# What Happened to Thailand?

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## 1. INTRODUCTION

AT the end of World War II Thailand was one of the world's poorest countries. Its economy had been stagnant for at least a century (Manarungsan, 1989) and most observers of the time rated its economic prospects very poorly (Ingram, 1971). They were mistaken. Half a century later the Thai economy was widely considered a superstar of sustained development. Since the late 1950s it had achieved a remarkable combination of rapid growth, macroeconomic stability and steadily declining poverty incidence. Over the period 1965 to 1996, the average annual growth rate of Thailand's real GNP per person was well over five per cent (over seven per cent per annum in total), compared with an average of 2.4 per cent for low and middle income countries (World Bank, 1998). During the decade ending in 1996 the Thai economy was the fastest growing in the world. Even more remarkable was the stability of this growth. Not a single year of negative growth of real output per head of population had been experienced between 1958 and 1996, a unique achievement among oil importing developing countries. Thailand's performance was often described as an example others might emulate and its principal economic institutions, particularly its central bank, the Bank of Thailand, were cited as examples of competent and stable management.

The crisis of 1997 changed all that. Domestically, the economy was in disarray. Output and investment were contracting;[1] poverty incidence was rising; the exchange rate had collapsed, following the decision to float the currency in July 1997; the government has been compelled to accept a humiliating IMF bailout package; and confidence in the country's economic institutions, including the Bank of Thailand, was shattered. Internationally, Thailand was now castigated as the initiator of a 'contagion effect' in Asian financial markets, undermining economic and political stability and bringing hardship to millions of

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[1] Real GDP declined by 0.4 per cent in the calendar year 1997 and by 7.5 per cent in 1998.

people. Countries as far away as Europe and the United States nervously anticipated the inevitable negative effects on their exports. Japanese banks dreaded the prospect of massive non-repayment of loans. Many of the very commentators who had previously been so impressed by the Thai experience now called it an example to be avoided. What had happened?

The structure of this paper is as follows. The core of the discussion is an analysis of the long-term factors that made Thailand vulnerable to a financial crisis. This is contained in Section 2. Section 3 identifies the short-term trigger which led to the expectation of a devaluation which in turn produced the crisis. Section 4 describes the crisis itself and the final section reviews the prospects for the Thai economy in the wake of the crisis.

## 2. THE BOOM

Thailand's crisis was the culmination of a long period of economic boom, unprecedented in its rate and duration not only for Thailand, but almost any country. It is not possible to understand the crisis of 1997 except in the context of the protracted boom which preceded it. The crisis was the collapse of this boom. Over the pre-crisis period of 1988 to 1996, real GDP had grown at close to 10 per cent per annum. What fuelled this extraordinary growth? Growth of this magnitude does not result from an enormous, exogenous increase in productivity. To explain the boom we must examine the growth of the factors of production employed in Thailand.

### *a. Explaining the Boom*

Improvements in the quality of the labour force were not the source of Thailand's boom because the performance of Thailand's educational sector has been among the weakest in East Asia. Secondary school participation rates are low and have not improved greatly in the past two decades (Khoman, 1993). Similarly, since the 1960s the expansion of the cultivated land area was small, so growth of the stock of land was not the source either. The answer must lie with the capital stock. Thailand's capital stock grew dramatically in the years since 1987. Both foreign direct investment and domestic investment grew, but growth of foreign direct investment began first and was proportionately much larger (Warr, 1993).

Studies of total factor productivity growth in Thailand reveal a crucial point. Over the 20 year period ending around 1987, and therefore preceding the boom beginning in 1988, growth was explained reasonably well by growth accounting methods. The unexplained residual, total factor productivity growth, was less than one per cent per annum. But over the period of the boom of the late 1980s

and the first half of the 1990s, the unexplained residual increased to around five per cent (Warr, 1993). Growth of factor supplies, as conventionally measured, did not account for the growth that was occurring.

