

The Thai Economy in Transition: A Financial Sector Perspective

Foreword

Toshiro Nishizawa*

Thailand's economic recovery from the 1997 crisis has accelerated in recent years with a reduced external vulnerability and against a background of improvements in the global economy. In the meantime, the government has embarked on a new initiative to promote longer-term competitiveness and sustainability of the Thai economy. The key issue here is how the Thai economy could reach a new stage of sustainable growth.

Having recognized the need to identify constraints on growth, a workshop was organized about a year ago to discuss from a financial sector perspective some features of the Thai economy in transition. Our presumption was that, with a clearer picture of the constraints on Thailand's growth prospects, key policy priorities would become more apparent. Now that the government has put on its policy agenda the strategic plan for long-term sustainable growth, it would be worth revisiting the findings and discussions at the workshop to bring out the existing challenges facing the Thai economy.

At the workshop, we invited Dr. Piti Disyatat¹ from the Bank of Thailand to present a paper, which attempts to rationalize from a financial sector perspective Thailand's economic recovery and shows how its changing economic landscape can be traced back to developments in the banking system. Dr. Veerathai Santiprabhob² from Siam Commercial Bank, together with a number of Japanese experts, joined the discussions at the workshop by providing comments on the paper³.

The following is the paper presented by Dr. Piti Disyatat at the workshop⁴. While we should take into account implications of the recent economic developments, including increasing private investment and signs of rising interest rates, for the paper's assessment and conclusion, I believe that the thrust of the arguments in this paper remains valid.

* Deputy Director General, International Finance Department I, JBIC

1 Senior Economist, Monetary Policy Group, Bank of Thailand.

2 Senior Vice President and Head of Equity Investment Division, Siam Commercial Bank PCL.

3 The workshop took place on March 5, 2004 at JBIC Head Office in Tokyo. Mr. Hiroyuki Hino (IMF Asia Regional Office), Professor Takatoshi Ito (The University of Tokyo), Professor Hidenobu Okuda (Hitotsubashi University), and Dr. Masaru Yoshitomi (JBIC Institute at the time of the workshop and currently at RIETI) were invited as the discussants. Also, a number of economists and analysts from the Japanese private sector and JBIC staff joined the workshop.

4 The paper was prepared on the basis of the facts and data that were available by early 2004.

The Thai Economy in Transition: A Financial Sector Perspective *

Piti Disyatat

Abstract

Thailand's economic recovery from the 1997 crisis has accelerated in recent years against a background of much reduced external vulnerability and improvements in the world economy. The pickup in activity has been associated with a unique combination of macroeconomic conditions that at the same time presents a puzzle as well as clues about the key problems that need to be addressed if the growth process is to be sustained, namely low inflation, historically low real interest rates, and an asymmetric sectoral growth pattern. This paper attempts to rationalize these developments from a financial sector perspective and shows how Thailand's changing economic landscape, both in terms of the underlying growth process as well as the manner with which activity is being financed, can be traced back to developments in the banking system. With a clearer picture of the constraints on Thailand's growth prospects, key policy priorities, from the short- as well as long-run perspectives are discussed.

1. Introduction

Six years after suffering one of the most severe and far-reaching crisis in its history, the Thai economy appears to have finally shifted from the recovery phase to a new growth phase. In the past few years, Thailand's economic landscape has changed considerably, both in terms of the underlying growth process as well as the manner with which activity is being financed. Given that the process of channeling funds from savers to investors is the single most

important underpinning of capitalist economies, obtaining a better appreciation of the manner with which this is done constitutes a crucial element in understanding developments in the real economy. This paper aims to provide an integrated view of recent economic developments in Thailand from a financial sector perspective. While the financial sector is ultimately just a veil, reflecting developments in the real economy, the fact that almost every single economic activity passes through it makes it the crucial jigsaw piece of the overall economic picture. By analyzing how key macroeconomic developments can be traced back to changes in the financial sector, a clearer and more integrated picture of the economy, as well as its problems, can be obtained. In so doing, the paper helps to shed light on the efficiency with which the task of channeling funds from savers to investors is done in Thailand and identifies key obstacles to improving the process that remain, both from a short- and long-run perspective.

The central message is that despite considerable progress since the crisis, significant weaknesses remain in the Thai financial system. Most immediate is the overhang of non-performing loans that continues to not only hamper credit growth, but also makes the banking sector vulnerable to an economic slowdown and declines in underlying collateral values. Impaired credit flows, in turn, can explain much of the observed features of Thailand's recent macroeconomic development, namely low inflation, historically low real interest rates, and a growth process that has relied heavily on the traded sector.

* I am grateful to Veerathai Santiprabhop and Toshiro Nishizawa for helpful discussions. All remaining errors are mine. The views expressed in this paper are those of the author and do not necessarily represent those of the Bank of Thailand or Bank of Thailand policy. Financial support from Japan Bank for International Cooperation is gratefully acknowledged. Please address all correspondences to pitid@bot.or.th

Moreover, problems in the banking sector appeared to have hampered the monetary transmission mechanism to some extent, adding difficulty to the setting of the appropriate policy stance. From a longer-term perspective, the central challenge is the attainment of a more balanced financial structure and the improvement of financial access—both in terms of outreach and quality of financial services. Success along these dimensions will enable Thailand to realize a growth process that is both stronger and less volatile, and at the same time also more evenly distributed.

While it is possible to identify the challenges to Thailand’s financial system going forward, it is much harder to lay down the practical steps that need to be taken in order to bring about the system that meets those challenges. The difficulty lies both in the appropriate timing and sequencing of reforms that will facilitate the attainment of the desired financial structure, yet at the same time minimizes the risk of disruption to the sector during the transition. The crucial prerequisite to tangible progress in this regard is the ability to generate sufficient political will to implement the necessary reforms given that economic conditions have improved dramatically and the temptation to subordinate key structural reforms that will bear fruit in the long-run to more short-term

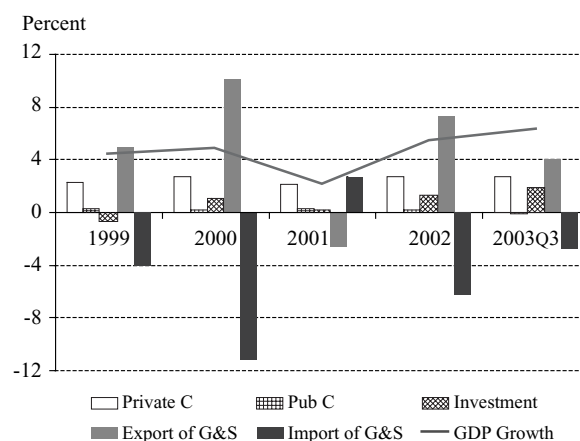
oriented goals.

This paper is organized as follows. Recent key macroeconomic developments are documented in Section 2, followed by a discussion of Thailand’s financial sector and the problems currently faced by the banking system in Section 3. In light of these problems, Section 4 shows how the key features of Thailand’s recent macroeconomic development, as well as the changing nature of the monetary transmission mechanism, can be traced back to the state of the banking system. Key policy priorities in the short- and long-term are highlighted in Section 5, while Section 6 concludes.

2. Thailand’s Rapid Economic Transition

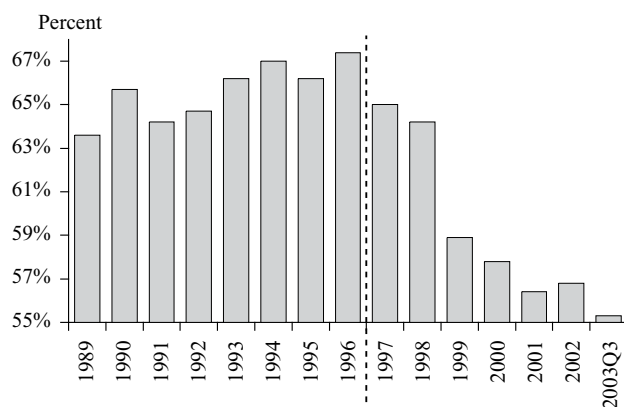
Thailand’s economic landscape has continued to change rapidly in the wake of the 1997 crisis. The recovery process has accelerated sharply in the last two years driven by a number of factors, some of which are both traditional and new to the Thai growth process. Taken together, the confluence of economic conditions and developments that has characterized Thailand’s recent upswing is quite unique and it is important to take stock of these influences, as well as their linkages, in order to obtain a clear platform from which key policy challenges can be assessed going forward.

Figure 1 Contribution to GDP Growth



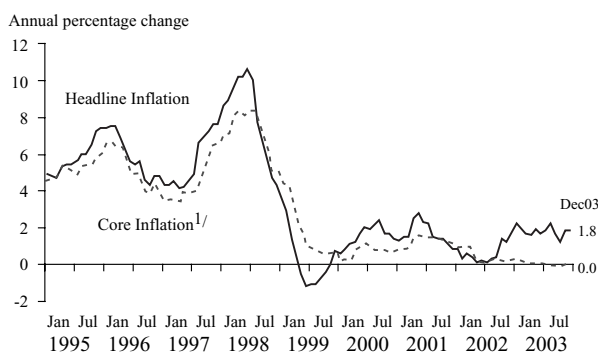
Most prominently, Figure 1, which shows Thailand’s contribution to growth from 1999 to 2003 Q3, indicates that the growth rebound has been driven mainly by exports and private consumption, with investment contributing a relatively small share at

least until very recently. Moreover, there has been a very asymmetric sectoral pattern in output with growth in the traded sector outpacing that in the non-traded sector in the aftermath of the 1997 crisis, a dramatic reversal of the pattern that obtained prior to

Figure 2 Non-Traded/Traded GDP

that (See Figure 2.). This reflects both a steep decline in non-traded production as well as a pickup in traded output, supported in part by a sharp depreciation of the baht.¹

The rebound in activity has not generated perceptible upward pressure on prices. Core inflation has been close to zero for well over a year, averaging 0.14 percent in 2003. Headline inflation has also

Figure 3 Inflation Developments

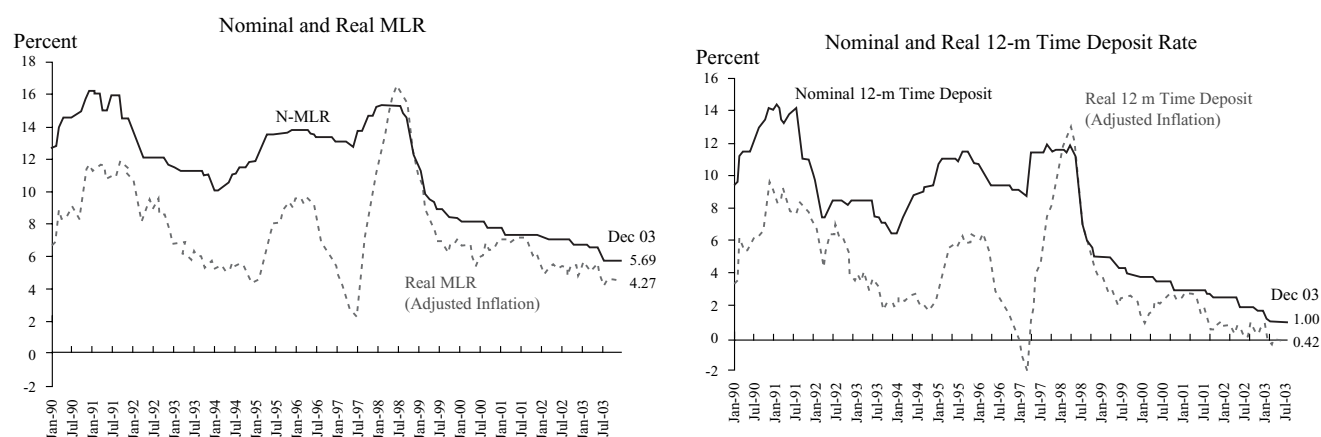
^{1/}Consumer price index excluding raw food and energy items

remained low, although consistently higher than the core rate, with an average of 1.8 percent in 2003 (see Figure 3.). Despite the substantial reduction in inflation, real interest rates, on both the lending and deposit sides, have fallen considerably since around the beginning of 1999 to historically low levels (see Figure 4.).² While low interest rates are supportive of growth, they also reflect some underlying problems in

the economy that will be discussed in more detail in Section 4.

