

THAILAND, FINANCIAL CRISIS AND MONETARY POLICY

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Abstract This article interprets the financial crisis that started in July 1997 in Thailand as a failure of monetary policy. The traditional policy regime of fixed exchange rate and high interest rates that had served Thailand well in the past, was inconsistent with the international mobility of capital in the 1990s. A better combination of exchange rate and interest policies will have to be established in order to contribute to the recovery and renewed growth. The article questions whether the inflation targeting now being considered will serve that purpose.

Keywords Thailand, monetary policy, inflation targeting, Asian crisis.

1. INTRODUCTION

In the soul-searching that followed the outbreak of the financial crisis in July 1997, the Bank of Thailand was identified as one of the main culprits. The Nukul Commission, assigned with the task of investigating the role of the Bank in the period before the crisis, came to hard judgements. The Bank had stuck far too long with the fixed exchange rate, the supervision of financial institutions had been ineffective and the Bank had been far too lenient with troubled financial institutions (Nukul Commission Report 1998). The central bank that has been so publicly derided is now facing the challenge of reconstituting itself and taking charge of monetary policy under the new post-crisis conditions.

This article analyses monetary policy during the 1990s and its contribution to the emergence of the crisis and then assesses an appropriate policy regime for Thailand in the years to come. The next section analyses the pre-crisis period in which capital inflows rose to very high levels. The main aim of economic policy was to contain the inflationary pressures of the boom through a tight monetary policy and other measures. The contradictions intensified between this tight monetary policy, the high degree of capital mobility and the maintenance of the fixed exchange rates, and led eventually to the crisis of July 1997. In section 3, I briefly discuss the main dimensions of the crisis, a combination of a currency crisis and a



financial crisis. The exchange rate fell from 25 baht to the dollar before the crisis, to 53 baht six months after the crisis and in May 2000 stabilized around 37/38 baht. The collapse of the financial system is reflected in the closure of a large number of finance companies and in the explosion of non-performing loans (NPLs). One of the consequences of the crisis is that Thailand has now departed from the fixed exchange rate. In section 4, I consider the monetary policy regime most appropriate for Thailand under these new circumstances. The Bank of Thailand has announced that it will adopt the presently popular inflation targeting approach.

2. MONETARY POLICY IN THE PRE-CRISIS PERIOD

The crisis that started in July 1997 marked the end of a period in which the Thai economy had performed extraordinarily well. Over the ten years between 1987 and 1996, the average annual GDP growth rate was 9.4 per cent, the growth rate of real exports was 14.5 per cent, while inflation was contained at 4.7 per cent. The investment ratio increased from 27 per cent in 1987 to 41 per cent in 1996. The high level of investment and the rapid growth had been supported by large inflows of foreign capital: in the period 1987–96, annual capital inflows were on average equal to 8.7 per cent of GDP. This dependence on external capital is a longer-standing characteristic of Thai development (Jansen 1997). Thailand needs foreign capital since its domestic savings are not high enough to finance the high level of investment necessary for rapid growth.¹

Capital inflows started to increase rapidly after 1985–6, reaching very high levels in the 1990s. Figure 1 shows the pattern: average annual inflows exceeded 10 per cent of GDP in the period 1990–6. The figure also shows that since the mid-1980s the capital inflows systematically exceed the current account deficit, implying a rapid increase in official reserves.² Table 1 provides detail on the changing composition of capital inflows since 1980. In the 1980s capital inflows were dominated by loans taken in almost equal proportions by the public and the private sector. Around 1983 Thailand went through a minor debt crisis and a period of structural adjustment, including significant fiscal reform (Jansen 1997). In the later periods public sector borrowing disappeared; since 1987 capital inflows have been totally directed at the private sector. In the years 1987–92 direct investments made an important contribution, but the main form of capital inflows was borrowings of the non-financial private sector. After 1992 that pattern was to change drastically: now capital inflows were dominated by portfolio investment and, particularly, borrowing by financial institutions.

The changes in the composition of capital flows are also reflected in the external debt position of Thailand (Table 2). In 1996 the external debt to GDP ratio stood at 49 per cent and the debt to exports ratio at 123 per cent; four-fifths of the debt was held by the private sector and almost half of the

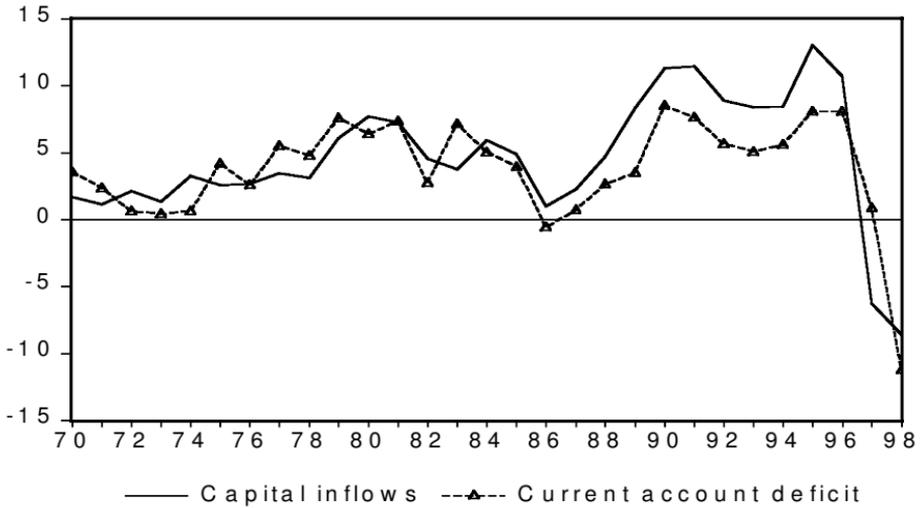


Figure 1 Capital inflows (as a percentage GDP)

Table 1 Capital inflows (as a percentage of GDP, period averages)

	1980-6	1987-92	1993-6
Total	5.0	7.8	10.1
Public sector	2.4	-0.3	0.4
Private sector	2.6	8.1	9.7
DFI	0.7	2.1	0.8
PFI	0.1	0.7	2.1
Financial institutions	0.1	0.8	7.3
Other private	1.7	4.5	-0.5

debt was owed by financial institutions (excluding the central bank). Moreover, a great proportion of the debt was short-term.

The sharp rise in capital flowing in through financial institutions after 1992 was the result of the financial liberalization that took place during the early 1990s. Financial liberalization started with the lifting of the ceilings on interest rates, which began in 1989 and was completed in 1992 when domestic interest rates were fully free. The liberalization also opened new lines of business, particularly for finance companies. The most important part of the reforms was the liberalization of transactions on the current and on the capital account of the balance of payments and the establishment of offshore banking with the Bangkok International Banking Facility (BIBF) in 1993. The purpose of the BIBF was to make Bangkok a regional financial centre and it was expected that most transactions would be 'out-out'

Table 2 Foreign debt (US\$ billion)

	<i>End 1983</i>	(%)	<i>End 1996</i>	(%)	<i>January</i>	(%)
					<i>2000</i>	
Total	11.2	100.0	90.5	100.0	73.2	100.0
Long-term	9.5	85.3	52.9	58.5	60.3	82.4
Short-term	1.6	14.7	37.6	41.5	12.9	17.6
Public	7.1	63.8	16.8	18.6	35.7	48.8
Private	4.0	36.2	73.7	81.4	37.5	51.2
of which:						
Financial institutions	(2.4)	21.5	(41.9)	46.3	(17.6)	17.2

Note: The debt of the financial institutions only covers commercial banks and non-bank financial institutions, and excludes the central bank. The figures also include deposits by non-residents.

