Rising to the Challenge in Asia: A Study of Financial Markets

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Foreword

The Asian currency and financial crisis has had far-reaching effects on the regional economies and their trading partners. These effects have threatened to wash away the region's significant social and economic advancement achieved during the preceding years of rapid growth. The crisis has also unveiled many intricate problems and challenges in macroeconomic management, banking and capital markets management, institutional capacity, and governance of the financial systems in the region.

Recognizing the urgency of addressing these problems and challenges, the Economics and Development Resource Center of the Asian Development Bank undertook a regional study of financial markets in nine developing member countries: People's Republic of China, India, Indonesia, Republic of Korea, Malaysia, Pakistan, Philippines, Thailand, and Viet Nam. The objectives of the study were to analyze and deepen the understanding of the sources of the crisis in currency and financial markets, to provide a useful basis for designing and implementing preventive measures and refocused country strategies, and to help the Bank and its member countries build robust and sustainable financial systems in the region.

The study was designed, supervised, and coordinated by S. Ghon Rhee, Resident Scholar, 1997–1999. A large number of Bank staff and renowned scholars and experts contributed to this study.

Regional policy issues and recommendations based on the findings of the study were discussed at the High-Level Workshop on the Asian Financial Crisis in Tokyo, on 25–26 March 1999. This workshop was hosted by the Bank, the ADB Institute, and the Institute of Fiscal and Monetary Policy of the Ministry of Finance of Japan.

The present series of publications seeks to bring the research findings to a much wider audience and hopes to contribute to a better understanding of the Asian financial crisis and how its recurrence can be prevented in the future.

Jungsoo Lee
Chief Economist

Preface

Rising to the Challenge in Asia: A Study of Financial Markets presents the findings of a study carried out under *Regional Technical Assistance 5770: Study of Financial Markets in Selected Member Countries.* Many Asian Development Bank staff members and outside experts contributed to the study's successful completion.

The core members for the study were Ramesh Adhikari, David Edwards, Tobias Hoschka, Sudipto Mundle, Soo-Nam Oh, Pradumna Rana, Yutaka Shimomoto, Reza Siregar, Peggy Speck, Ramesh Subramaniam, and Vo Van Cuong. The outside experts were Stephen Cheung (Hong Kong, China), Yoon Je Cho (Republic of Korea), Jang-Bong Choi (Republic of Korea), Catherine Chou (Hong Kong, China), G.H. Deolalkar (India), Maria Socorro Gochoco-Bautista (Philippines), Akiyoshi Horiuchi (Japan), Masahiro Kawai (Japan), Mohammad Zubair Khan (Pakistan), Joseph Y. Lim (Philippines), Sang-Koo Nam (Republic of Korea), Anwar Nasution (Indonesia), Edward Ng (Singapore), Jaeha Park (Republic of Korea), Mohd. Haflah Piei (Malaysia), Ken-ichi Takayasu (Japan), Khee Giap Tan (Singapore), S. K. Tsang (Hong Kong, China), Stephen Wells (United Kingdom), Richard Werner (Germany), Min-Teh Yu (Taipei,China), and Barents Group LLC (KPMG).

Thirty-seven reports are contained in a series of 12 volumes:

Volume 1: Regional Overview
- Macroeconomic Policy Issues
- Banking Policy Issues
- Capital Market Policy Issues

Volume 2: Special Issues
- Asset Management Entities
- Deposit Protection Schemes

Volume 3: Sound Practices
- Corporate Governance (Hong Kong, China)
- Currency Board (Hong Kong, China)
- Central Provident Fund (Singapore)
- Dichotomized Financial System (Singapore)
- Banking Sector (Taipei,China)

Volumes 4–12: Country Studies
- Macroeconomic Policy Issues
- Banking Policy Issues
- Capital Market Policy Issues

The volumes benefited extensively from constructive comments from the Bank interdepartmental working group, and the ministries of finance, central banks, and securities and exchange commissions of the nine member countries that participated in the regional technical assistance study program and in the High-Level Workshop on the Asian Financial Crisis in Tokyo, on 25–26 March 1999. Mitsuo Sato, former President of the Asian Development Bank; Bong-Suh Lee, former Vice-President (Region West); and Peter Sullivan, Vice-President (Region East) provided strong support and guidance throughout this project.

Soo-Nam Oh coordinated the research and publication activities. Wilhelmina Paz, Lagrimas Cuevas, Anthony Ygrubay, Ruben Mercado, Virginia Pineda, and Rosalie Postadan provided administrative and technical support. The volumes were edited by Gloria Argosino, Mary Ann Asico, Graham Dwyer, and Muriel Ordoñez. Typesetting, computer graphics, and conceptualization of the cover design were done by Segundo de la Cruz, Jr.

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Acronyms and Abbreviations

ACN	Asian Currency Note
AFCRA	ASEAN Forum of Credit Rating Agencies
AMC	Asset Management Corporation/asset management company
ATM	automated teller machine
B/E	bill of exchange
BAAC	Bank for Agriculture and Agricultural Cooperatives
BAY	Bank of Ayudhya
BBC	Bangkok Bank of Commerce
BBL	Bangkok Bank
BIBF	Bangkok International Banking Facility
BIBOR	Bangkok interbank offered rate
BIS	Bank for International Settlements
BMB	Bangkok Metropolitan Bank
BOA	Bank of Asia
BoT	Bank of Thailand
BTH	Bank Thai
CAPS	Capital Augmented Preferred Securities
CAR	capital adequacy ratio
CDRAC	Corporate Debt Restructuring Advisory Committee
CD	certificate of deposit
D/A	document against acceptance
DCA	Debtor-Creditor Agreement
D/P	document against payment
DVP	delivery versus payment
ECS	electronic clearing system
EDP	Executive Decision Panel
EEF	Exchange Equalization Fund
EGAT	Electricity Generating Authority of Thailand
FBCB	First Bangkok City Bank
FDI	foreign direct investment
FIDF	Financial Institutions Development Fund
FRA	Financial Sector Restructuring Authority
GAAP	Generally Accepted Accounting Principles
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
IBRD	International Bank for Reconstruction and Development
ICA	Inter-Creditor Agreement
IFCT	Industrial Finance Corporation of Thailand
IMF	International Monetary Fund

KTB	Krung Thai Bank
KTT	Krung Thai Thanakit
L/C	letter of credit
LCP	loan classification and provisioning
LTB	Laem Thong Bank
MLR	minimum lending rate
MOF	Ministry of Finance
MRR	minimum retail rate
NBFI	nonbank financial institution
NCD	negotiable certificate of deposit
NEDB	National Economic Development Board
NESDB	National Economic and Social Development Board
NPL	nonperforming loan
NTB	Nakornthon Bank
P/E	price/earnings
PIBF	Provincial International Banking Facility
PLMO	Property Loan Management Organization
PT	Phatra Thanakit
ROA	return on assets
ROE	return on equity
RSB	Radanasin Bank
RTGS	real-time gross settlement transfer
SCB	Siam Commercial Bank
SCIB	Siam City Bank
SEA	Securities and Exchange Act
SEC	Securities and Exchange Commission
SET	Stock Exchange of Thailand
SLIPS	Stapled Limited Interest Preferred Securities
SME	small- and medium-size enterprise
SPV	special-purpose vehicles
TBDC	Thai Bond Dealing Centre (formerly Thai Bond Dealers' Club)
TDB	Thai Danu Bank
TFB	Thai Farmers Bank
TMB	Thai Military Bank
T/R	trust receipt
TRIS	Thai Rating and Information Services
TSD	Thai Securities Depository Center
UBB	Union Bank of Bangkok
UOB	United Overseas Bank of Singapore
WTO	World Trade Organization

$ is assumed to be US dollars unless otherwise stated.
Korea refers to the Republic of Korea.

Macroeconomic Management in Thailand

The Policy-induced Crisis

Richard A. Werner

Richard A. Werner is Lecturer, Sophia University, Tokyo; Chief Economist, Profit Research Center Ltd., Tokyo; and formerly Chief Economist (1994–1998), Jardine Fleming Securities Ltd., Tokyo.

Scope and Methodology of Study

Macroeconomic management includes two important areas: structural policies and cyclical policies. Structural policies influence the potential growth rate of an economy.[1] They include the type of economic system employed to mobilize resources—whether bank-centered, for instance, or stock-market-centered. Cyclical policies are aimed at influencing actual growth, usually in order to bring it in line with the potential growth rate. They include the interplay of monetary, exchange rate, and fiscal policies. This study incorporates the latest findings in economic theory and applied economics, which stress a special role for monetary and, in particular, credit policies. Key issues that are crucial for macroeconomic management, but are usually neglected, include the form of government intervention, type of economic system (classified as bank- versus capital-market-based resource allocation), and nature of the credit markets. (See Appendix 1.)

This study analyzes the development of the 1997 financial crisis and offers policy responses against the background of the precrisis economic structure and the macroeconomic management policies employed in Thailand. (See Appendix 2.) Much of the postcrisis analysis, including the program imposed by the International Monetary Fund (IMF) on Thailand, is based on an understanding of economic systems that are more similar to the UK or US model than to the bank-centered model that has been operative in much of postwar Asia, particularly in Thailand.

The following section discusses in greater detail the policy mix since the 1980s. It also examines and evaluates the policy mix during the 1997 crisis. The final section is devoted to detailed policy recommendations for macroeconomic management, covering both countercyclical recovery policies and structural and regulatory policy changes.

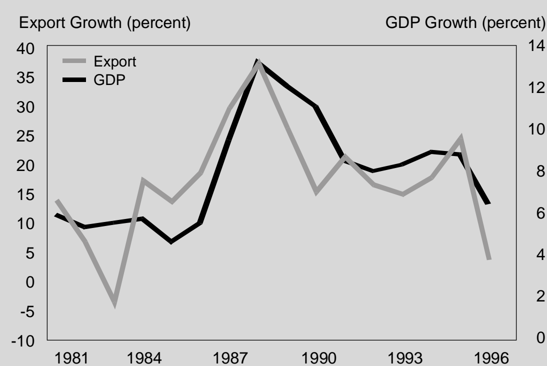
Macroeconomic Management Since the 1980s

Macroeconomic Overview

After the brief but sharp recession and balance-of-payments crisis in 1983/84, economic growth picked up again in the second half of the 1980s, as reflected in the rising proportion of exports and imports to gross domestic product (GDP). Real GDP growth accelerated from 5.5 percent in 1986 to 9.5 percent in 1987 and further to 13.3 percent in 1988. It then fell marginally, remaining at double-digit rates in 1989 and 1990, and maintaining still-high levels of growth of close to 9 percent in 1991–1995. Growth then slowed to 6.4 percent in 1996, before contracting in 1997 (Figure 1).

Exports grew at an average annual rate of 25.1 percent in 1986–1990 and 15.7 percent in 1991–1996. Inflationary pressures remained in check, with annual consumer price inflation averaging 3.9 percent in 1986–1990 and 5 percent in 1991–1996. Economic indicators were particularly impressive until 1994. In 1992–1994, exports rose at a rate of more than 14 percent, the trade deficit stayed at 7 percent of GDP, the current account deficit at 5 percent, and inflation at below 5 percent. Domestic savings averaged 32.5 percent in 1986–1996. The high savings rate was enhanced by Government saving, since the fiscal bal-

Figure 1: **Real GDP and Export Growth**



Source: Bank of Thailand.

ance turned into surplus in 1988 and continued to do so every year until 1996, with an average surplus of 3 percent of GDP, making up for the decline in household savings in the 1990s.

Despite such an array of impressive macroeconomic data, however, not all was well, especially after 1994. The current account had switched from modest surplus in 1986 to deficit in 1987. In 1990, it peaked at 8.5 percent of GDP, plunged to below 6 percent in 1992–1994, and rose to 8 percent in 1995–1996. Moreover, the current account deficit had increasingly been financed by private borrowing from overseas. Private debt almost tripled from $6.1 billion in 1987 to $17.8 billion in 1990. By 1993, it had more than doubled to $37.9 billion. It doubled again, soaring to $73 billion in 1996. Clearly, the most worrisome aspect of the buildup of foreign debt was its term structure; the share of short-term debt rose substantially in the 1990s. The other indicator that resources might not have been efficiently allocated was the surge in asset prices, as witnessed in the real estate market.

In 1994, the yuan was devalued. In 1995–1996, from a historic peak of ¥79.75 on 19 April 1995, the yen depreciated by more than 60 percent. Since the baht remained pegged to the US dollar, it appreciated by 60 percent against the yen. Partly as a consequence of the currency depreciation and increased competitiveness of the People's Republic of China (PRC) and Japan, which are among Thailand's most important trading partners, Thai exports suffered significantly.

When export growth slowed from an impressive 23.6 percent in 1995 to virtually zero in 1996, large capital outflows, combined with massive speculative attacks on the currency, led to the flotation of the baht on 2 July 1997, and the beginning of a deep recession. High interest rates aimed at defending the baht exacerbated the collapse of the credit-driven real estate boom, which has produced substantial amounts of bad debt that are now crippling the banking system. Fifty-six finance companies were closed, four banks de facto nationalized, and, since 1998, many financial institutions have acquired foreign strategic partners.

The Government has set up several institutions to dispose of bad debt. The law now allows substantial foreign ownership of banks and real estate. Due to the IMF-led multilateral bail-out package, the baht stabilized in 1998, after depreciating by 93 percent from June to December 1997. However, the continued domestic credit crunch brought GDP growth to a halt in 1997 and resulted in a negative GDP growth in 1998.

Macroeconomic Policy Mix (Pre-IMF)

FISCAL POLICY

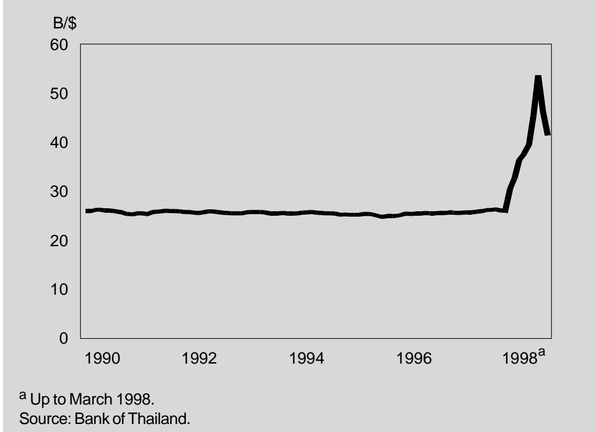
Fiscal policy had been consistently conservative since the mid-1980s. Having been in the order of 3–4 percent of GDP for most years since the mid-1970s, the fiscal deficit shrank sharply to 1.4 percent of GDP in 1987. Since then and until 1997, Thailand recorded substantial fiscal surpluses, peaking at 4.9 percent of GDP in 1991, and 2.2 percent in 1996. From 1997 onward, fiscal policy turned stimulatory, with a likely fiscal deficit of 3 percent in 1997/98.[2] This was largely due to the cyclical economic downturn, which reduced tax revenues and boosted expenditures with the provision of higher unemployment benefits, social expenditures, and Government spending packages.

Clearly, Thai fiscal policy has been almost without fault over the past decade. The only criticism that might be made is that, precisely because it was so prudent, some foreign investors, who used the fiscal deficit as an indicator of the credibility of Government policies, diverted their investments to Japan in 1993–1996. However, this behavior was due to a misguided reading of economic indicators and certainly not to a policy flaw.

The post-IMF fiscal policy, which is severely restricted by IMF targets, is also not a problem for the economy since the nature of the economic crisis is almost entirely monetary. Monetary policy,

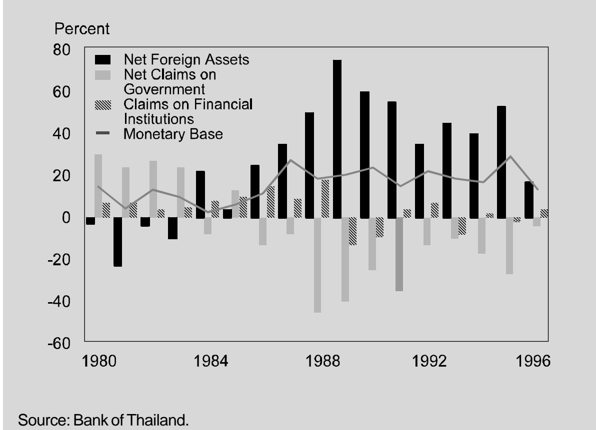
therefore, hold not only the key to understanding past mistakes, but also to economic recovery. It should be emphasized that due to the primacy of monetary over fiscal policy, the Government, if given a choice between tight fiscal and loose monetary policy mix and loose fiscal and tight monetary policy combination, should without doubt opt for the former. As will be seen below, the economic outcomes of the policy mixes are not the same: while the former would offer economic relief, the latter would hardly affect economic growth. It is monetary policy, therefore, that requires far more detailed analysis.

Figure 2: **Baht per Dollar**



[a] Up to March 1998.
Source: Bank of Thailand.

Figure 3: **Contribution to Monetary Base**



Source: Bank of Thailand.

MONETARY AND EXCHANGE RATE POLICIES

Monetary policy is implemented by the Bank of Thailand (BoT). By law, BoT is subject to supervision by the Ministry of Finance (MOF). However, it has always de facto independently implemented its own policies (an issue of relevance for policy recommendations). MOF can influence BoT policy only by removing the bank's governor. In practice, MOF has not been involved in the formulation and implementation of the key monetary policies and their tools.[3]

According to BoT, the main "anchor" for monetary policy from November 1984 to June 1997 was the nominal exchange rate, pegged to a basket of currencies of Thailand's major trading partners (and dominated by the US dollar). Under the basket-peg regime, BoT set a mid-rate for the dollar-baht exchange rate everyday and would buy or sell dollars against the baht with commercial banks without limit within the narrow band of ±B0.02 of the mid-rate from 8:30 a.m. until noon.[4] As Figure 2 shows, the regime successfully stabilized the exchange rate around the target value with only minimal variation.

The basket-peg regime reduced the monetary policy options of BoT. BoT was not, however, rendered without policy tools, as its credit control policy, in particular, continued to be effective. When foreign capital inflows became substantial in the 1990s, domestic sterilization operations did not keep up with them. As Figure 3 shows, the growth of the monetary base was dominated by capital inflows even as credit to the Government or the domestic banking sector shrank.

Officially, BoT adopted a "multiple indicators" approach in monitoring monetary conditions, as it found that the relationship between monetary and economic variables became less stable. However, the breakdown of the stable relationship between money and GDP is common during times of rapid credit expansion (Werner 1997). While the official response was to shift to monitoring a long list of indicators, including short-term interest rates, commercial banks' deposit and lending rates, bank reserves, monetary aggregates, and capital flows, the key variable monitored by BoT decision makers was domestic credit expansion.[5] The credit control scheme was officially introduced in 1994, and is discussed below.

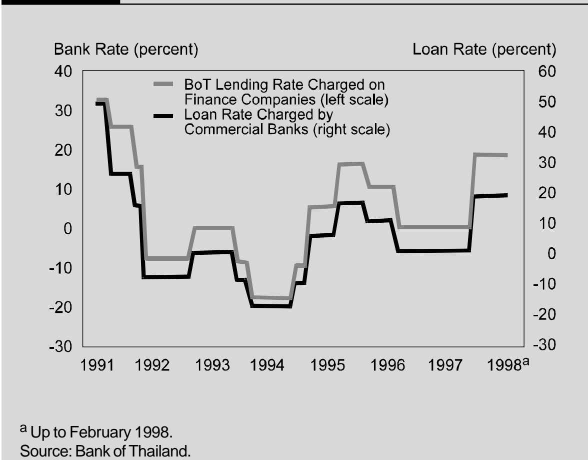
Monetary policy tools

Reserve requirements. In order to discourage short-term capital inflows, in August 1995, banks were required to maintain 7 percent reserve against nonresident baht deposits of less than one-year maturity in the form of deposits in BoT. In 1996, the requirement was expanded to include all short-term foreign currency liabilities of banks (including the Bangkok International Banking Facility [BIBF]) and finance companies.[6] The banks' required reserve ratio remained unchanged at 7 percent of deposit liabilities from September 1974 to September 1997, when it was reduced to 6 percent. Thus, until September 1997, BoT had never used the reserve requirement as a monetary policy tool.

Official bank rate. Banks and finance companies can borrow from BoT's "loan window" a limited amount of money at a fixed official interest rate or bank rate. Access to the facility is at BoT's discretion. Since the bank rate has been used in the past as a signal for changes in monetary policy, it correlates closely with changes in the commercial banks' deposit and lending rates (Figure 4). BoT maintained a high interest rate policy, especially in 1995–1996. The policy's aims were to slow down the economy (to avoid overheating), bring down the current account deficit, and reduce capital inflows.

Money market operations. BoT uses repurchase agreements, outright purchases or sales, and foreign exchange swaps to conduct money market operations.[7] Volume in the repurchase market has risen significantly in recent years (especially after the crisis), while the loan window's importance has diminished.[8] Outright bond purchases and sales are limited by the underdeveloped bond market. In contrast, the dollar-baht swap market has been deep and liquid (with daily turnover estimated at $9 billion globally in early 1997). BoT thus considered swaps a more "efficient instrument" to partially sterilize foreign exchange operations necessitated by the basket-peg exchange rate regime under conditions of significant capital inflows.[9]

Figure 4: Bank Rate vs. Loan Rate Charged by Commercial Banks



[a] Up to February 1998.
Source: Bank of Thailand.

Direct control and moral suasion: Credit controls

Official documents state that BoT has "occasionally" resorted to direct control and moral suasion as monetary policy tools. In fact, the measures were not "occasional" but regular and, indeed, the most important features of monetary policy. A direct credit control regime, the Credit Planning Scheme, was officially introduced in 1987 and remained in place until at least the first half of 1997. It was both quantitative and qualitative in nature.

The Credit Planning Scheme, which the literature almost totally neglects, requires attention here because of its central role in economic causation (and thus the propagation of the crisis) and in the implementation of monetary policy.

Banks were required to submit semiannual lending plans for their desired amount and allocation of credit across various sectors of the economy. BoT then collated and aggregated the individual lending plans and compared the resulting overall credit expansion with its own plans for credit creation. Credit expansion of the banking system was defined as bank loans plus bank purchases of securities. The latter were prepared by the Economic Research Department based on a projection for targeted nominal GDP growth and the targeted expansion in credit across the various sectors. If the banks' plans did not match

BoT's policy target for credit growth, BoT adjusted the individual banks' lending and securities purchase plans. Although officially semiannual, the plans were monitored monthly by BoT and commercial banks to compare the actual situation with the central bank's plan.

As in other countries where similar direct credit controls have been applied (UK until the 1970s, France until the late 1980s, Korea until the mid-1990s, and Japan until 1991),[10] the credit controls were, strictly speaking, extralegal and "nonbinding" means of influencing behavior of the banks. However, in practice, banks closely followed the "guidance" of the central bank. The most important sanctioning device to ensure compliance was the implicit threat of noncooperation by the central bank. Since commercial banks are dependent on the goodwill and cooperation of the central bank on a daily basis in their money market and fund-raising operations, moral suasion has proven to be highly successful in almost all countries, including Thailand.

The credit controls were not confined to the quantity of desired credit expansion, but also contained a detailed breakdown of aggregate credit expansion across various industrial sectors of the economy. The share of loans allocated to real estate and construction was of particular interest to BoT. The Credit Planning Scheme also included loans by Thai banks through BIBF and the Provincial International Banking Facility (PIBF). However, foreign banks (which constituted the majority of BIBF lending) were not included until 1996, when the large foreign banks and finance companies were also made part of the credit scheme. In 1995, BoT reduced the credit growth ceilings slightly. In 1996, it reduced them to 21 percent. Until 1996, the exclusion of BIBF loans by foreign banks at a time of restrictive domestic credit controls could not fail to induce a shift of borrowing from the domestic baht market to the offshore market, where there were incentives to borrow in US dollars. However, the policies concerning the award of banking licenses were based on the performance of foreign banks in providing loans to the domestic corporate sector. Indeed, the master plan concerning the introduction of BIBF stated this explicitly and therefore directly encouraged "out-in" lending despite the fact that it contradicted the purpose of setting up BIBF in the first place, which was to encourage "out-out" and "in-out" lending.

Other forms of moral suasion

Although virtually no written records exist of other forms of informal moral suasion by BoT, interviews with market participants in Bangkok indicated that, to a surprisingly high degree, BoT engaged in micromanagement of the banking system. It apparently used its extralegal discretionary market power to coax banks to follow its "guidelines" concerning fee structure, branching policy, and interest rates. It may be said, therefore, that the financial markets have become transparent and rule-oriented.

REGULATORY POLICY

A number of important changes in regulatory policy in the late 1980s and early 1990s were in line with the first and second Three-Year Financial System Development Plans (1990–1992 and 1993–1995), also known as the "Master plan."[11] The plan aimed to deregulate and liberalize the financial sector and capital account. The two most far-reaching regulatory changes were the following:

Interest rate deregulation

After the initial relaxation of the upper limit on interest rates in the 1980s, the recession that soon followed brought liberalization to a halt. Interest rate deregulation resumed in the late 1980s. In June 1989, the interest rate ceiling on long-term deposits was lifted. In March 1990, interest ceilings on all types of time deposits were removed and those on loans and savings deposits raised. The development plans defended the policies as encouraging competition, which

would, in turn, raise productivity and efficiency in the financial system.

Exchange control deregulation

After liberalization of foreign direct investment in manufacturing of mainly export-oriented goods, portfolio investment was gradually liberalized in the late 1980s. In June 1990, the capital account was fully liberalized. In March 1993, BIBF and, later, PIBF, were established.

Government officials gave the following reasons for exchange control deregulation:

- It would facilitate so-called "out-out" investment (offshore financing for projects abroad) or help "in-out" flows from Thailand into Indochina, and strengthen the role of Bangkok as a financial center.
- It was a response to pressures from IMF, General Agreement on Tariffs and Trade (GATT) Uruguay Round (and, later, World Trade Organization [WTO]), and the US Treasury Department. Thailand implemented exchange control deregulation to comply with Article 8 of IMF's Articles of Agreement, guaranteeing that its currency for all payments and transfers from current international transactions would be convertible and that it would refrain from imposing restrictions on such payments and transfers without IMF's approval.[12]
- It would attract more foreign investment, which would supplement domestic savings and fund domestic capital accumulation and infrastructure development.[13]

Some decision makers argued that the introduction of competition into the banking system would increase efficiency and prudent lending. However, none of the above reasons has provided, or was likely to provide, benefits in excess of the costs and potential costs incurred due to deregulation. The benefits of becoming an important international financial center are debatable and the probability of achieving this goal may have been overestimated. Outside pressure is likely to serve outside interests, while the literature agrees that premature capital account deregulation is very costly for the country concerned.

It is not obvious that foreign portfolio investment necessarily enhances domestic capital formation on a net basis. If funds are required for domestic investment, then the domestic banking system is perfectly capable of creating enough credit as long as the balance of payments does not constrain growth. If the balance-of-payments constraint has been reached, then increased reliance on capital inflows may carry the risk of sudden reversals and balance-of-payments crises. The argument that domestic savings are "insufficient" is based on a misunderstanding of the macroeconomic meaning of savings. Savings do not provide the funds for investment, as is commonly believed by laymen.[14]

As the empirical evidence from countries like Denmark, Japan, Norway, Sweden, and UK shows, deregulating the banking system and introducing competition is prone to reduce instead of enhance the efficiency of its lending activities. The reason is to be found in the special nature of banks. Before deregulation, banking systems operate like oligopolies or semicollusive cartels. When a normal manufacturing cartel is abolished, the result is immediate competition for market share, implying that the players shift from short-term profit maximization to the more immediate goal of survival and market-share expansion. As all players compete for market share and drive down profit margins, the total amount of the product sold by all players is likely to rise. In the case of banks, the product concerned is bank loans. The problem arises due to the macroeconomic externality of overproduction of bank credit as banks compete for market share: excess bank credit implies an expansion in the money supply and, hence, in overall economic activity. Since most banks attempt to expand loans quickly by lending to the real estate sector, real estate and asset prices in general

rise (while consumer prices may not be affected much). An asset bubble ensues. The policy implication is clearly that the deregulation of the banking system and the introduction of competition must be accompanied by policies that strictly limit the amount of total credit creation. An ideal tool is the credit controls imposed by BoT. However, the very imposition of credit controls negates a full deregulation of the banking system. The conclusion must be that, due to their special nature as producers of the money supply, banks should not be deregulated as much as other economic agents.

The authorities admitted that they seriously miscalculated the use that would be made of BIBF. While "out-out" and "in-out" flows had been expected, the "out-in" flows were most often used, which authorities claim they had not foreseen. As a result, some of the liberalization policies were toned down, as capital inflows increased far beyond expectations. In 1995, the minimum loan level of BIBF was raised to B2 million (although this might also have had the adverse effect of encouraging large-scale transactions instead) and a 7 percent cash reserve requirement imposed on nonresident accounts with a maturity of less than one year. In August 1995, BoT attempted to discourage borrowing from abroad by commercial banks by requiring them to reduce the loan-deposit ratio to the average of the whole system (i.e., if the average were 105, those banks with higher ratios would have to slow down loan expansion). In September 1995, savings were encouraged by reducing withholding taxes from 15 to 10 percent for contractual long-term savings deposits with maturities of more than five years for housing, education, and retirement.

OVERALL POLICY MIX AND CRISIS

While interest rates and the capital account were deregulated, other aspects of the economic system remained unchanged. This created an unusual regulatory policy mix and did not conform with established experience and recommendations concerning the sequencing of deregulation. Monetary and exchange rate policies only worsened the policy mix.

To summarize, the policies were the following:

- BoT maintained a fixed exchange rate and announced that it would not devalue the currency.
- The banking system was operating with the implicit guarantee that banks would not be allowed to fail, as happened in the crisis of 1983/84.
- Interest rate deregulation increased competition between different types of financial institutions, mainly commercial banks and private finance companies.
- Nominal interest rates on US-dollar borrowing were lower than nominal rates on domestic borrowing.
- BoT tightened its credit controls on domestic borrowing in 1995, but not on BIBF borrowing.

The incentives of each player are reviewed below.

Domestic firms. The credit market is always in an excess-demand disequilibrium (see, for instance, Stiglitz and Weiss [1981]). Thus, as in all other countries, there is credit rationing by banks and any slackening of their lending standards is readily accepted by potential borrowers. If excess demand for credit cannot be met by domestic loans, but foreign-currency-denominated loans are easily available, then borrowers are likely to avail themselves of the latter. Since BoT guaranteed the continuation of the fixed exchange rate, firms perceived currency risk to be low or nil. Inasmuch as interest rates on US-dollar loans were lower, they had an incentive to avail themselves of US loans.

Domestic banks. When any previously regulated and de facto cartelized market is suddenly exposed to competition, the players will initially focus on market-share competition. In order to gain market share, they tend to dump their products. This is why the total amount of products sold in a postderegulation market is usually larger than that

in the prederegulation state. The product of banks is credit. Therefore, the increased competition among banks and between banks and other financial institutions fueled excessive growth in aggregate credit. A similar phenomenon has been observed in other countries such as Scandinavia and the UK where interest rate deregulation and increased competition in the banking system produced credit boom-bust cycles.

With BoT-imposed credit rationing and selective credit ceilings that restricted domestic loans but allowed foreign loans free rein, domestic banks also increasingly accessed BIBF in order to supply funds to the domestic economy. Banks were not concerned about the risk of default, as the authorities implicitly guaranteed the solvency of banks. Moral hazard implied that banks also had an incentive to continue to either directly borrow from abroad or help domestic firms borrow from abroad.[15]

Foreign lenders. The risk-return assessment by foreign investors was likely to have been skewed by a number of factors: (i) the strong macroeconomic performance of Thailand in the past; (ii) the official policy to maintain the peg; (iii) tight fiscal policies, which signal to international investors that Government policy is credible and that "the government was indeed getting the order of economic liberalization 'right'" (McKinnon and Pill 1996:13); (iv) faith in the process of liberalizing Thailand's capital account, as pushed by IMF, GATT, WTO, and the US Treasury; and (v) the hasty assumption that liberalization is always beneficial.

Domestic authorities. They are basically BoT. It is unclear what BoT's policy objectives were. Since an analysis of BoT decision makers and their motives is beyond this study, it remains to be said that BoT may have also put blind faith in the validity of the approach taken by international organizations to push for capital account and interest rate liberalization. Moral hazard also seems to have existed at BoT, because its monetary and exchange rate policies have been undertaken without prudential auditing and accountability, enabling it to slide into blatant nepotism and to dramatically neglect professional ethics and standards.

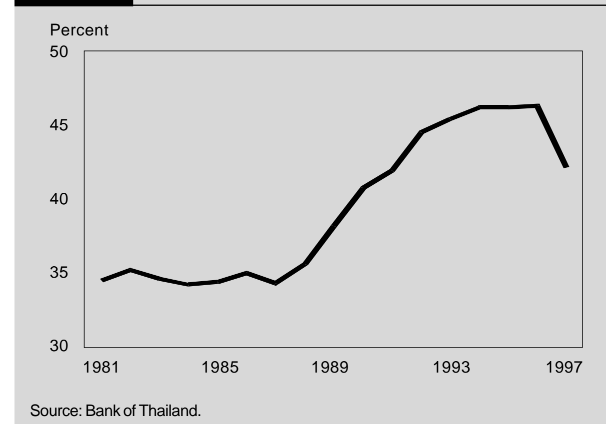
The creation of the bubble

Given the above set of policies and incentives, a classic overborrowing cycle developed. Total credit creation, which closely corresponds to nominal economic activity, was fueled by almost all its components; bank lending expanded due to BoT Credit Planning Scheme "guidance."

An increasing share of loans by commercial banks and finance companies was channeled into nonproductive investments: real estate; construction; and consumer loans (including automobile loans, margin loans for stock purchases, and hire purchase loans) (Figure 5). The total of bank lending, BIBF, domestic securities and stock issuance, corporate direct borrowing from overseas, and borrowing by finance companies grew by 27 percent of nominal GDP before 1993, and by 33 percent in 1995. The increase is largely credit creation used for transactions in real estate and stocks. In other words, it corresponds to the financial circulation identified by Werner (1997) as the source of speculative bubbles.

With total credit growth of about 30 percent and GDP growth of about 15 percent, the situation would

Figure 5: **Commercial Banks' and Finance Companies' Loans in Nonproductive Investments**



Source: Bank of Thailand.

eventually become unsustainable. GDP growth represents the expansion of national income, i.e., the ability of the nation to service its debts. Credit growth represents debt accumulation. If, for a prolonged period, debt accumulation expands much faster than income generation (and both variables start out at already-similar absolute proportions), then debt servicing becomes impossible. In other words, as soon as the bubble bursts (as loan growth is slowed by exogenous variables, such as central-bank policy), excess credit creation must turn into bad debt.

Indeed, as interest rates rose and credit controls tightened in 1995–1996, credit creation for financial circulation also slowed. This resulted in a fall in asset prices, including real estate, as they had previously been driven up by excessive credit creation. As speculative borrowing could not be paid back, bad debt in the banking system began to rise. As foreign banks stopped lending at the same time that foreign funding began to withdraw, BoT was forced to inject large amounts of liquidity into the economy. This was done largely through BoT and Financial Institutions Development Fund (FIDF) balance sheet expansion (the latter not being accounted for on BoT's balance sheet despite FIDF's de facto funding from BoT). In mid-1996 and early 1997, a string of commercial banks and finance companies were on the brink of bankruptcy. Four commercial banks were nationalized when BoT took over them. In June 1997, 16 finance companies were ordered to suspend business. By 1998, altogether 56 finance companies had been closed down.

The development of the crisis was foreseeable. Indeed, long before the crisis, the literature on Latin America had pointed out the sequence of classic crisis development (McKinnon and Pill 1996),[16] a sequence that is clearly applicable to Thailand:

- Domestic credit grows rapidly, largely financed out of capital inflows intermediated through the domestic banking system, leading to higher levels of consumption.
- The current account deficit in the balance of payments widens as greater availability of financing from abroad eases the external constraint.
- Domestic monetary control weakens and domestic price inflation rises or remains high, which typically occurs when Government attempts to sterilize the capital inflows.
- The real exchange rate appreciates, with higher inflation concentrated in the nontradable goods sector; prices of domestic assets, especially real estate or house prices, typically increase.
- A large proportion of the capital inflows in the form of overseas deposits is placed in the domestic banking system; the Government is increasingly pressured to broaden the base of insured deposits (creating further adverse selection and moral-hazard problems).
- Financial crisis, capital flight, and recession occur, often causing an uncontrolled, deep devaluation of the currency, and a resurgence of inflation.

The foreign debt buildup

As domestic borrowers and foreign lenders had been given incentives to expand capital inflows into Thailand, the subsequent buildup of foreign debt is not surprising. By end-1997, Government borrowing amounted to $27 billion (more than $18 billion borrowed by MOF and about $8 billion borrowed by BoT from IMF). Private borrowing amounted to a staggering $67.2 billion, resulting in a total foreign debt of $94 billion. Although most of the borrowing is short-term (less than a year), it is common practice for companies to borrow short-term and for banks to roll over those loans after a year, effectively rendering them longer-term loans.

According to the Siam Commercial Bank, 55 percent of the $67.2 billion in total foreign borrowing was lent by Japanese banks. However, many loans were to companies affiliated with or subsidiaries of foreign companies, especially Japanese companies. Of the total, only $5.7 billion were denominated in baht. However, the baht liabilities

were large enough for speculators to use to attack the currency. BIBF out-in loans amounted to $28.9 billion as of December 1997. The sectoral allocation of BIBF loans as of end-1997 was as follows:[17] industry received 55 percent; agro-industries, 5 percent; telecommunications, 10 percent; real estate, 6 percent; and finance companies, 10 percent. Since finance companies lent about a third of their BIBF borrowing to the real estate sector, total borrowing of the real estate sector from abroad probably amounted to only 10 percent of all BIBF loans. Direct corporate borrowing from abroad was composed of $7.6 billion in capital market borrowing, $17.7 billion in syndicated loans, and $5.7 billion in other private bilateral borrowings. A total of 212 companies borrowed from 450 banks around the world; i.e., more banks than companies were involved in the borrowing. Out of total dollar lending, only 15 percent was conducted through Thai banks, while 85 percent was conducted through foreign banks.

The overvaluation of the baht

BoT continued the basket peg in 1996, despite the significant devaluation of the yuan in 1994 and the weakening of the yen by 60 percent in 1995–1996, presumably to maintain policy credibility. However, a pegged exchange rate can burden the economy when the basket peg is no longer in line with trade flows. The appropriate policy response would be to (i) continue the peg regime, but at an officially devalued exchange rate; (ii) introduce a trade-weighted peg; or (iii) completely abandon the peg. In hindsight, all the policy options are preferable to the policies actually adopted.

The crisis

From 1996 onward, the Government recognized that the economy was heating up, fueled by credit expansion, and that the current account deficit was widening, funded by increasingly large capital inflows. As a countermeasure, in March 1996, finance companies were directed to maintain cash requirement of 7 percent of foreign borrowing with maturity of less than one year. In July 1996, the Bank for International Settlements (BIS) capital adequacy ratio for banks was raised from 8 to 8.5 percent, and for finance companies from 7 to 7.5 percent. The Government discouraged borrowing of foreign funds for nonproductive purposes (such as property development) by imposing an accounting rule that disallowed commercial banks to count them as assets.[18] However, the replacement of the central-bank governor and the minister of finance in mid-1996 reversed the modest slowdown policy. Toward end-1996, foreign investors had lost confidence in the economic policies. The stock market started to fall and speculators launched their first attack on the baht in August. The second attack hit in December. Since BoT failed to devalue the baht, more attacks followed on 14 February 1997 and 11 May 1997, which finally resulted in devaluation.

In September 1996, in response to the first attack on the baht, BoT started to intervene directly in the foreign exchange market, while continuing its normal Exchange Equalization Fund (EEF) operations. In the first half of 1997, BoT used swap and outright spot transactions. Open market operations slowed down domestic credit creation, mainly in the repurchase market, and sent overnight interbank rates, which ranged from 9 to 15 percent, soaring to as high as 30 percent in February 1997. During the temporary stability in the foreign exchange market in March–April 1997, BoT required 10 finance companies to raise capital. It created an agency to purchase and manage problem property loans from financial institutions. Fiscal policy continued to tighten. According to BoT sources, speculators all the while quietly borrowed baht in the foreign exchange swap market (a deep and liquid international market almost fully integrated with the domestic market). When economic fundamentals continued to deteriorate, speculators launched a concerted, massive attack in May 1997, selling all their accumulated baht positions, rapidly de-

pleting BoT's dollar reserves. By then, almost all foreign exchange reserves were used up by BoT in continued and futile attempts to defend the pegged exchange rate.

BoT was forced to temporarily and informally suspend baht convertibility by introducing capital controls on 15 May. Foreign exchange transactions and lending of baht were limited to nonresidents with a proven underlying trade or investment transaction. The policy made it harder for speculators to obtain the baht. Like the credit controls, the capital controls were extralegal and implemented by "moral suasion." They effectively created a two-tier foreign exchange market: the domestic market, with a normal supply of baht; and the offshore market, where the baht was becoming difficult to obtain. The offshore baht interest rate climbed to over 1,000 percent overnight. As substantial short baht positions were unwound due to high interest rates, the baht strengthened somewhat on the offshore market.

By mid-June, confidence returned to some extent. However, with the resignation of the finance minister, local firms' demand for US dollars to hedge their open foreign exchange exposure rapidly drained dollar reserves via the EEF window. As it had already spent $8.7 billion in reserves to defend the currency and undertaken $23 billion in forward contracts maturing over the coming 12 months, and as the crisis of confidence deepened, BoT floated the baht on 2 July 1997. The baht immediately dropped by 20 percent. By end-1997, it had depreciated by 93 percent and the stock market had fallen by 34 percent (in dollar terms) since June 1997.

According to BoT sources, the following considerations led it to maintain the peg for so long and at such enormous expense:

- Given the already-eroding confidence in the economy and the baht, BoT thought that tampering with the existing exchange rate mechanism (either by band widening, outright devaluation, or a total abandonment of the system) would result in a wholesale run on the baht and an immediate currency crisis.
- Due to Thai corporations' large unhedged foreign currency debt, which greatly exceeded foreign exchange reserves, any such move would have forced those borrowers to close their exposure.

BoT wanted to buy time by defending the peg. However, the costs of its strategy were also substantial: not only were virtually all foreign exchange reserves lost to speculators, but the high interest rate policy that was necessary to maintain a strong baht also severely punished the export sector, which exacerbated the current account deficit, attracted further capital inflows, and thus increased the foreign debt.

THE FLOATING EXCHANGE RATE REGIME

The IMF adjustment program limits BoT intervention in the foreign exchange market. BoT now allows the baht to be determined largely by market forces, with sporadic intervention whose sole aim is to smoothen exchange rate movements in periods of apparent overshooting. The informal capital controls imposed in May 1997 were lifted in January 1998. As a result, the baht strengthened and the onshore and offshore exchange rates converged. However, BoT continues to maintain a maximum outstanding credit limit of B50 million per counterparty for Thai baht credit facilities (including, among others, foreign exchange swaps, interest rate swaps, currency swaps, options, and forward rate agreements).[19]

Assessment of Policy Mix

The combination of policies was disastrous: domestic loan expansion ceilings imposed by BoT were too high, encouraging real estate speculation; at the same time, BIBF borrowing was encouraged to maintain the peg in the face of a substantial dollar-baht interest differential and despite a substantial overvaluation due to considerable yen and yuan depreciation. A number of risks developed, but since they were

not recognized, they eventually spiraled out of control. A checklist of risks includes the following (McKinnon and Pill 1996):

- A sudden increase in the availability of loanable funds through capital inflows may encourage greater investment in risky prospects such as lending to real estate or securities market participants.
- Foreign exchange exposure is dramatically increased if the inflows are foreign-currency-denominated, while the banks enjoy a comparative advantage (informational or otherwise) in domestic lending in local currency. Managing such risks is more difficult if market participants have no experience or there is no market for derivatives.
- Real exchange rate risk rises because the profitability of traded goods industries falls as more capital flows in.
- Settlement risk increases if the payment system is incapable of dealing with the magnitude or direction of cross-border settlements.
- Liquidity risk rises if capital inflows are larger than those of domestic securities markets. If banks attempt to invest the inflows in domestic markets (say, in real estate), they may simply bid up the price of housing, helping create bubbles in real estate and equity prices, and inducing destabilizing “herding” or “fad” behavior among market participants (Shiller 1991).
- Risks arise from the supervisory and regulatory framework as regulators face larger and different challenges in assessing the risks borne by the institutions they supervise when capital inflows are considerable and the risks multiply. For example, regulations may be inappropriate for the new policy regime: banks may not identify problem assets, making it impossible to measure the quality of their portfolios.
- All of the above can lead to greater systemic risk. The chances of contagion between different banks will increase as credit, liquidity, and settlement risks rise.

Policy Recommendations

Anticyclical Recovery Policies

POLICY OBJECTIVE: ECONOMIC RECOVERY

There can be no doubt that the immediate problem for Thailand is recession, as evidenced by substantial negative economic growth rates. The primary short-term policy objective, therefore, must be to engineer an economic recovery. In order to achieve this objective, it is paramount that other policy objectives take secondary priority. Secondary objectives include (i) setting a political agenda to change the economic structure, (ii) opening the Thai market to foreign interests, and (iii) allowing foreigners to purchase Thai banks and land. While important, they constitute a separate policy agenda that is clearly not related to the primary policy objective of engineering economic recovery.

Economic growth is driven by credit creation. The economy predictably moved into recession because aggregate private and central-bank credit creation has been shrinking. For an economic recovery to take place, this aggregate must expand. The necessary policies are the following:

Short-term policy recommendations

Central-bank credit creation must expand. This can be achieved by central-bank purchases of private sector assets. Since the bond market is underdeveloped, and since the real estate market suffers from excess capacity and the financial system from excess bad debts, the most efficient way of central-bank reflation and of addressing the other problems is for BoT to purchase real estate in the open market and purchase bad debts from the banking system. Prices should be established by market forces. This means that banks have to accept large discounts on their loan portfolio (a problem addressed below). Should the central bank incur losses in the process, it should write them off by creating fresh credit. The central bank should also step up purchases of corpo-

rate paper and encourage companies to issue bonds and commercial paper. It should undertake regulatory steps to increase liquidity and depth in the commercial paper market. This includes beefing up accounting standards and encouraging the creation of more credit-rating agencies. BoT can encourage increased bond issuance by paying a premium for corporate paper. This way, corporate bond issuance will rise and the central bank can increasingly act as banker to the nation while commercial banks are still burdened with bad debt.

The credit crunch problem must be solved. Commercial banks reduced their loan extension, producing a credit crunch, because the bad-debt problem rendered them more risk-averse while bad-debt write-offs and provisioning reduced their capital adequacy. The solution can only be the full-scale write-off of all bad debts and the recapitalization of the banking system. An elegant solution is (i) for the banks to issue preferred stock, to be purchased by the central bank; and (ii) for the banks to sell bad debts, either securitized or not, to the central bank or to a newly created disposal agency (a "bad bank"), which itself is capitalized by the central bank. Various schemes are possible in order to meet different political, fiscal, legal, or accounting requirements. However, the economic outcome will be the same—banks will clean up their balance sheets. Reduced risk aversion and increased capital adequacy will raise their supply of credit.

Further micromeasures to enhance credit availability, especially to small firms, should include regulations to discourage banks from applying a simple collateralization technique when assessing loan applications. The technique systematically underestimates the risks involved due to the macroeconomic systemic risk externality of collateral values endogenous to aggregate bank loans (Werner 1997).[20] Therefore, the bank capital adequacy requirements could include different risk weightings for collateralized loans and loans that use cash-flow projections and other flow data. A shift toward the latter will be necessary to stimulate loan growth in an environment of declining asset (and hence collateral) values. Other regulatory and fiscal measures to enhance incentives for banks to write off bad debts, such as full tax deductibility, would further accelerate the process of restoring bank balance sheets and increasing loan growth. The Government attempted to partially implement the policies; BoT loans to four banks (First Bangkok City Bank, Bangkok Metropolitan Bank, Bangkok Bank of Commerce, and Siam City Bank) were converted into capital in February–March 1998.

OBSTACLES TO IMPLEMENTATION

While economic recovery through expansion of credit creation is desirable, the IMF letters of intent are likely to pose an insurmountable obstacle to its implementation. IMF puts a cap on net domestic assets of the central bank (effectively, the central bank's balance sheet) at the end of each quarter. Moreover, it severely restricts the ability of the banking system to create credit. In other words, IMF policies prevent achievement of the primary policy objective of creating an economic recovery. Were IMF to support this objective, a renegotiation should substantially raise the current ceiling on net domestic credit creation. However, revealed preference indicates that IMF's policy objective is to stabilize the exchange rate. As the third and fourth letters of intent show, this objective has been overachieved, as the overly restrictive monetary policies imposed by IMF have produced a far bigger economic recession than anticipated by the Government, boosting foreign exchange reserves and the current account surplus. This shows that less emphasis on external stability and greater emphasis on internal stability would have been far more beneficial for Thailand.

