the household savings ratio, but in the last two years the ratio declined again, despite the rapid growth of income. It could be suggested that the double-digit growth led to a consumption boom. The corporate savings ratio has been rather stable throughout but, in the last few years, the investment boom and the rapid economic growth led to a rapid growth of profits and of corporate savings.

I <sub>g</sub>	(S-I) <sub>g</sub>	S <sub>g</sub>	I <sub>s</sub>	(S-I) <sub>s</sub>	Total (S-I)	Foreign savings (CAD)	Stat. Discrep.
5.38	-3.65	1.35	1.69	-0.34	-4.18	3.53	2.50
5.46	-4.30	1.15	1.26	-0.11	-2.64	2.29	1.23
4.58	-3.20	1.59	2.13	-0.54	-2.37	0.58	0.75
3.52	-1.58	1.25	1.62	-0.36	1.63	0.49	2.39
2.27	1.97	1.53	1.45	0.07	1.04	0.59	1.71
3.34	-0.72	0.85	1.84	-0.99	-2.30	4.06	2.11
4.45	-3.15	0.88	2.34	-1.46	-2.50	2.50	1.07
4.21	-1.86	0.80	3.16	-2.36	-3.99	5.47	-0.53
3.89	-1.93	1.00	3.76	-2.76	-1.42	4.70	-0.37
3.45	-1.60	0.96	4.14	-3.18	-3.40	7.47	-2.43
4.04	-2.44	0.59	4.86	-4.27	-4.24	6.39	-0.89
3.71	-2.50	0.32	5.24	-4.91	-4.16	7.22	-1.52
3.79	-4.18	1.87	4.30	-2.43	-3.73	2.68	0.73
3.27	-2.08	1.41	4.83	-3.42	-2.82	7.25	-2.50
2.85	-2.22	1.90	5.58	-3.68	-3.88	5.00	-0.72
3.26	-3.57	2.41	5.80	-3.39	-5.45	3.99	0.62
2.80	-2.37	2.43	4.83	-2.40	-1.86	-0.63	1.51
2.48	-0.15	2.40	3.70	-1.30	-1.19	0.55	-0.32
1.91	3.75	2.61	3.25	-0.64	-0.95	2.75	-2.53
2.12	4.35	2.91	3.09	-0.18	-1.85	3.63	-2.30
2.72	6.59	3.01	3.70	-0.70	-5.62	7.33	-0.92

**Table 4.2 Capital Inflows by Receiving Sector (as percentage of GDP)**

Year	Fc	Fs	Fg	Total Capital Inflows
1970	1.58	0.06	0.04	1.68
1971	0.95	0.04	0.14	1.13
1972	2.00	0.20	-0.06	2.14
1973	0.86	0.17	0.29	1.32
1974	2.79	0.42	0.03	3.24
1975	1.88	0.73	-0.05	2.56
1976	1.46	0.53	0.68	2.67
1977	2.07	1.18	0.21	3.46
1978	0.74	1.06	1.25	3.04
1979	2.34	2.17	1.53	6.04
1980	3.88	2.89	0.94	7.70
1981	2.77	3.43	1.06	7.25
1982	2.11	1.64	0.93	4.68
1983	2.01	1.13	0.67	3.81
1984	4.33	1.08	0.58	6.00
1985	1.93	1.26	1.87	5.07
1986	1.15	0.50	-0.61	1.04
1987	1.32	-0.54	0.91	1.68
1988	4.91	-0.76	0.66	4.82
1989	8.95	0.23	-0.67	8.51
1990	11.75	-0.70	-2.10	8.94

Source: Balance-of-Payments Statistics of Thailand.

Notes: For the approach followed in the distribution of the total capital flows over the receiving sectors, see the Appendix to this chapter.

The "total capital inflows," as reported in this table, is the total of the capital account of the balance of payments and thus different from the foreign savings of Table 4.1, which are defined as the current-account deficit of the balance of payments.

The investment ratios show some different experiences. The share of government investment in GDP had been declining over time to a very low level by 1988. Since then, there has been a recovery in the government investment ratio, which was necessary because the provision of government services (see, for example, infrastructure and education) lagged behind the needs of the growing economy. The most dramatic change is the rapid rise of state enterprise investment since the mid-1970s to the mid-1980s. As a result, total public-sector investment as a proportion of GDP rose considerably, until a shift in policy reversed that trend around 1986. As was suggested in Chapter 3, the rise in state enterprise investment was probably invited by the increased access to international credit.

Household investment, as defined in this study, covers only residential construction. The share of household investment was fairly stable until the early 1980s. The increase in the ratio in the last few years is, however, quite spectacular. The downward trend of the household savings ratio and the sharp increase in household

investment means that the traditional savings surplus of the household sector declined rapidly in recent years.

Investment by private corporations fluctuated in the 1970s and declined in the early half of the 1980s. Since 1986, this trend was radically turned around, mainly under the impact of increased foreign investment. In Chapter 3, it was shown that total capital inflows started to grow rapidly in the mid-1970s and remained high until about 1985 (see Table 4.2 and also Table 3.1 and Figure 3.1 of Chapter 3). After a slowdown in 1986 and 1987, capital inflows increased again.

The most dramatic increase took place in the capital flows to the state enterprises. These increased from virtually zero around 1970 to more than 3 percent of GDP in 1981. After 1981, capital inflows declined again and, in the last few years, there has actually been a net outflow as debt is being repaid. Also, the government increased the use of foreign funds in the second half of the 1970s. Thailand's private corporations had always experienced a net inflow of foreign capital, but also for this sector inflows were at a higher level in the period 1979-1984 and, after a dip in 1985-1987, they increased sharply again since 1988.

## SECTORAL ACCUMULATION BALANCES

This section will analyze the movements of the average sectoral savings and investment ratios over the medium term. In the next section, time-series analysis will be used to identify sectoral saving and investment behavior, focusing in particular on the impact of external shocks on such behavior.

Table 4.3 brings together the period averages (as percentage of GDP) of the main elements of the accumulation balance.

It is often asserted that Thailand's main structural macroeconomic problem is its low savings ratio. Indeed, compared to the high-growth countries of Asia (for example, Singapore and South Korea) the average level of the Thai aggregate savings ratio, at around 22 percent, is low. One would, therefore, expect that the greater access to international finance, as it occurred in the late 1970s, would relax this savings constraint and allow an increase in the level of the investment ratio. This is indeed what happened: the aggregate investment ratio increased from the first to the second and third periods and declined in the fourth period when access to international finance became less easy. It increased again sharply in the last few years under the influence of private capital inflows. In this last period, the savings ratio increased far above historical levels, mainly due to the sharp rise in public sector savings.

Table 4.3 also shows how this aggregate savings-investment gap can be disaggregated over the main institutional sectors. The household sector has always a savings surplus, but in the 1980s this surplus gradually reduced in size. Private corporations show a savings gap, which fell somewhat in the 1980s when the level of corporate investments was low, but which in recent years has expanded again rapidly despite the increase in the corporate savings ratio.

The government and the state enterprises showed increasing savings gaps up until the beginning of the 1980s. In the last two periods an improvement occurred; in recent years, the government even has a savings surplus.

**Table 4.3 Sectoral Accumulation Balances (as percentage of GDP)**

	period averages				
	Period I 1970/74	Period II 1975/79	Period III 1980/82	Period IV 1983/86	Period V 1987/90
<b>HOUSEHOLD SECTOR</b>					
- Sh	10.08	10.32	10.81	9.49	9.38
- lh	3.27	3.35	3.26	3.98	6.07
- (S - l)h	6.81	6.97	7.55	5.51	3.31
<b>PRIVATE CORPORATIONS</b>					
- Sc	8.26	8.55	7.86	8.53	10.16
- Ic	13.96	14.24	12.54	11.18	17.49
- (S - l)c	-5.71	-5.69	-4.68	-2.66	-7.33
- Fc	1.64	1.70	2.92	2.35	6.73
<b>TOTAL PRIVATE SECTOR</b>					
- Spr	18.34	18.87	18.67	18.02	19.54
- Ipr	17.24	17.59	15.80	15.17	23.56
- (S - l)pr	1.10	1.28	2.87	2.85	-4.02
- Fpr	1.64	1.70	2.92	2.35	6.73
<b>STATE CORPORATIONS</b>					
- Ss	1.37	0.90	0.93	2.04	2.73
- Is	1.63	3.05	4.80	5.26	3.44
- (S - l)s	-0.26	-2.15	-3.87	-3.22	-0.70
- Fs	0.18	1.13	2.65	0.99	-0.44
<b>GOVERNMENT</b>					
- Sg	2.09	2.02	0.80	0.49	5.94
- Ig	4.24	3.87	3.85	3.05	2.31
- (S - l)g	-2.15	-1.85	-3.04	-2.56	3.64
- Fg	0.09	0.72	0.98	0.63	-0.30
<b>TOTAL PUBLIC SECTOR</b>					
- Spu	3.47	2.92	1.73	2.52	8.68
- Ipu	5.87	6.92	8.65	8.30	5.74
- (S - l)pu	-2.41	-4.00	-6.92	-5.78	2.93
- Fpu	0.27	1.86	3.63	1.62	-0.74
<b>TOTAL</b>					
- S	21.81	21.78	20.40	20.54	28.21
- I	23.11	24.50	24.45	23.47	29.30
- (S - l)	-1.30	-2.72	-4.05	-2.93	-1.09
- F	1.90	3.56	6.54	3.98	5.99

Source: Tables 4.1 and 4.2.

Note: Conceptually, total investment should be equal to domestic and foreign savings. In this table, that is not the case. The differences can be explained from two sources. First of all, the identity between investment and domestic and foreign savings defines foreign savings as the current-account deficit rather than as the capital account balance that is used in this table. The second point is that, even in the National Accounts identity, the statistical reality will often introduce a "statistical discrepancy" between the domestic savings-investment balance and foreign savings.

The savings deficits of the private corporate, state corporate and government sectors are, in general, larger than the capital inflows received by each of these sectors. This implies that the sectors are also dependent on net domestic credit. The patterns of domestic financial intermediation are analyzed in Chapter 5.

The data of Table 4.3 can also be used to investigate the relationship between external finance and the level of the sectoral savings and investment ratios. The concentration in the earlier literature has been on changes in capital inflows and their impact, but that seems inappropriate. If the constraint on investment and growth is foreign exchange, then any external shock that affects the foreign exchange availability must be included in the analysis.

The shocks in the availability of external finance, determined by the volatilities of the international capital markets, shocks in the cost of international finance (international interest rate) and shocks in the growth of world trade and in import and export prices were analyzed in Chapter 3. Such shocks will have an immediate effect on the capital inflow of Equation 4.1 and, because Equation 4.1 is an identity, they must also immediately be reflected in the domestic resource balance. The reaction of the various economic agents to these shocks may be quite different, since the saving and investment behavior of these four main economic agents is determined by different factors. It may, therefore, be hypothesized that these agents would react in different ways to external shocks.

The data for the first period (1970-1974) show that the first oil shock had less adverse effects than might have been feared. The saving grace was that in 1972 export prices had moved to very high levels, inducing a sharp increase in the household savings ratio (compared to the late 1960s). Household investments remained rather stable. Also the private corporate savings ratio increased somewhat and corporate investments continued the increasing trend of the 1960s. It would appear that in this period the household sector was more affected by the external shocks than the private corporate sector. Household savings increased rather sharply, whereas the corporate ratios more or less continued trends that had started in the 1960s. The outcome of these factors was that the private sector savings surplus remained positive.

Since the 1960s there had been a trend for government savings to decline steadily. The external shocks provided an incentive for the strong fiscal action that halted this trend. The government investment ratio declined sharply in this period and in 1974 there was even a small budget surplus. The state enterprise sector seemed hardly to be affected by the shocks in this period, its savings and investment ratios remained rather stable. The result was a public sector deficit that was still larger than the private sector surplus, leaving a moderate current-account deficit.

The main change that characterized the second period (1975-1979) was the opening up of international financial markets to borrowers from developing countries. Thailand also participated in this process, as is reflected in the rising capital inflows. Table 4.3 shows that the government and the state enterprises were the main recipients of these additional flows. The accumulation balance of the household sector was hardly affected by this. That is not surprising given the fact that households have no access to international financial markets. As the private corporate accumulation balance also did not change much, the overall private sector savings surplus remained stable.

Big changes occurred, however, in the public sector balances. The increase in the capital inflows is associated with the increased public sector deficit. The state enterprise investment ratio almost doubled, while the state enterprise savings ratio fell. The government investment ratio and savings ratio did not change much in this period. The public-sector savings deficit increased substantially and could only be partially filled by the private-sector savings surplus. International financial flows to the public sector filled the gap. It would thus appear that the shock of this period, i.e., the increased access to international finance, led to a response mainly of the state enterprise sector. The other three sectors showed little change in the accumulation balances.

Period III (1980-1982) again showed sharp increases in import prices (the second oil shock) and, this time, the effects were not so strongly cushioned by simultaneous increases in export prices as had been the case in period I. In 1979, international interest rates increased substantially. Furthermore, world trade stagnated in this period.

Household savings remained strong, benefiting from the mild increase in export prices that occurred in 1979 and 1980. Household investments remained stable, so that the household-sector savings surplus showed a small increase. The private corporate sector appeared more affected by the negative external conditions. The investment ratio fell sharply, as did the savings ratio, though to a lesser extent. The outcome was a significant increase in the overall private-sector savings surplus.

The fiscal reaction to the second oil shock was quite different from what happened after the first oil shock. Government savings fell and government investments were maintained. The fiscal deficit increased sharply. State enterprises continued to increase the investment ratio, largely financed by external funds. The public-sector savings gap increased to almost 7 percent of GDP, far in excess of the private sector surplus. The gap was filled by external borrowing.

The multiple external shocks of this period affected all four sectors. The household sector seemed least affected; in fact, its savings surplus increased, as mild increases in export prices dominated the negative effects of the other external shocks. Private corporations reacted to the negative turn of the external environment as one might have expected: investments were reduced. The patterns in the public sector, however, contained elements that were unsustainable in the longer run. State enterprise investments, financed by external funds, increased despite the higher lending cost. Apparently, the access to funds was more important than the cost of the funds. Public sector savings fell to a very low level. Attempts by the government to cushion the domestic effects of the external shocks (for example, by subsidizing oil prices to mitigate the inflationary effect of the oil shock) led to a significant increase in the fiscal deficit.

Period IV was a period of adjustment. Export and import prices were relatively stable. World trade recovered somewhat and the international interest rate fell back to a moderate level. The 1982 Mexican debt crisis made clear, however, that access to international finance was going to be more difficult, and that crisis gave a warning to other countries of the dangers involved in excessive external borrowing.

How did Thailand react to that challenge? Not so well, according to Table 4.3. Two elements stand out: the continued decline of the government savings ratio and the continued increase of the state enterprise investment ratio. It would appear that the debt crisis had some effect on the public sector, as the government invest-

ment ratio was reduced somewhat and the state enterprise savings ratio increased substantially. The overall public-sector savings gap, however, remained at a very high level, far in excess of the private-sector savings surplus.

The household-sector savings ratio fell considerably and its investment ratio increased somewhat. The fall in savings may be related to the poor performance of the agricultural sector during this period; the Value Added of the sector at current prices in 1986 was lower than it had been in 1983, due to poor prices and poor weather. The corporate investment ratio fell further under the impact of the uncertain external environment and the growing internal imbalances, but the corporate savings ratio recovered somewhat from the very low level of the previous period, so that the private-sector savings surplus remained more or less the same. The overall private-sector savings surplus fell somewhat.

The external shocks of this period were not so much felt in concrete changes in prices, interest rates or world trade growth. They were felt in the general uncertainty of the international environment and in the growing awareness that debt-financed growth was unsustainable. The private sector was badly affected by these factors: its savings ratio and investment ratio declined. A significant indicator is that the exports/GDP ratio, which had continuously increased over the earlier periods, fell back somewhat in this period (see Table 3.7 of Chapter 3); thus, the export growth necessary to reduce the dependence on external finance could not be effectuated. The public sector's response to the external changes was mixed. Some appropriate adjustments were made (a slight reduction in government investments and a significant increase in state enterprise savings), but the overall public-sector savings gap remained at a high level, thus continuing the dependence on foreign funds. On the whole, it would appear that the public sector response to the external challenge was inadequate. But that changed dramatically in the next period.

The most recent period (1987-1990) shows a dramatic turnaround in the sectoral accumulation balances in the Thai economy. The capital inflows shifted totally toward private-sector oriented flows. As a consequence, the investment ratio of private corporations increased by more than 6 percentage points to a level that was never before experienced. The private corporate savings ratio also increased, but to a far lesser extent, so that the savings gap widened. The booming economy also induced a higher level of household investments. The result was that, for the first time in post-war history, the private (i.e., corporate plus household) sector's savings-investment balance turned negative.

This shift in the private sector balance was accompanied by, and made possible by, an equally dramatic shift in public sector balances. The investment ratios of both government and state enterprises fell significantly, and their savings ratios increased, so that the public sector, which had always had a savings deficit, now showed a savings surplus.

The impression given by Table 4.3 is that, over the last two decades, there has been a close relationship between the level of sectoral savings and investment ratios on the one hand and capital inflows and external conditions on the other. It is also clear that the nature of that interaction can only be grasped if the accumulation balances are disaggregated. The gradual decline of the aggregate savings ratio from period I to II and III was particularly due to the fall of the public-sector savings ratios. The consolidation of the aggregate ratio in period IV, however, was the



result of a decline in the private-sector savings ratios; public sector savings recovered considerably in this period.

The mild fluctuations of the aggregate investment ratio over periods I to IV are the outcome of considerable changes in the composition: the share of the private sector declined and that of the public sector and, in particular, of state enterprises increased.

The most recent period, period V, turned these patterns upside down. The sharp rise in the aggregate investment ratio was entirely due to the recovery of private investment. The public-sector investment ratios declined sharply. The sharp rise of the aggregate savings ratio was due to a recovery of private sector savings and a dramatic rise in public sector savings.

In all periods, one can discern a relationship between the trends in the sectoral savings and investment ratios and the external capital flows received by the sector. The sharp rise in capital inflows in periods II and III was associated with a rise in public sector investments and a decline in the public-sector savings ratio. The increase in capital inflows in the most recent period gave rise to a quite different pattern: the public-sector savings deficit was turned into a surplus and private sector investments increased substantially.

The last few years have thus shown a radical turnaround in the traditional sectoral balances of the Thai economy. Capital inflows shifted toward the private sector and shifted from debt-creating to non-debt-creating inflows. The private-sector savings surplus disappeared and made place for a substantial savings gap. The public sector deficit that had been large and increasing was, in a relatively short time, turned into a savings surplus.

Two main factors may be held responsible for these recent changes. The first relates to the changing international environment which opened opportunities for Thailand. Changes in the alignment of major currencies, discussed in Chapter 3, induced an outflow of export-oriented direct investments from Asian countries to Thailand. The second factor is the radical change in public sector policy. In Thai development philosophy, the primacy had always been placed with the private sector. The increasing share of the public sector in total investment, as occurred in the 1975-1986 period, had not fundamentally changed that position. Most public sector investments were in the standard public utilities sectors, supporting private sector accumulation. The drastic cutback of public sector activities that occurred in the last few years may be seen as a reconfirmation of the basic philosophy. When the growing public sector deficit and the rising debt burden started to endanger private sector growth, the reaction was probably somewhat slow in coming, but quite effective once it took hold. Not only were the investment ratios of government and state enterprises significantly reduced, but also current government spending was curtailed. The ratio of current government spending to GDP had been around 16 percent in the mid-1980s. By 1990 it had fallen back to 12.1 percent.

## **EXTERNAL SHOCKS AND SECTORAL ACCUMULATION BEHAVIOR**

The analysis in the previous section clearly suggests that the level of savings and investments fluctuates with the flow of international finance and with other external shocks.

This section attempts a more detailed time-series analysis of the savings and investment behavior of the four main institutional sectors, focusing in particular on the impact of external finance and trade variables.

Most studies would analyze accumulation behavior at an aggregated level, finding explanatory variables for aggregated savings and investments. If any disaggregation takes place, it normally does not go any further than to distinguish public and private sectors. The data contained in Tables 4.1 and 4.3, however, show that the shares in GDP of savings and investments of the four main economic agents in Thailand have followed quite different paths over time. This suggests that the saving and investment behavior of the various sectors are influenced by different factors or are influenced by similar factors with different intensities.

Savings are interpreted as the operating surplus of production units. In economic theory (for example, in permanent income hypothesis or life-cycle theories), households are usually analyzed as consumption units, and household savings are explained from the fact that households want to spread their consumption over time in a different way than their income is spread. Investments are in assets (physical and financial) that are basically entitlements to future consumption. In developing countries, however, many households are not purely consumption units, but also production units. The small-scale family-based firm is still the predominant form of organization of production. The sectors in which such small-scale units dominate (agriculture, trade, services) still contribute a large (albeit declining) share of production and, in these and other sectors, large-scale units are only gradually replacing family businesses. Numerous household surveys in developing countries have shown that the major share of household savings originates from self-employed households. The self-employed household sector is, however, far from homogeneous. The distribution of income within this group is highly unequal. A small number of very rich households, with activities and business interests stretching over various sectors, account for most of the household savings. The large majority of self-employed households are engaged in small-scale farming and have to work hard to earn a meager income (for a further discussion of this, see Jansen 1990, Chapter 3).

Household savings and investments are thus as much related to production (of the household firm) as to consumption. Also, savings of private corporations and of state enterprises can be analyzed as the operating surplus of firms. Savings are thus the retained (i.e., not consumed) part of the operating surplus of household firms, private and public corporations.

The operating surplus is the difference between output (sales) and cost of production. Conditions of production, however, differ substantially between household firms, private and public corporations.

Household firms typically operate on competitive markets. They produce traded or nontraded goods. The output prices of the traded goods (mainly agriculture) follow world market prices. The prices of nontraded goods (mainly domestic trade and services) are determined by the state of demand and supply. The main input used by household firms is family labor.

Private corporations operate on more oligopolistic markets and have some degree of price-setting power. Price setting is done with the aim of maximizing the growth of the corporation; it is an optimization process, balancing the need to generate investment funds against the damaging effect that high prices may have on

demand for the firm's goods. The availability and cost of external funds may influence this optimization process. The operating surplus of corporations is also influenced by developments in the production cost. The main elements of cost are the wage level, the cost of imported intermediate and capital goods and the cost of credit.

Public corporations are also oligopolistic or monopolistic firms, but their price-setting behavior is influenced by political considerations. Government savings are fully explained as the outcome of a political process.

In general, investments are explained from incentives and constraints. The incentive to invest is based on expected demand and expected profits. The constraints on investment demand come from the cost of investment goods, reflected in the cost of imported capital goods and in the real interest rate, and from the availability of investment funds (own savings, domestic credit and foreign credit).

It is, therefore, *a priori* likely that external shocks relating to availability of finance, to the cost of finance and to the cost of imports and to the price of export goods, will have an impact on sectoral savings and investment patterns.

### The Regressions Results

Table 4.4 brings together the results of the regressions for the savings and the investment equations of the four institutional sectors. All equations were estimated using single-equation least square methods and the data refer to the period 1970-1990. The variables  $S_i$ ,  $I_i$  and  $F_i$  are all expressed as proportion of GDP. The Appendix to this chapter describes their definitions and calculation. Other variables included in the regressions are the international prices: PX, the rate of increase of the unit value of exports; PI, the rate of increase of the unit value of imports; the real interest rate IR, defined as the nominal interbank rate of interest minus the rate of increase of consumer prices; and GY, the growth rate of real GDP. There are no direct estimates of wage levels in Thailand. As a proxy, a wage pressure index (WP) was calculated by taking the deviations of the wage share in National Income from its trend level. It is assumed that in years when the actual wage share is above its longer-term trend level, the wage cost is relatively high. In a number of cases, alternative equations were estimated to study the impact of variables and to assess the impact of multicollinearity among some of the independent variables. In general, Table 4.4 reports only those variables whose coefficients were significantly different from zero.

#### *The household sector*

The adjustment behavior of the household sector is more important than is generally assumed. When households are seen as consumption units, and household consumption proportional to household income, the adjustment of household savings to income shocks is immediate and uninteresting: the household savings ratio would be more or less constant. And household savings would be used for investments in residential construction and the acquisition of financial assets.

In our approach, household savings are interpreted as the retained profits of the household firm. As Table 4.3 shows, the household savings ratio is relatively constant over the medium term, but Table 4.1 shows that there are sharp short-run

fluctuations in the ratio. The household firms operate typically on competitive markets (flexprice markets) and their profits are dependent on the output prices and the cost of production.

The output prices of the many household firms in the agricultural sector are determined by world market prices; most crops are exported as well as domestically consumed and domestic prices for agricultural commodities follow closely the trends in the export prices. Hence, we have taken the rate of change of the export prices (PX) as an indicator for the output prices of agricultural household firms. The output prices of nontraded commodities produced by household firms are determined by the state of demand as reflected by the growth rate of real GDP (GY). The cost of production comprises the wage cost (WP), the real cost of lending (IR) and the rate of change of the prices of imported inputs (PI). The household sector does not directly receive any capital inflows from abroad, but the (lagged) total capital inflow variable ( $F_{(t-1)}$ ) is included to test for any positive effect of such inflows on market demand and on the consumption demand from a greater availability of foreign exchange.

The results are reported in Equation 1 of Table 4.4. The demand variables (GY and PX), which reflect the output market conditions, have the expected signs and are significant. The pressures of (excess) demand have a positive, and thus stabilizing, effect on household savings. It could be suggested that the PX variable is particularly relevant for the agricultural part of the household sector. The GY variable may be more relevant to the nontraded part of the household sector, where output prices are more determined by the interaction of demand and supply.