(i.e. banks of the BIBF borrowing abroad and on-lending abroad). But, as it turned out, most transactions were ‘out-in’: borrowing abroad and lending within Thailand. The large gap between the international and domestic interest rates made this type of transaction highly profitable.³

The high level of borrowing by financial institutions had a strong expansionary effect on domestic credit growth. Using the accounting identity for the financial system helps to get more insight into the background of the credit expansion:

$$M3 = NFA + DC + NOA$$

The broad money stock ($M3$) is backed by net foreign assets of the financial institutions (NFA), by the domestic assets (domestic credit, DC) and by net other assets (NOA). NFA can be split up into the reserves of the central bank ($RESERVES$) and the net foreign assets of financial institutions ($NFAfi$). Taking shares of GDP and first differences gives

$$\Delta \frac{M3}{Y} = \Delta \frac{RESERVES}{Y} + \Delta \frac{NFAfi}{Y} + \Delta \frac{DC}{Y} + \Delta \frac{NOA}{Y}$$

Table 3 presents the averages for the pre-liberalization period 1980–92 and for the pre-crisis period 1993–6. During the 1980s credit expansion (DC) was largely balanced by the increase in money demand ($M3$). But after the liberalization of the capital account, extremely rapid credit growth was financed mainly by financial institutions incurring foreign liabilities ($-NFAfi$) and by increasing other liabilities ($-NOA$, including increases in own capital). Monetary authorities have several reasons to be concerned about such large capital inflows, particularly when they are routed through financial institutions.

The first is the impact that the inflows have on domestic credit growth and on aggregate demand. This is likely to result in pressures on prices of goods and assets. With a fixed exchange rate, the increase of domestic

Table 3 Background of credit growth (changes per year, in percentage points)

	$\Delta M3/Y$	$\Delta RESERVES/Y$	$\Delta NFAfi/Y$	$\Delta DC/Y$	$\Delta NOA/Y$
Average 1980–92	3.71	0.58	0.11	3.68	-0.67
Average 1993–6	3.94	0.63	-5.67	11.38	-2.63

prices will lead to an appreciation of the real exchange rate, undermining export competitiveness. Particularly for a country like Thailand, where exports are the engine of growth, this is a serious concern.

A second concern relates to the volatility of international financial markets. Funds that flow in may suddenly be withdrawn. There is some evidence that capital flows to emerging markets are sensitive to fluctuations in the international interest rate. If the US interest rate rises, capital flows to emerging markets fall (Eichengreen and Fishlow 1998). There may thus be changes in the flows for reasons that have nothing to do with economic conditions in the country. Such abrupt withdrawals will exert a shock effect on the economy. Particularly when the funds are held by domestic financial institutions the turnaround in the flows will sharply reduce banks' reserves and will lead to a sharp contraction of domestic credit.

Of a somewhat different nature is the third concern. When capital flows in and reserves are ample and domestic credit is growing rapidly it is possible that banks become less careful with assessment of loans, partly because the banks are (overly) optimistic about the performance of the economy and partly because they expect to be bailed out by the government in case of trouble. The average quality of bank assets will then decline and this will translate into loan problems later when the economy slows (McKinnon and Pill 1998).

For these reasons monetary authorities are concerned about capital inflows. For instance, the Bank of Thailand wrote in its 1993 Annual Report that 'With increased capital flows and the resulting volatility in the financial markets caused by monetary conditions abroad, it is important that the authorities maintain a cautious approach in their formulation of monetary policy' (Bank of Thailand 1994: 8) and in its 1994 Report the Bank claimed

high credit growth was recorded in 1994, made possible by the increased use of foreign capital by the banking system. Therefore, to ensure that domestic demand does not rise too rapidly, commercial bank credit should grow at a more moderate pace in 1995. At the same time, commercial banks and finance companies should ensure that credit is channeled to productive uses and not to luxury consumption or speculative ventures.

(Bank of Thailand 1995: 7)

There is no shortage of advice on how to deal with capital inflows (e.g.

IMF 1992; Corbo and Hernandez 1994; Ffrench-Davis and Griffith-Jones 1995; Kahler 1998; Kwan *et al.* 1998; Lopez-Mejia 1999). Usually the problem is analysed in the context of the dependent economy model (Dornbusch 1980). The capital inflow increases aggregate demand, i.e. demand both for traded and for non-traded goods. The excess demand for traded goods can be satisfied through international trade, but the excess demand for non-traded goods will lead to an increase of their prices. Thus the relative price of traded versus non-traded goods falls, or the real exchange rate appreciates. This will induce a shift of production and investment towards the non-traded goods sector. This shift may be problematic for a number of reasons. First, the increase in the non-traded prices may translate into generalized inflation. Second, if capital flows were to turn around, adjustment will be costly and time-consuming. Third, the capital inflows may lead to a build-up of external debt, while debt-servicing capacity falls with declining exports. And finally, it is generally assumed that technical progress is faster in the traded goods sector than in the non-traded sector. A shift of resources to the latter will thus imply a slower growth.

To prevent or reduce these problems, policies are suggested that would neutralize the expansionary effects of capital inflows. These consist of tight fiscal and monetary policies, trade liberalization so that the excess demand can leak away in imports, liberalization of capital outflows, etc. In Thailand, various policy measures were introduced over the years to try to mitigate the expansionary impact of the capital inflows and to reduce the impact of the capital inflows on domestic credit growth.

Fiscal policy

The crisis of the early 1980s had been very much a public sector crisis, with large deficits of the public sector (government and state enterprises) being financed by a rapidly growing external and domestic debt. Around 1985 the government shifted to a more effective control of the budget, imposing strict expenditure ceilings and lowering the ceiling on public sector external borrowing (Jansen 1997). As a result, the government expenditure to GDP ratio fell from 19 per cent in 1985 to 14 per cent in 1989/90, after which it increased again to around 16 per cent by the mid-1990s. The decline in the ratio is partly the result of the rapid growth of GDP, but also of real cuts: government expenditure measured at constant prices stagnated between 1985 and 1988 and started to rise again only in 1989.

After 1986 the government revenue to GDP ratio started to increase with the swing-up of economic activity. The two trends resulted in a budget surplus in 1988 and by 1990 the surplus stood at almost 5 per cent of GDP. It could be argued that the fiscal surplus was not a deliberate policy to deal with capital inflows, but the result of the successful structural adjustment policies, undertaken to deal with the debt problems of the early 1980s, and

of the unexpected good revenue performance due to the economic boom. Whatever the underlying reasons, the outcome fitted the need of the situation quite well. Over the period 1988–95 the fiscal surplus averaged 3.1 per cent of GDP. In 1996 the surplus came down as expenditure increased sharply which provided a strong fiscal impulse at a time when demand pressures were already too high (Alba *et al.* 1999). While over the period 1990–5 the average growth rate of nominal government expenditure had been 16.1 per cent per year, in 1996 it expanded with 27.5 per cent.

Monetary policy

Monetary policy in Thailand has known a long tradition of stable exchange rates and relatively high interest rates. The stable exchange rate facilitated a good export performance and inflows of foreign investment. The high interest rate drew a large share of savings to financial institutions where it could be used to finance development. The combination of the stable exchange rate and the high interest rate contributed significantly to the rapid growth of the Thai economy.