In the third and fourth letters of intent (late May 1998), IMF loosened some of its restrictions on fis-

cal policy. However, monetary policy and especially domestic credit expansion targets remain tight. Some observers have argued that tight money is necessary to stabilize the exchange rate while fiscal policy can be used to support the economy. However, there is a serious flaw in this argument. Fiscal policy will not on a net basis stimulate the economy as a whole. In a credit crunch situation, where there is excess demand for credit, fiscal stimulation is insufficient to achieve the potential growth rate. A necessary condition is an increase in credit creation. Fiscal stimulus such as Government spending superficially seems to add to domestic demand. However, fiscal policy does not automatically result in credit creation. In order to fund its own spending, the Government must issue bonds, which will drain scarce liquidity from the private sector. Indeed, where credit creation is stagnant, every baht spent by the Government is likely to keep one baht out of the private sector. Therefore, given a choice between fiscal and monetary policies, expansionary monetary policy (with tight fiscal policy) is clearly superior to expansionary fiscal policy (with tight monetary policy). However, there is no reason why both monetary and fiscal policies should not be stimulatory. Clearly, IMF policies that keep monetary policy tight while allowing some fiscal leeway cannot generate an economic recovery.

An alternative way to recapitalize the banking system is to sell banks' bad debts and equity to other agents, such as foreigners. This would shore up foreign exchange reserves and function as a debt-equity swap, as foreign debt is swapped into foreign ownership of the domestic banking system. However, long-term costs of this strategy, such as the loss of influence over the credit-creating financial institutions, should be considered. IMF policies, which have prevented a reflation of the central bank and recapitalization of the banking system, are supportive of swapping foreign debt into foreign equity holdings of the banking system. Which policy is preferable is ultimately a political question.[21]

Other Policy Recommendations: Lessons to Learn

FOREIGN EXCHANGE REGIME

The choice of foreign exchange regime for Thailand is now between (i) the continuation of the free (or, more realistically, managed) float and (ii) the re-establishment of some form of a pegged exchange rate regime. It is recommended that the current float be maintained until sufficient foreign exchange reserves have been built up and while the currency remains relatively stable. At a later stage, the introduction of a trade-weighted peg or triangular peg (referenced to the dollar, euro, and yen) may be considered. Finally, depending on Japan's political decisions, increased use of the yen in Asia might provide an alternative to the previous dollar-based system.

Should a further round of currency instability and depreciation of currencies occur in Southeast Asia (triggered by a devaluation of the yuan, for instance, or of another Asian currency), and should the Japanese Government be unwilling to support an Asian currency regime, then the Thai Government and private sector should consider proposals to rationalize the use of the dollar in Southeast Asia. One such proposal is the introduction of an ASEAN-wide financing scheme, which could be organized by the private sector, such as the ASEAN Banking Council. Exporters and importers would coordinate their trade together with their commercial bankers. Although trade is denominated in dollars, an IOU would be issued by the trade-financing bank, calculated at the spot rate, denominated in the local currency. The IOU would then be presented to the central bank of the other country. Thus, the trade would be effectively accounted for as an asset or liability of the central banks. Although all central banks prefer the dollar due to the time lag between issuance and claim or clearing, a compulsory currency insurance fund could be set up, insuring the central banks against large movements in the rate of the dollar against ASEAN currencies. Should central banks be unwill-

ing to support this scheme, then any commercial bank in ASEAN could act as a clearing bank. Given the continued deterioration of private bank balance sheets in Asia, few private banks might, however, be able to fulfill such a role without backing from Governments or international institutions. An alternative suggestion is to expand the role of the Asian Development Bank as a currency-clearing bank in Asia and of Asian support facilities such as the Miyazawa Plan. However, this scheme would only be useful to the extent that it minimizes the use of the dollar for intra-ASEAN trade.

MANAGEMENT OF CAPITAL FLOWS AND FOREIGN EXCHANGE RESERVES

We know from the ex-post accounting identity I - S = F (F = current account deficit or foreign capital inflow; I = investment; S = saving) that if capital inflows rise, but do not go hand in hand with an increase in investment, they result in a drop in domestic savings and increase in consumption. Moreover, capital inflows, especially the short-term portfolio type, are volatile. A country heavily dependent on them risks their sudden withdrawal and a resulting balance-of-payments crisis with the threat of default.

Policies to prevent excessive short-term capital inflows

Foreign push factors

- Capital inflows can be partly exogenous. If foreign investors suddenly decide that a specific country is attractive for portfolio investment, their herd behavior can produce a sudden, large inflow, which can disappear equally suddenly. Measures should therefore be taken to discourage short-term capital flows and encourage long-term foreign direct investment.
- McKinnon (1973, 1993) has argued that deposits held by foreign residents in domestic banks should be subject to the same level of reserve requirements as domestic deposits. This amounts to an implicit tax on foreign deposits, which raises the effective real interest rate for domestic borrowers. The scheme can be fine-tuned by differential reserve requirements for investment and consumption borrowing and lump-sum taxes (McKinnon and Pill 1996). Without such requirements, there is a potentially destabilizing bias toward capital inflows.[22]
- Reserve requirements on short-term capital flows can be enhanced by administrative controls.
- Foreign direct investment can be encouraged. It is less volatile than short-term capital flows and bypasses the banking system, posing smaller risks to the balance of payments. The tools to encourage foreign direct investment include tax incentives, efficient administrative procedures, and liberal laws concerning, for instance, joint ventures with local partners. In Japan, such policy was successful in the 1950s and 1960s.

Domestic pull factors

- These include credit controls on unproductive and consumptive borrowing such as consumer borrowing via credit cards and mortgage finance.
- Any large differential between domestic interest rates and dollar interest rates should be avoided as long as the currency is pegged to the dollar. Obviously, an interest rate differential, together with the explicit or implicit guarantee to maintain the peg, will encourage borrowing from abroad.
- Moving to a floating exchange rate or otherwise diversified exchange rate system may be advisable.
- To prevent the dramatic falls in private savings due to overborrowing, incentives to enhance individual savings are helpful. They may include the introduction of a fully funded compulsory saving program such as the compulsory social security contributions to a Singapore-style provident fund (which was also successfully introduced in Chile in the 1980s).

REGULATORY POLICY: LIBERALIZATION AND SEQUENCING ISSUES

Many multilateral organizations favor liberalization in their policy recommendations. Government restrictions on financial services, for instance, are usually considered Pareto suboptimal. BoT has been a fervent supporter of liberalization of the financial sector, inviting international competition in order to reduce the influence of the families who own commercial banks. However, the purported benefits of liberalization can be demonstrated only in theoretical economic models based on highly unrealistic assumptions and derived from the experience of the UK or US. In the Thai case, the premature opening of the capital account in the face of a fixed exchange rate and a large interest differential invited substantial capital inflows and was a recipe for disaster. However, the recent academic research literature cautions against an oversimplified liberalization approach.

Liberalization is not always beneficial. As two decades worth of economics literature points out, the sequence of liberalization of both the capital account and the banking system is crucial to a successful opening of an economy (see, for instance, McKinnon [1982, 1993]). In particular, it is well recognized that opening just the capital account, while the rest of the economic system remains unchanged, invites calamity, especially in the case of a fixed exchange rate system. It is therefore relevant to question the motivation of IMF, GATT, WTO, and the US Treasury when they push countries to adopt this strategy.

As for the banking system, international institutions often argue that direct credit controls are not efficient, as free-market forces are superior in allocating credit. However, in a world of imperfect information, credit controls have often proven to be an effective tool of monetary policy, since imperfect information results in non-Walrasian market outcomes—rationing, for instance—which render quantity variables superior to price variables as a policy tool and economic indicator. Especially because changes in the interest rate had a direct impact on capital inflows, in the hands of the central bank, which has discretionary power over the banks, quantitative credit controls were a powerful tool to keep credit creation in check. Ethical problems exist, however, due to the extralegality of its character.

The problem with applying credit controls in the 1990s was not that the controls were ineffective. The biggest problem was that the credit growth targets set by BoT were far too large, encouraging further competition between banks as they strove to achieve those targets. Specifically, the targets for BIBF loans were too big. Although BoT closely monitored the sectoral allocation of credit and was fully aware of the rapid expansion of real-estate-related and speculative credit, it failed to use the credit controls to curb such activity. On the contrary, by setting liberal credit growth targets, BoT directly encouraged and fueled the extension of real estate and speculative loans, which are a core cause of the current economic malaise.

Regulatory responsibility not only falls on the regulators of the borrowers, but also on the regulators of the lenders. Loan decisions involve an agreement between lender and borrower. Many borrowers of offshore funds were private sector firms. Most of the lenders were foreign private sector banks. Responsibility for the consequences of the bad-debt problem therefore also lies with the lenders. Indeed, since both lenders and borrowers are private sector institutions, market forces could have been allowed to deal with the evolving problem. Borrowers would have defaulted and lenders would have had to write off their loans. Thus, responsibility lies with the bank supervisors in the lending countries. Responsibility also lies with multilateral organizations, as they pushed Thailand to prematurely open the capital account and partially deregulate financial markets despite known serious sequencing problems. Bilateral and multilateral pressure groups argued that market forces—i.e., more competition through opening up—would enhance economic development and welfare.

However, this reasoning is based on faulty analysis. Consequently, regulation of the way in which such bilateral and multilateral lobbies exert political pressure on sovereign countries should be considered.

INVESTMENT POLICY AND THE RISKS OF SHIFTING TOWARD MARKET FUNDING

In many economic models, liberalization of the financial sector encourages capital accumulation (for example, through the positive effect of raising real interest rates on deposits, increasing savings rates, reducing welfare losses due to inefficiency, facilitating fund-raising by firms, etc.). The theoretical foundation for such arguments is that perfect and efficient markets ensure Pareto-efficient resource allocation. However, an expanding body of literature (see, for instance, Greenwald and Stiglitz [1986]) shows that incomplete markets (due to asymmetric information, for example) do not achieve Pareto efficiency. Meade's (1955) second-best theorem also demonstrates that in the presence of distortions, the removal of one distortion may not enhance welfare. Consequently, the impact of financial liberalization is not clear.

Bank-centered economic systems are often characterized by quantitative (and usually qualitative) credit controls, regulated interest rates, and implicit guarantees of banks against default. Specifically, credit controls are often used, as in Thailand, as the main tool to implement macroeconomic investment policies that directed resources to investments in certain sectors or industries. Since such sectors were usually of a productive nature, bank credit creation was matched by an increase in output. Such investment policies that make use of credit allocation have been highly successful in Japan; Korea; Taipei,China; and Thailand. A shift from such an economic system to a capital-market-based system via financial liberalization carries specific risks. In the bank-centered system, the regulations (including quantitative credit controls) reduce the risk of excessive credit creation. There is therefore usually no prudential supervisory and regulatory framework in place. However, if interest rates are deregulated and the banking industry suddenly shifts from a cartel-like structure to competition, banks have incentives to maximize loan growth by lowering credit standards as they compete for market share. Since bank behavior continues to be shaped by the previous regulatory regime (with implicit Government guarantees against default), they become prone to taking on excessive risks. Credit boom-bust cycles with banking crises have taken place virtually each time a country started to liberalize financial markets (examples are Japan, UK, and Scandinavian countries in the 1980s, and Thailand in the 1990s).

It is therefore recommended that financial liberalization be accompanied by tight monitoring by the central bank of credit aggregates and by immediate quantitative tightening policies if total credit growth accelerates due to financial liberalization. Informal credit controls that enable the central bank to continue to implement explicit or implicit investment policies probably provide the simplest and most effective tool, although in theory they contradict the spirit of liberalization. However, this indicates that perhaps the efficacy of liberalization itself needs to be reconsidered. Especially given the severity of the economic downturn, countercyclical investment policies implemented via credit allocation are likely to prove highly successful. Specifically, credit creation could be kick-started by funding the entire public sector borrowing requirement exclusively via loan contracts between the Government and the private banking system. Fiscal stimulation policies should also be financed this way, allowing the Government to implement investment policies, which will be funded by private bank credit creation. Since the problem of the ongoing credit crunch is the risk-aversion of banks, lending to a zero-risk borrower such as the Government will be highly welcome. As banks extend credit to the Government, total credit creation in the economy expands and GDP recovers. Meanwhile, by implementing investment policies, the Government can either directly or indirectly (by guid-

ing or guaranteeing private sector projects) allocate resources to high-value-added activities.

MECHANISMS AND INDICATORS FOR MONITORING AND CRISIS PREVENTION

Quantitative and qualitative monitoring of credit aggregates

In theory, the solution to the moral-hazard problem in the banking system would be to withdraw the implicit guarantee of bank deposits. Banks would then behave efficiently and provide the correct information signals to the market. However, there are two problems with this solution:

- *A time-consistency problem* (McKinnon and Pill 1996). *Ex ante*, authorities must deny any responsibility for bank deposits in order to instill market discipline. Ex post financial crisis, however, the authorities must bail out at least the larger banks in order to keep the stability of the financial system, avoid bank runs, and preserve international confidence. Banks know that they are special, because they create purchasing power and maintain the monetary system. A public denial of deposit insurance is therefore not credible and banks will always behave as if they have deposit insurance.
- *The fallacy-of-composition problem* (Werner 1997). To the extent that banks extend real estate loans with land as collateral, a systemic risk externality is built up, as each bank considers the land price as an exogenous variable. However, as the loan-valuation ratio is decided and loans are provided for real estate transactions, credit creation takes place, while the amount of land is by definition fixed. As more purchasing power is extended to an unchanged real estate market, real estate prices must rise. Thus, in aggregate, the amount of real estate loans supplied by banks influences land prices. While an individual bank considers the land price as given and unlikely to be influenced by its own actions, all banks together determine the land price, rendering it endogenous to the collective behavior of banks. Hence, even when deciding on conservative loan-valuation ratios, banks systemically underestimate the overall credit risk, as the entire land-price level is being driven up by the collective action of the banks. This problem is exacerbated as banks tend to follow each other's behavior in order not to lag behind competitors.

Policies to avoid excessive credit creation for speculative purposes

- Introduction of a mandated loan-valuation ratio of 50 percent or less and imposition of conservative land-price valuation methods or indices.
- Use of quantitative policies to curb credit creation.
- Implementation of credit controls that distinguish between borrowing for productive and unproductive or consumptive purposes. The latter should be curbed via informal credit guidance of the banking system by the central bank. In Japan and Taipei,China, through the 1970s, for instance, consumer borrowing, including via credit cards and mortgage finance, was severely restricted.
- Imposition of temporary real estate transaction taxes.
- Increase in capital and reserve requirements.
- Improvement of bank regulation, information disclosure, and rule enforcement.

Checklist of variables to be monitored

Variables that need to be monitored closely and, if necessary, trigger the appropriate policy response should include the following:

- Absolute amount of gross and net foreign exchange reserves, monitored in short-time intervals (ideally, weekly).
- Total foreign debt, broken down into term structure and denomination; short-term debt as a percentage of foreign exchange reserves.
- Total domestic credit creation (central bank plus private bank claims on the nonfinancial sector),

compared to nominal GDP growth. Warning signal if the gap widens.
- Sectoral breakdown of credit creation (by industry). Warning signal if use of credit increases for nonproductive purposes.
- Loan-valuation ratios of average real estate loans of banks.
- Inflation—not only consumer price inflation, but also asset prices (stocks and real estate).
- Volume of margin loan positions.
- Actual economic growth versus macroeconomic estimate of potential economic growth.
- Trade-weighted effective exchange rate versus actual exchange rate.

RULE-BASED AND ACCOUNTABLE PUBLIC AUCTIONS

Public auctions in the wide sense include personnel policies of the public sector (human resource auctions) as well as the disposal of bad assets by the Financial Sector Restructuring Authority (FRA). Clear and fair rules governing public auctions must be drawn up and made public. The makers of the rules must also be held accountable to the public.

BoT personnel policies

There is no work published concerning BoT personnel policies. It must suffice to mention here that according to testimonies recorded in Bangkok in 1998, a substantial number of BoT staff members appear to be related to each other by blood or marriage. The obvious policy recommendations are therefore to (i) disclose all relationships between and among BoT staff members and (ii) implement strict policies that avoid conflicts of interest. For instance, only one member of an extended family should be allowed to work at BoT. Selection and screening of applicants according to objective criteria should be sourced out to an independent recruitment agency, which itself should be replaced at two-year intervals and selected by public bidding.

FRA handling of bad-debt disposal process

Allegations of foul play have emerged against FRA concerning some crucial aspects of the asset disposal process. A requirement for appointment as FRA's law firm (which would thus gain primary access to information), which was not publicly announced, was that the law firm should have 50 lawyers or more in Bangkok. Only one law firm, a foreign firm, has 50 lawyers or more in Bangkok. Local firms, had they been aware of the requirement, could have increased their staff accordingly.

Criteria for closing finance companies

The criteria for closing the 56 finance companies were not disclosed in advance. Through its preferential interest rates, BoT encouraged finance companies to borrow from FIDF. Even sound finance companies were given opportunities to profit by borrowing at a subsidized rate from FIDF and then investing the liquidity elsewhere. As a result, FIDF lost virtually all its funds, amounting to an estimated $1 billion. Later, however, it was announced that the criterion for closing the finance companies was whether or not they had borrowed from FIDF. Even apparently solvent finance companies were closed down. Since the finance companies had only followed market incentives, they can hardly be blamed for their behavior. Again, a heavy responsibility falls on BoT for misguided policies.

IMF letters of intent

Apparently, two versions of each letter of intent exist—a full version with all the details, which is not publicized, and an official version, which is publicly disclosed but does not include pertinent details. IMF has long demanded greater disclosure of information. It should therefore set a good example.

DISCLOSURE OF ECONOMIC DATA

An important reason the crisis occurred is that data available to BoT were not made public. Had the public known the data earlier, it would have pro-

vided pressure in the form of market forces as well as public opinion, which would have forced BoT to correct its monetary policy much sooner. Much stricter requirements concerning data disclosure are crucial for improving macroeconomic management and for avoiding a similar crisis in the future. While BoT has begun to disclose details of its foreign currency reserves and forward positions, it is still not disclosing other, perhaps even more important, data.

The central bank has access to monthly data on an almost real-time basis concerning the key variables that drive economic activity: bank assets, bank credit creation, credit expansion broken down by industrial sector, and the detailed breakdown of BoT's own activities and those of affiliated institutions such as FIDF. However, hardly any of the data are published or made accessible to the public. For instance, frequent publication (at least monthly) of detailed FIDF accounts is necessary. BoT data releases concerning the aggregated bank balance sheet and the sectoral breakdown of loans are done only quarterly and semiannually. Monthly data appear to exist and should be made available to the public via the Internet, together with long time series for past data. Economic intelligence is of paramount value and insiders will always want to hide information or to disclose distorted information. In order to ensure accuracy and timely disclosure of all the relevant data series, independent outside auditors, who will be changed regularly, should be employed.

CENTRAL-BANK REFORM AND FUTURE POLICY REGIME

Most of Thailand's economic woes can be traced to policies taken by its central bank. Due to lack of disclosure and supervision, BoT could continue expansionary credit creation, "guiding" commercial banks to lend more for speculative activities. Its policy to keep domestic interest rates high attracted short-term capital inflows. The continuation of the basket-peg system, which BoT insisted on, made lending to Thailand a one-way bet and also encouraged short-term capital inflows. Finally, BoT's handling of the crisis was misguided, as it did not abandon the pegged exchange rate until it had squandered virtually all of its foreign exchange reserves.

Given this track record, one can recommend a reform of BoT—its institutional setup, personnel, personnel policies, monetary policies, policy implementation tools—and require that it disclose information and be accountable to the elected representatives of the people, as the Nukul Commission recommended (Nukul 1998). The excessive concentration of decision-making power in the hands of a small number of unelected technocrats should be reduced. Specifically, BoT needs to be more transparent in its monitoring of the economy, its dealings with the financial system, the tools of monetary policy it implements, the policies it adopts, and the data it uses for decision making.

The postcrisis BoT has stated that it would like to shift its monetary policy to a regime that explicitly targets inflation and that it would like its performance to be judged according to whether it can achieve that inflation target, and not whether there is general economic and financial stability. Inflation targeting is a policy that does not address current (or past) policy needs. Excessive consumer price inflation may have been a problem in Weimar Germany, resulting in a Bundesbank policy dominated by the anti-inflation goal. However, the biggest policy mistake of BoT is not excessive inflation. It is excessive business cycles that are due to excessive credit creation followed by a banking crisis and subsequent credit crunch. Indeed, a similar credit boom-bust cycle already occurred in the early 1980s. It would be far more pertinent to target nominal GDP growth by keeping the nominal growth rate close to the potential growth rate.

Notes

[1]The maximum potential growth rate is a function of the quantity of factor inputs and the efficiency with which they are used to produce output (productivity).

[2]As per the fourth letter of intent with IMF, 26 May 1998.

[3]This was confirmed by testimonies from officials of the Bank of Thailand (BoT), the Ministry of Finance, as well as private sector observers.

[4]The sales and purchase operations were undertaken through the Exchange Equalization Fund (EEF), which is effectively a part of BoT. Given the substantial volume of capital inflows in 1995–1996, it became the largest avenue for central-bank credit creation.

[5]This is according to present and former BoT staff who were interviewed.

[6]Banks must maintain required reserves on average with no carry-over provision over a fortnightly period (from the 8th day of the month to the 22nd and from the 23rd to the 7th) using the average level of deposit/liabilities of the previous period as a base). However, day-to-day fluctuations in bank reserves can be quite large.

[7]The repurchase market was established in 1979, and includes banks, finance companies, State enterprises, specialized financial institutions, and the Financial Institutions Development Fund (FIDF), which is linked to BoT itself. It operates on the basis of competitive auction, with BoT acting as central counterpart to all members. Since BoT is the registrar in all current eligible securities in this repurchase market, delivery and settlements can be done simply by book-entry transfers with BoT. There are seven maturities (overnight, 7 days, 14 days, 1 month, 2 months, 3 months, and 6 months), but volume is highest at the short end. Orders are processed on a price/time priority basis. The best bid or offer and last-matched prices are publicized immediately.

[8]As a result, BoT started to issue BoT bonds in August 1995, with maturities ranging from one month to two years. Each type of paper was auctioned according to a pre-announced schedule. Scripless, the BoT bond was thought to facilitate trading. Since BoT sterilized the monetary effect of the BoT bond issuance through purchases of State enterprise bonds, it effectively replaced illiquid State enterprise paper with the more liquid BoT bonds. In 1996, BoT also started issuing FIDF bonds—FIDF is effectively part of BoT—and Property Loan Management Organization bonds. In practice, BoT bond issuance has not been sufficient to sterilize the monetization of the large capital inflows, as in 1996, when, despite a substantial increase in the issuance of the central-bank bonds, net credit creation of the central bank continued to expand rapidly. When capital flows reversed in 1997, BoT failed to purchase back the bonds quickly enough, exacerbating the tight liquidity situation.

[9]Since the reintroduction of partial capital controls in May 1997, the swap market has shrunk sharply, reducing BoT's intervention. Instead of direct transactions in the open market through agent banks, BoT has switched to an auction process for its daily swap operations. Local banks must submit their bids to BoT's foreign exchange desk before 12:30 p.m., providing details concerning amount, premium, and maturity (overnight to one year). The swap transactions are then allotted by BoT at its discretion, based on overall policy, foreign exchange market conditions, and the exposure of the individual banks concerned.

[10]The credit controls were known by various names in different countries. In the UK it was a "corse," in France "*encadrement de credit,*" in Japan and Korea "window guidance."

[11]This plan was proposed and supported by Finance Minister Tarrin, who is currently again finance minister.

[12]BoT Governor Chavalit Thanachanan commented in June 1990: "I would like to mention in this context that only 68 (out of a total of 152) members of the IMF have assumed Article 8 status; and of these 68, only 10 are countries in the Asian region. It is thus no exaggeration to say that with this decision, Thailand has joined a select group of countries that maintain an exchange system free of restrictions and that are characterized by highly successful economic and financial performance" (Rhee and Chang 1991: 79).

[13]This reason was cited by the former BoT governor.

[14]This fallacy is based on a misunderstanding of the role of banks. Due to the recent emphasis on "microfoundations," banks are commonly regarded as "financial intermediaries" that accumulate deposits and other funds in the short-term markets, which they then invest for the long term. However, on a macroeconomic level, banks fulfil the crucial public-goods function of creating the bulk of the money supply through the process of credit creation.

[15]This is well documented in the finance and development literature. A review is provided by World Bank (1990).

[16]See Schadler et al. (1993) and Fischer and Reisen (1993).

[17]Estimates by Siam Commercial Bank.

[18]The net open position of commercial banks could not exceed 20 percent of capital funds (capital and reserves). Since net open position is equal to foreign borrowings less foreign assets, if property loans did not count as assets, the subsequent reduction in assets would force banks to reduce their foreign borrowing accordingly.

[19]Bona fide investment and trade activities are excluded from this ceiling.

[20]Such criteria might also underestimate risks if not implemented prudently because individual firms' cash-flow projections are affected by potentially misguided macroeconomic projections. For instance, foreign banks continued to lend to local Thai companies based on cash-flow projections that assumed a continuation of the high growth rates Thailand had recorded previously. However, this type of risk can be minimized by bank-lending guidance undertaken by the central bank, which should monitor total credit creation and thus be able to predict economic growth.

[21]Democratically elected representatives of the Thai people, however, were not consulted in the IMF decision-making process.

[22]In a banking sector model without moral hazard and with perfect information, such reserve requirements may introduce an inefficient distortion. However, in reality, information is asymmetric and moral hazard does exist. Moreover, such measures will reduce the macroeconomic systemic risk, and by avoiding the classic credit boom-bust cycle, the government acts in a welfare-enhancing way.

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Appendix 1

Methodology of Study

TWO TYPES OF GOVERNMENT INTERVENTION

Due to market imperfections, many developing economies have achieved high economic growth rates only by resorting to government intervention that focused on maximizing factor inputs in the early stages of economic development. However, government intervention in this context is often misunderstood. It can take the form of activist intervention in markets in order to directly shape resource allocation, as in the socialist countries. Or it may involve the design, construction, and monitoring of incentive structures that will incline agents to work toward the policy objective without micromanagement or activist policy intervention. In other words, it can mean organizing and reorganizing the economic system so that the outcome of optimizing behavior of individual agents or groups of agents coincides with the overall government goal of achieving high growth. While the recent mainstream economic literature has demonstrated the inefficiency and often high cost of the first (activist) form of government intervention, the most recent literature increasingly supports the second type of government intervention. As the discussion of long-term Thai macroeconomic management will show (Appendix 2), regulations and government intervention have often been linked to good macroeconomic performance.

BANK-CENTERED VS. CAPITAL-MARKET-CENTERED RESOURCE ALLOCATION

In many countries, including Germany and Japan, policymakers have found that high growth can be achieved by favoring big business, which separates ownership from control and tempers the influence of shareholders by cross-shareholding and monitoring through main banks. Managers have greater incentives to reinvest their resources instead of paying them out in the form of dividends.[1] Consequently, companies are focused more on long-term scale maximization, as opposed to short-term profit maximization. Meanwhile, monitoring by stakeholding banks provides the necessary discipline for managers to operate efficiently. The logic of this type of economic organization inevitably leads to an emphasis on banks in resource allocation and underdeveloped capital markets, which divert the incentives of managers away from scale maximization.[2] In practice, there is a single dominant bank or universal bank, which provides for the funding needs of an enterprise group (the main bank in Japan or Hausbank in Germany, for example). The economic system in Thailand is a similar bank-centered system.[3] The Thai economy is characterized by organizational government intervention, and the bank-centered paradigm is usually neglected. Policy conclusions usually derive from a simplistic application of the capital-market-centered model of the UK or US. The different nature of the Thai system, however, cannot fail to have implications for policy recommendations, which should be tailored to the specific situation of each country.

CREDIT MARKETS DO NOT CLEAR

Stiglitz and Weiss (1981) show that banks ration credit even in equilibrium due to imperfect information. This implies that there is always an excess demand for credit among firms (especially smaller ones), which creates an additional powerful tool for resource allocation and development policy: governmental “guidance” of commercial bank credit,

[1] Economic growth is due to productive investment conducted by companies. The main stakeholders in large-scale businesses are employers, managers, and shareholders. If the government aims to maximize economic growth, it can achieve this by creating incentive structures that encourage firms to maximize growth, as opposed to profit pay-outs.

[2] For more details, see the work of Aoki and Dore (1994).

[3] See, for instance, Hoontrakul (1995) and the literature cited therein.

while interest rates are kept low by regulations.[4] Even when the adverse selection and incentive effects of high interest rates do not produce credit rationing, moderate financial restraint on lending rates reduces default rates and increases the social returns to lending. Stiglitz and Uy (1996) refer to financial restraint to describe a regime where regulations keep interest rates low. Since, in addition to allocating purchasing power, banks also perform the unique role of creating purchasing power (through "credit creation")—a role that capital markets cannot play—bank-centered economic systems represent a potentially attractive mechanism for fast economic development in a world of imperfect markets. In such systems, governmental "guidance" or direction of credit toward high-productivity sectors of the economy has proven to be a powerful tool for economic development (see World Bank [1993] and the literature cited therein). Throughout the postwar era, Thailand has implemented policies to direct credit. Such practice has been associated with strong economic performance.

Based on the latest findings concerning the credit market and the macroeconomic role of bank credit creation, it appears that among the cyclical macroeconomic management policies (fiscal, monetary, and exchange rate), monetary policy plays a special role. This study attempts to reflect the latest findings in economic theory in its methodology, especially concerning the economic structure and the monetary transmission mechanism.[5]

[4]The approach has not been popular in the theoretical neoclassical literature, presumably because it acknowledges the existence of institutional rigidities, monopolistic firms, regulated international commodities markets, and, most important of all, imperfect information, which "distort" all prices and imply that few markets, least of all the credit market, actually clear. However, it has been challenged by a vast body of literature that has proven theoretically and empirically superior. For more details, see the literature on the relationship between financial sector development and economic growth (Goldsmith 1969, 1983; Cameron et al. 1967; the empirical support by Gupta [1984] and Jung [1986], who found causality from financial development to economic growth; King and Levine 1993); on financial repression (McKinnon 1973; Shaw 1973; Fry 1983); on asymmetric information in the credit market (Stiglitz and Weiss 1981; Stiglitz and Greenwald 1993); and on the Japanese main bank system (Sheard 1989; Aoki and Dore 1994). Also see the World Bank report on the "East Asian miracle" for a detailed survey of the successful credit policies adopted in the bank-centered Asian economies.

[5]The traditional monetary transmission mechanism is built on the assumption of perfect markets. In the standard model, there is a stable relationship between the "real" economy and the financial sector (the constant velocity assumption, which defines a stable money-demand function). In Walrasian equilibrium, the interest rate equalizes demand and supply for money. There is a unique inverse relationship between the quantity of money and its price, the interest rate. With sticky prices, a change in the (short-term) nominal interest rate (e.g., effected by the central bank) results in a change in the real rate, which determines consumption, investment, and output in the economy. In the long run, as prices adjust, monetary policy has no real effects. The key monetary policy tool in this model is the interest rate. Since the model assumes perfect substitutability between bond markets (and other capital markets) and bank lending, there is no special role for the banking system (which is therefore also usually not explicitly included in standard models, whether IS-LM-based or not). The conventional macroeconomic theory has been embodied in large-scale macroeconometric models and underlies the analyses of many economists.

However, over the past two decades, the standard model has increasingly been criticized by a rapidly expanding literature. In particular, several "anomalies" have occurred in a number of countries, which have been impossible to reconcile with the generally accepted relationship of money, economic activity, and prices. They include the apparent velocity decline and resulting "breakdown" of the money-demand function in several Anglo-Saxon countries, Scandinavia, many Asian countries, and Japan; and the occurrence of significant asset price rises, often dubbed "bubbles," especially in Japan, Korea, Thailand, UK, and Scandinavian countries. Standard theory and models failed to forecast and later to explain the size and extent of the business cycles observed in many countries in the 1980s and 1990s. (For a discussion of the British experience, see Goodhart [1989]; Muellbauer [1992]; and Church, Smith, and Wallis [1994]. For a discussion of the Japanese experience see Werner [1997].) Moreover, the standard model has failed to explain how fairly small changes in short-term interest rates can produce large changes in economic activity, influencing long-term investment and durable consumption, for instance.

The failure of the traditional theory has given rise to a new body of research on the monetary transmission mechanism and the role of financial systems in the macroeconomy (Bernanke and Blinder 1988; Gertler 1988; Jaffee and Stiglitz 1992; Gertler and Gilchrist 1992; Bernanke 1992; Kashyap, Steil, and Wilcox 1993; Allsopp and Mayer 1994; Werner 1997). The new argument can be summarized briefly: with the more realistic assumption of imperfect information, the credit market does not clear and equilibrium credit rationing occurs (Stiglitz and Weiss 1981). It implies that interest rates and the quantity of credit are not uniquely inversely related (i.e., a reduction in interest rates may not increase the quantity of credit and vice versa). It also implies that there is constant excess demand for credit, rendering credit supply-determined. Further, imperfect information combined with large monitoring costs results in imperfect substitutability between bank lending and other sources of capital for some borrowers (such as households and small firms). Combined with the assumption that the central bank can affect the volume of bank credit through its open market operations, there is a distinct transmission mechanism via the quantity of credit, which can be used by the central bank. Moreover, this approach suggests that quantitative (and/or qualitative) "guidance" by the central bank of commercial bank credit may be an effective tool for cyclical as well as structural macroeconomic management policy. By ensuring the allocation of resources to productive activities, economic growth can be kept close to potential with minimum inflation.

Using the often-neglected fact that banks are "special" in a macroeconomic sense due to their ability to create credit, Werner (1997) demonstrates that a reformulated "quantity theory," which centers on disaggregated credit, explains the major "anomalies" of the traditional model. Credit creation used for GDP-based transactions is likely to show a proportional and stable causal relationship with nominal GDP, while credit creation used for non-GDP-based transactions (such as speculative financial and real estate transactions) is likely to be directly related to asset prices.

Appendix 2

Macroeconomic Management and Economic Development

Thailand's postwar economic system is a variant of the bank-centered economic structure observed in Germany and Japan. It emerged in the mid-1920s. Until then, Thailand's economy had been largely agrarian, with rice, teak, tin, and rubber making up 90 percent of exports. Economic growth was steady but modest. Macroeconomic management policy was one of benign neglect. The extraterritorial privileges enjoyed by colonial capital and the Government's lack of fiscal autonomy, which prevented support to indigenous industries, were the main impediments to growth. Although treaty provisions concerning import and export dues were renegotiated and, in the late 1920s, new company laws and some initial tariff protection enabled modest import substitution, the absolute monarchy was increasingly criticized for neglecting national interest and failing to support the development of indigenous industry and commerce.

POST-COUP D'ETAT

The call for drastic changes in political and economic management culminated in the 1932 coup d'etat, which triggered economic reform. Influenced by German and Japanese thinkers, the new military-led Government opted for active State guidance of the economy. The unequal treaties with foreign powers were abrogated and protective import tariffs imposed in pursuit of an import-substitution strategy. Many publicly owned and Government-run firms were created in order to foster new industries. Private indigenous enterprise was supported and "guided" by the State. Resources were allocated to favored industries either by direct Government investment or through guided credit of private banks that were at the center of business groups.[1]

After the shift from near-*laissez-faire* to active State-led interventionism, economic growth picked up sharply, generating a trade surplus, which was used to establish a central bank in 1942. As the Pacific War proceeded, Thailand increasingly leaned toward a controlled economy. Partly driven by its military needs, the Government assumed a monopoly position in key economic sectors such as the rice trade (the largest industry) and the salt, rubber, and tobacco industries. The Government surplus derived from the paddy, and distribution was invested in creating import-substituting industries and public utilities.[2]

After the war, the momentum of State-led modernization, investment, and economic growth continued unabated until the 1950s. Before 1945, 30 State enterprises and public companies were born. Another 19 were founded in 1946–1952, and 37 in 1952–1956. After 1951, the model of Government control over the rice industry was applied to several other industries, including match production, hotels, and gold dealing. Yet, during and after the war, private industry continued to prosper. The system of State-led, bureaucratic paternalism laid the foundation of the modern Thai economy.[3]

POST-WORLD BANK

The next phase in Thai economic development policy began with an International Bank for Reconstruction and Development (IBRD) mission to Thailand in 1959. The IBRD report recommended shifting emphasis from Government-owned to private industries.[4] Over the next five years, the report's major recommendations were implemented:

[1]Legal reform included protection for patents and trademarks, and modern labor law. The Government established the Board of Trade and the Siamese Chamber of Commerce. Government-owned industries ranged from export, import, transport, and insurance companies to those necessary for military suppliers.

[2]Many such investments were financed through the Thai Industrial Development Company, which was established in 1942.

[3]The high degree of institutional continuity from prewar to wartime to postwar economic systems is symbolized by the continued leadership role taken by Phibun, who was head of Government for most of 1932–1957.

[4]US President John F. Kennedy wrote personally to Sarit, the head of government, about the IBRD report: "I would like to ask you to study this document seriously. Even though this report does not show the formal US policy towards Thailand, I think it provides the basis of our aid" (Phongpaichit and Baker 1995:127).

- State enterprises in the distribution sector were disbanded.
- Some State factories were privatized.
- No new State enterprises (except for public utilities) were formed.
- Emphasis was placed on educational and administrative development.[5]

Although laws allowed foreign firms to repatriate profits and made it easier for foreigners to occupy land, domestic business remained influential enough to keep tariff protection in place to support import substitution. The tariff structure encouraged capital-goods imports while discouraging consumer goods imports. The weighted average tariff for consumer goods was 42 percent for durables and 34 percent for nondurables in the 1950s and 1960s, but only 19 percent for capital goods. Growth was supported by these institutional changes as well as by (i) a continued rise in factor inputs, especially capital and labor; (ii) strong external demand; and (iii) a large inflow of foreign direct investment. Foreign investment took the form mainly of aid and direct long-term investment, as opposed to more volatile portfolio investment.[6]

In the 1960s, economic growth averaged about 8 percent per year in real GDP terms, with inflation at a modest 2 percent. Manufacturing GDP grew 10.9 percent per year during the first plan period in 1961–1966, 9.2 percent in the second, and 8.4 percent in the third. Increased world demand for primary goods and US-funded investments in the transportation sector boosted agricultural exports. The addition of strong capital inflows in the form of foreign direct investment created an unusually strong balance-of-payments situation. Unlike other countries with similar investment-led development strategies, Thailand had few problems with the balance-of-payments constraint.[7]

POST-OIL SHOCK

By the mid-1970s, the interventionist State-led growth model was still fully intact: the exchange rate was fixed to the US dollar, price controls regulated prices of essential goods, and interest rate ceilings restricted bank behavior. Meanwhile, the Government invested in infrastructure and human resources, and provided foreign investment incentives. With the oil crisis, real growth slowed in the 1970s, although it remained high at almost 7 percent on average. Inflation, however, jumped to 7 percent. The current account recorded a deficit of more than 5 percent of GDP.

These problems, plus the success of the export-oriented economies of Japan; Korea; and Taipei,China; and pressure from the Bank of Thailand (BoT) internally and the World Bank externally, strengthened the case for replacing Thailand's import-substitution approach in favor of export orientation. The fourth five-year plan (1977–1981) advocated an export strategy with an accompanying reduction in import tariffs. However, in reality, changes were small. Due to resistance from ministries and departments that admin-

[5]On the administrative level, the Budget Bureau, National Statistical Office, Board of Investments, and the National Economic Development Board (NEDB, later NESDB), were created. Middle-level staff members in most ministries were drawn from a generation of US-educated technocrats. With the help of US advisers, NEDB drafted five-year economic plans.

[6]Against the background of the Korean War, Cold War, and Vietnam War, the role of the US increased. In 1951–1975, it spent about $2.5 billion in Thailand on military aid, installations, and troop upkeep. Nonmilitary aid rose to over $3 billion. World Bank loans to Thailand amounted to almost $500 million, mostly for public utility projects. Private capital inflows were also substantial: in the late 1960s, they amounted to about B1 billion per year, rising to about B1.5 billion per year in the 1970s. While foreign investment was initially mainly from the US, Japanese investment surpassed US investment in 1973 as Thailand traded more and more with Japan. Nevertheless, foreign capital supplied only 12 percent of total gross capital formation in 1964–1972, and in 1979, 500 of the largest firms were Thai-owned.

[7]This was also supported by prudent macroeconomic management, which slowed domestic demand (using credit controls and other tools) when the balance-of-payments deficit appeared to be rising to unacceptable levels. Foreign funds have traditionally augmented domestic savings. The ratio of foreign assets to GDP has traditionally been high in Thailand in order to maintain confidence in the baht and help attract foreign investment. However, since the late 1960s, this ratio declined rapidly. But the banks are generally net borrowers abroad, so their contribution is usually negative. Thus, the drop in foreign assets was due to the fall in BoT foreign exchange reserves, about which there was some early concern. For instance, Panitchpakdi (1981) argues that the reserves helped to deal with short-term economic fluctuations and maintain the stability of the baht.

istered the import licenses, tariffs actually increased in 1973–1981 and the average level of effective protection doubled in 1970–1980.

By 1980, Thailand was still essentially an agricultural and domestic-demand-oriented country. Over 70 percent of the population depended on the agricultural sector. Only 8 percent of the labor force worked in manufacturing and only 13 percent of the population was urban. The top four export items were still rice, tapioca, rubber, and tin, together accounting for 32 percent of all exports. Textiles ranked fifth. Meanwhile, economic growth slowed to only 4.7 percent in real terms in 1980–1984.

POST-1983–1985 CRISIS

In the first half of the 1980s, the dollar strengthened. With the fixed exchange rate system, Thailand's exports slowed sharply. Refusing to devalue the currency, the Government instead dampened domestic demand in order to restore balance-of-payments equilibrium. A main tool was the imposition of quantitative credit controls, administered by BoT, which required commercial banks to restrict credit growth rate in the first half of 1984 to 9 percent of the 1983 level of credit outstanding and to 18 percent for the rest of the year. The drastic credit restraint program lasted eight months and had a substantial impact on the economy. As credit creation virtually stopped, domestic demand slumped. Asset prices dropped, including stock and land prices. Twelve finance companies were on the verge of default. The Ministry of Finance set up the Financial Institutions Development Fund (FIDF), de facto operated by BoT, to rescue them as well as two minor banks. Eventually, the Government liquidated 24 finance companies and merged another 9, while BoT took over 17, which were subsequently sold. Finally, in November 1984, the baht was devalued and its direct link to the US dollar broken. Instead, an undisclosed "basket" of currencies of major trading partners was used to peg the exchange rate. The dollar weight in this basket was estimated at 80 percent.

The crisis of 1983/84 forced the long-delayed implementation of an export-oriented strategy. Reforms included (i) reduction in import taxes for materials used in manufacturing exports, (ii) special BoT credit facilities for exporters, and (iii) Board of Investment support of foreign investment in export industries. Meanwhile, a lower budget ceiling and tighter controls were imposed on State enterprises. Helped by a sharp fall in oil prices and the dramatic surge of the yen in 1985–1987, the policies significantly boosted exports of goods and services. Since 1985, exports grew at 17.8 percent a year in volume terms, with manufacturing exports, such as textiles, garments, and canned food continuing to increase substantially in the late 1980s. They represented an important structural change in the economy away from agricultural products. In addition, revenue from tourism grew rapidly. While rising by 10-15 percent during the first half of the 1980s, it rose by 34 percent in 1987, during the Visit Thailand Year campaign.

As BoT sharply raised credit growth targets for commercial bank lending, economic growth accelerated from 1985 onward.[8] Real GDP grew 13.2 percent in 1988 and continued to grow at double-digit rates until the end of the decade. Exports were the most dynamic sector of the economy. In 1985–1991, total exports almost quadrupled in value. Manufactured exports rose almost sixfold. In 1990, they accounted for 75 percent of total exports. It can thus be said that in the mid- to late 1980s, the economy was successfully reoriented toward exports and its balance shifted very much in favor of the manufacturing sector. The exports-GDP and imports-GDP ratios rose significantly (Table A2.1). The composition of imports changed from consumer goods to intermediate inputs, while manufacturing goods accounted for an increasing share of total exports. Consumption as a percentage of GDP continued to fall in the 1980s.

[8]Despite prevailing pessimism, economist Olarn Chaiprawat (1988) correctly predicted this "golden age" for the Thai economy.

Table A2.1: **Ratios of Exports and Imports to GDP (percent)**

Year	Exports/GDP	Imports/GDP
1980	24.1	30.4
1981	23.8	30.1
1982	22.9	24.6
1983	20.1	27.3
1984	21.9	26.2
1985	23.2	25.9
1986	25.6	23.6
1987	28.9	28.3
1988	33.0	34.4
1989	34.9	37.5
1990	34.1	41.7
1991	36.0	42.5

Source: Bank of Thailand.

BANK-CENTERED RESOURCE ALLOCATION AND MONETARY TRANSMISSION

Before the 1932 coup, monetary policy was passive as the balance of payments determined the domestic money supply in a one-to-one relationship. High foreign exchange reserves were maintained in order to guarantee economic autonomy and sustain international confidence. Since the coup, the banking system has been at the core of resource allocation and cyclical macroeconomic management policies.

Formed in the 1940s and largely owned by a small number of families, banks rapidly came to dominate the business world, as they were at the core of business groups. Bank-loan growth as well as loan allocation were subject to the informal but de facto binding "guidance" of BoT. At the end of the 1950s, there were 12 Thai and 9 foreign banks. In 1982, there were 16 Thai and 14 foreign banks.[9] However, the foreign banks accounted for a mere 5 percent of total bank assets. Rapid branching out of banks (in 1960, there were 252 commercial bank offices; in 1986, 1,891) helped collect rural surplus savings and raise the savings rate. The ratio of commercial bank assets to GDP increased from only 21 percent in 1962 to 124 percent in 1996 (Tables A2.2 and A2.3). The banks formed an oligopolistic cartel. Competition was restricted by regulations governing interest rates, entry of new banks, and expansion of bank offices.[10]

Banking activity has been highly concentrated. In 1980, 70 percent of all private sector credits from commercial banks were extended to less than 20,000 customers. In 1983, loans in excess of B1 million accounted for 72 percent of all loans; small loans made up only 28 percent (World Bank 1983). This was partly the result of BoT's interest rate ceiling policy, which implied that banks could not reflect the higher risk and overhead costs of lending to small firms by raising interest charges. Banks, therefore, preferred to lend to large-lot customers. However, the regulated interest rates virtually guaranteed the banks high profits in the form of the margin between the deposit and loan rates.[11]

Banks were also forced to extend credit to the Government when they were required to hold Government bonds as part of the reserve requirement and as a precondition for obtaining permission to open new branches.[12] Due to the crucial importance of

[9]The Siam Commercial Bank, the first domestically owned bank, was established in 1904. Before the 1932 coup, the main banks were branches of foreign banks engaged largely in trade financing. In 1940, there were three Thai-owned and six foreign-owned banks.

[10]Stiglitz and Uy (1996) argue that barriers to entry may be welfare-enhancing. The case for restrictions is based on the following:

- Prudential concerns, or concerns that excessively competitive banking systems with low profit rates are also excessively fragile. (This is of relevance in the discussion of the 1990s crisis.)
- Efficiency concerns, or concerns that fewer and larger banks may reap economies of scale in information gathering and monitoring.
- The infant-industry argument, or the concern that domestic banks need protection until they can compete with foreign banks on an equal footing.

[11]An institutional detail of relevance for the discussion of the 1997 crisis is that most commercial bank credit takes the form of short-term overdraft loans. It is standard practice for short-term loans to be rolled over, effectively rendering them long-term loans.

[12]Until 1955, the entire Government debt was held by the central bank. In 1960, BoT still held 80 percent of the domestic Government debt while commercial banks held only 5 percent. When banks were allowed to count bond holdings as required reserves, bond holdings at banks rose. By the early 1980s, the share of BoT bond holdings had dropped to about one third and that of the banks had risen to one third. (The Government Savings Bank held one fifth.)

banks for monetary policy, BoT de facto supervised the banks, with the implicit guarantee not to let them go under. During the crisis of 1983/84, the Government and BoT organized rescue operations, establishing FIDF rather than allowing weak institutions to default.