A clue to the difference between these two periods is provided by the behaviour of incoming foreign direct investment. Beginning in 1987, foreign direct investment increased dramatically. From annual rates of inflow varying between US$100 and 400 million over the previous 15 years, the annual rate of inflow rose more than five fold, to over US$2 billion per year and remained at roughly these levels over the next eight years. Rates of domestic saving and investment were also high, but the stock of capital represented by foreign direct investment was increasing much more rapidly than the stock represented by domestic investment. The proportion of the total capital stock that was represented by foreign direct investment was thus increasing rapidly.

The way the capital stock is measured in total factor productivity studies involves adding the value of capital from all sources, foreign and domestic. The Thai experience exposes a flaw in that procedure. Suppose foreign capital embodies forms of technological know-how which domestic capital does not. Then the two forms of capital are imperfect substitutes for one another. According to the author's econometric estimates, using Thai data, the elasticity of substitution between the two is about 0.45, certainly not infinity, as implied by the usual aggregation. This implies that the two forms of capital are net complements – an increase in the stock of foreign capital will *increase* the productivity of domestic capital. Simply adding these two capital stocks is inappropriate because it will miss this effect.

This argument implies that when the foreign component of the total capital stock is increasing rapidly, the productivity of the domestic capital stock will in fact be increasing in a way that the conventional approach to measuring capital stocks does not recognise. Increased foreign investment thus increases the *level* of domestic investment because it raises the productivity of the domestic capital stock. When these two components of the capital stock are separated, the unexplained residual in total factor productivity growth studies, total factor productivity growth, becomes much smaller. The point is that to explain the boom we must take note of the massive inflow of foreign capital and abandon the notion that foreign and domestic capital are perfect substitutes. But this inflow of foreign capital did not merely fuel the boom. Its magnitude and its changing composition, combined with the policy environment of the time, also created the foundations for the collapse of 1997.

### *b. Bank of Thailand Response: Sterilisation and Liberalisation*

Thailand has a long and proud history of stable monetary policy and low inflation. The Bank of Thailand sees its major role as controlling inflation and for

decades it had viewed the maintenance of a fixed exchange rate as central to achievement of that outcome.[2] Prior to 1990, financial capital movements into and out of Thailand had been subject to extensive controls, a policy which had allowed Thailand a significant degree of monetary independence in spite of its fixed exchange rate (Warr and Nidhiprabha, 1996). But these controls were largely dismantled during the early 1990s. In part, it was hoped that Bangkok might replace Hong Kong as a regional financial centre following the restoration of Chinese sovereignty in Hong Kong in 1997, but the liberalisation of capital controls was also apparently supported by the IMF.[3] Following this liberalisation, both the entry and exit of foreign funds was now very much easier. As foreign investment poured into the booming Thai economy, the Bank of Thailand attempted to sterilise its effects on the domestic money supply. Domestic interest rates were bid up, despite the fixed exchange rate and the increased openness of the capital market, confirming that foreign and domestic assets were imperfect substitutes. The result was an increased level of short-term foreign investment, which entered the country in response to the increased rate of return.

Now suppose an inflow of long-term foreign investment was occurring. If sterilisation was not occurring at all, the nominal prices of traded goods would not be affected, since they are determined (with lags) by international prices and the fixed exchange rate, but non-traded goods' nominal prices would be bid up by the increased domestic demand. That is, the capital inflow would produce a real appreciation – an increase in domestic non-traded goods prices relative to domestic traded goods prices – the phenomenon now known as the 'Dutch disease' (Corden, 1984). The current account deficit would increase, but foreign exchange reserves would be unaffected, relative to what would otherwise have happened.

The outcome would be much the same if the monetary authorities were *attempting* to sterilise but where the exchange rate was fixed, capital movements were unimpeded, and foreign and domestic assets were perfect substitutes. Any attempt to sterilise by raising domestic interest rates, through sale of bonds, would be defeated because it would produce an inflow of portfolio investment sufficient to drive the domestic interest rate down to its previous level. Demand would be increased by the monetary consequences of this inflow, producing the real appreciation described above. This is the familiar Mundell-Fleming model.