On the external front, the situation has improved considerably. With the current account still in surplus, external debt declining, foreign reserve position strong, and a flexible exchange rate regime, external vulnerabilities have been substantially reduced (see Table 1.). At the same time, regional comparisons of

- 1 This asymmetry has also been reflected in capacity utilization (CAPU) figures. For example, while CAPU in manufacturing industries that export less than 30 percent of their output was 67.3 percent in October 2003 compared to 80.9 percent at end-1996, CAPU in those industries that export more than 30 percent of their output were much closer to their pre-crisis levels.
- 2 Real interest rates in the figures are obtained as the nominal interest rate minus the observed rate of inflation over the term of the asset. For the most recent observations where the asset has not yet matured and the inflation rate not yet realized, the forecast of inflation from the BOT model is used to proxy inflation expectations. See Disyatat (2003) for more details.

Figure 4 Real and Nominal Interest Rates**Table 1 External Developments**

(billions of US dollars)

	1996	1997	1998	1999	2000	2001	2002	2003Q3
Current Account	-14.3	-3.1	-14.3	14.3	12.5	9.3	7.6	5.6
(in percent of GDP)	-7.9	-2.0	-7.9	12.7	10.2	7.6	6.0	n/a
Gross Official Reserves	38.7	27.0	38.7	29.5	34.8	32.7	38.9	40.2
(in percent of short-term debt)	81.1	70.4	81.1	103.9	178.0	222.3	326.6	357.0
External Debt	108.7	109.3	108.7	105.0	95.0	79.7	59.4	52.3
(in percent of GDP)	66.0	64.8	66.0	70.0	73.0	66.8	49.0	n/a

movements in real effective exchange rates and the strong export performance suggest that Thailand's competitiveness is currently not a concern. Capital market developments have also been impressive. The Stock Exchange of Thailand (SET) index surged by over 116 percent in 2003, the highest percentage increase in the world. Bond yields have also been kept low by strong capital inflows, high liquidity, low inflation, and reduced risk premia. The latter is partly a reflection of the upgrade in Thailand's sovereign rating by most of the major rating agencies in 2003.

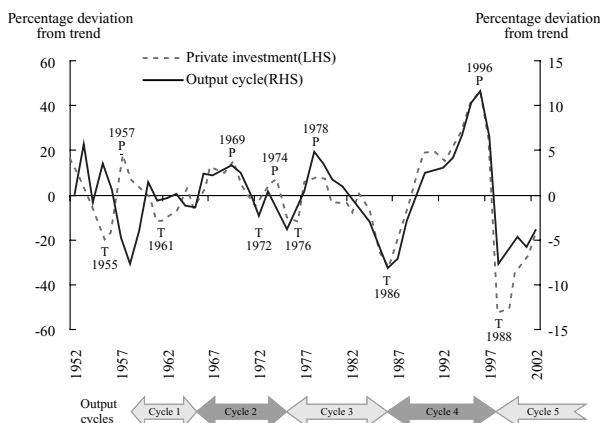
Underpinning this macro picture is a confluence of factors, some of which are mutually reinforcing. Rising employment and farm incomes, as well as easier credit, supported households' consumption, while private investment was buoyed by rising profitability and capacity utilization, and lower real interest rates. In dollar terms, much of the rebound in exports was accounted for by increased intra-regional trade, primarily with ASEAN, China, and Hong

Kong. From a policy perspective, the upturn in the Thai economy has been supported by accommodative macro and micro policies-including a well-timed fiscal stimulus, an easier monetary stance, and government initiatives to promote credit to certain constituencies (particularly the 'grass roots' level).

Going forward, the sustainability of growth rests on a pickup in private investment, which has historically served as a key thrust of growth during the typical upward cycle in Thailand (see Figure 5.). Indeed, the ratio of private investment to GDP hovers around 14 percent currently, compared to 33 percent during 1991-1996. One of the constraints on investment has been low capacity utilization which, despite recent improvements, remains below pre-crisis levels.³ Nonetheless, the key ingredients for a pickup in private investment appears to be in place. Returns on investment and industrial capacity utilization in certain sectors are recovering along with the rebound in growth while historically low interest

3 Overall CAPU has increased substantially from an average of 53.5 percent in 2001 to 65.6 percent in the first 10 months of 2003, though still below the pre-crisis average of 72.5 percent in 1996. However, CAPU in those sectors that have been driving growth, such as passenger cars, motorcycles, and electrical appliances have already reached or surpassed their pre-crisis levels.

Figure 5 Output and Private Investment Cycle

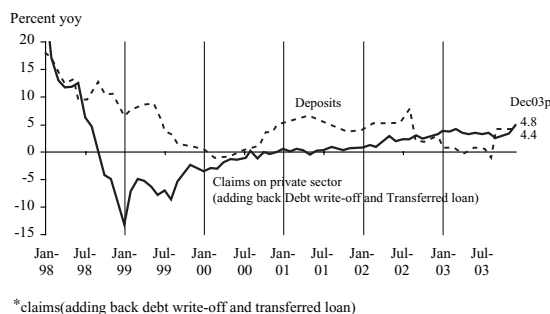


rates and lower degree of corporate leverage has considerably lowered the cost of capital. In addition, business sentiment has improved markedly, partly a reflection of the sharp increase in the SET index.

That said, given the crucial role that the financial system plays in channeling funds both from

within the country as well as outside, the pickup in investment-and thus the sustainability of Thailand's growth recovery-rests on the efficiency with which the financial sector can perform this task. Indeed, while loan growth has picked up (see Figure 6.), a significant portion of the increase has been driven by

Figure 6 Growth of Bank Deposits and Credit



state-owned institutions whose lending criteria are not always clear. Indeed, the biggest state-owned banks accounted for nearly half of the total loan growth (unadjusted) of just over 3.6 percent in 2003. Private banks have seen less demand for business loans since corporates are still in the process of de-leveraging and reliance on non-bank sources of finance has increased. Importantly, resolution of non-performing loans at private banks has been slower than expected and distressed assets in the system remain stubbornly high, which suggests that the effectiveness of the asset resolution mechanism and the legal framework may be improved further. The next section presents an assessment of the financial system to help set the stage for an analysis of the main economic

developments outlined above from a financial sector perspective, which will help to crystallize the underlying forces behind Thailand's economic transition.

3. A Financial Sector Perspective

Developments in the financial system explain a great deal about an economy's evolution. Indeed, Thailand's remarkable growth in the late 1980s and early 1990s would not have been possible absent the rapid development of the financial system at the time. Ironically, inherent weaknesses in the financial sector contributed much to the country's most severe economic crisis since the Second World War. This section provides an assessment of the recent

developments in Thailand's financial system, and in particular the state of the banking sector, in order to set the stage for the analysis of Thailand's recent economic transition in Section 4.

3.1. Recent Developments

At the broadest level, Thailand's financial system can be divided into four major constituents, namely: i) commercial banks; ii) capital markets (encompassing both the stock and bond markets); iii) government-owned specialized financial institutions (SFIs); and iv) non-bank financial intermediaries (finance companies, credit foncier companies, life insurance companies, and various co-operatives). Table 2, which provides some salient features of these four constituents as of end-2002, shows that commercial banks are both the oldest and largest part of the Thai financial system.⁴ The degree of concentration in the Thai banking system is moderate, with the four largest banks accounting for

around half of total banking sector assets and somewhat less of loans. The share of state-owned banks is about one third and, in addition, SFIs conduct about 18 percent of lending operations.

As documented in Disyatat and Nakornthab (2003), while Thailand's banking sector is not excessively large relative to GDP from a cross-country perspective, it is the predominant channel of intermediation of funds in the economy. Thus compared to other countries in the region such as Hong Kong and Singapore, Thailand's financial structure is much less balanced, relying heavily on bank-finance. That said, the importance of non-bank sources of intermediation has risen, on both the lending and saving sides

On the lending side, Figure 7 shows that economic recovery in the past few years has not relied heavily on broad credit expansion. Starting in 1999, the economy recovered strongly while real credit did not begin to pick up until around 2001, and

Table 2 Major Constituents of Thailand's Financial System (end 2002)

Constituent		First Est.	No.	Total assets/values (Bt b)	Share of total financial institution assets (%)
1. Commercial banks	Domestic banks	1906	13	5,780	59.4
	Foreign bank branch	1888	18	686	7.0
2. Capital markets	SET market capitalization	1975	N.A.	1,986	N.A.
	Public bonds outstanding	1933	N.A.	1,757	N.A.
	Corporate bonds outstanding	1992	N.A.	543	N.A.
	Securities companies	1953	39	51	0.5
	Mutual fund companies	1975	14	467	4.8
3. Specialized Financial Institutions (SFIs)	Government Savings Bank	1913	1	600	6.2
	BAAC	1966	1	396	4.1
	Government housing Bank	1953	1	362	3.7
	IFCT	1959	1	210	2.2
	Export-Import Bank	1993	1	48	0.5
	SME Bank (formerly SIFC)	1992	1	13	0.1
	Secondary Mortgage Corp.	1997	1	2	0.02
4. Non-bank financial intermediaries	Finance companies	1969	19	254	2.6
	Credit foncier companies	1969	6	6	0.1
	Life insurance companies	1929	26	360	3.7
	Agricultural cooperatives	1916	4,073	67	0.7
	Non-agricultural cooperatives	1937	2,333	437	4.5

Source: BOT; DOI; SET; TBDC

4 Omitted from Table 2 are pawnshops and informal credit institutions. Both do not take deposits from households. The former lend money against personal articles and is supervised by the Ministry of Interior. The latter are not subject to any prudential regulation.

even then, at a much slower rate than output growth. That said, the decline in the credit to GDP ratio appears to have stabilized recently. Against this background of sluggish credit growth, the private sector in Thailand has come to rely more on non-bank sources of financing, including internal financing, direct finance, trade credits, and loans from SFIs. The emergence of alternative sources of funding for the private sector can be seen from Figure

8, which shows recent changes in outstanding bank and SFI loans along with new equity and bond issuances.

On the saving side, the shift from bank deposits to institutional savings is one of the major trends in the global financial market, a trend that has also been observed in Thailand where growth in institutional assets between 1997 and 2002 outpaced that of household deposits by more than five times. The

Figure 7 Total Private Credit/GDP

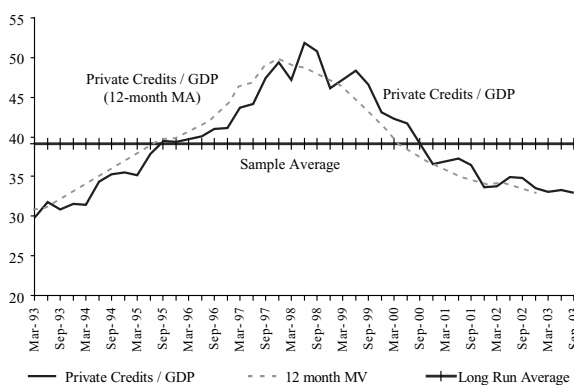
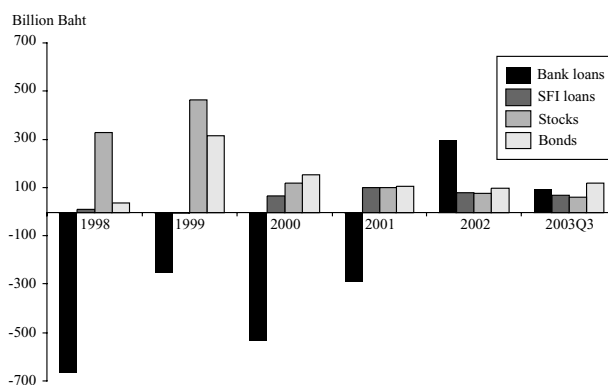


Figure 8 Private Sector Financing



sharp increase in equity prices have also encouraged savers to shift their deposits into stocks, bonds, and mutual funds. Nonetheless, the size of institutional savings in Thailand remains extremely low relative to the size of commercial bank deposits, reflecting the continued dominance of banks as a channel of saving. Overall, therefore, the process of disintermediation so far has been asymmetric as savers have continued to rely heavily on bank deposits.

Ultimately, the dominant role that banks play make them the single most important constituent in Thailand’s financial sector, and a crucial element in influencing developments in the real economy. It is therefore important to first understand the problems that currently beset the banking system before an assessment can be made regarding the extent to which these problems are holding back Thailand’s growth process.