BoT used the following as monetary policy tools: (i) interest ceilings; (ii) compulsory minimum requirements on the banks' capital adequacy ratio; (iii) loan rate at which commercial banks could borrow from the central bank; and, most important, (iv) direct credit controls or "credit guidance." The loan rate changed quite frequently. However, from the 1960s, commercial banks began to borrow more abroad, rendering the loan rate less effective.[13] The key monetary policy, as in many countries, has been direct guidance of the quantity and allocation of credit through credit controls over the private commercial banks, administered by BoT.[14]

The credit controls took the form of both quantitative and qualitative guidance. In qualitative guidance, an important official policy tool has been commercial banks' obligation to lend to agriculture.[15] Other credit guidance instruments include privileged rediscount facilities for loans to manufacturing, agriculture, and exports. The main platforms to implement the policies are the meetings BoT holds with senior bank staff members where the banks' loan portfolios are discussed. Twice a year, banks present their lending plans, which are then assessed and modified by BoT. However, monitoring of lending takes place much more frequently.[16]

Table A2.2: **Financial Sector Development: Ratio of Commercial Bank Assets to GDP (%)**

Year	Ratio
1962	21
1970	37
1980	50

Sources: Jansen (1990) and Rozenthal (1970).

It is fair to say that despite the many postwar reforms, the institutional framework of the economy remained as it was from the late 1930s to 1950s: one based on Government guidance and credit allocation via the banking system, while capital markets remained underdeveloped. Forced savings produced a high savings ratio (still around 25 percent of GDP in the 1980s [Table A2.4]), while credit allocation to productive sectors raised economic growth.

STRUCTURAL PROBLEMS OF ECONOMIC DEVELOPMENT

While the sixth economic and social development plan (1987–1991) emphasized social development, and the seventh plan's (1991–1996) theme was sustainable development, social and environmental problems remain serious. Per capita income in Thailand rose sharply in recent years: from $800 in 1985, it doubled by 1991, and rose to $2,400 in 1994. However, income inequality remained a problem even in the late 1980s. The agricultural sector continued to account for more than half of employment, although its share of GDP had fallen to about 11 percent in the 1990s (Table A2.5). This implies that the majority of the population failed to share in the income gains due to industrialization, as agricultural labor productivity lagged behind.

[13] This has been recognized as a problem in the literature (Nontapunthawat 1973, 1978).

[14] In addition, the Government also used specialized agencies (such as the Bank for Agriculture and Agricultural Cooperatives [BAAC], the Industrial Finance Company of Thailand, the Small Industries Finance Organization, and the Government Housing Bank) to allocate credit. However, they have different macroeconomic functions, as they are not credit-creating institutions.

[15] In 1975, banks were forced to allocate 5 percent of their deposits for agricultural credit. The figure was raised to 15 percent in 1980, of which 2 percent could be loans to agribusiness. In early 1987, it was further increased to 20 percent, but included rural small- and medium-scale industries. Since most banks found it difficult to administer rural loans, many followed the rule by depositing money with BAAC. (In 1981, 57 percent of commercial bank credit to agriculture was lent to farmers via BAAC.)

[16] The credit controls were effective. Credit rationing has been demonstrated by Rozenthal (1970) and Vongvipanond (1980), who showed that in the 1960s and 1970s, commercial banks held substantial excess reserves and could have extended more credit than they had.

Table A2.3: Ratio of Total Assets and Foreign Assets to GDP

Year	Total Assets of Commercial Banks (B million)	Foreign Assets (B million)	GDP (B million)	Total Assets/GDP (percent)	Foreign Assets/GDP (percent)
1982	426,069	26,377	841,569	50.6	3.1
1983	540,049	24,583	920,989	58.6	2.7
1984	649,359	30,791	988,070	65.7	3.1
1985	713,877	33,655	1,056,496	67.6	3.2
1986	776,691	41,952	1,133,397	68.5	3.7
1987	903,339	38,553	1,299,913	69.5	3.0
1988	1,144,646	44,989	1,559,804	73.4	2.9
1989	1,426,670	70,213	1,856,992	76.8	3.8
1990	1,806,564	56,366	2,183,545	82.7	2.6
1991	2,169,914	72,600	2,506,635	86.6	2.9
1992	2,555,619	77,728	2,830,914	90.3	2.7
1993	3,206,218	157,503	3,170,258	101.1	5.0
1994	4,065,063	169,101	3,630,805	112.0	4.7
1995	5,045,026	235,898	4,188,929	120.4	5.6
1996	5,688,070	179,985	4,598,288	123.7	3.9
1997	7,369,995	470,492	na	na	na
1998: Q1	7,035,724	360,853	na	na	na
Q2	7,253,889	465,780	na	na	na

na = not available.
Source: Bank of Thailand.

Table A2.4: Ratio of Savings to GDP

Year	Savings (B million)	GDP (B million)	Savings/GDP (percent)
1980	146,803	662,482	22.2
1981	159,720	760,356	21.0
1982	188,815	841,569	22.4
1983	202,796	920,989	22.0
1984	222,520	988,070	22.5
1985	244,497	1,056,496	23.1
1986	276,895	1,133,397	24.4
1987	357,480	1,299,913	27.5
1988	499,528	1,559,804	32.0
1989	633,008	1,856,992	34.1
1990	721,083	2,183,545	33.0
1991	869,093	2,506,635	34.7

Source: Bank of Thailand.

Table A2.5: Employment in Agriculture and Agricultural Share of GDP

Year	Total Employment (thousand persons)	Employment in Agriculture Sector (thousand persons)	Agriculture/GDP (percent)
1992	30,622	17,209	12.4
1993	30,452	16,149	10.6
1994	29,906	15,041	10.7
1995	30,877	14,418	10.8
1996	31,220	14,161	10.7

Source: Ministry of Labor and Social Welfare and National Statistical Bureau.

Economic success in the 1980s did not narrow the gap between rich and poor or between urban and rural areas. Growth was unbalanced, and income and wealth disparities continued to widen. This was exacerbated by the boom in land and real estate speculation, which further concentrated wealth in the hands of a few. The share of industrial production in GDP rose from 28.7 percent in 1991 to 31.4 percent in 1994, while that of agricultural production dropped from 13.3 to 10.7 percent

for the same period. However, given that agriculture continued to employ about half the labor force, the majority continued to receive low pay while a small group in industry received high pay.[17]

[17] In 1992, the average income of agricultural workers was only $385 per person and rising by 11 percent (the lowest rise), while in the industrial and commercial sectors it was $460 and increasing by 17 percent. White-collar incomes were much higher still.

The low-income strata, whether urban or rural, continued to endure a low quality of life. Slums proliferated as rural workers migrated en masse to Bangkok. Rapid industrialization also caused deforestation, pollution, and other serious environmental problems. The eighth development plan (1996–2001) was supposed to address some of the issues through rural and communal planning. However, with fiscal spending cuts, its policies are likely to suffer.

The Economic Crisis and Banking Sector Restructuring in Thailand

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Introduction

The economic crisis in Thailand was triggered by the baht devaluation in July 1997 and aggravated by the underlying weaknesses of the country's financial system and corporate sector. Prior to the crisis, Thailand had embarked on a comprehensive liberalization of domestic financial markets and capital account transactions. As a result, financial institutions began to enjoy a more liberal economic environment, including increased business opportunities with the corporate and household sectors as well as favorable funding terms from domestic and foreign sources. However, Thailand's financial system was not sufficiently sound or resilient to cope with problems created by large inflows of deposits and foreign funds as well as the subsequent expansion of domestic credit. Consequently, the credit boom and bust that preceded the baht crisis was a major problem for both the economy and its financial system.

Since the International Monetary Fund (IMF) arrived on the scene in response to the baht crisis, financial system reform has progressed steadily. The reform plan included three broad objectives:

- Resolve nonviable and problem financial institutions.
- Strengthen the financial sector structure.
- Enhance the regulatory and supervisory regime.

Most of the reform efforts in 1997-1999 focused on the first objective, including resolving the assets and liabilities of the 56 closed finance companies, restructuring and recapitalizing troubled commercial banks, and resolving bank nonperforming loans (NPLs).

In addition to financial system reform, Thailand also focused on corporate sector reform in order to resolve serious corporate debt overhang and to create a robust corporate sector, thereby helping restore financial system health. The reform strategy included (i) accelerating corporate debt restructuring, (ii) strengthening corporate insolvency procedures, and (iii) improving corporate governance.

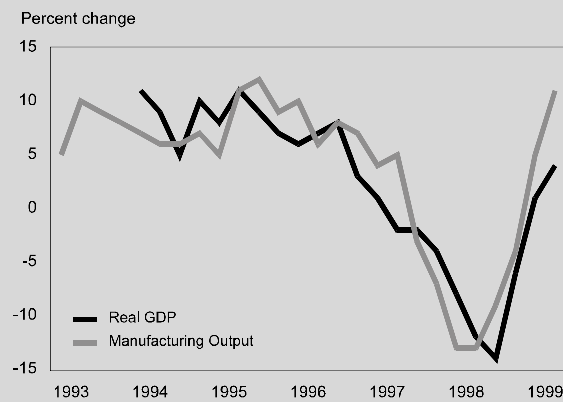
In 1998, Thailand was in a vicious circle in which real economic activity contracted more drastically than anyone had expected (Figure 1); a contraction in demand, a sharp increase in NPLs, and bank capital shortage constrained credit flows to the corporate sector, in turn contracting real economic activity

Table 1: **Structure of Financial Institutions in Thailand, End-1996 (B million)**

Financial Institution	Year Operations Began	Total Number of Institutions	Total Number of Branches	Deposits and/or Equivalents	Borrowing
Commercial Banks	1888	29[a]	3,171[b]	3,683,100	1,282,824
Finance Companies	1969	91	71	1,040,075	443,633
Credit Foncier Companies	1969	12	na	6,321	378
Government Savings Bank	1946	1	548	208,753	na
Life Insurance Companies[e]	1929	13	1,216	116,739	60
Savings Cooperatives[f]	1946	1,200	na	91,400	52,760
Agricultural Cooperatives[f]	1916	3,100	na	9,540	9,240
Bank of Agriculture and Agricultural Cooperatives (BAAC)	1966	1	629	118,417	53,710
Industrial Finance Corporation of Thailand (IFCT)	1959	1	23	na	98,571
Small Industries Finance Corporation	1992	1	1	na	1,375
Government Housing Bank	1953	1	169	101,793	89,978
Export-Import Bank of Thailand	1993	1	2	na	30,262
Pawnshops[f]	1866	390	na	na	8,500
Total		**4,841**	**5,830**	**5,376,138**	**2,071,290**

na = not availabile.
[a] Consists of 15 Thai banks and 14 foreign bank branches.
[b] Composed of 3,138 Thai bank branches, 14 foreign bank branches, and 19 foreign banks' Bangkok International Banking Facility (BIBF) units.
[c] Based on the Bank for International Settlements' (BIS's) concept for 15 Thai banks and 14 foreign bank branches.
[d] Includes provisions for loan losses.
[e] Preliminary.
[f] Estimated figures.
Source: Bank of Thailand.

Figure 1: **Changes in Real GDP and Manufacturing Output, 1993–1999**



Source: National Economic and Social Development Board.

even further. A year later, Thailand began to show signs of gradual recovery, driven largely by exports and fiscal stimulus. Its real gross domestic product (GDP) growth is expected to recover from -10 percent in 1998 to 3-4 percent in 1999. Nonetheless, several downside risks could prolong or hamper the recovery process. These include (i) slowdown in the recovery of regional markets, especially Japan; (ii) deceleration of US economic expansion; and (iii) slow pace of domestic financial and corporate restructuring. More than anything else, it is necessary to minimize the cost and time required to restructure the financial sector and to reduce the risks the real sector faces in order to achieve a sustained economic recovery.

This paper first discusses the causes of the economic crisis as rooted in the fragility of the financial system, and then identifies the measures taken to restructure the system and to strengthen the regulatory and supervisory framework. It also reviews the progress made in corporate sector restructuring precisely because of the strong linkage between financial sector and corporate sector restructuring. It then specifies pressing policy concerns and challenges and lays out some policy options for reform. It concludes by summarizing policy lessons from the financial crisis and its resolution.

Household Savings Mobilized	Capital Account	Credit Extended	Investment	Total Assets
2,642,854	509,894[c]	4,825,057	301,750	5,626,661
660,700	226,322[d]	1,488,188	220,151	1,811,938
6,152	1,522	6,742	391	8,518
205,372	21,420	56,257	88,368	237,442
116,739	18,122	31,847	66,163	145,173
181,750	128,520	212,600	900	254,400
17,150	13,410	23,290	336	34,180
57,239	11,984	165,622	11,540	212,067
na	17,132	103,234	13,463	143,803
na	502	698	1,105	1,888
59,371	13,749	198,500	500	210,167
na	3,900	32,533	100	34,624
na	3,500	14,000	na	15,500
3,947,327	**969,978**	**7,158,567**	**704,766**	**8,736,359**

Financial System Fragility Prior to the Baht Devaluation

Overview of the Financial System

The financial system has long been dominated by commercial banks, while finance companies have gained importance in recent years.

For its level of income, Thailand had a relatively deep financial sector. High economic growth and high savings rates, together with substantial capital inflows, led to rapid growth of financial institutions' claims on the private sector in the 1990s (from 83 percent of GDP in 1990 to 147 percent in 1996). By end-1996, total financial sector assets amounted to B8.7 trillion ($340 billion) at the then-prevailing exchange rate of B25.61 per US dollar) (Table 1). Commercial banks dominated the financial sector, accounting for 64 percent of total financial assets, 69 percent of total deposits (or equivalents), and 67 percent of total credits extended. Finance companies were the next largest group of financial institutions, accounting for 21 percent of total assets, 19 percent of total deposits (or equivalents), and 21 percent of total credits extended.

In the banking subsector, there were 15 Thai and 14 foreign bank branches at end-1996.[1] The top four or five Thai banks dominated the banking sector, while the presence of foreign banks was quite limited, with a mere 8 percent share in total bank assets. Commercial banks could engage in a large class of normal banking businesses but were not allowed to undertake securities or trust services. Large portions of commercial bank loans were directed to manufacturing (27 percent) and trade (25 percent), with limited exposure to construction and real estate (14 percent) and personal consumption (13 percent) (Table 2).

In the finance company subsector, there were 91 finance companies at end-1996.[2] While some finance companies were independent, many originated as affiliates of commercial banks to provide specialized services that banks were not allowed to undertake, or as specialized providers of high-margin, high-risk consumer finance. Finance companies could not take deposits and had to fund their operations by issuing large-denomination promissory notes, as well as negotiable certificates of deposit, and bills of exchange. Loans and overdrafts from domestic and foreign banks were also significant sources of funds. Finance companies' assets at end-1996 were dominated by loans (77 percent of total assets) and securities investment and receivables (18 percent). Due to commercial banks' regulatory and cost advantages, finance companies sought business opportunities by allocating a major share of their portfolios in high-risk areas such as construction and real estate (28 percent) and personal consumption loans (26 percent), including hire purchase and finance and securities businesses (Table 3).

The legal, regulatory, and supervisory framework was such that finance companies could not effectively compete for most commercial bank mainstream businesses. As a result, they were left largely with more risky activities. Compared to commercial banks, finance companies were restricted from the businesses of (i) mobilizing sight or time deposits, (ii) offering overdrafts or credit cards, (iii) offering credit facilities related to trade finance, (iv) providing foreign exchange services, and (v) establishing a domestic branch network in the Greater Bangkok area. Finance companies were compelled to take greater risks, while being subject to less stringent prudential requirements than banks.

Financial System Deregulation

The relaxation of the upper limit imposed on the interest rate in 1980 was an early attempt to deregulate the financial market.[3] Interest rate deregulation, however, was soon interrupted in the first half of the 1980s when the economy faced serious macroeconomic difficulties as well as a financial crisis. The economy went into a recession, experienced widening current account deficits (7 percent of GDP in 1981 and 1983), and saw four currency devaluations in 1981-1985. Many financial institutions, including finance companies and commercial banks, suffered from a large volume of bad loans not only because of the recession but also due to weak managerial practices and an inadequate legal, regulatory, and supervisory framework for financial institutions. Although some institutions went bankrupt, many of them were rescued by the Ministry of Finance (MOF) and the Bank of Thailand (BoT).[4] Only after the financial crisis did the financial liberalization process resume.

Comprehensive liberalization of the financial system was implemented according to schedules laid out in two three-year plans in the 1990s. The plans were intended to enhance the efficiency of the financial system and to increase the competitiveness of Thai financial institutions. The first Three-Year Financial System Development Plan (1990-1992) had four major objectives:

- Deregulate and liberalize interest rates, foreign exchange transactions, and the scope of financial institutions' businesses.
- Develop new financial instruments, facilities, and services.
- Improve supervision and examination of financial institutions, including the adoption of the Bank

Table 2: Distribution of Commercial Bank Loans[a], By Sector, 1990-1998

Sector	1990	1991	1992	1993	1994	1995	1996	1997	1998
					Amount (B million)				
Manufacturing	375,108	457,617	517,914	647,286	836,234	1,097,338	1,313,546	1,872,325	1,606,276
Agriculture	99,354	126,098	135,494	148,959	152,280	158,940	164,019	161,695	146,614
Mining	8,205	8,248	12,054	16,665	15,692	24,985	24,476	36,000	32,246
Construction and Real Estate	237,021	279,235	339,497	407,521	506,199	586,035	662,441	763,585	752,949
Construction	59,322	72,095	88,372	103,719	141,991	185,850	236,341	273,064	246,834
Real Estate Business	177,699	207,140	251,125	303,801	364,208	400,184	426,100	490,521	506,115
Trade	423,122	481,644	575,187	701,787	909,882	1,079,486	1,212,690	1,431,154	1,233,973
Wholesale and Retail Trade	263,154	314,843	371,506	477,217	627,722	756,799	870,225	1,037,812	867,501
Exports	91,367	95,257	116,651	135,297	166,505	182,710	196,056	218,899	173,997
Imports	68,601	71,543	87,031	89,274	115,655	139,976	146,409	174,443	192,475
Public Utilities	25,084	30,097	40,882	61,322	86,345	108,106	142,751	197,128	189,661
Banking and Other Financial Businesses	76,171	99,267	132,835	163,010	245,151	339,204	345,330	487,514	263,430
Services	91,381	123,217	159,103	208,726	268,450	333,296	377,839	458,037	418,568
Personal Consumption	158,617	202,136	269,394	339,675	437,475	523,437	612,595	652,516	594,967
Housing	95,285	125,001	165,437	225,903	305,937	370,581	432,867	na	na
Others	63,332	77,135	103,957	113,773	131,539	152,856	179,728	na	na
Total	**1,494,062**	**1,807,558**	**2,182,359**	**2,694,950**	**3,457,707**	**4,250,825**	**4,855,688**	**6,059,956**	**5,238,684**
					Share (%)				
Manufacturing	25.1	25.3	23.7	24.0	24.2	25.8	27.1	30.9	30.7
Agriculture	6.6	7.0	6.2	5.5	4.4	3.7	3.4	2.7	2.8
Mining	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.6	0.6
Construction and Real Estate	15.9	15.4	15.6	15.1	14.6	13.8	13.6	12.6	14.3
Construction	4.0	4.0	4.0	3.8	4.1	4.4	4.9	4.5	4.7
Real Estate Business	11.9	11.5	11.5	11.3	10.5	9.4	8.8	8.1	9.7
Trade	28.3	26.6	26.4	26.0	26.3	25.4	25.0	23.6	23.4
Wholesale and Retail Trade	17.6	17.4	17.0	17.7	18.2	17.8	17.9	17.1	16.6
Exports	6.1	5.3	5.3	5.0	4.8	4.3	4.0	3.6	3.3
Imports	4.6	4.0	4.0	3.3	3.3	3.3	3.0	2.9	3.7
Public Utilities	1.7	1.7	1.9	2.3	2.5	2.5	2.9	3.3	3.6
Banking and Other Financial Businesses	5.1	5.5	6.1	6.0	7.1	8.0	7.1	8.0	5.0
Services	6.1	6.8	7.3	7.7	7.8	7.8	7.8	7.6	8.0
Personal Consumption	10.6	11.2	12.3	12.6	12.7	12.3	12.6	10.8	11.4
Housing	6.4	6.9	7.6	8.4	8.8	8.7	8.9	na	na
Others	4.2	4.3	4.8	4.2	3.8	3.6	3.7	na	na
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

na = not available.
[a] Data include bills, loans, overdrafts, interbank and out-in Bangkok International Banking Facility transactions.
Source: Bank of Thailand, *Monthly Bulletin*, various issues.

Table 3: Distribution of Loans Extended by Finance Companies and Finance and Securities Companies, by Sector, 1990-1998

Sector	1990	1991	1992	1993	1994	1995	1996	1997	1998
					Amount (B million)				
Manufacturing	53,915	66,756	82,520	104,450	137,661	185,674	228,471	111,582	98,554
Agriculture, Fishing, Forestry, and Mining	4,159	4,468	6,186	7,461	6,227	10,879	15,014	5,753	5,378
Construction and Real Estate	80,890	110,329	143,874	185,936	269,489	365,727	419,453	139,214	131,529
Construction	8,663	10,875	15,948	22,179	29,816	39,804	56,612	15,281	14,138
Real Estate Business	72,227	99,454	127,926	163,757	239,673	325,923	362,841	123,933	117,391
Trade	38,213	43,848	52,960	71,308	93,543	124,637	159,956	56,105	49,044
Wholesale and Retail Trade	28,542	32,316	39,948	52,515	69,912	94,517	121,001	42,186	36,595
Exports	3,370	4,376	4,282	5,884	8,901	10,027	12,355	6,258	5,207
Imports	6,301	7,156	8,730	12,909	14,730	20,092	26,600	7,661	7,242
Public Utilities and Services	25,829	33,782	41,432	56,533	76,943	100,022	122,971	53,981	52,969
Banking and Other Financial Businesses	20,903	23,125	41,292	63,359	96,522	129,829	146,150	58,572	49,861
Personal Consumption	91,202	133,210	177,986	241,005	318,935	375,949	384,895	103,442	76,501
Housing	10,283	14,913	17,983	27,930	40,671	54,205	62,618	28,695	22,177
Margin Loan (Finance and Securities Business)	9,263	33,011	67,040	91,637	120,014	128,385	104,259	14,186	7,807
Hire Purchase	51,506	58,975	57,630	72,899	89,607	115,330	128,957	28,512	16,533
Others	20,151	26,310	35,333	48,539	68,643	78,029	89,062	32,049	29,984
Hire-Purchase Business (leasing)	na	na	1,603	3,019	8,684	8,676	11,280	3,223	1,383
Total	**315,111**	**415,518**	**547,854**	**733,070**	**1,008,004**	**1,301,393**	**1,488,188**	**531,872**	**465,219**
					Share (%)				
Manufacturing	17.1	16.1	15.1	14.2	13.7	14.3	15.4	21.0	21.2
Agriculture, Fishing, Forestry, and Mining	1.3	1.1	1.1	1.0	0.6	0.8	1.0	1.1	1.2
Construction and Real Estate	25.7	26.6	26.3	25.4	26.7	28.1	28.2	26.2	28.3
Construction	2.7	2.6	2.9	3.0	3.0	3.1	3.8	2.9	3.0
Real Estate Business	22.9	23.9	23.4	22.3	23.8	25.0	24.4	23.3	25.2
Trade	12.1	10.6	9.7	9.7	9.3	9.6	10.7	10.5	10.5
Wholesale and Retail Trade	9.1	7.8	7.3	7.2	6.9	7.3	8.1	7.9	7.9
Exports	1.1	1.1	0.8	0.8	0.9	0.8	0.8	1.2	1.1
Imports	2.0	1.7	1.6	1.8	1.5	1.5	1.8	1.4	1.6
Public Utilities and Services	8.2	8.1	7.6	7.7	7.6	7.7	8.3	10.1	11.4
Banking and Other Financial Businesses	6.6	5.6	7.5	8.6	9.6	10.0	9.8	11.0	10.7
Personal Consumption	28.9	32.1	32.5	32.9	31.6	28.9	25.9	19.4	16.4
Housing	3.3	3.6	3.3	3.8	4.0	4.2	4.2	5.4	4.8
Margin Loan (Finance and Securities Business)	2.9	7.9	12.2	12.5	11.9	9.9	7.0	2.7	1.7
Hire Purchase	16.3	14.2	10.5	9.9	8.9	8.9	8.7	5.4	3.6
Others	6.4	6.3	6.4	6.6	6.8	6.0	6.0	6.0	6.4
Hire-Purchase Business (leasing)	na	na	0.3	0.4	0.9	0.7	0.8	0.6	0.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

na = not available.
Source: Bank of Thailand.

for International Settlements capital adequacy ratios (CARs).

- Develop payment systems.

The second Three-Year Financial System Development Plan (1993-1995) aimed to:

- Enhance financial market efficiency.
- Mobilize domestic savings through pension systems and other means.
- Transform Bangkok into a regional financial center by establishing an offshore banking center.

Many of the goals were accomplished as scheduled. The third Financial System Development Plan (1995-2000), however, was put on hold as a result of the economic crisis.

One of the most important outcomes of financial market deregulation was greater competition among financial institutions. Finance companies started to compete fiercely against commercial banks by offering financial instruments and services that were increasingly attractive to the general public and foreigners. Thai commercial banks also became more aggressively competitive with each other.

Financial market deregulation and the consequent, enhanced competition, however, were not matched by a commensurate establishment of a resilient financial system based on prudent management of assets and liabilities, reliable information disclosure, generally accepted accounting standards, and effective supervision and examination. Policy toward distressed financial institutions was not always clearly defined. The traditional practice of extending central-bank credits and liquidity to weak banks and finance companies continued to pose a moral-hazard risk in the financial market.[5] The risk was aggravated by capital account liberalization, particularly through financial institutions.

Capital Account Liberalization

The authorities began to liberalize international capital flows in the 1980s with the relaxation of foreign direct investment (FDI) restrictions. They then focused on liberalizing portfolio investment in the stock market and bank loans. Liberalization of portfolio and banking flows was accompanied by the relaxation of foreign exchange controls.[6]

In the 1990s, Thailand began to substantially liberalize financial capital flows and foreign exchange transactions. The country accepted Article 8 of the IMF's Articles of Agreement in 1990 and removed foreign exchange restrictions on current-account-related transactions. Starting in 1991, it began to relax foreign exchange restrictions on capital-account-related transactions, promoting cross-border capital flows by financial institutions. One important strategy for capital account liberalization was the establishment of the Bangkok International Banking Facility (BIBF), an offshore banking center, in 1993.

Capital account liberalization was driven by three factors:[7]

- the need to attract foreign savings for capital accumulation and infrastructure development and to adopt advanced foreign technologies for more efficient production and management,
- competitive pressure to open the domestic financial market to foreign institutions and to liberalize financial capital flows, and
- bilateral and multilateral pressures to open the financial market.

Competitive pressure from neighboring countries in East Asia was responsible for the expansion of FDI. Foreign manufacturing firms investing directly in Thailand required not only adequate financing of working capital, but also high-quality financial services, which only their home-country financial institutions could provide. Therefore, to attract more FDI, Thailand was compelled to allow foreign financial institutions access to the domestic market and cross-border financial transactions. The most important bilateral pressure came from the US and Europe, and the multilateral pressure came from liberalization requirements under the General Agreement on Tariffs and Trade (and later the World Trade Organization).

The increased openness of the capital account, together with financial market deregulation, led to a

higher degree of capital mobility—largely reflected in the growing importance of short-term banking flows, portfolio investment, and nonresident baht accounts (see Table 4).[8] BIBF played a crucial role in expanding international bank loans. The authorities established BIBF for several purposes:

- Encourage foreign-currency-denominated bank loans into Thailand ("out-in" loans) to meet the funding needs of Thai firms and to finance infrastructure development.
- Attract foreign banks with a good international reputation, technology, and know-how to Bangkok so as to introduce more competition into the banking system and to improve the efficiency of Thai commercial banks.
- Encourage foreign banks to extend loans, via Bangkok, to the greater Indochina area, including Cambodia, Lao PDR, Myanmar, and Viet Nam ("out-out" loans).

Partly due to regulatory and tax advantages, the establishment of BIBF led to a dramatic expansion in the volume of foreign bank loans into Thailand.[9] The fact that the Thai authorities used BIBF as a stepping stone to full-branch banking for foreign banks also expanded BIBF loans (Table 5).

In the 1990s, Thailand saw growing inflows of foreign capital. While they were mainly in the form of FDI until the early 1990s, they recently shifted to short-term inflows, including bank loans. Essentially, the removal of interest rate ceilings as well as capital account liberalization allowed funds raised overseas to become an increasingly important source of financing domestic investment. In fact, large current account deficits were increasingly financed by private capital inflows, often exceeding the size of current account deficits until 1996 (Figure 2).[10]

Table 4: Net Inflows of Private Financial Account, 1985–1998

Item	1985	1986	1987
Bank	(14,244)	(21,965)	5,935
Commercial Bank	(14,244)	(21,965)	5,935
Recapitalization	0	0	0
BIBFs	0	0	0
Nonbank	19,623	12,546	16,510
Direct Investment	4,379	6,880	4,711
Foreign Direct Investment	4,402	6,908	9,044
Thai Direct Investment	(23)	(28)	(4,333)
Other Loans	2,109	(3,334)	(16,006)
Portfolio Investment	3,858	2,517	12,862
Equity Securities	3,858	2,517	12,862
Debt Securities	0	0	0
Nonresident Baht Account	10,813	9,672	10,592
Trade Credits	(1,994)	(3,606)	3,704
Others	458	417	647
Total	**5,379**	**(9,419)**	**22,445**
Bank	(264.8)	233.2	26.4
Commercial Bank	(264.8)	233.2	26.4
Recapitalization	0.0	0.0	0.0
BIBFs	0.0	0.0	0.0
Nonbank	364.8	(133.2)	73.6
Direct Investment	81.4	(73.1)	21.0
Foreign Direct Investment	81.8	(73.4)	40.3
Thai Direct Investment	(0.4)	0.3	(19.3)
Other Loans	39.2	35.4	(71.3)
Portfolio Investment	71.7	(26.7)	57.3
Equity Securities	71.7	(26.7)	57.3
Debt Securities	0.0	0.0	0.0
Nonresident Baht Account	201.0	(102.7)	47.2
Trade Credits	(37.1)	38.3	16.5
Others	8.5	(4.4)	2.9
Total	**100.0**	**100.0**	**100.0**

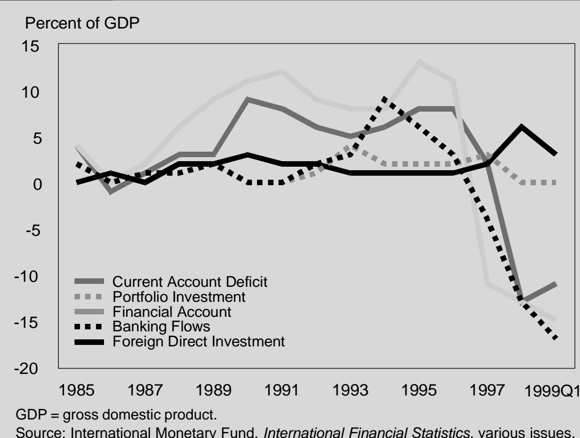
( ) = negative values are enclosed in parentheses, BIBF = Bangkok International Banking Facility.
Source: Bank of Thailand, *Monthly Bulletin*, various issues.

Structural Weaknesses of the Financial Sector

During 1990-1996, the volume of financial sector assets grew at much faster rates than normal economic activity; assets of commercial banks and finance companies increased by an average of 21 and 30 percent per annum, respectively, while nominal GDP rose by only 13 percent per year (Figure 3). The volume of financial sector credit extended to the private sector, as a proportion of GDP, also expanded significantly from 83 percent in 1990 to 147 percent in 1996 (Figure 4). At the same time, financial institutions increasingly relied on borrowings to supplement the insufficient deposits for extending loans. As a result, their loan-deposit ratios rose to high levels (Figure 5). This meant that the financial sector was rendered vulnerable to (i) flight of deposits, (ii) decline in nondeposit borrowing, and (iii) deterioration in the quality of loans.

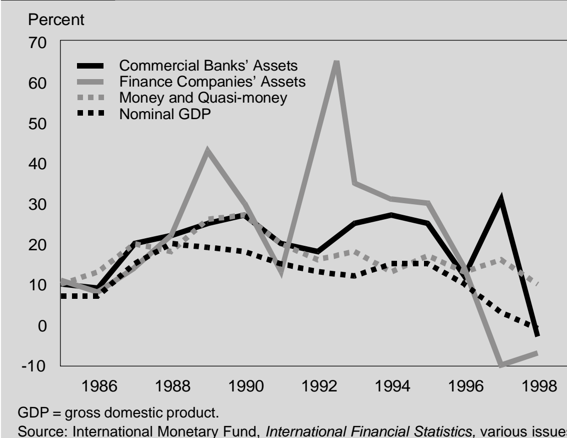
1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
			Amount (B million)							
21,494	(7,719)	40,850	(6,612)	49,051	91,033	349,855	279,673	126,771	(253,026)	(561,361)
21,494	(7,719)	40,850	(6,612)	49,051	(102,162)	96,416	77,243	10,843	(176,636)	(168,953)
0	0	0	0	0	0	0	0	0	0	85,757
0	0	0	0	0	193,195	253,439	202,430	115,928	(76,390)	(392,408)
74,063	159,912	238,568	268,764	188,149	169,906	(47,996)	237,969	333,784	(48,465)	(92,181)
27,349	44,413	61,119	47,110	50,230	36,396	22,659	29,064	36,823	105,266	193,545
27,964	45,698	64,695	51,389	53,691	43,812	33,241	49,887	57,472	117,689	198,266
(615)	(1,285)	(3,576)	(4,279)	(3,461)	(7,416)	(10,582)	(20,823)	(20,649)	(12,423)	(4,721)
4,640	46,930	114,889	143,707	69,158	(61,223)	(146,690)	38,093	138,022	(133,225)	(184,703)
11,185	36,658	11,507	3,848	14,104	122,628	27,503	81,721	88,242	138,980	24,541
11,185	36,658	11,507	928	11,512	67,850	(10,283)	52,759	28,437	122,321	16,832
0	0	0	2,920	2,592	54,778	37,786	28,962	59,805	16,659	7,709
21,718	28,104	34,311	52,433	44,517	67,833	51,143	84,163	73,764	(156,275)	(115,434)
8,655	3,112	15,160	18,980	7,795	13,634	11,447	6,363	(3,702)	(12,679)	(21,108)
516	695	1,582	2,686	2,345	(9,362)	(14,058)	(1,435)	635	9,468	10,978
95,557	**152,193**	**279,418**	**262,152**	**237,200**	**260,939**	**301,859**	**517,642**	**460,555**	**(301,491)**	**(653,542)**
			Percent of total							
22.5	(5.1)	14.6	(2.5)	20.7	34.9	115.9	54.0	27.5	83.9	85.9
22.5	(5.1)	14.6	(2.5)	20.7	(39.2)	31.9	14.9	2.4	58.6	25.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(13.1)
0.0	0.0	0.0	0.0	0.0	74.0	84.0	39.1	25.2	25.3	60.0
77.5	105.1	85.4	102.5	79.3	65.1	(15.9)	46.0	72.5	16.1	14.1
28.6	29.2	21.9	18.0	21.2	13.9	7.5	5.6	8.0	(34.9)	(29.6)
29.3	30.0	23.2	19.6	22.6	16.8	11.0	9.6	12.5	(39.0)	(30.3)
(0.6)	(0.8)	(1.3)	(1.6)	(1.5)	(2.8)	(3.5)	(4.0)	(4.5)	4.1	0.7
4.9	30.8	41.1	54.8	29.2	(23.5)	(48.6)	7.4	30.0	44.2	28.3
11.7	24.1	4.1	1.5	5.9	47.0	9.1	15.8	19.2	(46.1)	(3.8)
11.7	24.1	4.1	0.4	4.9	26.0	(3.4)	10.2	6.2	(40.6)	(2.6)
0.0	0.0	0.0	1.1	1.1	21.0	12.5	5.6	13.0	(5.5)	(1.2)
22.7	18.5	12.3	20.0	18.8	26.0	16.9	16.3	16.0	51.8	17.7
9.1	2.0	5.4	7.2	3.3	5.2	3.8	1.2	(0.8)	4.2	3.2
0.5	0.5	0.6	1.0	1.0	(3.6)	(4.7)	(0.3)	0.1	(3.1)	(1.7)
100.0	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Figure 2: Financial Account and Major Components of Net Capital Inflows



GDP = gross domestic product.
Source: International Monetary Fund, *International Financial Statistics,* various issues.

Figure 3: Growth Rates of Financial Assets and Nominal GDP



GDP = gross domestic product.
Source: International Monetary Fund, *International Financial Statistics,* various issues.

Table 5: Outstanding Stock of BIBF Lending (B million)

Item	1993	1994	1995	1996	1997	1998	1999[a]
Out-In							
Thai Banks	126,691	189,826	254,562	330,040	514,058	213,504	130,239
Foreign Banks with Full Branch(es) in Thailand	50,768	102,249	152,371	222,795	690,450	431,931	363,653
Other BIBF Units	19,565	164,568	273,585	254,798	206,855	121,594	101,304
Total	197,024	456,643	680,517	807,633	1,411,363	767,029	595,196
Out-Out							
Thai Banks	2,563	11,588	10,818	16,318	35,363	28,982	23,178
Foreign Banks with Full Branch(es) in Thailand	348	1,996	4,848	9,363	264,348	89,132	45,720
Other BIBF Units	878	87,249	501,378	456,877	171,370	30,380	15,387
Total	3,789	100,833	517,045	482,559	471,081	148,494	84,285
All							
Thai Banks	129,254	201,414	265,380	346,358	549,421	242,486	153,417
Foreign Banks with Full Branch(es) in Thailand	51,116	104,245	157,219	232,158	954,798	521,063	409,373
Other BIBF Units	20,443	251,817	774,963	711,675	378,225	151,974	116,691
Total	**200,814**	**557,476**	**1,197,562**	**1,290,192**	**1,882,444**	**915,523**	**679,481**

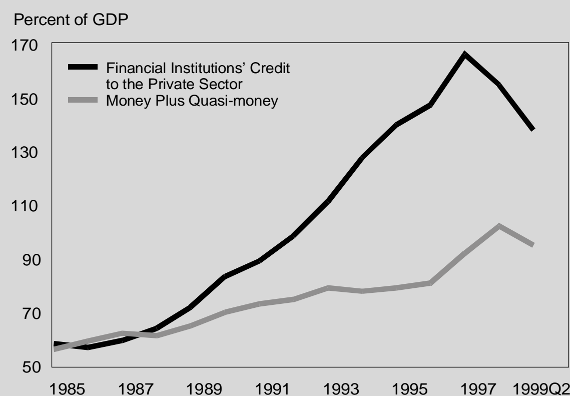
BIBF = Bangkok International Banking Facility.
[a] As of September.
Source: Bank of Thailand.

Mounting NPLs would certainly lead to systemic financial sector difficulties.

The origins of the weaknesses of the financial sector fall into two broad categories: (i) excessive lending without prudent management of assets and liabilities, and (ii) inadequate regulatory and supervisory frameworks.

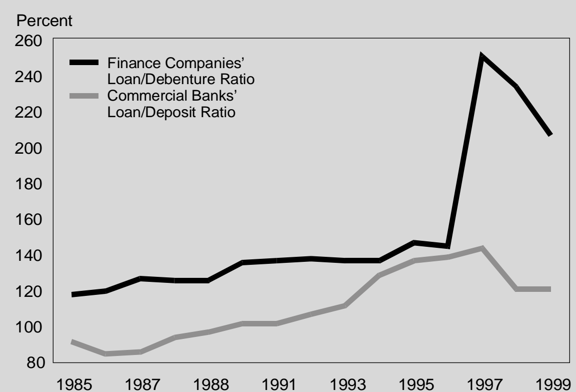
The lack of prudent management of assets and liabilities and the resulting risky behavior on the part of financial institutions led to three major types of problems. First, although commercial banks and finance companies extended some proportion of loans to productive investment projects, they directed a sizable proportion to nonproductive, and often speculative, investments such as real estate, construction, and consumer loans (including automobile loans, stock purchases, and hire purchases).[11] As long as the economy grew at a rapid rate, there was little problem in recovering such loans, but firms with unsound projects were exposed to the risk of economic slowdown and the consequent deterioration of their balance sheets.

Figure 4: Financial Institutions' Claims on Private Sector and Money Supply



GDP = gross domestic product.
Source: International Monetary Fund, *International Financial Statistics,* various issues.

Figure 5: Commercial Banks' and Finance Companies' Claims on Private Sector



Source: International Monetary Fund, *International Financial Statistics*, various issues.

Second, loans were directed to corporations which faced rising debt-equity ratios. Since lending was based on collateral rather than projected cash flows, the large exposure to highly leveraged firms posed a risk of asset price collapse.

Third, the problems on the asset side were compounded by the mismanagement of the liabilities. Commercial banks, BIBF-based foreign banks, and finance companies relied increasingly on domestic and foreign borrowing to supplement the insufficient deposits for extending loans. In particular, foreign borrowing was an important source of funding for commercial banks and finance companies, which extended loans not only to tradable industries but also to nontradable sectors. These institutions essentially engaged in risky maturity and currency transformation, by borrowing short and often in large amounts of unhedged foreign currency and lending *de facto* long in domestic currency (through regular roll-overs of short-term loans) to manufacturing firms and other nontradable business enterprises.[12]

Inadequate regulatory and supervisory frameworks also contributed to the weakness of the financial system. By end-1996, there were reportedly B487 billion in NPLs on the books of commercial banks (11.5 percent of gross loans) and B225 billion on the books of finance companies (15 percent). Most banks and finance companies failed to adopt appropriate loan classification, resulting in vastly understated NPLs, postponed loan-loss provisioning, and continued accrual of interest on NPLs. Regulations governing income recognition on NPLs were also lenient: provisions were far below what would be required to address the rising NPL problems. Reported CARs vastly overstated the true capital positions of both commercial banks and finance companies due to the lack of proper asset classification and provision. In addition, auditing and disclosure practices were weak, resulting in underreported lending to related parties and single borrowers and a limited role for market discipline.

Early Measures of Financial Crisis Resolution

Thailand's economic conditions began to deteriorate visibly from around mid-1996. Exports, formerly the driving force of economic growth, experienced a 1.3 percent yearly decline (US dollar terms) in 1996; in the same year, the current account deficit expanded to 7.9 percent of nominal GDP. The business environment for financial institutions also began to worsen, with an increasingly serious oversupply situation in the real estate market, stagnating share prices, and selling of the baht on the foreign exchange market. Because of the collapse of land and stock prices that began one to two years earlier, a few commercial banks and a large number of finance companies encountered management difficulties. Financial institutions saw their assets turn into bad loans. Some international creditor banks began to cut lending and even refused to roll over their cross-border loans, which in turn aggravated the deteriorating balance sheets of banks and finance companies and threatened financial market stability.

The Bangkok Bank of Commerce (BBC) was the first major commercial bank to experience management difficulties, mainly due to fraud. It was placed under BoT control in May 1996. Although BoT did not use Financial Institutions Development Fund (FIDF) financing at first, it later resorted to it in order to write off part of BBC's bad loans.

The first sign of weakness in finance companies came when the Thai Danu Bank (TDB) announced, in early March 1997, its intended takeover of Finance One, the country's largest finance company, which was experiencing management difficulties. (Ultimately, TDB decided not to take over Finance One because of the latter's questionable financial conditions.) Following the announcement, BoT made public the names of 10 beleaguered finance companies that had serious financial problems. While BoT also declared that other financial companies were financially sound, its action sent a shock wave through

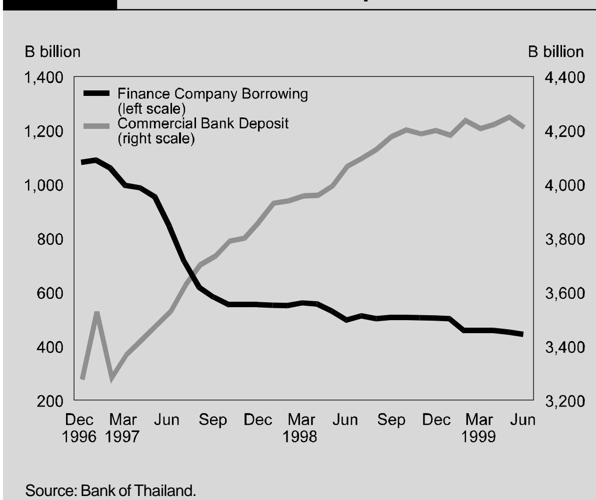
the market. BoT started to provide liquidity support through FIDF for the troubled finance companies[13] as funds began to flee institutions that were perceived as weak. The Government decided to establish the (largely inactive) Property Loan Management Organization (PLMO) in March, with its intended role being to purchase problem loans secured by real estate from the portfolios of financial institutions at market prices, subject to certain conditions.[14]

The problems of finance companies came to the fore in mid-1997, when there was a sharp decline in confidence in the entire financial system. On 27 June, BoT announced that it was suspending the operations of 16 finance companies, including the 10 whose names had been published earlier, and ordered them to restructure their management. It also declared that no other finance companies would be suspended. Nonetheless, it again announced on 4 August that an additional 42 finance companies were directed to suspend their business operations—amounting to a total of 58 out of 91 finance companies—and that it would provide a "temporary guarantee" for the remaining financial institutions as well as "blanket guarantees" to eligible depositors and creditors of suspended financial institutions. The suspended 58 finance companies were required to submit rehabilitation plans by the end of October; they would remain suspended until recapitalized, merged with new domestic or foreign partners, absorbed by a few "core" finance companies, or liquidated after the completion of the due diligence process.

After the devaluation of the baht on 2 July 1997, the business environment for financial institutions deteriorated even further. The corporate borrowers' repayment burden on banks with foreign currency liabilities increased suddenly. Moreover, the corporations also came under enormous financial pressure, since they had substantial foreign currency exposures without hedging against exchange risk. The high-interest rate policy that was introduced in an attempt to maintain the value of the baht increased the domestic-debt servicing obligations of corporate debtors, thereby causing economic activity to slow down and triggering further deterioration in the real estate and stock markets. In addition, the outbreak of the baht crisis was followed by a "flight to quality," as depositors increasingly shifted their funds from financially troubled institutions, particularly from finance companies and weak domestic banks, to quality domestic banks and foreign banks. As a result, finance companies lost large amounts of funds while commercial banks gained deposits (Figure 6). However, within the banking sector, seven middle- and lower-ranked commercial banks experienced a decline in their deposit balances at end-1997 compared with end-1996, while the deposit balances of the leading banks rose.

In retrospect, the various measures taken before the launching of the IMF program were piecemeal and half-hearted and did not stem the growing loss of confidence. FIDF provided nearly B400 billion in liquidity support over several months prior to the suspension of the 58 finance companies, but did not succeed in arresting the financial sector crisis. Some measures inadvertently compounded the scale of the crisis, increasing resolution costs for the Government and raising the danger of contagion from finance companies to the banking sector, thus aggravating the systemic financial crisis and the ensuing sharp economic downturn.

Figure 6: Finance Company Borrowing and Commercial Bank Deposits



Source: Bank of Thailand.

Financial Sector Restructuring

Restructuring of Finance Companies

On 14 October 1997, as part of IMF's standby arrangement conditionalities, the authorities announced a comprehensive strategy for the overall restructuring of the financial sector, with six emergency decrees setting out the legal basis for this strategy. The package aimed to bring Thailand's financial system closer to international standards by 2000. The comprehensive strategy included the following measures:

- Establish the Financial Sector Restructuring Authority (FRA) and the Asset Management Corporation (AMC).
  - – FRA and AMC were established to provide a framework for the early disposal of NPLs held by finance companies and the reconstruction of the financial system.
  - – FRA's role was to (i) order finance companies with inadequate equity or cash flow problems to recapitalize or merge, (ii) provide guarantees for deposits and loans, (iii) invest in finance companies in order to stabilize the payments system, (iv) ease restrictions on foreign ownership of financial institutions and nominate directors, and (v) liquidate the assets of troubled finance companies by offering them for sale to general bidders.
  - – The role of AMC was to purchase, manage, restructure, and sell the assets of failed finance companies. In addition to the acquisition of assets that could not be sold through general bidding by FRA, it would also buy NPLs from financial institutions placed under FIDF ownership or control.
- Announce tightened loan classification rules.
  - – Provisioning was required for all loans more than six months overdue, effective 31 December 1997.
  - – Accrual of interest on NPLs more than six months overdue was prohibited, effective 1 January 1998.
- Initiate the resolution of 58 suspended finance companies.
  - – Memoranda of understanding with all undercapitalized finance companies (and commercial banks) were exchanged with regard to the timetable for raising capital to a required level.
  - – Criteria for assessing the rehabilitation plans and the reopening of the suspended finance companies were established.[15]
  - – Foreign investment in finance companies (and banks) was fully liberalized for 10 years, with amounts invested during this period permanently grandfathered, so as to help recapitalize financial institutions.