Financial liberalization significantly affected the ways in which monetary policy was conducted (Sirivedhin 1998). There was a shift from direct controls over monetary aggregates to more indirect and market-conforming instruments, such as interest rates. But it can be said that, in general, financial liberalization reduced the power of the central bank to influence monetary variables.

With the access to international financial markets, Thai financial institutions became less dependent on the central bank for liquidity support. Central bank credit to banks and finance companies stood at 54 per cent of the monetary base and at 5.1 per cent of broad money at the end of 1988. By the end of 1996 these ratios had fallen to 20 and 1.8 per cent, respectively. Over the same period borrowing abroad by financial institutions increased rapidly (Table 3). The net foreign liabilities of commercial banks and finance companies, as a percentage of *M3*, increased from less than 5 per cent in 1986–90 to 19 per cent in 1994 and 25 per cent in 1995/6.

The bank rate, at which the central bank lends to financial institutions, has become less important. The bank rate and the money market interest rate, the interbank rate, used to be quite close to each other, but the gap has widened significantly since the late 1980s. The open financial markets implied that the interbank rate was determined more by the international interest rates (Bank of Thailand 1995). Changes in the bank rate by the central bank have thus taken on mainly a signal function. These trends reduced the ability of the central bank to influence domestic interest rates. The main instrument the bank now uses to this end are the open market operations on the repurchase market and its activities on the foreign exchange market. Through these channels the central

bank can influence liquidity on the money market and the short-term interest rate.

Monetary policy became more difficult with the increased liquidity on financial markets as a result of the capital inflows. To reduce market liquidity the Bank of Thailand used open market operations, selling government securities. However, the fiscal surpluses implied that the stock of government bonds was rapidly declining. To resolve that problem the central bank issued its own bonds in 1987, 1988, 1990, 1991 and again in 1995 and 1996 to absorb excess liquidity. However, the sterilization attempts were modest compared to the funds that entered the country. From 1987 to the end of 1995, the Bank of Thailand issued a total of 33 billion baht in bonds, only a small fraction of the foreign borrowing by financial institutions.

Sterilization has disadvantages. It pushes up the domestic interest rate and the central bank has to pay interest on the bonds. Given the limited extent of the sterilization in Thailand, these disadvantages were not very serious. One of the effects of the sterilization efforts was the rapid growth of reserves of the Bank of Thailand. In the 1980s official reserves stood at 9 per cent of GDP, but in the period 1990–6 this increased to 20 per cent.

Another form of sterilization is moving government deposits from banks to the central bank. By the end of 1987 financial institutions outside the central bank held 82 per cent of all government deposits; by December 1995 that proportion had fallen to 33 per cent.

The central bank also tried to slow the credit growth. In 1988 moral suasion was used to request banks to be cautious in extending credit. In 1990 the maximum of the overdraft line for commercial bank customers was reduced. In 1990 the central bank also increased the bank rate and the discount rate. However, the opening of the financial market meant that the Bank of Thailand interest rates became less important as banks were less dependent on central bank credit.

On the other hand, it has also been argued that the liberalization made interest policies more effective. Two factors are important (Sirivedhin 1998). The first is that, with the financial liberalization, the various interest rates on the domestic financial market are changing more frequently. A second factor is the fact that the leverage of firms and households increased sharply. The leverage ratio of Thai corporations increased from 1.6 in 1988 to 2.4 in 1996 (Claessens *et al.* 1998: Table 6). The high leverage, including substantial dollar loans, means that even relatively small changes in interest rates or exchange rates can have substantial consequences. Interest rates are thus changing more frequently and even small changes may have effects on spending decisions of indebted households and firms, but at the same time the impact of the central bank on the market interest rates is significantly reduced.

This is probably why, when the Bank of Thailand really got worried about

the capital inflows, it resorted to capital controls. In 1994 the limits on the net foreign exchange exposure of banks and finance companies were tightened. In 1995 the minimum amount on foreign borrowing on the BIBF was increased to US\$2 million to shake out small borrowers. A withholding tax was introduced on interest payments on foreign loans. Banks and finance companies had to make interest-free deposits at the central bank equivalent to 7 per cent of short-term non-resident deposits and of short-term foreign borrowing. In 1995 and 1996 the Bank of Thailand also set maximum targets for credit growth and for the loan–deposit ratio (Nidhiprabha 1998).⁴ The capital control measures were not very effective; they did indeed reduce the profitability of the BIBF transactions, but did not reduce the size of the capital inflows. As BIBF loans became more expensive, large corporations shifted to direct foreign borrowing (Alba *et al.* 1999).

Other policies

A series of other policy measures were taken aiming to reduce demand pressures. In the early 1990s a series of tariff reductions liberalized imports, making it easier for the excess demand to leak away through imports. The import liberalization, together with the overvalued exchange rate, led to very high rates of import growth. Also the restrictions on capital outflows were reduced, making it easier to take money out of the country. It should be noted, however, that such measures can have unforeseen effects. Liberalized trade may invite new foreign investment and unrestricted capital outflows may give international investors more confidence in bringing money into the country. The government also used the ample availability of foreign exchange to pre-pay a substantial part of the official external debt.

Section 2 conclusion

The various policies implemented were successful in containing inflation; the average inflation rate over 1990–6 was 5.1 per cent per year, which is low for a country going through a capital inflow surge and an investment boom, but higher than inflation in the main trading partner countries. As Thailand stuck to its fixed exchange rate, the higher inflation implied that the real exchange rate appreciated. The trade-weighted real exchange rate had depreciated sharply in the period 1984–8 following the devaluation of 1984 and the fall of the dollar from 1985 onwards. After 1988 there was a slow but steady appreciation up to 1996 (Figure 2). Export growth has been very sensitive to the real exchange rate. In the late 1980s, when the real exchange rate was depreciated, real export growth was rapid, on average 22 per cent per year in the period 1986–9. In the 1990s, when the real exchange rate was appreciating, the growth of real exports fell to 12 per cent per year over 1990–5. In 1996 export growth stopped.



Figure 2 Trade-weighted real exchange rate index (1970 = 100)

By itself the appreciation helps to contain excess demand pressures but in an undesirable way. It reduces demand for exports and import-competing goods while it increases demand for imports. These are undesirable trends for a country that has already a large current account deficit and a rapidly growing external debt, and where exports are the engine of growth. After the stagnation of export growth in 1996, GDP growth also came to a halt in the first half of 1997.

Thailand implemented most of the policies that are suggested to deal with capital surges, but this could not prevent the build-up of serious imbalances and, eventually, the crisis. It could be argued that the interventions were too little (e.g. sterilization efforts) and too late (e.g. capital controls), but it should also be pointed out that there were major inconsistencies in the policy package.

A basic principle of open economy macroeconomics is that of the trinity 'fixed exchange rate, capital mobility and independent monetary policy' you can have only two at the same time. Capital mobility implies that variations in money demand can be easily satisfied through international capital movements and the fixed exchange rate implies that the monetary authorities stand willing to buy and sell foreign exchange for domestic currency at the fixed price. Together this implies that the domestic money stock is fully demand determined. Any attempt by the central bank to influence the money supply can be easily bypassed by actions on the international financial markets. Similarly, the monetary authorities can no longer determine the domestic interest rates; capital mobility and interest

arbitrage will ensure that these follow international rates. Independent monetary policy thus becomes impossible.