The cost-of-production variables, PI, IR and WP, are not significant. This is to be expected as households firms use few purchased inputs. They use simple technologies with few imported intermediate or capital goods and low working capital (and thus credit) needs. The firms depend on own family labor rather than on hired workers. Because of the correlation between IR and PX and between WP and GY, various regressions were tried, but in all of them the cost variables were insignificant. They are, therefore, not included in the reported equation.

It is sometimes suggested that the real interest rate should have a positive impact on household savings as it provides an incentive to postpone consumption. No evidence for this effect could be established. In fact, the single correlation coefficient between the household savings ratio and the real interest rate was negative, but in none of the equations tested did the real interest rate variable turn out to have a significant coefficient.

We have included the capital inflow variable to study its effect on household savings. The results, as reported in Equation 1 of Table 4.4, are rather unimpressive. However, these results are strongly influenced by the decline of the household ratio in the last two years, already observed in the discussion of Table 4.1. The sudden decline turned around, in particular, the relationships that existed in earlier years between the growth rate and the capital inflow variable on the one hand, and the savings ratio on the other. Because of the extreme values of these variables in the last two years, the regression outcomes are seriously affected by this shift. In Equation 2 of Table 4.4 we run the same regression over the period 1970-1988 and see that the capital inflow variable now has a strongly positive and significant effect on household savings. The impact of the growth rate also becomes stronger and more significant. An increase in capital inflows induces an increase in household

savings. This suggests that there is no substitution effect between capital inflows and household savings; in fact, there is a significant complementary relationship. One way to explain this interaction is that the domestic demand generated by the capital inflows has a positive effect on the income of household firms. This relationship is very important, because it generated domestic savings which would help to reduce the dependence on foreign savings.

The findings of Equations 1 and 2 suggest that the relationship between external finance and household savings have changed in the last few years. While during the 1970s and early 1980s, household savings responded positively to capital inflows and, hence, contributed to the stability of the overall economy, the response in the last few years has become highly destabilizing.

As Tables 4.1 and 4.3 show, the household sector always has a savings surplus. That would seem to undermine the interpretation of the household sector as a sector of small unincorporated enterprises. One would expect that the investment plans of such firms would suffer from the limited access to credit and would, therefore, be constrained by available own savings. In fact, the data suggest that the household sector could have invested more from their own resources. Why is that so? Two main reasons may be suggested.

**Table 4.4 Regression Results Saving and Investment Equations**

EQ. NR	DEP. VAR.	ESTIM METH.	C	GY	PX	FI(t-1)
<b>Saving equations</b>						
1	Sh	AR	0.079 (6.828)	0.184 (1.914)	0.04 (2.408)	0.111 (0.911)
2	Sh	AR	0.069 (7.116)	0.237 (2.826)	0.046 (3.194)	0.322 (2.590)
3	Sc	OLS	0.074 (21.479)	0.095 (2.217)	-	0.174 (3.237)
4	Ss	OLS	0.013 (13.331)	-	-	-0.292 (5.026)
5	Sg	AR	0.009 (0.989)	0.086 (0.789)	-	0.338 (0.721)
EQ NR	DEP. VAR.	ESTIM METH.	C	SI(t-1)	GY(t-1)	II(t-1)
<b>Investment equations</b>						
6	Ih	OLS	0.054 (7.789)	-0.173 (2.542)	0.056 (1.816)	-
7	Ic	OLS	0.142 (7.374)	-	0.283 (2.064)	-
8	Is	AR	0.011 (2.959)	-	-	0.485 (3.281)
9	Ig	AR	0.01 (0.628)	0.299 (2.009)	-0.13 (2.369)	0.73 (1.684)

First, household investments, as measured by the National Accounts, only cover residential construction and investments in new land. All private investments in equipment are assigned to the private corporate sector. Obviously, in this way, the investments of household firms are underestimated: farms and non-agricultural family businesses do buy machines.

Second, the household sector is quite diverse. The bulk of household savings will be concentrated with a small group of very rich households, some of which will have close personal links to large firms in the corporate sector. They may use the surpluses from the household firm to obtain equity in corporations or to obtain deposits with related financial institutions rather than for re-investment in the household firm. The great majority of poorer households will indeed have their investment opportunities limited to the level of their own savings (see Jansen 1990, Chapter 4).

PI	IR	WP	DUM1	DUM2	R2(ADJ)	D.W.
-	-	-	-	-	0.31	1.59
-	-	-	-	-	0.52	1.77
-	-	-0.12 (2.147)	-	-	0.69	1.97
-	-0.023 (1.814)	-	0.015 (10.035)	-	0.88	1.96
-	-	-0.396 (2.384)	-	0.033 (4.595)	0.8	1.59
FI	IR	Ipu	T		R2(ADJ)	D.W.
0.171 (4.788)	-	-0.271 (5.839)	0.001 (7.216)		0.95	2.27
0.773 (5.275)	-0.019 (0.327)	-0.619 (2.626)	-		0.85	2.1
0.464 (2.936)	0.064 (2.236)	-	-		0.77	1.83
0.252 (1.489)	-	-	-		0.53	1.63

Household investments, as measured by the variable  $I_h$ , include only investments in new land and residences. The (lagged) growth of the level of income ( $GY_{(t-1)}$ ) may invite household investment. Another stimulus may arise from the availability of funds; therefore, lagged household savings ( $S_{h(t-1)}$ ) are included. Residential investments will also be dependent on long-term processes, such as the growth of population and urbanization. The impact of these long-term processes is captured by a trend variable,  $T$ , in the regression. Household investments will be constrained by the cost of investment as reflected in the real rate of interest ( $IR$ ). The cost of imported investment goods ( $PI$ ) is not relevant since few imported inputs are used in construction.

The results (see Equation 6 in Table 4.4) suggest that population growth and urbanization (captured in  $T$ ) and the growth of income ( $GY_{(t-1)}$ ) have a positive effect on household investments. It is remarkable that the lagged household savings ratio, included to test the impact of the profit expectations and the availability of funds, has a significant *negative* coefficient. It certainly suggests that household investments are not savings-constrained, but it is difficult to find a convincing explanation for the result. The cost of credit variable had an insignificant negative coefficient and is not reported. It should be noted that  $IR$  reflects the cost of credit from formal financial institutions; it could be suggested that many households may be more dependent on the more expensive informal markets.

Two further variables were included in the regression and turned out to have significant coefficients. Household firms do not have access to international financial markets and one would thus not expect that capital inflows to the private sector ( $F_{pr}$ ) would have a direct effect on household investment, but various indirect effects may be hypothesized. The second variable, the public-sector (i.e., government plus state enterprises) investment ratio ( $I_{pu}$ ), is included to test for crowding-in or crowding-out. The crowding-out variable has a significant negative sign: the higher the public-sector investment ratio, the lower the household investment ratio.

The channels along which the crowding-out takes place can vary. A high level of public sector investment can affect the price and availability of construction materials. Another channel may be through domestic credit markets. A high level of public investments may reduce the availability of credit for the private sector. Even if the household sector itself does not receive much credit anyway, an indirect effect may be felt. The link that was observed above between the small group of rich households and the corporate sector is important here. If private corporations find domestic credit limited, they may demand more transfers from related households. Such an indirect effect could also explain the positive impact of  $F_{pr}$  in the  $I_h$  regression: when corporations receive more foreign capital inflows ( $F_{pr}$ ), they need less transfers from the household sector. In such an interpretation, the household investment level becomes to some extent a residual item. These financial interactions among the various domestic sectors will be further analyzed in Chapter 5.

The results suggest that on the income and savings side the household sector directly feels the impact of external shocks, mainly through changes in export prices and the demand impulses generated by external capital inflows. Household investments are not constrained by the availability of household savings. That does not mean that there are many households (probably the great majority) that can only invest what they save. It just means that the other, very rich, households that account for most of the household savings undertake less real investment within the

household sector than they could. It is that same small group that accounts for the financial flows between the household sector and the other sectors of the economy.

### *The private corporate sector*

The private corporate sector is the dominant sector in the Thai economy. It is a relatively concentrated sector, with the larger firms being either part of domestically-owned conglomerates (the "groups" centered around important families), or a subsidiary of or joint venture with a multinational, or both.

Corporate savings are the profits of the corporations, i.e., the retained operating surplus. This surplus is the difference between output (or sales) and the cost of production. Total output (or sales) is determined by the output price and the output volume. In contrast to household firms, it can be assumed that corporations operate on fixed price markets. They have price-setting powers and thus some influence on the level of their profits. As Table 4.1 shows, the corporate savings ratio is relatively stable over time. This is to be expected of corporations that have a degree of market power and that can set their output prices and profit markups in line with their long-term plans for corporate growth and capital structure. If, in the short-run, profit levels would depart from that long-run path, immediate adjustment of prices would follow.

In setting prices and profits, the corporation takes into consideration the strength of the market demand, the threat of competitors and the availability and cost of alternative finance. The volume of sales is mainly dependent on demand. It may be assumed that corporations have, in general, some excess capacity. When demand is strong, this capacity is used to expand output and, thus, profits. This effect is captured by the growth rate,  $GY$ .

An indication of the expected availability of alternative finance for corporate investment plans can be found in last year's supply of credit from abroad ( $F_{pr(t-1)}$ ) and the cost of the real interest rate ( $IR$ ). If such funds are easily available, corporations would have less urgent need to generate their own funding sources and, therefore, less need to raise prices.

Corporate profits in any particular year may be further influenced by sudden changes in production cost, which are only gradually transmitted into output prices (the main elements of costs are wages [ $WP$ ], imported inputs [ $PI$ ] and interest on credit [ $IR$ ]).

The results are reported in Equation 3 of Table 4.4. The corporate savings ratio has an important element of stability, as is reflected in the high significance of the constant term. One would expect this of corporations that have some market power and a long-term strategy relating to market share and capital structure.

The capacity utilization variable,  $GY$ , has the expected positive impact. Of the cost-of-production variables,  $WP$  and  $PI$  have the expected sign, but only the coefficient of  $WP$  is significant. It should be noted that the interest rate variable used, the real interbank rate, has a close relationship with international interest rates, such as the LIBOR, and can thus be seen as a channel through which international financial shocks influence domestic accumulation. The real interest rate has two impacts. It indicates the cost of alternative investment finance. If these cost are high, firms will try to generate more own savings. But interest costs are also an element of the cost of current production. When costs are higher, profits and sav-



ings will be lower. The regressions, which failed to lead to a significant coefficient may be taken to suggest that the two effects neutralize each other.

The availability of external finance has no significant substitution effect on corporate savings. The lagged inflows of private capital lead to an increase in profits and corporate savings.

It is assumed that the investments of private corporations are not finance-constrained. Large corporations are part of conglomerates or groups, owned by wealthy families and with direct personal links to domestic and even foreign financial institutions, or they are subsidiaries of multinationals with access to international financial markets. Corporations can thus finance their desired level of investments from their own savings, from transfers from the household sector, from domestic credit or from foreign funds.

Table 4.1 indicates that the corporate investment ratio fluctuated from year to year in the 1970s. The period 1979-1986 showed a clear downward trend that gave way to a spectacular recovery in recent years.

The level of desired investment is determined by expected demand (represented by the growth rate of domestic real income,  $GY_{(t-1)}$ ), and by expected profits (represented by the lagged corporate savings (i.e., profit) share,  $(S_{C(t-1)})$ ). Investments may be constrained by the availability of external funds for private corporations ( $F_{pr}$ ) and by the cost of credit ( $IR$ ) and imported capital goods ( $PI$ ). To test for crowding in or out of corporate investments by public investments, we have included public investment as proportion of GDP,  $I_{pu}$ , in the regression.

The results, shown in Equation 7 of Table 4.4, are interesting and require some reconsideration of the assumptions on corporate investment behavior. Of the incentive variables, only  $GY_{(t-1)}$  has the expected sign and is significant. Capital inflows to the private sector have a strong, significant, positive effect on corporate investments, and the crowding-out variable has a strong, significant, negative coefficient. The cost of investment variables have the expected signs but are not significant.

The coefficient of the crowding-out variable is negative and highly significant. It is, however, not necessarily true that the increase in public investment forcefully reduces the level of desired private investments that can be realized. It could also be that the higher level of public investment reduces the level of investment that the private sector needs or wishes to undertake. A high level of public investment may reduce the willingness of private corporations to invest, if large public investments (or the large fiscal deficit which may be associated with the high level of public investment) affect the businessmen's expectations for the future. Public investment may also affect the need for private investment. This may be the case in more recent years when infrastructural investments, previously undertaken by the public sector, have been increasingly privatized.

Together with the significant impact that the public investment ratio had on household investments, this finding leads us to conclude that a sharp negative relationship exists between private and public investment ratios. Despite the fact that an increasing share of investment could be financed from foreign capital inflows—so that the immediate source-of-funds constraint was reduced—the increase in the public-sector investment ratio had a contractionary effect on the private-sector investment ratio. The channels along which this crowding-out takes place will be further analyzed in Chapter 5.

The behavior of private corporations in the face of external shocks is less stabilizing than that of the household sector. The capital inflows to the private corporate sector directly help to finance a higher level of investment, but corporate savings react to capital inflows with much less intensity.

### *State enterprises*

Table 4.1 shows the strong upward trend of the investment ratio of state enterprises from 1975 to 1985 and the sharp decline thereafter. As in the case of private enterprises, desired investments could be explained from expected demand and returns and from financing constraints. Obviously, in the case of state enterprises, political factors may play an important role in determining the level of investments. These longer-term underlying factors are captured by including the lagged investment ratio,  $I_{S(t-1)}$ , in the equation.

The results of the investment equation are reported in Equation 8 in Table 4.4. The most striking outcomes are the strong impact of the lagged investment ratio, reflecting the secular trend in the investment ratio, and the positive impact of the availability of external capital. The  $F_S$  variable has a significant coefficient. The demand-related incentive variables, lagged own savings and the lagged growth rate, were not significant in the regressions and are not included in Table 4.4. The cost variables do not have the expected impact. The real interest rate is significant, but has the wrong sign. Apparently, higher interest costs do not discourage investments but are just added to the investment cost.

Investments undertaken by state enterprises are also determined by political considerations. Within these considerations, the availability of investment funds may well play an important role. In particular, increased access to international financial markets seems to have invited a sharp increase in state enterprise investments.

The savings ratio of state enterprises shows a gradual decline from the early 1970s to 1981. In 1982 a sharp increase occurred, followed in subsequent years by a more gradual improvement. The jump in 1982 is clearly the result of a political decision to run state enterprises more efficiently and to adjust their output prices to reduce losses. The only way to reflect such a policy shift in the regression analysis is to include a dummy variable (DUM1: equal to one for the years 1982-1990 and to zero for the other years).

The other variables that could explain the variations in state enterprise savings are similar to those used in the case of private corporations. Market conditions are captured by the GY variable and, on the cost side, by IR, PI and WP. The impact of these variables is uncertain, however. State enterprises are often monopolistic firms with considerable potential market power, but these powers are severely constrained by political factors. The expected availability of alternative financing may reduce own saving efforts (i.e., may strengthen the reluctance to increase prices or rates).

Table 4.4 (Equation 4) reports the results. The dummy variable representing the policy shift is highly significant. The results suggest a strongly negative relationship with foreign capital inflows, suggesting significant substitution between own savings and foreign funds. There is a significant impact of the interest cost variable on the savings ratio. Higher interest cost reduces the operating surplus of

state enterprises. The other variables did not obtain significant coefficients and are not reported in Equation 4.

It can be concluded that, as with private corporations, state enterprise investments grow with the availability of foreign credits, but that, unlike private corporations or the household sector, its savings fall with foreign capital inflows.

### *Government*

Government investments cannot be explained like those of the productive units of the economy. Policy considerations of a long-term development nature and of a short-term demand management nature enter the decisions on the level of investment. Table 4.1 suggests that, over the entire period 1970-1990, the government investment ratio showed a declining trend with a deep policy-induced dip around 1974 and some smaller fluctuations during other years. This declining trend may be captured by including the lagged investment ratio ( $I_{g(t-1)}$ ) in the regressions.

As with investments in the other sectors, one could suggest that the level of government investment is determined by the demand in the economy (represented by growth of production, lagged one year,  $GY_{(t-1)}$ ), by the cost of investment (represented by imported input prices,  $PI$ , and interest cost,  $IR$ ) and by the availability of investment resources (own savings,  $S_{g(t-1)}$ ), and foreign loans received by the government ( $F_g$ ).

The results of the equation are reported in Equation 9 of Table 4.4. The lagged government savings ratio and the lagged investment ratio seem to be the main explanatory variables. The capital coefficient of the inflow variable has a positive sign, but is not really significant. There is a significant negative relationship between the government investment ratio and the lagged growth rate. Apparently, demand pressures have no expansionary impact on the level of government investments. One explanation for the significant negative coefficient could be the countercyclical fiscal policies of the Thai government. Years of high economic growth are followed by a lower government investment ratio to dampen potential inflationary pressures and, vice versa, years of recession lead to fiscal expansion. The pattern may also be explained by fiscal rigidities: government investments are rather stable, so that a higher than average income growth leads to a fall in the investment ratio. Lagged government savings do have a positive impact on investments, and the inflow of foreign funds is also significant. The cost variables have no impact and are not reported.

The government savings ratio had a declining trend in the period 1977 to 1985 and a sharp upward trend since then. In the years 1974 and 1987-1990, strong fiscal policy initiatives led to sharp rises in the savings ratio. As before, these policy shifts were captured by a dummy variable ( $DUM2$ : equal to one for the years indicated and to zero for the other years).

Government savings are the balance between revenue and current spending. The revenue base expands with domestic expenditure growth ( $GY$ ). Current expenditures vary with wage cost ( $WP$ ) and interest cost ( $IR$ ). The expected availability of external credit ( $F_{g(t-1)}$ ) may reduce the efforts of the government to generate savings.

Table 4.4 (Equation 5) gives the results. The dummy variable, reflecting policy shifts, is significant. The growth rate variable is not significant, and there is

a strong negative relationship between government savings and wage cost. No displacement effect on government savings from foreign funds could be discerned; in fact, the  $F_g$  variable has a positive, but insignificant coefficient.

## CONCLUSION

The estimated equations provide some further evidence that accumulation behavior differs considerably between the four economic agents. It is, therefore, better to estimate sectoral patterns and derive estimates of total savings and investments from the sum of their component parts, rather than to try to explain the aggregated saving and investment function itself.

In the comparison of sectoral patterns, we will concentrate on the impact of the foreign exchange variables. A number of observations can be made.

First, there is a positive relationship between capital inflows and the level of the investment ratio of the sector that receives the inflow. The effect is strongest in the private corporate and state enterprise sectors.

Second, the relationship between capital inflows and the savings ratio is more complex. In the private corporate sector, a positive relationship could be established between the level of the savings ratio and the foreign capital received by the sector. In contrast, a strong substitution effect operates in the state enterprise sector; the increased access of the sector to international financial markets is associated with a decline in its savings ratio. For the household sector, another interaction is observed. The household savings ratio increases with the level of total capital inflows. It is likely that the positive domestic demand effect that the capital inflows exert on the output prices of non-agricultural household firms, and thus on the operating surplus of household firms, dominates any consumption-inducing effect that the greater availability of foreign exchange may have. In the last few years, however, it appears that this complementarity is disappearing. In the government sector, there is no significant relationship between capital inflows and the savings ratio. The conflicting sectoral patterns strongly support the hypothesis, raised at the beginning of this chapter, that the relationship between savings and capital inflows should not be analyzed at the aggregated level, but rather at the disaggregated level, where different types of capital inflows are related to the savings behavior of the receiving sectors.

A third observation would be that, on balance, the effect of capital inflows on the Thai economy can be easily destabilizing. Investments rise while savings rise less. In the state enterprise sector, savings fall and in the private corporate and household sectors they will rise, but on the whole the investment-savings gap widens, thus extending the dependence on foreign funds. The changing reaction of the household sector to capital inflows in recent years reinforces the tendency for the savings gap to widen.

Fourth, the regressions suggest that the other external shocks that were included in the analysis do not have a strong impact on the accumulation behavior. A rise in export prices has a positive effect on household savings, but the value of the coefficients is not very large and substantial changes in world prices are required to have a significant effect on savings.

The interest rate variable included in the regressions is the real interbank interest rate. The variations in this domestic interest rate, however, are strongly influenced by such international interest rates as the LIBOR. An increase in international interest rates would thus lead to a rise in domestic costs of lending, which may have an impact on the savings and the investment ratios. The regression results, however, do not suggest a strong effect of the real interest rate; only in the savings and investment equation of the state enterprises is the variable significant.

Negative external shocks can occur from a worsening of the terms of trade (export prices down and/or import prices up) and from an increase in the international interest rate. Such shocks would have a destabilizing effect within the Thai economy as they would lead to a fall in savings, while investments would respond less and, in the case of state enterprises, may even increase. In such an occurrence, policy interventions would thus be required to bring the economy back to an equilibrium.

Fifth, we can use the regression results to obtain an indication of the main adjustment mechanisms to external financial shocks. It appears that the increasing access to international finance since the mid-1970s released a financial constraint on the investments of state enterprises. With the increased inflow of foreign funds, the public-sector investment ratio rose and its savings ratio fell. This pattern suggests that the financial constraint of the public sector had an important political dimension. The inability or unwillingness to increase taxes or public utility prices limited the funds available for investment until the opening up of international financial markets provided an alternative.

The adjustment patterns in the private sector are quite different. Investments by private corporations are mainly driven by perceived market prospects and the savings ratio follows a stable pattern determined by long-run pricing policies. Fluctuations in access to different types of international finance did invite a higher level of investment, but also changed the financing patterns of corporations: the increased use of international funds was balanced by a relatively reduced use of domestic external funds (such as bank credit) in the first part of the 1980s. In the last few years, the inflow of private capital flows invited such a large increase in corporate investment that the claims on the domestic credit also increased significantly (for further analysis, see the next chapter). In that pattern the household sector played, to some extent, the part of a residual category. Its savings are strongly influenced by exogenous factors and its investments are balanced against the need for funds of the other sectors of the economy.

It could thus be argued that one of the main impacts of the external financial shocks was to change the intersectoral balances and flows of funds in the Thai economy. Data provided in Tables 4.1 and 4.3 help to summarize those patterns. We will make reference to the periods as defined in Table 4.3.

The share of state enterprise investment in total investment increased rapidly from period I until period IV, followed by a fallback in the last period. Three general sources of finance for these investments can be distinguished: own savings, foreign funds and other sources. These other sources are not made explicit in Table 4.3, but they can be derived as the difference between the sectoral savings-investment gap and the capital inflow. Other sources include share capital, domestic credit, bond sales, etc. The financing pattern of the state enterprises changed considerably. The contribution of own savings fell sharply up to period III; in periods

IV and V there was some recovery. This was balanced by reverse changes in the contribution made by foreign funds. Also, the share of "other sources" in the financing of state enterprise investment increased.

The share of government in total investment continuously declined over the five periods. The share of foreign funds in government investment financing increased somewhat in the first three periods, but was never excessively large.

The pattern of the public sector is the sum of the patterns of the state enterprises and the government, but the role of the state enterprise sector is dominant in setting the overall pattern. The share of the public sector in total investment increased from around 25 percent in period I, to around 35 percent in periods III and IV, to fall back to around 20 percent in period V. The pattern of investment finance changed radically. Foreign funds, which financed only 5 percent of public sector investment in period I, accounted for 42 percent of finance in period III. In period IV this share declined, and in period V it had fallen to zero. On the other hand, public sector own savings, which could finance about 60 percent of investment in period I, financed only 20 percent in period III. This share increased again in periods IV and V. The share of "other sources" provided the balance; its contribution increased particularly in period IV. It could thus be suggested that in periods I, II and III there was a substitution between foreign funds and own savings. In period IV the contribution of foreign funds fell sharply and own savings increased insufficiently to accommodate. The contribution of "other sources" increased sharply in that period. It is thus likely that, particularly in that period, the private sector may have felt the effects of crowding-out on the domestic capital markets.

The share of the private corporate sector in total investments fell from close to 60 percent in period I to 48 percent in period IV and recovered to 60 percent in the final period. The relative contribution of own savings to the financing of investment was constant. The share of foreign funds increased from around 12 percent of investment finance in periods I and II to around 20 percent in periods III and IV and to 38 percent in period V. The "other sources" of the domestic capital market, which had accounted for 30 percent of investment finance in periods I and II, fell back in the subsequent periods. In this sector, therefore, the main substitution was between foreign funds and the domestic capital market.

The share of the household sector in total investment was relatively constant in periods I, II and III and rose somewhat in period IV and again in period V. The household savings ratio was relatively constant and did not increase along with household investments in the last two periods. The household sector is a net contributor to the domestic capital market, but its pattern of investment and savings ratios mean that the sources made available for domestic financial intermediation show a relative decline in periods IV and V.

These findings strongly suggest that the differential reaction of the various sectors to external financial shocks not only affect the level of sectoral savings and investment ratios, but also affect the size and direction of domestic intersectoral flows of funds. In the case of Thailand, it may be suggested that the financial institutions have been the main channel of these flows. A next step in this study will thus be to expand the simple analysis of international finance and domestic accumulation, as presented in this chapter, into an analysis in which the interaction of these

variables with domestic monetary and financial variables is included. That task is taken up in the next chapter.

## Chapter 5

# External Finance and Financial Intermediation in Thailand

### INTRODUCTION

The previous chapter analyzed, at a disaggregated level, the savings and investment patterns and behavior in the main institutional sectors of the Thai economy. We tried, in particular, to establish the impact of international finance on these patterns. At the aggregated macroeconomic level, the gap between savings and investment can only be filled by a capital inflow from abroad. At a disaggregated level, however, a further set of questions arises. The savings-investment gap of any of the sectors can be filled by a capital inflow from abroad or by domestic financial transfers between the sectors.