3.2. The Current State of Thailand's Banking System

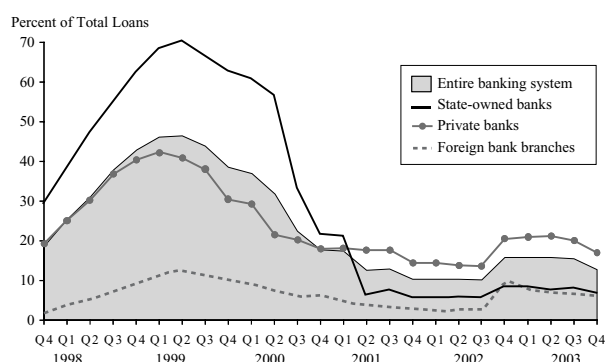
The Thai financial system has come a long way from the crisis in 1997, having returned to stability and consolidated on a large scale. Importantly, the maturity and currency mismatches in commercial banks vis-à-vis nonresidents, which were pivotal factors in propagating the crisis, has virtually disappeared. As of June 1997, about one-quarter of commercial banks' liabilities were foreign, around 49 billion US dollars, over half of which were short-term. At the same time, liquid foreign assets (cash and deposits at foreign banks) amounted to only around 3 billion US dollars implying an enormous potential short-term foreign financing gap. In contrast, at end-2002 banks' liquid foreign assets exceeded their short-term foreign liabilities by over 3 billion US dollars. The nature of sectoral exposures has changed considerably as well with a small net asset position vis-à-vis the other three sectors (ie. the government, the non-bank sector, and the rest of the world) compared with the large net liability position of the banking sector vis-à-vis the rest of the world at end-1997

Improvements in banks' balance sheets are also reflected in the decline in the level of non-performing loans (NPLs). As shown in Figure 9, the NPL ratios of all bank groups have declined substantially from their peaks, particularly those of state-owned banks.⁵ At the same time, capitalization has been

strengthened considerably and the system appears more than adequately provisioned. The ratio of existing loan loss reserves to required reserves is well over 100 percent, while the BIS ratios of capital to risk assets for all banks are several percentage points higher than required.⁶ Stronger balance sheets have facilitated a return to profitability for the banking sector. This is captured in Figure 10, which traces out the entire banking system's return on assets, net profits, and pre-provision profits from 1991 to 2003 Q3. The trend is especially comforting when one looks at the latter, which is a better measure of earning strength than net profits.

The recovery in profitability has been driven by wider net interest margins, lower operating expenses and provisioning costs, and higher non-interest income. Interest rate spreads of Thai banks have increased steadily since 2000 in an environment of falling interest rates, a reflection of the substantially larger deposit base relative to the credit base as well as the fact that both lending and deposit rates have generally fallen in tandem. Thus, declines in effective interest costs have outweighed the fall in effective interest income (see Figure 11.). Given the limited opportunities available in terms of credit expansion, banks have also turned towards fee-based services to supplement their income (see Figure 12.). While this should continue to be an important source of revenue for banks in the future, banks are likely to increase their reliance on loan growth to boost income as

Figure 9 Non-Performing Loans



5 The jump in NPL ratio in 2002 Q4 was due mainly to a change in NPL definition to include the uncollateralized portion of loans classified as substandard, doubtful, doubtful of loss, and loss that were previously written off.
6 The BIS ratio of locally incorporated banks at the end of 2003 Q3 was 13.41 percent.

Figure 10 Bank Profitability

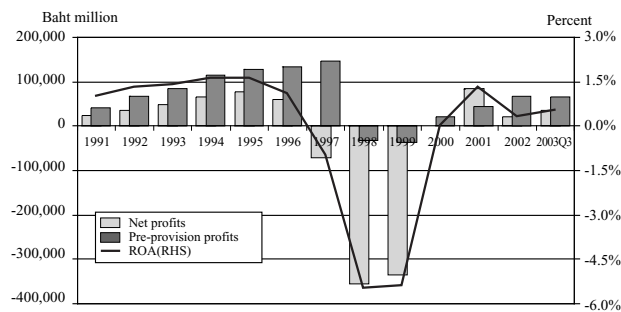


Figure 11 Interest Rate Spread of Thai Banks

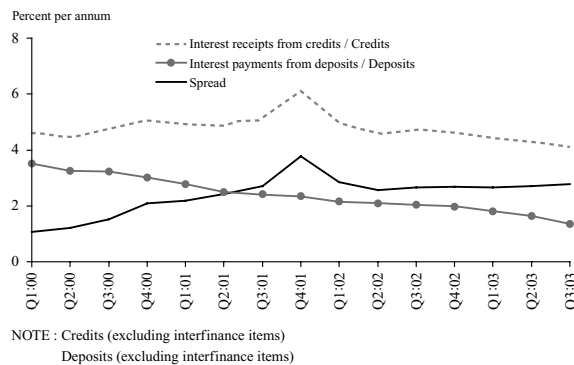
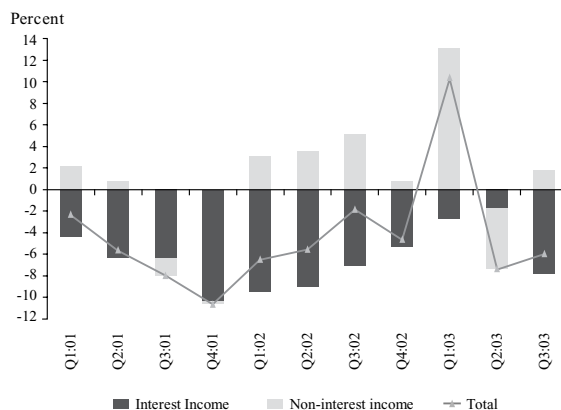


Figure 12 Contribution to Banks' Income Growth



investment growth picks up.

Relative to other countries in the region, however, Thai banks' profitability is still low as interest margins continue to be constrained by NPLs and heightened competition. Lower interest rates have

also reduced banks' effective income from their investment in securities and the money market. This continues to be a problem for the banking sector as the surplus of deposits relative to credit remains large and avenues for banks to invest these funds are still

limited. Significant cross-section variation in performance also exists with some banks still making losses and state-owned banks generally outperforming their private counterparts in 2002. The former benefited from the transfer of NPLs to the TAMC and stepped-up lending efforts. Indeed, the average ROA of state-owned banks in 2002 was 0.6 percent compared to 0.01 percent for private banks.

Overall, substantial weaknesses remain that need to be addressed before the banking sector can fully play its role in facilitating sustained economic growth. The biggest challenge continues to be the large overhang of NPLs that still has not been disposed of. Looking back at Figure 9, it is evident that despite a sizeable decline, system-wide NPL ratio remains well over 10 percent. Even more troublesome is the fact that the rate of NPL decline due to debt restructuring seems to have reached a plateau while the rate of NPL increase due to relapse of restructured loans remains high (about 67 percent of the total increase in NPL in the first three quarters of 2003), volatile, and possibly rising. These observations reflect weaknesses in the quality of ongoing debt restructuring that continues to be hampered by inadequacies in the legal framework as well as simply the sheer number of cases that impose large administrative burdens on both the financial and legal system.

Moreover, while the average capital adequacy ratio is comparable to other countries in the region, it has to be viewed against the backdrop of the poor loan portfolio quality and weaknesses in the areas of provisioning, loan classification, and collateral valuation. For example, the ability to choose the discount rate implicit in net present value of restructured loan calculations give banks the option to shift provisioning to the future. Moreover, the true capital adequacy may be overstated by the current practice of allowing banks to deduct the value of physical collateral prior to required reserve calculation. There are two major problems with this method. Firstly, it is difficult to assess the fair value

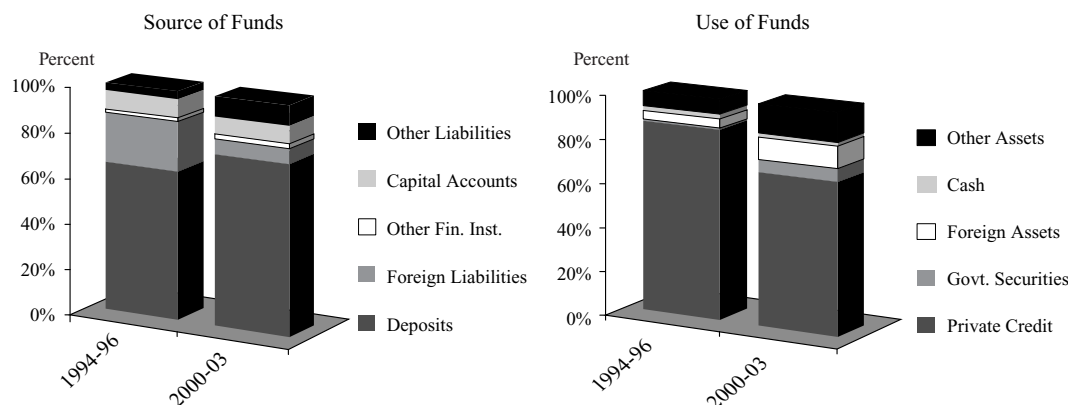
of these collateral, some of which depreciate rapidly once left idle. Although the Bank of Thailand requires banks to take a 10 percent haircut off the appraised value, it is unlikely that the amount would commensurate potential losses_especially in light of the fact that these collateral are likely to be significantly overvalued. Secondly, the current reserve method ignores the time value of money. Foreclosing an asset normally takes about 3-4 years, during which a bank will not be able to realize sale proceeds. As such, the current method allows some banks to delay the realization of losses and the necessity to increase capital.⁷

Indeed, if restructured loans are added on top of banks' NPLs on one side, and claims on collateral on top of loan loss reserve on the other side, it will be apparent that the latter barely covers the former. If the collateral are aggressively marked to market or a significant portion of restructured loans turns sour, banks would find themselves in trouble.⁸ Thus while the capital adequacy ratio of 13.41 percent at end-2003 leave banks with some cushion for shocks, the risk from further deterioration of asset quality is non-negligible and continues to make banks reluctant to lend.

A reflective summary of the problems outlined above, along with their linkages to the real economy, can be had by taking stock of the key adjustments that have taken place on banks' balance sheets in the wake of the 1997 crisis. Starting with the liability side, the left hand panel of Figure 13 shows that the share of deposit has increased significantly since the crisis in line with the economic recovery. At the same time, commercial banks have substantially reduced their reliance on foreign currency debt as a source of funds. This has been accompanied by a lengthening of the maturity profile of their borrowings, two-thirds of which consisted of short-term loans before the crisis. With respect to the use of funds, the right hand panel of Figure 13 captures the considerable decline in private credit in commercial banks' asset portfolio. This decline has been compensated for by higher

7 The Bank of Thailand is currently revising its guidelines concerning the deduction of collateral from book value of debt in required provisioning calculations, to be implemented sometime in 2004, which is expected to be more stringent.

8 This could happen either because of deteriorating economic condition or because of more stringent requirements on reclassification of bad loans to normal loans.

Figure 13 Source and Use of Commercial Bank Funds

investments in foreign assets and government securities. Reflecting the growing size of the bond market, commercial banks' corporate bond holdings have also risen, and the associated increase in interest rate risk has to be managed carefully going forward.⁹

3.3. Specialized Financial Institutions

While the banking system continues to work off the excesses of the early 1990s, a different set of players, namely specialized financial institutions (SFIs), have recently stepped up to fill some of the void left by banks. Since their expanded role has significant bearing on the development of Thailand's financial sector and is closely linked to the current government's policy framework, a brief discussion of their operations and the risks involved is warranted.

Having operated in Thailand for many years under specific development mandates, SFIs have gained importance recently serving as the vehicle for a number of government fiscal initiatives. The four biggest institutions—Government Savings Bank (GSB), Bank for Agriculture and Agricultural Cooperatives (BAAC), Government Housing Bank (GHB), and the Industrial Finance Corporation of Thailand (IFCT)—account for 95 percent of total SFI assets and operate in areas of deposit mobilization and consumer, agricultural, housing, and SME financing. Technical and advisory services are also provided by some of the SFIs. Five other institutions

were established more recently with specific development mandates in terms of trade financing (Export-Import Bank of Thailand), lending to small and medium-sized enterprises (Small and Medium Enterprise Development Bank of Thailand and the Small Industry Credit Guarantee Corporation), promoting the development of a secondary mortgage market (Secondary Mortgage Corporation), and serving Islamic customers (Islamic Bank).