FRA obtained and assessed the rehabilitation plans from the 58 suspended finance companies. The criteria it applied were whether or not (i) capital could be raised to the required level, (ii) the funds required for liquidity management could be raised, and (iii) the institution had the capacity to repay loans provided by FIDF.[16] Based on FRA's recommendation made at the end of November, MOF and BoT announced on 8 December that 56 out of the 58 finance companies would be permanently closed.[17] The assets of the closed finance companies were transferred to FRA for quick disposition. FRA did not intend to restructure loans owed to the finance companies because it lacked such an authority and, instead, simply focused on asset disposal through auctions.[18]

In February 1998, FRA began auctioning off the assets of the 56 closed companies. Its plan was to begin with the sale of noncore physical assets (vehicles, art objects, furniture, office equipment, etc.) and financial assets (bonds) and then move to the sale of core assets (hire purchase contracts, residential mortgage loans, and business loans). At end-1999, proceeds from FRA's sale of core and noncore assets totaled B186 billion with the recovery rate of

about 28 percent of the outstanding balance (book value) of about B665 billion. The sale of noncore assets met with considerable success, with the average price of 53 percent of book value, which was well above FRA's own estimates. In a series of core-asset auctions that began in June 1998, FRA disposed of B600 billion of core assets as of November 1999, at an average recovery rate of 25 percent (Table 6). There were multiple bidders for earlier auctions so that AMC did not have to take up assets. However, as the bidder of last resort, AMC took part in the March 1999 auction for the first time. Since then, AMC has purchased core assets totaling B197 billion (B199 billion if noncore assets are included) or one third of the core assets sold by FRA, at an average of 17 percent of face value.[19]

In January 1998, the Cabinet approved the creation of a fully Government-owned "good bank," Radanasin Bank (RSB), in order to preserve the value of domestic assets against fire-sale prices resulting from the time constraint of the liquidation process. RSB was mandated to purchase and manage the good assets of the 56 closed finance companies.[20] It commenced business in March. The initial Government ownership of RSB would later be diluted through sale of shares to the public. One of RSB's prominent advantages was a clean balance sheet.[21]

BoT intervened in seven finance companies with solvency problems in May 1998 (see Table 7 for a summary of resolution measures taken for the troubled finance companies).[22] Krung Thai Thanakit (KTT), a subsidiary of Krung Thai Bank (KTB), agreed to purchase the assets of the seven finance companies at their market value, and would be granted a bank license. However, resolution plans for the seven finance companies were not clearly laid out.

In August 1998, when the comprehensive financial sector restructuring program was announced, an additional five finance companies were identified as nonviable, partly because they failed to raise new capital.[23] BoT ordered them to write down capital and to reduce their value per share to one satang (one hundredth of one baht). These finance companies, the seven finance companies BoT intervened earlier, and the newly taken-over Union Bank of Bangkok (UBB) were to be managed and eventually integrated with KTT to form a new bank—Bank Thai (BTH), formed in April 1999.

In September 1999, Thai Farmers Bank (TFB) reached an agreement with FIDF on the winding down of its wholly owned finance company, Phatra Thanakit (PT), and the allocation of losses. FIDF agreed to provide up to B4.4 billion to cover PT's losses on B30.8 billion in NPLs (net book value), with TFB covering any shortfalls.

BoT demonstrated its intention to intervene further, if necessary, in the remaining finance companies deemed nonviable and to encourage mergers among themselves or with a bank. Some of the incentives under consideration are (i) offering a commercial banking license to merged companies that

Table 6: FRA's Core Asset Auction Results and Sales to AMC

		Auction Sales of Core Assets			Sales to AMC		
Bid Date	Type of Core Asset	Book Value (B billion)	Bid Price (B billion)	Recovery Value (Percent)	Book Value (B billion)	Sales Price (B billion)	Recovery Value (Percent)
25 Jun 1998	Auto hire purchase contracts	51.8	24.9	48.0			
13 Aug 1998	Residential mortgage loans	24.6	11.56	46.8			
15 Dec 1998	Business loans (1st round)	155.7	39.0	25.0			
19 Mar 1999	Business loans (2nd round)	221.5	40.3	18.2	185.4	31.1	16.8
06 Jul 1999	Construction loans	1.3	0.2	12.2	1.0	0.2	15.2
11 Aug 1999	Commercial and other loans (1st round)	129.0	31.0	24.0	2.5	0.9	34.5
11 Nov 1999	Commercial and other loans (2nd round)	16.3	5.4	32.9	8.2	1.6	19.8
	Total	**600.2**	**152.2**	**25.4**	**197.0**	**33.7**	**17.1**

AMC = Asset Management Corporation, FRA = Financial Sector Restructuring Authority.
Source: Financial Sector Restructuring Authority.

Table 7: **Resolution Measures for Troubled Finance Companies**

Date	Resolution Measures	Number of Finance Companies	
		Private	State-owned
1997			
June	• 16 finance companies suspended.	90	2
August	• 42 finance companies suspended.	90	2
December	• Of the 58 suspended finance companies:		
	– 56 finance companies to be closed.	34	2
	– 2 finance companies to be reopened (in March 1998).[a]		
1998			
January	• Radanatun created.	34	3
May	• 7 finance companies intervened and ordered a capital write-down, recapitalization through the conversion of FIDF debt into equity, and a change in management.[b]	34	3
	• 5 finance companies intervened and ordered a capital write-down, recapitalization through the conversion of FIDF debt into equity, and a change in management.[c]	34	3
August	• The 12 intervened finance companies, together with Union Bank of Bangkok (UBB) to be consolidated with Krung Thai Thanakit (KTT).	22	3
1999			
April	• Bank Thai formed following the merger of Union Bank of Bangkok (UBB) and 12 finance companies with KTT.	22	2
August	• Ocean Finance closed.	22	1
September	• Phatra Thanakit (PT) to be wound down.	20	1

FIDF = Financial Institutions Development Fund.
[a] The two finance companies to be reopened were Kitnakin Finance and Securities, and Bangkok Investment.
[b] The seven intervened finance companies were Union Asia Finance and Securities, Nava Finance and Securities, Mahatun Finance, Bangkok Asian Finance, KSIT Finance and Securities, Erawan Trust, and Progressive Finance.
[c] The five intervened finance companies were Dhana Siam Finance and Securities, First City Investment, IFCT Finance and Securities, Vichirathanatun Finance, and Thai Summit Finance and Securities.
Sources: Bank of Thailand, International Monetary Fund, and World Bank.

meet a minimum capital requirement, (ii) matching Government contributions for the capital placed by the acquiring institution, and (iii) providing stop-loss guarantees for the acquiring institution for the first few years of operation.

Restructuring of Commercial Banks

Although the authorities began to deal with the problems of finance companies in early 1997, they had not systematically addressed the insolvency issues of small and medium-size commercial banks until August 1998. The approach until then was piecemeal and gradual. In the last three months of 1997, to restore banking system stability, BoT decided to require recapitalization of undercapitalized financial institutions. For this purpose, foreign equity investment in financial institutions was fully liberalized for a period of 10 years.[24]

In March 1998, BoT issued rules in line with international best practices governing loan classification and provisioning, and interest accrual for banks and finance companies (Box 1). As part of stricter rules of loan classification and provisioning standards, BoT had required banks to set provisioning for all loans more than six months overdue (effective 31 December 1997) and prohibited the accrual of interest on loans more than six months overdue (effective 1 January 1998).[25] The period was subsequently reduced to three months (effective 1 July 1998), which was the US standard. The authorities also announced that they would continue to strengthen the financial system by (i) introducing international standards for loan classification and provisioning rules, which would be phased in through end-2000 (end-2000 LCP rules);[26] (ii) establishing a deposit insurance scheme; and (iii) amending the bankruptcy law for expediting foreclosure. Essentially, loan-loss provisioning requirements were allowed to be phased in progressively through end-2000, as a form of regulatory forbearance.

Box 1: Bank of Thailand Loan Classification and Provisioning Rules (31 March 1998)

Asset Classification: As of 1 July 1998, all accounts on which interest or principal due have not been received within three months (as opposed to six months as required previously) from the due date, will be recorded as nonperforming. Such accounts will also include those that are not overdue by more than three months, but for which uncertainties have arisen about the borrowers' ability to meet interest and repayment obligations (cessation of business, bankruptcy, etc.).
Income Recognition: As of 1 January 1999, interest overdue for more than three months will not be recognized as income; as of 1 January 2000, interest recorded as income but not received will be removed from income.
Loan-loss Provisioning: The new rules require that all accounts be classified into five categories: pass, special mention, substandard, doubtful, and loss.

Classification	Period Overdue	Old Level of Provision (%)	New Level of Provision (%)
Pass	under 1 month	0	1
Special mention	1-3 months	0	2
Substandard	3-6 months	15-20	20
Doubtful	6-12 months	100	50
Loss	over 12 months	100 (or write-off)	100 (or write-off)

Phase-in: These requirements are more stringent than many other countries', as none of the provisions would qualify for tier-2 capital. However, the amount of provisioning needed comes into effect gradually.

For the second half of 1998, the financial institutions must set aside 20 percent of the required provisions. The requirement will then increase by 20 percentage points every six months until the amount fully satisfies the requirement in the second half of 2000 (end-2000 loan classification and provisioning [LCP] rules).
Comprehensive Financial Sector Restructuring: Announced on 14 August 1998, it stated that financial institutions that adopted up front the end-2000 LCP standards would be entitled to obtain public funds for tier-1 recapitalization.

Source: International Monetary Fund.

In early 1998, four Thai commercial banks (Bangkok Metropolitan Bank [BMB] in January; BBC, Siam City Bank [SCIB], and First Bangkok City Bank [FBCB] in February) were considered critically undercapitalized because they were unable to meet loan-loss provisioning rules and recapitalization deadlines (see Table 8 for a summary of resolution measures adopted for the troubled commercial banks). By May, BoT had intervened in the four banks after writing off bad loans by reducing shareholder capital to the legal minimum. BoT then converted FIDF loans to these banks into equity and injected additional capital (*de facto* nationalization). However, clear resolution measures with regard to the four intervened banks were not announced. The remaining 11 commercial banks were under pressure for recapitalization and rehabilitation on their own.

Given the lack of promising sources of new capital in Thailand, share issues were increasingly being underwritten by foreign financial institutions. Bangkok Bank (BBL), TFB, SCIB, and Nakornthon Bank (NTB) all increased their foreign ownership ratios, although they intended to keep foreign shareholdings below 50 percent for the time being. Indeed, BBL and TFB raised tier-1 and tier-2 capital in the international markets. There are banks with foreign ownership limits above 50 percent. Development Bank of Singapore acquired 50.27 percent of shares in TDB in January 1998, while ABN-AMRO Bank of the Netherlands acquired a 75 percent stake in Bank of Asia in June 1998.

The Financial Sector Restructuring Program of 14 August 1998

To address the deteriorating conditions in the financial sector, MOF and BoT announced on 14 August 1998 a comprehensive financial sector restructuring program. The program focused on a wide range of immediate measures to (i) resolve the financial crisis, (ii) stabilize banks' deposit base, and (iii) restore credit flows to productive sectors of the economy. It contained four major components. First, capital ad-

Table 8: Resolution Measures for Troubled Commercial Banks

Date	Resolution Measures	Number of Commercial Banks		
		Private[a]	Intervened	State-owned
1996				
May	• Bangkok Bank of Commerce (BBC) placed under BoT control.	13	1	1
1998				
January	• A new State-owned commercial bank, Radanasin (RSB), created.	13	1	2
	• Thai Danu Bank (50.3% of shares) acquired by the Development Bank of Singapore.	13(1)	1	2
	• Bangkok Metropolitan Bank (BMB) intervened and ordered to conduct a capital write-down and immediate recapitalization.	12(1)	2	2
February	• Siam City Bank (SCIB), BBC, and First Bangkok City Bank (FBCB) ordered to conduct a capital write-down and immediate recapitalization.	10(1)	4	2
June	• Bank of Asia (75% of shares) acquired by ABN-AMRO Bank.	10(2)	4	2
August	• Union Bank of Bangkok (UBB) and Laem Thong Bank (LTB) intervened.	8(2)	6	2
	• LTB to be merged with RSB.	8(2)	5	2
	• UBB, together with 12 intervened finance companies, to be consolidated with Krung Thai Thanakit (KTT) to form a new bank.	8(2)	4	2
	• FBCB to be acquired fully by Krung Thai Bank (KTB).	8(2)	3	2
	• BBC to be closed.	8(2)	2	2
	• BMB and SCIB to be recapitalized to satisfy the end-2000 LCP rules and offered for sale, with NPLs covered by yield maintenance and loss-sharing arrangements.	8(2)	2	2
1999				
April	• Bank Thai formed following the merger of UBB and 12 finance companies with KTT.	8(2)	2	3
May	• Siam Commercial Bank (SCB) injected with tier-1 capital support.	8(2)	2	3
July	• Nakornthon Bank (NTB) intervened and ordered to conduct a capital write-down and recapitalization by FIDF.	7(2)	3	3
September	• Sale of NTB (75%) to Standard Chartered Bank finalized.	8(3)	2	3
November	• Sale of RSB (75%) to United Overseas Bank of Singapore finalized.	9(4)	2	2

[a] Numbers in parentheses are the numbers of private foreign banks that were originally domestically owned.
Sources: Bank of Thailand, International Monetary Fund, and World Bank.

equacy requirements were eased and brought in line with international (Basle) standards by lowering tier-1 capital requirements for banks. Second, the Government earmarked B300 billion for two capital support schemes (tier-1 and tier-2 schemes), with the tier-2 scheme linked to progress in corporate debt restructuring. Third, financial institutions were allowed to establish individual asset management companies. Fourth, the consolidation of the banks and the finance companies was to be accelerated through additional BoT interventions and proposed mergers.

Capital adequacy ratios. The overall CAR was to remain at 8.5 percent for banks (slightly above Basle standards) and at 8 percent for finance companies. But tier-1 capital requirements for banks were lowered from 6 to 4.25 percent, and the tier-2 component was raised from 2.5 to 4.25 percent in line with Basle standards. The 1 percent provisioning requirement for performing loans was to qualify for tier-2 capital. For institutions that fell below the regulatory minimum requirements, the Government would reserve the right to convert debentures into tier-1 equity.

Capital support facilities. The objective of the capital support schemes was to encourage recapitalization of Thai commercial banks and finance companies, thereby restoring and maintaining their solvency. The tier-1 capital support facility was aimed at catalyzing the entry of private capital, whereas the tier-2 capital support facility was aimed at providing financial resources and incentives to accelerate corporate debt restructuring. Under the tier-1 scheme, for participating institutions, the Government would purchase shares, in tradable bonds, to bring

tier-1 capital up to 2.5 percent; beyond this level, it would purchase preferred shares by matching the amount invested by the private sector (local or foreign) on a 1:1 basis. The most important condition for participation in the tier-1 scheme was the financial institutions' up-front adoption of end-2000 LCP rules and write-down of shareholder equity.[27] Private investors were to have a three-year buyback option for the Government shares "at a price based on the Government's cost plus carrying cost." Under the tier-2 scheme, which was aimed at speeding up the corporate restructuring process, the Government would inject capital through the exchange of nontradable Government bonds for bank debentures for a maximum of 2 percent of risk-weighted assets. The amount of funds available would be based on the magnitude of (i) the write-offs resulting from corporate debt restructuring, net of previous provisioning; and (ii) the net increase in lending to the private sector. The availability of tier-2 capital support would decline over time to encourage early debt restructuring and new net lending. If institutions were to adopt up front the end-2000 LCP rules, they would be allowed to phase write-offs for debt restructuring over a five-year period.

Facilitating and establishing private AMCs. The Government would provide a framework for voluntarily removing bad assets from private banks' balance sheets through private asset management companies (AMCs) wholly owned and managed by the parent financial institutions. AMCs are defined as financial institutions in order to allow them to borrow (excluding deposit taking) and relend funds (only to existing customers) as well as to give them full flexibility in setting their interest rates. They provide a channel for banks to separate the "good assets" from the "bad assets," improve the bank's balance sheets and asset quality, and concentrate on future businesses of the "good banks."

Resolution of troubled banks and finance companies. BoT intervened in 2 more banks (UBB and Laem Thong Bank [LTB]) and 5 more finance companies, bringing the total number of financial institutions in which the Government intervened to 18 (6 banks and 12 finance companies). BMB and SCIB would be sold to strategic investors after (i) the end-2000 LCP rules were brought forward and (ii) recapitalization through a debt-to-equity conversion of outstanding FIDF loans conducted. The Government would provide a loss-sharing or stop-loss guarantee on NPLs as well as a guaranteed annual yield to service the liabilities. FBCB would be absorbed by KTB under the same loss-sharing arrangement. BBC would be liquidated and all its performing assets and liabilities transferred to KTB, while its staff, branches, and nonperforming assets would remain in BBC, which would be turned into a special financial institution owned by FIDF. UBB and the 12 intervened finance companies would be absorbed by KTT, after full provisioning and recapitalization up to 8.5 and 8 percent, respectively, which would later form a new bank, Bank Thai (BTH). LTB would be taken over by RSB after full provisioning and recapitalization up to 8.5 percent. The Government would seek a strategic investor for RSB, and prepare privatization of KTB and BTH.

Progress Since the 14 August 1998 Program

Capital support facility. Thus far, private commercial banks have been reluctant to take advantage of the 14 August capital support schemes, particularly the tier-1 scheme that would require banks to recognize losses up front and to write down their shareholder equity, thus diluting ownership control and inviting Government interference, in return for public recapitalization. While several banks announced their intention to participate, to date only SCIB has received tier-1 capital support. Of SCIB's recapitalization amounting to B65 billion, half came from the Government under tier-1 support, and a matching amount was raised from private investors.[28] SCIB also joined the tier-2 capital support scheme in the fall of 1998, to make progress with

corporate debt restructuring, while Bank of Ayudhya (BAY) has announced its interest in taking advantage of the tier-2 scheme.

Other private banks have instead raised capital on their own in the form of equity, innovative tier-1 capital, and tier-2 capital. They have not applied for the capital support program for fear of dilution of share ownership and excessive State interference. BBL, TFB, and BAY all raised about B214 billion in capital by May 1999, partly in the form of quasi-equity instruments, such as Capital Augmented Preferred Securities (CAPS) and Stapled Limited Interest Preferred Securities (SLIPS). The issues for BBL and TFB were successful among investors, as the CAPS/SLIPS paid a relatively high rate of return.[29] CAPS and SLIPS were also attractive to bank owners because they boosted their CARs while preventing loss of control. Yet, this form of capital is expensive; together with the carrying cost for the large amount of NPLs, it can strain banks' preprovision profits and hence their capacity to maintain adequate capital.

In June 1999, the 14 August capital support program was amended to make it more attractive. The key change was the expansion of the types of capital that would qualify to match the injection of public funds to include any tier-1 capital already raised via SLIPS and CAPS. The change improved market sentiment by signaling that public funds were available if the banks were unable to raise sufficient capital by themselves. However, only B81 billion (27 percent of the total funds available) have been utilized thus far.

Policy measures adopted to encourage the banks to set up private AMCs. The Government recently eliminated tax impediments to the establishment and operation of a bank's majority-owned AMC, an alternative to managing the NPLs in-house. BoT released a new regulation in early January 2000, which allowed (i) private banks to transfer loans to their majority-owned AMCs at net book value (book value less provision currently required under the phased-in forbearance program), and (ii) AMCs to engage in more activities, such as lending to borrowers to complement a debt-restructuring transaction. As a result several banks have moved forward in using private AMCs. To date, 7 out of 11 Thai commercial banks have either established or expressed their intention to establish AMCs. BBL has created a wholly owned AMC with registered capital of B500 million, which initially managed BBL's foreclosed properties. TFB has created two AMCs: Thonburi, which manages the worst one third of its NPLs, and Chantaburi, which manages NPLs from Phatra Thanakit, its recently closed finance company.[30] SCB has obtained an approval to create a wholly owned AMC, Chatuchak Asset Management Ltd.

The benefit of establishing such private AMCs is that it allows bank management to focus on the good bank and new lending, while attracting superior and dedicated management to perform the specialized task of resolving NPLs. The scheme enables NPLs to be valued at market prices, and requires recapitalization to cover the losses beyond existing provisions on transferred NPLs. The current regulation allows the remainder of loan losses to be taken in the AMC, not in the bank.

Resolution of intervened banks. Early in 1999, SCIB, BMB, and RSB increased their capital through debt-to-equity swaps from FIDF, hired privatization advisors, and began to prepare the sales process. BoT had agreed on loss-sharing or stop-loss guarantees on NPLs that would be applied to strategic investors interested in buying the three banks. In July 1999, BoT intervened another bank, NTB, which had failed to negotiate with foreign strategic investors for a buy-in, and ordered a capital write-down and recapitalization by FIDF.

To restore international confidence in the financial system, the Government initiated the sales process for the four intervened banks by providing public resources. NTB was the first bank that was acquired by a foreign strategic investor, Standard Chartered Bank, which agreed in September to purchase a 75 percent stake for B12.38 billion. The transaction was structured so that FIDF would bear

85 percent of the loss and enjoy 95 percent of the gain on the ultimate resolution of the existing NPL portfolio against benchmark valuations. FIDF would also cover the carrying cost, otherwise known as yield maintenance, of the existing NPLs until they were resolved. In another transaction, United Overseas Bank of Singapore (UOB) agreed in November to purchase RSB under another structure: UOB would pay B6.5 billion for a 75 percent stake in RSB; RSB would have a limited time period to put NPLs at book value into an FIDF-owned AMC; and UOB would receive a 0.1 percent fee to manage the AMC and would share in the AMC's profits and losses—5 and 15 percent, respectively. Both transaction structures were designed to postpone the sizing and recognition of losses in these institutions by FIDF, thus attracting investor interest. The Government would write checks to the purchasers over time.

BMB and SCIB are expected to be sold under similar transaction structures.[31] Table 9 summarizes commercial banks' status at end-June 1999 and their assets and estimated NPLs.

Recapitalization and operational restructuring of State-owned banks. The Government plans to privatize two State-owned commercial banks, KTB and BTH, in the next two years after they undergo operational restructuring and recapitalization. However, only limited progress has been made in organizational and operational restructuring. The two institu-

Table 9: Status, Assets, and NPLs[a] of Commercial Banks Incorporated in Thailand

Commercial Banks Incorporated in Thailand	Ownership		Total Assets (B million)	
	Dec 1997	Jun 1999	Dec 1997	Jun 1999
Bangkok Bank (BBL)	Private	Private	1,408,619	1,232,656
Thai Farmers Bank (TFB)	Private	Private	795,385	734,104
Krung Thai Bank (KTB)	State-owned	State-owned	792,664	1,040,656
Siam Commercial Bank (SCB)	Private	Semiprivate	717,240	710,106
Bank of Ayudhya (BAY)	Private	Private	493,890	463,434
Thai Military Bank (TMB)	Semiprivate	Semiprivate	389,476	336,694
First Bangkok City Bank (FBCB)	Private	Merged with KTB	316,145	
Siam City Bank (SCIB)	Private	Intervened	272,124	275,715
Bangkok Metropolitan Bank (BMB)	Private	Intervened	190,560	161,120
Bank of Asia (BOA)	Private	Private (majority foreign-owned)	156,644	158,243
Bangkok Bank of Commerce (BBC)	Private	Closed	145,971	
Thai Danu Bank (TDB)	Private	Private (majority foreign-owned)	130,266	118,414
Nakornthon Bank (NTB)	Private	Private (foreign-owned)	73,799	57,720
Union Bank of Bangkok (UBB)	Private	State-owned (part of BTH)	73,284	
Laem Thong Bank (LTB)	Private	Merged with RSB	51,942	
Bank Thai		State-owned		240,612
Radanasin Bank		State-owned (to be foreign-owned)		52,846
Total			**6,008,009**	**5,582,320**

[a] Nonperforming loans (NPLs) are defined as loans six months in arrears for December 1997, and loans three months past due for June 1999.
Source: Bangkok Bank, *Commercial Banks in Thailand 1998*; various other sources.

tions have been offered protection against losses from assets they acquired, and additional capital has been injected into them. In the case of KTB, the Government had agreed, as part of the 14 August 1998 resolution measures, to inject a total of B185 billion of capital as compensation for its acquisition of FBCB and performing assets of BBC. KTB announced in late 1998 that it had completed the first stage of its recapitalization, receiving B77 billion from FIDF. In August 1999, the second stage of KTB's recapitalization, in the amount of B108 billion, was approved without a write-down of existing capital. The Government then shifted ownership of KTB to MOF. It plans to transfer a substantial amount of NPLs to a new AMC, a wholly owned subsidiary of FIDF.

Restoring a Healthy Financial System

The stability of the financial system has been severely damaged by the crisis. Financial institutions carry large NPLs on their balance sheets, continue to face capital shortfalls, and may pose a serious risk to, or even significantly delay the process of, a sustained economic recovery. It is vital for the financial system to resolve NPLs, to recapitalize adequately, and to provide the engine for sustained recovery.

NPLs still large. Official numbers based on the three-month overdue definition were not available until end-June 1998, when the total financial system NPLs amounted to 32.7 percent of total loans. With continued stagnation of economic activity and delays in corporate debt restructuring, total finan-

Total NPLs (B million)		NPLs/Loans (%)		
Dec 1997	Jun 1999	Dec 1997	Jun 1999	Resolution Measures, Recapitalization, and Foreign Ownership
180,572	461,382	16.8	49.2	New share issues accompanied by an increase in foreign ownership ratio from 25% to 49%.
105,379	236,545	17.3	42.1	New share issues purchased by European banks; wholly owned asset management company (AMC) to be created.
148,412	393,484	21.6	59.3	To be privatized after operational restructuring and recapitalization.
66,403	154,432	11.7	29.4	Foreign ownership ratio increased to 49%; tier-1 capital support injected in May 1999.
55,147	135,615	13.6	36.3	
46,908	93,198	15.5	31.3	
130,834		45.4		Intervened in February 1998; merged with KTB in August 1998.
70,401	174,701	30.1	71.9	Intervened in February 1998.
62,688	132,671	33.4	73.0	Intervened in January 1998.
16,886	59,942	12.6	47.1	75% of shares acquired by ABN-AMRO in June 1998.
45,417		30.5		Placed under BoT control in May 1996; intervened in February 1998; and closed in August 1998.
16,534	57,958	14.3	55.2	50.25% of shares acquired by the Development Bank of Singapore in January 1998.
6,357	29,393	10.6	54.7	Intervened in July 1999; sale to Standard Chartered Bank finalized in September 1999.
14,279		24.8		Intervened in August 1998; to be merged, together with 12 finance companies, with Krung Thai Thanakit (KTT) to form Bank Thai (BTH).
23,621		55.9		Intervened in August 1998; to be taken over by RSB.
	207,344		84.2	To be privatized after operational restructuring and recapitalization.
	39,356		85.4	Sale to the United Overseas Bank of Singapore finalized in November 1999.
989,838	**2,176,021**	**20.1**	**54.5**	

cial institution NPLs grew in 1998 and the first half of 1999, reaching a peak of B2.73 trillion, or 47.7 percent of total loans, at end-May 1999. The NPL ratios were 42.8 percent for the relatively "healthy" eight private banks, 69.4 percent for intervened banks plus KTB, and 67.2 percent for the remaining finance companies. Only foreign banks registered a low NPL ratio at 12 percent of total loans (Table 10).

In the second half of 1999, amounts of restructured NPLs continued to climb, and NPLs gradually came down to 38.5 percent of total loans at end-1999.[32] Although the worst is over, the problem remains large.

Large NPLs have constrained both the financial system's capacity to maintain capital and its ability to lend, as many institutions have tended to preserve less risky investment by shifting their assets from loans to Government securities. They have also induced banks and finance companies to engage in restructuring without immediately recognizing full losses.[33] Early resolution of NPLs is vital to restoring the health of the financial system's capacity to maintain capital and its ability to lend, as many institutions have tended to preserve less risky investment by shifting their assets from loans to Government securities.

Although the Government decided not to create a centralized AMC for the banking sector, it encourages commercial banks to establish their own AMCs. While many private banks have created or are in the process of creating their own AMCs, the Govern-

Table 10: Reported NPLs[a] of Financial Institutions

Item	1998 June	July	August	September	October	November	December
Total Commercial Banks	1,832,518	1,924,842	1,996,123	2,149,158	2,252,943	2,352,674	2,350,842
Domestic Commercial Banks	1,780,260	1,867,406	1,936,294	2,086,016	2,188,168	2,283,199	2,276,598
Private Banks[b]	994,230	1,053,415	1,094,923	1,165,549	1,221,798	1,276,726	1,239,944
State-owned and Intervened Banks[c]	786,030	813,991	841,371	920,467	966,370	1,006,473	1,036,654
Foreign Full Branch Banks	52,258	57,436	59,829	63,142	64,775	69,475	74,244
Total Finance Companies[d]	257,784	268,315	280,803	288,987	299,433	313,907	323,691
Total Financial Institutions	**2,090,302**	**2,193,157**	**2,276,926**	**2,438,145**	**2,552,376**	**2,666,581**	**2,674,533**
Total Commercial Banks	5,904,212	5,802,670	5,804,993	5,667,830	5,558,947	5,479,445	5,479,839
Domestic Commercial Banks	4,959,638	4,893,742	4,902,835	4,829,632	4,754,392	4,710,959	4,723,335
Private Banks[b]	3,293,330	3,230,749	3,228,600	3,160,182	3,096,705	3,059,341	3,063,267
State-owned and Intervened Banks[c]	1,666,308	1,662,993	1,674,235	1,669,450	1,657,687	1,651,618	1,660,068
Foreign Full Branch Banks	944,573	908,928	902,158	838,198	804,555	768,486	756,505
Total Finance Companies[d]	489,786	487,447	484,339	478,807	472,691	469,810	461,365
Total Financial Institutions	**6,393,998**	**6,290,117**	**6,289,332**	**6,146,637**	**6,031,638**	**5,949,255**	**5,941,205**
Total Commercial Banks	31.0	33.2	34.4	37.9	40.5	42.5	42.9
Domestic Commercial Banks	35.9	38.2	39.5	43.2	46.0	48.5	48.2
Private Banks[b]	30.2	32.6	33.9	36.9	39.5	41.7	40.5
State-owned and Intervened Banks[c]	47.2	49.0	50.3	55.1	58.3	60.9	62.5
Foreign Full Branch Banks	5.5	6.3	6.6	7.5	8.1	9.0	9.8
Total Finance Companies[d]	52.6	55.0	58.0	60.4	63.4	66.8	70.2
Total Financial Institutions	**32.7**	**34.9**	**36.2**	**39.7**	**42.3**	**44.8**	**45.0**

[a] Nonperforming loans (NPLs) are defined as loans three months past due.
[b] Private banks are Bangkok Bank (BBL), Thai Farmers Bank (TFB), Siam Commercial Bank (SCB), Bank of Ayudhya (BAY), Thai Military Bank (TMB), Bank of Asia (BOA), Thai Danu Bank (TDB), and Nakornthon Bank (NTB). NTB was intervened in July 1999 and reprivatized in September 1999. RSB became a private bank in November 1999.
[c] State-owned and intervened banks are Krung Thai Bank (KTB), Siam City Bank (SCIB), Bangkok Metropolitan Bank (BMB), Union Bank of Bangkok (UBB) which together with 12 intervened finance companies was ordered to merge with Krung Thai Thanakit (KTT) in August 1998 and to form Bank Thai (BTH), Laem Thong Bank (LTB) which was ordered to merge with RSB in August 1998, and Radanasin Bank (RSB).
[d] The 12 intervened finance companies were merged, together with the Union Bank of Bangkok (UBB), with Krung Thai Thanakit (KTT), which was later transformed into Bank Thai (BTH). As a result, these 12 institutions' NPLs were removed from finance companies and added to the NPLs of State-owned and intervened banks, beginning February 1999
Source: Bank of Thailand.

ment also plans to create several public AMCs that will take over NPLs from closed and State-owned banks (BBC, KTB, and RB). The Government may create more AMCs at the time of the sale of the remaining two intervened banks (BMB and SCIB). The current Government policy of encouraging a proliferation of private and FIDF-supported AMCs cannot be successful in cleaning up bank balance sheets and achieving high asset recovery unless strong governance and transparency are maintained within the banks that opt to create their own AMCs; the policy cannot be successful unless the Government provides substantial coordination and financial support. There are several reasons for these requirements. First, without transferring NPLs at market values, the private-AMC approach would simply delay recognition of losses, thus leaving the consolidated balance sheet impaired. On the other hand, to induce a bank to recognize losses at the time of NPL transfer, public resources may need to be injected into the bank or AMC. Second, without clear separation of responsibilities to manage and dispose of NPLs between the bank and its own AMC, there is a potential risk of fraud and abuse. Third, while competition among creditors, private AMCs, and FIDF-supported AMCs to dispose of assets quickly may benefit investors who acquire the assets, there is a risk that the lack of coordination among the holders of NPLs to the same borrower may result in lower recovery values.

Given the systemic nature of the bank NPL problem, there is a greater need for strong Government

1999 January	February	March	April	May	June	July	August	September	October	November	December
NPLs (B million)											
2,349,592	2,530,378	2,537,447	2,533,796	2,557,280	2,482,768	2,482,448	2,457,042	2,361,652	2,322,019	2,230,042	1,983,937
2,271,335	2,451,605	2,451,987	2,449,251	2,472,295	2,396,014	2,390,809	2,363,097	2,279,841	2,243,124	2,155,841	1,922,936
1,281,382	1,295,209	1,293,788	1,294,415	1,302,420	1,222,689	1,215,086	1,208,858	1,128,742	1,104,572	1,072,722	886,898
989,953	1,156,396	1,158,199	1,154,837	1,169,874	1,173,325	1,175,723	1,154,239	1,151,098	1,138,552	1,083,119	1,036,039
78,257	78,773	85,460	84,545	84,985	86,754	91,639	93,945	81,811	78,895	74,201	61,001
331,318	170,011	170,645	169,188	172,081	168,072	169,473	161,904	150,150	105,835	102,310	90,030
2,680,910	**2,700,389**	**2,708,092**	**2,702,984**	**2,729,361**	**2,650,840**	**2,651,921**	**2,618,946**	**2,511,802**	**2,427,854**	**2,332,352**	**2,073,967**
Total Loans (B million)											
5,341,347	5,522,579	5,497,601	5,481,698	5,465,696	5,341,317	5,358,383	5,354,064	5,414,308	5,383,839	5,362,817	5,197,943
4,569,259	4,755,734	4,755,122	4,751,874	4,728,074	4,651,085	4,651,773	4,654,395	4,704,863	4,696,804	4,682,370	4,576,299
3,048,613	3,050,132	3,058,031	3,046,231	3,041,325	2,980,358	2,973,859	2,972,280	2,949,540	2,952,308	2,992,560	2,893,746
1,520,645	1,705,602	1,697,091	1,705,643	1,686,751	1,670,728	1,677,915	1,682,115	1,755,323	1,744,496	1,689,810	1,682,553
772,088	766,845	742,479	729,824	737,622	690,232	706,610	699,669	709,445	687,035	680,447	621,644
460,599	259,930	260,482	257,472	256,159	249,904	248,558	240,840	241,159	188,651	187,754	183,106
5,801,946	**5,782,509**	**5,758,083**	**5,739,170**	**5,721,855**	**5,591,221**	**5,606,941**	**5,594,904**	**5,655,467**	**5,572,490**	**5,550,571**	**5,381,049**
NPLs/Total Loans (%)											
44.0	45.8	46.2	46.2	46.8	46.5	46.3	45.9	43.6	43.1	41.6	38.2
49.7	51.6	51.6	51.5	52.3	51.5	51.4	50.8	48.5	47.8	46.0	42.0
42.0	42.5	42.3	42.5	42.8	41.0	40.9	40.7	38.3	37.4	35.8	30.6
65.1	67.8	68.2	67.7	69.4	70.2	70.1	68.6	65.6	65.3	64.1	61.6
10.1	10.3	11.5	11.6	11.5	12.6	13.0	13.4	11.5	11.5	10.9	9.8
71.9	65.4	65.5	65.7	67.2	67.3	68.2	67.2	62.3	56.1	54.5	49.2
46.2	**46.7**	**47.0**	**47.1**	**47.7**	**47.4**	**47.3**	**46.8**	**44.4**	**43.6**	**42.0**	**38.5**

coordination or even for centralizing resolution of NPL problems in a Government agency, since the Government is increasingly becoming a large holder of assets. It now holds, through ownership of KTB and BTH, 23 percent of total banking sector assets; or 31 percent if intervened banks BMB and SCIB are included.[34] Through coordination or centralization, economies of scale in asset management can be exploited, consistency and transparency maintained, and strategies to maximize recovery value developed, thus reducing the risk of different creditors and individual AMCs competing to drive down sales value.

Bank recapitalization needs. BoT recently reported that from January 1998 to July 1999, the 13 commercial banks raised a total of B732 billion in tier-1 capital. The private banks obtained B305 billion (90 percent of their regulatory minimum tier-1 capital) while three intervened banks plus three State-owned banks received B427 billion in tier-1 official recapitalization (53 percent of their projected recapitalization). This implies that the banking sector has about two thirds of its minimum recapitalization needs, estimated to be B1,120 billion (assuming a 60 percent loss rate on NPLs in State-owned and intervened banks and a 40 percent loss rate on NPLs in private banks). Intervened and State-owned banks must raise another B360 billion and private banks B30 billion to satisfy the regulatory minimum CAR.[35]

Although private banks are now largely in compliance with phased-in capital adequacy requirements and are not expected to raise a huge amount of additional capital to satisfy end-2000 LCP rules, in reality they still face significant capital shortfalls. The reason is that banks' regulatory CAR requirements tend to understate their true capital needs. This, in turn, is due to several factors. First, existing loan-loss coverage is largely made up of collateral of inflated value and thus is insufficient. Banks are required to form provisions against NPLs, net of collateral based on the book value reported by banks for regulatory purposes. Because the reported book value of collateral is overstated, banks would be forced to write down their capital when recognizing the losses on their NPLs. Second, the provisioning guidelines are backward-looking; loans are classified according to the number of months payments are due rather than on the present value of future expected cash flows from the loan, discounted at the effective interest rate on the loan contract. Under international accounting standards, the impaired loans would be marked down to the present value of future expected cash flows from the loan. The implication is a further capital shortfall. Third, the regulatory CAR requirements underestimate the impact of both entry of new NPLs into the system and NPL aging (further deterioration of the existing NPLs) on loan-loss provisioning needs. With slow and inadequate corporate debt restructuring, the existing NPLs tend to age into high-risk categories and some of the restructured debts return to NPL status, thus requiring further provisioning and exacerbating capital shortfalls.

It is crucial that full provisioning be achieved by all commercial banks and finance companies so that loan portfolios can be cleaned up and losses fully absorbed. Hence, it is important that banks must fully complete the recapitalization process. International experience suggests that rapid absorption or recognition of losses and aggressive restructuring would accelerate economic recovery over the medium term, as it facilitates real sector restructuring and restores bank lending capacity. If recapitalization and loss absorption enhancement continue to be delayed, a financially weak banking system may impede sustainable corporate restructuring and hamper economic recovery.

Restructuring of State-owned commercial banks. State-owned commercial banks, particularly KTB, need to be more decisive in both operational restructuring and NPL resolution. Without operational restructuring, recapitalization is unlikely to improve the balance sheet. Managements of State-owned banks are reluctant to make decisions on NPL reso-

lution that involves loss recognition because they are afraid of being prosecuted for the wrongful actions of State employees. Although it has been affirmed that the case of debt restructuring would be exempted, the lack of clear legal indemnity for KTB employees will continue to slow NPL resolution. Transfer of NPLs to a newly created AMC is expected to minimize the problem and accelerate the resolution process.

The Nexus of Financial and Corporate Restructuring

Corporate Sector Distress

In the first half of the 1990s, debt-financed overinvestment in a number of sectors, including construction, property development, and petrochemicals, had resulted in high leverage and reduced performance of Thai corporations. Debt-equity ratios for these sectors grew steadily over the years prior to the crisis. From 1994 to the second quarter of 1997, the average ratio for all nonfinancial sectors rose from 1.5 to 2.1. The sharp baht depreciation that started in July 1997 magnified the level of debt measured in the domestic currency, further raising the debt-equity ratios. In addition, high interest rates increased domestic-debt servicing obligations.

The financial position of the corporate sector continued to deteriorate throughout 1998. For the first time, operating profits for 340 nonfinancial firms listed on the Stock Exchange of Thailand, on average, fell below interest expense. As a result of accumulated unpaid debts and declining levels of equity, the average debt-equity ratio of the listed firms reached 3.6 in the first half of 1998. In terms of corporate distress, the construction and real estate sectors were most severely affected. By end-1998, NPLs measured on a three-month basis grew to 49 percent of domestic commercial bank loans. Of these, over two thirds were believed to require both operational and financial restructuring or liquidation. Up to one third would require purely financial restructuring (rescheduling, a reduction of interest, or capitalization of interest accumulated during the baht stabilization period).

One of the most salient characteristics of the corporate debt problem in Thailand has been the prevalence of small loans extended to small- and medium-size enterprises (SMEs). There were nearly 400,000 classified loans in Thailand, totaling B2.6 trillion as of August 1999. The distressed- loan problem could be divided into large, medium, small, and individual cases. There were roughly 700 large distressed loans that exceeded B500 million each, representing B930 billion (36 percent of the nation's total classified loans). Medium-size distressed loans, with 5,600 cases, between B50 million and B500 million per case, represented B780 billion (30 percent). The small distressed loans, under B50 million per case, were spread over 42,600 cases and represented B560 billion (21 percent). Finally, there were 350,000 individual cases, representing B350 billion (13 percent). Although distressed loans existed in nearly every business sector, manufacturing and real estate were the hardest hit. Because Thailand has a larger volume of distressed loans to SMEs than other crisis-affected countries, restructuring Thai corporate debt will require far more effort.

Establishing Institutional Frameworks for Corporate Debt Restructuring

The process of corporate debt restructuring is complex and involves difficult legal, regulatory, and administrative reforms, not to mention changes in local business practices and financial culture. Since April 1998, the Government has undertaken initial steps to promote voluntary, market-based corporate restructuring. The Government's policy response has been to provide the following:

- tax and regulatory incentives to corporations and banks;
- effective legal framework for asset recovery through court-based bankruptcy, court-super-

vised reorganization, or enforcement of security interests;

- well-structured out-of-court process for voluntary debt restructuring negotiations, within the Framework for Corporate Restructuring in Thailand; and
- regulatory (prudential) incentives for NPL resolution to banks.

Tax and regulatory incentives. The Government has granted a full set of tax incentives for corporate restructuring. The initial step was to reduce tax disincentives by giving some temporary relief, between 1 January 1998 and 31 December 1999, on asset sales and debt restructuring by financial institution creditors (including related asset transfers and sales), and mergers and acquisitions (corporate and financial). The time frame was intended to induce early action by debtors and selected financial institution creditors, while avoiding moral-hazard problems and contingent liabilities in the medium term. In August 1998, exemptions from income tax, value-added tax, specific business tax, and duty stamps were provided in restructuring cases, where debt restructuring would result in imputed income to the debtor. In September 1998, debt write-off was allowed to be considered an expense, thereby reducing a financial institution's tax liability. Similarly, debt restructuring losses were also considered an expense for tax purposes. In addition, a tax cut on real estate transfers from 2 to 0.01 percent has been approved.

The Securities and Exchange Commission (SEC) has relaxed requirements for corporate rehabilitation by reducing the approval period from 45 to 30 days and making some approval criteria less stringent—for example, by adopting a disclosure-based over a merit-based approach for SMEs. Furthermore, a purchaser of a company is now exempted from the requirement to make a formal tender offer in the case of purchasing a company for rehabilitation.[36] The Board of Investments similarly extends promotion privileges beyond the initial period where such extensions could help restructuring.

Effective legal frameworks for debt restructuring. Ensuring creditor rights to enforce their legal claims, through court-based bankruptcy or reorganization procedures or both and foreclosing on collateral, is an important component of the corporate debt restructuring framework. Such legal arrangements act both as a forced restructuring or asset recovery process and as a credible threat to induce voluntary workouts. The effectiveness would depend on the willingness of creditors to use the courts, which, in turn, would depend on the effectiveness with which the courts would be able to process petitions, manage the planning and approval process, and execute judgments.

The formal court-based bankruptcy and reorganization procedures have been improved. In April 1998, the Bankruptcy Act was amended to enable reorganization of potentially viable corporations. The reorganization amendment proved workable in its early usage, but several problems emerged that limited its utility in resolving large amounts of distressed debt.[37] The lack of a well-functioning process for exercising security rights was a key obstacle to rapid progress in corporate restructuring. While foreclosure laws predated the crisis, they suffered from numerous flaws that rendered them unworkable.[38]

As a result, in March 1999, after a long period of debate, the Bankruptcy Act was further amended to include (i) improved security for new lending to financially distressed corporations, (ii) voting by creditor class, (iii) rescission of related-party transfers, (iv) limits to discretion for court action, and (v) conversion of foreign-currency-denominated claims. Notably, the amendment lowered the approval threshold for a court-supervised reorganization plan to 50 percent of outstanding debt by number and value, plus a special resolution of 75 percent of the outstanding debt of one creditor class by value.[39] The creation of a specialized bankruptcy court, the Central Bankruptcy Court, was also approved; the court opened in June 1999. The strengthening of specialized judicial capacity and procedures is expected to improve

Box 2: Framework for Corporate Restructuring in Thailand ("Bangkok Approach")

Objective: Successful implementation of an informal framework outside bankruptcy proceedings for the efficient restructuring of the corporate debt of viable entities to benefit creditors, debtors, employees, shareholders, and the economy by (i) minimizing losses to all parties through coordinated workouts and (ii) avoiding companies being placed unnecessarily into liquidation, thereby preserving jobs and productive capacity wherever feasible.

- Corporate debt restructuring should revive the business, rather than simply achieve financial restructuring, to further the long-term viability of the debtor.
- Priority must be given to rehabilitation of assets to perform-ing status in full compliance with applicable BoT regulations.
- Each stage of the corporate debt-restructuring process must occur in a timely manner.
- From the first debtor-creditor meeting, if the debtor's management provides full and accurate information on the agreed schedule and participates in all creditor committee meetings, creditors shall "standstill" for a defined, extendible period to allow informed decisions to be made.
- Both creditors and debtors must recognize the absolute necessity of active senior management involvement throughout the duration of debt restructuring.
- A lead institution, and a designated individual within the lead institution, must be appointed early in the restructuring process to actively manage and coordinate the entire process according to defined objectives and deadlines.
- In major multicreditor cases, a steering committee representative of a broad range of creditor interests should be appointed.
- Decisions should be made on complete and accurate information which has been independently verified to ensure transparency.
- In cases where accountants, attorneys, and professional advisers are to be appointed, such entities must have requisite local knowledge, expertise, and available dedicated resources.
- While it is normal practice to request the debtor to assume all the costs of professional advisers, lead institutions and creditors' committees have a direct economic interest, and hence a professional obligation, to help control such costs.
- MOF and BoT should be kept informed on the progress of all debt restructuring to aid the review and the regulatory and supervisory framework and to facilitate corporate debt restructuring.
- The Corporate Debt Restructuring Advisory Committee shall follow up developments in debt restructuring, facilitate debt restructuring for the public good, and act as an intermediary in particularly difficult cases.
- Creditors' existing collateral rights remain in force.
- New credit extended during the standstill period in order that the debtor may continue operations must receive priority status.
- Lenders should aim to recover their claims by devising a plan with lower risk and hence lower interest rates, rather than by increasing interest rates and imposing restructuring fees.
- Trading of debt is appropriate under certain conditions, but the selling creditor has the professional obligation to ensure that the purchaser does not have a detrimental effect on the restructuring process.
- Restructuring losses should be apportioned in an equitable manner that recognizes legal priorities between the parties involved.
- Creditors retain the right to exercise independent commercial judgment and objectives but should carefully consider the impact of any action on the economy, other creditors, and potentially viable debtors.
- Any of the principles or implementing principles contained in this framework can be waived, amended, or superseded in any restructuring with the consent of all participating creditors.

Source: World Bank staff.

the speed and quality of formal reorganization as well as voluntary corporate debt restructuring.

A framework for corporate restructuring in Thailand and CDRAC. In June 1998, the Government established the Corporate Debt Restructuring Advisory Committee (CDRAC) to facilitate the voluntary process of corporate restructuring and developed the Framework for Corporate Restructuring in Thailand.[40] The framework, also called the "Bangkok Approach" and endorsed by creditors in September 1998, is an adaptation of the "London Approach" and was developed with the assistance of the Foreign Banks' Association.[41] The framework consists of 19 principles to facilitate corporate restructuring, which define the expectations of debtors, creditors, and authorities in the voluntary, out-of-court workout process. It emphasizes business viability, full information disclosure, and the sharing of restructuring losses among creditors in an equitable manner that recognizes legal priorities between the parties

involved (Box 2). It also includes a 13-step timetable for the process.[42]

In October 1998, CDRAC was strengthened through the appointment of a working group, which was to facilitate and coordinate restructuring efforts of 200 priority restructuring cases (actually 353, including subsidiaries and affiliates) identified by CDRAC members. The companies covered a broad cross-section of Thai industry, with concentrations in manufacturing (48 percent), real estate (18 percent), wholesale and retail (12 percent), and construction (6 percent). Their debt totaled B630 billion, each company owing roughly $39.5 million on the average. By the summer of 1999, the list of target cases had expanded to 702 corporations, which represent nearly B1.5 trillion, or 56 percent of total NPLs in Thailand.