Reality is, however, more complex than this textbook story. In reality financial markets are not perfect and domestic and foreign financial assets are not perfect substitutes. Such imperfections do create some room for monetary policy, but the extent to which such policy can be effective is unknown and these uncertainties can give rise to instability.

The inconsistency in monetary policy was that, while Thailand liberalized the financial markets, increased capital mobility and maintained the fixed exchange rate, it also attempted to use monetary policy to control excess demand pressures. Through financial liberalization and the establishment of the BIBF, capital inflows were encouraged while, on the other hand, sterilized intervention tried to contain the impact of these capital inflows. One would have expected that, with the large capital inflows, the interest rates on domestic markets would have fallen. Instead, due to the tight monetary policy, they remained very high and the gap between domestic rates and foreign interest rates remained very large. The gap between the domestic money market rate, the interbank rate and the international interest rate (three-month LIBOR) was, on average, 1.4 percentage points during the 1980s, and increased to 3.7 percentage points in the period 1990–6. The gap between the domestic minimum lending rate and the LIBOR increased from 4.1 percentage points during the 1980s to 7.6 percentage points during 1990–6 (Figure 3).

It is unlikely that the large and growing interest rate gap reflects exchange rate expectations. The commitment of the central bank to the pegged exchange rate was credible given the historical record and the strong economic performance. The market started to speculate against the

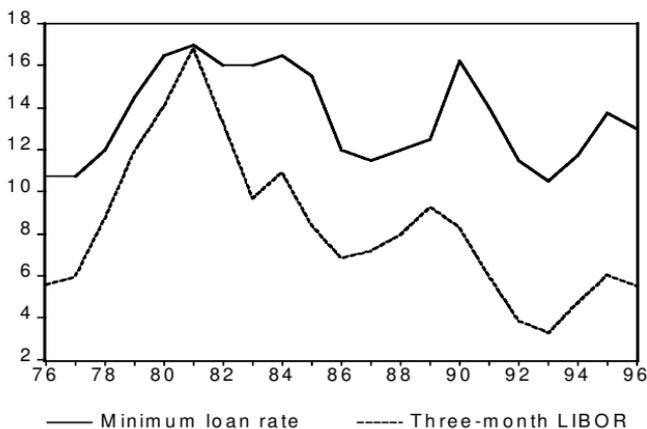


Figure 3 Interest rate gap

baht only in the second half of 1996. The interest rate gap can be ascribed to strong credit demand during the boom economy, to the tight monetary policies of the central bank and also to the lack of competition on the domestic financial markets. Despite the large number of banks and even larger number of finance companies competition is limited. The banks stick to cartel practices, segmenting the market between prime customers, who have to be given rates that are comparable to those on international markets, and other customers who are charged much higher rates. The major finance companies are affiliated to the main banks. It is remarkable that the financial development plans of the central bank envisaged the entry of new, including foreign, financial institutions in order to increase competition and efficiency, but these plans were very slow to materialize. Part of the high interest rates may thus be ascribed to the cartel-like behaviour of Thai banks.

The high interest rate gap became the main factor stimulating banks and large firms to increase their foreign borrowing (Alba *et al.* 1999: Annex I). In this way the tight monetary policy had a perverse effect.

Other policy inconsistencies are the sharply expansionary fiscal policy in 1996 and the import liberalization which reinforced the negative effect of the real exchange rate appreciation on the current account deficit.

During this period a main concern of the Bank of Thailand had been to defend the exchange rate peg.⁵ The rising overvaluation of the baht translated into stagnating exports and a very large current account deficit for 1996, and to stagnation of GDP growth in the first two quarters of 1997. There were also other signs that the boom was over: during 1996 real estate prices and the stock market index had fallen sharply and some financial institutions developed problems. These were the signs for investors and speculators that the boom was over and that the exchange rate could not hold, so speculation against the baht started.

The question arises whether Thailand would have been better off with a more flexible exchange rate regime during this period. With a flexible exchange rate the surge in capital flows would have led to an appreciation of the nominal exchange rate, also because under such a regime the central bank would feel less inclined to intervene:

- The appreciation would help control inflation. Capital inflows would still push up prices of non-traded goods, but this would be compensated by the fall of prices of imported goods.
- The appreciation would make investors more aware of the exchange rate risk. This may discourage short-term capital flows (on the other hand, expectations of appreciation may invite speculative inflows).
- The appreciation would be reinforced by monetary policy. One of the advantages of the flexible exchange rate regime is that it allows an autonomous monetary policy. When the central bank tightens monetary policy

to deal with the expansionary effects of the capital inflows, the domestic interest rates will rise and the exchange rate will further appreciate.

- The appreciation would negatively affect the domestic production of export goods and import-competing goods. This implies a much earlier appearance of the negative effect on exports, which under the existing regime of fixed exchange rate came only gradually as inflation eroded the real exchange rate. This would possibly have ended the boom sooner.

The problem for a country like Thailand, with narrow financial markets relative to global capital flows, is that the ups and downs of international capital flows and the shifts in monetary policy to deal with the capital flows will have strong effects on the flexible exchange rate, while exports, the engine of growth, are quite sensitive to exchange rate variations. Many of Thailand's exports compete on narrow cost differences and are therefore vulnerable to even relatively small changes in the exchange rate. The flexible exchange rate would thus have undermined exports and encouraged imports, leading to a growing current account deficit, more capital inflows and a rising external debt. This process would go on till the international market lost confidence and withdrew funds, which would depreciate the exchange rate. The fluctuations in the exchange rate under this scenario may be quite substantial.

3. THE CRISIS

The crisis that started in July 1997 was unprecedented in Thai history and brought to an end more than forty years of uninterrupted growth. After the outbreak of the Asian crisis, the debate on its causes has, broadly speaking, two camps. One side has those who blame the fundamental weaknesses of the economies involved in the crisis (e.g. Corsetti *et al.* 1998; Lane *et al.* 1999). The weaknesses are found in private corporations continuing to invest at very high levels even after their profitability started to fall, confident that government support or conglomerate resources would validate the investment projects. This tendency was supported by a financial system that, with access to international funds and expecting bail-out in case of problems, went on a reckless lending spree (Corsetti *et al.* 1998). Lane *et al.* (1999), who give the official IMF interpretation of the crisis, also emphasize the financial sector vulnerabilities.

On the other side are those who blame the instability of the international financial markets for the crisis in Asia. Here a crisis occurs once the international creditors change their expectations about the behaviour of other creditors, leading to a self-fulfilling crisis (e.g. Radelet and Sachs 1998).

In fact both aspects are necessary to explain the Thai crisis. The weak fundamentals – reflected in export stagnation, a slowdown of growth, a highly indebted corporate sector and an overextended and poorly supervised

financial system – indicated that the boom was over and a correction on the way. The volatility of the international financial flows explains the depth of the crisis. While on average capital inflows over the period 1990–6 were equivalent to 10 per cent of GDP, in 1998 there was an outflow of 8.5 per cent of GDP and in 1999 of 5.9 per cent. The sudden and enormous withdrawal of funds led to an overshooting of the exchange rate and massive bankruptcies.

Banks borrowing in dollars and lending in baht are running an exchange rate risk, but the long experience of fixed and stable exchange rates led banks and firms to ignore that risk. Domestic corporations borrowing dollars but earning their income in baht are similarly exposed. When the crisis hit, the risks that the banks and their customers had been taking were fully exposed. After the devaluation of the baht, the banks and the companies that had borrowed dollars suddenly had to generate much more baht to buy the dollars to service their debt. The currency went from 25 baht per dollar before the crisis to over 50 by January 1998.