These intersectoral processes and, in particular, the role of the financial system in them are the central focus of this chapter. In the MSAFs for 1975 and 1985, presented in Chapter 2, the intersectoral transfers received detailed attention. Two main channels for domestic intersectoral financial intermediation were identified: direct intersectoral transfers and intermediation through the domestic financial system. To this could be added the fiscal system which collects revenue from the sectors and allocates expenditures to the sectors. The flow-of-funds block of the MSAFs (rows/columns 13 to 21) described the sources and uses of funds of households, corporations, state enterprises and government, separating direct flows between these four sectors (in rows/columns 13 to 16) and indirect flows through the financial institutions (rows/columns 18 to 21). The fiscal system was presented in row 11, describing the distribution of the direct and indirect tax burdens, and column 11, specifying the distribution of current government spending and government savings. The question addressed in this chapter is how these intersectoral flows of funds were affected by the external conditions in general and by the inflow of foreign funds in particular.

In the late 1970s and early 1980s international capital flows to developing countries increased rapidly. This flow was associated, in most countries and as we have seen in Chapter 4 also in Thailand, with an increase in public investment ratios and a decline in public sector savings ratios and with increases in fiscal deficits



(see FitzGerald and Sarmad 1990 and Vos 1991). Economic theory suggests various channels along which such an increase in public spending may influence private investments. The outcome of these processes may be captured by either one of the terms "crowding-in" or "crowding-out," but the details of the interactions are likely to be more complex than these simple labels would suggest.

An increase in public investment may invite private investment because it increases aggregate demand. This is the familiar Keynesian multiplier-accelerator interaction. Taylor (1988) argues that public investment may create the conditions (by constructing physical and social infrastructure) for profitable private sector investment. An improved infrastructure may invite private investments.

The "crowding-out" hypothesis in its standard textbook version puts emphasis on the fact that the increase in public spending puts a claim on available resources. When no idle resources are available, domestic inflation accelerates and the real interest rate rises. In countries where interest rates are controlled, the effects would be felt in a decreased availability of credit for the private sector (see, for example, Dornbusch and Fisher 1987 or Dornbusch 1980). The fact that the increase in public spending in the 1970s was financed by an increased inflow of foreign finance would, however, alter these theoretical expectations. The inflow of funds would increase the level of international reserves of the financial system, so that the money market would be relatively liquid. Hence there would be less reason to expect a sharp rise in interest rates or a credit rationing.

The increased availability of foreign exchange may also dampen the inflationary pressures. In many developing countries, capacity utilization is mainly determined by the import capacity. When the import capacity rises with the availability of foreign exchange, supply bottlenecks may disappear and inflationary pressures would be reduced.

But not all supply bottlenecks can be relieved through imports since some goods and services cannot be internationally traded. Therefore, the inflow of foreign capital and the increase in public spending may still lead to inflation of the prices of non-traded goods. In terms of the MSAFs of Chapter 2, one could roughly say that the agricultural and manufacturing sectors are predominantly traded goods sectors and the construction and public utilities and services sectors are mainly non-traded.

Inflation of the non-traded goods prices would lead to a fall in the relative price of traded versus non-traded goods, i.e., an appreciation of the real exchange rate and a loss of international competitiveness for the local exporters (see Dornbusch 1980).

The possible increases in inflation and the interest rate, or the decreased availability of credit for the private sector, and the fallen profitability of export production could all lead to a decline in private investment. It is, however, also possible that the increase in income, generated by public spending, and the income-redistribution due to the rise in inflation or in the interest rate, would generate additional private savings that could help to finance additional private investment. It is suggested that this increase in private savings would be more likely if capital markets were perfect and if the private sector had rational expectations. In that case, individuals would properly discount the future burden of the public debt that is currently being accumulated. This is the case of "debt neutrality" or "Ricardian Equivalence" (see, for example, Buiter and Tobin 1979). The increase in public debt that results from the capital inflows will eventually lead to a debt servicing and

repayment burden that has to be covered from increased domestic taxes. In anticipation of that future tax burden, the private sector increases its current savings (and investment) to generate the future income stream to pay these taxes.

The debt neutrality hypothesis could even lead to a crowding-in of private savings and investment by debt-financed public spending. Whether the actual outcome of the adjustment will be crowding-in or crowding-out depends largely on two factors. The first factor is the access of the private sector to credit. If that access is severely reduced, a fall in private sector investment is more likely. The second factor is whether the trend in private investment and the adjustment of the private sector to the changes in the other variables lead to an increase or a decline in private sector savings.

These processes can be traced through the flow-of-funds analysis, detailing, of each sector, the sources and uses of funds. That is the purpose of the next section of this chapter. The question will be raised whether external finance affected the patterns of sectoral sources and uses of funds and, if so, how, in which direction, and to what extent.

## **SECTORAL ACCUMULATION BALANCES AND INTERSECTORAL FLOWS OF FUNDS**

The impression given by Chapter 4 (see Table 4.3) is that over the last two decades there has been a close relationship between the level of sectoral savings and investment ratios and capital inflows. It is also clear that the nature of that interaction can only be grasped if the accumulation balances are disaggregated. The gradual decline of the aggregate savings ratio from period I to II and III was particularly due to the fall of the public sector savings ratios. The further fall of the aggregate ratio in period IV, however, was the result of a sharp decline in the private sector savings ratios; public sector savings recovered considerably in this period.

The mild fluctuations of the aggregate investment ratio over periods I to IV are the outcome of considerable changes in the composition: the share of the private sector declined and that of the public sector, and in particular of state enterprises, increased.

The most recent period, period V, turned these patterns upside down. The sharp rise in the aggregate investment ratio was entirely due to the recovery of private investment; the public sector investment ratios declined sharply. The sharp rise of the aggregate savings ratio was due to a recovery of private sector savings and a dramatic rise of public sector savings.

In all periods, one can discern a relationship between the trends in the sectoral savings and investment ratios and the external capital flows received by the sector. The sharp rise in capital inflows in periods II and III was associated with a rise in public sector investments and a decline in the public sector savings ratio. The increase in capital inflows in the most recent period gave rise to a quite different pattern: the public sector savings deficit was turned into a surplus and private sector investments increased substantially.

The differential reactions of the various sectors to external financial shocks not only affect the level of sectoral savings and investment ratios, but also affect the size and direction of domestic intersectoral flows of funds.

Of course, in principle, for each sector the sources of funds should equal the uses of funds. The flow of funds analysis looks at the flows in each year rather than at stocks of assets or liabilities at the beginning or end of the year. The sources of funds for each of the sectors can be listed as:

- own savings;
- increase in credit from financial institutions;
- change in other domestic liabilities and transfers received; and
- foreign liabilities incurred.

And the uses of these funds can be split up over:

- own investments;
- acquisition of financial assets with financial institutions;
- acquisition of other domestic financial assets; and
- acquisition of foreign financial assets.

We can write for the sectors of household and unincorporated business (h), private corporations (c), central and local government (g), state enterprises (s) and for the domestic financial sector (f):

$$\text{HH: } S_h + \text{FLF}_h + \text{OFL}_h + \text{WFL}_h = I_h + \text{FAF}_h + \text{OFA}_h + \text{WFA}_h \quad (5.1)$$

$$\text{CORP: } S_c + \text{FLF}_c + \text{OFL}_c + \text{WFL}_c = I_c + \text{FAF}_c + \text{OFA}_c + \text{WFA}_c \quad (5.2)$$

$$\text{GVT: } S_g + \text{FLF}_g + \text{OFL}_g + \text{WFL}_g = I_g + \text{FAF}_g + \text{OFA}_g + \text{WFA}_g \quad (5.3)$$

$$\text{SE: } S_s + \text{FLF}_s + \text{OFL}_s + \text{WFL}_s = I_s + \text{FAF}_s + \text{OFA}_s + \text{WFA}_s \quad (5.4)$$

$$\begin{aligned} \text{FI: } S_f + \text{FAF}_h + \text{FAF}_c + \text{FAF}_g + \text{FAF}_s + \text{OFL}_f + \text{WFL}_f \\ = I_f + \text{FLF}_h + \text{FLF}_c + \text{FLF}_g + \text{FLF}_s + \text{OFA}_f + \text{WFA}_f \end{aligned} \quad (5.5)$$

In these equations:

- $S_i$  = own savings of sector:  $i = h, c, g, s$  and  $f$ .  
 $I_i$  = own investment of each sector.  
 $\text{FLF}_i$  = financial liabilities incurred with financial institutions, i.e., funds obtained by the sector from domestic financial institutions (e.g. loans from banks).  
 $\text{OFL}_i$  = other financial liabilities incurred, i.e., funds obtained by the sector from domestic non-financial sectors (e.g. share capital acquired by corporations or government transfers to state enterprises).  
 $\text{WFL}_i$  = financial liabilities incurred with the rest of the world (e.g. foreign loans).  
 $\text{FAF}_i$  = financial assets acquired with financial institutions (e.g. deposits or promissory notes).  
 $\text{OFA}_i$  = other domestic financial assets acquired (e.g. equity shares).  
 $\text{WFA}_i$  = foreign financial assets acquired.

Equations 5.1 to 5.5 can be directly traced back to the MSAFs of Chapter 2 (see Tables 2.1 and 2.2). For instance, the left-hand side of Equation 5.1 includes, at a slightly higher level of aggregation, the elements of row 13 of the MSAF, while the right-hand side includes the elements of column 13. The same applies to the other equations. The MSAFs provide more detail than the equations: for example, the  $FLF_h$  of Equation 5.1 combines liabilities incurred from commercial banks and other financial institutions. The simplifications and aggregations of the present equations are necessary to construct consistent time series.

These equations can be simplified by netting out the other financial assets and liabilities and the foreign assets and liabilities.

$$NOFL_i = OFL_i - OFA_i \quad (5.6)$$

$$NWFL_i = WFL_i - WFA_i \quad (5.7)$$

Introducing Equations 5.6 and 5.7 into 5.1 to 5.5 leads to:

$$HH: S_h + FLF_h + NOFL_h + NWFL_h = I_h + FAF_h \quad (5.8)$$

$$CORP: S_c + FLF_c + NOFL_c + NWFL_c = I_c + FAF_c \quad (5.9)$$

$$GVT: S_g + FLF_g + NOFL_g + NWFL_g = I_g + FAF_g \quad (5.10)$$

$$SE: S_s + FLF_s + NOFL_s + NWFL_s = I_s + FAF_s \quad (5.11)$$

$$\begin{aligned} FI: S_f + FAF_h + FAF_c + FAF_g + FAF_s + NOFL_f + NWFL_f \\ = I_f + FLF_h + FLF_c + FLF_g + FLF_s \end{aligned} \quad (5.12)$$

When the five equations, 5.8 to 5.12, are added up, the domestic financial intermediation variables disappear because the domestic assets acquired by one sector ( $FAF$  and  $OFA$ ) are equal to the domestic liabilities ( $FLF$  and  $OFL$ ) incurred by another sector. Summing up gives:

$$\begin{aligned} S_h + S_c + S_g + S_s + NWFL_h + NWFL_c + NWFL_g + NWFL_s \\ = I_h + I_c + I_g + I_s \end{aligned} \quad (5.13)$$

which is the familiar accumulation balance equation, equivalent to Equation 4.1 of Chapter 4.

These equations are, in principle, identities. However, in actual estimation of the balance of sources and uses, statistical discrepancies will emerge. The data sources available to fill in the equation system 5.8 to 5.12 are the National Accounts and the Flow-of-Funds Accounts. In principle, Thailand's Flow-of-Funds Accounts give all the information required, but there are three problems. First, the Accounts do not cover the entire period of our analysis. Complete Accounts are available up to 1983, and for the years 1984-1990 provisional accounts are available. Second, the Flow-of-Funds Accounts are still based on the old National Accounts; the revision of the National Accounts that was published in 1987 showed considerable

adjustments, particularly in the estimates of savings. The estimates of sectoral savings as obtained from the Flow-of-Funds Accounts are, therefore, not fully comparable with the estimates of the National Accounts. A similar problem is found in the estimates of foreign capital flows. The Flow-of-Funds Accounts measure changes in assets and in liabilities, whereas Balance-of-Payments estimates measure the flows of foreign finance. There can be substantial differences between the two concepts. Some of the capital inflows do not create a liability (for example, direct foreign investment) and the value of foreign assets or liabilities may change without any related capital flow (for example, as a result of exchange rate variations).

To maintain consistency with earlier chapters and with the revised National Accounts, we have taken as benchmarks the savings and investment as defined in Chapter 4, based on the National Accounts, and the capital flows, as defined in Chapter 3, based on the capital account of the balance of payments, and we have used Flow-of-Funds Accounts and financial statistics to obtain estimates for the other variables that would be consistent. The results are represented in Tables 5.1, 5.2 and 5.3. In the Appendix to this chapter, the construction of these tables is explained.

### **The Nature of the Thai Capital Market**

Tables 5.1, 5.2 and 5.3 contain, once again, capital flows that were already analyzed in Chapter 3 and the savings and investment estimates discussed in Chapter 4. The sources-and-uses of funds picture in the tables is completed by the financial intermediation variables. The analysis here will concentrate on these variables.

“Capital market,” as used in the title of this section, refers to a wide concept, including all channels of direct and indirect financial intermediation. Direct financial intermediation refers to transactions between institutional sectors, for example, households providing share capital to corporations, corporations providing trade credit to households or state enterprises, or government making capital transfers to the state enterprises (these are all part of NOFL in Equations 5.8 to 5.12). Indirect financial intermediation refers to intersectoral transfers that are channeled through financial institutions, and include the official domestic financial system (FAF and FLF of Equations 5.8 to 5.12), the informal financial markets, and the international financial markets. The transactions conducted on informal financial markets will, to a considerable extent, be intra-sectoral transfers, i.e., transfers within the household sector, which are not recorded in the intersectoral flows of funds. To the extent that they are transfers between sectors, they are included in the NOFL-term. The international financial markets are reflected in the NWFL-term of the equations, but this term includes direct transfers (foreign investments) as well as intermediation through international financial institutions (see the Appendix to this chapter).

**Table 5.1 Public Sector: Sources and Uses of Funds (as percentage of GDP)**

	period averages				
	period I 1970-74	period II 1975-79	period III 1980-82	period IV 1983-86	period V 1987-90
<b>CENTRAL AND LOCAL GOVERNMENT</b>					
<b>SOURCES OF FUNDS</b>					
1 Savings	2.09	2.02	0.80	0.49	5.94
2 Total financial liabilities	2.82	1.85	3.22	2.94	-1.82
2.1 Domestic liab. through fin. intermediaries	2.60	2.26	3.86	3.01	-0.24
2.2 Net other domestic liabilities	0.12	-1.13	-1.62	-0.71	-1.28
2.3 Net foreign financial liabilities	0.09	0.72	0.98	0.63	-0.30
TOTAL SOURCES	4.91	3.87	4.02	3.43	4.12
<b>USES OF FUNDS</b>					
1 Investment	4.24	3.87	3.85	3.05	2.31
2 Domestic fin. assets with fin. intermediaries	0.67	-0.00	0.18	0.38	1.81
TOTAL USES	4.91	3.87	4.02	3.43	4.12
<b>STATE ENTERPRISES</b>					
<b>SOURCES OF FUNDS</b>					
1 Savings	1.37	0.90	0.93	2.04	2.73
2 Total financial liabilities	0.39	2.46	4.12	3.57	1.37
2.1 Domestic liab. through fin. intermediaries	0.04	0.22	0.39	-0.00	0.18
2.2 Net other domestic liabilities	0.17	1.10	1.08	2.58	1.63
2.3 Net foreign financial liabilities	0.18	1.13	2.65	0.99	-0.44
TOTAL SOURCES	1.76	3.35	5.05	5.60	4.10
<b>USES OF FUNDS</b>					
1 Investment	1.63	3.05	4.80	5.26	3.44
2 Domestic fin. assets with fin. intermediaries	0.13	0.31	0.25	0.34	0.66
TOTAL USES	1.76	3.35	5.05	5.60	4.10
<b>TOTAL PUBLIC SECTOR</b>					
<b>SOURCES OF FUNDS</b>					
1 Savings	3.47	2.92	1.73	2.52	8.68
2 Total financial liabilities	3.21	4.30	7.34	6.50	-0.46
2.1 Domestic liab. through fin. intermediaries	2.64	2.48	4.25	3.01	-0.06
2.2 Net other domestic liabilities	0.30	-0.03	-0.54	1.87	0.35
2.3 Net foreign financial liabilities	0.27	1.86	3.63	1.62	-0.74
TOTAL SOURCES	6.67	7.22	9.07	9.03	8.22
<b>USES OF FUNDS</b>					
1 Investment	5.87	6.92	8.65	8.31	5.74
2 Domestic fin. assets with fin. intermediaries	0.80	0.30	0.42	0.72	2.48
TOTAL USES	6.67	7.22	9.07	9.03	8.22

**Table 5.2 Private Sector: Sources and Uses of Funds (as percentage of GDP)**

	period averages				
	period I 1970-74	period II 1975-79	period III 1980-82	period IV 1983-86	period V 1987-90
<b>HOUSEHOLD SECTOR</b>					
<b>SOURCES OF FUNDS</b>					
1 Savings	10.08	10.32	10.81	9.49	9.38
2 Total financial liabilities	-1.29	-0.67	1.47	3.74	10.81
2.1 Domestic liab. through fin. intermediaries	1.33	3.68	2.67	3.32	7.53
2.2 Net other domestic liabilities	-2.63	-4.35	-1.20	0.43	3.28
2.3 Net foreign financial liabilities	0.00	0.00	0.00	0.00	0.00
TOTAL SOURCES	8.79	9.65	12.28	13.23	20.19
<b>USES OF FUNDS</b>					
1 Investment	3.27	3.35	3.26	3.98	6.07
2 Domestic fin. assets with fin. intermediaries	5.52	6.30	9.02	9.25	14.12
TOTAL USES	8.79	9.65	12.28	13.23	20.19
<b>PRIVATE CORPORATIONS</b>					
<b>SOURCES OF FUNDS</b>					
1 Savings	8.26	8.55	7.86	7.30	10.16
2 Total financial liabilities	6.38	6.63	5.44	4.39	9.78
2.1 Domestic liab. through fin. intermediaries	3.45	3.90	3.60	4.78	10.65
2.2 Net other domestic liabilities	1.29	1.03	-1.08	-2.75	-7.62
2.3 Net foreign financial liabilities	1.64	1.70	2.92	2.35	6.75
TOTAL SOURCES	14.63	15.17	13.30	11.69	19.93
<b>USES OF FUNDS</b>					
1 Investment	13.96	14.24	12.54	11.21	17.49
2 Domestic fin. assets with fin. intermediaries	0.67	0.94	0.76	0.48	2.44
TOTAL USES	14.63	15.17	13.30	11.69	19.93
<b>TOTAL PRIVATE SECTOR</b>					
<b>SOURCES OF FUNDS</b>					
1 Savings	18.34	18.87	18.67	16.79	19.54
2 Total financial liabilities	5.08	5.96	6.91	8.13	20.58
2.1 Domestic liab. through fin. intermediaries	4.78	7.58	6.27	8.10	18.18
2.2 Net other domestic liabilities	-1.34	-3.32	-2.27	-2.32	-4.34
2.3 Net foreign financial liabilities	1.64	1.70	2.92	2.35	6.75
TOTAL SOURCES	23.42	24.83	25.58	24.92	40.12
<b>USES OF FUNDS</b>					
1 Investment	17.24	17.59	15.80	15.19	23.56
2 Domestic fin. assets with fin. intermediaries	6.19	7.24	9.78	9.73	16.56
TOTAL USES	23.42	24.83	25.58	24.92	40.12

**Table 5.3 Financial Institutions: Sources and Uses of Funds (as percentage of GDP)**

	period averages				
	period I 1970-74	period II 1975-79	period III 1980-82	period IV 1983-86	period V 1987-90
<b>SOURCES OF FUNDS</b>					
Domestic liabilities	6.98	7.54	10.21	10.45	19.04
Net other domestic sources	1.16	1.12	0.82	1.51	2.38
Net foreign liabilities	-0.72	1.40	-0.51	-0.85	-3.30
TOTAL SOURCES	7.42	10.06	10.52	11.11	18.12
<b>USES OF FUNDS</b>					
Domestic financial assets	7.42	10.06	10.52	11.11	18.12
TOTAL USES	7.42	10.06	10.52	11.11	18.12

Direct financial transfers between sectors are generally difficult to trace. A main element of these transfers is the acquisition of corporate equity by households. These transfers can take various forms: controlling families may directly transfer additional funds to corporations, corporations may issue shares on the stock market, and corporations may retain profits which will be reflected in an increased value of own capital. There is an official registration of corporations for which the "authorized capital" is recorded (see Bank of Thailand quarterly). Increases in authorized capital occur as new corporations are registered or as already registered corporations increase their capital, but it is not known to what extent increases in "authorized" capital are indeed translated into increases in "paid-up" capital. The registered increase in "authorized" capital in 1975, for instance, was 4.8 billion baht, while the MSAF for 1975 records the actual transfer of 3.1 billion baht of "paid-up" equity capital from the household sector to the private corporations (see cell 14,13 of Table 2.1). For 1985 the registered increase in authorized equity was 48 billion baht and the MSAF85 records an actual rise in share capital of 25 billion baht (see Table 2.2).

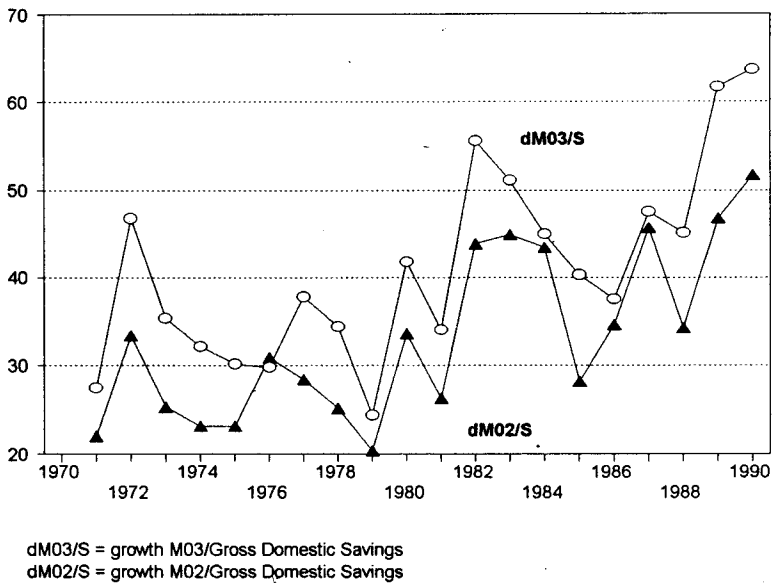
The increase in share capital of 25 billion baht in 1985 compares to an increase in outstanding loans of domestic financial institutions to the corporations of about 30 billion baht (see MSAF85, Table 2.2). The debt-equity ratio (or gearing ratio) of Thai corporations has, on average, been relatively high. Estimates for the late 1970s and early 1980s range between 2.5:1 to 4:1 (see Vongvipanond 1980 and the World Bank 1983). There are indications that the ratio has been declining in recent years. This is to be explained from the boom at SET, which made it more feasible and attractive to expand share capital.

SET was established in 1975 but led a rather subdued life until 1986. In recent years, the booming economy and the inflow of foreign portfolio investment (see data in Chapter 3) gave a major impetus for the development of the market. The total market capitalization of private corporate stock was valued at 29 billion baht in 1982 and at 49 billion in 1985. By 1988, this had increased to 224 billion and, by



the end of 1989, to 660 billion baht. This rapid increase is the result of an increase in the number of listed corporations (from 81 in 1982 to 175 in 1989), a growing number of new share issues and a strong growth of the share prices as reflected in the SET index (which increased from 135 in 1985 to 879 in 1989).

Financial intermediation through financial institutions has grown very rapidly. The broad money supply as percentage of GDP stood, in 1988, at 65. This is quite high. Of the about 100 developing countries listed in the World Development Report 1990 (World Bank 1990), only six had a higher ratio than Thailand. There has been a longstanding process of financialization of savings. Figure 5.1 expresses financial savings (i.e., the increase in M2-balances and the increase in M3-balances, i.e., M2 plus holdings of promissory notes of finance companies) as a percentage of total savings. The ratio was between 30 and 40 percent for most of the 1970s, but increased significantly in the 1980s.



**Figure 5.1 Financialization of Savings**

The rapid growth and the comparatively high level of money holdings or financial savings can be explained from three factors (see Jansen 1990, Chapter 4 for a more detailed analysis). The major factor is the rapid growth of incomes that occurred. Second, the rapid growth of the financial system, in particular the extension of the branch network of banks over the whole country, has made access to banking services much easier. A third factor is that inflation has always been modest in Thailand, so that people were not adverse to holding money balances. The real interest rate on deposits was, in general, positive, although not very high in most years.

The official financial system is dominated by commercial banks. There are 15 Thai-owned banks and 14 foreign-owned banks. Thai banks account for about 95 percent of all bank assets. The banks were established by business families and

groups to look after the financial interests of the groups. The major banks still maintain close links to founder families and to the corporations of these families in the various sectors of the Thai economy (see Phipatseritham and Yoshihara 1983 and Suehiro 1989). This factor accounts for the close links between the financial sector and the dominant elements of the private corporate sector.

The commercial bank system is highly concentrated. The four largest banks account for about 65 percent of all bank assets. The other main element of the official financial system, the finance and security corporations, are not really competitive with the banks. There were, in 1989, 94 finance companies, but the major ones of these are affiliated to domestic banks.