In March 1999, CDRAC strengthened the voluntary debt-restructuring framework by developing two civil contracts between parties to a restructuring plan that allows CDRAC to enforce a timetable for resolution, approval process, and exit procedures. The two civil contracts are the Debtor-Creditor Agreement (DCA) and the Inter-Creditor Agreement (ICA). DCA is intended to produce agreement on a restructuring plan, submission to intercreditor arbitration, or petitions for foreclosure or insolvency within six to eight months. ICA is intended to facilitate intercreditor agreements (Box 3).

Regulatory (prudential) incentives given to banks. To encourage banks to restructure their holdings of corporate debt, BoT relaxed classification rules for NPLs once the loans were restructured. For example, after debt restructuring, banks were allowed to reclassify "doubtful" or "loss" loans (with provisioning requirements of 50 and 100 percent, respectively) as "substandard" (with a 20 percent provisioning requirement); once the debtor properly serviced the loan for three months, the loan could be reclassified as "normal" (with a provisioning requirement of only 1 percent). The new BoT guidelines

Box 3: The Debtor-Credit Agreement and the Inter-Creditor Agreement

The Debtor-Creditor Agreement (DCA) provides for the following arrangements:

- The debt restructuring process may be initiated by the debtor (by acceding to DCA) or the creditors, or CDRAC may convene a first meeting of the creditors.
- At the first meeting, creditors elect a Lead Institution, set up a Steering Committee, and establish a workout schedule within 15 days of a move to initiate restructuring.
- Within two to three months, the debtor submits a business plan and information requested by the creditors.
- The creditors then have one to two months to review the plan and decide whether to vote on it, with a fallback provision that CDRAC will appoint an advisor to prepare a new business plan if there is insufficient creditor support for the original plan.
- If the debtor's plan provides a sufficient basis on which to proceed, creditors have an additional 25 days to review the plan and propose amendments, after which time the creditors vote.
- If 75 percent of creditors (on a debt-weighted basis) approve, the plan is approved.
- If a plan receives a 50-75 percent positive vote, it is submitted to an arbitration panel under the terms of the Inter-Creditor Agreement (ICA).
- If a plan receives less than 50 percent creditor approval, creditor signatories are obliged to petition for the collection of debtors or for court-supervised reorganization or bankruptcy.
- If a plan receives Executive Decision Panel (EDP) or at least 25 percent creditor approval, approving creditors are obliged to support the plan in all further proceedings, including a court-supervised reorganization, thus forming a voting bloc that could deny approval of an alternative reorganization plan.
- Penalties for noncompliance with the DCA could include fines levied by BoT.

The **Inter-Creditor Agreement** provides for the following arrangements:

- For cases involving 50-75 percent creditor approval, CDRAC will appoint a three-person EDP of arbitrators within 18 business days from lists preapproved by the Thai Bankers' Association, Association of Finance Companies, and Foreign Bankers' Association.
- Within 43 business days, EDP must decide on cases submitted to it for arbitration.
- BoT can penalize ICA signatories for noncompliance. Notably, a creditor signatory can opt out of ICA in any case where the debtor's combined debt exceeds B1 billion.

Source: World Bank Staff.

were issued to (i) allow banks to rehabilitate NPLs, (ii) improve the quality of future loans, and (iii) increase banks' ability to lend to corporate clients.[43]

Furthermore, in August 1998, BoT introduced measures to provide public resources for tier-2 recapitalization of banks in order to facilitate corporate debt restructuring and to revive bank loans to corporate clients. The Government would inject tier-2 capital as the institution was to write off NPLs due to corporate debt restructuring or to increase net lending to the private sector. The public support would come in the form of subordinated debt.

Progress of Corporate Debt Workout

Relative to the magnitude of the problem, such as the size of NPLs, corporate debt restructuring has only recently begun to yield some visible results. Progress in corporate debt restructuring was slow in 1998, with completed restructuring of only B157 billion at end-1998. Since then, a few large manufacturing firms (e.g., UCOM with $570 million debt) have restructured their debts. By end-1999, the pace of creditor approvals of restructuring plans improved, both quantitatively and qualitatively.

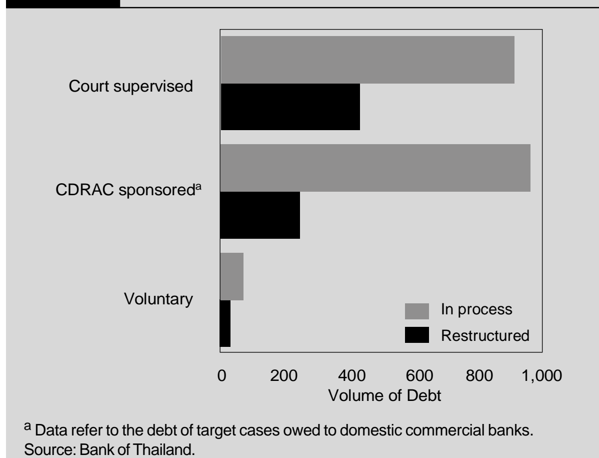
By end-1999, the cumulative total of restructured debt reached B1.07 trillion, out of the B1.12 trillion total debt in the restructuring process. Although the overall completion rate now stands at 47 percent, the amount of restructured debt is equivalent to 52 percent of total reported NPLs (B2.07 trillion). Much of completed debt restructuring has been in the small- to medium-size loan categories, executed through the voluntary process and outside of CDRAC and the court (Figure 7). Completion rates vary significantly across sectors, with services and exports leading and construction and real estate lagging (Table 11).

Table 11: Progress of Corporate Restructuring

	1998					1999						
Item	**Jun**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**
In Process (B billion)												
Manufacturing	131	228	266	287	296	311	326	328	363	365	410	436
Construction	6	14	20	20	20	19	21	25	26	26	42	47
Real Estate	29	61	99	85	115	122	124	142	148	148	183	221
Exports	6	8	9	17	17	19	19	20	22	22	23	27
Services[a]					58	62	62	66	76	74	104	115
Others[a]	45	133	175	185	184	184	195	209	182	190	269	319
Total	217	444	569	594	690	717	747	790	817	825	1,031	1,165
Completed (B billion)												
Manufacturing	2	6	10	32	51	66	75	95	119	131	182	196
Construction	0	1	3	3	3	3	5	9	10	12	15	17
Real Estate	0	1	6	15	34	36	39	44	58	65	81	96
Exports	0	0	0	2	5	8	8	8	10	11	17	17
Services[a]					20	22	25	34	64	72	81	89
Others[a]	1	8	17	30	44	52	64	91	123	139	190	214
Total	3	17	37	82	157	187	216	281	384	430	566	629
Completion Rates (%)												
Manufacturing	1.5	2.6	3.8	11.1	17.2	21.2	23.0	29.0	32.8	35.9	44.4	45.0
Construction	0.0	7.1	15.0	15.0	15.0	15.8	23.8	36.0	38.5	46.2	35.7	36.2
Real Estate	0.0	1.6	6.1	17.6	29.6	29.5	31.5	31.0	39.2	43.9	44.3	43.4
Exports	0.0	0.0	0.0	11.8	29.4	42.1	42.1	40.0	45.5	50.0	73.9	63.0
Services[a]					34.5	35.5	40.3	51.5	84.2	97.3	77.9	77.4
Others[a]	2.2	6.0	9.7	16.2	23.9	28.3	32.8	43.5	67.6	73.2	70.6	67.1
Total	1.4	3.8	6.5	13.8	22.8	26.1	28.9	35.6	47.0	52.1	54.9	54.0

[a] Others include services for June–November 1998.
Source: Bank of Thailand.

Figure 7: Corporate Debt Restructuring by Workout Process, August 1999



[a] Data refer to the debt of target cases owed to domestic commercial banks.
Source: Bank of Thailand.

CDRAC monitors 1,727 "large target debtors," of which 568 have signed the Debtor-Creditor Agreement. The 1,727 cases represent over B2.1 trillion.[44] As of January 2000, 271 "large target debtors" (B704 billion or 34 percent of outstanding debt) have successfully reached restructuring agreements, 357 cases (B436 billion or 21 percent) are being restructured, while 227 cases (B461 billion or 22 percent) failed to reach agreements and are now in the process of court action. So far, all cases completing the CDRAC process are performing according to new restructured agreements, and have not reverted to NPL status.

Bankruptcy progress. Through December 1999, under the new and specialized Central Bankruptcy Court, 441 petitions were filed, of which 416 were smaller liquidation cases with a total value of B11 billion.[45] Since the reorganization section was introduced, 37 petitions for bankruptcy reorganization have been received by the courts, of which 25 have been accepted for business reorganization, representing total outstanding debts of B153 billion or 42 percent of the B363 billion total filed. To date, 3 petitions have been rejected by the court, 14 petitions are under process, and 8 restructuring plans have been approved by creditors. Although the pace of reorganization filings increased considerably after the passage of the March 1999 amendment to the Bankruptcy Act, it appears to have stabilized at a few reorganization cases per month.

Agendas for Further Corporate Debt Restructuring

Although significant progress has been achieved in corporate debt restructuring, much remains to be done to accelerate its pace and improve its quality.

Early indications are that the vast majority of restructuring has involved debt rescheduling, such as extension of maturities—usually with below-market interest rates in the first few years and floating market rates thereafter—rather than debt restructuring. The net result is that debtors often fail to restructure their business and operations and, consequently, cannot generate sufficient cash flows to service rescheduled debts. The lack of quality debt restructuring stems from several factors:

- Private banks have avoided debt restructuring that includes debt relief, partly because they hope for a strong economic rebound and partly because they are concerned about credit discipline (other creditors might begin demanding write-offs) and their own capital shortfalls.
- State-owned banks fear that their executives could be sued for losing public funds due to debt restructuring.
- The long-term business relationship between creditors and debtors has delayed the real restructuring process because both sides are unwilling to resort to drastic measures that result in loss recognition and loss of ownership.
- The amended Bankruptcy Act has not proved to be fully effective in enforcing credit discipline and debt restructuring. As a result, the legal procedure has not been an effective threat to alternative, voluntary out-of-court settlements.
- The CDRAC framework is weak and ineffective in inducing voluntary settlements. Its ability to provide effective mediation services, use arbitration in disputed cases, and impose penalties on those who delay the process is limited.

The market-based strategy can succeed only if the incentive structure drives both debtors and creditors to accelerated negotiation and resolution. If current steps prove insufficient, the Government must introduce additional measures to ensure the success of corporate debt restructuring:

- Strengthen creditor rights to enforce their legal claims (including improvement of the procedures of court-based bankruptcy and court-supervised reorganization and foreclosing on collateral) so as to induce the debtor to negotiate in good faith.
- Provide the proper incentives to both creditors and debtors so that they can maximize their returns, preserve their asset values, and deploy them efficiently.
- Strengthen formal mechanisms to arbitrate in cases of conflict among creditors and, after securing agreement among creditors, resolve disputes between creditors and debtors.
- Strengthen a modern legislative regulatory framework of capital markets to facilitate the smooth functioning of special-purpose equity funds that could purchase or manage (or both) financial institutions' holdings of corporate shares and debt-to-equity conversion.
- Develop restructuring capacity in the private sector, to enable more decentralized and rapid decision making.
- Accelerate efforts through better monitoring and sequencing of activities to enable efficient management of a large number of corporate restructuring cases.

Enhancing the Regulatory and Supervisory Framework in the Financial Sector

The purpose of financial sector reform is to improve the allocative efficiency of financial intermediation and reduce financial sector vulnerabilities to minimize future crises. The allocation of financial resources to the most productive investments on both a cost-effective and risk-adjusted basis is a prerequisite for a competitive economy. Furthermore, a stable and robust financial sector reduces the risk of a systemic financial crisis in the future. It is therefore important to enhance the overall incentive framework for the financial sector in order to encourage the financial system to act as a prudent and efficient intermediary of savings. The Government must addresses structural, legal, regulatory, supervisory, incentive, and information improvement issues pertaining to this framework.

An Inadequate Precrisis Framework

After its banking crisis in the mid-1980s, Thailand strengthened its financial system. It ensured that the fundamentals were right by keeping real deposit interest rates positive, gradually liberalizing its financial system, and strengthening the supporting institutional framework. Its efforts were successful in mobilizing household savings, intermediated mainly through banks, as demonstrated by the size of credit provided by the banking sector as a ratio of GDP. In addition, they provided funding for high private investment and contributed to rapid economic growth. Nonetheless, financial sector reform was unable to secure a sound financial system. Long-festering structural weaknesses led to the development of many vulnerabilities from the mid-1990s onward, as revealed by the 1997 financial crisis.

The regulatory and supervisory framework for financial institutions was not conducive to prudent banking. Although deregulation, particularly in the finance company sector, had increased competition, resulting in a decrease in the franchise value of financial institutions, it did not motivate them to act prudently. The problem was worsened by scattered and lax supervision, regulators who engaged in forbearance, and weak overall supervisory and problem recognition capacity. To compound matters, Thailand also had weak accounting and auditing standards, poor

financial disclosure, and inadequate corporate governance of financial institutions. Market oversight was limited due to poor information, a concentrated ownership structure, and cross-ownership links between financial and nonfinancial entities. In addition, incentives for market oversight were reduced with a bailout of many weak financial institutions following the crisis of the mid-1980s.

The resolution framework for problem financial institutions remained incomplete as the exit rules (rules governing liquidation, closure, and merger of insolvent banks or finance companies) were not clearly defined, without any effective framework for supervision. The absence of explicit intervention powers limited the ability of the authorities to deal promptly and properly with financial sector distress. In addition, supervision was institutionally fragmented (the legal powers for supervision were concentrated at MOF while BoT was charged with the daily supervisory authority). As a result, the authorities did not intervene in insolvent finance companies in the early phase of the 1997 financial crisis. Instead, they used FIDF to provide liquidity support to finance companies and resorted to the issuance of a "blanket guarantee" for depositors and creditors to restore public confidence in the financial system.

Improving the Bank Supervisory and Regulatory Framework

In response to the crisis, the Government has embarked on a comprehensive reform of banking supervision. Nonetheless, in spite of the fact that major reforms have been initiated, major weaknesses persist.

Legal and legislative changes. A number of modifications in the framework for financial services provision are expected to be made in the near future through the following: the new Financial Institutions Law, the new Central Bank Law, the new Deposit Insurance Law, changes in SEC and stock exchange laws and regulations, and other regulatory and supervisory changes. The changes are significant (Box 4), involving a (re-)definition of the role of finance companies, modification of minimum capital requirements, and definition of the extent and modalities of foreign ownership. The authorities are also committed to replacing the general guarantee with a self-financed deposit insurance scheme with limited coverage, and laying down an adequate framework for the timely exit of problem institutions. A comprehensive program of institutional and policy changes to tackle accounting and auditing weaknesses for all companies is underway; specific rules on account-

Box 4: Objectives of Financial Sector Laws

Strengthen the Central Bank Law.

- Clearly define objectives for the operation of the central bank.
- Establish the central bank's functional independence from the Government.
- Create a clear division of responsibility between the central bank and the Government with regard to supervision.
- Enforce accountability of the central bank through reports to the legislative arm of the Government.
- Establish clear lines of authority and responsibility within the central bank.

Strengthen the Financial Institutions Law.

- Clearly allocate authority and responsibility between Government entities.
- Establish functional independence and clearly defined authority and responsibility of licensing, supervisory, and regulatory entities from the Government.
- Clearly define scope of permissible operations for each type of financial institution.
- Incorporate the Basle Committee Core Principles for Effective Banking Supervision.
- Implement a legal process for intervening, rehabilitating, and liquidating failed financial institutions.
- Introduce amendments to the Central Bank Law and a draft of the Financial Institutions Law to the Cabinet by 31 December 1999.
- Draft and enact the proposed secured lending law and establish a collateral registry, given the weaknesses in the current practice which lead to collateral-based, not cash-flow-based, lending.

Source: World Bank.

ing, auditing, and financial disclosure for financial institutions are in preparation to bring them in line with best international practices.[46] Improvements in these areas will remain a continuing challenge for the Government in the near future.

Institutional setting. There are several problems related to supervision. First, most legal powers for supervision are concentrated in MOF, whereas the day-to-day supervision rests exclusively with BoT. This has blurred the lines of responsibility and accountability, and made the decision process too lengthy and complex. Second, current legal provisions do not provide sufficient guidance or legal ground to the supervisory agency to discharge its responsibilities (e.g., lack of consolidated supervision or narrow definition of connected lending). Third, the supervisory agency has broad discretion to grant exemptions from legal provisions or to enforce sanctions. Its unlimited discretionary power—combined with the frequent absence of clear prudential criteria for the waiver of legal provisions or for a decision if sanctions are to be applied—has resulted in significant prudential forbearance, the waiver of legal limits beyond prudential consideration, and delayed sanctions. The new financial laws are expected to address some of these weaknesses.

The clear definition of legal powers, removal of supervisor discretion, development of detailed guidelines, and strengthening of technical skills are intended to provide a regime with strict enforcement of binding rules. Nonetheless, the new legal and regulatory framework will have to be enforced. Before the crisis, binding rules were not as strictly enforced as they should have been. Since end-1997, BoT has made difficult decisions that have sent a strong signal that forbearance should no longer be expected from supervisors.

Supervisory procedures and capacity. In many areas, BoT has not developed or revised detailed supervisory procedures or tools in order to help its staff discharge supervisory duties. Although BoT has begun to tackle some issues (e.g., reform of the regulatory reporting and drafting of a new on-site examination manual), other weaknesses still need to be addressed (e.g., automatic data transfer from financial institutions to BoT, development of an early warning system, design of a financial analysis methodology, and explanation and interpretation of prudential standards). Moreover, BoT's functions must be improved by greater internal communication, genuine acceptance of new supervisory approaches, greater involvement of junior staff, and more open discussions among the staff. Finally, more significant external hiring and building on the recent creation of the School for Examiners will prove critical in further strengthening BoT's supervisory capacity.

An explicit deposit-protection scheme. A key element of the financial sector reform strategy is to phase out the August 1997 comprehensive guarantee to all depositors and to adopt a more restricted deposit-protection scheme once financial markets stabilize. It is important that the new framework on deposit insurance include (i) a clear institutional framework to manage the deposit-protection scheme; (ii) a funding mechanism; (iii) mandate, duties, range of insured deposits, and payment modalities; (iv) monitoring and corporate governance; and (v) strict exit and prompt corrective action procedures.

Broader operating environments. The formal rules—property rights, creditor rights—and scope for adequate corporate governance—ownership structure, mandatory dividends, antidirector rights—appear to protect creditors and shareholders better in Thailand than in many developing countries. Yet they still fall short of the protection granted in developed countries and are undermined by a weak judicial system. The effectiveness and transparency of the Thai judicial system is very poor, hindering efficiency and integrity of the legal environment as it affects the financial sector. Further improvements in this area are necessary.

Thailand has made some progress over the course of the crisis in moving its incentive framework in the financial sector closer to global best practice. As the

scope for market discipline may be limited, in part due to the highly concentrated ownership in the economy, greater reliance will, however, have to be placed on improving supervision and owners' discipline. Supervision can be enhanced by reducing the amount of discretion of supervisors (through a catalogue of penalties, for example) in dealing with institutions that are weak and undercapitalized or that do not comply with the prudential regulatory framework. The catalogue can also increase the roles and duties, including the legal liability, of owners, and contain strict rules on early intervention in weak financial institutions.

The Medium-term Agenda

The current system still exhibits deficiencies and falls short of international best practice in several areas. Over the medium term, Thailand should focus its reform efforts in the following three areas:

Increasing financial sector competitiveness. Thailand's banking system has been highly concentrated. Partly as a result of the Government's restructuring efforts over the last year, the banking industry continues to be highly concentrated; the three largest banks accounted for over 40 percent of financial system assets at end-1998. While the degree of concentration does not differ greatly from that in some industrialized countries, it has, in the past, hampered innovation and diversification, and impeded the development of private securities markets. The concentration has, in part, been due to limited and unfair competition from other financial institutions and from a lack of substitution through other forms of financial intermediation. Most importantly, there has been a lack of a credible threat of competition through entry.

Thailand has restricted entry almost completely, with no new domestic banking licenses granted in 1965-1997.[47] High minimum capital requirements (in absolute amounts) and limits on foreign ownership still prevent the entry of new financial institutions. Under the draft Financial Institutions Law, the authorities are considering granting BoT an absolute authority to prescribe conditions and grant or deny licenses. BoT would need to be guided by objective and transparent criteria (including, at a minimum, those of Basle Core Principle 3) and not by economic-needs tests. It should employ clear and objective standards in assessing the applicant institution's ownership structure and the fit-and-proper test for owners and managers. The existing restriction of 25 percent foreign ownership of financial institutions could be relaxed, subject to specific conditions; branch restrictions on foreign banks that limit the operations of foreign financial institutions to one branch should be removed. These are important as Thai banks need to upgrade their skills and institutional development. Lower minimum capital requirements with a transparent process for reviewing new banking licenses would greatly enhance the contestability of the Thai sector. Finally, Thai banks' capacity to manage assets, liabilities, and risks has to be strengthened.[48]

Moving to a more balanced financial system. Relative to other emerging market economies with per capita incomes similar to Thailand's, the Thai financial system is deep, with a financial assets-GDP ratio of 150 percent. The Thai system is, however, significantly bank-oriented, with more than 70 percent of financial assets in banks, and with limited financial intermediation through mutual funds and other types of institutional investors. Bond and stock markets remain relatively underdeveloped, with outstanding bond market issues accounting for 12.5 percent of GDP and stock market capitalization amounting to 19 percent of GDP as of June 1998. The equity market lacks transparency and plays a limited role in corporate governance as many firms continue to be dominated by families. The unbalanced pattern of financial intermediation has made the economy disproportionately more vulnerable to internal and external shocks to the financial sector. Better securities markets are needed, as they can be a competitive force for the banking system and because banks and securities markets are complementary sources

of finance. The functioning of capital markets can be furthered by enforcing minority shareholders' rights and by improving the corporate governance framework.

A better definition of the scope of financial services. There is a clear need to develop the medium-term scope of the financial services industry. Licenses for different financial services are still fragmented and the organizational structures allowed for different types of financial activities are not necessarily optimal from either a risk or an economies-of-scope point of view. While it is too early to move to a full-fledged integrated banking system, the authorities could rationalize the various types of licenses provided.[49] In this context, the policy of allowing different types of commercial banks may need to be reconsidered.

While the finance company sector has been significantly restructured, the issue of the future role of finance companies and commercial banks must be addressed. In an effort to further consolidate the finance company sector, BoT announced in December 1998 that finance companies could apply for a limited bank license, which would permit them to undertake all activities allowed for commercial banks, except checking accounts. The phasing out of finance companies may be accelerated as they become restricted banks, or go into securities business, or are eliminated; expanding finance companies' activities does not necessarily present a long-term solution.[50]

Concluding Remarks

In 1997-1998, Thailand experienced one of the most severe economic contractions in its recent history. The crisis was brought about by several factors.

First, the steep baht depreciation caused large exchange losses to Thai borrowers, particularly business firms, which had large amounts of foreign-currency-denominated debt. Because most of the borrowers left their debts unhedged, they saw them inflate in baht terms and, consequently, faced serious repayment difficulties.

Second, a severe credit crunch emerged as a result of the collapse of several major financial institutions in the spring of 1997, suspension of 16 finance companies in June and 42 in August, closure of 56 finance companies in November, and loss of confidence in the financial system.[51] For fear of possible losses of deposits (or equivalents), the general public began to shift their deposits away from finance companies to commercial banks, and from small and medium-size banks to quality domestic or foreign banks. Financial institutions became increasingly reluctant to extend commercial loans, as they attempted to protect the quality of assets and to maintain sound balance sheets. Measures to strengthen the balance sheets of financial institutions—i.e., stringent provisioning requirements against NPLs, prohibition of overdue interest accruals, and capital adequacy requirements—all made banks and finance companies even more conservative in their lending behavior. The need for provisioning and capital requirements became even larger as bank NPLs continued to rise in the course of the crisis.

Third, difficulties in rolling over international bank loans made Thai commercial banks even more cautious about lending, precisely because of their substantially reduced access to international bank loans.

Finally, the initial, austere macroeconomic policy added further deflationary pressure on the economy. Tight monetary and fiscal policy measures weakened already-shrinking aggregate demand, and the financial sector restructuring measures had the side effect of aggravating the credit crunch. Although confidence in the baht began to be restored in early1998 and fiscal policy was reversed to an expansionary stance, the economy continued to contract throughout the year.

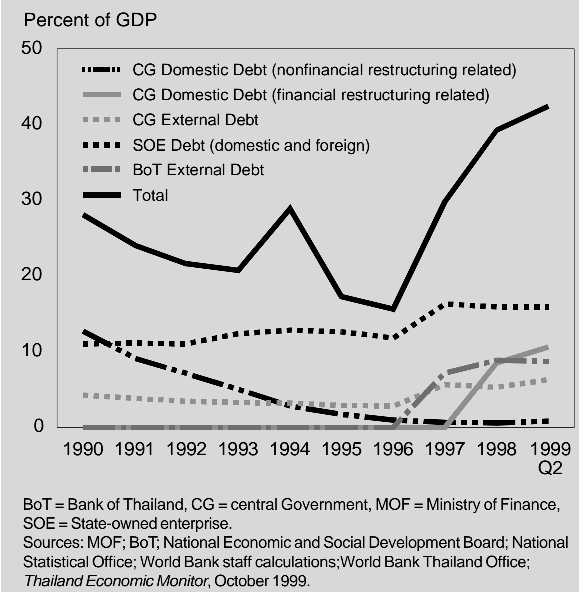
Thailand had embarked on rapid financial market deregulation and capital flow liberalization in the first half of the 1990s. However, its financial system was not resilient enough to adjust to an increasingly global environment: Thai commercial banks and finance companies borrowed large amounts of short-term funds domestically as well as from abroad at attrac-

tive terms, and aggressively extended loans for domestic investment. Commercial banks and finance companies had not acquired sufficient know-how, skills, expertise, or human capital to exercise prudent asset-liability management and risk controls. The authorities continued to provide explicit and implicit guarantees to protect financial institutions or to stop them from going bankrupt, thereby creating serious moral-hazard problems in the financial sector. Regulation and supervision of commercial banks and finance companies were both inadequate and lax. In addition, standards of disclosure, accounting, and auditing were generally weak. Essentially, the precrisis overextension of financial activity was a fundamental cause of the crisis.

The most important lesson is that, in order to maintain a stable economy, a country that is highly integrated with the rest of the world financially, such as Thailand, must establish a resilient and robust domestic financial system. That is, domestic financial institutions should be sufficiently capitalized with adequate loan-loss provisions and must have the capability and expertise to prudently manage assets and liabilities. The authorities should maintain effective regulatory and supervisory framework over banks and nonbank financial institutions (NBFIs) as well as effective disclosure and accounting standards. They should protect financial market integrity but not guarantee the solvency of individual financial institutions. With a resilient financial system in place, banks and NBFIs can be expected to weather macroeconomic shocks and asset price gyrations. A combination of excessive capital inflows and rapid capital outflows will then be less likely to have an adverse impact on the domestic financial system and on economic activity in general.

One of the most profound consequences of the financial crisis has been a dramatic increase in public sector debt.[52] Total public debt rose from B721 billion (15.6 percent of GDP) at end-1996 to B2,140 billion (42.5 percent of GDP) by end-June 1999 (Figure 8). By end-1997, baht depreciation caused ex-

Figure 8: **Consolidated Public Sector Debt**



BoT = Bank of Thailand, CG = central Government, MOF = Ministry of Finance, SOE = State-owned enterprise.
Sources: MOF; BoT; National Economic and Social Development Board; National Statistical Office; World Bank staff calculations;World Bank Thailand Office; *Thailand Economic Monitor*, October 1999.

ternal debt to rise to an unprecedented proportion of total public debt (76.9 percent). In addition, BoT received balance-of-payments support as part of the IMF package. Throughout 1998, public sector debt rose as the Government borrowed to finance financial system restructuring and additional budgetary expenditures. Public debt continued to soar in 1999 as the Government and State-owned enterprises borrowed to finance expenditures. By end-2000, public sector debt is estimated to reach 61 percent of GDP—a fourfold increase from the precrisis period.

From end-1996 to mid-1999, the debt-GDP ratio went up by 27 percent. An estimated 3 percentage points of the increase came as the direct result of the baht's depreciation, which inflated the domestic currency value of external debt, net of impact on nominal GDP. Another 13 percentage points stemmed from a rise in the public sector's external debt, largely the result of Government and central-bank borrowing from official sources. And the remainder—11 percentage points—was the consequence of the FIDF bond issue and other related spending for financial system restructuring.

The increase in public, especially Government, debt was inevitable. Although the need for fiscal stimulus

to an ailing economy would have required a larger budget deficit, there was little fiscal stimulus in 1998. Only in the first quarter of 1999 did modest fiscal expansion begin, and the actual size of the budget deficit has been relatively small. What is important is that the authorities responded to a systemic crisis of the financial system by injecting large amounts of public resources into distressed finance companies and commercial banks, which were financed through Government bonds. The level of public sector indebtedness would be larger than even the published numbers suggest if one considers the large amounts of contingent liabilities the public sector has accumulated, including guarantees of all third-party liabilities of State-owned enterprises.

Servicing the public debt will increase pressure on the Government budget, already weakened by declining tax revenues, high interest payments, and increased needs for social sector protection. Budgetary pressure is expected to continue in FY2000, as the resolution of financial system distress may require additional costs. How public finances fare under the additional burden will depend on the trajectory of interest rates, the exchange rate, recovery of economic activity, and the primary balance. Reducing the debt over time will prove challenging but manageable.[53] Although early resolution of the financial system crisis requires the cost up front, it will bear fruit in the form of increased financial intermediation, greater output and employment, and less fiscal pressure.

Notes

[1]In addition, there were 19 foreign Bangkok International Banking Facility (BIBF) units focusing on offshore banking activity at end-1996. See Appendix Tables A1.1 to A1.3 for selected statistics on the banking sector.

[2]In this study, the term "finance companies" includes both finance companies and finance and securities companies. In 1995, finance and securities companies were required to split their finance and securities businesses into two separate companies, but compliance was slow. See Appendix Tables A1.4 and A1.5 for selected statistics on finance companies.

[3]See Appendix 2 for a chronology of major financial reforms.

[4]In the wake of deteriorating financial market conditions in 1983-1984, the Ministry of Finance (MOF) and the Bank of Thailand (BoT) established the April 4 Lifeboat Scheme in 1984 to rehabilitate finance companies. As a result, the conditions of troubled finance companies improved markedly. In November 1985, after a series of crises and bankruptcies among finance companies, BoT established the Financial Institutions Development Fund (FIDF) to provide liquidity to ailing financial institutions with management difficulties and to restore public confidence. See Johnston (1991) and Vichyanond (1994, 1995) for analyses of the financial crisis in the first half of the 1980s.

[5]McKinnon and Pill (1996) and Krugman (1998) present the view that overguaranteed and underregulated financial intermediaries can produce moral-hazard problems and lead to excessive investment for the economy as a whole.

[6]Kawai (1997) explains the factors behind capital account liberalization in East Asia and its consequences. Sirivedhin (1997) discusses the implications of financial market deregulation and capital account liberalization for Thailand.

[7]See Fischer and Reisen (1993) and Kawai (1997).

[8]A large part of nonresident baht deposits was intended for investment in the Thai stock market.

[9]The Government tried to improve the access of domestic entities to international capital markets through the banking system and gave BIBF banks tax incentives and preferential treatment in their operations.

[10]Sharp capital flow reversals occurred in 1997 and 1998, driven mainly by rapid outflows of banking sector funds.

[11]In terms of total lending shares, there was no relative increase in lending to real-estate-related sectors. While the total outstanding loans of commercial banks expanded 120 percent from end-1990 to end-1996, the balance of loans to the real estate sector grew only 40 percent. However, commercial bank funds appear to have flowed into the real estate sector indirectly through finance companies affiliated to banks, or via sectors with no apparent links to real estate. In the case of finance companies, the total outstanding loans increased by 270 percent during the same period, while loans to the real estate sector rose by 300 percent.

[12]Econometric evidence suggests that capital inflows through commercial banks were a major determinant of bank loans and that such inflows were not affected by interest-rate differentials between Thailand and the rest of the world (Kawai and Iwatsubo 1998). That is, capital inflows through banks were not sensitive to the movement of interest-rate differentials, and banks increased their loans once they borrowed from abroad. Essentially, Thai banks' demand for foreign borrowing was interest-rate inelastic. On the other hand, capital inflows through nonbanks, including finance companies, were positively correlated with the interest rate differential. The high interest rate, together with the expectation of stable exchange rates, attracted foreign capital to the nonbank sector.

[13]FIDF played an instrumental role in the rescue. However, FIDF was unable to differentiate between good and bad financial institutions. It reportedly provided liquidity at subsidized rates even to sound finance companies at their request, which profited by investing the liquidity elsewhere for higher returns. FIDF eventually injected a large amount of liquidity into the financial system.

[14]It was decided that the funds required for this purpose would be raised through issues of Government-guaranteed bonds. However, the PLMO lacked financial backing due to its small capital and the fact that the issues of bonds and short-term securities covered by MOF guarantees were limited to 12 times its capital.

[15]Criteria included (i) recapitalization guidelines, with recommended capital adequacy ratios starting at 12-15 percent for the first year (higher where shareholders were unchanged) and declining to 10 percent in the third year,

with a concomitant introduction of the progressively more stringent loan classifications; (ii) FIDF conversion of its loans into equity permitted only after the capital of existing shareholders is fully written down; and (iii) FIDF debt eligible for repayment up to a maximum period of eight years.

[16]By the time of the closure of 56 finance companies, FIDF had provided an estimated B530 billion liquidity support to them, and B160 billion to other finance companies.

[17]Two finance companies that escaped closure were allowed to reopen for business in March 1998: Kitnakin Finance and Securities and Bangkok Investment.

[18]This obstructed restructuring of loans owed to the intervened finance companies, as well as syndicated loans in which the finance companies served as one creditor. The problem was later rectified by developing procedures to accelerate the sale of syndicated loans.

[19]About 97 percent of the AMC's assets are real estate loans, and 70 percent of the collateral which secures these loans is raw land. Given the poor legal regime for debt collection, the AMC's strategy for resolution of real estate-related loans consists of (i) taking title to the collateral in a voluntary compromise, (ii) providing the borrower with a buy back option at the AMC's cost plus margin, (iii) seeking some new money from the borrower, and (iv) entering into a joint venture with the same borrower/developer in which that party manages the assets over time. The AMC will sell loans or take legal actions over time. It will sell loans or take legal actions against debtors only in a small minority of cases because the AMC sees its mandate as being supportive of its debtors. The impact this may have on other debtors and creditors may further hurt the banks and the credit culture.

[20]RSB created two subsidiaries—a finance company (Radanatun Finance) and a securities company (Radanadsub Securities). The first business undertaking of Radanatun was the successful auction of one group of the hire-purchase loans in June 1998.

[21]However, the assigned objective of RSB was subsequently changed partly due to the blend of assets of various qualities for the auction by FRA and partly due to RSB's merger with Laem Thong Bank (LTB), in which the Government intervened in August 1998. The merger with LTB provided RSB with the nationwide branches that would help improve its competitive edge over other commercial banks.

[22]The seven finance companies were Nava Finance and Securities, Bangkok Asian Finance, Mahatun Finance, Progressive Finance, Erawan Trust, KSIT Finance and Securities, and Union Asia Finance .

[23]The five finance companies were Dhana Siam Finance and Securities, First City Investment, Vichirathanatun Finance, Thai Summit Finance and Securities, and Industrial Finance Corporation of Thailand (IFCT) Finance and Securities.

[24]Restrictions on foreign ownership of commercial banks were eased so that foreign funds could be used to rescue financial institutions. Foreign nationals can now acquire over 49 percent of shares in financial institutions, although shareholdings must be reduced to 49 percent or lower in 10 years' time. They can also acquire over 49 percent of shares in finance companies. In November 1997, the maximum ratio of interlocking share ownership was raised from 10 to 49 percent.

[25]However, properly valued collateral could be deducted from the amount of loans when determining the amount of provision.

[26]Banks were not required to pay a specified amount of loan-loss provisions all at once but in stages by 2000.

[27]Other conditions included (i) submission of a reorganization and restructuring plan and (ii) empowerment of the new major equity investors or the Government so as to replace management after existing shareholders recognized losses.

[28]The Thai Military Bank has proposed raising a total of B30 billion tier-1 capital, of which about B15 billion would come from the 14 August capital support program while the rest would take the form of innovative capital instruments.

[29]Even when banks book no earnings in one year and hence pay no dividends for preferred shares-cum-subordinated debentures, investors can receive about 11 percent from the investment, 6 percentage points above current deposit rates.

[30]Chantaburi is expected to take over bad assets of Phatra Thanakit (PT) at current net book value (B30.8 billion as of June 1999). Proceeds from the sale of PT's assets will be used to repay its B50 billion liabilities; FIDF agreed to provide no more than B4.4 billion for any shortfall, beyond which TFB is responsible. TFB and FIDF will split

any Chantaburi profits one third/two thirds respectively. This arrangement requires TFB to take on losses in its subsidiary in excess of its equity investment. In July 1999, TFB announced that it would transfer B80 billion in NPLs to an AMC and, for this purpose, raise an additional B24 billion in equity.

[31]A centralized AMC was used for the first time for the sale of RSB to carve out NPLs from intervened banks. An investor would have an option to either bid for the whole bank and enter into profit-and-loss sharing agreements with the Government, as in the case of NTB, or bid for only its good assets after carving out bad assets to an AMC, as in the case of the sale of RSB.

[32]This ratio, however, does not include assets purchased by the AMC from FRA or NPLs transferred to private commercial banks' wholly owned AMCs.

[33]Restructuring without immediately recognizing full losses is further facilitated by a recent change in debt restructuring rules which allows banks to classify NPLs as performing immediately after restructuring agreements.

[34]Pushing the argument one step further, the Government may take a more aggressive, centralized approach to NPL resolution. That is, it may create a centralized AMC that would acquire, manage, restructure, and dispose of commercial banks' bad assets. When carving out the NPLs from the banks being restructured, the AMC may replace the bad assets with Government bonds on the banks' balance sheets. The NPLs are owned by the Government and may be managed by the AMC, partially contracted out to private managers, or even left with the banks themselves to service. Such a centralized AMC may be created by (i) converting FRA; (ii) combining FIDF-supported AMCs created for BBC, RSB, and KTB into one; or (iii) establishing a new one absorbing existing public AMCs.

[35]However, a third of the private banks' tier-1 capital increases were in the form of innovative capital (Capital Augmented Preferred Securities or Stapled Limited Interest Preferred Securities), which need to be refinanced after five years.

[36]Nonetheless, significant legal and regulatory challenges remain, including the requirement to purchase shares for cash and then to have the debtor use the cash to repay debt.

[37]First, because it was a new legal framework, the institutional capacity for implementation was still being developed. Like the banking system, the judicial system had to become more acquainted with the analytical treatment of distressed corporations. Second, both debtors and creditors were reluctant to use the legally binding process without some precedents. Finally, financial institution creditors needed to demonstrate their ability to force court-supervised reorganizations and to replace uncooperative debtor-management with creditor-imposed planners.

[38]The process of claim, judgment, execution, and collection on security supporting a loan would often take more than 5 years, and sometimes as long as 10. Debtors frequently delayed judgments by failing to respond to court summons. Debtors would contest or appeal judgments, further delaying the execution. Because liquidation of collateral offered such low and uncertain returns, the "floor price" guiding the voluntary or formal debt restructuring efforts was very low; the terms offered by debtors for restructured debt were far below what creditors considered acceptable. The most developed bankruptcy reorganization case, Alphatec, was initially rejected by the lead creditor primarily because of a low recovery rate.

[39]In a compromise with the Senate, the time period for a person to be considered bankrupt was established at three years.

[40]CDRAC is chaired by the BoT governor and includes five associations (Thai Bankers' Association, Foreign Bankers' Association, Federation of Thai Industries, Chamber of Commerce, and Association of Finance Companies) representing creditors and debtors.

[41]The "London Approach" is used to guide voluntary debt restructuring in the United Kingdom. It describes a set of principles under which creditors agree to keep credit facilities in place, seek out-of-court solutions, work together, share all relevant information about the debtor, and recognize the seniority of claims.

[42]The 13 steps are as follows: (i) initial debtor-creditor meeting; (ii) creditors meeting, appointing the lead bank; (iii) creditors' submission of claims; (iv) ongoing creditors meeting; (v) debtor management's submission of financial data; (vi) appointment of an independent accountant; (vii) debtor's submission of further information; (viii) plan submission; (ix) creditors meeting on the plan; (x) amendments to the plan; (xi) continued examination of the plan; (xii) new creditors meeting, if necessary; and (xiii) decision on whether to privately reorganize, formally reorganize, or liquidate.

[43]Financial institutions were required to adjust their loan-loss provisions to the stricter standards in 20 percent increments, starting with the second half of 1998 and provisioning fully by end-2000 (end-2000 LCP).

[44]The amount exceeds the total NPLs in the financial system because CDRAC target cases also include proactive restructuring of non-NPLs.

[45]The $362 million (B14 billion) restructuring of Alphatec Electronics was Thailand's first approved formal reorganization plan under the 1998 reorganization amendment. A consumer products firm reached an agreement with creditors in the first large voluntary restructuring without a major strategic investment; a telecommunications firm reached an agreement with creditors in the first voluntary debt restructuring involving international bondholders. A provision allowing banks to temporarily hold more than 10 percent of a borrower's equity in a debt-equity swap was tested, as Thai Danu Bank took a reported 46 percent equity position in a distressed carpet manufacturer. Finally, Thai Petrochemicals reached an agreement with major creditors on a restructuring plan, which is now being circulated for general ratification. It is the country's largest restructuring case with over $3 billion in outstanding debt.

[46]Reforms have also been initiated to enhance the role of the board of directors and audit committees. Although new amendments to the bankruptcy and foreclosure laws represent major progress, full implementation will require further judicial reform.

[47]Last year BoT issued one new domestic banking license (to Radanasin) five new licenses for branches of foreign banks (mostly of Japanese origin), which converted their BIBF licenses into full foreign branch licenses.

[48]Thai banks' average operating expenses are similar to those in other East Asian economies and slightly lower than those in many developed countries, except for Japan, and other developing countries. However, this reflects inadequate investments in risk management and internal control management systems (which are capital intensive), as has been revealed during and following the crisis. As a result, costs were low, but at the expense of risk management practices.

[49]In particular, more integrated banking would permit Thai banks to fully realize informational advantages, economies of scope, diversification benefits, and increased revenues. Moreover, as integrated banks have to report their activities on a consolidated basis, it would increase transparency for market participants and the supervisory authority. While a full-fledged integrated banking system has some risks, the authorities could implement policy measures to keep them to a minimum. Measures include credible mechanisms to prevent the extension of the safety net for deposit-taking financial institutions to other financial activities. The authorities also could limit, at least initially, the extension of powers to engage in securities markets and other noncredit financial activities to banks that have strong capital positions and the internal capacity to appropriately manage the associated risks.

[50]In the past, at least, the inability of finance companies to raise stable, low-cost funding through deposits was one important factor in motivating them to undertake risky investments.

[51]Ito and Pereira da Silva (1999) report that Thailand faced a typical credit crunch in the early phase of the crisis, mainly because of the second and third factors.

[52]The public sector lacks consolidated figures of its own debt. Public sector debt is the sum of total Government domestic and external debt, State-owned enterprise domestic and external debt, and external debt of monetary authorities converted to baht by the end-of-the-period exchange rate (World Bank Thailand Office 1999).

[53]If Thailand generates a primary surplus of 2-3 percent of GDP over a period of 10 years, it will be able to reduce the debt-GDP ratio to a sustainable level (30-35 percent).