The sudden outflow of funds created tensions on domestic financial markets, driving up the interest rate. The initial response of the central bank to the crisis, at the instigation of the IMF, was to tighten monetary policy, which contributed further to very high interest rates. Real interest rates shot up, creating problems for domestic borrowers. The minimum lending rate increased from 13 per cent in the first quarter of 1997 to 15.25 per cent in the last quarter of 1997 and the first half of 1998. The interbank rate increased from a level around 11 per cent in early 1997 to around 20 per cent in the second half of 1997 and the first half of 1998. From the middle of 1998, monetary policy became looser and by 1999 interest rates had fallen below pre-crisis levels.

These shocks in exchange rate and interest rate were hitting a financial system that was already weak. One commercial bank, the Bangkok Bank of Commerce, had been in trouble since 1991 and had received considerable assistance from the central bank. Its problems could be interpreted as the result of corrupt politicians and bankers coming together. But in 1996 and early 1997 a growing number of finance companies needed central bank assistance as they suffered from over-exposure to the real estate sector where prices were falling. As Table 4 shows, the share of non-performing loans (NPLs) in total loans was already increasing before the crisis hit. The sharp devaluation, the rise in interest rates and the collapse of economic activity after July 1997 provided an enormous shock. Borrowers could not cope: those who had borrowed abroad could not generate enough local currency income to service their dollar debt and those who had borrowed on the domestic financial markets could not generate enough income to pay the suddenly much higher interest charges. The collapse of the economy severely reduced income flows. The non-performing loans of the financial institutions increased sharply and banks became unable to honour

Table 4 Non-performing loans as a percentage of total loans of financial system

End 1990	9.7
End 1995	7.7
End 1996	13.0
End 1997	22.6
June 1998	35.9
October 1998	46.0
September 1999	47.0
February 2000	38.1

Source: Radelet and Sachs (1998: Table 10); Corsetti *et al.* (1998: Table 21); *Asiamoney*, March 1999, Supplement, p. 19, *Bangkok Post*, 11 April 2000.

their own foreign debt. In 1999 about 47 per cent of all bank loans in Thailand were NPLs.

Since the crisis many commentators have identified poor banking practices as one of the main causes of the Asian crisis. It is argued that lending was based more on personal contacts and networks than on objective credit risk assessment so that the quality of the loan portfolio of banks was low. Poor supervision of financial institutions concealed these weaknesses. It is, however, necessary to be more careful with these assertions.

Personal contacts and networks as a basis for doing business in Asia has been a long-standing practice. At earlier times this was seen as contributing to the economic success of the region. During a lending boom, when banks are awash with funds, they may become less careful in assessing credit risks. For instance, credit to the real estate sector was growing so fast that it led to overcapacity even before the crisis hit. There are also examples, much publicized, of outright fraudulent practices around bank lending.

But the important lesson that needs to be learned is that even under more optimal conditions the banking crisis would have been unavoidable once the exchange rate devalued so far and once the interest rates rose to such high levels. In the context of volatile international financial markets, the financial system is subject to large surges of capital inflows and outflows which result in strong pressures on the exchange rate. Once the fixed exchange rate becomes unsustainable, subsequent sudden and large withdrawals easily lead to a currency crisis. The sharp ups and downs of the capital flows lead to very large fluctuations in the exchange rate and to large fluctuations in the interest rate with dire consequences for the ability of firms and banks at debt servicing.

As the economy collapses banks see ever more of their outstanding loans turning into NPLs. At the same time, the IMF is making the reform of the banking sector one of the central lines in their programme. Rules for the classification of loans are tightened, leading to an earlier and clearer identification of problem loans, and banks are instructed to make provisions for loan losses and to recapitalize so as to return to solvency. The

upshot is that banks are using all available funds for loan loss provision and do not extend any new credit. Total outstanding credit from the financial system to the private sector fell from 7.8 trillion baht in December 1997 to 6.3 trillion in October 1999. This fall does not necessarily indicate a credit crunch because the decline in economic activity may have induced a decline in the demand for credit. However, there are reports of firms not being able to get loans from banks that are burdened by loan-loss provision and recapitalization needs and that are reluctant to take on new risky assets. Rather they put their funds in safe assets like bonds. The liquid assets of commercial banks, as a percentage of their deposits, increased from 9.4 per cent in December 1996 to 22.5 per cent in September 1998 and still stood at 20.5 per cent in February 2000. The Bank of Thailand tried to stimulate banks to provide new credit but these attempts have not generated results.

The central bank had to provide liquidity support to financial institutions on a massive scale. Up to early 1999, 1 trillion baht of support was injected. To dampen the effects of these injections on the money stock, the central bank engaged in sterilization (Balino *et al.* 1999), which explains the high level of bond-holding of the banks noted above.

Is it wise to tighten loan classification and provisioning rules during times of crisis? One could argue this is necessary in order to assess the size of the problem and start working on the solution, to restore the confidence in and of the financial system. Yet against this it could be argued that the size of the problem, once it becomes clear, removes any trace of confidence that may still have existed and also invites 'strategic' defaulting.

4. LOOKING AHEAD

Thailand takes pride in its record of macroeconomic stability. The relatively low inflation rates and stable exchange rates are seen as important factors underlying both the rapid export growth and the high level of foreign investment that are in turn the engines of growth.

However, during the current crisis Thailand had to let go of the fixed exchange rate and in the future will have to opt for a more flexible exchange rate regime. As a consequence the monetary policy regime will also have to change. The danger is that, with Thailand's openness to volatile international financial flows, the flexible exchange rate will be very volatile, oscillating with the ebb and flow of international finance. To keep this volatility within acceptable margins, the Bank of Thailand could engage in an exchange rate targeting regime, where monetary policy instruments would be used to keep the exchange rate within a range that corresponds to the needs of the real side of the economy. However, the traumatic experience of 1997, in which the central bank stuck too long to the exchange rate peg and lost considerably in the process, has made the bank averse to any policy explicitly aimed at the exchange rate.

The departure from the fixed exchange rate regime forces the Bank of Thailand to choose a new monetary policy framework. The objective of monetary policy is the maintenance of monetary and financial stability for the ultimate objective of sustainable economic growth. To achieve this objective the Bank of Thailand considered three alternative policy regimes (Bank of Thailand 2000):

- 1 *Discretionary monetary policy with multiple targets.* The central bank considers goals like inflation, exchange rate and growth, and sets its instruments to achieve some optimal combination of them. This system works well for the Federal Reserve in the US. As this system gives a large degree of discretion to the central bank, it works well only if the central bank has a strong reputation.
- 2 *Monetary targeting, as practised in the past in Thailand.* It is argued that this approach is no longer effective because the relationship between monetary aggregates and inflation is unstable. In many countries it has been observed that financial liberalization and integration with international financial markets has made money demand less predictable and thus made the response to monetary policy actions aimed at changing monetary aggregates less certain.
- 3 *Inflation targeting.* Under this approach inflation becomes the overriding objective of monetary policy. The government publicly announces the inflation target that it wants to achieve. The central bank regularly makes and publishes forecasts of inflation and, when target and forecast differ, the central bank manipulates its policy instruments to bring them together.