Reflecting their more prominent role, SFIs' market share of loans has risen to 18 percent in 2003 Q3 from 12.5 percent at end-1999. The share in deposits is lower at 15 percent as only the biggest three (GSB, BAAC, GHB) are permitted to take deposits. To the extent that the recent expansion of SFIs' activity reflect credit-based initiatives that benefit the less well-off, they could have beneficial supply-side effects and constitutes a way to bypass the impaired channels of transmission. There is some concern, however that the extension of SFIs' operations in areas beyond well-defined mandates have created undesired overlap with other financial institutions that may undermine market-based intermediation and put the private banking sector at a relative disadvantage. In the mortgage market, for example, the GSB has become more active and increased its market share from 3 percent at end-1999 to 9 percent in 2003 Q3, partly at the expense of the GHB and commercial banks. Overall, SFI housing

⁹ However, the adverse impact of rising interest rates on banks' balance sheets is mitigated by the use of swaps and their ability to designate security investments as 'held to maturity', the unrealized gains/losses on which do not affect profit. More important is the fall in net interest income that will be associated with higher interest rates.

loans as a share of total housing loans has increased from around 30 percent in 1997 Q1 to just under 50 percent in 2003 Q3.

Government support of SFIs is generally not through subsidies, except for specific policy loans, but rather through their exemption from profit and other taxes, holdings of more than a third of government deposits (including from state-owned enterprises), and receipt of government guarantees on their debt instruments and customer deposits. SFIs have also benefited from various capital injections made by the government over time, either to address capital shortfalls or to expand the scope of their operations. However, it is unclear to what extent this support is used by SFIs to cross-subsidize their commercial operations, in which they compete with other financial institutions.

This lack of clear separation between policy and commercial operations makes it hard to assess SFIs' financial conditions. In addition, less stringent regulatory requirements compared to commercial banks warrant closer monitoring of SFI activities. While all SFIs had capital adequacy ratios above 8.5 percent at end-2003, not all of them follow loan classification and accounting rules that apply to commercial banks. For example, most SFIs classify loans not by risk but by past due criteria that are sometimes less strict than for banks. SFIs' lower NPL ratios and provisioning rates should thus be viewed in this light.

As such, the expanding role of SFIs warrant greater supervisory oversight and increased transparency of their operation. Regulatory and supervisory responsibility for SFIs currently lies with the Ministry of Finance with annual inspections conducted by the Bank of Thailand. To establish more detailed and regular monitoring that would enable more rapid response to emerging problems, a shifting of the supervisory responsibility to the Bank of Thailand-along with the imposition of the same regulatory requirements and accounting rules as for banks-could be considered. Importantly, a move towards clearer separation of their commercial and policy operations would significantly enhance the transparency of SFI operations and help i) the government to better estimate policy costs, ii) SFIs to price their commercial operations properly and avoid

unfair competition with banks, and iii) the supervisor to assess SFIs' financial conditions.

4. Implications of Impaired Credit Flows

Problems in the banking sector as well as necessary restructuring in the corporate sector has contributed to sluggish loan growth that has persisted despite the pickup in activity. The anemic growth in private credit has its roots in the 1997 crisis, which caused a dramatic contraction of the banking sector. Subhaswasdikul and Nakornthab (2003) show that the contraction in bank lending during the early stages of the crisis was predominantly supply-driven, as banks' balance sheets deteriorated rapidly. Subsequently, demand factors, including large excess capacity and subdued investor confidence, have contributed to the sluggish growth in credit. At the same time, there appears to be a fundamental shift in banks' credit extension policies from relationship-based lending towards more risk-based lending. While this development is clearly welcomed, it hampers credit growth in the short-term by reducing banks' willingness to lend. The pertinent question at this juncture is to what extent the contraction in bank lending has affected/reflected developments in the real economy. Indeed, as will be discussed below, much of the salient features of Thailand's recent macroeconomic development outlined in Section 2-namely, low inflation, low real interest rates, and an asymmetric growth pattern-can be rationalized from a financial sector perspective.

4.1. Low Inflation

The persistence of low inflation in Thailand, despite the significant rebound in economic activity, has been a unique and sometimes puzzling development that warrants discussion. From a global perspective, the absence of significant price pressure in Thailand is not exceptional. Inflation in industrial, developing, and regional economies has declined dramatically in recent years. After a marked decrease in the 1990s, average inflation in the industrial economies currently stood below 2 per cent. In developing economies, the consistent experience of double-digit cross-country average inflation in the past 3 decades had become seemingly anachronistic, with average

inflation falling to 5.9 per cent in 2003 (2.5 percent for developing Asia).

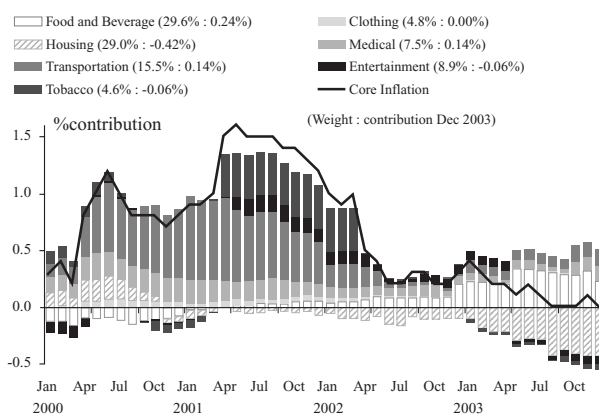
Given the harm caused by high inflation, the recent decline in inflation rates throughout Asia is clearly welcome. Certainly the low inflation environment has allowed monetary policy across the region to be much more supportive of growth than otherwise. It is somewhat ironic, therefore, that price declines in a number of countries and very low inflation in others have raised concern that inflation is in fact too low. Moreover, low inflation against the background of rapid growth and surging asset prices makes monetary policy more complicated since overheating pressures may manifest themselves in emerging financial imbalances rather than obvious inflationary pressures. It is, therefore, important to gain a deeper understanding of the factors behind low inflation and how it relates to the state of the banking system in order to determine the appropriate policy response going forward.

An interesting feature, looking back at Figure 3, is the recent divergence between core and headline inflation rates. An examination of developments in each component of the CPI basket helps to clarify the sources of this divergence, as well as the overall low rates of inflation. A key element that has kept headline inflation above core has been the price level of raw food (especially rice, flour and flour products, and vegetable and fruit), which rose 9.3 per cent in 2003. Furthermore, higher world oil prices pushed domestic energy prices up by 3.7 per cent. At the same time, the persistence of low core inflation reflects a sustained decline in housing rent, which fell

by 0.9 percent in 2003, as well as administered price measures on basic utilities, transport and communication, healthcare, and education, that are seldom increased. Together, the latter components and housing rent make up just under half of the CPI basket. Figure 14 shows the contribution to growth of various components of core inflation as well as their respective weights. Nevertheless, from a longer perspective, average headline and core inflation since 1986 had been close to one another at 3.9 and 3.7 per cent, respectively.

Turning to more fundamental economic forces, persistent downward pressure on prices in Thailand, as well as the Asian region more generally, has been exerted by the substantial output gaps that emerged following the crisis in 1997. These negative output gaps-and the associated downward pressure on prices-reflect the adjustment process that economies normally undergo in the 'bust' phase of an economic cycle. Following a period of sustained economic boom, many Asian economies now suffer from an investment overhang and excessive private sector debt. A purging of those excesses naturally sets off a lingering series of deflationary aftershocks on the demand side. Weaknesses in the world economy, accentuated by the highly synchronized nature of the slow down among industrial countries, also contributed to the decline in inflation rates during 2000-2002. Finally, the trend appreciation of the baht has contributed to keeping inflation low, although this contribution is likely to have been quite small given Thailand's low degree of exchange rate pass-through.¹⁰

Figure 14 Contribution to Growth of Core Inflation



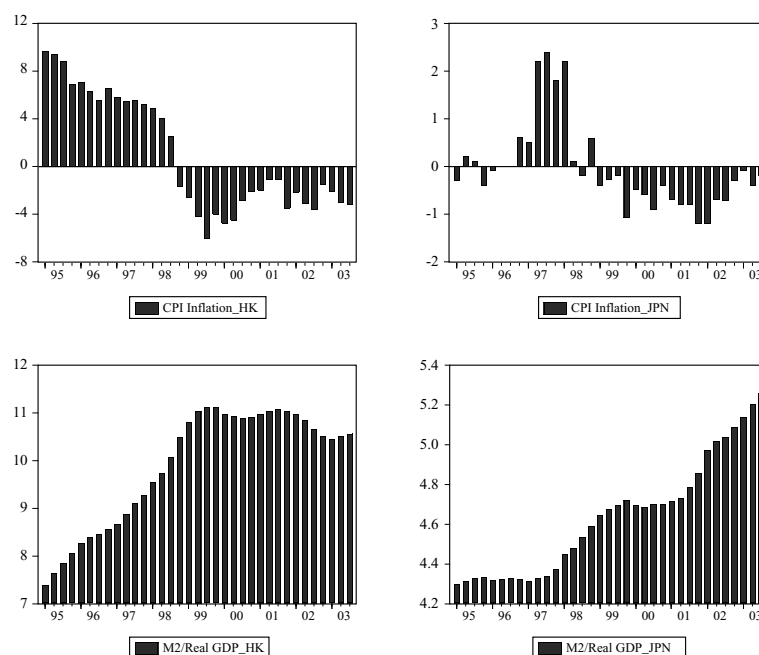
The widespread slowdown in inflation is not just a cyclical phenomenon. There have been some more fundamental institutional and structural factors at work also. Indeed, the fact that inflation continues to be subdued despite rapid growth points to substantial improvements on the supply side. For one, rapid technological progress and the associated improvements in productivity has led to lower prices in a range of products and services (especially in IT-related industries). These technological innovations have also increased the scope for cost arbitrage across national boundaries as progressively more goods and services become tradable because of, for example, advances in freight transportation and the impact of IT on coordination. Finally, institutional reforms including greater emphasis on price stability among central banks and wide-ranging structural reforms in trade, product, and labor markets that has increased trade openness, has also contributed to containing inflationary pressures.

The discussion so far has not touched upon one crucial factor behind lower inflation rates in Thailand-and falling prices in others, namely the role of money. Certainly while the demand and supply

factors outlined above can give rise to falling prices from time to time, a sustained decrease in the overall price level can only be the result of a prolonged period of insufficient growth in the money supply that leads to insufficient growth in spending. In other words, when too little money chases too many goods for too long, deflation occurs (as opposed to inflation, which occurs when too much money chases too few goods for too long). Prices fall not because goods and services are plentiful, but because money is scarce.¹¹

A rough and ready measure of the amount of money chasing real goods and services is the ratio of broad money to real GDP. Note that what matters for prices is the amount of money that households actually have access to (in terms of cash and/or deposits) in order to finance transactions. As such, the relevant notion of money here is broad rather than narrow money. To obtain a better sense of the underlying price dynamics from this perspective, it is illustrative to complement Thailand's experience with some of those countries that have experienced persistent deflation, such as Hong Kong and Japan. Figure 15 shows inflation rates and 4-quarter moving averages of the M2/real GDP ratio for these two

Figure 15 CPI Inflation and 4-Quarter Moving Average of M2/Real GDP



10 See Buddhari and Chensavadijai (2003) for a study of inflation dynamics in Thailand.

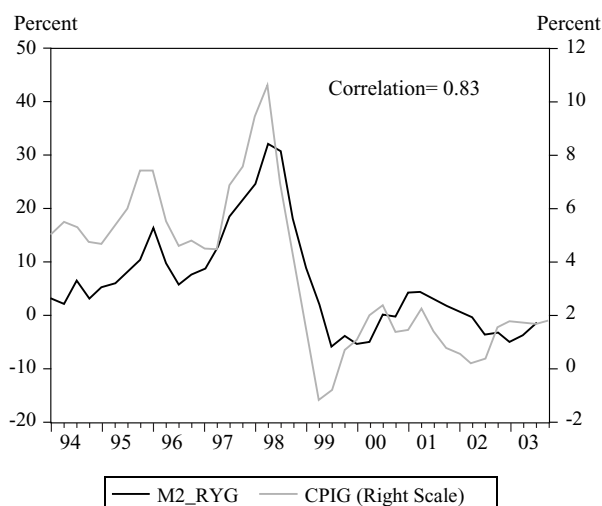
11 Indeed, during the Great Depression, the quantity of money in the U.S. economy actually shrank 35 percent between 1930 and 1933.

countries. Evidently episodes of falling prices have been associated with a stagnant ratio of broad money to real GDP. In the case of Thailand, Figure 16 confirms that changes in the ratio of broad money supply to real GDP have moved quite closely with inflation.¹²

Under a fiat money system, the monopoly supplier of money (that is, central banks), whose supply is potentially unlimited, should always be able to generate higher nominal spending and inflation, even with nominal interest rates at zero. If the amount of money in circulation is raised sufficiently, the monetary value of goods and services in the economy

must eventually rise. But it is not that central banks can directly increase broad money supply and bank lending. They must do so through the provision of funds to financial institutions in exchange for bonds or foreign exchange. When credit markets function properly, this expansion in loanable funds leads to a rise in the supply credit that underpins the increase in broad money. However, given ongoing banking sector problems, monetary expansion through traditional channels may not be effective in raising broad money aggregates. The ineffectiveness of monetary policy thus far, despite being very accommodative, to generate sufficient increases in broad money supply

Figure 16 Growth of M2/Real GDP and Inflation



to lift inflation is reflected in the significant fall in the money base multiplier in Japan for most of the 1990s, and Thailand since the 1997 crisis.