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Appendix 1

Selected Statistics on Banks and Finance Companies

Table A1.1: List of Commercial Banks and Selected Indicators

Item	No. of Offices 1998	Total Assets (B million)		
		1996	1997	1998
Banks Incorporated in Thailand				
Bangkok Bank	505	1,155,109	1,408,619	1,266,949
Bangkok Bank of Commerce[b]	na	185,575	145,971	60,130
Bangkok Metropolitan Bank[c]	157	191,550	190,560	177,793
Bank of Asia[d]	88	126,508	156,644	148,936
Bank of Ayudhya	338	414,879	493,890	483,598
BankThai[e]	101			68,162
DBS Thai Danu Bank	84	119,598	130,266	132,955
First Bangkok City Bank[f]		252,146	316,145	
Krung Thai Bank	592	715,995	792,664	1,067,034
Laem Thong Bank[g]		41,117	51,942	
Nakornthon Bank	66	64,471	73,799	74,064
Radanasin Bank[g]	49			48,375
Siam City Bank[h]	172	234,145	272,124	279,418
Siam Commercial Bank	390	541,417	717,240	706,142
Thai Farmers Bank	459	646,007	795,385	704,293
Thai Military Bank	331	333,994	389,476	355,672
Union Bank of Bangkok[e]		64,610	73,284	
Subtotal	3,332	5,087,121	6,008,009	5,573,521
Banks Incorporated Abroad[i]				
ABN-AMRO Bank N.V.	1	15,228	38,646	32,578
Bank of America N.T. & S.A.	1	25,650	43,076	22,222
Bank of China	1		7,854	7,943
Bank of Nova Scotia[j]	1			7,312
Bank of Tokyo-Mitsubishi Ltd.[k]	1	122,419	215,126	137,467
Banque Nationale de Paris	1		27,396	16,541
Bharat Overseas Bank Ltd.	1	1,495	3,538	2,497
Chase Manhattan Bank, N.A.	1	23,322	50,585	38,192
Citibank N.A.	1	61,099	119,539	84,981
Credit Agncole Indosuez	1	21,019	33,298	20,457
Dai-Ichi Kangyo Bank	1		172,581	80,151
Deutsche Bank AG.	1	26,692	50,610	37,011
Dresdner Bank	1		36,858	8,964
Hongkong and Shanghai Banking Corp. Ltd.	1	47,025	85,438	62,178
Industrial Bank of Japan	1		128,983	64,125
International Commercial Bank of China	1	4,885	7,701	6,564
Overseas-Chinese Banking Corp., Ltd.	1	5,542	9,736	6,790
Sakura Bank Ltd.	1	83,569	159,065	91,789
Sime Bank Berhad[l]	1	1,497	2,184	1,679
Standard Chartered Bank	1	32,468	53,262	44,078
Sumitomo Bank	1		188,086	118,800
Subtotal	21	471,910	1,433,562	892,319
Total	**3,353**	**5,559,031**	**7,441,571**	**6,465,840**

( ) = negative values are enclosed in parentheses.
[a] Total equity consists of reserves and undivided profits, other reserves, and capital fund.
[b] On 6 February 1998, Bangkok Bank of Commerce was ordered to write down capital and to recapitalize with funds from Krung Thai Bank and to transform itself into an asset management company.
[c] On 23 January 1998, Bangkok Metropolitan Bank was ordered to write down capital and recapitalize with funds from FIDF. On 14 August, it was ordered to be offered for sale.
[d] Bank of Asia sold 75 per cent of its shares to ABN-AMRO Bank.
[e] On 14 August 1998, the Union Bank of Bangkok was ordered to write down capital and recapitalize, then merge with Krung Thai Thanakit Finance Company and 12 intervened finance companies to form a new bank called BankThai on 21 December 1998.
[f] On 6 February 1998, First Bangkok City Bank was ordered to write down capital and to recapitalize. On 14 August 1998, it was ordered to be fully acquired by Krung Thai Bank.
[g] Radanasin Bank was established on 20 January 1998 and was ordered to merge with Laem Thong Bank on 14 August 1998 when the latter was ordered to write down capital to recapitalize.
[h] On 6 February 1998, Siam City Bank was ordered to write down capital and recapitalize with fund from FIDF. On 14 August 1998, it was ordered to be offered for sale.
[i] On 7 November 1996, the Ministry of Finance granted full branch licenses to BIBF offices of 7 foreign banks. These banks included Bank of Nova Scotia (Canada), Bank of China (People's Republic of China), Banque Nationale de Paris (France), Dresdner Bank A.G. (Germany), Sumitomo Bank (Japan), Dai-Ichi Kangyo Bank (Japan), and Industrial Bank of Japan (Japan).
[j] Bank of Nova Scotia started operation on 2 July 1998.
[k] As a result of merger with Mitsubishi Bank, the Bank of Tokyo changed its name to the Bank of Tokyo-Mitsubishi on 1 April 1996.
[l] United Malayan Banking Corporation Ltd. changed its name to Sime Bank Berhad on 16 December 1996.
Source: Bangkok Bank, *Commercial Banks in Thailand 1997, 1998, 1999.*

Deposits (B million)			Net Profits/Equity[a] (%)		
1996	1997	1998	1996	1997	1998
836,354	946,548	969,780	19.3	3.9	(49.0)
110,061	100,629	1,501			
143,675	80,429	166,920	6.6		
86,209	80,086	115,629	16.0	0.4	(79.6)
334,899	389,083	403,896	16.7	7.5	(35.1)
		62,438			2,598.6
81,918	89,860	109,103	9.0	0.3	(107.1)
181,545	131,617		17.1	(147.9)	
578,406	580,049	803,716	20.4	0.5	(72.8)
28,855	26,604		6.8	(22.7)	
46,832	46,762	60,958	14.6	4.0	(341.9)
		40,446			(276.7)
168,948	158,086	208,724	22.5	(115.8)	(444.0)
395,812	558,979	591,150	22.1	7.7	(51.2)
516,906	588,414	579,333	19.1	1.4	(76.1)
249,913	257,575	281,104	20.4	5.9	(36.7)
45,075	48,399		7.5	(62.6)	
3,805,408	4,083,120	4,394,698	16.9	(21.7)	(120.2)
749	5,461	3,193		(0.1)	5.5
1,967	6,766	3,740	7.3		(7.6)
	600	1,080		0.0	0.2
		212			
17,768	30,597	31,977	6.3	1.0	
	34	595			
991	2,706	1,892		14.9	10.1
2,012	2,676	3,882	8.1		7.0
13,327	42,134	44,202	13.7		(16.1)
2,188	7,187	3,701	2.5	0.0	1.2
	1,283	4,263		0.3	0.3
3,871	737	9,323	1.9	0.0	
	13,669	148		0.8	(12.9)
9,043	20,510	19,591			
	3,885	3,750		0.9	0.9
1,457	3,425	3,512	6.2	10.5	1.9
546	1,295	764	2.2		4.3
10,412	20,159	25,939	1.2	1.7	2.9
294	433	413		(5.1)	0.3
6,655	18,047	17,669	2.2	(1.2)	(6.7)
	5,644	5,784			
71,280	187,248	185,630	3.3	0.5	(0.2)
3,876,688	**4,270,368**	**4,580,328**	**12.9**	**(6.5)**	**(45.4)**

Table A1.2: Assets and Liabilities of Bangkok International Banking Facility Units, as of end-1998

		Assets			Liabilities			Lending	
Bank	Date of Opening	Value (B billion)	Share (%)	Share in BIBF (%)	Value (B billion)	Share (%)	Share in BIBF (%)	Value (B billion)	Share (%)
Banks Incorporated in Thailand									
Bangkok Bank	01/04/93	54,528	22.8	6.0	2	0.1	0.0	na	
Krung Thai Bank	25/03/93	47,323	19.8	5.2	294	22.0	0.1	na	
Thai Farmers Bank	25/03/93	23,537	9.8	2.6	507	37.8	0.2	na	
Siam Commercial Bank	24/03/93	43,653	18.2	4.8	13	1.0	0.0	na	
Bank of Ayudhya	01/04/93	18,088	7.6	2.0	60	4.5	0.0	na	
Thai Military Bank	19/04/93	12,018	5.0	1.3	377	28.1	0.2	na	
Bangkok Metropolitan Bank	03/04/95	6,134	2.6	0.7	50	3.7	0.0	na	
Siam City Bank	15/04/93	14,515	6.1	1.6	2	0.1	0.0	na	
Bank of Asia	05/04/93	8,710	3.6	1.0	27	2.0	0.0	na	
DBS Thai Danu Bank	01/04/93	5,591	2.3	0.6	9	0.7	0.0	na	
Nakornthon Bank	01/04/93	5,188	2.2	0.6				na	
Subtotal		239,285	100.0	26.2	1,340	100.0	0.6	na	
Existing Foreign Bank Branches									
Bank of Tokyo-Mitsubishi Ltd.[a]	01/04/93	93,947	18.0	10.3	58,773	40.4	27.9	na	
Sakura Bank Ltd.	01/04/93	56,784	10.9	6.2	339	0.2	0.2	na	
Hongkong and Shanghai Banking Corp. Ltd.	15/04/93	12,781	2.4	1.4	6,909	4.7	3.3	na	
Bank of America N.T.& S.A.	19/04/93	9,012	1.7	1.0	4,382	3.0	2.1	na	
Standard Chartered Bank	16/04/93	8,538	1.6	0.9	46	0.0	0.0	na	
Chase Manhattan Bank, NA	23/04/93	30,210	5.8	3.3	219	0.2	0.1	na	
Banque Indosuez	26/03/93	8,672	1.7	0.9	4	0.0	0.0	na	
Deutsche Bank AG.	01/04/93	9,550	1.8	1.0	8,668	6.0	4.1	na	
Citibank NA	02/07/93	10,113	1.9	1.1	9,859	6.8	4.7	na	
Overseas-Chinese Banking Corp. Ltd.	01/02/95	4,230	0.8	0.5	30	0.0	0.0	na	
ABN-AMRO Bank N.V.	08/10/93	10,891	2.1	1.2	6,773	4.7	3.2	na	
Sumitomo Bank Ltd	30/04/03	108,435	20.7	11.9	43,550	29.9	20.7	na	
Dai-ichi Kangyo Bank Ltd	03/09/93	71,726	13.7	7.8	367	0.3	0.2	na	
Industrial Bank of Japan	18/05/93	56,740	10.9	6.2	3,813	2.6	1.8	na	
Dresdner Bank AG.	01/10/93	9,468	1.8	1.0	223	0.2	0.1	na	
Bank of Nova Scotia	24/02/94	6,214	1.2	0.7	4	0.0	0.0	na	
Bank of China	21/02/94	4,750	0.9	0.5	1,000	0.7	0.5	na	
Banque Nationale de Paris	09/11/93	10,533	2.0	1.2	524	0.4	0.2	na	
Subtotal		522,593	100.0	57.1	145,482	100.0	69.1	na	
Foreign Banks without Branches in Thailand[b]									
Sanwa Bank Ltd.	15/06/93	59,889	39.2	6.5	42,756	67.2	20.3	42,931	37.1
Long-Term Credit Bank of Japan Ltd.	19/08/93	8,377	5.5	0.9	92	0.1	0.0	5,354	4.6
Korea Exchange Bank	09/11/94	7,730	5.1	0.8	2,109	3.3	1.0	5,734	5.0
Development Bank of Singapore Ltd.	02/08/93	5,395	3.5	0.6	1,784	2.8	0.8	4,299	3.7
Societe Generale	01/10/93	13,473	8.8	1.5	1,762	2.8	0.8	12,329	10.7
Internationale Nederlanden Bank N.V.	01/12/93	4,191	2.7	0.5	6	0.0	0.0	2,501	2.2
Credit Lyonnais	15/12/93	7,483	4.9	0.8	11	0.0	0.0	6,433	5.6
American Express Bank Ltd.	11/10/93	131	0.1	0.0	1	0.0	0.0	(74)	(0.1)
Bank of New York	01/03/94	780	0.5	0.1	5	0.0	0.0	0	0.0
Bankers Trust Company	01/03/94	1,784	1.2	0.2	39	0.1	0.0	1,102	1.0
United Overseas Bank Ltd.	16/09/94	910	0.6	0.1	6	0.0	0.0	(1)	0.0
Overseas Union Bank Ltd.	03/01/95	1,645	1.1	0.2	96	0.2	0.0	701	0.6
National Australia Bank	11/06/97	1,184	0.8	0.1	15	0.0	0.0	1,136	1.0
Royal Bank of Canada	16/06/97	773	0.5	0.1	20	0.0	0.0	(2)	0.0
Tokai Bank	20/06/97	17,344	11.4	1.9	14,807	23.3	7.0	14,342	12.4
Fuji Bank	17/09/97	20,652	13.5	2.3	4	0.0	0.0	18,421	15.9
Korea Development Bank	18/11/97	na			na			na	
Generale Bank	25/11/97	1,027	0.7	0.1	69	0.1	0.0	497	0.4
Subtotal		152,766	100.0	16.7	63,581	100.0	30.2	115,704	100.0
Total		**914,644**		**100.0**	**210,404**		**100.0**		

[a] Mitsubishi Bank merged with Bank of Tokyo in April 1996, forming Bank of Tokyo-Mitsubishi.

[b] On 7 November 1996, the Bank of Thailand upgraded 7 foreign BIBF offices into full branches. These banks have to start operations within one year and must have minimum assets of B1 billion (and another B2 billion within one year from the start of operations). On 25 December 1996, the Bank of Thailand granted BIBF licenses in the second round to seven new foreign banks, which are large and well-known. These banks are the General Bank (Belgium), the Union Bank of Switzerland (Switzerland), the Royal Bank of Canada (Canada), the National Australian Bank (Australia), the Korea Development Bank (Korea), Fuji Bank (Japan), and Tokai Bank (Japan).

Source: Bangkok Bank, *Commercial Banks in Thailand 1999.*

Table A1.3: **Assets and Liabilities of Commercial Banks, as of end-December 1996–1998 (B million)**

Item	1996	1997	1998
Assets[a]			
Cash and claims on Bank of Thailand	183,300.0	465,789.5	502,185.8
Cash in hand	61,286.4	53,775.3	47,056.2
Balances at Bank of Thailand	75,094.0	73,792.0	80,133.4
BoT bonds	18,664.0	11,192.0	7,457.0
FIDF bonds	10,762.2	21,911.4	11,090.0
Lending under repurchase agreement	17,493.4	262,194.6	356,449.2
Other advances		42,924.2	
Claims on commercial banks	40,740.9	36,362.3	14,605.0
Deposits	10,100.9	13,886.1	5,902.2
Advances and bills	30,631.0	22,476.2	8,702.8
Claims on other financial institutions	213,918.9	331,309.0	173,101.5
Deposits	4,106.2	3,384.0	3,106.2
Advances and bills	146,172.1	264,894.8	112,083.1
Securities	63,640.6	63,030.2	57,912.2
Foreign assets	179,985.0	409,409.0	462,496.9
Claims on other nonresidents	102,225.9	297,646.0	376,071.5
Deposits	66,058.5	242,073.6	290,078.6
Advances and bills	36,167.4	55,572.4	85,992.9
Claims on other nonresidents	64,559.7	99,292.1	76,100.3
Advances and bills	6,182.7	4,407.3	4,101.5
Export bills	44,175.0	64,150.9	33,228.0
Securities	14,202.0	30,733.9	38,710.8
Other foreign assets	13,199.4	12,470.9	10,325.1
Claims on Government	20,218.0	15,571.0	154,690.2
Advances on bills	2,342.3	8,019.6	497.7
Bonds	17,875.7	7,551.4	154,192.5
Claims on local government	23.2	5.8	1.4
Advances and bills	23.2	5.8	1.4
Claims on nonfinancial public enterprises	112,712.0	99,894.8	108,465.9
Advances on bills	14,543.4	19,646.7	21,415.0
Securities	98,168.6	80,242.3	87,050.9
Claims on business and household sectors	4,688,334.1	5,729,591.0	5,299,620.3
Advances	3,630,320.5	4,463,931.7	4,201,419.6
Bills	967,887.6	1,167,792.4	994,039.9
Domestic bills	780,720.6	880,898.2	759,053.8
Import bills	35,261.1	62,692.6	54,117.3
Trust receipts	151,905.9	224,201.6	180,868.8
Securities	90,126.0	97,866.9	104,160.8
Other assets	278,021.4	340,384.9	449,746.8
Total Assets	**5,717,253.7**	**7,428,311.5**	**7,164,913.8**

Item	1996	1997	1998
Liabilities[a]			
Credit from Bank of Thailand	53,789.8	313,097.7	154,542.2
Of which: Borrowing under repurchase agreement	29,183.0	16,704.1	3,711.9
Liabilities on commercial banks	36,557.8	30,785.9	26,858.1
Deposits	4,088.4	10,459.2	2,708.3
Borrowings	32,469.4	20,326.7	24,149.8
Liabilities of other financial institutions	191,657.1	228,531.6	228,830.7
Deposits	105,960.6	110,340.5	171,974.0
Borrowings	85,696.5	118,191.1	56,856.7
Total deposits of nongovernment sector[b]	3,270,496.1	3,859,621.0	4,201,240.9
Demand deposits	87,298.4	73,151.6	83,476.3
Savings deposits	715,646.5	729,703.7	788,689.3
Time deposits	2,454,835.5	3,004,973.1	3,281,260.8
Foreign currency deposits	11,477.1	49,965.0	45,360.5
Marginal deposits	1,238.6	1,827.6	2,454.0
Foreign liabilities	1,249,293.6	1,904,400.2	1,066,164.6
Banks abroad	1,219,873.5	1,857,328.3	1,022,010.6
Deposits	63,340.8	84,394.0	16,060.0
Borrowings	1,156,532.7	1,772,934.3	1,005,950.6
Other nonresidents	24,887.1	39,436.1	37,936.5
Other foreign liabilities	4,533.0	7,635.8	6,217.5
Liabilities to government	178,065.6	190,530.9	229,800.1
Deposits	178,065.6	187,311.0	226,841.3
Borrowings		3,219.9	2,958.8
Deposits of local government	32,577.7	27,182.2	32,293.2
Capital accounts	603,639.8	690,774.6	1,067,685.0
Of which: Allowance for possible loans losses	93,745.5	247,871.6	687,440.7
Of which: Allowance for securities revaluation		41,612.0	37,063.5
Other liabilities	101,176.0	183,387.4	157,499.0
Total Liabilities	**5,717,253.5**	**7,428,311.5**	**7,164,913.8**

[a] Including interbank transactions.
[b] Consists of business and household sector, nonfinancial public enterprises, and other financial institutions.
Source: Bank of Thailand.

Table A1.4: List of Finance Companies and Finance and Securities Companies and Major Balance Sheet Indicators,

Item	Assets (B million)	Nonperforming Loans/Loans (%)	Debt/ Equity (%)
First 16 Companies Suspended in June 1997[a]			
Finance One	78,292	11	na
CMIC Finance & Securities	71,577	na	10
General Finance & Securities	61,022	28	14
Thana One Finance & Securities	35,702	na	25
Thai Fuji Finance & Securities	29,884	na	191
ITF Finance & Securities	29,098	21	25
Prime Finance & Securities	14,310	21	26
Dynamic Eastern Finance & Securities	13,178	36	8
GCN Finance	12,788	7	39
Thai Financial Trust	12,285	27	52
United Finance Corp.	12,213	20	16
CL Sahaviriya Finance & Securities	8,014	na	12
Country Finance & Securities Ltd.	5,251	na	9
Royal International Finance & Securities	5,069	na	10
Bangkok Metropolitan Trust Ltd.	3,403	na	19
Subthamrong Finance	1,891	na	7
Next 42 Companies Suspended in August 1997[b]			
Wall Street Finance & Securities	34,044	10	14
Multi Credit Corporation	33,773	11	19
SITCA Investment & Securities	33,038	7	5
Nithipat Capital	32,336	5	11
Cathay Trust	31,347	na	15
SCCF Finance & Securities	29,800	13	21
SCF Finance & Securities	29,727	6	15
Chaopraya Finance and Securities	22,778	na	14
Kitnakin Finance & Securities	22,006	9	10
Thai Thamrong	21,530	na	12
Sri Dhana Finance	20,246	6	12
Thanapol Finance and Securities	19,525	na	13
Thai Financial Syndicate	18,580	na	16
First Bangkok City Finance	18,071	na	7
Premier Finance	17,723	na	10
Thai Tanakorn Finance	16,359	27	12
Dhana Nakorn Finance and Securities	15,474	na	15
Thai Rung Reung Trust Finance & Securities	15,131	na	14
Thaimex Finance & Securities	14,849	8	9
Siam City Syndicate Finance & Securities	13,935	na	17
Metropolis Trust and Securities	12,163	na	6
Cathay Finance & Securities	10,961	11	8
Krung Thai Finance & Securities	10,555	17	27
Poonpipat Finance & Securities	10,501	17	57
Pacific Finance & Securities	10,363	12	10
Thanasap Finance & Securities	10,044	na	11
Bangkok Investment	9,693	13	6
Thai Finance & Securities	8,647	na	13
Bara Finance & Securities	8,222	na	15
Ekapat Finance & Securities	8,206	11	14
Asia Financial Syndicate	7,347	na	11

as of end-1996

Item	Assets (B million)	Nonperforming Loans/Loans (%)	Debt/ Equity (%)
Chatiphaibul Finance	7,052	na	1
Bangkok Finance	6,707	na	7
Thanamass Finance	5,356	na	13
Union Finance	5,155	na	8
Thai Oversea Trust	3,890	na	10
Teerachai Trust Corporation	3,144	na	11
Inter Credit & Trust	2,981	na	15
Siam Commercial Trust	2,351	na	10
Lila Finance & Securities	2,140	na	9
People Trust Limited	1,845	na	11
Muang Thong Trust	1,590	na	3
33 Companies Allowed to Continue Operations in August 1997[c]			
Phatra Thanakit	77,044	7	6
Dhana Siam Finance & Securities	68,684	9	6
National Finance	66,602	7	6
Asia Credit	60,295	10	8
Thai Investment & Securities	52,350	2	7
Nava Finance & Securities	51,372	7	6
Krung Thai Thanakit	51,097	6	9
Union Asia Finance	44,182	11	9
First City Investment	25,516	11	7
Siam Sanwa Industrial Credit	21,329	0	10
Ekachat Finance	18,539	15	5
IFCT Finance & Securities	15,713	15	9
Book Club Finance & Securities	15,621	11	12
Ayudhya Investment & Trust	15,343	1	14
Bangkok First Investment & Trust	10,938	1	6
Ocean Securities & Finance	10,899	na	12
Vichirathanatun Finance	10,173	na	11
Citicorp Finance & Securities (Thailand)	9,539	na	9
Thai Summit Finance & Securities	8,564	na	13
Eastern Finance & Securities	4,770	na	3
Sethakara Finance	4,050	na	13
KSIT Finance & Securities	3,860	na	5
Thai Sakura Finance & Securities	3,800	na	10
Bangkok Asian Finance	3,489	na	5
HSBC Finance & Securities (Thailand)	3,309	na	14
ASEC Finance & Securities	2,496	na	4
Asia Finance Corp.	1,891	na	7
BTM (Thailand) Finance & Securities	1,671	na	5
Taksin Thanakit Finance	1,669	na	5
National Finance	1,299	na	6
Mahatun Finance	1,073	na	8
Thai Capital Finance & Securities	941	na	1
Erawan Trust	734	na	(9)

( ) = negative values are enclosed in parentheses.
na = not available.
[a] These companies remained closed at end-1997.
[b] Except for Kitnakin Finance & Securities and Bankgkok Investment which were reopened, the rest of the 42 companies remained closed at end-1997.
[c] The 33 companies continued to operate as of end-1997. Data are as of end-June 1997 for listed companies and as of end-December 1996 for unlisted companies.
Source: Securities One Plc.

Table A1.5: **Assets and Liabilities of Finance and Finance and Securities Companies[a], as of end-December 1996–1998**

Item	1996	1997	1998
Assets			
Cash and claims on the Bank of Thailand[a]	19,249.1	49,892.3	83,527.1
Cash in hand	45.9	60.3	17.0
Balances at the Bank of Thailand	7,890.2	5,662.2	5,489.9
BoT bonds	3,706.0	5,890.0	3,187.0
FIDF bonds	0.0	2,584.0	359.2
Lending under repurchase agreement	7,607.0	35,019.0	65,189.0
Other activities	0.0	676.8	9,285.0
Claims on commercial banks	39,861.2	22,575.8	61,235.0
Deposits[b]	17,174.0	11,105.5	52,478.6
Advances and notes receivable	9,835.5	2,041.5	1,060.0
Securities and participations[c]	12,851.3	9,428.8	7,696.4
Claims on other financial institutions	85,417.9	47,975.8	29,574.9
Deposits	467.8	696.0	390.0
Advances and notes receivable	40,972.4	12,336.5	15,759.4
Securities and participations[c]	43,977.7	34,943.3	13,425.5
Claims on government	3,951.2	1,558.4	29,707.7
Bonds	3,951.2	1,558.4	29,707.7
Claims on nonfinancial public enterprises	44,978.1	26,506.0	8,004.1
Securities and participations	44,978.1	26,476.2	7,994.1
Advances	37.0	29.8	10.0
Claims on business and household sectors	1,554,736.5	1,373,807.1	1,165,528.7
Bills[d]	591,506.2	476,457.6	na
Securities and participations	109,950.9	96,614.4	58,842.2
Advances[d]	743,551.7	751,435.2	1,069,071.7
Overdrafts and loans	606,203.4	649,139.8	na
Other advances	137,348.3	102,295.4	na
Securities loans	109,727.7	49,299.9	37,614.8
Margin loans	102,227.5	40,671.1	23,928.2
Other loans	7,500.2	8,628.8	13,686.6
Foreign assets	**831.8**	**745.6**	**545.5**
Banks	1.8	7.4	na
Non-banks	830.0	747.2	na
Other assets	75,266.3	113,771.8	138,516.9
Total Assets	**1,824,292.1**	**1,636,841.8**	**1,516,639.9**

(B million)

Item	1996	1997	1998
Liabilities			
Credits from the Bank of Thailand[a]	30,135.0	449,342.7	561,901.2
Borrowings from the Bank of Thailand	865.0	504.8	0.0
Borrowings from the FIDF	16,781.0	428,944.2	558,927.2
Borrowings under repurchase agreement	12,489.0	19,893.7	2,974.0
Credits from commercial banks	148,086.8	144,214.0	103,664.8
Borrowings	148,086.8	144,214.0	103,664.8
Overdrafts	3,180.0	927.8	na
Other borrowings	144,906.8	143,286.2	na
Borrowing from business and household sectors	1,081,057.7	549,784.2	499,796.7
Notes payable	1,040,075.1	505,611.6	462,276.6
At call	185,145.0	na	na
Time	854,930.1	na	na
Financial instruments	40,982.6	44,172.6	37,520.1
Foreign liabilities	132,621.6	123,333.8	43,058.9
Banks	127,627.2	119,601.1	na
Nonbanks	4,994.5	3,732.7	na
Borrowings from other financial institutions	104,296.0	89,398.2	30,917.7
Notes payable	91,509.1	48,233.4	na
Other borrowings	12,371.9	12,185.6	30,917.7
Rediscounts	415.0	28,979.2	0.0
Capital accounts[e,f]	226,187.5	197,435.4	158,595.1
Of which provision for loan losses	32,821.2	129,468.8	394,728.1
Other liabilities	101,907.5	83,333.5	118,705.5
Total Liabilities[f]	**1,824,292.1**	**1,636,841.8**	**1,516,639.9**

na = not available.
[a] Repurchase transactions are recorded on gross basis, lending and borrowing under repurchase agreement under the Bank of Thailand. Previously these transactions were recorded in terms of net basis under claims on Government.
[b] Exclude deposits of finance and securities companies.
[c] Include debentures.
[d] Include both checks and bills of exchange.
[e] Include reserves for loan losses provision and devaluation of securities investment.
[f] Include allowance for doubtful debts.
Source: Bank of Thailand.

Appendix 2

Chronology of Major Financial Reform Measures in Thailand

1975

April. The Securities Exchange of Thailand begins trading. (Its name is changed to the Stock Exchange of Thailand [SET] in 1991.)

1979

The repurchase market is established by the Bank of Thailand (BoT) to serve as a channel for conducting open market operations, and to facilitate money market development by providing financial institutions with additional means of adjusting liquidity.

1980

Ceilings on lending interest rates charged by commercial banks and finance companies are freed from the 15 percent limit imposed previously by the Civil and Commercial Code of 1924. The measure provides BoT with more flexibility in adjusting interest rate ceilings in line with monetary policy stance and external financial conditions.

1984

November. To facilitate international trade and to improve Thailand's current account balance, the official exchange rate is no longer determined by pegging the baht solely to the US dollar, but to a basket of major currencies. The baht is also effectively devalued by 15 percent against the US dollar.

The joint private-public Small Industries Credit Guarantee Fund is established to provide credit guarantees to small industries with fixed assets of less than B10 million. (The fund is operated within the Industrial Finance Corporation of Thailand [IFCT] until 1993 when it becomes an independent financial institution.)

1985

February. A B50-million limit on overdraft loan to any person is imposed. The measure is intended to improve the loan structure of commercial banks.

March. BoT encourages commercial banks to introduce the BIBOR (Bangkok interbank offered rate) quoting system to facilitate money market transactions and to obtain benchmark money market rates.

May. Control on the opening of letters of credits (L/Cs) is lifted.

November. The Financial Institutions Development Fund (FIDF) is established within BoT to gain more flexibility in providing assistance to financial institutions in distress.

1986

Interest rate ceilings on loans to priority sectors are lifted.

To encourage mergers between finance companies, the authorities relax branching restrictions for newly merged companies. Previously, finance companies could operate only one branch office.

To enable credit foncier companies to mobilize funds from the public more efficiently, minimum maturity of promissory notes (P/N) issued by credit foncier companies is reduced from three years to one year, without early redemption.

1987

The list of authorized businesses for commercial banks and finance companies is broadened to include (i) custodial service, (ii) loan syndication, (iii) advisory service regarding merger and acquisition (M&A), and (iv) feasibility study.

1988

To help increase competitiveness of smaller banks, BoT encourages them to open "mini-branches" in certain regions of the country to reduce operating costs.

1989

June. The interest rate ceiling on commercial banks' time deposits of more than one year is lifted,

marking the first step toward a full interest rate liberalization.

July. Prior approval from BoT is no longer required for outbound capital transfers such as dividend repatriation and interest or principal payment on foreign debts.

1990

March. The interest rate ceiling on commercial banks' time deposits of less than one year is abolished.

May. Phase I of exchange control liberalization begins as Thailand formally accepts obligations under Article 8 of the IMF's Articles of Agreement, which results in complete liberalization of current account transactions and fewer restrictions on capital outflows.

November. The branch-opening requirement for commercial banks to hold Government bonds as a minimum proportion of total deposits is reduced from 16 to 9.5 percent.

Commercial banks' end-of-day net foreign exchange position limit on net overbought is relaxed from 20 to 25 percent of capital, while the limit on net oversold remains at 20 percent of capital.

1991

January. Commercial banks' reserve requirement calculation is adjusted from a weekly to fortnightly lag basis, to allow more flexibility in managing liquidity.

April. The definition of targeted rural credits under the rural credit requirement is broadened to include credits for crop wholesaling and industrial estates in rural areas.

Phase II of exchange control liberalization begins, allowing freer outflows of capital for overseas investment and repatriation of dividends and proceeds from the sale of stocks by foreigners. Resident individuals or juristic entities are allowed to open foreign currency accounts, subject to certain conditions; for example, the fund must have originated from overseas (e.g., export receipts).

May. The minimum amount of assets that each foreign bank branch must maintain is raised from B5 million to B125 million.

June. The list of securities to be maintained by foreign bank branches is expanded to include debt securities guaranteed by the Ministry of Finance (MOF), debentures, bonds and debt instruments issued by State organizations or State enterprises established under special laws, or other State enterprises as approved by BoT on a case-by-case basis.

The list of securities to be held by commercial banks under branch-opening requirements is expanded to include bonds and debentures issued by State enterprises without MOF guarantees.

July. The reserve requirement is changed to the liquid asset requirement, while banks must continue to maintain at least 7 percent of deposits in securities and cash. The list of eligible securities is expanded to include bonds issued by BoT, and debentures and bonds issued by State organizations or State enterprises established under special laws or as approved by BoT.

September. The service time for automated teller machines (ATMs) and authorized foreign exchange representatives is expanded from 7 a.m. to 10 p.m.

The branch-opening requirement for commercial banks to hold eligible securities as a minimum proportion of total deposits is reduced from 9.5 to 8 percent.

Securities guaranteed by MOF are made eligible under liquid asset requirements for commercial banks.

December. Finance companies are allowed to operate leasing businesses.

1992

January. The interest rate ceiling on commercial banks' saving deposits is abolished.

Rural credit requirements are relaxed as follows :

- The definition of targeted rural credits is widened to include credits for farmers' secondary occupation and credits for agricultural product wholesaling and exporting.

- The definition of targeted small industrial credits is broadened from those with net asset outstanding under B5 million to those with B10 million.
- Interbank deposits are excluded from the deposit base under the rural credit requirement.

February. The branch-opening requirement for commercial banks to hold eligible securities as a minimum proportion of total deposits is relaxed from 8 to 7 percent.

March. The scope of business activities of commercial banks, finance companies, and securities companies is expanded as follows:

- Commercial banks are allowed to operate as (i) selling agents for debt instruments issued by the Government and State enterprises, (ii) information service providers, and (iii) financial consulting service providers.
- Finance companies are permitted to operate as (i) selling agents for debt instruments issued by the Government and State enterprises, (ii) information service providers, and (iii) sponsoring service providers (i.e., preparing necessary documents for companies applying for listing in the stock exchange).
- Securities companies are allowed to operate as (i) custodial service providers, (ii) registrars and paying agents for securities, (iii) information service providers, and (iv) sponsoring service providers.

April. The Commercial banking Act (No. 3) becomes effective.

May. Exchange controls are further liberalized through the following measures:

- Payment in baht to exporters from nonresident baht accounts no longer requires prior approval from BoT.
- Exporters are allowed to use foreign currencies from exports to repay foreign debts without prior approval from BoT, or to pay for imports without having to transfer foreign currencies into the country, as previously required.
- Foreign currency accounts may be used to settle foreign debts of the depositors' affiliates.
- Government and State agencies may deposit unlimited amounts of foreign currencies into their foreign currency accounts.
- Nonresidents may deposit foreign currencies received from Thai residents into their foreign currency accounts.

The Securities and Exchange Commission (SEC) is established to oversee capital market regulation and development.

June. The ceilings on commercial banks' lending rates, finance companies' promissory note rates and lending rates, and credit foncier companies' lending rates are abolished.

The scope of business activities of commercial banks is further expanded to include (i) arranging, underwriting, and dealing in debt instruments; (ii) representing secured debenture holder; (iii) acting as trustees of mutual funds; (iv) operating as securities registrars; and (v) selling investment units.

The minimum capital requirement for commercial banks is announced to be in line with the Bank for International Settlements (BIS) standard, to be effective on 1 January 1993.

The minimum paid-up capital requirements for finance companies and credit foncier companies are tightened:

- finance companies: from B60 million to B100 million by July 1993, and to B150 million by July 1995;
- credit foncier companies: from B30 million to B50 million by July 1993, to B75 million by July 1994, and to B100 million by July 1995.

July. Commercial banks are allowed to issue negotiable certificates of deposit (NCDs) with maturity of three months to three years, and with a minimum denomination of B500,000 or more (increasing by multiples of B100,000).

August. Credit foncier companies are allowed to invest in debt instruments guaranteed by MOF up to 20 percent of capital.

Foreign exchange controls are further relaxed to allow commercial banks located in Viet Nam and countries bordering Thailand to freely withdraw the baht from their accounts at commercial banks in Thailand up to the maximum outstanding balance, excluding borrowed funds.

September. Subject to certain requirements, finance companies and finance and securities companies are permitted to operate as (i) debenture holder representatives and (ii) trustees of mutual funds.

For the liquid asset requirement imposed on commercial banks, debentures and secured bonds issued by IFCT are allowed to become eligible assets.

A scripless clearing and settlement system is introduced on SET.

October. Finance companies are allowed to further expand their scope of business activities. With prior approval from BoT, they may (i) provide custodial services for NCDs and debt instruments, (ii) act as selling agents, (iii) act as registrars and paying agents for securities, and (iv) arrange the issuance of, underwriting, and dealing in, debt instruments.

ATM stations are allowed to operate 24 hours a day.

November. The branch-opening requirement for commercial banks to hold eligible securities as a minimum proportion of total deposits is relaxed from 7 to 6.5 percent.

Finance companies are allowed to issue NCDs.

1993

January. The BIS capital adequacy standard is imposed on commercial banks, with the initial minimum capital adequacy ratio (CAR) at 7 percent for domestic banks and 6 percent for foreign banks.

February. The branch-opening requirement for commercial banks to hold eligible securities as a minimum proportion of total deposits is further relaxed from 6.5 percent to 5.5 percent.

March. The Bangkok International Banking Facility (BIBF) is established, and 46 BIBF licenses are issued to domestic banks, foreign bank branches in Thailand, and other financial institutions from overseas. BIBF units may provide three types of services: (i) banking to nonresidents in foreign currencies and baht (“out-out” transactions), (ii) banking to domestic residents in foreign currency only (“out-in” transactions), and (iii) international financial and investment banking services. They must mobilize funds from overseas and extend credits only in foreign currencies.

April. The scope of business activities of commercial banks is further expanded to include the receipt of orders to purchase or sell mutual fund units on behalf of securities companies or finance and securities companies.

May. Foreign exchange control is further relaxed to increase to B250,000 the maximum amount of baht an individual may carry to Viet Nam or countries bordering Thailand.

The branch-opening requirement for commercial banks to hold eligible securities as a minimum proportion of total deposits is abolished.

BoT establishes a special refinancing facility for small and medium-size investment projects that received investment privileges from the Board of Investment in promotional areas outside Bangkok and nearby provinces (Zone 3).

July. The first credit-rating agency in Thailand, the Thai Rating and Information Services (TRIS), is established.

August. Financial institutions (including commercial banks, finance companies, finance and securities companies, and credit foncier companies, but excluding securities companies) are allowed to apply for licenses to underwrite and trade debt instruments.

The Export-Import Bank of Thailand Act of 1993 is promulgated. (The EXIM Bank is established in February 1994.)

October. Commercial banks are required to announce the minimum lending rate (MLR), the minimum retail rate (MRR), and the maximum margin

to be added to the MRR. The MRR should be calculated from actual cost of deposits and operating cost, as reference lending rates for retail prime borrowers.

November. Insurance companies are allowed to invest in stock and unit trusts up to 60 percent of total assets and to provide the following services: (i) leasing, (ii) provident fund management, and (iii) mutual fund management.

December. The Government announces the increase of the BIS minimum CAR requirement from 7 to 7.5 percent for domestic banks (with tier-1 capital at no less than 5 percent), and from 6 to 6.5 percent for foreign banks, effective April 1994. The CAR for domestic banks is to be raised further to 8 percent (with tier-1 capital at no less than 5.5 percent), effective January 1995.

The Government announces that a minimum CAR of 7 percent is to be imposed on finance companies, with a grace period up to 1 July 1994.

1994

January. Commercial banks are allowed to hold Asian Currency Note (ACN) issued by IFCT as eligible assets under the liquid asset requirement.

Finance companies and credit foncier companies are permitted to hold baht-denominated ACN issued by IFCT and bonds issued by State enterprises in overseas markets as eligible assets under the liquid asset requirement.

February. Phase III of liberalization of foreign exchange controls is announced. It entails the following:

- increasing the maximum amount of baht an individual may carry to Vietnam or countries bordering Thailand from B250,000 to B500,000;
- abolishing the limit on the maximum amount of foreign currencies that may be taken out of the country when traveling abroad;
- Raising the maximum amount Thai residents may invest abroad without prior BoT approval from $5 million to $10 million per year; and
- Allowing Thai residents to use foreign currencies received from abroad to settle foreign obligations without having to surrender or deposit them first in commercial banks in Thailand.

March. Finance companies are allowed to apply for permission to open credit offices outside Bangkok and nearby provinces.

April. A tighter BIS CAR is imposed on commercial banks at 7.5 percent, with tier-1 capital being not less than 5 percent.

June. A net foreign exchange position limit is imposed on finance companies: 25 percent of tier-1 capital on the overbought side and 20 percent of tier-1 capital on the oversold side.

Commercial banks are notified to increase minimum provision for doubtful assets from 50 to 75 percent by 30 June 1994, and to 100 percent by 31 December 1995.

July. The BIS CAR of 7 percent is fully required for finance companies.

August. Finance companies are permitted to open representative offices abroad.

Existing BIBF units are allowed to apply for licenses to operate Provincial International Banking Facility (PIBF) in areas outside Bangkok. PIBF's funding, like BIBF's, must come from overseas. However, PIBF can extend credits both in baht and in foreign currencies, while BIBF can extend credits only in foreign currencies.

Guidelines are issued to finance and securities companies requiring them to separate their finance business from their securities business.

September. Commercial banks are permitted to open ATMs without seeking approval.

Commercial banks are allowed to invest in any business, or in its shares, of not more than 10 percent of the total amount of shares sold.

November. The Thai Bond Dealers' Club (TBDC) is established as a secondary market for debt instruments, with its trading system operating under an established code of conduct and standardized dealing and settlement procedures.

The ceiling of commercial banks' net foreign exchange position is reduced from 25 to 20 percent of tier-1 capital on the overbought side and from 20 to 15 percent of tier-1 capital on the oversold side, or to $5 million, whichever is greater.

BIBF units are allowed to mobilize funds by issuing NCDs.

1995

January. A tighter BIS CAR of 8 percent is adopted for commercial banks, with tier-1 capital being not less than 5 percent.

MOF announces the list of 37 licensed PIBF offices throughout the country.

February. The Cabinet approves the Financial System Development Plan (1995-2000), drawn up jointly by BoT, MOF, and SEC.

March. MRR is adjusted based on total deposit costs.

Commercial banks are required to submit the details on risk management of foreign currency trading and derivatives.

Finance companies and finance and securities companies with capital exceeding B20 billion are required to submit credit plans to BoT.

April. The Government announces that the minimum amount of each withdrawal transaction of the out-in BIBF loans is to be raised from $500,000 to $2 million, effective 18 October 1995.

May. Finance companies are allowed to mobilize short-term funds from the public by issuing bills of exchange (B/E), with a minimum denomination of B10 million. Finance companies are also permitted to issue B/E abroad subject to BoT approval on a case-by-case basis.

Foreign bank branches, BIBF units, and large finance companies are required to submit credit plans and out-in credit plans to BoT.

Credit foncier companies are allowed to operate as loan service agents.

Guidelines are issued for mobilization of contractual savings.

Commercial banks are required to follow the BIS guideline for risk management of derivative trading in order to discourage leveraged contracts.

Commercial banks operating BIBF units are required to put aside provision for doubtful assets that may be worthless or irrecoverable.

The Ministry of Commerce issues a notification prescribing conditions on the establishment of a limited company or a limited public company to undertake life or nonlife insurance businesses for 1995. Applications should be submitted within three months from 8 June 1995.

June. SEC issues a notification stipulating rules, conditions, and procedures allowing securities companies to purchase or hold shares.

July. Commercial banks are permitted to act as customers' unsecured debenture holder representatives.

Short-term BoT bonds worth B10 billion are issued on a weekly basis, with maturities of one, three, and six months, to absorb excess liquidity in the money market.

August. Calculation of liquidity assets of commercial banks on nonresident baht accounts is adjusted from 7 percent of liquid assets to 7 percent of deposits at BoT.

Finance and securities companies are required to allocate capital reserve for securities business of not more than 25 percent of their tier-1 capital.

September. The measurement of net foreign exchange exposure is adjusted for Thai banks in order to better reflect foreign exchange risk.

Guidelines are issued for upgrading existing BIBF units of foreign banks to full branches:

- The foreign bank must be large, with well-established contracts with the Government and private entities in Thailand.
- The BIBF unit must have a minimum funding of B2 billion, with at least B1 billion upon initial operation and another B2 billion within one year.

A notification is issued on types of contract that finance companies can take for hedging exchange rate risk.

The minimum amount of each withdrawal from BIBF is raised from $500,000 to $2 million.

The measurement of net foreign exchange exposure for foreign bank branches is adjusted, with the exception of trade credit.

October. Finance companies are allowed to issue B/E and certificates of deposit (CDs) in foreign currency to be offered in offshore markets with maturity of not less than one year.

November. Guidelines are issued for new bank applications.

1996

January. New guidelines are adopted for BoT lending to commercial banks, finance companies, and finance and securities companies. The loan window is now operated under repurchase agreements instead of securities pledging.

March. Issuance of long-term BoT bonds is announced:

- Bonds with maturities of one year are to be auctioned every two months for B1 billion each, effective April 1996.
- Bonds with maturities of two years are to be auctioned every quarter for B500 million each, effective June 1996. Institutions qualified to participate in the auction include commercial banks, finance companies, the Government Savings Bank, and FIDF.

April. Finance companies and finance and securities companies are required to maintain liquidity reserves at BoT at 7 percent of nonresident baht borrowing or deposits with maturity of less than one year, including the issuance of P/N, B/E, or NCDs.

May. The provisioning requirement is adopted against doubtful assets at 100 percent for finance companies, finance and securities companies, and credit foncier companies, within the accounting period ending 30 June 1996.

June. Commercial banks, BIBF units, finance companies, and finance and securities companies are required to maintain a cash reserve of 7 percent of total short-term borrowing and deposits from abroad.

BIBF units of foreign banks are allowed to include cash reserves as part of foreign assets.

July. Guidelines are issued for the application of second-round BIBF licenses.

The new electronic clearing system (ECS) begins operation.

Branch-opening guidelines for foreign banks are issued.

August. FIDF bonds are issued.

FIDF bonds are allowed to be part of liquid assets.

September. The definition of the capital fund of commercial banks and finance companies is adjusted to count income from cumulative preferred stocks as tier-2 instead of tier-1 capital.

October. CARs for commercial banks and finance companies are tightened.

- Tier-1 CAR for commercial banks is raised from 5.5 to 6 percent.
- The overall CAR for finance companies is increased from 7 to 7.5 percent, and is to be raised, effective 1 January 1998, to 8 percent, with the tier-1 capital adequacy remaining at 5.5 percent.

The repurchase market's (R/P's) operational mechanism is changed from "Dutch Auction" to "Continuous Matching," which shows real-time information in the R/P market through Reuters and BISNEWS.

November. The BIS CAR for foreign bank branches is raised from 6.75 to 7.5 percent.

FIDF announces the opening of credit lines for contributing institutions in order to help shore up their liquidity in times of tight market.

BoT grants full-branch bank licenses to seven BIBF-based foreign banks. It also grants BIBF licenses in the second round to seven new foreign commercial banks.

December. Finance companies, finance and securities companies, and credit foncier companies are allowed to count debentures, bonds, and debt instruments guaranteed by FIDF as part of liquidity assets.

1997

January. The CAR for finance companies is increased from no less than 7 to 7.5 percent, with tier-1 capital adequacy remaining at 5 percent of assets.

Commercial banks are required to submit monthly reports on real estate credits for those projects with outstanding credits or approved capital exceeding B100 million.

The reporting formats for the balance sheet and income statement of finance companies, finance and securities companies, and credit foncier companies are changed to those of limited public companies.

Approval for the three groups of applicants to set up new domestic banks is announced.

March. BoT issues a notification requiring financial institutions to set aside provision against substandard assets for every half year during the accounting period: 15 percent for commercial banks and 20 percent for finance companies and credit foncier companies, effective June 1997.

The Cabinet approves in principle the establishment of the Property Loan Management Organization (PLMO) to purchase property loans with collateral from financial institutions for the purpose of managing and enhancing their value. PLMO is to have an initial capital of B1 million to be appropriated from the budget and a working capital of up to B100 billion to be mobilized through the sale of Government-guaranteed bonds.

Finance companies are required to submit reports on regulations pertaining to B/E transactions (e.g., the maximum lending or investment amount) in order to reduce risk in their overall operations.

April. BoT issues terms and conditions on M&A of financial institutions.

PLMO is established to purchase viable property-related assets from financial institutions.

SEC issues a notification on the features of bills that are deemed "securities," which must comply with normal investor protection regulations.

SEC launches the short-term debenture to finance short-term funds.

May. BoT announces a change in the method of computing commercial bank lending rates: the formula for calculating the MRR, previously linked to deposit costs, is now linked to the MLR. In this respect, the maximum rate charged to general customers is to be MLR plus a margin of no more than 4 percent. This method of calculating lending rates would enable the rates to move in line with market conditions.

PLMO starts mobilizing funds through issuance of a zero coupon bond valued B1 billion.

June. Guidelines for commercial banks are issued to temporarily set a ceiling on deposit interest rate. Interest should be no more than 12 percent per annum on saving deposits with passbook as evidence of deposit or withdrawal and not using checks as a method of withdrawal.

Guidelines for finance companies on determining interest rates, discount rates, and discounts are also issued.

BoT requests commercial banks to cooperate in not selling baht in offshore markets.

Commercial banks, finance companies, and finance and securities companies are allowed to set up property loan management companies.

BoT prescribes regulations on the maintenance of liquidity reserve requirements for commercial banks:

- Debt instruments issued by FIDF are made eligible as instruments to fulfill the liquid asset ratio.
- The out-out transactions for BIBF and PIBF are to be waived from the base for the calculation of liquid assets.
- A clause concerning the maintenance of liquid assets in proportion to the outstanding short-term borrowing from abroad is to be added.

To facilitate financial sector reform, four emergency decrees are issued:

- amendment of the Commercial Banking Act B.E. 2505 to relax regulation on foreign shareholding limit;
- amendment of the Act on the Undertaking of Finance Business, Securities Business and Credit Foncier Business, B.E. 2522 (No.3), B.E.2540 (1997) to encourage M&A of financial institutions, as approved by the minister of finance;
- facilitation of the establishment of the juristic entity that will operate securitization businesses; and
- establishment of the Secondary Mortgage Corporation.

Sixteen finance companies are ordered to suspend their operations for 30 days and to submit rehabilitation plans to the authorities, starting 27 June 1997. (On 25 July 1997, the period is extended to 29 September 1997). In the meantime, finance companies resume a limited type of operation.

July. The exchange rate system changes from a basket peg to a managed float whereby the value of the baht is to be determined by market forces to reflect economic fundamentals.

BoT issues a notification requiring that any Thai banks with windfall gains on net foreign exchange for the spot and forward positions on 30 June 1997 are required to sell such proceeds to BoT within August 1997.

BoT requests financial institutions to sell baht to nonresidents only where such nonresidents have a business in Thailand. In addition, debt instrument redemption for nonresident holders should be made in US dollars only, except for instruments with maturity of more than six months.

The bank rate is raised from 10.5 to 12.5 percent.

Commercial banks and finance companies are allowed to act as credit-collecting representatives for property loans.

The interest rate ceilings imposed on financial institutions are raised:

- finance companies: at-call-borrowing rates, from 11 to 13 percent; and time-borrowing rates, from 14 to 17 percent.
- commercial banks: time-borrowing rates, from 12 to 14 percent; and three-month time-deposit account rates, from 12 to 14 percent.

August. Another 42 finance companies are ordered to suspend their operations for 60 days (allowed to continue some business, as necessary) and to submit rehabilitation plans to the Committee on Supervision of Merger and Acquisition within the same timeframe.

A liquidity-recycling scheme is established by requiring financial institutions with surplus liquidity to lend surplus funds to other financial institutions facing a liquidity run. FIDF, as the manager of the scheme, is to lend to liquidity-short financial institutions by charging at the rate equivalent to the R/P seven-day rate plus 1.5 percent per annum.

The IMF Executive Board approves the Stand-by Arrangement to Thailand.

September. The liquid-asset ratio requirement on deposits and borrowing is reduced from 7 to 6 percent, comprising deposits at BoT of not less than 2 percent, cash in hand of not more than 2.5 percent, and the rest as financial instruments. The cash-reserve ratio on short-term deposit and borrowing is also reduced to 6 percent.

October. Six emergency decrees are announced for the financial restructuring package, in order to facilitate normal resolution of distressed financial institutions:

- The Financial Sector Restructuring Authority (FRA) is established to review the financial rehabilitation plans of the closed finance companies.
- The Asset Management Corporation (AMC) is established to ensure the orderly sale of assets of companies taken over by FRA.
- The Commercial Banking Act is amended to empower BoT to undertake prompt corrective action in situations of financial distress by chang-

ing the management and expediting the process of recapitalization.

- The Act on the Undertaking of Finance Business is amended in the same spirit and principle as the amendment of the Commercial Banking Act.
- The Bank of Thailand Act is amended to entrust FIDF to guarantee depositors and creditors of all financial institutions.
- The Revenue Code is amended to allow financial institutions tax deduction for funds set aside for provisioning.

November. The accounting practice for commercial banks, finance companies, finance and securities companies, and credit foncier companies is adjusted to allow full tax deductibility on income for loan-loss provision effective from the accounting year beginning 1 January 1998.

Tighter loan classification rules are announced and the guidelines on the standard for monitoring financial institutions are issued:

- Recognition of interest income for nonperforming loans (NPLs) more than six months overdue is prohibited, effective 1 January 1998.
- For substandard assets as of end-June 1997, financial institutions are required to set aside as provision no less than 50 percent of their capital funds by the second half of 1997, and not less than 75 percent within the first half of 1998.
- Provisioning for all loans more than six months overdue is required, effective 31 December 1997.

Foreign participation in locally incorporated financial institutions is encouraged by allowing foreign investors to take majority stakes and management control for up to 10 years, after which they would be grandfathered with respect to the absolute amount of their equity holding. (In other words, they would not increase their equity holding in case of share capital increases until the ratio of their holdings is brought down to 49 percent.)

December. The chairman, board, and key staff of AMC are appointed.