The three approaches have many similarities; all are concerned about inflation and all have the short-term interest rate as the main policy instrument. The main point of inflation targeting is that it emphasizes the inflation objective and, by announcing inflation targets and regularly publishing inflation forecasts and monetary policy changes, it makes monetary policy more transparent and the central bank more accountable. The Bank of Thailand has now announced plans to adopt *inflation targeting* as its new policy framework (Bank of Thailand 2000) and is in the process of setting up the required institutional arrangements.

During the 1990s inflation targeting was introduced in a number of developed countries (New Zealand, Canada, the United Kingdom, Finland, Sweden, Australia, Spain and Israel). Theoretically, inflation targeting is based on a number of propositions that emerge from recent monetary literature (Masson *et al.* 1997; Bernanke *et al.* 1999):

- 1 Inflation is costly as it reduces the efficiency of resource allocation and economic growth.
- 2 In the long run monetary policy is neutral; i.e., an increase in the money

stock affects only prices and not real output. The long-run tradeoff between inflation and unemployment, as suggested by the Phillips curve, cannot be observed in practice. If in the long run monetary policy only affects inflation and if inflation undermines long-term growth, it follows that a monetary policy aimed at low inflation is the best way to stimulate growth. However, there are two questions that can be raised.

- 3 The negative effects of inflation on growth are clear at high levels of inflation, but empirical evidence is not unanimous about the effects on growth at low rates of inflation, say when inflation is below 10 per cent. Is it worthwhile, in terms of growth gains, to go through a disinflation process to bring inflation down from, say, 6 per cent to 4 per cent?
- 4 In the short run monetary policy is not neutral. It does have effects on real output and employment although there is uncertainty about the size of the effects, the time horizons involved and the transmission mechanisms. Should central banks therefore not use monetary policy to smooth the economic cycle? In fact, central banks around the world are doing just that. The move needs to be undertaken with great care as there is the danger that such a discretionary monetary policy ends up in a *stop-go cycle*, when monetary policies to stimulate output lead to inflation and are then followed by tight policies to lower inflation, which in fact may sharpen cyclical fluctuations.
- 5 Another danger of discretionary monetary policy is that it may well have an inflationary bias as policy-makers are more concerned about recession and unemployment than about inflation. There will thus be more pressure on the central bank to lower the interest rates than to increase them. The public will recognize this central bank behaviour and adjust its inflationary expectations accordingly, which will result in a higher long-run rate of inflation.

The dangers of stop-go cycles and of inflationary bias together suggest that it may be better to aim for a long-run objective (i.e., a low inflation target) and use monetary policy to keep the economy on the track to that target.

Aside from these theoretical considerations, countries that opted for inflation targeting also had practical reasons. They chose inflation targeting:

- 6 to reduce inflation. The countries opting for inflation targeting experienced inflation rates above the OECD average. The hope of these countries was that a publicly announced inflation target would lead to a quick adjustment of inflationary expectations and thus reduce the cost of disinflation.
- 7 when their exchange regime changed. For instance, the United Kingdom opted for inflation targeting when it abandoned the fixed exchange rate regime of the European Exchange Rate Mechanism (ERM) and needed an alternative nominal anchor for its monetary policy.

The experience has been that the inflation-targeting countries managed over a number of years to bring their inflation rates down to the OECD average (Masson *et al.* 1997). However, the cost of doing so, in terms of lost output and unemployment, was considerable. It was hoped that the public announcement of the inflation target would lead to a rapid adjustment of inflationary expectations that would reduce the duration and the cost of the disinflation process. Bernanke *et al.* (1999) conclude that the cost of disinflation under inflation targeting was no different from what it would have been under other monetary policy regimes. It appears that the announcement of the inflation target did not do much to change inflationary expectations. The central issue here is the credibility of the central bank. In the countries adopting inflation targeting, inflation had been relatively high and thus the reputation of the central bank as an inflation-fighter was poor. Credibility has to be earned when, over time, the central banks manage to keep actual inflation close to its target level.

The inflation targeting regime can be represented by a simple reaction function (Masson *et al.* 1997):

$$\Delta R_t = \gamma (\pi_{t+j}^e - \pi_{t+j}^*)$$

where

R = policy instrument, usually the short-term interest rate under the control of the central bank;

π_{t+j}^e = expected, or forecasted, inflation for period $t + j$, based on information available at time t ;

π_{t+j}^* = inflation target;

γ = feedback parameter. The sign depends on the nature of the policy instrument. If the interest rate is the policy instrument $\gamma > 0$.

Three aspects of this framework require further discussion: the inflation target, the inflation forecast and the policy instrument.

Inflation target

The inflation target is a political decision. It can be a ceiling (say, < 3 per cent) or a point target, possibly with a band around it (say, 3 per cent, ± 1 per cent). The ceiling approach has the disadvantage that no lower boundary is indicated. In a symmetrical approach too low inflation is seen to be equally undesirable as too high inflation. It is generally agreed that price stability or zero inflation is undesirable and that the target should be a low but positive number. The reason is that measured inflation overestimates price increases as price increases due to new or improved products cannot be separated from price increases on existing and unchanged products. When nominal prices and wages are subject to downward rigidity, positive inflation is necessary to bring about required adjustments in relative prices.

The advanced countries that have gone for inflation targeting have set inflation targets around 2 to 3 per cent (Debelle 1997). These targets were considerably lower than actual inflation at the time of the announcement. Hence, a timeframe was given over which the target was to be achieved. Thailand is considering a target of 3 per cent, possibly with a band of ± 1 per cent (so inflation should be between 2 and 4 per cent). Median inflation over the period 1980–98 was 5.7 per cent, which is relatively low for a developing country undergoing rapid growth and structural change, but considerably higher than the proposed target. The target is similar to those of the advanced countries that practise inflation targeting. It is generally assumed that inflation in developing countries will be higher and more variable than in advanced countries since the countries are more exposed more heavily to supply shocks (Masson *et al.* 1997). The 3 per cent target seems thus to be rather ambitious. An inflation rate of only 0.7 per cent in 1999 will help. Compared to other countries that have introduced inflation targeting, Thailand has the advantage that it will not have to start with a period of disinflation.

There is also the question of which price level to target. The most obvious choice is the CPI, which is regularly published and best known to the public. But a number of shortcomings can be mentioned:

- Domestic prices are affected by shocks. For instance, the inflation in 1999 at 0.7 per cent was the outcome of a change in food prices of -1.8 per cent and in a change in non-food prices of $+2.2$ per cent. Both these changes were strongly influenced by external factors. Thailand is an open economy with free pricing in most markets and it is an exporter of major food crops. Domestic food prices are thus strongly influenced by world market prices. An increase in the global rice price will result in higher domestic food prices, but it is unclear whether such a price increase should lead to a tighter monetary policy. Similarly, the increase in non-food prices in 1999 was due fully to the high global oil prices. Such an increase in import prices has, by itself, already a contractionary effect on the economy and it is questionable whether that effect should be reinforced by a tighter monetary policy.
- Domestic prices are affected by changes in indirect taxes. Increases in indirect taxes and prices force producers and consumers to make adjustments. It would be undesirable to complicate this process by increasing the interest rates.
- The interest rate itself, as the price of capital, also enters the price index. This has the perverse effect in that a monetary policy aimed at reducing inflation will, through the increase in interest cost, lead to higher prices and thus a further need for still more stringent policies.