The heart of the problem stems from lingering balance sheet weaknesses that continue to plague both the banking and corporate sectors. At the same time, excess capacity and uncertainty about future economic prospects have dampened the demand for credit. When firms are not eager to raise funds and

banks are not eager to lend, higher liquidity in the banking system will not translate into higher liquidity in the economy. In this way, the slow pace of banking and corporate restructuring has contributed to the persistence of low inflation in Thailand-and deflation in others.¹³

4.2. Historically Low Real Interest Rates

Despite the decline in inflation rates, real interest

12 Those familiar with the quantity theory of money will recognize that the ratio of broad money to real GDP is also equal to the ratio of prices to velocity ($MV=PY$). Thus the fact that the ratio has moved closely with inflation basically implies that changes in velocity has been quite stable.

13 While not of direct relevance to Thailand at this stage, a logical solution to stopping deflation would be to pursue quantitative easing very aggressively, including through the acquisition of relatively illiquid assets such as long-term bonds, and possibly circumventing the banking sector by buying assets of households directly. Such 'unconventional' monetary policy would be something akin to heart by-pass surgery in that it would involve injecting liquidity directly into the economy, by-passing the banking system altogether. While such a move would have serious ramifications on central bank's balance sheets, prices will definitely rise.

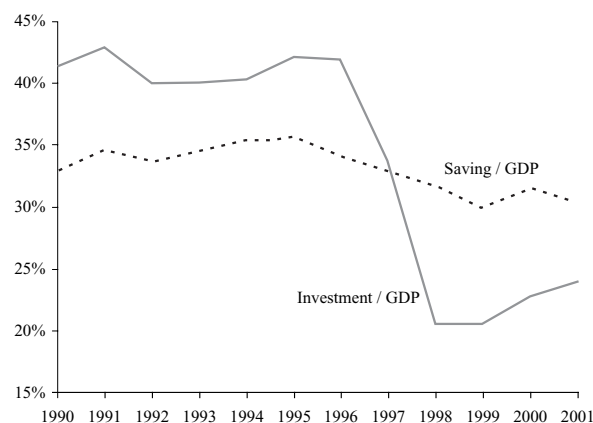
rates in Thailand have fallen considerably to historically low levels, as previously illustrated in Figure 4. Since real interest rates reflect and have important bearing on developments in the real economy, it is important to understand why interest rates are low in Thailand at the moment.

The real interest rate is the price at which the supply of and demand for capital are equated. Capital is supplied via saving and demanded for investment. Accordingly, the real interest rate as determined in credit markets will depend on the factors that influence the propensity to save, which generates a supply of loanable funds, and the productivity of capital, which generates a demand for funds. The

level of real interest rates that actually obtains today, therefore, is a reflection of the current state of investment demand and saving supply, as well as cyclical factors such as monetary policy and temporary demand shocks more generally.¹⁴

View from this perspective, the fact that interest rates are low in Thailand reflect the sharp fall in investment demand since the 1997 crisis against the backdrop of a relatively stable saving behaviour and limited opportunities for saving diversification abroad. Figure 17 shows that gross domestic investment as a ratio of GDP has fallen sharply from over 40 percent before 1997 to around 25 percent in recent years. By comparison, gross national savings

Figure 17 Private Sector Saving and Investment



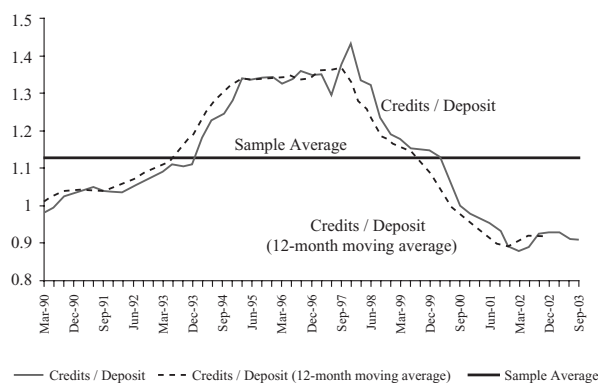
has declined only modestly as a share of GDP over the same period. This contrasting experience between investment and saving is one of the key factors behind low real interest rates. As the pool of good projects has shrunk, demand for funds has been declining. With saving behaviour remaining relatively stable, the resulting plentiful supply of funds has pushed interest rates down, as investors compete for a smaller number of good projects.

If world capital markets were fully integrated, the higher supply of saving relative to demand would have only limited implication for the level of Thai real interest rates since savings could flow abroad to seek higher returns elsewhere. However, given certain

restrictions on foreign investments by Thai residents, it may not be possible for households to channel their savings abroad as much as they perhaps would like to. In addition, the well-known Feldstein-Horioka and the home-bias puzzles suggest that capital is often less mobile than commonly perceived.¹⁵ Thus, in explaining the level of Thai real rate of interest, domestic factors remain key.

The divergence between demand for and supply of funds has been exacerbated by problems in the banking sector, which plays a dominant role in intermediating funds in Thailand. Hampered by the legacy of the crisis in 1997—that significantly weakened their balance sheets as well as those of

¹⁴ In the long-run, when output is at potential consistent with stable inflation, the associated saving-investment nexus gives rise to the 'natural' real rate of interest. In this situation, fundamental determinants of saving and investment, and thus the natural real interest rate, are shifts in preferences and technology.

Figure 18 Credit to Deposit Ratio

their potential customers- banks have been unable to generate sufficient growth in loans, their most productive asset (see Figure 18.). This, in turn, has limited their ability to offer higher return on deposits. The fact that bringing the supply of and the demand for capital together in Thailand is mostly done through banks makes the analysis of banking sector developments a vital step towards a fuller understanding of real interest rates. Indeed, if banks were somehow unable to fulfill their core intermediary function, observed real interest rates may not fully reflect the true state of the *desired* investment demand-saving supply nexus at the economy-wide level but only at the level of the banking system, which is largely associated with banking sector health.

At the same time, a lack of saving diversification, related to both the ability and willingness to invest in non-bank assets, has flushed the banking system with liquidity. A pertinent question in this respect is why don't depositors move their funds elsewhere, given historically low deposit rates? That is, why has disintermediation not occurred on the saving side? The answer involves partly a reluctance of depositors to diversify into other assets (perhaps from being highly risk averse

and lacking in knowledge about alternative investments), as well as a lack of access to other investment opportunities (for example due to an under-developed mutual fund sector or restrictions on overseas investment). Recent trends suggest, however, that access to non-bank investment instruments is improving which should help to ease the pressure on banks going forward.

The basic message is that the current environment of low interest rates is fundamentally related to the state of the economy and the ability of structural reforms to foster a sustainable recovery in investment demand. In recent years business investment spending has been weak, corporate earnings have yet to fully recover, stock market valuations-which reflect confidence in the future-are down substantially from pre-crisis levels, and economy-wide productivity growth has slowed since the mid-1990s. These are all signs of a low return on invested capital. As alluded to earlier, an important element in raising investment-and thus reducing the surplus of funds in the banking system-is the revitalization of credit growth which cannot fully take place until banking sector health is restored.

15 The Feldstein and Horioka puzzle refers to the robust finding of significant correlation between countries' savings and investment rates despite seemingly high degree of capital mobility. If capital were perfectly mobile, saving and investment can diverge, even for protracted periods, as countries exploit their opportunities to gain from intertemporal trade by running unbalanced current accounts. With investment decisions being made to maximize the present discounted value of the country's output, investment itself is determined by elements that are independent of consumption preferences. At the same time, savings is free to seek out the most productive investment opportunities worldwide. Taken together, this implies a low correlation between saving and investment.

4.3. Asymmetric Growth Pattern

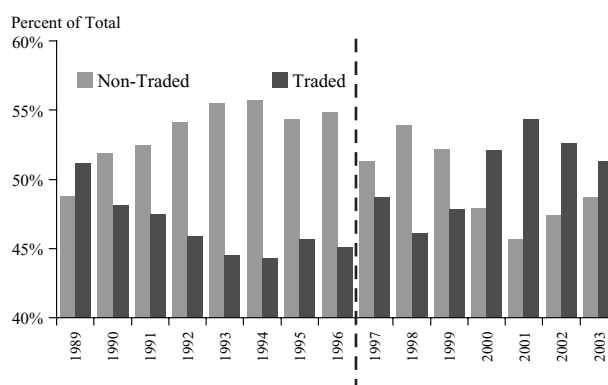
Another striking feature of the post-1997 economic recovery is the absence of a corresponding increase in bank credit. In fact, real credit to the private sector has actually declined quite persistently and remains below the level in 1996. This presents somewhat of a puzzle in light of the heavy reliance on bank finance in Thailand. Looking back at Figure 1 in Section 2, which shows contributions to GDP growth in recent years, provides some clues. In particular, the figure indicates that the growth rebound has been driven mainly by exports and private consumption, with investment contributing a relatively small share. Since the latter is the component that relies most heavily on credit, it may not be that surprising that bank credit has not kept up with GDP growth.

However, previous experiences in other countries suggest that perhaps the overall anemic credit growth may mask some asymmetric sectoral pattern. As documented by Tornell and Westermann (2002), twin crises (concurrent occurrence of both exchange rate and banking crises) tend to be preceded

by real exchange rate appreciation and a lending boom in which the ratio of credit to GDP grows unusually fast. Following the crises, there is typically a short-lived recession and a protracted slowdown in bank lending that persists long after aggregate growth has resumed. The credit crunch hits mainly small and non-tradables firms. In fact, non-tradables production declines relative to the output of the tradables sector for several years after the crisis, and the credit-to-GDP ratio falls.

As illustrated in Figure 2 of Section 2, there has indeed been a very asymmetric sectoral pattern in output in Thailand, with the importance of the traded sector rising dramatically after the crisis. The asymmetric sectoral response indicates that the crisis affected non-traded firms most heavily. Given the sharp contraction in bank credit, a key question is whether this asymmetry reflects a difference in financing opportunities between firms in the traded and non-traded sectors. Figure 19 suggests that the credit crunch following the crisis did in fact hit the non-traded sector especially hard with the proportion

Figure 19 Sectoral Bank Credit



of loans to the non-traded sector declining from around 55 percent at the end of 1996 to a trough of just over 45 percent in 2001, before rebounding slightly to 48 percent in 2003.¹⁶

Using survey data collected over 1999-2000, Disyatat and Nakornthab (2003) investigated whether there is a significant difference in financing

opportunities between firms in the traded and the non-traded sectors in Thailand. Overall, the results indicate that firms in the traded sector tend to be larger and less dependent on bank credit, as they are more likely to have access to other forms of external finance-trade credit, and equity and bond markets. In contrast, firms in the non-traded sector are typically

¹⁶ The relatively heavy exposure of Thai banks to the non-traded sector, especially real estate, before the crisis was one of the key problems that led to enormous losses for banks subsequently.

smaller and heavily dependent on bank credit, which is primarily determined by collateral values, not investment opportunities. Since banks are heavily exposed to the non-traded sector, overall credit declines while GDP is propped up by the traded sector. The result is a protracted slowdown in bank credit that outlives a brief recession.