The concentration is not only characteristic of the financial system itself, but also of its relations with the rest of the economy. As the MSAFs show, the major share of banks' resources come from household deposits. But these are not the pooled savings of a large number of small savers. The many accounts of small savers bring in only a small share of total funds. The top one percent of accounts bring the banks more than half of all their deposit funds. Most of the resources of the financial institutions are, therefore, obtained from a very small number of very rich households. There is also a strong concentration on the credit side of the banks' books. In 1980, 5,590 customers accounted for 58 percent of total loan value (World Bank 1983). The Thai financial system is, thus, part of a closely knit network of wealthy business families, corporations and financial institutions in which relations of business, finance and kinship interact. The importance of this observation, for the study of intersectoral flows, is the fact that there is intense interaction between the wealthy top of the household sector, private corporations and financial institutions. In terms of financial intermediation, this interaction may exist in transfers of equity capital, trade credit, and bank deposits and loans.

The sectoral allocation of commercial bank credit is given in Table 5.4. Comparing the 1970s with the 1980s, the striking feature is that the share of the agricultural sector increased, despite the rapid decline of the share of the sector in total output. This pattern is caused by policy interventions instituted since 1975 imposing a mandatory lending by banks to agriculture. To some extent, this trend compensates for the observed neglect of the agricultural sector by international finance. More in line with the changing composition of output is the increasing share of the manufacturing sector in bank credit.

The declining share of foreign trade in the banks' loan portfolio is the best indicator of the changing nature of the banking business. As stated, banks emerged to serve the financial interests of major trading families. Gradually, however, these families, and the banks affiliated with them, have diversified their activities into manufacturing. The outcome of these processes is that, in the 1980s, bank credit was concentrated on the manufacturing sector (about 25 percent of all credit), on international trade and domestic trade finance (together about 35 percent) and on construction and real estate (about 10 percent). The allocation of loans of finance companies was not much different from that of banks: close to 25 percent for the manufacturing sector, 16 percent for construction and real estate, 15 percent for international and domestic trade, and close to 20 percent for personal consumption (mainly hire purchase).

**Table 5.4 Sectoral Breakdown of Commercial Bank Credit**

	(percentage distribution)				
	period I	period II	period III	period IV	period V
	1970-74	1975-79	1980-82	1983-86	1987-90
Agriculture	2.12	4.73	6.35	7.45	6.61
Mining	1.13	0.75	0.69	0.60	0.51
Manufacturing	16.48	18.65	20.70	22.36	25.05
Construction	5.41	4.88	5.19	5.46	4.18
Real estate	5.16	3.35	2.82	3.48	7.90
Imports	17.00	13.26	10.26	7.06	5.18
Exports	10.05	11.99	10.21	8.41	7.65
Wholesale and retail trade	23.85	22.06	23.26	23.59	18.63
Public utilities	1.21	1.87	2.39	1.67	1.72
Banks and other financial institutions	4.32	6.11	5.63	6.16	6.60
Services	5.28	4.07	4.52	5.03	5.68
Personal consumption	7.95	8.24	7.95	8.74	10.29
Others	0.04	0.04	-	-	-
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

The allocation of domestic credit can be compared to the allocation of international capital inflows that was discussed in Chapter 3, where it was observed that a considerable part of foreign capital was received by the public utilities sector (electricity, gas and water, and transport and communications), a sector that has only a minor position in the loan portfolio of domestic financial institutions. Foreign capital inflows received by the private sector went predominantly to the manufacturing sector and, to a lesser extent, to financial institutions, domestic trade, construction and services. This allocation is quite comparable to the credit from domestic financial institutions.

One factor that may have contributed to the rapid growth of the official financial system is the gradual replacement of informal financial markets and transactions by the official financial institutions.

The informal or unregulated financial market was certainly important in Thailand, as in many other developing countries. It can be separated into an urban and a rural segment. There is little information available on the urban segment. The Household Savings Survey conducted by the Bank of Thailand in 1980 concluded that households in municipal areas obtained 61 percent of their total liabilities from official financial institutions and 39 percent from informal sources (Kirakul 1986).

The rural credit market in Thailand has been the subject of more research (see Thisyamondol, Arromdee and Long 1965 [hereafter TAL 1965]; Onchan, Chalamwong and Aungsumalin 1974 [hereafter OCA 1974]; and Kirakul 1986). The Agricultural Economic Research Division (AERD) of the Office of Agricultural Economics has also collected data on farmers' loans. From these studies, the following stylized facts may be derived.

Most farm households are indebted, but there appears to have been sharp shifts in the origin of credit received by farm households. Breaking down the total value of credit by its origin shows:

	TAL (1962/3) (%)	OCA (1974) (%)	AERD (1980/1) (%)	AERD (1986/7) (%)
Relatives and neighbors	47	49	25	13
Commercial lenders	46	29	21	17
Official financial institutions	5	23	54	70
Total value of loans	100	100	100	100

Commercial lenders include landlords, local stores, crop buyers and money-lenders. The various studies are not comparable in terms of coverage and location, but the trend over time suggested by the three sources is clear and is also confirmed by other studies. The enormous increase in the role of official financial institutions, among which the Bank for Agriculture and Agricultural Cooperatives (BAAC) is dominant, is confirmed by monetary statistics on the sectoral allocation of commercial bank credit (see Table 5.4). This pattern of change also applies to the non-agricultural rural sector. Onchan (1985) presented data on the sources of funds of non-farm enterprises. In 1965 such firms depended more on the unregulated money market than on the official financial institutions. By 1978 both the smaller and the larger non-farm enterprises depended mainly on official sources of credit.

The role of commercial lenders remains very important. In Thailand the role of the professional money-lender is comparatively small; the commercial lenders are predominantly traders, rice millers, etc. Quite often these commercial lenders are, in turn, borrowers themselves from the banks.

The relative size of the unregulated money market is difficult to assess. TAL (1965) used their estimate of the average indebtedness of the households in their sample to calculate a total rural indebtedness in Thailand of 9 billion baht, of which 95 percent came from the unregulated market. The size of the urban unregulated money market in that year is unknown. In 1963 total credit extended by official financial institutions to the urban and rural private sector also amounted to around 9 billion baht, so that the unregulated and the official market segments were more or less of the same size. The Bank of Thailand's Household Savings Survey reported a total indebtedness of rural and urban households on the informal market of 47 billion baht in 1980, equivalent to about 17 percent of the credit extended by official financial institutions to the entire private sector.

Taken at face value, these estimates indicate that the unregulated money market, when corrected for inflation, is hardly growing. Relating the estimates of outstanding rural/agricultural non-official credit to total agricultural GDP gives a proportion falling from 36 percent in 1963 to 29 percent in 1970 and 14 percent in 1980 and 1986. All these figures and proportions are based on very rough estimates, but the trend seems to be clear: the unregulated money market is relatively stagnant and a rapidly expanding official credit market is taking care of a growing share of credit. It is likely that in more recent years this trend has been further extended. Some crashes of informal loan schemes have undermined public confidence and the access to official institutions has become easier and more attractive.

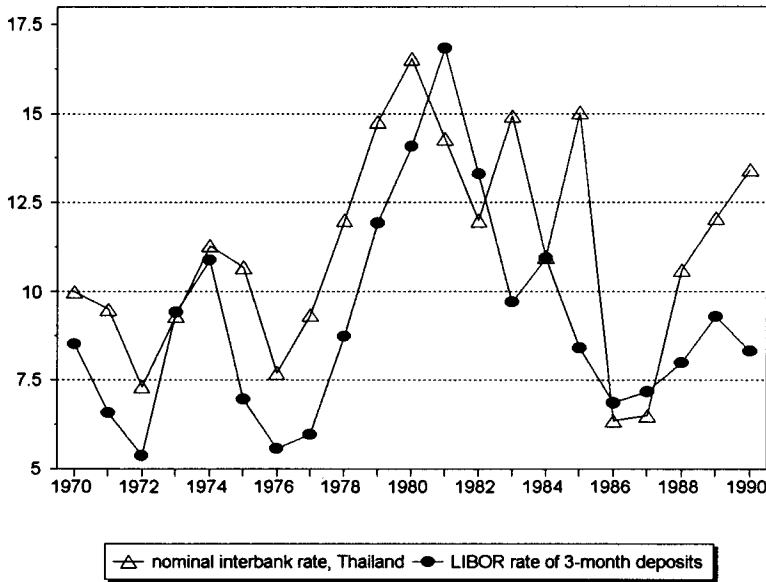
The Thai capital market is relatively "open." There are official controls on capital outflows, but these are more to register and monitor than to regulate or restrict. The domestic capital market is increasingly integrated with world markets and increasingly sensitive to market signals. As was analyzed in Chapter 3, direct investments and portfolio investments came to Thailand in recent years when prospects for returns were comparatively attractive. Large public and private corporations have taken up long-term and short-term loans at international financial markets when domestic credit was in short supply or relatively expensive. Also, the financial institutions are in contact with international markets to manage the foreign exchange reserves (Bank of Thailand) or to borrow reserves to expand the domestic credit supply (banks and other financial institutions; see Tables 2.7 and 2.8 of Chapter 2, which show the increasing level of financial linkages between the two MSAFs). As was discussed in Chapter 3, in the mid-1970s access to international financial markets increased because of a number of supply-side factors, and the performance of the Thai economy since then has been such as to maintain that access.

These close interactions force the domestic interest rate to stay close to the world's interest rate. On a perfectly open capital market, one would expect the domestic interest rate to be equal to the international rate plus the cost of forward cover of the foreign exchange risk. In Figure 5.2, we compare the Thai interbank rate, as the closest proxy of the money market rate, with the three-month LIBOR rate. The similarity in the underlying medium-term trends of the two rates supports the hypothesis of the openness of Thai financial markets. The short-term deviations between the two rates can be explained from instabilities on the foreign exchange markets and from monetary policy interventions. Prior to the devaluations of the baht in 1980 and 1984, expectations of the coming devaluation forced the domestic rate in 1980 and 1983 significantly ahead of international interest rates. The relatively low domestic interest rates in 1981, 1982, 1984, 1986 and 1987 and the relatively high rates in 1985, 1988 and 1989 may have been due to a respectively easy and tight monetary policy in those years. These policy aspects will be discussed in more detail in Chapter 6.

### **Sources and Uses of Funds**

In Table 5.1, the sources and uses of funds of the public sector are presented as percentages of GDP. Averages for the five periods are given, so as to focus on medium-term trends rather than on short-term fluctuations.

The growing dependence of the public sector on foreign finance, as established in Chapter 4, is also shown here. Foreign capital inflows contributed an increasing share of total sources for the sector; the level of inflows increased from period I to II and from II to III. In period III the level of inflows was particularly high. It fell drastically in period IV and even turned negative (i.e., a net repayment of debt) in the final years. Combined with these capital inflows was an increase in the public investment ratio and a fall in the public savings ratio. The cutback in capital inflows in period IV and the disappearance of the inflows in period V were accompanied by a fall in the public investment ratio and an increase in the savings ratio. These trends suggest that public sector foreign capital inflows encouraged public investments and discouraged public savings.



**Figure 5.2 Domestic and International Interest Rates**

The gap between public savings and investments over the first four periods, however, was much larger than the foreign loans received. To fill the growing gap, the demand for domestic funds increased rapidly. In the period 1980-1982, almost half of all funds of the public sector came from the domestic financial system. In the next period, this claim on domestic financial resources declined somewhat, but still remained high. It was only in the last period that it reduced drastically and, in fact, turned negative.

The data in Table 5.1 allow us to disaggregate the public sector picture over the government and the state enterprise sectors. It is clear that the main share of capital inflows was directed at the state enterprise sectors. Also, the increase in the public sector investment ratio is entirely due to the trend in the state enterprise investment ratio; the government investment ratio shows, in fact, a declining trend over the entire five periods. The increase in the state enterprise investment ratio continued into the fourth period, when the capital inflows had been substantially reduced. The state enterprise savings ratio was quite low in periods II and III, recovering somewhat in period IV.

The result of these patterns was that the savings-investment gap of the sector was very wide throughout periods II, III and IV. In the first two of these periods, more than half of that gap was financed by foreign loans. In period IV the contribution of foreign funds was reduced and domestic sources had to fill the gap. The state enterprise sector has never drawn very heavily on the domestic financial system; the

domestic liabilities through the financial intermediaries have always been quite modest. The main domestic source of funds has been the "net other domestic liabilities," which in this case consisted mainly of government transfers. The level of these transfers was particularly high in period IV, when the investment ratio was still very high and the savings ratio, although improved in comparison to the earlier period, was not high enough to compensate for the decline in capital inflows.

The years 1987-1990 show a drastic break with the earlier periods. State enterprise investments fell drastically and the savings ratio improved further, so that the dependence on foreign funds totally disappeared and the dependence on "other domestic liabilities" (i.e., government transfers) significantly diminished.

The pattern in the government sector was quite different. Although most of the public sector's foreign loans ended up with the state enterprises, the government sector also experienced an increase in capital inflows in period II and III. This, however, did not invite an increase in the government investment ratio. In fact, that ratio more or less continuously declined over the two decades studied here. There occurred a severe fall in the government savings ratio, particularly in periods III and IV. The fall in the savings ratio exceeded the decline in the investment ratio and the savings gap was quite substantial in periods III and IV.

The government sector's savings gap was largely filled with funds from the domestic financial system. Government liabilities with financial institutions increased sharply in period III and remained very high in the next period. The "net other domestic liabilities" of the government were negative, showing an acquisition of assets rather than an accumulation of liabilities. In view of what has been observed regarding the state enterprise sector, it can be suggested that a substantial part of these outflows were capital transfers to state enterprises. Associated with the capital transfers, there may also have been current transfers from the government to the state enterprises to help them cover operating losses. The need for such transfers may have reduced the government's ability to generate savings.

As in the case of state enterprises, the final period showed a dramatic turnaround. The government investment ratio continued to fall, but the savings ratio increased so sharply that the dependence on foreign and domestic funds totally disappeared.

It may be concluded that the years 1975-1982 can be called the public sector's "foreign-loan boom period." In those years the public sector investment ratio increased. This increase was financed from capital inflows and also from an increased claim on domestic financial resources. This aggregate picture was the result of the state enterprise sector doing most of the foreign borrowing and accounting for most of the investment growth, and the government sector doing most of the domestic borrowing.

In the adjustment period, 1983-1986, capital inflows were cut, but investment remained high and the improvement in the savings ratio was not sufficient to compensate for the loss of foreign funds. The result was a high claim on domestic financial resources. Only in the last period did the public sector boom come to a definite and spectacular end. In those years public sector investment, of both government and state enterprises, fell substantially and the savings ratios improved dramatically. The result was that the public sector showed a savings surplus.

In Table 5.2, the sources and uses of funds of the private sector are given. Foreign capital inflows to the private sector started to increase only in periods III

and IV. In contrast with the public sector pattern, the rise in capital inflows to the private sector was not associated with an increased investment ratio. In fact, the private investment ratio was very low in those years. The private sector savings ratio was quite stable over the five periods, with the exception of period IV, when it was very low. The outcome of these savings and investment patterns was that the private sector savings surplus was very high in period III, just when the public sector's savings deficit was at its highest. The private savings surplus declined somewhat in period IV, but remained at a substantial level.

It is assumed that all capital inflows into the private sector are received by corporations. Although private capital inflows were higher in periods III and IV than they had been in earlier periods, the corporate investment ratio was lower and the corporate savings ratio fell somewhat. Looking at the other sources of funds, it is observed that the domestic financial liabilities which corporations incurred with financial institutions were relatively constant over the periods, so that the main compensation for the increase in foreign capital inflows in periods III and IV was in the fall in "other domestic liabilities" of the corporations. These net other liabilities were positive in periods I and II, meaning an inflow of resources (for example, in the form of share capital), but in periods III and IV they turned negative, indicating that firms obtained assets rather than incurred liabilities. It is clear that periods III and IV were very difficult years for private corporations.

The last period shows a sharply different pattern. Foreign capital inflows increased further and reached a very high level. Not only the level of private capital inflows, but also its composition, changed drastically in these years with direct and portfolio investments taking the major share. In this period the increase in capital inflows was indeed associated with a sharp recovery of the corporate investment ratio. Also, the corporate savings ratio improved, in contrast to the public sector's experience where the capital inflow boom had been associated with a fall in the savings ratios. The provisional flow-of-fund data for this final period suggest that the investment boom led to a sharp increase in the demand of private corporations for domestic credit. The data also show that corporations used a significant part of their resources to obtain "other financial assets," which is somewhat difficult to understand and may be due to the provisional nature of the data.

The averages of the household sector savings and investment ratio were relatively stable over the first four periods and increased rapidly in the final period. The savings surplus of the household sector hovered around 7 percent of GDP in periods I, II and III, but declined in period IV and even more so in period V when the investment ratios started to increase and savings ratios stayed behind. Still, even in those periods, a substantial savings surplus remained. The households used the surplus to obtain financial assets with financial institutions (deposits and promissory notes) and other domestic financial assets (shares, trade credit, etc.), probably mainly with the private corporate sector. In period III the acquisition of "other domestic financial assets" dropped significantly and in periods IV and V there was even a net incurrence of "other financial liabilities" by households. Again, these trends are difficult to interpret and may be, as was observed in relation to the "other financial liabilities" of the private corporate sector, due to the provisional nature of the data. The household sector increased its financial assets with domestic financial institutions.



Table 5.3 gives a summary of the sources and uses of funds of the financial institutions that is consistent with the data given in Tables 5.1 and 5.2. It can be observed that the Thai financial system has not, on average, been a main channel through which foreign capital entered the country. Only in period II was there a substantial build-up of external liabilities to finance the expansion of domestic credit in excess of the growth of financial savings. In all other periods, the growth of domestic financial savings exceeded the expansion of credit, allowing an accumulation of foreign reserves by financial institutions.

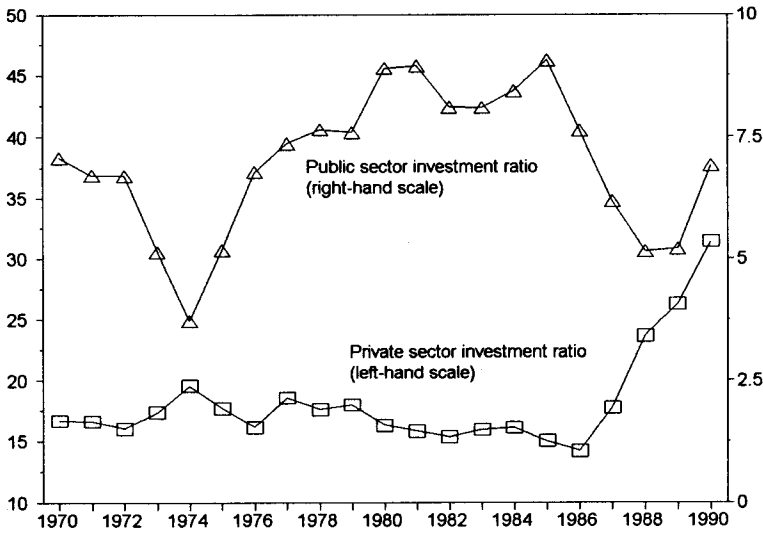
It should be noted, however, that the medium-term averages given in Table 5.3 hide substantial year-to-year fluctuations in the net external position of the financial system. This was already shown in Table 2.8 in Chapter 2, which captured the considerable short-term fluctuations in the foreign financial assets and, even more, in the foreign financial liabilities of the Thai monetary system (i.e., the central bank and commercial banks). These short-term fluctuations suggest that the financial institutions use the foreign financial markets to balance their books. It has been suggested by other studies that the Thai financial system tends to follow the demand for credit. Fluctuations in the net external position of the banks seem to support that view. When credit demand is high, banks borrow abroad to supplement their loan capacity.

Tables 5.1 and 5.2, together with Table 5.3, suggest that financial institutions obtain most of their funds (around 80%) from the household sector and use the funds to give credit to the household sector (around 25%), the private corporate sector (around 40%) and the government (around 35%). State enterprises receive little credit from domestic banks. In the last period, however, this picture changed dramatically. The public sector's claim on domestic credit disappeared, so that all domestic financial resources could be allocated to support the private sector boom.

### **CROWDING-OUT OR CROWDING-IN?**

It is interesting to study how the private sector reacted to the public sector loan boom. Initially, in period II, when the public sector's capital inflows were still modest, the private sector seemed to have benefited from the impulse these inflows and the related public investments generated. The private investment and savings ratios slightly increased in this period. But in the next periods, III and IV, the interaction was less positive. In period III the sharp increase in the public sector capital inflow and the related rise in public sector investment and fall in public sector savings were associated with a sharp fall in the private sector's investment ratio, while the private savings ratio remained more or less constant. In period IV, capital inflows to the public sector fell significantly, but the public investment ratio remained very high and the savings ratio improved only moderately. In this period the private investment ratio declined further.

In Figure 5.3, the trends of the public and private sector investment ratios are plotted. It is clear that in the early 1970s and in the 1980s the direction of change in the two ratios were almost always in opposite directions. Only in the late 1970s was there less of a trade-off between the two ratios, which agrees with what was just observed about period II. The analysis allows us to say somewhat more about the channels along which such crowding-out would occur. The process is rather complex.



**Figure 5.3 Public and Private Sector Investment Ratios**

In the first section of this chapter, we briefly summarized the literature which suggests that an increase in public sector investments may affect private investments in a number of ways. An increase in public spending may lead to an acceleration of inflation, to higher interest rates or to stricter credit rationing, or to an appreciation of the real exchange rate. All these factors may make private investment plans less attractive or more difficult to realize. But crowding-in is also possible when private savings can be made to rise fast enough.

In Table 5.5, we have brought together some relevant economic indicators that can be used to trace the patterns of interaction between public spending and the private sector accumulation balance. The increase in capital inflows that occurred in period II and even more in period III led indeed to a rise in the level of the overall investment ratio; the increase in the investment ratio was entirely due to an increase in public investment.

**Table 5.5 Adjustment Indicators, Thailand**

	period I 1970-74	period II 1975-79	period III 1980-82	period IV 1983-86	period V 1987-90
Net capital inflows (as % GDP)	1.9	3.6	6.5	4.0	6.0
Investment (as % GDP)	23.1	24.5	24.5	23.5	29.3
Private investment (as % GDP)	17.2	17.6	15.8	15.2	23.6
Private savings (as % GDP)	18.3	18.9	18.7	16.8	19.5
Growth rate real GDP (% per year)	5.8	8.0	5.1	5.7	11.2
Implicit ICOR	4.0	3.1	4.8	4.1	2.6
Domestic inflation (% per year)	1.4	3.7	6.9	2.0	-0.2
Real exchange rate index (1970=100)	97.4	91.4	89.2	97.4	94.5
Real interest rate (%)	-1.9	4.4	6.1	10.1	5.4
Total government debt (as % GDP)	22.4	21.9	32.4	46.0	37.9
External government debt (as % GDP)	4.2	6.4	14.7	22.3	18.9
Domestic credit expansion (as % GDP)	8.5	10.0	10.1	10.1	17.0
DCE, public sector (as % GDP)	2.6	2.5	4.3	3.1	0.0
DCE, private sector (as % GDP)	5.9	7.5	5.9	7.0	17.0

Notes: Domestic inflation: increase in consumer prices minus increase in import prices (weighted with import quote) and minus increase of export prices (weighted with export quote).

Real exchange rate: nominal exchange rate (baht per 1 US dollar) corrected for domestic inflation (CPI) and foreign inflation (USA WPI) and for change in effective import duties (see Dornbusch and Helmers 1988, p.393).

Real interest rate: nominal interbank rate corrected for inflation (GDP deflator).

Domestic credit expansion (DCE): growth in assets of financial system; taken from Financial Survey of Bank of Thailand (BOT, quarterly). Figures may differ marginally from those in Tables 5.1 and 5.2

Table 5.5 shows that the increase in public expenditures was associated with an acceleration of domestic inflation, first rather mildly in period II, but then more strongly in period III. Domestic inflation is measured as the increase in consumer prices corrected for the impact of international price changes. The real interest rate (i.e., the nominal interbank rate minus the GDP deflator) also increased in both periods, and the real exchange rate appreciated. It should, however, be noted that a more detailed analysis shows that the main appreciation of the real exchange rate since 1970 occurred in the years 1973/74, i.e., before the loan boom period started. Since 1974, the degree of overvaluation of the baht remained more or less constant until 1984. We, thus, cannot say that the capital inflows caused the appreciation, although it could be suggested that the access to international finance made the postponement of the exchange rate adjustment more feasible.

There are also, however, significant differences between the adjustment patterns of the two periods. In period II the public sector investment ratio increased, but the private sector investment ratio also increased, albeit only marginally. In period III the further increase of the public sector ratio was combined with a sharp decline in the private investment ratio. The government debt ratio rose substantially in the third period and the claims of the public sector on credits from the domestic financial institutions also expanded. The regressions of Chapter 4 suggested that, particularly, the high level of public investment reduced private corporate investment demand in this period, but increases in domestic inflation and in the real interest rate that occurred in this period, and the sharp increase in the public sector's demand for domestic credit, also may well have crowded out private sector investments.

The indicators for period IV show the adjustment policy efforts. The real exchange rate index increased after the 1984 devaluation and the real interest rate increased to very high levels. The public sector savings gap was somewhat reduced but, since the inflow of foreign loans to the public sector fell sharply, the domestic public sector borrowing requirement expanded (see Table 5.1). It is, in that light, surprising that the share of the public sector in the domestic credit expansion was reduced. The public sector relied more on "other domestic liabilities" in this period. This trend enabled financial institutions to increase credit for the private sector, but this did not lead to an increase in private investment. It appears from Table 5.2 that the increase in credit merely compensated for the sharp fall in private savings.

The final period can be compared to periods II and III in the sense that, once again, capital inflows increased. But this time the composition of the flows was totally different. In period III capital inflows destined for the public sector accounted for 56 percent of total inflows. In period IV that proportion was still 41 percent, but in the last period more than 100 percent of the inflows were received by the private sector (more than 100 percent because the public sector, in fact, repaid debt rather than received new funds).