FRA's decision on the 58 suspended financial institutions is announced: two rehabilitation plans are approved; 56 companies are to be permanently closed.

A change in the board of directors and management of Bangkok Metropolitan Bank Public Company Limited (BMB) is announced.

The chairman and the board of FRA, key staff, and international experts are appointed. Operating rules and guidelines for evaluating rehabilitation plans are streamlined and fine-tuned.

AMC operating rules and guidelines are finalized, including procedures and safeguards for determining the price of doubtful assets to be purchased.

1998

January. Foreign exchange control regulations are revised:

- Export proceeds must be brought into the country immediately upon receipt of payments or no longer than 120 days (previously 180 days) after receipt.
- The period of surrender (during which foreign currency must be converted into baht) is shortened from 15 to 7 days.

MOF announces the establishment of Radanasin, a new commercial bank ("good bank") to participate in the bidding of assets of the 56 closed finance companies. Radanasin is to have one finance company and one securities company as subsidiaries.

BoT orders a capital write-down and immediate recapitalization of BMB.

A change in the management and directors of First Bangkok City Bank Public Company Limited (FBCB) is announced.

A two-tier foreign exchange market regulation is lifted. Financial institutions may engage freely with nonresidents in spot foreign exchange transactions involving baht. All restrictions pertaining to transfer of baht from nonresidents' sale of domestic securities are also lifted.

February. A change in the board of directors and management of Siam City Bank Public Company Limited (SCIB) is announced and a capital write-down and immediate recapitalization are ordered. Two other commercial banks, Bangkok Bank of Commerce (BBC) and FBCB, are also ordered to write down accumulated losses and recapitalize.

The Cabinet agrees to a proposal to further develop and widen the operation of PLMO to include (i) securitization and property fund management, (ii) issuance of Government-guaranteed bonds and short-term debt instruments, and (iii) upgrading of PLMO to a corporation.

To facilitate the bidding process for the assets of the 56 closed finance companies, BoT allows financial institutions to undertake the business of purchase or transfer of loans from other financial institutions:

- Commercial banks are permitted to purchase or transfer (i) baht-denominated loans from financial institutions in Thailand or AMC and (ii) foreign-currency-denominated loans from financial institutions in Thailand, foreign-incorporated financial institutions, or AMC. Such transaction must be an outright purchase and in line with its actual status with regard to the quality or classification of assets, principal, and interest accrued.
- BIBFs are allowed to purchase or transfer foreign currency loans from financial institutions in Thailand, foreign-incorporated financial institutions, or AMC, whereby each disbursement should not be less than $2 million or equivalent. The minimum should not be applied in the case of a last disbursement. The sale must be outright.

To expand the scope of operation of commercial banks in line with the Islamic faith, BoT grants approval for commercial banks to operate Interest-Free Units where the applicant must have no less than B1 billion in assets.

March. Risk weight of exporting loans is adjusted to 20 percent for loan under preshipment L/C and loan under other documents, including document against payment (D/P) and document against acceptance (D/A) which are guaranteed by commercial banks.

New provisioning and asset classification regulations are issued with an aim to further strengthen financial supervision and bring supervisory regulations in line with international standards by end-2000:

- Accrual of interest: Starting 1 January 1999, financial institutions must cease accruing interest as income on any account where interests due have not been received within three months from the due date. Interest recorded as income on nonaccrual accounts must be reversed out of income beginning 1 January 2000.
- Classification criteria: Effective from the second accounting period of 1998, all accounts, both on-balance sheet and off-balance sheet, shall be classified into five categories—pass, special mention, substandard, doubtful, and loss. The classification should primarily be done using qualitative criteria. However, when a loan has been overdue for a number of periods, as specified for each category, the loan should be classified accordingly.
- Provisioning requirements: Provisioning requirements for classified loans are as follows: pass, 1 percent; special mention, 2 percent; substandard, 20 percent; doubtful, 50 percent; and loss, 100 percent or write-off. They will be phased in starting from the second accounting period of 1998 and will be fully maintained by the second accounting period of 2000.
- Collateral valuation: Classification of loans does not take collateral into consideration. However, properly valued collateral may be deducted from the loan when determining the amount of provisioning. Financial institutions are encouraged to mark-to-market and appraise their collateral more frequently to better reflect market value. BoT indicates that it will issue detailed guidelines for collateral valuation to take effect in the second accounting period of 1998.
- Loan restructuring: Any renegotiation of debts must be subject to realized assessments and

new terms. All such negotiations, including detailed criteria, must be properly documented, and such documentation must be made available to BoT when requested. The basis for the renegotiation is to restructure the loans or obligations to conform with the debt-servicing capacity of the counterparty. In principle, a renegotiation of debt should result in provisions for all expected losses. The new guideline takes effect from 1 July 1998.

- Loan portfolio review: From 1 July 1998, financial institutions are to conduct qualitative reviews of their portfolios, both on- and off-balance-sheet commitments. A summary of the results of the loan portfolio reviews, including data on classifications and provisioning requirements, must be submitted to BoT at the end of each calendar quarter.

April. The amended Bankruptcy Act takes effect after publication in the Government *Gazette*.

BIBF businesses are modified as follows:

- The minimum loan disbursement is reduced from $2 million to $500,000 for credit extended to exporters or customers whose income from export is twice the amount of their entire income.
- BIBFs are permitted to underwrite or avail of loans denominated in foreign currency from financial institutions by limiting the amount to $2 million per customer and $500,000 per exporter as defined above.
- BIBFs are allowed to purchase export-related foreign-currency-dominated instruments at a discount from Thai exporters only.
- Baht assets that BIBFs need to reserve for their operating expenses in Thailand are increased from B100 million to B200 million.

May. BoT orders seven finance companies and finance and securities companies (Union Asia Finance and Securities, Nava Finance and Securities, Mahatun Finance, Bangkok Asian Finance, KSIT Finance and Securities, Erawan Trust, and Progressive Finance) to write down capital, and recapitalizes them through the conversion of FIDF debt into equity. Management is also replaced in these companies.

June. Regulations on Debt Restructuring and Collateral Valuation and Appraisal are announced:

- Debt Restructuring Regulations:
  - Financial institutions are required to establish a formal strategy for debt restructuring to cover every stage of the restructuring process and clearly define each individual's responsibility and accountability for restructuring from the onset.
  - Where the financial institution in a troubled debt restructuring grants a concession to the debtor resulting in a loss to the financial institution, the institution must recognize the loss from restructuring in its profit-and-loss statement for that accounting period, following internationally accepted accounting standards.
  - Following the restructuring, financial institutions may reclassify loans originally classified as "doubtful" or "loss" as "substandard." After the debtor has serviced and paid the agreed interest on the restructured loan for a minimum of three months or has made at least three repayments on the restructured loan, the financial institution may reclassify the loan as normal.
- Regulations on Collateral Valuation and Appraisal: Financial institutions are required to use independent appraisers to estimate the collateral value in certain cases, depending on the book value of the loan and the size of the institution's capital fund. In-house appraisers must conform to generally accepted appraisal standards and codes of conduct set by professional asset appraisal associations. In addition, financial institutions must carry out collateral appraisals or valuations at least once a year. Where the collateral appraisal is carried out within the previous six months, financial institutions may deduct the book value of the loan by up to 90 percent of the col-

lateral value. Where the appraisal is carried out past the previous 6 months, institutions may deduct the book value of the loan by up to 50 percent of the collateral value.

The scope of BIBF businesses is expanded allowing BIBFs to do the following:

- Open L/C denominated in foreign currency to domestic importers by limiting the minimum amount to $2 million per customer and $500,000 per importer whose income from export is at least half the amount of total income.
- Lend against trust receipt denominated in foreign currency to importers by limiting the amount to $2 million per customer and $500,000 per importer as defined above.
- Hold up to 2 percent in Government bonds and the remaining 4 percent in cash for liquidity reserve and also an unlimited amount of assets in baht terms, which must be in Government bonds only.

July. BoT informs branches and BIBF offices of all foreign banks to restructure debt in accordance with notification on Regulations for Debt Restructuring and Collateral Appraisal (2 June 1998) and notification on Strategy, Procedures and Process on Debt Restructuring and Collateral Appraisal (22 June 1998).

BoT announces the change in asset elements for maintaining liquid assets by financial institutions for foreign loans with less than one-year maturity from not less than 6 percent of total deposits at BoT to the following:

- Finance companies and finance and securities companies should maintain liquid assets as (i) deposits at BoT at not less than 0.5 percent; (ii) Thai Government and State Enterprise securities that are unencumbered by any charge, at not less than 4.5 percent; (iii) deposits at banks located in Thailand, and call loans to banks located in Thailand and to FIDF; and (iv) CDs issued by commercial banks, unencumbered by any charge.
- Commercial banks and BIBF units should maintain liquid assets as (i) deposits at BoT at not less than 2 percent, (ii) cash at not less than 2.5 percent, and (iii) Thai Government and State Enterprises securities that are unencumbered by any charge.

August. BoT announces resolution measures for distressed financial institutions:

- It orders seven financial institutions (two commercial banks–Laem Thong Bank and Union Bank of Bangkok–and five finance companies) to write down their capital to one satang per share, wipe out losses, recapitalize to meet the legal CAR, and change their management.
- It announces the resolution of the intervened financial institutions: (i) Laem Thong Bank is to be integrated with Radanasin Bank; (ii) Union Bank of Bangkok and 12 intervened finance companies are to be consolidated with Krung Thai Thanakit; (iii) FBCB is to be fully acquired by Krung Thai Bank (KTB); (iv) all performing assets and liabilities of Bangkok Bank of Commerce (BBC) are to be transferred to KTB while the staff, branches, and NPLs are to remain in BBC, which is to be turned into an AMC; (v) BMB and SCIB are to be recapitalized according to the end-2000 loan classification and provisioning rules and offered for sale, with NPLs covered by yield maintenance and loss-sharing arrangements.

September. BoT announces the modality for reprivatization of BMB and SCIB, which are to be sold through an open competitive bidding process under a two-phase implementation program. The first phase is to involve designing sales process, selection of bidders, and developing marketing materials. The second phase is to entail preparing preliminary bids, conducting buyer due diligence, drafting purchase agreements, launching final bids, and finalizing signing and closing.

October. BoT issues a circular requesting financial institutions to inform their debtors who have the

ability to restructure debt, and their staff who deal with corporate debt restructuring, of the "Framework for Corporate Debt Restructuring."

December. BoT establishes the Office of the Corporate Debt Restructuring Advisory Committee.

BoT issues a circular prescribing the criteria for financial institutions interested in selling or transferring NPLs and providing funds to AMCs:

- If a financial institution directly or indirectly owns more than 50 percent of an AMC's shares or has control over the AMC, the financial institution is obligated to prepare consolidated financial statements.
- A financial institution that sells NPLs to an AMC must do so at a fair value but not exceeding the assets' book value.
- Extension of credit to an AMC by a financial institution must be on normal terms and conditions.

Sources: Bank of Thailand, 1998. Financial Institutions and Markets in Thailand, November; *Quarterly Bulletin*, various issues.

Capital Market in Thailand: Issues and Opportunities

Richard A. Werner

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Scope of Study and Issues to be Addressed

The capital market in Thailand has been severely affected by the recent financial crisis. In the local bond market, trading as well as new issue activity has come to a virtual standstill as interest rates have soared and liquidity has dried up. The stock market, at its recent low, reached 1988 levels, wiping out 10 years of investors' gains and significantly lowering companies' market capitalization. The foreign exchange market has been volatile and interest rates in the money market have spiraled upward due to liquidity constraints.

Given the current crisis and deep recession, policy debate has focused on the deficiencies of the Thai capital market, especially compared to other capital markets, such as those of the UK or US. As the study on macroeconomic management in Thailand shows, however, the crisis was not caused by structural issues, but rather by misguided macroeconomic policies. Inefficiencies are by definition welfare-reducing. As this study will show, the Thai capital market needs much improvement. But it is also clear that the primary blame for the vast economic dislocation and misallocation of economic resources that took place in the 1990s cannot be laid on the state of the Thai capital market and its insufficient regulation.

An analysis of the efficiency of capital markets requires an understanding of their fundamental role within the general macroeconomic environment.[1] A purely microeconomic focus may be misleading. In particular, many studies have started with the simplistic premise that, almost *per definitionem*, more markets with more liquidity and more transactions and with as few regulations as possible are always superior to fewer markets with less liquidity and more regulations. However, the recent literature on market imperfections now recognizes that even perfectly deregulated and highly liquid markets are characterized by market failure, which is due to the pervasive problem of imperfect or asymmetric information. The literature (see especially the work of Stanford Professor Joseph E. Stiglitz, such as Stiglitz and Weiss, 1981) has demonstrated that asymmetric information leads to quantity rationing, which renders first-best policies, such as complete deregulation, inappropriate. With the more realistic premise that we live in a second-best world, it becomes clear that suitable government intervention in the economy and in capital markets is likely to be welfare-enhancing.

Bank-centered vs. Capital-market-funded Economic Systems and Corporate Governance

In a world of perfect information and no market failure, banks and capital markets are perfect substitutes. But in the real world, the distinction between external corporate fundraising from capital markets and fundraising from banks becomes important for the following reasons:

- The incentive structure of bank-centered corporate governance favors high economic growth, as the influence of individual shareholders who are interested in high dividend pay-outs is replaced by cross-shareholdings or bank-shareholdings, giving managerial objectives toward scale maximization the upper hand.
- Banks may provide a more effective form of monitoring than diffuse share ownership (Sheard 1989).
- Since with imperfect information financial markets are characterized by rationing, allocation of scarce resources to priority sectors via the banking system may be beneficial and is likely to maximize economic growth. However, such a regime requires "restrained" capital markets in order not to undermine the rationing effect via the banking system. Moreover, in such a bank-centered system, corporate governance is necessarily very different from that in the UK or US, where cross-shareholdings were set up in order to re-

duce the influence of individual shareholders and thus maximize reinvestments and minimize dividend pay-outs. Within the logic of its own system, this is not necessarily bad; it demonstrably contributed to raising economic growth rates.

- Even with perfect information, the two forms of fundraising would not be equivalent, as is often claimed, because of the credit-creation process: while fundraising from banks on a net basis increases purchasing power in the economy (net credit creation occurs), fundraising via capital markets does not create new purchasing power, but merely diverts already existing purchasing power. Table 1 compares the magnitude of funds raised in the capital markets with the loans outstanding from both banks and finance companies before the crisis.

Table 1: Loans and Capital Market Funds, as of 31 December 1996

Item	Amount (B billion)
Outstanding Credits of Commercial Banks	4,911
Outstanding Loans of Finance Companies	1,488
Outstanding Value of Domestic Bonds	513
Market Capitalization of the Stock Exchange	2,559
Mutual Fund Assets	217
Pension Fund Assets	89

Sources: Bank of Thailand, Thai Bond Dealing Centre.

Policies that place greater emphasis on fundraising via banking systems, therefore, may be welfare-superior to policies that place equal emphasis on banking and capital markets. Many countries, such as Germany, Japan, and most Southeast Asian countries, including Thailand, have opted for a bank-centered financial system, while purposely providing disincentives for or restrictive regulations on fundraising in capital markets. An issue-oriented discussion of the capital market in Thailand, therefore, must not neglect to situate the underdeveloped state of the capital market within the context of the country's macroeconomic structural design. Compared to those of the UK or the US, the Thai capital market certainly appear underdeveloped or too restricted. However, the UK and US economic systems are fundamentally different from the bank-centered economic systems of which Thailand is a prime example. In Thailand, the capital market has been deliberately restricted in a successful attempt to maximize macroeconomic growth via bank-centered credit allocation. As a result, the country's postwar economic performance has generally been exemplary.

There is no strong causal relationship between the crisis that started in 1997 and the fact that the Thai capital market has been restricted and, by UK or US standards, underdeveloped. Notwithstanding this, there are many areas where the Thai capital market can be rendered more efficient and its role enhanced even within the general structure of a bank-centered economy. Whether to maintain the bank-centered economic system or to shift to a capital market-centered one is ultimately a political decision. However, the recent crisis appears to have strengthened the call for the introduction of UK- or US-style capital markets. As macroeconomic management issues are covered in the first part of this volume, this study, which is of limited scope, assumes that the transition toward capital markets as the main source of external financing has begun. It analyzes the current state of the Thai capital market and its regulatory and supervisory environment. It also discusses the development potential of this market and focuses on policy recommendations that will enhance its role and efficiency. In particular, it highlights the necessary steps to further improve transparency and liquidity and to promote deepening of the capital market.

This study divides the Thai capital market into five main sectors: (i) bond market, (ii) stock market, (iii) mutual funds, (iv) contractual savings schemes such as pension funds, and (v) foreign exchange and derivative markets.

This study is strictly issue-oriented. It focuses on identifying issues for the formulation of a reform agenda. It discusses the structure, conduct, and per-

formance of these five sectors in sequence. For each sector, the current state of the market and its participants, the supervisory and regulatory structure, and the market infrastructure are presented, including the market performance during the crisis. The strengths and weaknesses of the market and its institutions are then analyzed and market-specific policy recommendations drawn. The study concludes with a discussion on the capital market outlook.

For additional background information, several Appendixes are included in the study. Appendix 1 discusses the Thai bond and repo markets in greater detail, including their settlement system. Appendix 2 covers the money market and its microstructure. Appendix 3 touches issues of dispute among scholars, where further research is required. Appendix 4 reviews recent developments in securitization.

Key Issues in the Capital Market and Policy Recommendations

The Bond Market: Difficult Years Ahead

DEVELOPING THE BOND MARKET TO COVER LONG-TERM FUNDING NEEDS

The corporate sector has traditionally relied on internally generated cash and bank loans as primary sources of capital. The commercial banking sector, dominated by domestic banks, accounts for about 75 percent of total financial assets. However, banks' capacity to carry out term transformation is limited, as the economy's capital needs have ballooned and the banks' liabilities structure continues to be dominated by short-term deposits. Thus, prudent asset-liability management limits the banks' capabilities to provide long-term financing. In the infrastructure sector, however, long-term funding is required. Developing the local bond market has therefore become a top priority for financial sector development.

Absence of an Active Government Bond Market

In 1990, the Government ceased issuing new bonds as it started running consecutive budget surpluses. As a result, the Government's outstanding baht liabilities dropped from almost B200 billion in 1990 to only B14 billion by the end of 1997. Thus, government bonds as of end-1997 accounted for a mere 3 percent of all outstanding bonds. Simultaneously, liquidity in the secondary markets fell, as reflected in increased bid-offer spreads. The absence of an active government bond market has constituted a major barrier to developing a yield curve.

Increased Issue Activity of other State Entities

While the Government ceased to issue bonds directly, State enterprises increased their share of outstanding bonds to 55 percent by end-1997, accounting for B288 billion. In 1995, the Government also started issuing bonds through the Financial Institutions Development Fund (FIDF) and the Property Loan Management Organization (PLMO), financing vehicles aimed at providing liquidity to ailing banks and finance companies. Many State bonds are explicitly guaranteed by the Ministry of Finance and thus could be technically viewed as quasi-sovereign risk, which could be employed as a risk-free asset to construct a benchmark yield curve. The Electricity Generating Authority of Thailand (EGAT), Telephone Organization of Thailand, Expressway and Rapid Transit Authority, and National Housing Authority have all issued State bonds.

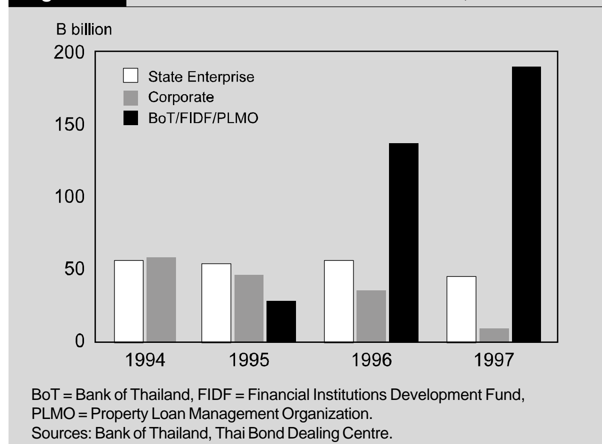
Significant Rise in Private Sector Bond Issues

Historically, private sector corporations have not been active borrowers in the bond market, preferring bank loans or equity finance to satisfy their external long-term borrowing requirements. Hampered by poor disclosure standards, absence of a central clearing system, the lack of a sovereign benchmark for reference purposes, and a less than fully transparent tax and regulatory environment, there was

little corporate bond issuance until 1992. However, the corporate bond market started to take off in 1992 when the Securities and Exchange Act (SEA) was passed. The SEA gives limited companies the right to offer debentures to the general public, whether they are listed on the Stock Exchange of Thailand (SET) or not. Spurred by these developments, issue activity has risen quickly and corporate debentures accounted for 36 percent of all outstanding bonds by end-1997. In particular, structured financing, such as corporate debentures and bonds with warrants (or, in the offshore market, convertible debentures) increased after 1992. There has been a substantial shift from a largely Government-dominated sector to a more competitive market able to attract commercially oriented investors and where issues are priced according to investors' requirements.

Figure 1 indicates the growth of the Thai bond market by type of issuer from 1994 to 1997. Figure 2 shows the significant increase in outstanding corporate bonds for the same period. Unlike other Southeast Asian countries, Thailand managed to establish a thriving corporate bond market over a relatively short time.

Figure 1: Issuance of Domestic Bonds, 1994–1997

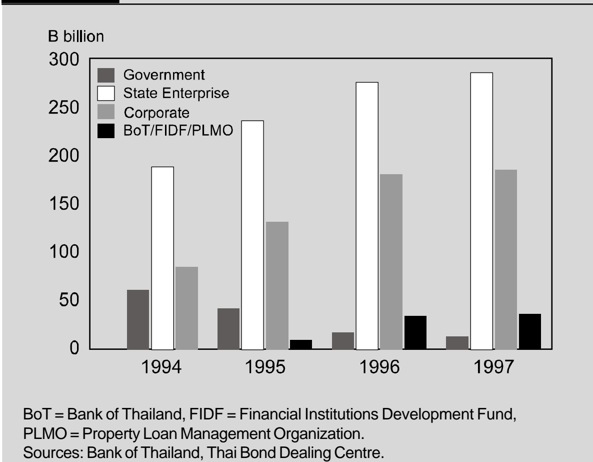


BoT = Bank of Thailand, FIDF = Financial Institutions Development Fund, PLMO = Property Loan Management Organization.
Sources: Bank of Thailand, Thai Bond Dealing Centre.

Crowding Out by Government Bonds

In 1996–1997, however, while issue activity in the bond market increased, corporate bonds were "crowded out" by public sector bonds in the form of FIDF and PLMO bonds, which rose dramatically. As the financial sector experienced significant liquidity constraints, funds raised through the issue of FIDF and PLMO bonds accounted for more than 70 percent of all bond issues in 1997. Most have short-term maturities and thus do little to develop a yield curve.

Figure 2: Outstanding Value of Domestic Bonds, 1994–1997

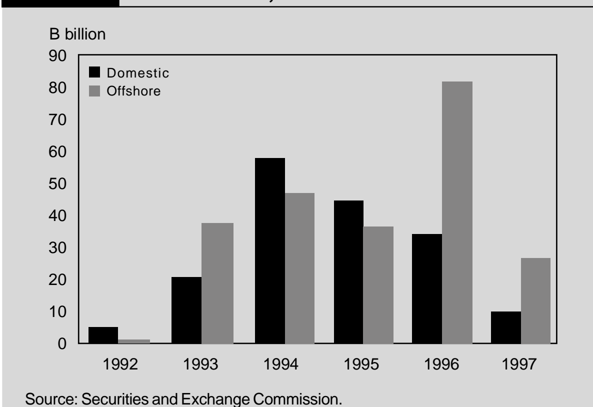


BoT = Bank of Thailand, FIDF = Financial Institutions Development Fund, PLMO = Property Loan Management Organization.
Sources: Bank of Thailand, Thai Bond Dealing Centre.

INTERNATIONAL ISSUES HAVE CROWDED OUT DOMESTIC BONDS

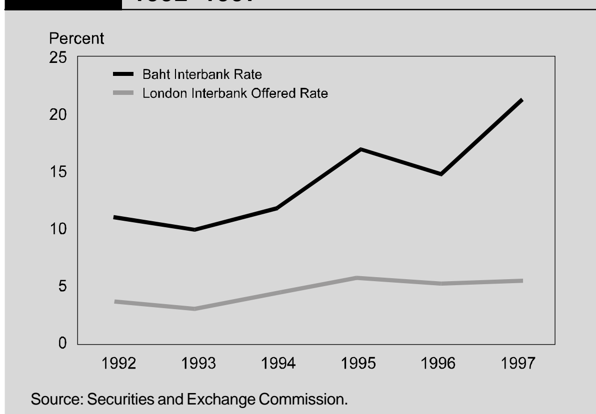
Figure 3 compares the development of domestic and offshore offerings of bonds. Offshore offerings outweighed domestic offerings in 1996–1997, perhaps as a result of an increasing interest rate differential between domestic yields and those available to Thai borrowers in the offshore market before the currency crisis, as shown in Figure 4. Foreign investors had a

Figure 3: Domestic vs. Offshore Offerings of Thai Bonds, 1992–1997



Source: Securities and Exchange Commission.

Figure 4: **Onshore vs. Offshore Interest Rates, 1992–1997**



Source: Securities and Exchange Commission.

Table 2: **Bond Issuers by Sector**

Sector	Outstanding Value, as of 31 Dec 1997 (B million)	Share in Corporate Bonds (percent)
Banking	33,510	25.3
Finance companies	30,532	23.1
Property development	21,972	16.6
Energy	11,406	8.6
Holding company	8,541	6.4
Construction	6,748	5.1
Others	19,791	14.9
Total	**132,500**	**100.0**

Source: Thai Bond Dealing Centre.

large appetite for the higher yields of Thai bonds. Sovereign or quasi-sovereign issuers enjoyed investment-grade status until July 1997 and were able to borrow at 150–200 basis points over comparable US Treasury Yields. Exchange-rate risk seemed negligible, as the nominal exchange rate had been virtually unchanged for more than 12 years. With the onset of the financial crisis and the loss of investment-grade status of the country, these yields shot up to 600 basis points at the height of the crisis, before dropping again to 350–400 basis points as of mid-1998.

From Figure 3 it is also apparent that bond offerings, both local and international, dropped significantly in 1997, especially in the second half, when issue activity came to a virtual standstill, except in the Government sector.

BOND ISSUES TOO CONCENTRATED IN FINANCIAL AND PROPERTY SECTORS

Bond issuers come primarily from the financial and property sectors (Table 2). Almost half of existing corporate bonds are issued by banks and finance companies, while another 22 percent is accounted for by the real estate and construction industries. While this concentration of bond issuers in only two sectors reflects the asset bubble, it also underscores the need to broaden the issuer base and to make the bond market a more attractive funding route for the real sector of the economy.[2]

RETAIL PARTICIPATION IN THE BOND MARKET STILL LIMITED

Domestic investors in the bond market are primarily institutional rather than retail investors. Apart from commercial banks and finance companies, which are required to hold at least 2.5 and 5.5 percent, respectively, of deposits in Government or State enterprise bonds, investors include mutual funds and provident funds. Mutual funds can invest up to 35 percent of their assets in securities and debt instruments. Provident funds are also required to invest at least 60 percent in lower-risk assets such as debt securities. These provisions have helped boost the investor base for debt instruments. However, to further broaden the investor base for bonds, the massive retail savings pool in Thailand has to be tapped.

CREDIT-RATING SECTOR NEEDS TO BE STRENGTHENED

The development of the bond market was boosted by the creation of a domestic credit-rating agency in 1993, the Thai Rating and Information Services (TRIS), with a registered share capital of B100 million. TRIS is licensed by the Securities and Exchange Commission (SEC) and owned by major Thai banks, brokers, SET, and Industrial Finance Corporation. All corporate debentures sold to the general public need a credit rating by TRIS. The credit-rating agency, so far the only one in the coun-

try, successfully built up a core business. At its peak, it maintained ratings of more than 80 bond issuers. However, as the financial crisis has affected the payment capabilities of issuers, a number of bond issuers have decided to discontinue their ratings with TRIS. This is a loophole in the current regulatory environment, as it is allowed for pre-1995 issues and for privately placed instruments that are defined as being sold to less than 36 investors. As a result, most of TRIS clients withdrew their ratings. As of March 1998, only around 30 continued their ratings. Often, issuers opt to withdraw their ratings rather than face a credit downgrade. This behavior eliminates the whole rationale for having a credit-rating agency in the first place.

When credit ratings are compulsory for public issues, significant power is vested with the credit-rating agencies. When there is only one rating agency in the country, as in Thailand, it effectively exercises monopoly power over issuers and there is a considerable risk of abuse. Thus, making credit ratings compulsory, but assigning responsibility to a monopoly institution, is undesirable.

TRADING SYSTEMS NEED TO BE FURTHER IMPROVED TO ENHANCE LIQUIDITY

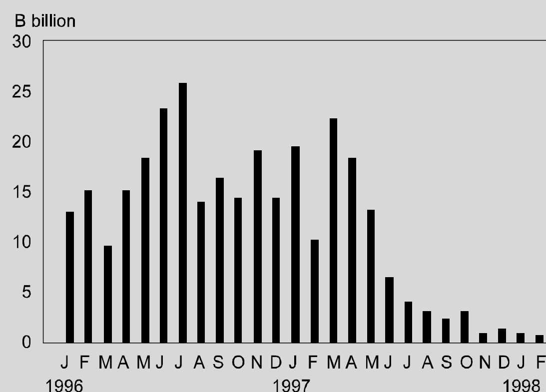
The establishment in 1994 of the Thai Bond Dealers' Club, now renamed the Thai Bond Dealing Centre (TBDC), improved liquidity in the bond market. TBDC provides a computerized trading system for bonds and has more than 80 members, primarily banks and finance companies. Mutual funds and provident funds are currently not admitted to TBDC. By end-1997, TBDC covered 131 bond issues, comprising B133 billion of corporate issues (or 71 percent of the total corporate market) and B36 billion of Government bonds (or 18 percent of the Government market). However, out of the more than 131 bonds registered with TBDC, the top five issues account for almost 60 percent of trading activity. This implies that there is only a small number of liquid bonds for which market makers offer two-way bids.

TBDC uses a "blind" computerized system for trading bonds. This system does not allow traders to observe market conditions, as no other market bids and offers are present on the monitor. Instead, traders have to negotiate with each other anonymously. This practice may have limited the appeal of using the trading system and instead encouraged direct dealings between interested parties. While trading via the phone system is an established practice even in some developed economies, in an emerging bond market with relatively low liquidity, it would be preferable to have a more transparent system to facilitate market participants' receipt of up-to-the-minute information on trading activities and bid-offer rates.

SECONDARY TRADING OF BONDS AT A VIRTUAL STANDSTILL

Figure 5 shows secondary bond trading, both within TBDC and among TBDC members in the phone market. Trading volume slumped dramatically from June 1997 onward with the onset of the currency crisis and transactions within the TBDC system have fallen to zero. The only trades taking place are carried out via direct transactions between intermediaries. By February 1998, trading volume had fallen to a historic low.

Figure 5: Secondary Bond Trading, January 1996–February 1998



Source: Thai Bond Dealing Centre.

WEAK BOND MARKET HAS PARTLY HAMPERED MONETARY POLICY IMPLEMENTATION

The lack of a deep and liquid Government bond market has partly impeded the implementation of monetary policy. As a result, the Bank of Thailand (BoT) had to rely to a great extent on three avenues to regulate credit creation in the economy: (i) the Exchange Equalization Fund (EEF), which is part of BoT; (ii) the discount window; and (iii) the issuance of BoT, FIDF, and PLMO bonds. If only BoT had a much more liquid and deep bond market available to conduct its money market and open market operations, its intervention would likely have been smoother. While the economic impact of, for example, the issuance of a BoT bond is equivalent to a purchase operation of a Kingdom of Thailand bond, the former bonds are fairly thinly traded. Without benchmarks and an established yield curve, investor interest is likely to be below optimal levels.

STRUCTURAL REFORMS CAN IMPROVE MARKET INEFFICIENCY

Trading activity will pick up only if the macroeconomic situation improves and uncertainty over future inflation and interest rate developments is reduced. Macroeconomic development and capital markets interact closely: even the most efficient bond markets will not function in an uncertain macroeconomic environment. The following reform agenda assumes that structural reforms are important for preparing the ground for a more efficient bond market. Indeed, the crisis can be considered as an opportunity to implement measures to improve the future efficiency of the bond market. The key measures are the following:

Establish a yield curve. Perhaps the most important impediment to the development of a deep and liquid bond market has been the lack of a risk-free benchmark yield curve to facilitate bond pricing. The Government, by law, is not allowed to issue bonds, as long as it maintained a budget surplus. In the post-crisis environment, the Government is expected to run budget deficits, at least temporarily. Historically, Government bond issues have not followed market conditions, as bonds are placed with "captive" investors that are required to hold such instruments under statutory reserve requirements. If the Government continues this practice, it will waste a chance to establish a benchmark yield curve. Thus, it is recommended that a Government borrowing program be established in coordination with the continued issuance of Government-guaranteed State enterprise bonds. Terms should be market-oriented and the borrowing program should aim at establishing a yield curve by offering a range of maturities on a regular and consistent basis. Indeed, under the Financial Sector Reform Program Loan of the Asian Development Bank (ADB), the Government committed to establish a program and timetable for the issuance of long-term Government bonds to develop a market for long-term securities. Such bond issues should be priced strictly according to market criteria.

Improve trading systems. As mentioned above, the efficiency of the trading system for bonds can be enhanced by introducing a more transparent computer system that allows all market participants to get real-time access to bid and offer quotes by the market makers. Such a system is preferable to the current system, which does not promote transparency.

Broaden membership of the Thai Bond Dealing Centre. Mutual and provident funds should have access to the TBDC system in order to broaden the market base for trading activities. In general, liquidity and secondary market trading improves as more players enter the market.

Enhance efficiency of the credit-rating sector. Other firms should be allowed to enter the rating agency industry and break TRIS' monopoly. Investors will then go to rating agencies that provide the best predictions of issuer-default probability. Competition will also improve rating transparency, as investors can compare ratings by different agencies. Ratings should then be made compulsory and exist-

ing loopholes for private placements and older issues closed.

Expand the investor base. Domestic institutional investors can be attracted by the complete removal of any restrictions on the asset allocation of life insurers, pension and provident funds, and investment funds. International investors will likely be encouraged as soon as the currency markets stabilize. Locking in the current relatively high yields may be an attractive proposition to investors and is likely to expand the institutional investor base.

A major challenge is to draw retail investors to the bond market. While investors have preferred stock market investments due to higher return expectations, the recent volatility in the stock market, which led to significant losses for investors, makes low-risk assets, such as bonds, attractive. Government bonds are likely to attract retail investors if there is enough liquidity and if they yield a return comparable at least to bank deposits. Selling Government bonds to the general public, rather than just the traditional captive investors, will require a well-targeted public education campaign. The expansion of the mutual fund industry will also be critical for broadening and diversifying share and bond ownership.

Enlarge the issuer base. Issuers in the bond market have been largely limited to State entities and the finance and property sectors. It is desirable to broaden the issuer base to the real sector of the economy. As banks ration credit due to their large exposure to problem loans, it can be expected that a well-targeted campaign to attract industrial and export-oriented companies will broaden the issuer base.

Provide tax incentives. There are no tax incentives to hold bonds compared to equities. On the contrary, investors must pay a 15 percent withholding tax when they purchase fixed-income securities, while capital gains on equities are tax-exempt and dividends are subject to 10 percent tax.[3] A lower withholding tax will make bonds more attractive.

Set up an enabling environment for asset securitization. The first quasi-securitization in Thailand took place in 1993, but the Securitization Act was introduced only in June 1997. Yet, crucial legal rules on trusts and special-purpose vehicles are still missing. The Secondary Mortgage Corporation, which was established in 1997 under public ownership, should gradually be transferred to the private sector. Asset-backed securities are likely to be in demand as banks come under increasing pressure to restore their balance sheets and sell off nonperforming loans. These securities can be used to facilitate the disposal of assets or the collateral linked to the assets of banks such as mortgages, credit card receivables, or other types of loans. For investors, they can provide an opportunity to gain exposure to these markets without having to directly purchase the underlying asset. A master plan is recommended in order to systematically analyze current impediments to asset securitization and to establish an enabling framework for this new type of asset class. The master plan must do the following:

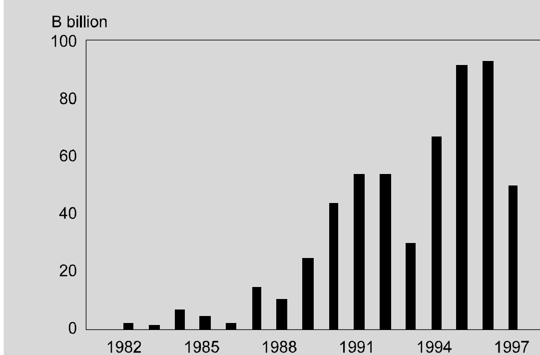
- Assess the market demand and supply for different types of assets that can be subjected to asset securitization.
- Propose amendments to the law and new laws on trusts and special-purpose vehicles in order to enable an efficient asset securitization process.
- Suggest tax treatment that will encourage asset securitization.
- Recommend a system of regulatory oversight.

The Stock Market: Recent Tightening of Regulation Prevented Systemic Failures

The Thai stock market has become a major source of capital for Thai companies. While the financial crisis has affected issue activity in the stock market, it has not led to any major crisis in the regulatory and supervisory system. The Thai equity market has been much better regulated and supervised than the banking sector. There have been no major bankruptcies or irregularities, for example, among brokers or securities companies. Issues such as margin trading

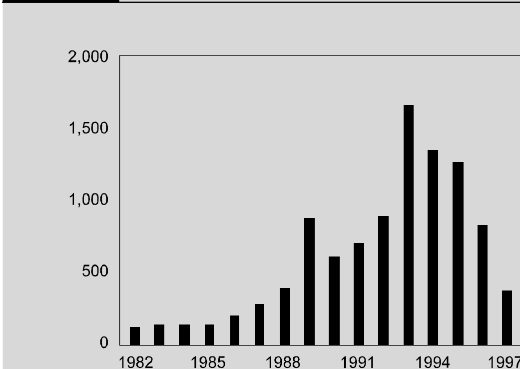
and lack of adequate capitalization of brokers were recognized and addressed even before the financial crisis started in June 1997. While 56 finance and securities companies were permanently closed down in December 1997, the reasons for their closure lay in their exposure to bad loans rather than their securities business.[4] A recent regulation, approved by SEC in December 1997, no longer allows the forming of joint finance and securities companies. By December 1999, all finance-cum-securities companies must separate their lending from their securities business. The following sections detail some of the recent reform measures in progress and point out remaining issues and policy recommendations.

Figure 6: Capital Mobilization of the Stock Exchange of Thailand, 1982–1997



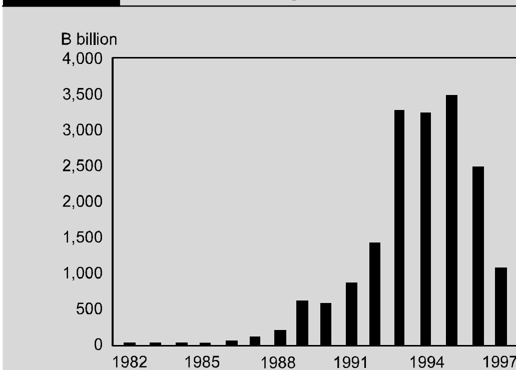
Source: Bank of Thailand.

Figure 7: Stock Market Index, 1982–1997



Source: Stock Exchange of Thailand.

Figure 8: Market Capitalization of the Stock Exchange of Thailand, 1982-1997



Source: Stock Exchange of Thailand.

CAPITAL MOBILIZATION SEVERELY AFFECTED BY CRISIS

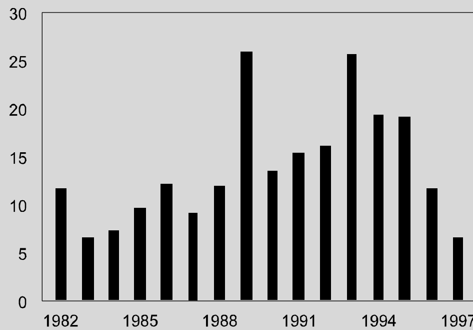
Figure 6 shows issue activity in 1982–1997, while Figure 7 indicates the level of the stock market index at year-end for the same period. Capital mobilization dropped significantly in 1997, as the stock market hit a new low. Not surprisingly, as stock valuations tumbled (Figure 8), companies were reluctant to raise capital in the public market unless absolutely necessary. As of December 1997, 431 companies were listed on the stock exchange.

The recent crisis followed a strong period of growth in the 1990s, when market capitalization increased significantly in tandem with new listings on the exchange as well as increased valuations. By the end of 1993, total market value had reached B3.3 trillion (Figure 8), for the first time exceeding GDP. As stock market participants became more bearish and price-earnings (P/E) ratios declined, market capitalization fell substantially in 1996–1997.

LIQUIDITY DROPPED SIGNIFICANTLY WITH FINANCIAL CRISIS

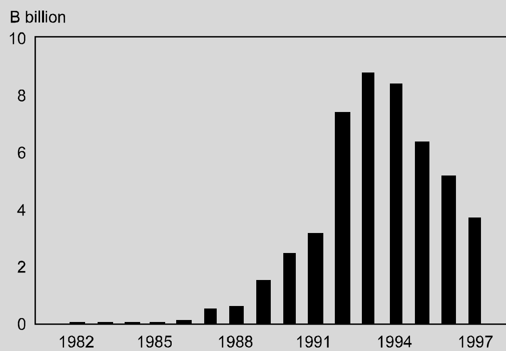
Annual turnover rose from B10 billion in 1984 to B627 billion in 1990, peaking at B2,201 billion in 1993, when the stock market index was at its highest level. Daily turnover also increased tremendously and peaked in 1993 (Figure 10). It has been declining substantially since then, as stock market valuations dwindled. Trading activities are heavily focused on a small number of stocks, with the top 20 most active stocks accounting for 70 percent of the trading volume.

Figure 9: **P/E Ratios of the Stock Exchange of Thailand, 1982–1997**



P/E = price/earnings.
Source: Stock Exchange of Thailand.

Figure 10: **Daily Turnover on the Stock Exchange of Thailand, 1982–1997**



Source: Stock Exchange of Thailand.

STOCK MARKET TOO CONCENTRATED IN PROPERTY AND FINANCIAL SECTORS

About half of SET's market capitalization is concentrated in the finance and property sectors, as shown in Table 3. While this concentration is less than that of the bond market, a broader representation of other sectors of the economy would reduce market dependence on just two sectors and thus lower overall market volatility.

FOREIGN INVESTORS NOT RESPONSIBLE FOR SELL-OFF IN STOCK MARKETS

Foreign participation in the Thai stock market has not been as important as in some other Southeast Asian countries. In particular, the hypothesis that foreign investors contributed to the meltdown in the stock market at the height of the financial crisis in the summer of 1997 is not confirmed by data. Data from SET on the net turnover of foreign investors showed that foreign investors were net *buyers* of domestic securities on all but nine trading days from early July to late September 1997. This is in marked contrast to local mutual funds, which were net *sellers* of domestic securities on all but seven trading days during the same period.[5]

Table 3: **Market Capitalization of the Stock Exchange of Thailand by Sector, as of December 1996**

Sector	Market Capitalization (B billion)	Percent of Total
Banking and finance	894.8	34.9
Property and construction	369.3	14.4
Communication	308.2	12.0
Energy	225.7	8.8
Entertainment	89.9	3.5
Transportation	83.9	3.3
Chemicals and plastics	78.0	3.0
Commerce	63.2	2.5
Food and beverage	40.3	1.6
Others	409.9	16.0
Total	**2,563.2**	**100.0**

Source: Stock Exchange of Thailand.

ORDER-DRIVEN SYSTEM LIMITS LIQUIDITY

An order-driven system is implemented in SET. It allows all market participants to put competitive prices into the system for automatching, so its main advantage is market clearance at fair prices. However, its main drawback is the lack of liquidity. A quote-driven system, on the other hand, is operated by market makers who stand ready to execute transactions and buy on their own accounts if necessary. While a quote-driven system improves liquidity, its performance depends on the integrity of market makers and the transparency of the market-making system. In addition, market makers have to be solidly capitalized in order to survive when prices turn against them. Moreover, the system needs to be equipped with market infrastructure, such as securities lending and

repo transactions, to enable market makers to function efficiently. SET has implemented its order-driven system with market-making features. However, the so-called "market makers" are required to send some orders into the system to initiate a certain minimum amount of trades, so they do not stand ready on the other side of transactions all the time like the fully functioning market makers. Thus, although the liquidity problem in SET has been somewhat alleviated, it still remains.

FURTHER REFORMS CAN DEEPEN THE MARKET

The stock market has grown fast but has been very volatile over the past years. Several studies find both a high degree of volatility and a high frequency of variation (e.g., Rhee 1990; Dayananda and Fagg 1995). Reasons for high volatility are the insufficient degree of liquidity, which results from the small number of stocks listed and traded, and domination of the market by the financial and property sectors.

More reforms are needed in order to deepen the market and render it more attractive to both investors and issuers. The Government may do the following:

Promote privatization. Some of the biggest and most profitable companies are still owned by the State. Privatization could broaden share ownership and lessen the market's dependence on finance and property stocks. Large-scale privatization programs have expanded share ownership and induced a "shareholder culture" in a number of countries. In addition to deepening the stock market, privatization also reduces the scope for political interference in the commercial management of firms. Although it also entails political decisions, and however important the stock market is, privatization should be carried out for the above reasons and not merely to supply new stocks to trade.

In the third letter of intent signed by the International Monetary Fund (IMF) and the Government of Thailand in February 1998, the Government promised to accelerate privatization. It established the Privatization Committee in June 1998 and proposed legislative reform (including the Corporatization Law) to expedite the process. However, privatization is not a panacea. Unless a proper regulatory framework is set up and competition introduced, privatization will not lead to economically optimal resource allocation if it only serves to raise funds for the Government.

State-owned transportation companies slated for privatization include Thai Airways, initially through a strategic partnership with a foreign investor, with remaining shares to be offered to domestic investors and employees. EGAT initiated sales of its stakes in Electricity Generating (Public) Limited and Power Gen 2 in 1998. Ultimately, EGAT will be split into generation and transmission companies and sold off to domestic investors. Petroleum Authority of Thailand (PTT), the large State-owned oil company, is scheduled for privatization by end-1999. The Telephone Organization of Thailand will be prepared for corporatization and eventual privatization through amendments of laws and regulations. Privatization should also include the water supply sector, following successfully completed transactions in Jakarta and Manila.

Privatization proceeds could amount to B81 billion (Table 4). If successful, these could cover about half of the estimated cost of the financial bailout of the banking sector in 1998.

Improve regulation and supervision of brokers. SEC has done remarkably well in preventing the trad-

Table 4: Privatizations Planned for 1998

Enterprise	Share Price (B)	Stake to be Sold (percent)	Expected Cash to be Raised (B billion)
PTTEP	556.0	20.0	34
Electricity Generating Authority	76.5	14.9	5
Bangchak Petroleum	9.4	31.0	2
Telephone Organization of Thailand	na	25.0	25
Thai Airways	53.5	20.0	15
Total			**81**

na = not available.
Source: Jardine Fleming.

ing defaults, insolvencies, and settlement irregularities that have characterized the less-well-supervised banking sector. It has actively steered capital market development since its establishment in 1992. Its success stories include gearing down a nearly $6 billion bubble of margin lending over a period of 18 months ending in late 1996, without compromising the integrity of the brokerage industry. In addition, a program to boost capital of securities firms was started even before the occurrence of the financial crisis. Brokerage firms must maintain a net capital base (i.e., liquid assets less liabilities) of 3 percent over total liabilities. This ratio rose to 5 percent by January 1999 and will have to rise to 7 percent by the year 2001, as per SEC requirements.

To reduce systemic risk arising from potential defaults of brokers, SEC recommends that the Thai Securities Depository Co., Ltd. (TSD) establish a clearing fund to cover possible defaults.[6] With the collapse of many brokerage firms attached to finance companies, barriers to entry were reduced for foreign investors. The Government now allows foreigners to buy local brokerage firms. However, no new "four-basic" securities licenses (covering brokering, dealing, underwriting, and investment advisory services) have been granted to new entrants. After the closure of 56 finance companies, there remain 23 securities companies and 22 finance and securities companies with brokering licenses. A policy review should allow more market entrants that cover all four areas. The underwriting capabilities of domestic brokers have to be expanded in anticipation of the expected large-scale privatization. A system of underwriting syndicates should be established, as individual brokers do not have the underwriting capacity for large issues.