In response to such problems some countries have formulated the inflation target in terms of the *underlying* or *core* inflation, excluding factors like

changes in indirect taxes, mortgage interest rates, or the terms of trade from the target index (Debelle 1997). The disadvantage is that the inflation target is then different from the general understanding of inflation, which undermines transparency. Others have argued that it is not necessary to exclude these items: changes in food prices, import prices, indirect taxes or interest rates will lead to a one-off change in the price level but not necessarily to a change in the rate of inflation. However, such a belief seems to be based on an unrealistic assessment of the inflationary process. Thailand is also heading for some concept of core inflation, possibly correcting CPI for changes in energy prices and food prices.

Inflation forecast

Future inflation is determined by the current state of the economy, the expected trends in main economic variables, economic policies and shocks. Inflation forecasting uses all available information on these to come to an argued inflation forecast. It is claimed that one of the advantages of inflation targeting is that it considers all information relevant to inflation, compared to, for example, monetary targeting that focuses more exclusively on monetary aggregates. These forecasts will be conditional on different paths of the monetary policy instrument. Of course, like all forecasts also the inflation forecast is uncertain. There is uncertainty about the future state of the economy, about the transmission mechanism between the monetary policy instrument and the outcomes, and shocks may occur. The certainty equivalence method can be used to come to a mean forecast and to confidence intervals. Whenever new information is available a new forecast can be made.

Inflation forecasts are published by the central bank together with an argued case on the policy changes that they induce. This openness will inform the public about monetary policy and over time may create credibility for both the policy regime and the inflation target. If that happens, inflationary expectations will become centred on the inflation target and less volatile, making monetary policy more effective and less costly.

Policy instrument

The policy instrument for inflation targeting is the short-term interest rate under central bank control. In the case of Thailand that is the repurchase rate at which the Bank of Thailand operates on the money market. These open market operations of the Bank influence liquidity on the domestic financial market so that changes in the repurchase rate lead to changes in the interbank rate and, in time, changes in the deposit and lending rates. Analysis of the Bank of Thailand suggests that there is about a six-month gap between the change in the repurchase rate and the subsequent change in the minimum lending rate.

However, financial liberalization over the 1990s has reduced the central bank's control over domestic interest rates, as reflected in the following correlation coefficients amongst the various interest rates:

	<i>Interbank-Repurchase rate</i>	<i>Interbank-LIBOR</i>	<i>MLR-LIBOR</i>
1980-90	0.96	0.57	0.69
1991-6	0.79	0.87	0.98

In the period before the financial liberalization, the shifts in the repurchase rate were almost fully reflected in changes in the interbank rate. In the 1990s the correlation between the repurchase rate and the interbank interest rate remained high, but did decline with financial liberalization, while the influence of the international interest rate did increase (Bank of Thailand 1995: 44). The correlation coefficient between the minimum lending rate (MLR) and the three-months LIBOR was 0.69 in the period 1980-90 and 0.98 over the period 1991-6. In the latter years the two interest rates moved synchronously, albeit with a substantial gap (of about 7 percentage points) between them. These figures suggest that the control of the central bank over domestic interest rates has been reduced.

In theory, with the new system of flexible exchange rates the scope for an independent monetary policy improves. With a fixed exchange rate, a high interest rate would invite capital inflows that would increase liquidity in financial markets and so push back the interest rate, making monetary policy ineffective. The flexible exchange rate will allow the central bank to set the repurchase rate anywhere it wants, the exchange rate will adjust to maintain equilibrium. According to interest rate parity, the domestic interest rate is equal to the international rate plus the expected change in the exchange rate. Under the fixed exchange rate system, where the expected exchange rate change is zero, this implies that domestic and international interest rates cannot diverge. Under the floating rate, the two interest rates can differ, but these differences will be reflected in volatility of the exchange rate. And this implies that the ability to manipulate domestic interest rates may be constrained by the degree of volatility of the exchange rate that policy-makers are willing to accept.

The flexible exchange rate can exert shocks to the economy, but the rate also becomes a transmission mechanism for monetary policy. For instance, a tight monetary policy will increase the interest rate, which will reduce domestic spending. But the rise in the domestic interest rate also increases borrowing abroad. The inflow of capital will lead to an appreciation of the exchange rate, which will affect the real sector by reducing demand for exports and income-competing goods and increasing imports. The appreciation will also have balance sheet effects when there are substantial net foreign exchange positions; if there is foreign debt, the appreciation

lightens the debt burden, which may lead to an increase in spending (BIS 1998). If the asset effects are not too strong the interest rate and exchange rate changes will work in the same direction, reducing domestic spending pressures, but if the asset effects are strong, the net outcome becomes uncertain.

Inflation targeting requires an independent central bank. In particular, the bank must be able to adjust policy instruments as it considers necessary. This independence rests foremost on political will. In May 2000 a new central bank law is under discussion that would increase the independence of the bank. There are, however, considerable conflicts between the Ministry of Finance and the Bank of Thailand on this law (see, e.g., *Bangkok Post*, 9 April 2000).

The independence also requires that in its monetary policy the central bank is not constrained by other considerations. There are at least two factors that could constrain the bank: a fiscal deficit in need of financing and the fragile banking system. Thailand experienced fiscal surpluses from 1987 to 1996, but the crisis led to a decline in revenue and an increase in expenditure to stimulate the economy. As a result, public debt which had fallen to a very low level is rising again. Thailand has no history of monetary financing of the fiscal deficit and there is little reason to fear that happening now, but also the financing of the deficit on the domestic capital market could lead to tensions on the market that would impact on monetary policy. The Thai financial system is still very fragile after the crisis of 1997. Most recent data show that in February 2000 NPLs still stood at 38 per cent of total loans, down from a peak of 47 per cent six months earlier (Table 4). An increase in interest rates could easily trip marginal borrowers into the NPL category and may also unravel debt restructurings that were already completed. It would thus be possible to envisage situations in the years to come where the Bank of Thailand would feel constraints on increasing the interest rates even when the inflation target would tell it to do so.

Inflation targeting has been criticized for its exclusive focus on inflation. The ultimate objective of economic policy is not to keep inflation low but to maximize welfare. Low inflation will certainly contribute to welfare, both directly and indirectly, but it is not the sole determinant of it. Proponents of inflation targeting have argued that inflation targeting is a flexible policy framework. In making the inflation forecast many variables are taken into account. The band around the target allows for some flexibility and, when shocks push up inflation, a time path can be set to bring inflation gradually back to its target. Still, the experience of the inflation-targeting countries has been that low inflation could only be achieved at considerable cost in terms of unemployment. Their experience is too recent to judge whether there will be any long-term benefits to compensate for these medium-term costs.

The inflation–output tradeoff is unlikely in the case of demand shocks; in this case inflation and the output gap dictate the same monetary policy response. The tradeoff is more likely in the case of supply shocks (Debelle 1997). As developing countries are more prone to supply shocks, this would make inflation targeting less appropriate.

A particular concern relates to the impact of monetary policy on the exchange rate. In the past, monetary policy in Thailand focused on defending the (fixed) exchange rate. Now that Thailand has shifted to a flexible exchange rate regime, the desirability of a competitive and relatively stable exchange rate remains, as this is required for a good export performance and to attract long-term foreign investment. An exclusive focus of monetary policy on inflation may lead to significant fluctuations in the exchange rate. A tightening of monetary policy to control inflation is likely to lead to an appreciation of the exchange rate, which would reduce net exports. The appreciation will directly contribute to lower inflation by making imports cheaper. But such a monetary policy would not only reduce aggregate demand but also change its composition, making imports cheaper and exports less competitive. The effects of this can be serious on developing countries with weak current accounts or where exports are the engine of growth.