An important lesson highlighted by Thailand's experience is that corporate de-leveraging need not come at the expense of growth. Against this backdrop, the role that diversification towards non-bank financing has played in sustaining real growth may be smaller than commonly perceived. While overall credit growth has been sluggish, credit expansion across sectors has been quite asymmetric. Importantly, credit to those sectors that have been driving the rebound in GDP, private consumption and the traded goods sector more broadly, has actually increased or remained relatively stable. In this way, the asymmetric growth pattern is closely linked to developments in sectoral credit. In particular, sluggish credit growth appears to have been mainly the result of declines in credit to the non-traded sector, which also suffered the most in the aftermath of the 1997 crisis. Going forward, the banking sector should continue to dominate the Thai financial landscape for some time to come. That said, the extent to which the decline in bank credit has been offset by a combination of trade finance, increase in lending by specialized financial institutions, greater recourse to capital markets, and heavier reliance on internal finance is sizeable and should become more important going forward.

4.4. The Monetary Transmission Mechanism

The upheaval in Thailand's banking system in the aftermath of the 1997 crisis and lingering problems outlined in Section 3 that remain have had important repercussions not only for the real economy, but also monetary policy formation, which has been further complicated by changes in the monetary transmission

mechanism. A key dimension in this respect lies in the size and speed with which retail interest rates respond to changes in policy or money market interest rates. Disyatat and Vongsinsirikul (2003) analyzed how interest rate pass-through in Thailand has varied before and after the crisis using two methodologies common in the literature, the dynamic multiplier method and the error-correction model.¹⁷ By comparing the results estimated using the entire sample—from January 1989 to March 2002—with those obtained with data only up to December 1995, an indication of how pass-through has been affected by the 1997 crisis was obtained. The results indicate that both the long-run pass-through and the speed of adjustment—with respect to the minimum lending rate (MLR) and the 3-month deposit rate—have indeed declined after the crisis (see Tables 3a. and 3b.).

Disyatat and Vongsinsirikul (2003) also estimate vector autoregression (VAR) models for Thailand and found that the responses of real output and bank credit to monetary shocks were greater when the estimates were carried out using data only up to 1999 Q1, the point at which the divergence between credit and output became apparent (see Figure 20.).¹⁸

Moreover, the importance of the bank lending channel in acting as a conduit for monetary policy to the real economy appears to have fallen substantially. The latter can be gauged by comparing two sets of impulse responses: one with bank credit treated as endogenous in the VAR and another where it is included as an exogenous variable.¹⁹

As shown in the left-hand panel of Figure 21, estimated using the full sample, the output responses to a monetary policy shock (upward jump in the 14-day repurchase rate, RP14) with and without bank credit (LOANS) exogenized are quite similar for the first 4 quarters but the former dissipates more quickly thereafter. But while the output response is certainly dampened when the role of bank credit is blocked off, the difference is not very pronounced, indicating the existence of a bank lending channel that is not very

17 Details of the estimation method and calculation procedures can be found in Disyatat and Vongsinsirikul (2003).

18 In response to similarly sized monetary policy shock, trough output response is about 1.3 percent below baseline in the full model compared to around 2 percent in the model estimated over the sub-sample. Similarly, loans bottoms out at around 2.7 percent below baseline in the shorter-sample model compared to 1 percent in the full-sample model.

19 The latter procedure generates a VAR identical to the former (with identical orthogonalized innovations), except that it effectively blocks off any responses within the VAR that passes through bank credit.

Table 3a Pass-through to 3-Month Deposit Rate

Method	Period	Immediate	3-month	6-month	Long-run	Speed of Adjustment
Dynamic multiplier	1989M1-1995M12	0.057	0.402	0.612	0.700	
	1989M1-2002M3	0.059	0.317	0.399	0.429	
ECM:Engel-Granger	1989M1-1995M12				0.500	0.147
	1989M1-2002M3				0.350	0.070

Notes: The dynamic multiplier model was run with 6 lags. The ECM models were both estimated using 4 lags.

Table 3b Pass-through to Minimum Lending Rate

Method	Period	Immediate	3-month	6-month	Long-run	Speed of Adjustment
Dynamic multiplier	1989M1-1995M12	0.089	0.328	0.521	0.558	
	1989M1-2002M3	0.041	0.239	0.356	0.389	
ECM:Engel-Granger	1989M1-1995M12				0.400	0.101
	1989M1-2002M3				0.356	0.080

Notes: The dynamic multiplier model was run with 6 lags. The ECM models were both estimated using 4 lags.

Figure 20 Changing Transmission Mechanism

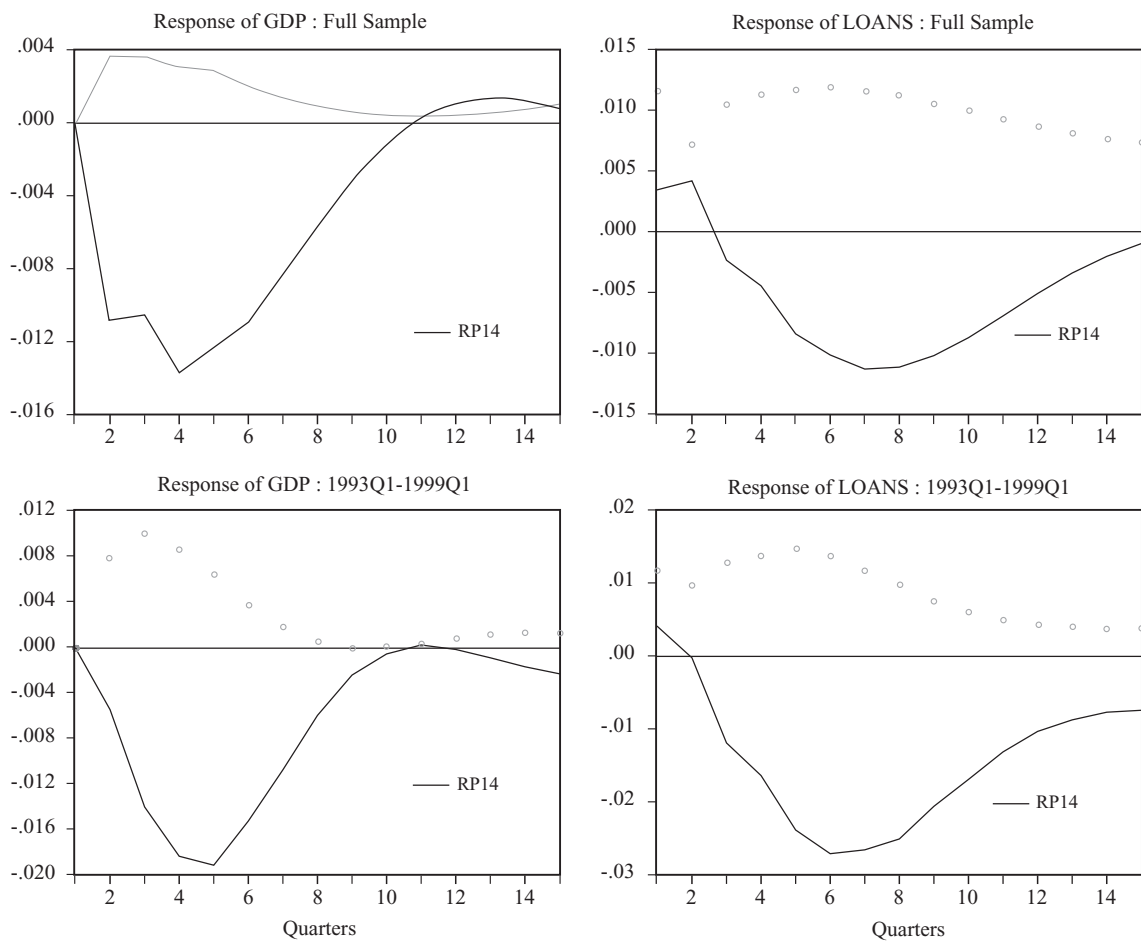
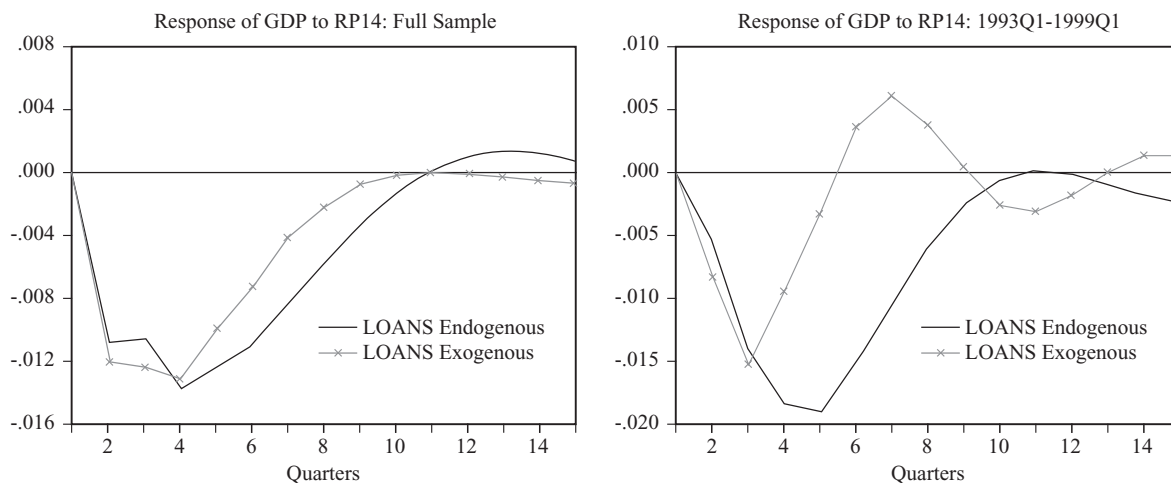


Figure 21 Smaller Role of Bank Lending



strong. On the other hand, using data only up to the first quarter of 1999, the right-hand panel of Figure 21 shows that the degree with which the response of output to monetary shocks is dampened when bank loans are exogenized is considerably larger. After 4 quarters, nearly half of the direct impact of an unanticipated change in monetary policy on GDP comes through bank loans. Overall, the results suggest not only that the impact of monetary policy on output has weakened since 1999, but also that this decline has been associated with a weaker bank-lending channel. The latter has apparently been driven by a smaller sensitivity of both bank loans to monetary policy and of output to bank loans.

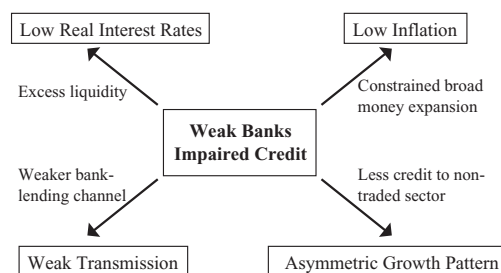
Looking forward, restoration of the banking system to full health and effective de-leveraging of corporate sector balance sheets are essential steps in unclogging the wheels of the transmission mechanism and improving the effectiveness of monetary policy. At the same time, retail rates that are more sensitive to money market conditions would remove an important impediment in the financial system. Moreover, as households diversify their portfolios more towards bonds and equities, the asset price channel of monetary transmission should strengthen as wealth effects become more important. Finally, if the composition of bank lending changes, the incidence of monetary policy is likely to change as well. Should recent trends continue, policy-induced changes in bank loan rates are less likely to affect large corporations and more likely to influence

consumers.

5. Putting It All Together: Creating a Sound Financial Structure

From a broader perspective, the key features of Thailand’s recent macroeconomic developments outlined above can be traced back to the state of the banking sector. As summarized in Figure 22, lingering problems in the banking sector and the resulting impediment to credit growth has played a crucial role behind the occurrence of low inflation, low real interest rates, an asymmetric sectoral growth pattern, and a weaker monetary transmission mechanism. Impaired bank lending has limited the extent to which increases in base money has translated into broad money expansion, helping to contain inflationary pressures. The associated

Figure 22 An Integrated Picture



structural excess liquidity in the banking system has, in turn, contributed to low interest rates. At the same time, the relatively important role of tradables in Thailand's recovery reflect declines in credit to the non-traded sector. Against this background of reduced reliance on bank finance and high liquidity, the historically important bank-lending channel has become less effective and retail rates less responsive to changes in money market rates, dampening the overall transmission mechanism.