Since January 1998, short-selling has been allowed, regulated and supervised by SEC.[7] The initial public offering process has been significantly streamlined and made more transparent. Policies that previously encouraged companies to make exaggerated business projections or forced them to undergo burdensome hearings and reviews have been eliminated and replaced by a simpler process that requires companies to make fairly simple filings that meet clear and standardized requirements.[8] Finally, a takeover code was established to guide friendly or hostile takeover bids. It is expected to be important as mergers and acquisitions become more significant and corporate restructuring intensifies.

Other reforms needed include granting a fully independent and self-regulatory status to SET, which will foster peer reviews and discipline in the brokering community. Granting more autonomy to SEC will strengthen its credibility and reduce the possibility of political interference. At the same time, both bodies must be monitored by independent panels and auditors in order to maintain their maximum efficiency.

Improve market transparency and information disclosure. Clear disclosure requirements based on Generally Accepted Accounting Principles (GAAP) and strict compliance mechanisms for listed companies are the bases for transparency and improved allocation of resources in the capital market. In December 1997, SEC approved SET's rules requiring an audit as a condition for listing new applicants beginning January 1998, and for keeping listed the companies already in existence by December 1999.[9] The Government has also committed itself to reform bankruptcy and foreclosure laws to enable creditors to exert more pressure in case of default. Amendments to the bankruptcy laws will allow corporate reorganization (rather than outright bankruptcy) and ensure fair treatment of creditors.[10] Foreclosure laws were amended in October 1998.

Although all business enterprises are required by the Institute of Certified Accountants and Auditors to complete and submit financial statements in line with GAAP, the supervisory and compliance mechanism can be further strengthened to weed out any loopholes or lax implementation. In addition, the ownership structure of companies and banks should be published to improve transparency and to facilitate corporate restructuring through mergers and acquisitions.

Improve corporate governance. The corporate governance structure can be changed from the bank-centered system, where shareholders have relatively limited direct influence on management and where management is relatively insensitive to shareholder concerns, such as absolute dividends, P/E, return on equity (ROE), or return on assets (ROA), to the more stock-market-oriented UK- or US-style system, where shareholders have much larger influence. Making stock options a key component of the management compensation package can help realign the incentive structure of management and render it coincidental with the objective function of shareholders. The commercial code, regulations, and the tax structure can be changed to facilitate and encourage the use of stock options. Their use in other countries has made management more sensitive to share-price movements and investor concerns. However, a main advantage of the bank-centered, diffuse corporate governance structure—the long-term orientation of management policies—will be sacrificed, and management goals are likely to become much more oriented toward short-term profit maximization. It is not obvious that the aggregate outcome for the economy will be welfare-enhancing.

Enhanced disclosure, increased transparency, the need for further direct equity issuance for recapitalization purposes, and the greater role of foreign and domestic institutional investors are likely to dilute traditional cross-shareholding patterns and tend to break up family-dominated Thai business groups. The requirement to disclose ownership, particularly in the banking system, will promote transparency and increase the credibility of markets and business decisions. A small number of families secretly own substantial stakes in banks and business groups through holding companies. An increased role for external auditors and outside directors, whose compensation is tied to stock performance, would limit these families' excessive influence. Clearly, however, the problem of concentration of ownership or de facto control in the hands of a few families is not exclusive to Thailand, but is pervasive in Southeast Asia, and even in Europe and the US, albeit more indirectly and less apparently.

Encourage primary-market deepening. If Thailand's bank-centered system shifts to a market-based funding structure, a number of measures can enhance the attractiveness of the stock market, including tax incentives. In bank-centered economies, the tax structure is designed to make debt financing more attractive than equity financing. The incentive structure can be reversed by abolishing any tax deductibility of borrowing and introducing tax breaks for equity financing. However, small and medium-size firms will not be able to access capital markets directly and will remain dependent on bank loans. Since they are important employers and crucial for the labor market and consumption, the enhancement of equity financing should not take place at their cost. Selective tax breaks on debt financing for them are therefore likely to remain welfare-enhancing. The removal of foreign ownership restrictions would also encourage market deepening. Under the Alien Business Law, the limit on foreign shareholdings is 49 percent. While this is under review for specific industries, it should be completely abolished to promote overall economic efficiency and competition.

Reduce secondary market transaction costs. Transaction costs are kept above free-market levels by a system of fixed brokerage commissions. The brokerage commission fee schedule has been revised from 0.3 percent for mutual fund companies and 0.5 percent for others, to 0.3 percent for mutual funds, 0.5 percent for retail investors, and negotiable fees for domestic subbrokers now that their commission floors have been abolished. While floors still exist for foreign institutional investors, the fee structure is moving toward a free-negotiation system, which should reduce barriers to entry and allow discount brokers, including foreigners, to operate in the Thai market.

Improve market microstructure. A number of reforms can be implemented to improve the efficiency and attractiveness of SET. In a world of greater international integration, simply increasing trading hours is one such measure. Chang, Rhee, and Tawarangkoon (1997) showed that an increase from three to four trading hours at SET in July 1992, when an afternoon session was introduced from 2:30 to 4:00, resulted in substantially higher trading volume and value, and in speedier price adjustment, while market volatility rose only modestly. A further lengthening of the trading hours is likely to provide further benefits to market participants and also facilitate foreign participation.

Meanwhile, SET has increased permissible market volatility in individual stocks before trading is suspended, from a 10 to 30 percent ceiling-and-floor limit from the previous day's closing price. While this may potentially increase volatility, it is also believed that a wider band of individual stock movements may enhance confidence, especially if combined with circuit breakers that limit overall index volatility.

Since April 1998, SET has implemented a new circuit breaker system. As in the New York Stock Exchange, if the SET index falls by 10 percent from the previous day's close, all trading of listed securities is halted for 30 minutes; if it falls by more than 20 percent, trading stops for one hour. However, circuit breakers can often only delay rather than prevent severe corrections in asset prices, and their effectiveness is disputed both in the theoretical and empirical literature. Some researchers even warn that they may increase market volatility.[11]

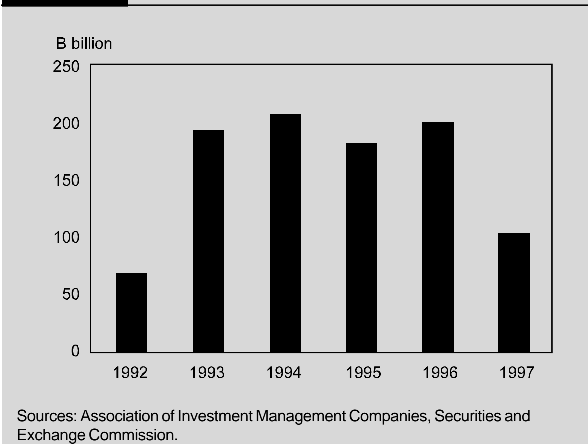
Moreover, when weighing costs and benefits of capital market reforms against demands on other policy areas, it must be kept in mind that even the most efficient market microstructure will be powerless to prevent market crashes if the latter are rendered inevitable by macroeconomic management. Hence, recommendations on macroeconomic management reforms must receive first priority.

Mutual Funds: Significant Growth Attracts Retail Investors

Collective investment vehicles, such as mutual funds, play an important role in raising resources from the general public. They allow even small investors to purchase units in a well-diversified fund, managed by a professional fund manager. Thus, mutual funds reduce entry barriers for retail investors to capital markets and substantially broaden the investor base for debt and equity markets.

The first mutual fund in Thailand was introduced in 1977. Until 1992, the mutual fund industry was controlled by a single company, the Mutual Fund Company, an affiliate of the Government-owned Industrial Finance Corporation of Thailand. In 1992, the sector was liberalized, resulting in the entry of 15 new asset managers and a rapid increase in number of funds from 37 to over 200 by early 1998. Total assets under management also rose rapidly from B58 billion to B167 billion by June 1997, just before the financial crisis. With the fall of the stock market in the second half of 1997, assets under management decreased to B102 billion by December 1997 (Figure 11).

Figure 11: Mutual Fund Assets, 1992–1997



Sources: Association of Investment Management Companies, Securities and Exchange Commission.

The majority of investors in mutual funds are private individuals who have about 65 percent share of mutual fund assets; institutional investors constitute the remaining 35 percent. As of 1995, an estimated 800,000 investors—almost 1.5 percent of the popula-

tion—had acquired shares in mutual fund companies. Mutual funds have widened share ownership by allowing even small-scale investors to have a well-diversified and less risky exposure to the stock market.

All mutual fund companies are associated either with banks or finance companies. Distribution of mutual funds is effected primarily through banks, which account for more than three quarters of funds sold. Both closed-end and open-ended funds are available, with open-ended funds outnumbering closed-end funds by about two to one. Naturally, open-ended funds were the first to suffer capital outflows as the stock market experienced a rapid downturn.

Mutual funds have contributed positively to improving liquidity on the stock exchange. They account for about 7 percent of total market turnover on any given trading day.

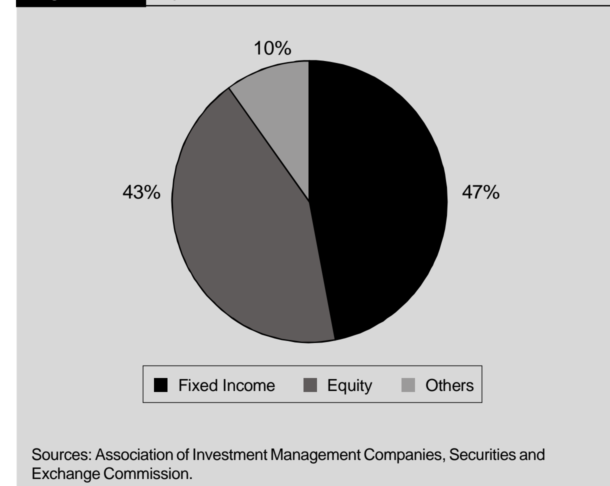
In 1996–1997, 6 new mutual fund and 19 private fund management licenses were granted. They were all separately capitalized at a minimum of B100 million, and their shareholders had to include at least one bank or insurance company holding a minimum of 25 percent of the company's shares. Some of the world's largest asset managers had teamed up with local banks and insurers to form these joint venture asset management companies. As of December 1997, there were 13 mutual fund management companies in Thailand.

Asset managers are regulated and supervised by SEC under the 1992 SEC Act. Fund managers must appoint a fund supervisor (trustee) and custodian to ensure that prudential requirements are met. Investment guidelines are also adopted to ensure sufficient diversification of assets under management.

Taxation policies aim to encourage investments in these asset classes. Individuals are exempted from capital gains tax, while there is a 10 percent withholding tax on dividend income. Brokerage commissions on mutual funds are 0.3 percent, instead of the usual 0.5 percent.

Mutual fund companies used to invest heavily in the equity markets. Recently, however, they have increasingly targeted the fixed-income market, as the number of issuers has increased and liquidity improved in this sector. Figure 12 shows the composition of different mutual funds in the country as of December 1997. Almost half of the mutual funds were invested in fixed-income instruments, while 43 percent was focused exclusively on equities. The rest were invested in both fixed-income as well as equity securities.

Figure 12: Types of Mutual Funds, December 1997



Sources: Association of Investment Management Companies, Securities and Exchange Commission.

REFORM POTENTIAL AND OUTLOOK

The following reforms are recommended to enhance the development of the mutual funds industry:

Improve regulation and supervision. Mutual fund managers established the Association of Investment Management Companies in May 1994, an objective of which is to evolve into a self-regulatory organization. Its members subscribe to a code of ethics. The future credibility of the fund management industry depends on how rigorously the code is enforced. Independent auditors can enhance regulation and supervision.

Increase retail availability. The mutual fund industry will benefit from further deregulation of restrictions on sales and marketing of domestic and foreign fund products. Given a liberal environment, more companies and financial institutions that had never engaged in fund sales are likely to expand the market by directly offering fund products through

their branch networks. Competition can be stimulated by free and easy entry of foreign mutual funds into the retail market. As familiarity with mutual funds and awareness of likely risk-return relationships increase, the entire market could grow, benefiting purely domestic funds.

Provide tax incentives. Profits derived from managing mutual funds are already tax-exempt. However, incentives to retail investors could be expanded.

Help the mutual fund industry recover. The further development of the mutual fund industry depends to some extent on how fast it can recover from the significant losses incurred during the downturn in equity and debt markets. Nevertheless, as interest rates are at historic highs, there are opportunities for money market and current income funds. In addition, as the stock market has rebounded in the first quarter of 1998, investors may not want to miss out on the upturn in financial markets, and mutual funds may start receiving net capital inflows again. From a structural perspective and against the background of an international trend of individual savings veering away from bank deposits to mutual funds, increased and sustained growth in this sector is likely.

Pension and Provident Funds: Building the Future Backbone of the Capital Market

The provident fund industry started in 1983 with the objective of establishing a welfare system for employees who had hitherto relied on family support or accumulated savings in their old age. In 1987, the Provident Fund Act was passed, establishing the legal framework for the expansion of the sector.

Private provident funds are established voluntarily by companies that aim to provide social security and pension benefits to their employees. The number of provident fund schemes has expanded rapidly from 159 in 1984 to more than 950 by 1997. There were 1.04 million members of these funds in 1997, accounting for approximately 13 percent of the work force employed in the private sector and State enterprises. This implied that a significant proportion of the working population, almost 90 percent, remained uncovered by a formal pension arrangement.

Provident funds are required to invest at least 60 percent of their assets in (i) cash or deposits with banks, (ii) debt instruments issued or guaranteed by banks, (iii) bonds issued or guaranteed by Government, or (iv) corporate debentures rated by a credit-rating agency. However, investment in corporate debentures may not exceed 10 percent.

By August 1997, provident funds had B123 billion under management. Figure 13 shows the rapid increase of the size of provident fund investment in 1993–1997. Figure 14 illustrates the actual distribution of funds according to asset class and highlights the significance of debt instruments in the portfolios of provident funds.

REFORM POTENTIAL AND OUTLOOK

Despite the rapid growth of provident funds, fewer than 1.5 percent of Thai companies offer provident fund schemes to their employees. More than 85 percent of Thai employees are not covered by any form of formal pension scheme. Total assets of pension funds account for a mere 2 percent of GDP.

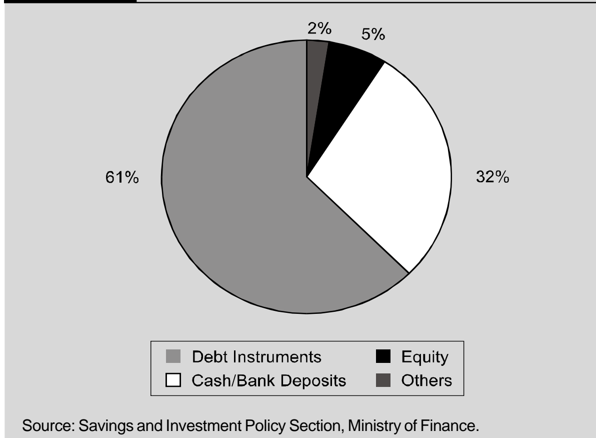
In more developed economies, pension fund assets provide a stable source of long-term capital. In Thailand, however, up to 80 percent of total savings are invested in short-term instruments, contributing to the volatility in financial markets. Thus, the further development of provident funds should provide a major boost to establishing a stable pool of long-term investable assets. The following reform measures are recommended to accelerate the development of the provident fund sector:

Centralize regulation and supervision. Regulation and supervision of pension and provident funds are currently fragmented among several different Government authorities, including the Ministry of La-

Figure 13: Asset Growth of Provident Funds, 1993–1997

Source: Savings and Investment Policy Section, Ministry of Finance.

Figure 14: Portfolio Composition of Provident Funds, as of August 1997



Source: Savings and Investment Policy Section, Ministry of Finance.

bor and Social Welfare, which handles mandatory pension funds; the Comptroller General's Department, which takes charge of Government pensions; and the Fiscal Policy Office of the Ministry of Finance, which supervises private provident funds. Centralizing their functions in a single government authority can achieve significant scale effects, including joint training of staff, supervision, and monitoring technology.

Establish a consistent regulatory framework. Regulations concerning asset management, accounting rules, and contributions and benefits differ across various kinds of pension and provident funds. Harmonizing regulations will improve comparability and supervisory oversight of provident funds, transparency, and compatibility between different schemes, allowing employees to transfer their benefits when they change jobs.

Introduce mark-to-market valuation. Fund managers of pension fund schemes report asset values based on historical costs rather than on market prices. This may lead to severe distortions in reporting if asset prices fall below historical costs. Asset-liability management can also be negatively affected as future pay-outs cannot be planned properly and funding gaps may suddenly arise if asset prices fall rapidly, as happened recently. For example, many employers recently found out that provident funds do not adequately cover current and future liabilities, since assets are overvalued. In January 1997, regulations required mark-to-market valuation but only for new provident funds. Mark-to-market reporting should be instituted for all existing provident fund schemes to improve transparency and avoid unpleasant surprises for policyholders during market downturns.

Strengthen supervision skills. A central unit should be established that has the skills and authority to supervise, regulate, and audit provident fund managers. The Association of Provident Fund Managers should be turned into a self-regulatory organization with the authority to penalize members who violate its code of ethics. This approach would be consistent with SEC's general policy to promote self-regulation among different capital market institutions such as SET and the Association of Mutual Fund Managers.

Provide tax incentives. Deducting contributions to the pension scheme from employers' corporate or employees' income taxes is a common practice in many countries to promote pension fund development. The possibility of introducing such an incentive program should be studied.

Foreign Exchange and Derivatives Markets

Foreign exchange and capital controls were abolished in 1990 when Thailand subscribed to Article 8 of the IMF Statutes. As a result, trading in the foreign exchange market increased substantially from

a daily turnover of $550 million in 1992 to $8.9 billion in 1996. Foreign exchange activities consist of spot and forward transactions. The forward market has expanded rapidly and its trading volume recently surpassed that of the spot market due to the growth of swap transactions.

The main players in the foreign exchange market are the commercial banks and Exchange Equalization Fund (EEF), which was set up by BoT in 1984 to serve as a vehicle to implement the precrisis basket-peg exchange rate policy. The baht was pegged to a basket of currencies of Thailand's major trading partners, dominated by the US dollar. EEF daily announced the mid-rate for the dollar-baht exchange rate and stood ready to purchase or sell dollars to banks if a differential of B0.02 from the announced mid-rate was exceeded. The exchange rate peg served as the nominal anchor of monetary policy. However, the relative stability and predictability of the exchange rate, which remained unchanged since 1984, attracted arbitrage and speculation, as investors exploited the differential between onshore and offshore interest rates. The corporate sector also borrowed heavily in the offshore markets without sufficiently hedging the exchange rate exposure.

As the baht became increasingly overvalued and the country's current account deficit started to widen significantly in 1996, the baht came under attack in the foreign exchange market. BoT responded by directly intervening in the market by selling dollars to sterilize capital outflows and by raising short-term interest rates, resulting in overnight interbank rates soaring up to 30 percent. The defense was successful but short-lived. In May 1997, the final attack on the baht started when BoT imposed informal capital controls limiting foreign exchange transactions with nonresidents only to those with genuine commercial or investment activities in the country. This created a two-tier foreign exchange market with baht supply limited in the offshore market. Consequently, offshore interest rates rose to over 1,000 percent overnight, forcing unwinding of short-term baht positions. Confidence returned temporarily until the resignation of the finance minister in mid-June caused a run on the baht by domestic residents. As BoT saw its foreign exchange reserves rapidly drain away, it floated the baht on 2 July 1997.

Under the new managed float system, the exchange rate is competitively determined by the market, but BoT may intervene, at its discretion, to maintain foreign exchange rate stability.

The market for financial derivatives has also been developing rapidly. In December 1994, commercial banks had outstanding derivative contracts of $4.6 billion, accounting for 2.7 percent of their total assets. By March 1996, their exposure had increased to $20 billion or around 11 percent of total bank system assets. The majority of derivative transactions are in the form of foreign exchange swaps, with an average daily turnover of around $2 billion in 1996, the latest year for which data are available. These contracts are characterized by exchanges of foreign currency via the spot market and re-exchanges via the forward market. The swaps are undertaken either to convert offshore foreign currency borrowings into baht or to hedge against exchange rate risk for importers or exporters. Forward swaps were also employed by BoT in its failed attempts to maintain the pegged baht exchange rate. On 19 August 1997, the Government announced that its forward swap obligations during the following 12 months amounted to $23.4 billion, of which $14.8 billion were offshore obligations.

Other derivative products available in Thailand include interest rate swaps and other option products. Options are typically issued by commercial banks to hedge against foreign currency or interest rate risk.

REFORM POTENTIAL AND OUTLOOK

The following measures are recommended to address the deficiencies in the foreign exchange and derivatives markets:

Introduce a legal framework. No proper legal framework for options and other derivative transactions currently exists. It is therefore necessary to introduce the Derivatives Markets Act, which clearly defines the legal rights and obligations of different parties in derivative transactions.[12]

Improve regulation and supervision. BoT supervises and regulates derivatives transactions. Since 1996, banks have been required to report derivative exposure and transactions to BoT on a quarterly basis. Further improvements in risk monitoring and supervision technology are required. Institutional strengthening within the regulatory authorities will assist the development of supervisory skills. In such an environment, an increased number of formal market indices and derivatives based on these indices can be introduced to provide the full spectrum of choices for investors to diversify and hedge their portfolios.

Introduce a formal futures and options exchange. Current trading activities take place in an unorganized and informal market as banks and other financial intermediaries buy and sell options and futures through direct transactions rather than a formal exchange. This makes regulation and supervision difficult. A more transparent market system would culminate in the establishment of a formal Futures and Options Exchange, which would be endowed with rights and duties, including a self-regulatory function.

Outlook: What Roles Must the Capital Market Play?

The capital market in Thailand is going through a difficult period. Before the crisis, its role had been strictly limited due to the bank-centered design of Thailand's corporate governance and financing structure. Now, however, many observers and economists compare Thailand's economic and financial structure, including its capital market, with that of the US, and conclude that the Thai capital market is inferior and need to be brought closer to the US model. Indeed, on the micro-level, capital market reform is likely to increase efficiency and raise the productivity of the financial sector. However, it must not be forgotten that, while there have been clear inefficiencies and problems, the type of financing and corporate governance structure has not been the primary cause of Thailand's crisis and recession. The cause is to be found in a specific set of macroeconomic policies, and so it is not valid to conclude that the capital market itself must change. Nevertheless, once the political decision has been made to change Thailand's financial market and structure and to move toward the US system, the policy recommendations in this report may be undertaken.

The fundamental question is what roles the capital market should play in the emerging financial market system. In general, the capital market may serve several functions during the adjustment process. It provides a signaling function to policy makers, who get immediate feedback on their policy reform package. Equipped with transparent and timely information, the capital market may quickly reward a successful economic reform program. However, it is also likely to penalize inactivity or lack of policy reform. This has been evident in the behavior of the capital market since July 1997. While the stock market dropped substantially, it rebounded in the first quarter of 1998, rewarding the swift policy response of the Government and its strict implementation of the IMF reform program.

The capital market also constitutes a source of capital for companies that need to recapitalize quickly and may be unable to raise funds through other means such as banks or private sources. Low valuations attract investors and may lead to a significant infusion of new capital. This makes companies better able to address the challenges arising from the economic adjustment. The banking sector was the first to use the equity market to raise badly needed capital, with Bangkok Bank and Thai Farmers Bank each raising $1 billion. However, these issues were placed primarily with foreign investors and through private

placements rather than purely through the stock market.

Finally, the capital market can provide a channel to restructure corporates through mergers and acquisitions. While hostile takeovers are unknown in Thailand, friendly mergers or acquisitions provide a means to eliminate overcapacity in certain industries or to achieve scale and scope economies by creating larger and more competitive companies. Again, the banking sector is actively taking this route by seeking alliances with foreign institutions, such as the tie-up between ABN-AMRO Bank with Bank of Asia, and Development Bank of Singapore with Thai Danu Bank.

Capital market reform is supported by a $300-million loan from ADB, approved in December 1997. This policy loan aims to (i) strengthen market regulation and supervision, (ii) improve risk management, (iii) diversify the means of intermediating funds within the economy, and (iv) develop long-term institutional sources of funds by promoting the development of pension and provident funds. The loan is expected to provide a significant impetus to promote capital market development in Thailand.

Notes

[1]The Nukul Commission Report focuses primarily on who should be held responsible for the crisis, but it also provides an interesting analysis of the crisis from a Thai insider's point of view.

[2]More research is needed to know why the real sector of the economy has been reluctant to access the capital market. Part of the explanation could be that banks have sector exposure limits to real estate and financial institutions, while no such exposure limits exist for the manufacturing sector. Thus, real estate and financial companies have a greater need to access the capital market than the manufacturing sector, as they exhaust their traditional source of funding—the banking sector.

[3]All listed securities (both debt and equity) traded at SET are exempt from net income tax assessment. However, this regulation does not include debt instruments traded at the Thai Bond Dealing Centre and therefore constitutes an inherent disadvantage for debt instruments vis-a-vis equity investments.

[4]Of the 56 closed-down financial institutions, 39 were finance and securities companies of which 22 were brokers (SET members), 16 subbrokers (non-SET members), and one nonbroker firm. Nevertheless, none of the stand-alone securities companies were closed down and there has not been any default in the delivery and settlement system. However, because of declining business, two stand-alone securities companies and two finance and securities companies announced the voluntary closure of their business as of 10 June 1998.

[5]Of course, domestic mutual funds may include foreign investors. It is therefore statistically impossible to clearly distinguish foreign and domestic selling activity.

[6] TSD is a wholly owned subsidiary of SET. It is the central clearing house and depository for Thai securities. It has a registered capital of B200 million. For the clearing fund, contributions were made by both SEC and clearing members to be used in the event of default by a clearing member. In addition, TSD can also draw funds from the credit line made available from commercial banks or from the fund set aside by SET for this purpose.

[7]The following requirements apply:

(i) A securities company may sell short for its own account or for customers only in one of the following instances: (a) short-selling of equity securities listed on SET or a licensed trading center, according to SET's or the trading center's rules approved by SEC; (b) short-selling of debt securities as regulated by SEC; (c) short-selling to satisfy an obligation of the nature specified by SEC.

(ii) Noninstitutional customers have to be fully informed of all risks and the sale must be executed from a margin account.

(iii) Before the short sale is executed, the securities company must arrange to have in place a facility to borrow securities to meet the delivery deadline.

(iv) The securities company must keep records and produce reports as required by SEC.

[8]Companies intending to mobilize funds from the public by issuing and offering securities both for their initial and other public offerings must first obtain approval from SEC. The common qualifications for application are the following:

(i) The applicant must have definite objectives for the use of proceeds raised.

(ii) The business of the applicant must be "economically or socially beneficial" for the country.

(iii) The management must be "ethical and competent" as well as not having any adverse track record, and the company's auditors must be recognized by SEC.

(iv) The applicant must have good financial standing and performance record.

The approval procedure takes no more than 45 days from the date SEC receives accurate and complete statements and draft prospectus. The issuer and its financial advisor (who is compulsory and must be recognized by SEC) are liable if information in the documents is inaccurate, materially incomplete, or misleading.

[9]To further foster good governance by listed companies, SET published *The SET's Code of Best Practices for the Directors of Listed Companies* and *The Roles, Duties and Responsibilities of the Directors of Listed Companies*. It also released *Audit Committee and Good Practice Guidelines* and provided guidelines on how listed companies should prepare sections in their annual reports on "Management Discussion and Analysis," "Directors' Responsibilities," and "A Statement on Corporate Governance."

[10]One key rationale behind the draft Bankruptcy Act passed by Parliament on 27 February 1998 is to amend Section 94 (2) of the Bankruptcy Act, which provides that "the creditor who agrees to the debtor creating a debt while he is fully aware that the debtor is insolvent, shall not be entitled to receive payment of debt in the bankruptcy case, thereby causing no financial institution or private party willing to give financial assistance to the debtor who is confronting temporary liquidity problems, in consequence of which the debtor becomes bankrupt while its business may be capable of being rehabilitated if there is financial assistance. Therefore it is expedient to have provisions which protect the giving of financial assistance to the debtor who is confronting a temporary liquidity problem so that the debtor may have the oppor-

tunity to rehabilitate its business that would, in turn, enable unsecured creditors to have an opportunity to receive payment fairly, which would promote the prosperity of the nation's economy and trade."

[11]Since the 1987 New York stock market crash and the Brady Commission report, which recommended the introduction of circuit breakers, trading controls or circuit breakers have been introduced in many developed and developing countries. However, the effectiveness of circuit breakers on the operation of stock markets is disputed. Some researchers argue that circuit breakers curb the effects of overreaction in markets and restore confidence, as they provide market participants with a cooling-off period while facilitating the price resolution process and preventing disintegration of cash, futures, and option markets during periods of frantic trading. Others argue that these trading interruptions only postpone price movements or move them into other markets. Moreover, it is sometimes argued that circuit breakers may amplify market volatility or produce enhanced *ex ante* volatility, for example, when a price limit has a magnet or gravitational effect. Unfortunately, the empirical evidence for either view is far from conclusive.

The literature on circuit breakers includes the following recent contributions: Bruce C. Greenwald and Jeremy C. Stein (1991), "Transactional risk, market crashes and the role of circuit breakers," *Journal of Business*, vol. 64, no. 4 (theoretical finding: circuit breakers may help overcome informational problems and thereby improve the market's ability to absorb large shocks); Avanidhar Subrahmanyam (1994), "Circuit breakers and market volatility: A theoretical perspective," *Journal of Finance*, vol. 49, no. 1, March (theoretical finding: by causing agents to suboptimally advance trades in time, circuit breakers may have the perverse effect of increasing price variability and exacerbating price movements); Lucy F. Ackert, Jonathan Hao, and William C. Hunter (1997), "The effect of circuit breakers on expected volatility: Tests using implied volatilities," *Atlantic Economic Journal*, vol. 25, no. 2, June (finding: circuit breakers do not affect the market's expectation of future volatility); Christopher Ma, Ramesh Rao, and Stephen Sears (1989), "Limit moves and price resolution: The case of the treasury bond futures market," *Journal of Futures Markets*, vol. 9, no. 4, August (finding: volatility may be reduced by circuit breakers); G. J. Santoni and Tung Liu (1993), "Circuit breakers and stock market volatility," *Journal of Futures Markets*, vol. 13, no. 3, May (finding: circuit breakers do not reduce the volatility of stock returns); Beni Lauterbach and Uri Ben-Zion (1993), "Stock market crashes and the performance of circuit breakers: Empirical evidence," *Journal of Finance*, vol. 48, no. 5, December (finding: no evidence that circuit breakers were effective in reducing order imbalance and price swings in the long run); Betsey A. Kuhn, Gregory J. Kuserk, and Peter Locke (1990), "Do circuit breakers moderate volatility? Evidence from October 1989," Working paper, Washington, DC: United States Department of Agriculture (finding: no calming influence in cash or stock index future markets and possibly heightened volatility in other markets where prices remain unconstrained). For a survey on the literature on financial market volatility and its related issues, see Louis O. Scott (1991), "Financial Market Volatility," *IMF Staff Papers*, vol. 38, no. 3, September.

[12]The Draft Derivatives Market Act proposed by SEC was approved by the Cabinet on 5 March 1998. See SEC's homepage on www.sec.or.th.

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Appendix 1

Overview of the Bond and Repo Markets and their Settlement System

The first Government bond in Thailand was issued as early as 1933. In the postwar era, bonds were issued on a minor scale during the First National Economic Development Plan (1961–1966). The bond market saw little activity until the late 1970s and early 1980s, when the Government issued bonds regularly. Before the early 1980s, the bond market was dominated by the Government sector, which raised funds from the public in order to finance its budget deficit. Borrowing was usually carried out at below market rates and issues were purchased by commercial banks, which were required to hold Government securities under statutory reserve requirements. In the late 1980s, up to 16 percent of bank funds had to be held in the form of Government securities. Although this requirement was lowered to 6.5 percent in October 1992, the rapid rise in bank assets nevertheless resulted in increased demand for Government bonds by banks. Not surprisingly, commercial banks have always been the single largest holders of Government bonds. Banks and finance companies essentially followed a buy-and-hold strategy for Government bonds and no trading took place among different institutions. Consequently, a commercial bond market was slow to develop. Liquidity was negligible and no yield curve could be established. Neither was a direct sovereign benchmark readily available.

From the early 1980s onward, however, the Government attempted to develop the bond market in order to promote an alternative source of long-term capital. The Bank of Thailand (BoT) offered repurchase transactions and encouraged wider distribution of Government bonds. In addition, State enterprises increasingly used the bond market to raise capital. The main instruments of the sovereign capital market were medium-term and long-term bonds issued by the Kingdom of Thailand, as well as State bonds issued by Government agencies and quasi-sovereign institutions (often explicitly backed by Ministry of Finance guarantees). Bonds (with maturities ranging from 5 to 10 years) as well as sovereign notes (with maturities of up to five years), are coupon-bearing securities underwritten by BoT via a syndicate of selling agents, and are not auctioned.

The repo market in Thailand can be categorized into two: the BoT's repo market and the private sector repo market. The BoT's repo market was established in 1979 and trades Government bonds, Government-guaranteed bonds, State enterprise bonds, BoT bonds, nonguaranteed State enterprise bonds which are triple-A rated, and Financial Institutions Development Fund (FIDF) bonds. The daily transactions volume in the BoT's repo market increased from an average of B32.2 billion in October 1996 to B40.1 billion in January 1997. In the private sector repo market, any securities mutually agreed upon with the counterparty are accepted. No volume records are available for the private sector market, as they are traded over the counter.

Corporate debt securities traded through the BONDNET (a blind dealing and quote-driven computerized system) run by the Thai Bonds Dealing Centre (TBDC) are settled in the net clearing and book entry system serviced by the Thailand Securities Depository Co. Ltd. (TSD), a subsidiary of SET. Clearing and settlement occur on T+2, i.e., two business days after the transaction has been executed. On the trading day (day T) at 4.30 p.m., TSD sends a net clearing report and a money balance report on-line to members. The next day (T+1), sellers deposit bonds with TSD before 4:30 p.m. On T+2, buyers deliver checks payable to TSD and sellers receive checks from TSD from 8:00 a.m. to 9:00 a.m. However, there are some corporate debt securities traded over the counter and not put through the organized exchange. In such cases, counterparties normally handle the exchange of ownership and pay by check.

To ensure efficient settlement, TBDC introduced the concept of credit line into the trading system. A dealer gives a credit line to each counterparty to limit trade and credit risks.

Government bonds and State enterprise debt securities guaranteed by the Ministry of Finance (MOF) qualify as collateral for the BoT's Loan Window. Thus, financial institutions usually maintain them in their securities account at BoT, which acts as the registrar for the securities. Both kinds of securities are immobilized and held in a book-entry system at the Deposit and Bonds Department. Like Government bonds, BoT bonds can be used as legal reserves as well as collateral for liquidity operations. They are thus maintained in financial institutions' securities accounts at BoT for securities and liquidity purposes. All BoT bonds are dematerialized and held scripless in a book entry system. Being the registrar as well as the bookkeeper for the bonds, BoT effects settlement through the book-entry system. For trading in the BONDNET system, TSD transmits transaction information to BoT, where the transfer of ownership subsequently occurs.

In the interbank market, the standard settlement date is T+2. Payment is usually made through the delivery of cashier checks, unless agreed otherwise (e.g., BoT check or real-time gross settlement transfer [RTGS] or via BAHTNET).

To improve the settlement system for BoT bonds as well as Government and State enterprise bonds, BoT is conducting a feasibility study on a real-time electronic delivery-versus-payment system (DVP) for settlement. This will enable market participants to use on-line facilities directly linked to the BoT securities and current account system to settle their trades. BoT is also considering the provision of liquidity to the DVP system since the cash portion of DVP transactions will be settled on a gross basis. It will release such information when the final decision on the credit issue is made. It is believed that this will reduce systemic risk and equip the securities market with a new facility conducive to the enhancement of market activities and the development of Government securities trading in general.

Margin trading is allowed for all securities listed on SET and those registered with the Bangkok Stock Dealing Center. However, margin trading commonly takes place only for equities.

Chronology

The following chronology provides an overview of the development of the Thai bond market.

1933. MOF issues the first domestic Government bond.

1942. The role of managing the issuing process of bond is transferred to BoT after its establishment.

1961. Since Thailand's first National Economic and Social Development Plan, substantial progress has been made in restructuring its economy from an agricultural base to a relatively high level of industrialization. Demand for capital from private and government projects has exploded while financing with equity cannot continue indefinitely. Since financial institutions could not mobilize sufficient international or domestic funding to support such projects, a bond market became critical to the development of Thailand.

1979–1982. BoT tries to stimulate the bond market by encouraging bond trading.

1983–1986. Exchange bonds are offered to the public.

1990. The last series of Government bonds are issued.

1991. The value of State enterprise bonds quintuples.

May 1992. In synchronization with the liberalization of the money and financial markets, the Securities and Exchange Commission is established by Royal Decree in 1992, with all companies now able to mobilize funds through debt instruments. Firms thus turned to both domestic and foreign debt markets for funding to lower costs of debt compared to borrowing from financial institutions.

July 1993. Thailand's first credit-rating agency, Thai Rating and Information Services (TRIS) is es-

tablished with support from BoT to facilitate the development of debt instruments as a channel for fund raising by providing credit-rating services for business and specific bonds. TRIS's credit ratings provide important information for investors in the form of fair and objective assessments of the quality of a bond and the capability of a company to fulfill debt obligations.

Oct 1993. First credit ratings are assigned to Dhana Siam Securities PLC for a company and a bond rating.

Nov 1993. ASEAN Forum of Credit Rating Agencies (AFCRA), a regional association of credit-rating agencies was set up with members from four countries: Indonesia, Malaysia, Philippines, and Thailand. The AFCRA aims to discuss and share concerns common to credit-rating agencies in the ASEAN region.

Nov 1994. The Thai Bond Dealers' Club (TBDC) is established as the country's first secondary bond market, poised to widen and strengthen its mandate in the rapidly growing bond market. The club intends to develop the secondary bond market in terms of standardization, regulations, and dealer efficiency. In addition, it encourages fair trade for both sellers and buyers which will lead to higher volume and liquidity in the market and narrow interest spreads.

Appendix 2

The Money Market

The money market consists of the repurchase market, Bank of Thailand (BoT) loan window, interbank market, certificate of deposit (CD) market, and commercial bill market. It is differentiated from the bond market in that maturities of money market instruments do not exceed one year.

The commercial money market is operated primarily by commercial banks and finance companies. The oldest formal money market is the relatively well-developed interbank market. It refers to short-term, typically uncollateralized loans between financial institutions with maturities ranging from overnight to two weeks. The market has been dominated by a few large commercial banks due to their abundant sources of deposits tapped via a large branch network. In March 1985, the Bangkok interbank offered rate (BIBOR), the average rate at which prime banks lend to each other, was introduced. Interbank rates have been volatile, especially in comparison to Eurodollar rates. This partly reflects the limited volume of daily interventions by BoT in the repurchase market. Market efficiency has also been hampered by the small number of participants and oligopolistic bank behavior. (Banks often ascertain the borrowers' positions first and then price discriminate, often giving rise to multiple interest rates). In 1996, the average daily volume of interbank loans amounted to B45 billion, compared to B24 billion in the repo market.

The repurchase market for Government and State enterprise bonds has been in operation since April 1979. Its four main objectives were to (i) increase the liquidity of Government bonds held by commercial banks, (ii) introduce an impersonal money market which would not reveal identity or liquidity positions of lenders and borrowers, (iii) reduce the oligopolistic advantage of large commercial banks in the interbank market, and (iv) open a new avenue for central bank monetary policy implementation. Participants include financial institutions and certain State enterprises that can place their bid and offer orders with BoT. Maturities range from overnight to 6 months (namely 1, 7, 15, 30, 60, 90, or 180 days), with over 90 percent of orders having maturities of 2 weeks or less. Until October 1996, BoT employed

the "Dutch" auction system, matching supply and demand and announcing a single market repo rate for each maturity. Since then, this system has been replaced with an "American" or "continuous matching" system in which prevailing best bidding and best offer rates are matched continuously throughout the trading day. BoT may intervene in the market by either absorbing or injecting liquidity. Since it functions as the principal match broker for all transactions, BoT can intervene in the market through open-market operations. It is also able to monitor liquidity by observing the bid/offer rates and can smoothen out market volatility. The repo rate acts as an important signal to the interbank market as well as other money market instruments, such as commercial bills and CDs.

The BoT loan window is the lender of last resort. Loans are extended against the collateral of eligible securities comprising low-risk Government-guaranteed bonds. Eligible borrowers include commercial banks and, since November 1994, also finance companies. The interest rate charged under this facility is termed the "bank rate" and is used as a prime indicator of interest rate movements engineered by the central bank.

Thailand had a small Treasury bill market. Bills were auctioned on a weekly basis and bought by financial institutions or the central bank. The secondary market has remained modest. The Treasury bill market virtually disappeared during times of fiscal surplus. It is therefore likely to stage a major comeback with the current widening of the fiscal deficit.

In May 1987, the market for BoT bonds was created as BoT issued bonds to absorb excess liquidity from the financial system. Maturity was 180 days. However, the very infrequent issuance of BoT bonds hampered the establishment of its secondary market.

The commercial bill market rose steadily in Thailand, as companies have found it easier to issue such short-term instruments, which are typically uncollateralized, than to secure short-term financing from banks. Companies have raised funds not only to cover working capital, but also to finance medium-term projects by rolling over short-term financing instruments. This practice is sound only if creditors are willing to roll over short-term debt. In times of a financial crisis, however, short-term creditors are the first to call in their loans, and borrowers could have serious liquidity problems as they did during the recent financial crisis.

Source: Bank of Thailand.

Appendix 3

Issues for Further Research

Several issues were not covered in the study due to its limited scope. It is therefore suggested that further research be made on these issues, which include (i) operational and practical details of implementing specific reform measures, (ii) the debate about the theory of regulation and its implications for reform, (iii) the debate about the merits and demerits of the two "alternative" financial systems, usually referred to as "stock-market-based" and "bank-based," and (iv) the merits and demerits of portfolio capital inflows.

Much more detailed research is required on these important topics than even state-of-the-art research and literature can currently offer. It thus suffices here to mention some of the fundamental issues concerning points (ii), (iii), and (iv).

Economics of regulation is insufficient

The economics of regulation is a discipline that is still in its infancy. In implementing reforms, espe-

cially during times of crisis, the decision makers and elected representatives of the people involved in the process should strike a healthy balance between the demands that are based on microeconomic considerations and those that are based on a macroeconomic assessment of general welfare. However, general welfare considerations are often neglected in micro-based economic models. Approaches based on public choice theory that employ the principal-agent concept as utilized in modern finance theory, remind us that many principals (the electorate, stock exchanges and their members, brokers, auditors, banks, groups of foreign investors, etc.) vie for influence in order to shape the activities of the agents, namely the regulators. Since, for the public, the costs of monitoring the agents are high, there is scope for agents to be "captured" by special, vested interest groups. The enforcement of regulations is in the hands of monitors that are themselves not sufficiently monitored.

Finally, in the words of Rozeff (1990), "We do not have substantial evidence to test alternative theories of regulation. Given the present state of knowledge, one cannot assume that specific US regulations have accomplished specific goals and hence are appealing candidates for adoption in other countries.... Nevertheless, quite a strong case can be made that private interest groups influence regulations to the detriment of the general welfare." He suggests that the Government implement incentive structures that render the objectives of civil servants and regulators near-identical with general welfare goals and that the costs to private groups of influencing rule making be raised.

The debate on capital markets vs. banks is inconclusive

A large body of recent work on the stock market and long-term economic growth, based on endogenous growth models, argues that stock markets support economic development by raising the rate and productivity of investment and via increased technical progress. However, both the precise transmission channel and the empirical evidence are disputed. The evidence concerning both the pricing channel and the takeover mechanism channel for increased efficiency in a "fundamental valuation" sense is far from conclusive. A body of literature finds that even in the fully developed stock markets of London and New York, share prices can deviate significantly from fundamentals for considerable periods of time. Moreover, the takeover mechanism can be shown to be biased toward size, thus often allowing large, unprofitable firms a greater chance of survival than small, more profitable firms. Finally, in economic models that realistically acknowledge informational asymmetries and other market failures, to which financial markets are particularly prone, most standard neoclassical conclusions do not easily follow.

At the same time, recent work applying the principal-agent concept has found considerable macroeconomic efficiency in bank-based fundraising and monitoring relationships, such as the Japanese main bank system. While the Southeast Asian and East Asian bank-based financial systems appear to have been discredited by recent bad-debt problems and economic crises, there is a need to distinguish simple macroeconomic business cycles from fundamental and structural issues. Consequently, the debate concerning equity versus debt, or stock markets versus bank borrowing, cannot be said to have been unequivocally settled in favor of stock markets. There is, therefore, a clear need for further research.

Merits and demerits of portfolio capital inflows

In many emerging markets, including Thailand, international portfolio investment in equity has become a major factor. Indeed, during the Latin American debt crisis of the 1980s, portfolio equity flows were recommended to many developing or emerging economies, because (i) a huge potential supply of funds from international institutional investors could be tapped, (ii) equity was seen as more immune from interest rate shocks, and (iii) the dividend burden was

perceived as less onerous than interest payments on debt, allowing foreign equity owners to share risk.

While there is merit in such arguments, the danger must not be overlooked that capital flows can and often do fuel speculative bubbles that are detached from economic fundamentals. It happened in Mexico in the early 1990s, and can be argued to also have happened in Thailand. Some researchers have asserted that external financial liberalization and increased reliance on capital inflows link two markets that can be prone to volatility: the stock market and the foreign exchange market. Negative feedback can exacerbate any instability. Policies that encourage long-term inflows, such as foreign direct investment, but discourage short-term equity flows may therefore be advisable. They should be based on prudent supervision of financial markets, as discussed in our reform proposals.

Appendix 4

Recent Developments in Securitization

The major development in mortgage-backed securities is the enactment of the Emergency Decree on Special-Purpose Vehicles (SPV) for Securitization B.E. 2540 (1997).

The decree covers three main topics.

(i) The regulatory body responsible for enforcing the decree. The minister of finance is in charge of the decree, which also empowers the Securities and Exchange Commission (SEC) to set forth policy measures regarding securitization and issue-related notification needed for the securitization process.

(ii) The establishment of the SPV and its privileges. The SPV can be in the form of a limited company, public company, or mutual fund. In order for the SPV to benefit from the privileges outlined by the decree, the securitization program has to be approved by SEC and the SPV registered with SEC.

Among the SPV's privileges is its exemption from certain legal requirements:

- It does not require a finance business or credit foncier business license.
- In the process of assigning of receivables from the originator to the SPV, the decree waives the requirement under the Civil and Commercial Code that the creditor must notify all the debtors of the assignment. However, this exemption applies only when the originator is appointed as the servicing agent.
- The SPV is exempted from payment of the fee for the re-registration of collateral from the originator.
- It is exempted from the interest rate ceiling of 15 percent set by the Civil and Commercial Code.
- When the assignment of receivables constitutes a true sale transaction, the SPV's rights over the transferred debts will be fully protected even in the case of the originator's bankruptcy.

(iii) Supervision over the SPV. When the SPV management cannot perform its duties or there is no authorized representative to act on its behalf, SEC may appoint a temporary management so that the SPV can continue operating under the approved securitization program in order to protect the interests of investors.

To ensure that the SPV carries out its duties, the decree also empowers competent officers to investigate the SPV and its management.

To expedite the securitization process in accordance with Government policy, SEC issued the "Noti-

fication on Criteria, Conditions and Procedures for Securitization." Its main provisions are the following:

- Persons eligible to propose securitization scheme for approval. Financial institutions (commercial banks, finance, credit foncier, and securities companies), juristic persons established by a specific law, and public and private companies are allowed to become originators for securitization.
- Type of assets approved for securitization. There is no limitation, but the assets must be those of the originator.
- Type and characteristic of securities offered for sale. These are secured or unsecured debentures, excluding convertible debentures.
- Criteria for approval of securitization scheme and offering of securities for sale:
  - The SPV must be a limited company or public limited company whose objective is to undertake securitization.
  - It must demonstrate that its purpose is to use money for securitization.
  - It must clearly identify guidelines and methods for investment of income flow arising from debt claims.
  - In case of an offering of subordinated debentures for sale, its right to debt payment must be subordinated to ordinary creditors, at least in terms of receivership or liquidation for business dissolution, so as to enhance credit in a senior-subordinate structure.
  - In case of domestic private placement, the debentures must be in registered form. Transfer restriction is required.
- Consideration of securitization scheme and application for approval. Within 10 business days of obtaining the accurate and completed securitization scheme, application for approval, and related documents, SEC will inform the applicant of the result.
- Conditions for approval. An example of a condition for approval is that the SPV must offer securities for sale and accept transfer of assets at the minimum value as specified in the securitization scheme within six months from the date SEC grants approval. The SPV must submit all requirements to SEC within the specified period.

SEC is drafting stringent regulations governing public offerings of securitized securities in order to protect retail investors.

Source: Bank of Thailand.