The finding of monetary theory that monetary policy has no long-run effect on real output in developed countries is not necessarily true for developing countries where the growth of output is not just dependent on the level of aggregate demand but also on the composition of demand. Many studies have suggested that output growth in developing countries is influenced strongly by the performance of exports. A monetary policy that shifts the composition of aggregate demand away from exports may thus undermine the long-run dynamic capacity at growth.

The Bank of Thailand argues that low and stable inflation is the best way to keep the exchange rate stable and competitive. This argument rests on purchasing power parity (PPP), according to which the change in the exchange rate is determined by the differential between inflation in Thailand and its trading partners. When Thailand's inflation is successfully targeted at the level of international inflation, the nominal and real exchange will be stable. Unfortunately, there is little empirical support for PPP. Edwards and Savastano (1999) conclude from their survey that PPP studies for developing countries suffer from conceptual, data and methodological problems so that any result should be interpreted with care. But it is clear that, at best, PPP is a meaningful benchmark for the real exchange rate only in the very long term: i.e., over periods spanning decades. In the meanwhile, substantial deviations occur. This implies that inflation targeting will not guarantee a stable exchange rate.

In fact, inflation targeting may lead to a more volatile exchange rate. Monetary policy operating through interest rate changes will affect both

the goods and the financial markets. Adjustments on the goods market takes time, particularly when prices and wages are sticky, but adjustments on the financial market are instantaneous, particularly after financial liberalization. When prices are sticky and adjust only over time to changes in monetary policy, the response of international capital flows to the change in the interest rate may lead to *overshooting*; i.e., the exchange rate overshoots its long-run equilibrium value (see, e.g., Pilbeam 1998: Ch. 12). There is considerable evidence that such overshooting occurs in reality, a tragic example being the course of the baht in the second half of 1997. These considerations would suggest that, for the exchange rate to remain stable, the domestic interest rates cannot diverge too much from foreign rates, thus limiting the scope for monetary policy.

A main reason for the Bank of Thailand to introduce inflation targeting is the need to restore its credibility and to regain its independence. The collapse of the baht in 1997 and the problems that preceded it have seriously undermined public confidence. A report of the investigation into the Bank's activities, written after the outbreak of the crisis, concluded that the central bank behaved irresponsibly both in its attempts to defend the baht and in its dealings with troubled financial institutions (Nukul Commission Report 1998). In the short period of July 1997 to July 1998, the Bank of Thailand had three governors. From the late 1980s the central bank became increasingly politicized (Siamwalla 1997) and part of the Bank's failures can be ascribed to political interference.

To go back to the fixed exchange rate regime is clearly not feasible under the present circumstances. But alternative regimes of exchange rate targeting or a more discretionary monetary policy in which various objectives can be weighted, were ruled out. The inflation targeting framework would allow the Bank of Thailand to announce the target and to regularly publish reports on its policies to achieve this target. It is expected that this transparency, particularly if the Bank is able to perform well, will help to restore confidence and credibility over time. The public accountability will also help the Bank to fend off political interference. However, some hurdles may prevent this confidence trick from working effectively.

As mentioned above, the central bank needs to be independent in policy-making. In May 2000 a new central bank law was under discussion and the Governor of the Bank of Thailand and the Minister of Finance publicly disagreed and openly debated their differences of view on this law. But even if the new law gives the central bank adequate formal independence, this would not preclude informal interventions by politicians.

The need for credibility building may also have affected the target setting. As mentioned above, the long-term average inflation rate of Thailand has been over 5 per cent. The proposed inflation target, at 3 per cent, is considerably lower. But an ambitious target is considered necessary to build reputation; a target close to historical experience over the period

when inflation was not the overriding objective would fail to impress. Still, to announce such an ambitious target is dangerous, as even a slight setback may lead to failure to achieve the target and any failure would further reduce the credibility of the bank. But also the achievement of the target may hurt public support for the central bank if it is judged that the success on the inflation front is achieved at the expense of other objectives such as economic growth.

5. CONCLUSION

The large capital inflows that Thailand experienced in the 1990s put too much pressure on the fixed exchange rate regime. Unfortunately, Thailand stuck too long to the peg and ended up with a severe currency crisis and a deep economic crisis. Commentators on the crisis have passed a harsh judgement on the Bank of Thailand that now needs badly to restore its reputation. To do so the Bank has decided to go for inflation targeting, setting itself an ambitious inflation target. The transparency associated with inflation targeting may also help to increase the political independence of the Bank.

However, the success of inflation targeting is not assured. Inflation in Thailand is very sensitive to events on the world markets; movements of world market prices have a direct effect on domestic traded goods prices and an indirect effect on non-traded prices. Using core inflation to define the inflation target (i.e. remove some traded goods prices from the inflation target) will only partially compensate for this. The open nature of the Thai economy implies that external shocks can lead to a rather volatile pattern of inflation and an ambitious inflation target may be achieved only through painful contractions.

The financial liberalization that has taken place and the open financial markets imply that the central bank has less control over its policy instrument, the domestic interest rates. Moreover, the large public sector debt, the fragile banking system and the large external debt may limit the willingness of the central bank to increase interest rates. The interaction between the interest rate and the exchange rate will further complicate policy-making. In many cases this will help in achieving the goals of monetary policy, making the exchange rate an effective transmission mechanism of policy, albeit it at the cost of a current account deterioration and a loss of export competitiveness. There will also be cases – for example, supply shocks – when the exchange rate effects will be less helpful.

There are thus reasons to fear that inflation targeting may turn out to be rather difficult to implement or that, if implementation is successful, the cost to the economy will be considerable.

It appears that the lesson that the monetary authorities derived from 1997 is that they stuck too long with the fixed exchange rate, that managing the

exchange rate is no longer possible or desirable and that they now should now focus instead on inflation. But it could be suggested that the real lesson is that monetary policy should not focus too rigidly and too single-mindedly on one variable, whether it is the exchange rate or inflation, and that in times of rapid change and large external shocks flexibility and discretion are required.

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NOTES

- 1 The savings ratio had increased from 27 per cent in 1987 to 33 per cent in 1996, a substantial level but not enough to finance the investment ratio at 41 per cent of GDP.
- 2 Figure 1 is based on balance of payments data. The total balance of payments identity reads: current account balance + capital account balance + change in official reserves = zero.
- 3 For instance, in December 1995 the three-month LIBOR was 5.8 per cent while the minimum loan rate in Thailand stood at 13.75 per cent and the three-month time deposit rate at 10.5 per cent. As market parties were used to a stable exchange rate, they largely ignored exchange rate risks and generally did not hedge these risks. Alba *et al.* (1999) do a regression analysis on the determinants of capital inflows and find that the interest rate differential is the main factor. They find that financial institutions in particular quickly respond to changes in the interest rate differential.
- 4 To compare, Chile introduced interest-free deposits of 20 per cent of short-term foreign borrowing in 1991 and increased this to 30 per cent in 1992 (see Velasco and Cabezas 1998).
- 5 Alba *et al.* (1999) assert, on the basis of regression analysis of exchange rate movements, that before 1992 the Bank of Thailand targeted the exchange rate to correct for differences between domestic and international inflation. After that the Bank became more concerned with preventing the appreciation of the real exchange rate to maintain the competitiveness of exports. In so doing the Bank reduced the market perception of exchange rate risk.

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