These developments not only reflect the critical role that the financial sector plays in the economy, but also reinforces the need to forcefully resolve existing structural weaknesses in the banking sector if Thailand is to fully attain its growth potential. In light of the evidence presented so far, this section attempts to highlight the challenges facing Thailand's financial system and draw some conclusions that may serve as a guide towards policy in meeting those challenges, both from a short-and long-run perspective. The ultimate goal, in this respect, is the development of a more balanced financial structure which is both more resilient to shocks and more efficient in allocating capital.

5.1. Short-Term Challenges

Despite considerable progress that has been made in restoring balance sheet strength, there remain significant weaknesses that need to be addressed before the financial sector can fully play its role of facilitating sustained economic growth. In light of the dominant role played by banks, much of the focus in the near term rests on addressing weaknesses in the banking sector, and in particular the revitalization of bank credit. Simply relying on private consumption and the traded sector to propel the economy may not be a sustainable strategy, given considerable uncertainty as to their resilience. Maintaining the growth momentum going forward requires a sustained revival of investment, and the latter cannot take place until bank credit, especially into the non-traded sector, fully recovers.

This section outlines three major challenges in the short-term posed by impaired bank credit flow, as

well as some possible ways to meet them, namely: i) resolution of NPLs; ii) improving risk management and assessment; and iii) reducing moral hazard and enhancing market discipline in the financial system. In dealing with these supply-side problems, the implicit presumption is that aggregate demand continues to be managed in a sound manner by the pursuit of a supportive fiscal and monetary policy mix that is appropriate and sufficiently forward-looking.

5.1.1. Resolution of Non-Performing Loans

The most urgent problem that must be addressed in Thailand's financial sector is the significant overhang of non-performing loans (NPLs) that continues to hamper bank balance sheets and constrain credit expansion. Resolving these problems will have an especially important impact on how well commercial banks serve small firms as well as households in the future, because they are more dependent on banks than on other sources of financial services.

The existence of large quantities of NPLs obstructs the economic recovery in a number of ways. First, non-performing debtors pending restructuring can neither expand their business nor invest in new projects as long as agreement on debt forgiveness and restructuring in general cannot be reached. Second, they undermine credit growth as banks have to concentrate their efforts on NPL resolution rather than extending new credit. Furthermore, remaining NPLs give rise to concerns that additional loan loss provisions may have to be taken, which make banks more cautious about granting new loans.²⁰ From a medium term perspective, the benefits from NPL resolution are mainly associated with improved allocation of resources in the economy. Putting assets that are currently locked up in the restructuring process to more productive uses could boost growth substantially. The likely impact on GDP depends on the assumptions used but the effect could be as high as half a percent of GDP per year by some estimates.²¹

At the banking level, current and future costs

20 The fact that NPLs and credit growth exhibit robust positive correlation suggests that reductions in the level of distressed assets would help to boost loan growth and help lift long-term growth prospects.

associated with the stock of NPLs are mainly associated with uncertain recovery values and to a lesser extent by funding costs. In principle, NPLs that have been fully provisioned (ie. losses fully recognized) have a carrying cost of zero even if the assets remain on banks' balance sheets and should no longer affect banks' lending decision. However, since NPLs are provisioned net of collateral, only the uncollateralized part of the loan is 100 percent provisioned for. The remaining portion that reflects expected recovery remains on banks' books and affects banks' profitability in two ways. First, the non-provisioned portion of the loan generally earns no income but still has to be funded, mostly by deposits. The larger are the share of these non-earning assets, the more they weigh down on banks' net income. With deposit rates at historically low levels of around 1 percent currently, this cost is limited, but once interest rates start to rise again, they will become a larger burden on banks. Second, collateral valuations which are used to determine how much of the loan is fully provisioned for is subjective and generally believed to be over optimistic. Thus banks could be under-provisioned with respect to their NPLs and additional provisioning in the future would reduce profits. In the case of Thailand, additional provisioning will likely constitute a greater burden on banks than the direct funding costs, reinforcing the fact that NPL resolution would mitigate uncertainties and possibly boost banks' risk appetite to resume lending.

The establishment of the Thai Asset Management Corporation (TAMC) in June 2001 has been an important catalyst to the NPL resolution process. With cumulative acquisitions of impaired assets as of end-2003 amounting to more than a quarter of all distressed assets in the financial system, at approximately 781 billion baht, successful restructuring by the TAMC is essential to restoring private sector's balance sheet and improving prospects for new credit. At face value, the restructuring progress by the TAMC has been impressive with resolution of around 732 billion baht worth of assets transferred already approved by the

Executive Committee. Restructuring and rehabilitation in the central bankruptcy court accounts for around 59 percent of the progress with most of the remainder achieved through foreclosure. Upon closer inspection, the degree of progress appears less clear. A debt workout is deemed to be resolved when the TAMC's Executive Committee agrees to it. However, full resolution is often contingent on the borrower taking additional steps, including raising more financing, and thus the extent of true resolution may be overstated. Of all the debt restructuring cases, only about a third have been signed by the debtors with the rest still some way away before a final agreement can be reached. Similarly, foreclosure is often used as a way of bringing debtors to the negotiating table and most of the cases will ultimately be restructured rather than foreclosed. In addition, a large number of foreclosures and accounts involving primarily smaller cases have yet to be processed.

From the authorities' perspective, a key priority is the need to ensure effective functioning of the various specialized agencies that have been established to facilitate the resolution of NPLs. These agencies need to concentrate on maximizing asset recovery, minimizing moral hazard, and limiting potential economic distortions between performing and non-performing debtors. The focus should also be on selling assets off quickly rather than restructuring them on their own so as to minimize the claims on taxpayers and ensure that debtors are not able to put off restructuring.

Absent reforms that establish a legal framework supportive of debt workouts and provided that the TAMC operates efficiently along the lines suggested above, further gains could be had by another round of NPL acquisition from private banks. While the optimal solution would involve an enabling legal environment that balances creditor and debtor rights so that most of the restructuring can be done within the private sector, amendments to the legal system generally take too long a time for this to be practical. A more centralized solution that utilizes the special legal powers of the TAMC can be more effective. The

21 This assumes a market value of NPAs that is on average 50 percent of book value and an increase in the rate of return of 2.5 percent per year on the assets once they exit the pool of NPAs.

fact that around 80 percent of TAMC's cumulative acquisitions of impaired assets came from state-owned financial institutions and AMCs suggests further opportunities to capitalize on the TAMC's special mandate. Sufficient incentives should be provided in this respect, for private banks to sell a large chunk of their NPL portfolio to the TAMC.

However, to the extent that banks have not fully provisioned against expected future losses (relative to what would be recovered by the TAMC rather than the banks themselves), pricing of NPL transfers would be complicated by the need for the government to determine the extent to which banks or taxpayers should bear the additional cost of restructuring. This pricing of NPLs and the determination of gain/loss sharing arrangement is ultimately a political decision. The benefits of stronger bank balance sheets, and the associated rise in willingness to lend, has to be weighed against the fiscal costs that may arise from lower than expected recovery rates.²² In addition, the transfer price could set a benchmark for 'hair-cuts' that may affect borrowers' willingness to service their debt as well as the credit culture in the long term

Apart from direct government assistance, there are a number of ways in which both debtors and creditors can be encouraged to restructure NPAs. With respect to the debtors, a sustained economic recovery accompanied by a low interest rate environment will increase their ability to repay. Their willingness to do so, however, depends on the firmness of the legal system-especially the Bankruptcy Law-and other incentives to step up restructuring, such as tax incentives and access to new loans. On the creditor side, the pace of restructuring depends much on the capacity of financial institutions to realize losses that may further impact on their profits and balance sheets. Moreover, their willingness to engage into restructuring is determined by the strength of creditor rights in the legal system, which also influences their willingness to extend new loans.

5.1.2. Improving Risk Management and Assessment

Just as crucial as the speedy resolution of existing bad assets in the banking system is the need to ensure that the problem does not reoccur in the future. A key dimension in this respect lies in reducing the degree of information asymmetry in the banking system. In particular, the quality of credit data available to banks needs to be improved in order to facilitate better assessment of risk. This is especially pertinent in light of the rapid growth in consumer finance, which represents at the same time an additional channel for banks to boost earnings, as well as a new source of risk that will have to be dealt with carefully. Much of the improvement in this respect can be provided by effective credit bureaus.

Thailand currently has two credit bureaus, established in September 1999, to facilitate centralized credit data collection: The Thai Credit Bureau Company and The Central Credit Information Services Company. So far, their usefulness have been limited by narrow coverage and poor quality of information. The two credit bureaus together cover a few million consumers, but there is only a limited number of SMEs in the database (only the Central Credit Information Service covers SMEs). Furthermore, the data comes predominantly from financial institutions. There is no information coverage from non-financial sources such as department stores, telecom companies and utilities. Finally, their short lifespan limits the availability of historical data.

While these problems are to be expected given that it typically takes 5-10 years to build up trusted and comprehensive credit information, Thailand can leverage on experiences in other countries to speed up the development of the country's credit bureaus. With respect to commercial credit, the establishment of a comprehensive SME database should be a priority. On consumer credit, the integrated coverage of financial and non-financial sources is crucial. Finally, certain basic information of the two bureaus should be consolidated to achieve the benefits of pooled data.

²² Obviously, the government could stand to benefit if economic and other conditions improve debtors ability and willingness to repay debt.

5.1.3. Reducing Moral Hazard and Enhancing Market Discipline

Excessive risk-taking behavior would also be discouraged by a reduction in the degree of moral hazard in the financial sector as well as greater reliance on market discipline. In this regard, one legacy of the 1997 crisis that continues to distort Thailand's financial system is the blanket guarantee for depositors of financial institutions.²³ While the guarantee helped to stabilize the Thai financial system at the time, its continued existence has entailed significant costs. First, it represents a considerable contingent liability to taxpayers because depositors would not have to bear the losses associated with bank failures. Second, it removes market discipline since prudent management is not rewarded. Third, because banks do not have to worry about a deposit run, it creates moral hazard, which could undermine disciplined risk assessment. Finally, it holds back capital market development by discouraging the flow of funds away from banks. These problems would be effectively addressed by the introduction of a limited deposit insurance scheme.

During the past couple of years, considerable progress has been made towards the establishment of the Deposit Insurance Agency (DIA), an organization that would administer limited deposit insurance in Thailand. With much of the groundwork completed, the key consideration at this stage is the timing of its introduction. This matters not least because changes in confidence regarding certain financial institutions may have potentially destabilizing effects on the financial system. In light of remaining weaknesses in the Thai banking sector discussed in Section 3, it would be best to begin the transition to limited deposit insurance only once these gaps have been addressed. This simply reinforces just how crucial the resolution of NPLs is to the whole process of financial sector restructuring.

At another level, the existence of weak state-owned banks could pose a problem to the credibility of a partial deposit insurance scheme. As long as the government remains the owner of weak banks, depositors of state-owned banks may believe that

their deposits are implicitly guaranteed, weakening market discipline as well as raising questions about a level playing field. To avoid this problem, most state-owned banks may need to be restructured and privatized before a partial deposit insurance scheme is introduced.

Finally, the expanded operations of SFIs and increased lending by state banks associated with the implementation of 'credit-based fiscal policy' raises concerns about contingent liabilities and unfair competition with the banking sector. If borrowers perceive that government-owned SFIs are less likely to pursue defaulters, moral hazard could arise and the credit culture may be weakened. The re-establishment of well-defined mandates of each SFI, along with clearer separation between policy and commercial operations, would help to end the inefficiencies that have arisen from overlaps and competition among SFIs themselves, as well as with commercial banks, and make the fiscal costs more transparent. At the same time, a push towards greater harmonization of SFIs' supervisory and regulatory framework with those of banks would help to level the playing field. Ultimately, however, SFIs should adhere as much as possible to their development mandates since the rehabilitated banking system is able to competitively provide commercial banking services.

5.2. Medium-Term Challenges for Thailand's Post-Crisis Financial System

From a longer-term perspective, the resolution of remaining weaknesses in the balance sheets of Thai banks will not be enough to ensure the attainment of growth at full potential that is both more stable and evenly distributed across the country. The missing pieces are: i) deeper capital markets to complement banks; and ii) greater financial access to facilitate entrepreneurship, especially in the provinces.