The increase in capital inflows was again associated with an increase in the investment ratio, but this time it was private investment that expanded; the public sector investment ratio declined sharply. The figures in Table 5.5 suggest that the reaction patterns were quite different in this period. The real interest rate fell sharply and the domestic credit creation expanded significantly. This apparent liberalization of monetary policies was due to the high liquidity of the financial markets that were flooded with the financial inflows (see, in Table 5.3, the rapid accumulation of foreign assets of financial institutions). The liquidity of the financial markets and the softening of monetary policies did not, however, result in an acceleration of inflation. In fact, the rate of domestic inflation was remarkably low for a country going through an investment boom. This was probably due to the extremely contractionary fiscal policies. With public investment falling and public savings rising, the public sector borrowing requirement turned negative.

In an inverse way, the final period provides strong support for the crowding-out hypothesis. The sharp fall in the public spending ratio was accompanied by a sharp rise in the private investment ratio. It should be recognized, however, that the relationships are more complex. It is not just the reduction in public spending that created the "space" for private investment.

We referred to this period in Chapter 3. In Chapter 6, the policy reforms in these years will be analyzed in more detail. Three aspects are interlinking:

- The international currency realignments of the major world currencies in 1985 and the trade tensions between Japan and the United States led to an increase in direct foreign investment by Japan and the Asian NICs.
- The devaluation of the baht in 1984 and the depreciation of the baht vis-à-vis the yen since 1985 helped to make Thailand a main destination for these direct investments.
- The change in public sector policies around that time meant that the increase in private investment that was associated with the inflow of foreign investment funds could be absorbed without immediate macroeconomic problems.

These factors together explain the recent years of rapid growth and low inflation. The current situation presents two macroeconomic problems. The first is that public investments may have been reduced to levels that are too low. There are indications that the supply of basic infrastructure and public services cannot keep pace with the expanding private sector. This would call for an increase in public sector investments.

The second problem is more fundamental since it is of a longer duration. It was observed in Chapter 4 that Thailand's savings ratio has always been comparatively low. In the last few years the private sector savings ratio recovered to a level slightly above the level it had in periods I, II and III, but this increase did not match the much stronger rise of the private sector investment ratio. The private sector savings gap, and with it the current-account deficit, rose to very high levels.

There is no indication that the private sector savings ratio is sensitive to the level of the public sector debt burden. The private sector savings ratio and the ratio of government debt to GDP moved, over the period 1978-1989, clearly in opposite directions. The debt-neutrality hypothesis apparently does not hold in Thailand.

In summary, we can say that the interaction between public sector activity and the private sector is very complex.

First, an increase in public investment may affect the need for private investment. Investment by government and state enterprises may be to take over activities that used to be provided for by the private sector. Of course, this process can also be reversed. Particularly in the most recent years, there have been attempts at privatization, with the private sector assuming responsibility for activities previously conducted by the public sector.

Second, an increase in public investment may affect the desire for private investment when the growing role of the state dampens or increases private profit expectations. If the growth of public investment is associated with a rising domestic and external debt burden and an appreciation of the real exchange rate, or when financing demands of the state push up interest rates, the private sector's investment demand may weaken. Alternatively, the demand and supply conditions created by public investments may create profitable investment opportunities for the private sector.

Third, a rise in public investment may affect the investment ability of the private sector. Public investment can forcefully reduce private investment when it places priority claims on scarce factors, such as foreign exchange, construction capacity, skilled personnel or domestic financial resources.

It is quite difficult to assess which of these factors hold true for Thailand. The first factor, the need for private investment, may be not so relevant for the period of the public sector loan boom. Public investments in these years were largely confined to traditional public sector concerns, such as physical and social infrastructure and public utilities, activities that are supportive of rather than competitive with private sector activities. But the reverse case may be more relevant: the redress of the public sector in recent years has opened many opportunities for the private sector in activities that used to be dominated by the public sector.

In assessing the impact of public sector investment on the private sector's investment demand, one should realize that the level of desired investment is also dependent on other factors. Particularly in period III, when private investment dropped significantly, the external factors were quite ominous. The world economy in those years was shocked by a rise in oil prices and interest rates, and the growth of world trade stagnated, altogether resulting in a poor growth performance for Thailand during that period. One would expect such events to have a negative impact on private investment demand in an open economy like Thailand. In period IV, however, the world economy recovered somewhat, and one would have expected that this would have stimulated the private sector's investment demand. But, in fact, private investment fell deeper in those years. It is quite likely that in this period the deep macroeconomic imbalances of the Thai economy negatively affected the expectations of the private sector. There was a large public sector deficit, a rising external debt burden and an overvalued currency. The real interest rate was high, partly due to the high public sector demand for domestic finance, partly to support the overvalued baht.

There is relatively little evidence that the private sector could not realize the level of desired investment. There was no foreign exchange rationing and no apparent shortages on the construction or labor markets. Also, on the financial markets, the evidence of a forceful crowding-out of private-sector credit demand is not very convincing. As Table 5.2 shows, liabilities incurred by the private sector with domestic financial institutions, as a percentage of GDP, declined in period III, but recovered in the subsequent period. The "net other domestic liabilities" has a negative sign, indicating the acquisition of assets outside the private sector. If we concentrate on the patterns of the private corporate sector, we observe that the credit obtained from domestic financial institutions has been rather constant over the periods. The changes occurred in the foreign loans and in the "net other domestic liabilities." On the latter item, Table 5.2 shows that, while this ensured an inflow of resources in periods I and II, in period III and IV corporations, on the whole, obtained assets rather than incurred liabilities. There is no indication that this shift was forced. The main source for "other domestic liabilities" for the corporate sector is the household sector. Indeed, the acquisition of "other domestic assets" by households dropped significantly in periods III and IV, but not for lack of funds, because in those periods the household sector substantially increased its holdings of financial assets with financial institutions. As the links between the corporate and household sectors are direct and on a personal level, it could be suggested that, had corpo-

rations wanted to invest more, they would have been able to obtain more resources from the household sector in the form of direct transfers, for example, in the form of share capital.

It can be concluded that the crowding-out that occurred in periods III and IV was caused more by the effects on the desire of the private sector to invest than on its ability to invest. Of course, period V also can be seen as a case of strong "crowding-out," but in the reverse direction. Public sector policy led to a significant reduction of public sector investment and to an increase in savings. The public-sector savings deficit had been replaced by a surplus. The boost for private investment came, however, from another source. A strong increase in direct foreign investment, supported by a substantial currency depreciation, led to a rapid rise in private investments. The improvement in the public sector balance may have supported the confidence of private investors, and it certainly made possible the rapid expansion of private investment without too great a tension on domestic financial and real markets.

## THE FISCAL SYSTEM

Earlier in this chapter, we presented the sources and uses of funds for each of the sectors. For the government sector, we wrote:

$$S_g + FLF_g + NOFL_g + NWFL_g = I_g + FAF_g \quad (5.10)$$

Government savings are the difference between revenues (T) and current expenditures (C<sub>g</sub>):

$$S_g = T - C_g \quad (5.14)$$

so that we can rewrite Equation 5.10 as:

$$T - C_g - I_g = FAF_g - FLF_g - NOFL_g - NWFL_g \quad (5.15)$$

where the left-hand side represents the total government budget and the right-hand side the composition of deficit financing. The deficit financing part has been analyzed in a previous section, but the budget part deserves more attention here.

The government budget is a channel through which burdens and resources are allocated over the various institutions and sectors of the economy and the question should be raised whether, under the impact of external finance and external shocks, the allocation patterns have changed. A first observation is that, compared to other developing countries, Thailand's ratio of total government expenditures to GDP is low. The World Bank data give for 1985 an average expenditure ratio of 27.5 percent for the group of middle-income developing countries to which Thailand belongs. Thailand's expenditure ratio was 19.7 percent in that year. It also appears that the growth of the ratio in the period from the early 1970s to the mid-1980s in Thailand was less rapid than elsewhere. This confirms the point made in Chapter 2 about the predominance given to the private sector and the relatively modest role for the state in Thailand's development strategy.

The comparison of the MSAFs for 1975 and 1985 (see Tables 2.1 and 2.2 of Chapter 2) gave an indication of the shifts in government revenue. The various

receipts of the government are recorded on row 11 of the MSAF. The indirect tax burden shifted between the two MSAFs away from agricultural commodities to industrial goods. The direct tax burden on the household and private corporate sectors increased between these two years, although the burden on the household sector increased more.

The data in Table 5.6 are based on budget data and cover a longer period than the two MSAFs. They are not directly comparable to the figures in the MSAFs (the MSAF figures combine tax burdens with net transfers paid or received by sectors). But they confirm the impression obtained from the comparison of the MSAFs: the overall tax/GDP ratio and its main components, the income (or direct) tax ratio and the indirect tax ratio, increased over the two decades from 1970 to 1990.

The income tax on both personal and corporate incomes increased. The increase is due to a number of factors, including, first of all, the growth of the tax base. The "modern" corporate sector is rapidly expanding. This was observed in Chapter 2 as one of the major structural changes in the Thai economy. With this growth is associated the growth of more tractable, and therefore more taxable, profit and labor incomes. Also, tax administration has improved over the years. There are no indications that there have been major tax rate reforms, although with the progressive rate structure and the growth of nominal incomes more of taxable income falls in the higher tax brackets.

Despite the growth of income tax revenues, the Thai tax system is still dominated by indirect taxes. In comparison to the tax structure of other middle-income developing countries or of other Asian countries, the Thai system has a larger share for domestic indirect and a smaller share for direct taxes, while the share of taxes on international trade is comparable to the average for these other countries (see World Bank 1988, pp. 83 and 84).

Within the category of indirect taxes there were significant shifts. The import duties/GDP ratio stagnated and the export duties/GDP ratio declined, while the ratio of domestic indirect taxes increased. Taxes can also be related to their various tax bases. The ratio of income tax to national income increased steadily. Of the indirect taxes, the ratio of import duties revenue to total merchandise imports fell in the 1970s, but stabilized in the 1980s. The ratio of export duties to merchandise exports, which was dominated by the taxes on rice exports, declined rapidly and almost disappeared in 1986 when the rice tax was abolished.

The import duties/imports and the export duties/exports ratios also give an indication of changes in trade policy. The fall in the import duty ratio may be seen as an import liberalization during the 1970s. Import tariffs are always ambiguous: they are an instrument of revenue collection, but also of market protection. If they perform their second function well, they lose their first function. It could thus be that the fall of the revenue ratio in the 1970s was the result of increased market protection rather than a reflection of import liberalization. However, as was observed in Chapter 3 (see Table 3.9), by the early 1970s the share of final consumer goods in total imports was already minor. The fall in the import duty ratio is then the result of the decline in the average import tariff. In the 1980s, however, that process had come to an end. This strongly suggests that import tariffs and import liberalization have not played a major role in the adjustment strategy of the 1980s. This will be further discussed in Chapter 6.



**Table 5.6 National Government Actual Revenue, Classified by Major Sources**

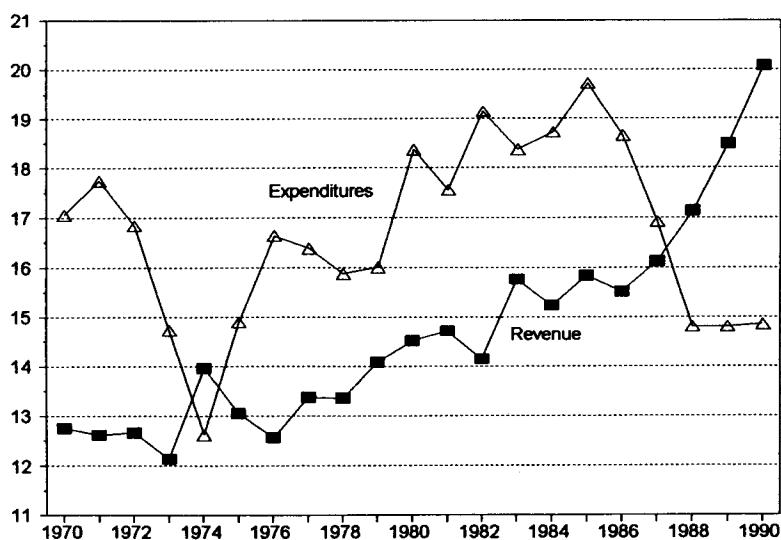
	period I 1970-74	period II 1975-79	period III 1980-82	period IV 1983-86	period V 1987-90
Taxation:	11.63	12.13	13.17	14.14	16.67
Income taxes:	1.56	2.22	2.85	3.24	3.80
Personal	0.86	0.99	1.25	1.77	1.70
Corporation	0.70	1.23	1.60	1.47	2.07
Indirect taxes:	9.97	9.91	10.33	10.89	12.87
Import duties:	3.30	2.95	2.77	3.00	3.91
of which:					
Mineral fuel and lubricants	0.20	0.18	0.28	0.11	0.06
Chemicals	0.47	0.56	0.56	0.57	0.68
Machinery	1.14	1.19	0.94	1.18	1.95
Manufactured goods	0.94	0.64	0.54	0.44	0.70
Export duties:	0.67	0.44	0.37	0.16	0.05
Rice:					
Premium	0.37	0.02	0.00	0.00	0.00
Duties	0.12	0.12	0.00	0.00	0.00
Rubber duties	0.00	0.04	0.21	0.10	0.05
Other export duties	0.18	0.26	0.15	0.07	0.00
Business taxes	2.47	2.74	2.79	2.85	3.60
Selective sales taxes	2.24	2.58	3.31	3.74	4.06
Fiscal monopolies	0.52	0.49	0.31	0.28	0.28
Royalties	0.26	0.42	0.47	0.27	0.16
Licenses and fees	0.23	0.13	0.13	0.35	0.34
Other taxes	0.29	0.17	0.18	0.24	0.48
Sales and charges	0.32	0.31	0.22	0.24	0.26
Contribution from government enterprises and dividends	0.43	0.44	0.41	0.47	0.51
Misc. revenue and income	0.44	0.40	0.66	0.73	0.50
<b>TOTAL REVENUE</b>	<b>12.82</b>	<b>13.28</b>	<b>14.46</b>	<b>15.59</b>	<b>17.94</b>

The ratio of domestic indirect taxes to total private consumption significantly increased over the years, particularly the selective sales taxes, a tax on the more luxury consumption items, which increased sharply.

The total government expenditure to GDP ratio increased, along with the revenue ratio, from period to period as Table 5.7 shows. In the final period, however, a sharp reversal is observed. It is, however, also interesting to study the short-term fluctuations in the ratio that are not captured by the period averages of Table 5.7. Figure 5.4 draws the total expenditure and total revenue ratio from year to year. The revenue ratio shows a considerable degree of short-term stability, but the expenditure ratio strongly fluctuates from year to year. A further disaggregation, not included in Figure 5.4, would show that these shifts are mainly due to variations in capital expenditures. It can be suggested that these fluctuations reflect policy interventions.

**Table 5.7 National Government Actual Expenditure by Economic and Functional Classifications**

	(as percentage of GDP)				
	1970-74	1975-79	1980-82	1983-86	1987-90
<b>Total expenditures</b>	<b>15.80</b>	<b>15.96</b>	<b>18.36</b>	<b>18.86</b>	<b>15.35</b>
<b>Economic classification:</b>					
Current	11.56	12.09	14.51	15.82	13.03
Capital	4.24	3.87	3.85	3.05	2.32
<b>Major functional classification:</b>					
Economic services	3.85	3.69	3.44	2.94	2.36
Social services	4.40	4.90	5.39	5.64	4.64
Defense	3.03	3.03	3.65	3.80	2.92
General admin. and services	2.27	2.09	2.49	2.52	2.04
Unallocable items	2.26	2.21	3.40	3.97	3.40
under which:					
Interest domestic debt	1.14	1.18	1.37	2.19	...
Interest external debt	0.15	0.15	0.43	0.58	...
Total interest payments	1.29	1.33	1.80	2.77	...

**Figure 5.4 Government Expenditure and Revenue Ratios (as percentage of GDP)**

The high fiscal deficit of the early 1970s led to a restrictive fiscal policy. This contractionary policy was strengthened when Thailand was hit by the first oil shock in 1974 and led then, in fact, to a budget surplus. Government expenditure recovered up to 1976, after which a consolidation of the expenditure ratio can be observed. In the years 1980-1982 there was again an expansionary phase in the fiscal policy stance, which continued, at a somewhat lower rate, up to 1985. After 1985, the expenditure ratio collapsed.

These trends suggest that fiscal policy is executed through expenditure policies. The revenue ratio is rather stable and, over time, gradually increasing. But substantial short-term variations are effectuated in the government expenditure ratio. The policy background to these changes and their effect on the macroeconomic performance will be discussed in Chapter 6.

In Table 5.8, total government expenditure and its main components, current expenditure (inclusive and exclusive of interest payments on government debt) and capital expenditure, are presented in constant prices and per head of population. The real government expenditure per head of population is an indication of the change in the real government services made available to the people and to the economy. It is striking that the real capital expenditure per head in 1989 was at a lower level than in 1970 or 1980. The amount fell very rapidly in the period 1971-1974 under the impact of the contractionary fiscal policy in those years. The years 1975-1980 showed a recovery and, since the mid-1980s, a sharp fall occurred that seems to have come to a halt in 1989 and was sharply reversed in 1990. The real current expenditure per capita grew more consistently over the period 1970-1985, if one ignores the dip around 1974. Since 1985 there has been a stagnation in the real current expenditures and, if interest payments on government debt are excluded, one observes a decline in the other real per capita current expenditure since 1985. Since the country had a budget surplus in recent years, one cannot conclude that the interest payments on the government debt accumulated in earlier periods is crowding out other current and capital expenditures.

These figures on real levels of government spending illustrate that the policy shift that occurred in recent years has been very severe. As Chapter 6 will argue, the sharp cuts in government spending have helped to alleviate the macroeconomic problems that otherwise could have resulted from the private investment boom of recent years. In a longer-term perspective, however, the question arises whether the provision of government services is adequate for the rapidly expanding economy. In this respect it is useful to look at the functional breakdown of government spending in Table 5.7. This table shows an increase in the ratio of social services spending to GDP (mainly education and health) over the first four periods, followed by a decline in the ratio in the final period.

The ratio of spending on economic services (infrastructure, etc.) has, on the other hand, continuously declined over the five periods. Against that background, and in view of the rapid growth of economic activities, it is not surprising to hear the many complaints about the inadequacies of Thailand's transport and communications network.

**Table 5.8 Real Government Spending per Head of Population**

	<b>Total Expend.</b>	<b>Current Expend.</b>	<b>Current Excl. Interest</b>	<b>Capital Expend.</b>
in constant prices (GDP deflator) (million baht)				
1970	25135	17204	15579	7931
1971	27466	19015	17020	8450
1972	27057	19704	17475	7353
1973	25607	19491	17111	6116
1974	22721	18630	16292	4090
1975	28065	21771	19041	6294
1976	34155	25026	22462	9129
1977	36754	27302	24564	9452
1978	38979	29428	26145	9550
1979	41214	32327	28753	8887
1980	49302	38460	34228	10842
1981	49845	39317	34100	10528
1982	56501	45305	39443	11196
1983	57962	47648	40952	10314
1984	63319	53677	45054	9642
1985	69022	57604	46827	11418
1986	68393	58107	45895	10286
1987	67634	57706	44801	9928
1988	66497	57690	45099	8807
1989	74317	63719	...	10598
1990	81306	66414	...	14891
in constant prices per head of population (baht)				
1970	691	473	428	218
1971	733	507	454	225
1972	701	511	453	191
1973	645	491	431	154
1974	557	457	400	100
1975	670	520	455	150
1976	795	583	523	212
1977	835	620	558	215
1978	864	653	580	212
1979	893	701	623	193
1980	1060	827	736	233
1981	1050	828	718	222
1982	1165	934	813	231
1983	1172	963	828	209
1984	1256	1065	894	191
1985	1336	1115	906	221
1986	1299	1104	872	195
1987	1262	1077	836	185
1988	1219	1058	827	161
1989	1340	1149	...	191
1990	1442	1178	...	264

## CONCLUSION

This chapter has focused on the impact of international finance on the domestic intersectoral financial relationships. The main channel for the intersectoral flows of funds is the domestic financial system.

The Thai financial system has grown very rapidly in the period under study: the stock market, the commercial banks and the non-bank financial institutions have played an increasingly significant role in providing funds to the public and private sectors. The sectoral allocation of the funds, obtained from the domestic financial system in the public sector, is quite different from the allocation of foreign funds studied in Chapter 3. Most of the foreign funds went to state enterprises, while most of the domestic funds went to the general government. In the private sector, the allocation of the funds from the two sources is quite similar, with the exception that, unlike international funds, domestic funds were to an increasing extent directed at the agricultural sector. This was the outcome of mandatory policies as well as of the rapid expansion of the financial system to the rural areas, where it gradually is replacing the informal credit markets.

An important long-term structural shift that can be observed is the increased integration of the Thai financial markets with the international markets. Institutional changes at international markets in the 1970s increased the access of developing countries like Thailand, but in the 1980s and certainly in recent years, there has been a further integration of the two markets. The link between the Thai financial markets and the international markets is not so much intermediated through the Thai financial institutions. It appears that direct links between public and private corporations and the international markets dominate. Where necessary or attractive, Thai firms can take short-term or long-term loans on foreign markets. As a result, the flow of international finance is increasingly influenced by factors such as interest-rate differentials, exchange rate expectations and short-term monetary policies. It should be noted, however, that the long-term trend of foreign capital flows continue to be determined by the more fundamental factors, such as, in recent years, the realignment of major international currencies and changing patterns of international trade. The increased integration of the financial markets poses serious problems for monetary policy which sees the effectiveness of many of its instruments undermined by the international linkages. This aspect will be further analyzed in Chapter 6.

The analysis of the sectoral investment-savings gaps and their financing shows an interesting impact of foreign capital flows. In the period 1975-1985, when capital inflows to the public sector were high, the public sector investment ratio increased rapidly and the savings ratio declined. In fact, in this period the public sector investment-savings gap widened more by the foreign capital inflow, so that there was an additional demand for domestic funds. It is suggested that in some years, as a result of this, there was a crowding-out of private investment. This crowding-out probably did not arise so much from a rationing of credit for the private sector, as from the impact of the public-sector spending boom on private-sector investment demand. The public-sector deficits led to increases in the rate of inflation and the real interest rate and to a loss of confidence of the private sector in the stability of the economy. This had a negative effect on the private-sector investment demand. In the most recent period, the capital inflows led to a rapid rise of private sector

investment and, although private savings also increased somewhat, the private sector investment-savings gap widened considerably beyond the level of the capital inflows from abroad. As in the earlier period, there was thus again an increased demand for domestic credit. The financial system could satisfy that demand because the sharp turnabout in fiscal policy had removed the public sector's demand for credit and because the rapid increase in incomes and the high interest rates led to a rapid increase in deposits. But the last year, 1990, suggests that there is an underlying problem: the large private-sector savings gap exceeds the public-sector savings surplus and is threatening macroeconomic stability.

Changes in the fiscal balances in the last few years have been dramatic. Over the entire period, the tax ratio has been increasing rather steadily, but within this overall tax burden significant shifts occurred. Taxes on international trade and on agriculture were relatively reduced. The tax burden on private corporations has always been comparatively low. The main increase was in the indirect taxation on household consumption.

With the tax ratio gradually increasing, the main fiscal problem in the past had been that expenditures were increasing faster. This process was halted in the mid-1980s. The government investment ratio had been declining throughout the two decades under study and, in fact, government investments in real terms have stagnated since 1980. But, around 1985, the increasing trend of the current expenditure ratio was also turned around into a decline. This quite exceptional fiscal performance has helped Thailand to weather the ongoing private-sector investment boom without major macroeconomic problems, but it raises the important question whether the level and quality of government services are up to the needs of the rapidly expanding private sector.

## Chapter 6

# Policy Regimes in Thailand

### INTRODUCTION

In its broadest formulation, the tasks of economic policy are to stimulate economic development and defend macroeconomic stability. The external shocks of the last two decades have made the execution of these tasks more difficult.

In the case of Thailand, as observed in Chapter 2, the initiative for economic development rests with the private sector. The duty of the state is to stimulate the private sector (for example, through investment incentives) and to provide a good environment for private sector development (for example, infrastructure and macroeconomic stability).

Judging by conventional criteria, the performance of economic policy in Thailand has been very good. Over the entire period 1970-1990, the average growth rate was 7.3 percent a year. Even in very difficult years, the growth rate was well ahead of population growth. The average inflation rate over the two decades was 7.2 percent a year. This figure was strongly influenced by the impact of the two oil crises of the 1970s. After 1981, the average rate of inflation was only 3.5 percent.

These performance indicators, economic growth and inflation, are better than for most developing countries. Thailand's current-account deficit is less outstanding. Over the two past decades the current-account deficit was, on average, equal to 3.7 percent of GDP.

The growth boom of the last few years has made Thailand one of the few developing countries that emerged successfully and convincingly from its period of structural adjustment. In these years growth was rapid, while inflation was kept at modest levels. But, again, the current-account deficit was substantial.

The relatively large current-account deficits reflect the domestic resource gap, with investments consistently outrunning domestic savings. Clearly, the increased availability of foreign savings in the period under study had a direct impact on these macroeconomic balances, as was studied in detail in Chapter 4.

The main tasks of macroeconomic policy under these conditions were then to (1) manage the domestic investment-savings gap, the trade balance, and the external debt burden in such a way that the long-term growth prospects were not en-

dangered, and (2) defend the short-term macroeconomic stability so as to maintain private sector confidence.

The sections in this chapter analyze how these objectives were achieved in the various sub-periods.

In the subsequent sections, the five periods of external shocks defined in Chapter 1 are used, and the policy packages designed to deal with those shocks are analyzed. In the final section, it will be assessed whether information on the policy regimes can be derived from these policy packages.