5.2.1. Deeper Capital Markets

The extensive literature, as reviewed by Dolar and Meh (2002), provides strong evidence that financial structure is not important for explaining differential growth rates across countries. Countries do not grow

23 Institutional creditors were excluded from the blanket guarantee in November 2003. While this marks an important first step, it involves mainly inter-bank obligations which represents only a very small fraction of banks' funding base.

faster, and firms' access to finance is not systematically easier in either market- or intermediary-based systems. For example, Germany and Japan-major intermediary-based systems-and the United States and United Kingdom-the foremost market-based systems-have had different financial systems, but experienced similar growth rates over time. What matters for growth is the overall level and quality of financial services and how markets and intermediaries complement one another. Both intermediaries and markets have a comparative advantage at dealing with different types of information. The primary emphasis should thus be on the overall level and quality of financial services rather than the channels through which those services are provided.²⁴

In light of the complementary nature of banks and capital markets, the inadequacies of Thailand's capital market suggests that substantial economic benefits remain to be reaped through further development of the capital market. These benefits may come not only in the form of higher growth, but also a more stable one. Indeed, the 1997 crisis demonstrated just how detrimental the consequences can be when the banking system collapses in an economy with no firmly established alternative form of financing. The presence of multiple alternatives of channeling savings to investment thus act as backup facilities should the primary form of intermediation fail. While the crisis has indeed spurred firms to seek alternative non-bank financing, which has rapidly expanded the size of the corporate debt market, it has not broken the banking sector's dominance. The pertinent question that arises is then: what conditions are necessary to encourage capital market development and bring about better financial services? Laporta et al. (1997, 1998) argue that the legal system plays a crucial role in this respect. Creating a strong legal system that supports the rights of outside investors (both equity and debt investors) and then efficiently enforcing those laws is crucial for the provision of growth-enhancing financial services.

Intuitively, this is a simple idea, since a promise to deliver one unit of financial service tomorrow is worthless if delivery cannot be enforced. Put simply,

investors provide capital to firms only if they have the ability to get their money back. For equity holders, this means that they must be able to vote out managers who do not perform and/or sell their holdings easily in a liquid market. For creditors, this means having the authority to repossess collateral. If these conditions are not met, then capital markets will in general be less developed and less attractive for both lenders and borrowers. This will result in a dominance of bank-based financing. Indeed, the empirical evidence shows that countries with legal systems that give high priority to secured creditors, rigorously enforce contracts, and set accounting standards that produce comprehensive financial statements, have better developed financial intermediaries and enjoy faster growth (Cecchetti, 1999).

In this respect, the currently high degree of segmentation between bank intermediary and bond market has to be reduced. Even though banks have excess liquidity and deposits continue to grow, banks' investment in government bonds are constrained by their limited ability to keep interest-rate risks and maturity mismatching under control. In this setting, the need to fiscalize remaining financial-sector restructuring costs could result in yields that are both significantly higher and more volatile, creating undesirable crowding-out effects and posing major risks to the government's financing capability. To ensure that the government's ability to fulfill its future financing requirements at reasonable costs and with little disruptions to market interest rates, progress on bridging the gap between bank intermediary and bond market is required.

A vital element in this regard is the development of a retail bond market to facilitate the shift of household deposits towards government bonds. Effort should be directed at setting up the necessary infrastructure, especially a secondary market or a buy-back facility that would initially protect retail bond investors from interest-rate risks. Market maturity and liquidity would be facilitated by the increased issuance of government bonds to retail investors. Given the current environment of very high structural liquidity and historically low interest rates,

24 See also Demirgüç-Kunt and Levine (2001).

this is perhaps the most opportune moment in which to speed up the development of the retail bond market. Apart from providing depositors with alternative forms of savings, further bond issuance would also facilitate banking sector restructuring by lowering interest expenses (due to a smaller deposit base) and allow the government to lock in funds at relatively low costs. Moreover, the reduction in the amount of deposits under guarantee would help to mitigate the need for a large deposit insurance reserve fund.

Finally, the application of standardized accounting and disclosure rules is necessary to enhancing the information flows that plays a crucial part in investors' risk assessment and decision making. Credible and easily accessible information is vital to the development of a bond market since it allows investors to mitigate asymmetric information problems without the reliance of an intermediary. Considerable progress has been made in this regard, with new issuance of bonds needing to obtain a rating first as well as meet other standardized requirements from the Securities and Exchange Commission. In particular, strict disclosure requirements with respect to operating results and balance sheet conditions are required both before and after the issuance of bonds. The main impediment at this stage relates mainly to a lack of supply and the relatively small interest/knowledge in bond investment on the part of savers.

5.2.2. Improved Financial Access

The other dimension of financial sector development that is sometimes neglected is that of financial access. As highlighted by Disyatat and Nakornthab (2003), there is strong evidence that an imperfect credit market is not only a big constraint on the small business sector in Thailand, but also that local financial development is an important determinant of the economic success of an area and much can be gained simply from improving financial access and development of poorer regions across Thailand. At issue here is what can be done to overcome the barriers to financial expansion?

One of the most significant obstacles to wider financial access in Thailand in the past, especially through formal financial institutions, has been the use

of loan collateral for reducing credit risks. This does not work efficiently when many intended clients do not have acceptable collateral, and expensive and time-consuming legal procedures prevent effective realization of legal claims on collateral. In Thailand, enhancing the availability of collateral through a reform of laws governing land ownership would alleviate constraints on many who have the right to use land but no legal document that can be used as collateral.

This would not help those with good projects but no access to collateral, however. Collateral substitutes are needed in this situation, and a shift in focus away from collateral-based lending to project-based assessment is one way to proceed. This would enable projects with the highest marginal product to be financed, irrespective of whether the borrower has access to collateral or not. Moving in this direction requires large improvements in information collection and processing as well as better-designed contracts. In this respect, financial institutions need supportive public policies to develop accounting and disclosure systems and to improve the legal infrastructure.

More generally, policy should be aimed at identifying the causes of market failures and correcting them through reforms rather than through direct financial-intermediation interventions. Indeed, the availability of cheap loans and debt forgiveness has the potential to weaken the repayment culture and make lending unprofitable. Subsidized interest rates may encourage unprofitable investments while borrowers are more likely to default on directed credit because of the perception that the government will not pursue them vigorously. Importantly, any expansion of credit and saving facilities must take place efficiently. Specific policies need to be directed at specific institutions. Institutional sustainability, breadth and depth of outreach, and quality of services provided should be emphasized as key performance measures.

Finally, one should not lose sight of the fact that while the financial sector can respond to opportunities created by rapid economic growth, it cannot accelerate the growth process in the face of an unfavorable economic environment. Credit cannot compensate for unprofitable production activities. It cannot compensate for missing roads, bridges, and

communications. It cannot compensate for bad seed, missing input supplies, inefficient marketing systems, and poor transportation. These fundamental economic bottlenecks must be addressed before more loans can make a significant impact.

6. Conclusion

Having surpassed, at end 2001, the milestone pre-crisis real GDP level of 1996, Thailand's economic recovery has accelerated in the past few years. A contributing factor has been the considerable progress already made in restoring the imbalances that were at the root of the crises-in particular the enormous external financing gap-as well as a relatively accommodative fiscal-monetary policy mix. Nevertheless, weaknesses remain at the sectoral domestic levels. Most importantly, the banking and corporate sectors continue to be weighed down by a large stock of unresolved non-performing loans. A still weak banking sector and the resulting constraint on loan growth explains much of the recent developments in the macroeconomy including historically low inflation and interest rates, an asymmetric growth pattern, and reduced effectiveness of monetary policy.

Despite sizeable increases in the use of non-bank sources of finance, the private sector in Thailand still relies heavily on the banking sector. As such, the speedy resolution of remaining problems on banks' balance sheets is crucial in re-establishing the single most vital link between savers and productive activity in the Thai economy. While the relative strength of household balance sheets should facilitate consumption to expand further, medium-term growth remains constrained by balance sheet weaknesses in the corporate and financial sectors that continue to limit investment growth. In this regard, a re-opening of the TAMC to private banks could also be beneficial so long as the rules are fair and transparent.

At the same time, growth-oriented policies should be sufficiently complemented by structural reforms to improve the resilience of the financial system. The impact of credit-based fiscal initiatives should be assessed closely as they have the potential, if not implemented carefully, to weaken the credit culture and strain the financial system, in addition to

increasing contingent liabilities. Importantly, policymakers should not lose sight of the need to lay the necessary foundation for much improved risk assessment and management that puts more of the onus on market discipline and peer review. Not only will this process improve resource allocation across the economy, but it will also minimize the risks of a re-emergence of the imbalances that led to the turmoil in 1997. A key dimension in this respect is the development of a deep and liquid capital market to complement banks, which cannot happen without a sound legal system that effectively protects the rights of investors and enforces contracts efficiently.

The current rebound thus should not lead to complacency but rather be seen as an opportune period for the implementation of tough reforms. Importantly, key economic laws remain to be enacted. In particular, amendments to the Bankruptcy Law are still under review; the final version of the Financial Institutions Act has not yet been endorsed by Cabinet; while drafts of the Secured Transaction Law and the Deposit Insurance Law are still ongoing. Delays in enacting these laws, as well as remaining weaknesses in the legal system, hold back corporate restructuring and a revival of bank intermediation.

Finally, the importance of improving access to financial services should not be overlooked. Although Thailand has become closely integrated with international financial markets at the national level, the benefits that such linkages provide have been quite concentrated in a handful of regions, leaving much room for improvement at the local provincial level. The focus, therefore, should not be solely on improving the integration of Thai financial markets with that of the Asian region or the world, but also on making sure that financial integration occurs at the provincial level as well. What is required is a well functioning financial intermediation system that allows talented individuals to go into business or expand existing businesses, regardless of where they live or their current wealth level. Client-based lending procedures, rather than client-blind, collateral-based lending would be particularly helpful in this respect.

References

- Buddhari, A. and V. Chensavasdijai (2003), "Inflation Dynamics and Its Implications for Monetary Policy," Bank of Thailand Discussion Paper 09/2003.
- Cecchetti, S., 1999, "Legal Structure, Financial Structure, and the Monetary Policy Transmission Mechanism," Federal Reserve Bank of *New York Economic Policy Review*, July.
- Demirgüç-Kunt, A. and R. Levine, 2001, *Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development*, Cambridge, Massachusetts, MIT Press.
- Disyatat, P., 2003, "Real Interest Rates in Thailand: Interpretations and Implications for Policy," Bank of Thailand *Economic Monitor*, April 2003.
- Disyatat, P., 2003, "Asia in a Low Inflation Environment: Facts, Origins, and Implications for Policy," Bank of Thailand Discussion Paper, January 2003.
- Disyatat, P. and D. Nakornthab, 2003, "The Changing Nature of Financial Structure in Thailand and Implications for Policy," Bank of Thailand Discussion Paper, November 2003.
- Disyatat, P. and P. Vongsinsirikul, 2003, "Monetary Policy and the Transmission Mechanism in Thailand," *Journal of Asian Economics*, Vol. 13, Issue 3, 389-418.
- Dolar, V. and C. Meh, 2002, "Financial Structure and Economic Growth: A Non-Technical Survey," Bank of Canada Working Paper 2002-24.
- International Monetary Fund, 2003, *World Economic Outlook*, September 2003.
- Laporta, R., F. Lopez-de-Silanes, A. Shleifer, and R.W. Vishny, 1997, "Legal Determinants of External Finance," *Journal of Finance* 52(3), 1131-50.
- _____, 1998, "Law and Finance," *Journal of Political Economy* 106(6), 1113-55.
- Mallikamas, R., D. Rodpingsangkaha and Y. Thaicharoen, "Investment Cycles, Economics Recovery and Monetary Policy," Bank of Thailand Discussion Paper, November 2003.
- Nakornthab, D. and M. Subhaswasdikul, 2003, "Banking Sector Fundamentals: Learning From the Recent Bank Lending Contraction," Bank of Thailand Discussion Paper, January 2003.
- Santiprabhob, V., 2003, "Lessons from Thailand's Experiences with Financial Sector Restructuring," unpublished paper.
- Tornell, A. and F. Westermann, 2002, "Boom-Bust Cycles: Facts and Explanation," *IMF Staff Papers* 49 (Special Issue), 111-155.