For this purpose, economic policy may be, rather conventionally, broken down into (a) fiscal and public sector policies, (b) monetary and financial policies, (c) price policies, and (d) trade policies.

Each of the five periods had its own problems and its own immediate concerns for growth and stability. But the outcomes of policies should also be judged on longer-term implications. The basic question is whether adjustment leads to a pattern of growth that is feasible in terms of internal and external macroeconomic equilibrium and viable in terms of social and political conditions.

Table 6.1 presents a summary over the 1970-1990 period of major external and domestic shocks, and government policy reactions, as well as the responses of other interest groups, namely the domestic private sector, foreign investors, bilateral and multilateral organizations, and foreign commercial banks.

In the subsequent review of policies, the direction and intensity of changes in policy will be analyzed.

## **PERIOD I (1970-1974)**

This period can be labeled as the period of international price shocks: first export prices and then import prices, namely the oil price, increased. In addition, international interest rates also rose.

Thailand absorbed the immediate impacts of the 1973/74 international price and interest rate shocks and of the resulting international economic upheaval with no significant disruption of its growth momentum, which averaged 5.8 percent per annum during this period. The initial balance-of-payments effect of the oil price increase was cushioned by three major factors: (1) the export commodity price boom in 1972/73, (2) the inflow of Vietnam War-related U.S. military assistance, which averaged 1.6 percent of GDP during the early part of the 1970s, and (3) the small external debt in the early 1970s, which made external financing of the widening resource gap less alarming to both the Thai government and lenders. The external-debt-GDP ratio during the 1970-1974 period averaged less than 10 percent and the debt service ratio was only 12.8 percent. This last factor also moderated the international interest rate increase (see Table 3.6).



**Table 6.1 Major Economic Shocks and Policy Responses in Thailand 1970-1990**

	1970-74	1975-79	1980-82	1983-86	1987-90
External Shock	<ul style="list-style-type: none"> <li>- High world interest rates</li> <li>- Commodity price boom</li> <li>- Oil price shock</li> <li>- Highly uncertain and volatile exchange rate system</li> </ul>	<ul style="list-style-type: none"> <li>- Cheap foreign credit (until 1987)</li> <li>- Deteriorating terms of trade</li> </ul>	<ul style="list-style-type: none"> <li>- Oil price shock</li> <li>- Worldwide (DCs) recession</li> <li>- High inflation</li> <li>- High and volatile world interest rates</li> <li>- Commodity price decrease</li> <li>- U.S. dollar appreciation</li> <li>- Debt crisis (from mid-1982)</li> </ul>	<ul style="list-style-type: none"> <li>- High interest rate (until 1984)</li> <li>- Debt crisis (from mid-1982)</li> <li>- Drastic decline in capital flows (loans) particularly to LDCs</li> <li>- Protectionism intensified</li> <li>- Steeply rising U.S. dollar in 1983-84</li> </ul>	<ul style="list-style-type: none"> <li>- Low world interest rates</li> <li>- Higher world commodity prices</li> <li>- Trade protectionist measures steadily increased</li> <li>- Currency realignment (appreciation): Japan, South Korea and Taiwan</li> <li>- Economic structural adjustment in Japan, South Korea and Taiwan</li> </ul>
Domestic Shock	<ul style="list-style-type: none"> <li>- Student uprising</li> </ul>	<ul style="list-style-type: none"> <li>- Suppression of student demonstrators</li> <li>- Political instability (frequent changes in government)</li> <li>- Collapse of a major finance company</li> </ul>	<ul style="list-style-type: none"> <li>- Unsuccessful coup d'état in 1981</li> <li>- Drought in 1982</li> </ul>	<ul style="list-style-type: none"> <li>- Unsuccessful coup d'état in 1985</li> <li>- Collapse of a medium-size commercial bank in 1984</li> </ul>	<ul style="list-style-type: none"> <li>- Severe drought in 1987</li> </ul>
Monetary Policy	<ul style="list-style-type: none"> <li>- Tight due to inflationary pressures</li> <li>- Raised discount rate from 8 to 10%</li> </ul>	<ul style="list-style-type: none"> <li>- Relatively tight</li> </ul>	<ul style="list-style-type: none"> <li>- Tight</li> </ul>	<ul style="list-style-type: none"> <li>- Restrictive (1983-84)</li> <li>- 18% credit growth guideline and severe credit squeeze by commercial banks</li> </ul>	<ul style="list-style-type: none"> <li>- Relaxed</li> <li>- Tight due to inflationary pressure in 1990</li> </ul>

*(Continued on page 122)*

Table 6.1 (Continued)

	1970-74	1975-79	1980-82	1983-86	1987-90
Fiscal Policy	- Initially expansionary, tight in later years due to inflationary pressure	- Expansionary, particularly for public investment (foreign borrowing increased)	- Restrictive; reducing expenditure and raising revenue (ineffective)	- Tight due to budget deficit - Borrowed locally - Tax reform under World Bank's Structural Adjustment Loans - Foreign borrowing	- Initially contractionary expansion (in 1990)
Trade and Industry Policy	- Semi-flexible exchange rate system pegged to U.S. dollar	- Export promotion - Continued import substitution	- Devaluation against U.S. dollar in Nov. 1981 (ineffective due to U.S. dollar appreciation)	- Devaluation against U.S. dollar (Apr.-Nov. 1984) - Basket of currencies (flexible) exchange rate system adopted in 1982 - Abolition of import surcharges - Tariff rate increase in 1985 (in order to raise government revenue) - Rice premium abolished in 1986	- More liberal: reducing tax rate and regulations - Real effective exchange rate depreciated until 1987; stable during 1988-90
Price Policy	- Price controls (passive) on a fairly large number of "basic needs" consumer products - Oil price intervention to soften the impact of price increase (inactive)	- Price controls (passive) (until 1985)	- Price controls (passive) - Oil price intervention to soften the impact of price increase (upward adjustment)	- Price supports on paddy and sugar - Oil price intervention (continuation)	- Oil price intervention, but shift from fixed to floating system

(Continued on page 123)

Table 6.1 (Continued)

	1970-74	1975-79	1980-82	1983-86	1987-90
Combined Effects	<ul style="list-style-type: none"> <li>- Moderate growth</li> <li>- High inflation</li> <li>- Negative interest rate</li> </ul>	<ul style="list-style-type: none"> <li>- High growth</li> <li>- Increasing current account deficit (CAD)</li> <li>- Shift to non-traditional exports</li> <li>- Creation of numerous state enterprises</li> <li>- High fiscal deficit</li> <li>- Sharp increase in capital inflows</li> </ul>	<ul style="list-style-type: none"> <li>- High inflation</li> <li>- Negative interest rates</li> <li>- Tourism boom</li> <li>- Workers' remittances became important</li> <li>- Worsening competitive position</li> <li>- Increasing CAD</li> </ul>	<ul style="list-style-type: none"> <li>- Moderate to low inflation</li> <li>- High debt burden</li> <li>- Recession (1985-86)</li> <li>- Large fiscal deficit</li> <li>- Export value shrank for the first time in 1983</li> <li>- low investment climate in 1985</li> <li>- High unemployment</li> <li>- Bad debt (bankruptcy) increased</li> <li>- High real interest rates</li> </ul>	<ul style="list-style-type: none"> <li>- High growth</li> <li>- High investment</li> <li>- Very large capital inflows (FDI and FPI)</li> <li>- High exports (particularly manufactured products)</li> <li>- Increasing CAD</li> <li>- Increasing inflation</li> <li>- Fiscal surplus</li> </ul>
Private Responses	<ul style="list-style-type: none"> <li>- Favorable with high investment</li> </ul>	<ul style="list-style-type: none"> <li>- Favorable with high investment</li> </ul>	<ul style="list-style-type: none"> <li>- Slowdown in investment</li> </ul>	<ul style="list-style-type: none"> <li>- Slowdown in investment</li> <li>- Some uneasiness about devaluation</li> </ul>	<ul style="list-style-type: none"> <li>- Favorable investment boom</li> <li>- Increase in speculative demand</li> </ul>
Foreign Investors Responses	<ul style="list-style-type: none"> <li>- Cautious during 1970-72, favorable with high investment during 1973-74</li> </ul>	<ul style="list-style-type: none"> <li>- Favorable with high investment</li> </ul>	<ul style="list-style-type: none"> <li>- Favorable</li> </ul>	<ul style="list-style-type: none"> <li>- Relatively stagnant capital inflows</li> </ul>	<ul style="list-style-type: none"> <li>- FDI and FPI boom (particularly export-oriented FDI)</li> </ul>
Bilateral and Multilateral Responses	<ul style="list-style-type: none"> <li>- Cautious and/or favorable</li> </ul>	<ul style="list-style-type: none"> <li>- Substantial increase in loan inflow</li> </ul>	<ul style="list-style-type: none"> <li>- Increase in aid (WB's SAL and IMF stand-by credits)</li> </ul>	<ul style="list-style-type: none"> <li>- Favorable</li> <li>- Diminishing WB activity in Thailand</li> </ul>	<ul style="list-style-type: none"> <li>- Favorable</li> </ul>
Foreign Commercial Banks Responses	<ul style="list-style-type: none"> <li>- Cautious and/or favorable</li> </ul>	<ul style="list-style-type: none"> <li>- Rapid and massive inflows of commercial loans (particularly for defense and for liquidity needs of the state enterprises)</li> </ul>	<ul style="list-style-type: none"> <li>- Restricted lending to LDCs (in 1982)</li> </ul>	<ul style="list-style-type: none"> <li>- Relatively favorable (although restricted lending to other LDCs)</li> </ul>	<ul style="list-style-type: none"> <li>- Favorable</li> </ul>

The oil price increase did, however, have an immediate impact on domestic prices. Inflation went from 0.3 and 5.1 percent in 1971 and 1972, respectively, up to 15.4 and 24.4 percent in 1973 and 1974, respectively. It was then, however, quickly brought down to 4.9 percent in 1975 in response to a tight fiscal policy. The government spending ratio was brought down from 17.7 percent in 1971 to 13.0 percent in 1974, while the government revenue ratio was relatively stable, resulting first in a smaller fiscal deficit and then a small surplus in 1974. While the public sector savings gap was reduced, that of the private sector turned from positive to negative in 1974, but was still small at one percent of GDP. By 1974, the current-account deficit was only 0.6 percent of GDP (see Tables 2.9, 4.1 and 4.3).

As the international interest rate rose in this period, domestic loan and deposit rates also rose, up from 10.75 and 6.0 percent in 1972, respectively, to 11.75 percent and 8.0 percent, respectively, in 1974. Given the high inflation rates, the real interest rate in 1973 and 1974 became negative. This, however, did not cause any alarm on the domestic savings gap, since the gap itself was relatively small.

As mentioned, there was no serious problem regarding the country's balance of payments and current account balance. The real effective exchange rate appreciated about 12 percent in 1974.

## **PERIOD II (1975-1979)**

Because of the country's prudent monetary policy and tight fiscal policy, Thailand's domestic and external balance was restored by 1976, when the domestic inflation rate was 4.1 percent, the current-account deficit ratio was 2.5 percent, and the savings gaps for both the public and private sectors were relatively small. The real growth rate rebounded from 4.8 percent in 1975 to 9.4 percent in 1976. This gave both the government and the private sector in the second half of the 1970s a false sense that the economy was back on a healthy growth track (see Tables 2.9 and 4.1).

The policy problem of this period was the sharp rise in the current-account deficit. Public sector policy was clearly expansionary in this period. The public investment ratio increased, and the fiscal deficit and the PSBR rose. On top of this, domestic oil prices were not adjusted in response to the increased international prices, leading to declining surpluses of the energy-intensive public enterprises. Domestic financial transfers to the public sector were stable, since most of the increases in public spending were financed from foreign loans. Monetary policies apparently attempted to compensate for the public sector expansion. While domestic credit to the public sector expanded, that to the private sector declined. The nominal interest rate rose and, although the real interest rate fell, the gap between the world and domestic interest rates encouraged foreign borrowing by the private sector. Price policies were not used to contain domestic spending. It is remarkable that the state enterprise savings ratio declined. It could be suggested that access to international credit did lead to some laxity in the efforts to increase state enterprise prices so as to defend or recover profits.

Trade policy also was rather unhelpful. The effective import duty declined, making imported goods cheaper. As no change took place in the nominal exchange

rate, the real exchange rate appreciated, providing yet another incentive to increase import demand and against exports.

The outcome of the policy package was that stability was endangered: inflation accelerated and the current-account deficit was very high. The large public-sector investment activities apparently invited some private investments: the private sector investment ratio increased slightly (see Tables 2.9 and 4.1).

In many respects, the experience of this period confirms the conventional story about loan booms. The public sector expanded, public-sector saving efforts declined, imports were liberalized. In the case of Thailand, monetary policy was used to contain private sector spending so as to prevent excessive instability.

### **PERIOD III (1980-1982)**

The main shocks in this period were the sharp increase in oil prices and international interest rates that took place in 1979/80. Despite these shocks, the level of capital inflows from abroad further increased rapidly to 6.5 percent of GDP. As in the second period, the capital inflows were dominated by foreign loans, particularly long-term loans from international financial markets, which were directed mostly towards the public sector, in particular state enterprises (see Chapter 3 and Table 3.1). The immediate impacts of these shocks on the Thai economy were the high inflation rate and current-account deficit (see Table 2.9 and Chapter 3). In 1980 and 1981, the inflation rates were 19.8 and 12.7 percent, respectively, while the current-account deficit was 6.4 and 7.6 percent of GDP, respectively. This high ratio of current-account deficit in the Thai government's calculation, as well as in calculations by the World Bank, could not be sustained in the long run, and could have ended up in a serious external debt crisis, as the government budget deficit was also rapidly rising to 3.9 percent of GDP in 1980-1982. The world economy at the time was in recession, with high interest rates and high inflation. The revival of the Thai economy, therefore, could not rely on the recovery of the world economy.

In response, the government embarked on macroeconomic adjustments to solve the problems by employing the following policies.

In response to the worldwide increase in interest rates and the low liquidity in the domestic financial market in 1979 and 1980, the government raised the ceiling of loan and deposit interest rates at commercial banks by 3 percent in early 1980.

As for the persistently increasing current-account deficit, the government decided to have the baht devalued against the U.S. dollar by 8.7 percent in July 1981, following a smaller devaluation of 1.07 percent in April of the same year. The move, however, was emotionally criticized in both the Parliament and the mass media and the uproar did not die down until the departure of the Finance Minister. The experience reflected the essential importance of effective public relations in handling controversial policy measures. Actually, the July devaluation was pressured by the panic purchase of dollars in anticipation of a further downward adjustment of the baht after the April devaluation. The rates of forward coverage rose to unprecedented levels and the country's foreign exchange reserve would be depleted in a matter of days (see Uathavikul, Patmasiriwat and Kamheangpatiyooth 1987, p.42). However, the effect of the devaluation was largely offset by the appre-

ciation of the U.S. dollar (to which the baht was fixed) against other major currencies. In fact, the real effective exchange rate of the baht appreciated during the period 1980-1982, resulting in a considerable worsening of the country's competitiveness in the world market and pressures on its current account and balance of payments. This shows that Thailand was still leaving the baht securely tied to the U.S. dollar. As a result, the value of its currency was being determined, not by the strength of its own economy, but by the movement of the U.S. currency.

There was the intention at that time to use the devaluation as a first step in unpegging the baht from the U.S. dollar, leading to some form of flexible rates. Unfortunately, there was a continuing fear in the market that the baht would be devalued further, and it was found necessary to announce a swap program to assure a nervous business community that the new rate would be defended and maintained. This *de facto* confirmation of the fixed exchange rate regime was meant to be a strictly temporary experience but, as in the case of most such expedients, it became permanent (Uathavikul et al. 1987, p. 43).

There were unsuccessful attempts to curb public spending as public sector investment to GDP ratio continued to increase and current government spending was rising and the tax ratio increased only mildly. As a result, the fiscal deficit became wider.

During this period, industrial and trade policies were left largely untouched. Although there was a major attempt at reducing the dispersion of tariff rates in 1982, most of the changes were immediately reversed due to concerns over the public reaction to higher tariffs on many items. In the meantime, however, adjustments to the domestic prices of energy and some public services were made. Domestic oil prices were progressively raised to bring them more or less in line with international prices; electricity prices were increased by 17 percent in October 1980 and 16 percent in January 1981 and bus and train fares increased in January 1981. This was designed to correct serious price distortions and encourage energy conservation, as well as to strengthen the public sector's financial position.

The policy mix was successful in some respects: the domestic inflation rate dropped rapidly from 19.8 percent in 1980 to 5.2 percent in 1982, and the current-account deficit declined to only 2.8 percent of GDP in 1982 (see Chapter 2 and Table 2.9).

Given the adverse effects during 1979-1981 as a result of the second oil shock, especially the rising current-account deficits, falling international reserves, and increasing government budget deficit and government debt, there was an increasing pressure on the Thai government to formulate a structural adjustment program and contact the World Bank for structural adjustment loans (SALs). Since the structural adjustment program aimed at medium- and long-term adjustments, it could create some adverse effects in the short run. The proposed policy packages under SAL I aimed at gradually reducing the current-account deficit through improved incentives, increased efficiency, and reduced fiscal imbalances. The planned measures or actions for SAL I included those in the sectors of agriculture, industry and energy and in the policy areas of fiscal policy and institutional development.

The new measures within the agricultural sector, besides further reductions in the overall burden of rice taxation, were the deregulation of livestock marketing and a fertilizer marketing study. Among the new measures to promote export in the industrial sector were broad-based improvements in the organization and operations

of the Customs Department, establishment of export processing zones and more bonded warehouses, general tariff reform, and ad hoc arrangements for large-scale project evaluation. Specific tax policy measures called for the restructuring of personal and corporate income taxes (see Sahasakul, Thongpakde and Kraisoraphong 1989, pp. 22-23).

The SAL did help to create an international commitment among Thai officials and politicians. Many sensible measures in SAL that were unpopular among politicians were implemented in the following period because of this international commitment (see Sahasakul et al. 1989, p. 47).

The policy response to the second oil shock was quite different from the response to the first shock. In period I, there was a sharp contractionary public sector policy leading to a fiscal surplus in 1974. In period III, the easy access to international loans seemed to have made such a policy less urgent.

#### **PERIOD IV (1983-1986)**

After the 1982 international debt crisis, developing countries had to reassess their policies in the context of a world recession. Thailand was no exception. In this period, foreign capital inflows fell drastically from the preceding period to less than 4 percent of GDP. Almost all of the decline in foreign capital inflows was attributable to a sharp drop in foreign loans, particularly those made to the private sector and state enterprises (see Table 3.1).

As seen in the last section, the Thai government had originally hoped to rely on exports to alleviate the current-account deficit and provide the main driving force in the manufacturing and agricultural sectors. However, the worsened world economy and the increased protectionist tendencies expected in 1983 made such hopes unachievable. The Thai government, therefore, shifted its focus to public sector management when it requested the second structural adjustment loan (SAL II) from the World Bank in 1983. The proposed measures in SAL II relied more on the use of prudent fiscal and monetary policies, as well as on public policy and structural adjustment measures, to keep the external deficit at a sustainable level without seriously harming growth in income and employment.

It is generally believed that huge government budget deficits and public-sector foreign borrowings can cause substantial current-account deficits. Therefore, any measure that can reduce government expenditure and/or raise government revenue, resulting in a smaller government deficit, as well as the reduction of public sector borrowing from abroad, can reduce the current-account deficit (see Sahasakul et al. 1989, p. 24). This is consistent with findings in Chapter 4—that the main policy impact on savings should be public sector policies which influence public sector savings directly, as policy variables will have limited effect on private savings. In addition, public investment decisions themselves are the best way to influence the overall macro balances, since the public sector investment ratio has a significant negative effect on private sector investment, an indication of the crowding-out effect (see Chapter 4).

Besides the measures for public sector management, other new measures proposed in SAL II concerned the feasibility of export credit and guarantee schemes

in the industrial sector, a reduction in the fuel price differential, energy conservation, a land bank study, and water resource development and management.

Early in this period, public sector investments, particularly those by state enterprises, expanded despite the international problems. Public utilities price reforms led to higher state enterprise savings, and government revenue also continued to grow. As a result, the public sector savings gap ratio and the fiscal deficit as percentage of GDP fell somewhat, but the level remained very high (see Tables 2.9 and 4.3). The increasing public debt-service burden was also worrisome. The foreign debt-service ratio was over 20 percent of total export earnings after 1982 (see Table 3.6). The high domestic interest rate also raised the public sector's burden on domestic debt. Altogether, the government had to use more than 16 percent of its total expenditure for debt-servicing, on average about 5 percentage points higher than it was during the latter part of the 1970s.

To solve these problems, the government tried to limit public spending and borrowing in 1984. It also set a ceiling on public foreign borrowing at US\$1 billion per year in 1985, resulting in a fall in foreign borrowing by the public sector. The cap on public-sector foreign borrowing was timely, since the country's foreign debt reached an alarming level in 1985, at 39 percent of GDP and 147 percent of exports, with a debt-service ratio of 23 percent (see Tables 3.5 and 3.6). The amount of the cap was realistically set according to the needs of the public sector. It was an effective measure to control state enterprise's foreign borrowing, as well as foreign loans for military procurement and, consequently, the foreign debt to GDP ratio and debt-service ratio gradually declined (see Tables 3.5 and 3.6).

Higher tax rates and the high interest rate consequently slowed private investment and employment. As there was a fall in foreign borrowing by the public sector, domestic financial transfers to the public sector had to increase sharply to fill the public-sector borrowing requirement. During this high deficit period, the government's greater reliance on borrowing from the domestic financial markets sector contributed to the country's macroeconomic stability, but at the cost of a reduction in private investment and economic growth.

The monetary policy was, on the whole, contractionary. Despite the lower interest rate in the international financial market after 1982, the government still maintained the high interest rate policy, hoping that it would attract foreign capital inflows. As a consequence, the domestic interest rate was significantly higher than the international rate, which stimulated the private sector to borrow abroad.

The temporary recovery of private business in 1983 led commercial banks to expand credit to the private sector at an extremely high growth rate of 36 percent. At the same time, the current-account deficit sharply worsened and reached 7.2 percent of GDP. For political reasons, however, monetary authorities refused to address a major cause of the imbalances, i.e., an exchange rate which was overvalued. To reduce the widening current-account deficit, the Bank of Thailand instead requested an 18-percent credit expansion limit by commercial banks, effective during the first eight months of 1984. As it turned out, this "request" proved to be superfluous because commercial banks were already cutting back drastically on their lending as they began to see the dangers of overlending during the euphoric period of 1983 (Uathavikul et al pp. 44-45). This redundant measure was later dropped in favor of other policy measures, namely devaluation.



The impacts of the credit limit, high interest rate, and the problems in the unorganized financial market, as well as the adverse external economic environment, were felt by local business communities for many years after that, and may explain the low level of private investment.

With the steeply rising dollar, the macroeconomic situation was rapidly untenable. The widening current-account deficit and the sharp decline in international reserves in 1984 to less than two months of imports led the Bank of Thailand to devalue the baht by 14.8 percent against the U.S. dollar in November 1984. The IMF was instrumental in encouraging the Bank of Thailand to devalue its currency (see Sahasakul et al. 1989, p. 6). The international encouragement and commitment did help the government to overcome political obstacles and implement policy. The Bank of Thailand also switched the country's exchange rate system from pegging to the U.S. dollar to pegging to a basket of currencies. Under this new system, the weighting scheme was based on the relative importance of the countries as Thailand's trading partners. The weighting scheme was used for about one year. After the G-7 meeting in September 1985 and the currency realignment, the U.S. dollar was depreciated rapidly. Thailand decided to adjust the weighting scheme by giving higher weight to the U.S. dollar, from 50-55 percent to 80-85 percent. As a result, while the baht devaluation against the dollar in 1984 was only 14.8 percent, the dollar depreciation vis-à-vis other major currencies meant that the baht was eventually depreciated by about 30 percent to these major currencies. The 1984 baht devaluation did contribute to a depreciation of the real effective exchange rate between 1984 and 1986. This substantial devaluation of the baht put an end to an era of overvaluation. Coupled with the Plaza Agreement on currency realignment, the depreciation of the real exchange rate of the baht contributed to the export boom in the following period.

The policy package of this period showed again a rather strange mix of expansionary and contractionary elements. The public sector policy was, on the whole, somewhat confused. Attempts to curb spending (for example, government investment) were combined with expansionary elements (for example, an increase in government current spending ratio). The tax ratio showed some increase. State enterprise investment remained high, but its savings performance improved. Monetary policy was more consistently contractionary, but here the effectiveness was undermined by the fact that domestic loan rates far exceeded the international rate, thus inviting the private sector to borrow abroad. The excessive current-account deficit of 1983, together with the growing reluctance to increase external indebtedness, led to the devaluation in 1984. The success of this approach was limited. Private sector investment was crowded-out by the high level of public sector deficits and by the contractionary monetary policy. The private-sector savings ratio was rather poor in these years (see Table 4.3). The growth rate of real exports increased from the very poor level of 1983, but was not yet convincingly better than in the earlier years, when the exchange rate was overvalued. The exports to GDP ratio was lower in this period than in the years before. The growth rate of real imports declined sharply, however, with the fall in economic growth and the devaluation of the baht, and the current-account deficit ratio fell (see Table 3.7).

In addition, the world commodity price was unfavorable. As far as the current-account deficit is concerned, the worldwide recession in 1982-1984, as well as the unfavorable world commodity price in the early 1980s, slowed down Thai ex-

ports and imports. This resulted in a slowdown of government revenue and a substantial decline in government savings. Given the slow decrease in government investment as a percentage of GDP, the government budget deficit became larger (see Tables 2.9 and 4.3). The World Bank's structural adjustment loans did help to relieve the short-term budget deficit problem in the early 1980s.

In conclusion, the various measures, both the SAL measures and those taken independent of the SAL programs, did help to keep the country's external imbalance situation from getting out of hand, and placed the Thai economy in a position to benefit from opportunities provided by changes in the world economic environment starting in 1986. This period can, with the benefit of hindsight, be described as one of fundamental changes in the policy regime. In two areas of policy, it showed radical changes in perspective. The fiscal policy position turned, since 1984, consistently to a contractionary stance and, after 1984, the real exchange rate index of the baht shows that the period of overvaluation had ended. By the end of 1986, the Thai economy was more or less in or approaching balance in the following aspects.

- The government budget deficit was reduced to 3.12 percent of GDP and declining.
- The private sector savings-investment surplus had increased, due to the low level of private investment and the public sector savings-investment gap was narrowing.
- The current-account deficit was substantially reduced to 0.6 percent of GDP.
- The country's international reserves were improved to 3.2 months of imports.
- The external debt-GDP ratio was 38.4 percent of GDP, and the debt-service ratio was 20.6 percent, and declining.
- The inflation rate was relatively low at 1.8 percent.
- The country's real effective exchange rate was depreciated.

#### **PERIOD V (1987-1990)**

During this period there was a boom in foreign capital inflows. However, this was different from the external capital flows in the past. Now the main share of capital inflows was the private sector in origin and in destination. Foreign direct investment and portfolio investment accounted for about half of the total capital inflows (see Chapter 3 and Table 3.1)

The policy package in this period was strikingly different from that of earlier years.

Public sector policy was unequivocally contractionary. Government investment and current spending ratios and the state enterprise investment ratio fell, while tax revenue increased. The reduction in the public sector investment ratio reflected the government's policy to put more emphasis on the private sector within the economic development process. The fiscal deficit and public-sector savings gap

or borrowing requirement turned into a surplus in 1988 and thereafter. The turn was drastic when compared to the large deficits during the period 1983-1986. Domestic financial transfers to the public sector rapidly declined and, in fact, the public sector started to repay its domestic and external debt (see Tables 4.1, 4.3 and 5.1).

With a view to encouraging the inflow of foreign exchange, the government approved an income tax exemption on foreign loan interest paid from Thailand covering the period from March 1989 to February 1990.

The nominal and effective rates of protection in 1987 were higher than those in 1981 and 1985. The structure of effective protection was still biased toward the manufacturing sector. In 1990, however, the government reduced the import duty rate on machinery from 40 percent to 5 percent. This was a first step in the tariff reform of the government's program of market liberalization which is emphasized in the Seventh National Economic and Social Development Plan. Under the program, a further reduction of tariffs across the board is planned.

Monetary policy during most of this period was expansionary. Credit to the private sector grew very rapidly. Attempts to curb credit expansion were hampered by the large capital inflows which created high liquidity on the domestic money market. To fight the creeping inflation and rapidly widening current-account deficit, the authorities raised the ceiling rate on savings deposit at commercial banks twice in 1990, from 7.25 to 9.0 and then to 12.0 percent in March and November, respectively. The ceiling rates on time deposits were abolished. The ceiling loan rate was also adjusted from 15 to 16.5 percent and later to 19 percent. Similarly, the interest rates of finance companies and credit financiers were adjusted along the lines of commercial banks.

Besides the interest rate structure adjustment, the Bank of Thailand also issued bonds to absorb excess liquidity and reduced the maximum amount of overdrafts to combat inflation. In addition, the Bank of Thailand supervised commercial banks' credit extensions with more emphasis on priority sectors.

The exchange policy was defensive during this period. After the devaluation in 1984, the baht had depreciated further along with the U.S. dollar in 1985, increasing the competitive edge of Thai exporters. The nominal and real effective exchange rates were allowed to depreciate further in 1987 and remained relatively stable in 1988 and 1989.

Foreign exchange transactions were also liberalized. In May 1990, the country accepted the obligations of Article VIII of the IMF's Articles of Agreement. In addition, commercial banks were allowed a greater scope in approving foreign exchange transactions without seeking approval from the Bank of Thailand. A further liberalization measure was taken, particularly on capital account transactions, in April 1991. Further liberalization is planned in the next few years. Under this financial liberalization trend, questions have been raised as to whether the country's monetary policy would still be effective, and whether the country would be able to absorb external shocks effectively. The answers seem to rely mainly on the strength of the Thai economy itself, on whether it can create a well-proved absorptive capacity.

The results of Thailand's macroeconomic management in this latest period were remarkable. Sharp increases in the private sector investment and savings ratios were associated with unprecedented growth rates. Double-digit growth figures were

accompanied by modest, though increasing, domestic inflation rates. Despite a very high export growth rate, it was still lower than the exceedingly high import growth rate caused by the economic boom. As a result, the current-account deficit was substantial in 1988 and widened thereafter. A large share of the deficit was, however, financed by non-debt creating capital inflows, resulting in a declining foreign debt-GDP ratio. The lower interest rate in international markets also helped to reduce the debt-service burden of the country (see Tables 3.5-3.7, 3.9 and 4.1).

From the preceding discussion, we can see that the policy shift in this period was radical. The rather weak attempts at public sector control observed in the earlier period were now replaced by a forceful and comprehensive retrenchment of the public sector. This, together with the reluctantly or cautiously expansionary monetary policy position, created the conditions for the private sector's expansion to take place without serious inflationary consequences. The cautious wage policy, the decline in import duties and the relatively stable baht further helped to dampen inflationary impulses.

However, the sharp reduction in public sector capital expenditure created a vacuum in infrastructure investment which could not quickly be filled by the private sector, partly because of limitations in private access to large financial resources for infrastructure projects in comparison to the Thai government's very good credit rating. A cumbersome and time-consuming negotiation, particularly when the government and/or a minister in charge is changed, also contributes to the slow reaction. As a result, infrastructure has not been adequate for the unexpected increase in demand over the recent boom years. The constraints need to be eliminated for a sustainable growth in the longer run, and the government has to play a greater, more effective role. Given the government's current fiscal surplus, the task is possible and should not create any serious inflationary pressure or crowding-out effect. The question concerns the extent to which the government will participate.

## POLICY REGIMES

The preceding sections have analyzed five periods in which Thai policy makers had to face serious challenges, often caused by external factors related to international trade and finance. In the first period, the international oil price increase did not create any serious immediate impact on Thailand's internal and external balances, other than domestic inflation. The main reason is that the effects of the shock were cushioned by some factors, and domestic inflation was quickly brought under control by restrictive fiscal and monetary policies. In the second period, increased access to international financial markets led to a rapid expansion of public sector investments. In the third and the fourth periods, policy makers had to accommodate adverse external shocks. In the last period, the main feature was large private sector capital inflows and investment.

Over these periods, the nature of policy interventions changed considerably. In the two periods in the 1970s, fiscal and public sector policies dominated. After the severe shocks of the first oil crisis, public sector spending was reduced as a defense against the shock. Later in the 1970s, public sector expenditure growth, financed increasingly by external finance, became the main determinant of the policy regime.

The first two sub-periods of the 1980s provided further external shocks. Public sector policies were not so effective in these periods: the tax ratio and the state enterprises' savings ratio did rise somewhat, but there was less success with the control of expenditures. Given the relatively poor performance of the fiscal and public sector policies, the full adjustment burden fell on other policy instruments. Cautious monetary policies resulted in high interest rates, but, as the analysis in Chapter 4 has shown, interest rates have little impact on the level of domestic spending. They do help, however, in attracting the inflows of foreign capital necessary to finance the domestic resource gap.

In addition to monetary policy, the 1980s witnessed a more active use of the exchange rate as a policy instrument: the devaluations in 1981 and 1984.

The final period presents a radically different policy regime, dominated by a forceful retrenchment of the public sector. From 1986 onwards, real government expenditures stagnated (see Table 5.8 of Chapter 5), while the revenue ratio rapidly increased. The state enterprise investment ratio declined, while its savings ratio rose. The outcome is the emergence of a substantial public sector savings surplus.

Despite the contractionary public sector policy, the current-account deficit rose to very high levels. Monetary authorities tried to cool down the economy through a high interest rate policy but the outcome was perverse. The high interest rates did little to reduce private investment, but they were instrumental in attracting large capital inflows, adding to the liquidity of the financial system.

What is the assessment of these policies and the policy changes? A number of points emerge. Can enough regularities in the policy packages and in the way they were implemented be identified to speak of "policy regimes"? A number of observations can be made:

1. To analyze policy packages one should not stick to the usual concept of fiscal policy, but rather look at public sector policy. Thailand's public sector is composed of government and state enterprises. State enterprises are predominantly located in the public utilities and public transport sectors. Their pricing (and thus profits and savings) decisions and investment plans are subject to control by political bodies. The aggregate demand effect and any crowding-in or crowding-out of private investment should be measured for the public sector as a whole.

The preceding analysis has revealed some of the problems in the implementation of public sector policy. In period I, public sector policies were sharply contractionary. With hindsight, it could be suggested that policies were excessively contractionary and contributed to the low economic growth rates of 1974 and 1975 (see Jansen 1991, Chapter 5). In period II, the expansionary public sector stand was the necessary result of the increased external loans flowing into the country. But in periods III and IV a more contractionary position would have better fitted the needs of the circumstances. There are also indications that the authorities in those years tried to control the public sector balance, but simply failed in the face of economic and political realities. On the other hand, the experience of period V shows that a sharp contraction of the public sector deficit is possible. This would seem to suggest that the economic and political cost of handling the

public sector policy instruments are substantial, so that extreme action is only undertaken in extreme circumstances.

2. Monetary policy seems more often to be in line with the requirements of the period. The effectiveness of monetary policy is seriously affected by changes in the international financial markets and the changing relationship between the Thai financial system and these markets. In a probably somewhat exaggerated way, it could be suggested that Thai monetary policy is only possible when international interest rates are very high. With low international rates, domestic credit controls can be bypassed by firms that can also borrow abroad. Domestic interest rate policy also becomes difficult: the combination of high domestic and low international interest rates induces firms to borrow abroad and invites a capital inflow into the country that would further increase the liquidity of the financial markets. To some extent that is the situation in which monetary authorities find themselves in the most recent period. The liberalization of capital movements that was started in 1990 will further strengthen these interactions.

The monetary system is the main avenue along which the private-to-public sector transfer is enforced: the general public in Thailand does not hold many government bonds; the main domestic financing of the PSBR is done by financial institutions, which have then, of course, less funds left for the private sector. In that way, total aggregate demand can be held within limits that are compatible with stability. The discussion of crowding-out in Chapter 5 raised doubts about whether such monetary policy measures were very effective. It was argued that, in periods III and IV, public sector imbalances may have reduced the private sector's desire to invest, rather than its ability to finance investments.

3. The years 1984-1985 show a fundamental change in trade policy. Until then, the nominal exchange rate of the baht vis-à-vis the U.S. dollar had been remarkably stable. It had become the symbol of the economic stability of the country and, therefore, politically difficult to change. The 1981 and 1984 devaluations also led to considerable political upheaval and the eventual resignation of the responsible Finance Ministers. The stable and overvalued baht helped to combat inflation and taxed the traditional exports and also helped to keep the local prices of exported goods low. There is, for example, a direct relationship between the export price of rice and the domestic market price. The overvalued baht (and also, until 1986, the rice export premium) helped to keep domestic rice prices relatively low. New manufactured exports were compensated by the fact that the overvalued baht made imported inputs relatively cheap. The steady decline in the effective import duty ratio in the period 1970 to 1981 further helped to cheapen imported inputs. An increased use of export incentives further helped to compensate for the overvalued exchange rate. The serious balance-of-payment problems of the early 1980s

provided the immediate impetus for the sharp devaluation of 1984. But, behind these immediate concerns, one can discern a longer-term and more structural factor as well. By the mid-1980s, Thailand's export pattern had fundamentally changed: the share of traditional primary-commodity exports was rapidly falling, and manufactured goods came up to about half of the total merchandise exports. These manufactured goods are exported to very competitive markets and the devaluation was necessary to strengthen their profitability.

Since 1984, the baht has been tied to a basket of currencies rather than to the U.S. dollar. The composition of the basket is not known and that gives monetary authorities some discretion in exchange rate policy. This has removed the political pressure that used to exist over the exchange rate. Also, since 1984, the baht has tended to follow the U.S. dollar, which makes sense, as the United States is the main destination of Thai manufactured exports.

4. Price policies and trade policies have not been used very consistently. Wage policies are difficult to measure. The rapid increase in the nominal and real minimum wage rate that was observed in the 1970s is not necessarily meaningful. The legal minimum wage in the 1970s may have been below the actual market rate. It is also generally observed that the legal minimum rate is poorly enforced, so that no relationship need exist between the legal rate and the actual market rate. Labor market policies in Thailand have certainly never been supportive of labor. There are also indications that public sector salaries have stayed behind private sector incomes. But these have been features of the long-term labor policy rather than of the role of wage policies in the adjustment efforts.

Agricultural price policies have been rather passive and never excessively exploitative. Most of the major primary commodities are exported as well as used domestically. The world market prices are allowed to directly influence domestic prices: only in a few cases (rice, sugar) did taxes and premiums try to dampen the domestic impact of high world market prices.

The prices of the energy-intensive state enterprises (petroleum, electricity, public transport) have always been politically sensitive. After the oil price increases of 1973 and 1979, losses were subsidized and public transport is still not able to cover its own cost. Public sector reform policies are complicated by these political pressures. Still, an important aspect of the adjustment policies in the 1980s has been to rationalize public sector prices in order to improve public sector finances.

5. In a longer-term perspective one could see the entire period 1978-1988 as one in which Thai policy makers had to adjust to shocks and changes in the world economy. Crucial to the success of adjustment is whether domestic savings and net exports can be increased. Up to 1986 there was a decline in the private sector savings ratio. The

recovery in the final period was caused by a sharp rise in the private corporate savings ratio.

Also the share of the traded-goods sector in GDP declined somewhat over the period 1978-1986. The trend of this share is the net result of the opposing trends of the two main traded sectors. The share of the manufacturing sector increased in the years 1978-1981, stagnated in the period 1982-1985, and grew rapidly since then. The growth rate of real exports has been satisfactory throughout: the average growth rate per year was 9.7 percent over the period 1978-1986 (against 4.7% for real imports) and 19.7 percent in the years 1987-1990 (27% for imports).

It could be concluded that, over the years of adjustment, it proved more difficult to increase domestic savings than to increase foreign exchange earnings. Trade policies have not figured prominently in Thailand's adjustment efforts. The tariff structure that was in place in 1970 was largely maintained. Tariffs on individual commodities were adjusted, but the average level of protection against imports did not change much over the two decades. They were, however, increasingly compensated by export promotion measures, such as credit facilities and investment incentives for export industries.

6. The social dimensions of adjustment are only partially captured by our analysis. Indicators like wage levels, agricultural terms of trade, government welfare spending and employment growth do not suggest that adjustment has been at the expense of lower-income groups. This is only partially the outcome of discretionary government policies: traditionally, the Thai government has not been very active in areas of wage and pricing policies and there is no excessive government commitment to social welfare provision. Trends in these areas can better be explained from the longer-term position of the Thai government. There has been no active wage policy, but trade union activities have been discouraged, partly for political reasons and partly to prevent conditions wherein wage demands could initiate or propagate an inflationary process. Agricultural prices have been allowed to fluctuate with world market trends. In the 1960s and 1970s, export taxes on rice and sugar were only used to dampen the effect of very high world market prices on domestic prices, not as a major source of government income. Prices of other commodities were left free. This policy has ensured local producers of a reasonable return and has certainly contributed to the rapid diversification in agriculture in Thailand.

There is no strong social welfare tradition in Thailand. The government subsidizes standard activities in areas of education, health, and urban housing, but there are no extensive welfare programs aimed at the poor and other disadvantaged groups within the society. It could be suggested that most welfare spending is aimed at middle-income rather than low-income groups. It may, therefore, not be surprising that welfare spending levels were maintained.



7. The picture that arises from these points is that in Thailand there is a strong concern over the stability of the economy, as measured in particular by the inflation rate and the exchange rate. The main macroeconomic policy instruments used for adjustment have been fiscal and public sector policy and exchange rate policy. Trade policy and trade liberalization and price policies were not actively applied. Monetary policy tried to contain excess demand through high interest rates.

In 1990, it has to be concluded that the success of adjustment in Thailand has been considerable. Even throughout the adjustment period (say 1978-1986), the average growth rate was 5.9 percent a year and the growth rate of real exports 9.7 percent, despite the fact that many policy indicators pointed in the wrong direction (for example, the public sector expansion and the overvalued exchange rate).

Generally in developing countries, a situation of excess demand would lead to a current-account deficit and an accumulation of external debt on the one hand and to inflation and a loss of competitiveness on international markets on the other. These problems then subsequently define the aims of adjustment policies. The case of Thailand, however, shows some special features.

The excess demand led to a current-account deficit, but also invited a substantial supply response. Output growth in agriculture and particularly in manufacturing has been very responsive and rapid. The cautious monetary policy did not finance the public sector deficit by printing money, but rather by domestic and foreign borrowing. The result was a high interest rate, but a low rate of inflation. The moderate level of inflation helped to keep the real exchange rate at a reasonable level and the competitiveness of exports was further enhanced by special incentives. These factors together may explain the good growth performance of exports.

Despite the rapid growth of exports, there was the imminent danger of a debt crisis around 1985, when various debt indicators were at their peak. But the danger was recognized and effective public sector adjustment was then quickly undertaken.

Three further reasons may be suggested for the comparative success of Thai adjustment:

- There were unhelpful policy elements, but they were never so strong as to fully undermine private sector adjustment.
- The central concern with stability (inflation, exchange rate) created confidence in domestic and foreign private-sector investors.
- The expansion of the public sector investment (partly financed by external finance) was relatively well used. Infrastructural investments by the government and public utilities investments by state enterprises helped to create conditions for private sector expansion. Thailand has relatively little experience with typical "white elephant" projects.

## Chapter 7

# Conclusions and Policy Recommendations

### SUMMARY OF FINDINGS

**T**his study provides an assessment of the role of external finance in the process of growth and structural change in Thailand. In the two decades under study, Thailand experienced two periods in which external financial flows played a central role. In the first period, roughly between 1975 and 1985, foreign loans were directed at the public sector and, in the second period after 1986, capital inflows were dominated by direct and portfolio investments in the private sector.

One of the key arguments of this study is that the origins of both these booms in foreign capital inflows have to be sought on the international supply side of funds. In the 1970s excess liquidity and institutional change at international financial markets rather suddenly increased the access of developing countries to commercial loans. In the late 1980s the main reason for the increase in direct foreign investment was the realignments of the major currencies and the increasing cost of production in Japan and the main Asian NIEs.

The main purpose of this study has been to analyze how these changes in international finance have affected economic development and economic stability. The methodological approach has taken as its point of departure the macroeconomic accumulation balance:

$$F = I - S$$

which directly links external finance to the domestic investment-savings balance. This study has focused on the interaction between international financial flows and the savings and investment patterns of the main institutional agents in society that receive the funds. To go beyond the conventional approaches of this subject, the agents are disaggregated into four different groups, namely households and unincorporated businesses, private (financial and non-financial) corporations, public enterprises, and the government sector.

The structural differences in the spending behavior among the four institutions provide a complex environment to assess the adjustment process and evaluate

the effectiveness of structural adjustment policies and debt management in Thailand. The capability of the economy to respond to shifts in the availability of different sources of external finance has been shown to depend on the diverging savings and investment behavior of the major institutional agents.

As the central focus is on the accumulation behavior of the various economic agents, Chapter 2 provided a description of the role and position of the agents in Thailand's economic structure and the major changes in it. Three main dimensions of economic change over the period 1970-1990 were observed. The first relates to the rapid growth of the modern corporate sector and the relative stagnation of the role of the self-employed household businesses. This process has widened the productivity and income gaps between the sectors and has contributed to further sectoral segmentation. In particular, the productivity and incomes in the agricultural sector stayed relatively behind.

A second observation is that the Thai economy has become more integrated with world markets in terms of both trade and of finance. International capital flows have increased strongly and, in the process, the Thai financial system has become increasingly integrated with international financial markets, making it more difficult for monetary authorities to directly control the monetary aggregates. The very rapid growth of the trade ratios, to very high levels by the end of the two decades, further underlined the increasingly open nature of the Thai economy.

The third point is that, although short-term macroeconomic instability never reached excessive levels, the capital inflows were associated with increased instability. Both periods of capital inflows were associated with increased short-term instability. In the decade 1975-1985, all stability indicators (inflation, current-account deficit, fiscal deficit) were on the rise. The more recent period has shown surprising stability, but the last two years suggest that this balance may be precarious: both inflation and the current-account deficit are rising.

Chapter 3 analyzed in detail Thailand's commercial and financial relationships with the rest of the world. International finance came to Thailand in two waves. The first period, roughly 1975-1985, was dominated by long-term loans to the public sector, and the second period, after 1986, by direct and portfolio investment and loans to the private corporate sector. The capital inflows from abroad were mainly directed at the public utilities in the public sector, and at manufacturing in the private sector. The period of public sector loans led, by the early 1980s, to rising concerns about the level of the debt and the debt servicing burden it imposed on the Thai economy.

The growth of exports has been spectacular. Exports diversified rapidly. Traditionally, agricultural products had been the base of Thai exports. They continued to perform strongly, with a diversification of export crops and an increase in products that were exported in processed forms. But the dominant feature of Thai exports has become the rapid growth of manufactured exports. Also, imports expanded very rapidly. The composition of imports has been dominated by intermediate and capital goods. Particularly in the last few years the imports have risen very fast, so that, despite the export boom, the current-account deficit has reached very high levels.

The inflow of external finance directly increases the resources available to the receiving sector. The analysis of the sectoral accumulation balances in Chapter 4 clearly shows that the investment levels of sectors that received foreign finance

substantially increased. This can only lead to a sustainable path of economic growth if the increase in investments will subsequently result in an increase in domestic savings. Chapter 4 concentrated on that question through the analysis of the savings and investment behavior of the principal institutional agents.

Chapter 4 concluded that the accumulation behavior differs considerably between the four economic agents. It is, therefore, better to estimate the sectoral patterns and derive estimates of total savings and investments from the sum of their component parts, rather than try to explain the aggregated savings and investment function itself.

The analysis confirmed that there is a direct and positive relationship between capital inflows and the level of the investment ratio of the sector that receives the inflow, particularly so for private corporations and state enterprises. It is also concluded that the impact of capital inflows can be easily destabilizing. Investments rise, while savings rise less. In the state enterprise sector, savings even fall with higher capital inflows, and in the household and private corporate sectors savings will rise, but for the whole economy, the investment-savings gap widens, thus extending the dependence on foreign funds.

Chapter 5 extends the analysis of Chapter 4 by looking at the domestic intersectoral financial relationships using Flow-of-Funds statistics. The analysis of financial intermediation and portfolio behavior identifies public and private sector demands for and claims on domestic and foreign financial assets. The main finding of Chapters 4 and 5 was that the inflow of foreign funds to a sector tends to increase the investment-savings gap of that sector by more than the size of the external funds. In the period 1975-1985, when capital inflows concentrated on the public sector, the public sector investment ratio increased rapidly while its savings ratio declined. The public sector investment-savings gap widened by more than the foreign capital inflows, leading to an additional demand for domestic funds.

A similar pattern can be observed in the most recent period, when the capital inflows led to a rapid rise of private sector investment and, although private savings also increased somewhat, the private sector investment-savings gap widened considerably, beyond the level of the capital inflows. As in the earlier period, there was again an increased demand for domestic credit. The financial system could satisfy that demand because of the surplus of the public sector and the large capital inflows from abroad.

The changes in the fiscal balances in the last few years have been dramatic. Over the entire period the tax ratio has been increasing rather slowly but steadily. The main fiscal problem in the past had been that expenditures were increasing faster. This process was reversed in the mid-1980s. The government investment ratio had been declining throughout the two decades under study and, in fact, government investments in real terms had stagnated since 1980. Around 1985, the rising trend of the current expenditure ratio was also turned around into a decline. This resulted in a budget surplus from 1988 onwards which helped Thailand to weather the ongoing private sector investment boom without major macroeconomic instability.

Chapter 6 described and analyzed how economic policy dealt with the challenges presented by the external factors. The public sector loan boom of 1975-1985 was accompanied by an expansionary public sector policy, while cautious monetary policies were used to defend macroeconomic stability. However, this pol-

icy regime was not sustainable. In the first place, the public-sector savings ratio remained low, so that the public-sector external debt and the debt-servicing burden kept on growing to dangerous levels. Second, the public sector claims on domestic credit also increased, which, in combination with the cautious monetary policy, led to high real interest rates. These macroeconomic imbalances undermined the confidence of the private sector; private investment and economic growth declined. The third factor which made the external debt-financing unsustainable was the external economic shocks of the early 1980s. The increase in international interest rates, the second oil shock, the world recession of the early 1980s and the debt crisis in 1982 all contributed to an increase in the real debt burden.

The policy shifts that were then implemented were radical. The rather weak attempts at public sector control that could be seen in the earlier period were now replaced by a forceful and comprehensive retrenchment of the public sector. This, together with the reluctantly or cautiously expansionary monetary policy position, created the conditions for the private sector investment boom to take place without serious inflationary consequences. The cautious wage policy, the decline in import duties and the relatively stable baht further help to dampen inflationary impulses.

It is interesting to trace Thailand's attempts at structural adjustment over the years. Initially, in the early 1980s, tight monetary policy and currency devaluations were the main instruments used to reduce macroeconomic imbalances. When these policies failed to have sufficient impact, more adequate action was taken around 1985/86. A cap was imposed on further public sector external borrowing and public sector expenditures were radically curtailed. By a fortunate coincidence, the deflationary effects of this contractionary public sector policy were neutralized by the sudden increase in direct foreign investment in 1987.

This experience certainly confirms the crucial importance of public sector financial reforms to the success of adjustment policies. Large public sector deficits put a heavy burden on domestic financial markets and undermine the private sector's confidence in the economy. These factors work against the increase in the private sector production of traded goods that is necessary to relieve the external debt burden. It is only when these fundamental balances have been restored that currency realignments can exert their incentive effects on export production and direct foreign investment.

## **POLICY RECOMMENDATIONS**

As mentioned, the performance of economic policies in the past, judged by their present outcomes, has been exceptionally good. That does not, however, imply that there are no serious problems facing economic policy-makers today.

The recent changes in the types of capital inflows may have had positive effects on the growth and efficiency of the economy, but they have, so far, not led to an aggregate savings-investment balance that would make the pattern of growth sustainable in the long run. In particular, the high level of investment and growth has not solved the long-standing problem of the relatively low private savings ratio in Thailand. There are even some indications that the large inflows of direct and portfolio investments have contributed to speculative drives on the stock market and

in land and real-estate prices that have stimulated private consumption rather than savings.

The failure of private savings to increase has also meant that, despite the rapid growth of exports, the current-account deficit has been larger in the last few years than ever before. The foreign and domestic private investment in the recent period has concentrated on production for export markets and a phenomenal increase in exports can be noted. But these investments have also concentrated on sectors with high import dependency and with low linkages to the rest of the economy. The growth in domestic income that the investments have generated has further contributed to import demands.

Thailand's increased dependence on foreign capital and the increase in the share of production aimed at export markets has made the economy more vulnerable to fluctuations of the world markets and to international trade policies. So far, that has been to Thailand's benefit. Its competitive advantage has meant that it could expand exports very rapidly even in years when world trade was growing only slowly. But, in the future, competition from other low-wage-cost countries (for example, China or Vietnam) may undermine that performance.

The sustainability of the present model of development may be undermined by the following three main problems, namely the sectoral imbalance in the economy, the public-private sector balance, and the problems of macroeconomic management.

1. The sectoral imbalance in the economy. As Chapter 2 noted, there is a growing gap in growth of production and productivity, as well as incomes, along different modes of classification. The gaps exist between modern corporations and small household production units, between industry and agriculture, between Bangkok and the rest of the country, and between rural and urban areas. This pattern is related to the allocation of investment resources, and the increased reliance on foreign finance has certainly further contributed to it. The growing income gaps can generate social and political problems in the future. Economically, they imply that domestic demand for industrial goods remains low, due to the relatively low incomes of the majority of the population.
2. The public-private sector balance. As indicated in Chapters 4 and 5, capital inflows affected sectoral investment levels and, thus, also the public-private sector balance of total investment. It was also suggested that in the early 1980s there may have been some indirect crowding-out of private investment. The situation in recent years had been different. The country experienced a boom in private investment with retrenchment of public investment. However, the recent private investment boom and the retrenchment of public investment have raised the question whether there is sufficient public investment to provide the adequate infrastructure support of the rapidly expanding private sector. The privatization of public services is facing some difficulties as private agents find it difficult to borrow the funds required for these large projects. What is the proper balance between public and private investment and how can it be attained?

3. The problems of macroeconomic management. The foreign capital inflows also cause some destabilization. Macroeconomic imbalances are, in particular, reflected in the widening domestic savings gap (mainly private sector) and in the inability of growth of export earnings to keep pace with the explosive growth of import demand. The contractionary public sector policy has helped to prevent excessive inflationary impulses. The structural changes and the policy shifts have made the task of monetary policy very difficult. The repayment of domestic public debt and the inflow of capital from abroad has led to a high liquidity of the financial system and to a very high level of international reserves. The liberalization of international financial transactions has led to a further integration of the domestic financial system with the international markets and has reduced the effectiveness of monetary policy instruments.

These three problems raise important questions for macroeconomic policy and management, on which the following policy recommendations are formulated.

1. To reduce the sectoral imbalances in the economy would require a reallocation of investment. It could be suggested that the government should take the lead in this process, both through the allocation of its own investments and through the incentives it provides to stimulate and steer private investment. Such programs should aim to stimulate the investments in agriculture and, in general, in the up-country provinces. An effective program to support small-scale businesses would be highly useful in this respect.

An important public sector policy would be to provide supporting infrastructure and education. These policies would aim to make the backward sector more productive and competitive.

Most direct foreign investments in large projects seek Board of Investment promotion. This allows the government to steer the investments to target sectors and regions.

2. To find the correct balance between the public and private sectors is a delicate task. The analysis in this study suggested that, in the early 1980s, the high level of public sector spending, and in particular its domestic financing requirements, was excessive and reduced the private sector's role in the economy. In recent years, it has been suggested that the curtailment of the public sector has gone too far. At present, private investors complain about the lack of adequate infrastructure and about the shortage of educated manpower. In addition, the fiscal stringency has meant that public sector salaries have stayed behind, so that the public sector finds it difficult to retain its qualified manpower. There can be no doubt that the efficiency in the public sector could be further increased, but it is also clear that the level of public sector spending will have to increase substantially for it to be able to keep on supporting private sector growth. The present fiscal surplus would appear to create an opportunity for non-inflationary expansion of public sector spending. On the other hand, the public sector surplus is necessary to balance the private sector savings gap, and any reduction of the public sector surplus, without a simultaneous improvement of the private sector balance, will lead to a further expansion of the current-account deficit.

Given that excessive borrowing is to be avoided, domestic private savings thus need to be strengthened. This study, as well as the general literature on private savings in developing countries, does not lead to the identification of concrete policy instruments that will help to increase private savings. The findings in Chapter 4 suggested that the household and private corporate savings ratios have been mainly influenced by changes in income. This indicates that economic policies which result in a steady increase in private sector, particularly household sector, income are the key to mobilize domestic savings. It has been suggested that the speculative booms in recent years on the stock market and in land prices have taken private savings away from more beneficial uses. Regulations that would prevent such speculative busts and bangs would be in the general interest.

3. In contrast to earlier periods, the current-account deficit in recent years has not been due to public sector deficits but to sharp increases in private sector investment. Although much of the investment, particularly foreign investment, has been concentrated in export-oriented industries, it tends to have relatively high import content and fewer linkages to domestic economy. Foreign capital inflows have also increased domestic incomes and prices, which further stimulated import demand. The recent spurt in foreign direct and portfolio investments also led to profit and dividend outward remittances, which increased to be 0.68 percent of GDP and 1.79 percent of exports in 1990.

If the present trend of the current-account deficit continues, the external debt, this time of the private sector, may again rise to levels that would undermine foreign confidence in the economy. As exports are already growing very fast, it is clear that macroeconomic policies should concentrate on reducing domestic consumption and import demand.

Direct foreign investment inflows in recent years concentrated on export-oriented activities. But they also concentrated on sectors or activities with a high import dependency and low linkages with domestic economy. This pattern is undesirable and investment incentives may be used to steer projects to sectors with greater backward and forward linkages and with a lower import dependency. In addition, the second phase import substitution should be emphasized to promote investment in upstream activities which can produce substitutes for imported raw materials and intermediate products as well as capital goods. In these areas, the Board of Investment can play an important role by using its incentive scheme.

To narrow the widening domestic savings gap, domestic savings have to be encouraged in the private sector. Some fiscal policy instruments may be helpful to induce higher private sector savings in the form of tax incentives given particularly to long-term savings, for example, mutual fund and pension fund. Moreover, new types of financial instruments issued by the private sector have to be encouraged, so that they can attract more private sector savings.

The main policy instruments for macroeconomic management remain fiscal or public sector policy and monetary policy. In the last few years, the record of fiscal policy has been exemplary; large surpluses were realized that were necessary to balance private sector deficits. It is to be expected, however, that in the coming years spending pressures will increase. In fact, the preceding observations suggest that the level of public sector spending will have to be increased to support future private sector expansion. And, when growth rates decline from their present high



level, the rapid increase in tax revenues may also fall. It is, therefore, likely that the public sector surpluses will diminish in the near future. That would make it even more urgent to address the large private sector savings gap. Can monetary policy help to do that?

In the past, monetary policy has always been cautious. Public sector deficits were financed through borrowing rather than money creation. The record of low inflation rates show the great success of these policies. However, with the disappearance of public sector deficits, this function has become less urgent. Control of the private sector deficits has proven to be more difficult. The trend towards the intensification and liberalization of the linkages between the Thai financial markets and the international markets has been strengthened in the last few years. In the process, the monetary authorities have lost some of the direct controls over the monetary aggregates, and the implementation of monetary policy has certainly become more difficult and probably less effective. The usual policy to deal with excess spending and the current-account deficit would be credit restriction and high interest rates. However, the last years show that such policies may have perverse effects. The high interest rates do little to stimulate aggregate domestic savings or to discourage private investment, but they do attract a large inflow of foreign funds, which further add to the liquidity of the financial system.

Increasingly, the focus of monetary policy will be on the control of the exchange rate. Interventions on the domestic money market and on the foreign exchange market will be used to keep domestic interest rates in line with foreign rates, so as to control the exchange rate. As a result, the control over the domestic monetary aggregates will be looser. An appropriate and stable exchange rate is a crucial factor for an open economy like Thailand, whose growth depends on exports and foreign investment. It ensures international competitiveness and investor confidence.

The conclusion at the end of this study may be short. The impact of foreign finance on the Thai economy in the last two decades has been strong and decisive. It has affected the sectoral allocation of investment, the growth performance and the stability of the economy. In the first period of capital inflows, public sector investment grew rapidly, but eventually this resulted in an unsustainable external debt burden and in substantial domestic imbalances. After a period of structural adjustment to deal with these problems, the second period of capital inflows showed even stronger impacts. The private sector investment ratio and the economic growth rate rose to unprecedented levels. Inflationary pressures were contained through a stringent fiscal policy, but the current-account deficit widened substantially.

The main macroeconomic problem remains the level of domestic savings, which is too low for a country with such high levels of investment. At the sectoral level, the main problem is the growing gap between productivity and income levels between major sectors and regions. As argued, policy making should concentrate on the removal of these two obstacles to stable and equitable growth.

## Appendix to Chapter 2

# Concepts and Compilation of the MSAF

**I**n Table 2A.1, the outline for the MSAF is presented and in Tables 2.1 and 2.2 the MSAFs for 1975 (MSAF75) and 1985 (MSAF85) are presented in millions of current baht. Referring to Table 2A.1, it can be observed that the major breakdown of the MSAF is into a matrix of current transactions (row/columns 1 to 12) and a matrix of capital transactions (row/columns 13 to 22). Within these two matrices some blocks can be identified.

In the matrix of current transactions, four blocks can be distinguished: Block 1 (row/columns 1 to 4) contains the input-output relationships between the sectors of production; it describes the technical production structure and the interdependencies between the productive sectors.

Block 2 is the value-added block. Value added at factor costs are broken down over wages (row 5) and profits—the latter is further disaggregated into the gross operating surplus of the unincorporated sector (row 6)—and that of (private and state) corporations [row 7]). Adding row 11 (indirect taxes), leads to value added at market prices. Adding vertically leads to total output or supply. Taking agriculture as an example (column 1):

- rows 1 to 4 add up to the total intermediate inputs into agriculture;
- rows 5 to 7 add the Value Added produced in the sector;
- row 11 adds the indirect taxes;
- and row 12 adds the imports of agricultural commodities; the grand total is the total supply of agricultural commodities, which, of course, must be equal to the total demand, i.e., the total of row 1. Block 3 shows how the current income is distributed and redistributed. First, there is the distribution of the income of the factors of production (as was given in the value added block) to the economic agents or institutions (cells 5,8 to 11,7). For example, the wage incomes earned in the four productive sectors (cells 5,1 to 5,4), as well as wages earned abroad (cell 5,12), are received by the households (cell 8,5). The other





Conceptually, this is where most SAMs stop. The innovative aspect of the MSAF is that it tries to make financial linkages in the economy, and of the economy with the rest of the world, somewhat more explicit. It is clear that for each individual agent, investments and savings do not match. In MSAF85, for example, investments by non-financial private corporations are 110,315 million baht, while savings are only 83,497 million baht. This gap has to be filled. The flow-of-funds block of the MSAF, block 7, shows how this is done. In block 7 there is a sub-block of direct capital transactions among institutions (row/columns 13 to 16). Households, for example, provide share capital to private corporations (cell 14,13) or buy government securities (cell 16,13). Corporations may provide credit to each other and to state enterprises, etc. The rest of the flow-of-funds block shows the patterns of financial intermediation, i.e., the flows of funds that occur through financial institutions. Adding block 5 and block 7 horizontally gives the total sources of funds for each of the institutions. Private corporations, row 14, for example, obtain funds from:

- own savings (column 9);
- capital transfers from households (share capital, column 13);
- capital transfers from state enterprises (for example, trade credit, column 15);
- credit from commercial banks (column 19);
- credit from other financial institutions (column 20); and
- funds from abroad (column 22).

To see how private corporations use these funds, we can add vertically, i.e., column 14:

- own investments (rows 1 to 4);
- giving credit to households (row 13);
- obtain financial assets with other private corporations, for example, through trade credit or purchase of shares (row 14);
- obtain financial assets with state enterprises (row 15);
- purchase government securities (row 16);
- invest in inventories (row 17);
- increase holdings of currency (row 18);
- increase bank deposits (row 19);
- increase deposits with other financial institutions (row 20);
- set out credit through the informal money market (row 21); and
- obtain foreign financial assets, or repay foreign debts (row 22).

The compilation of the MSAF is a complex task of integrating information from various, often inconsistent, data sources. We chose to compile MSAFs for

1975 and 1985, mainly because the availability of data for these years was somewhat better than for other years. For 1975, a rather complete information set was available, consisting of: (a) the 1975 National Accounts as revised in 1987 (NESDB 1988), (b) a Social Accounting Matrix for 1975 (NESDB-IBRD 1982), (c) an Input-Output table (NESDB, the Institute of Developing Economies, and the National Statistical Office 1980), (d) Flow-of-Funds Accounts (NESDB/Bank of Thailand 1982), and (e) financial statistics published in the Bank of Thailand quarterly.

There are discrepancies, first of all because (b), (c) and (d) still refer to the old (i.e., before the recent revision) National Accounts estimates, and also because the various sources use different concepts and definitions and different estimation methods.

In the MSAF75, we have used the new National Accounts estimates as references for the macroeconomic aggregates (Value Added, Consumption, Investment, Exports, Imports) and used other sources (for example, the Input/Output table and SAM) to estimate the sectoral and institutional breakdown of these aggregates. The Input/Output table was the main source for blocks 1 and 4 of the MSAF75; the I/O table was used together with the SAM to fill in blocks 2 and 6. The figures in block 3 were mainly derived from the National Accounts, and blocks 5 and 7 were based on National Accounts, Flow-of-Funds Accounts and financial statistics. The statistical discrepancies that remained after this were relatively small and acceptable. Account 17 of the MSAF, "Other Wealth," which conceptually should include changes in stocks, was used as a residue category to bring overall balance to the MSAF. Account 17 of the MSAF75 shows an accumulation of "Other Wealth" of 5,346 million baht, whereas the National Accounts of 1975 give an estimate of "Changes in Stocks" of 11,754 million baht. The data situation for 1985 is considerably more problematic. No SAM for 1985, or a nearby year, was available. An Input/Output table and Flow-of-Funds Accounts were only available in provisional and incomplete form. Some gaps could be filled by making, hopefully reasonable, assumptions based on secondary data. But significant discrepancies remained and the entries in account 17, necessary to balance row and column totals, are in some cases substantial. The problems are concentrated in the flow-of-funds block, where the gaps between the total sources and total uses of funds of the household, private and public corporate sectors are quite substantial. We have assumed that the recorded sources and uses of funds are correct and that any discrepancy between them is due to unrecorded sources or unrecorded uses of funds; these unrecorded funds are then included in account 17. These data problems should be kept in mind in the rest of this study, when conclusions are drawn from the comparison of the two MSAFs.

## Appendix to Chapter 4

# Data Sources and Definitions

The main data source is the National Accounts (NESDB, annual). The National Accounts of Thailand disaggregates gross savings into:

- a) savings of households and unincorporated enterprises;
- b) net savings of private corporations *and* state enterprises;
- c) savings of general government; and
- d) depreciation allowance.

The same source disaggregates Gross Fixed Capital Formation into:

- i) private (households *and* corporations); and
- ii) public (state enterprises *and* government).

The Flow-of-Funds Accounts for Thailand (available for the years 1967 to 1983, see NESDB/BOT 1982, 1983, 1986; for the years 1984-1990 some provisional and incomplete flow-of-funds data were available) provide disaggregated gross savings and investment data for all four agents. The problems with the Flow-of-Funds Accounts are (a) that they are not available for recent years and (b) that they are still based on the old National Accounts estimates.

The basic data series for the period 1970-1990 for savings and investments of the four agents were constructed as follows:

- 1) "Savings of households and private non-profit institutions," as reported in the new series of the National Accounts, are taken as "household savings." These savings include savings by households and by unincorporated (family) enterprises; we will refer to them as "household savings" (always as a proportion of GDP:  $S_h$ ).
- 2) "Savings of general government," as reported in the new series of the National Accounts, are taken as "government savings" ( $S_g$ ).

- 3) (net) "Savings of corporations and government enterprises" and "provision for the consumption of fixed capital," as reported in the new series of the National Accounts, are added together as "gross savings of the corporate sector." For the period 1970-1990, this total is distributed over private and state corporations according to the proportions found in the Flow-of-Fund tables (n.b., the actual figures in the Flow-of-Fund tables are somewhat different, as the Flow-of-Funds tables are still based on the old National Accounts series).

This approach enabled us to make estimates of gross savings of state enterprises ( $S_s$ ). Gross savings of private corporations ( $S_c$ ) are then derived by deducting state enterprise savings from the total corporate savings as given in the National Accounts.

- 4) In the Flow-of-Funds Accounts, "household investments" ( $I_h$ ) are estimated as the sum of the National Accounts categories "private residential construction" and "investment in new lands." We have followed the same practice and calculated "household investments" from the National Accounts. It should be noted that the household sector includes household businesses and that the household investments, as now defined, certainly underestimates the investments made by such firms (as a proportion of GDP).
- 5) "Private corporations investments" ( $I_c$ ) are obtained by deducting the household investment defined under 4) from total private investments as given in the National Accounts.
- 6) "Government investment" ( $I_g$ ) is set equal to "government capital expenditure," as reported in budget data (Bank of Thailand, quarterly).
- 7) "State enterprise investment" ( $I_s$ ) is obtained by deducting government investment as defined under 6) from total public sector investments as given in the National Accounts.

The resulting time series, as percentage of GDP, are presented in Table 4.1.

The estimates of capital inflow present some problems. In many studies, capital inflows are measured by the current account balance of the balance of payments (with reversed sign: a current account deficit means a positive capital inflow). The balance-of-payments equation can be written as:

$$\begin{aligned} &(\text{current account balance}) + (\text{capital account balance}) \\ &+ (\text{monetary movements}) + (\text{errors and omissions}) = 0 \end{aligned}$$

One could thus also take the capital account balance as a direct estimate of the net capital flows. The difference in capital inflows measured from the current account and those measured from the capital account is explained by the accumulation of monetary reserves and by the errors and omissions.

A third way of measuring capital inflows arises from the National Accounts: the national resource balance (investment-savings) should be covered with capital inflows.



The three measures of capital inflow give different results. The estimates from the current account, from the capital account and from the national resource balance do not coincide. Differences are explained by monetary movements and errors and omissions (for the two balance-of-payments estimates) and by the statistical discrepancy of the National Accounts.

We have decided to use the estimates from the capital account of the balance of payments, as these can be broken down by institutions receiving the inflows. In Table 4.2, the capital account of Thailand's balance of payments is used to define capital flows to the different economic agents (all variables are expressed as a proportion of GDP):

- a) total net capital flow is defined as the net balance of the capital account as a proportion of GDP (variable:  $F$ );
- b) capital inflow to the private corporate sector is defined as "direct investments," plus "net long-term loans and credits to private enterprises" and "portfolio investment," plus "private short-term loans" and "trade credit" ( $F_c$  or  $F_{pr}$ );
- c) net flow received by government enterprises is defined as "net long-term loans and credits to government enterprises," plus "net short-term loans and credits to government enterprises" ( $F_s$ ); and
- d) capital flow received by the government is defined as "net government loans" and changes in long-term assets of the government ( $F_g$ ).

## Appendix to Chapter 5

# Data Sources and Compilation

**T**he equation system 5.8 to 5.12 sets the main sources and uses of each sector against each other.

$$\text{HH: } S_h + \text{FLF}_h + \text{NOFL}_h + \text{NWFL}_h = I_h + \text{FAF}_h \quad (\text{A5.8})$$

$$\text{CORP: } S_c + \text{FLF}_c + \text{NOFL}_c + \text{NWFL}_c = I_c + \text{FAF}_c \quad (\text{A5.9})$$

$$\text{GVT: } S_g + \text{FLF}_g + \text{NOFL}_g + \text{NWFL}_g = I_g + \text{FAF}_g \quad (\text{A5.10})$$

$$\text{SE: } S_s + \text{FLF}_s + \text{NOFL}_s + \text{NWFL}_s = I_s + \text{FAF}_s \quad (\text{A5.11})$$

$$\begin{aligned} \text{FI: } S_{fi} + \text{FAF}_h + \text{FAF}_c + \text{FAF}_g + \text{FAF}_s + \text{NOFL}_{fi} + \text{NWFL}_{fi} \\ = I_{fi} + \text{FLF}_h + \text{FLF}_c + \text{FLF}_g + \text{FLF}_s \end{aligned} \quad (\text{A5.12})$$

In these equations:

$S_i$  = own savings of sector:  $i = \text{HH, CORP, GVT, SE and FI}$ . Note that in the analysis of Chapter 4, the savings of the financial institutions were included in the corporate sector.

$I_i$  = own investment of each sector.

$\text{FLF}_i$  = financial liabilities incurred with financial institutions, i.e., funds obtained by the sector from domestic financial institutions (e.g. loans from banks).

$\text{NOFL}_i$  = net other financial liabilities incurred. A positive sign implies a net inflow of liabilities, i.e., funds obtained by the sector from domestic non-financial sectors (e.g. share capital acquired by corporations or government transfers received by state enterprises); a negative sign indicates other domestic financial assets acquired (e.g. equity shares obtained by households).

$NWFL_i$  = financial liabilities incurred with the rest of the world (e.g. foreign loans) or, if the sign is negative, foreign assets acquired.

$FAF_i$  = financial assets acquired with financial institutions (e.g. deposits or promissory notes).

To establish the main sources and uses of funds of the various agents over the period 1970-1989 it is necessary to use different data sources. The combination of different data sources creates problems of discrepancies, differences in concepts and definitions, and differences in estimation methods.

In principle, the best reference for the sectoral sources and uses of funds is Thailand's Flow-of-Funds Accounts (see NESDB/BOT 1982, 1983 and 1986). Unfortunately, these Accounts suffer from a number of shortcomings that make them less appropriate for the present study.

The first is that the Accounts do not cover the entire period of our analysis. Complete accounts are available up to 1983; for the years 1984-1990 provisional accounts are available. A second problem is that the Flow-of-Funds Accounts are still based on the old National Accounts; the revision of the National Accounts that was published in 1987 showed considerable adjustments, particularly in the estimates of savings. The estimates of sectoral savings as obtained from the Flow-of-Funds Accounts are, therefore, not fully comparable with the estimates we used in Chapter 4. A similar problem is found in the estimates of foreign capital flows. The Flow-of-Funds Accounts measure changes in assets and liabilities, whereas in Chapter 4 we used Balance-of-Payments estimates of the flows of foreign finance. There can be substantial differences between the two concepts. Some of the capital inflows do not create a liability (for example, direct foreign investment) and the value of foreign assets or liabilities may change without any related capital flow (for example, as result of exchange rate variations).

We have, therefore, decided to use the estimates of sectoral savings and investment as derived from the new series of National Accounts and the estimates of sectoral capital inflows as derived from the capital account of the Balance-of-Payments statistics (see the Appendix to Chapter 4 for the steps followed in the calculations). It should be noted that savings and investments by the financial institutions are included in the estimates of the private corporate sector (see the later comments on Table 5.3).

The Flow-of-Funds Accounts were used to derive the estimates of the "financial liabilities through the financial system" of the four sectors; this represents the funds raised by these sectors from the financial institutions. The Flow-of-Funds data have also been used to provide the disaggregated estimates of the sources of the financial system's liabilities: this provided the estimates for  $FAF_h$ ,  $FAF_c$ ,  $FAF_s$  and  $FAF_g$ ; these are the assets (deposits, etc.) that these four institutions obtained with the financial institutions.

The estimates of the net other domestic financial liabilities were then obtained as a residue.

Equation 5.12 for the financial system cannot be fully filled in. The savings and investments by private financial institutions are included in the National Accounts estimates of private corporations and those of public financial institutions in the public sector estimates. The Flow-of-Funds Accounts give some separate

estimates for the period 1970-1986, but these suffer from the same problems as those related to the Flow-of-Funds. Anyway, own savings and investments of financial institutions are a relatively small part of their sources and uses of funds, since their main business is intermediation.

In Table 5.3, we have added the financial assets obtained from financial institutions by the household, corporate, government and state enterprise sectors to get the total of financial liabilities incurred by the financial system. Similarly, we have added the financial liabilities incurred by these four sectors from financial institutions to obtain the increase in the domestic financial assets of the financial sector. To maintain consistency in the data set, the estimate of the net foreign liabilities of the financial sector was obtained, as was done for the other sectors, from the Balance-of-Payments statistics. The balance of the monetary movements account was used to estimate the net flow of net foreign liabilities of the financial system.

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