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[2] Until it was floated on 2 July, 1997, the Baht had been loosely pegged to the US dollar since the 1950s, except for devaluations of 10 and 15 per cent in 1981 and 1984, respectively. For a detailed account of this period, see Warr and Nidhiprabha (1996).

[3] See the IMF reports by Robinson et al. (1991) and Kochhar et al. (1996) for favourable accounts of this policy change. On the other hand, see Warr and Nidhiprabha (1996, p. 204), for a warning of the dangers inherent in this programme of capital market liberalisation in combination with a fixed exchange rate. Warr and Nidhiprabha recommended that if the capital market liberalisation was to be maintained, Thailand would require a more flexible exchange rate system.

In the hypothetical case where sterilisation was completely effective, the monetary effects of the capital inflow would be exactly offset by the sale of bonds. Bond prices would be forced down and domestic interest rates would rise relative to international rates. The money supply would not increase and relative domestic prices would not be affected. Reserves would increase by the amount of the capital inflow. This outcome assumes, however, that additional short-term capital inflow is not induced by the rise in domestic interest rates. For this reason, complete sterilisation would be highly improbable in the Thai context of the early 1990s, because by then capital movements had been liberalised significantly. There was very little to prevent capital inflow in response to higher domestic interest rates.

Incomplete sterilisation implies an intermediate outcome. This might be observed if the monetary authorities were attempting to sterilise but where domestic and foreign assets were imperfect substitutes, leading to capital inflows which only partially offset the attempts to sterilise, and/or where some residual controls on capital movements were limiting mobility. We would then expect coexistence of the following phenomena, relative to what otherwise would have occurred:

(i) increased levels of foreign exchange reserves;
(ii) increased current account deficits;
(iii) increased domestic interest rates;
(iv) increases in prices of non-tradables relative to tradables – a real appreciation; and
(v) increased inflows of foreign short-term capital.

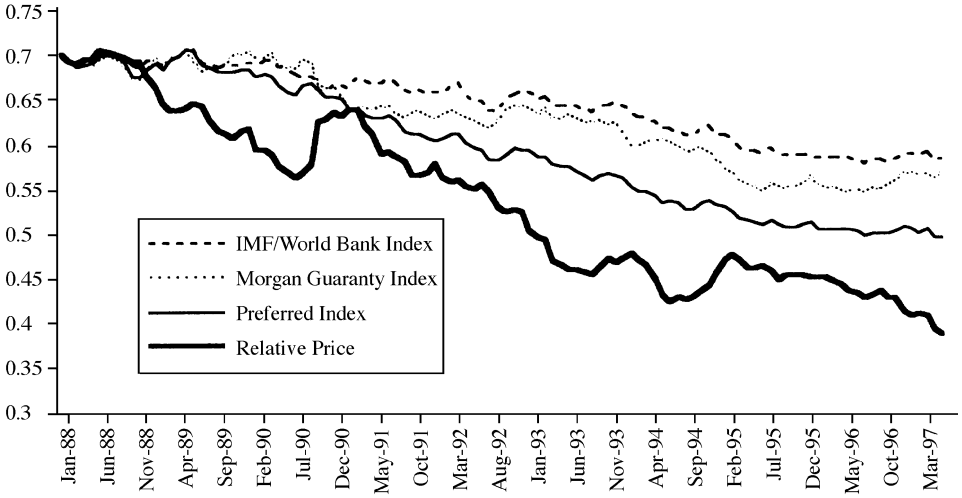
This combination is what occurred. Items (i), (ii) and (iii) are obvious from inspection of Thailand's macroeconomic data. We can therefore concentrate on items (iv) and (v).

*c. Real Appreciation*

A dramatic real appreciation was occurring throughout the 1990s. This real appreciation is indicated in Figure 1. We focus first on the series labelled 'Relative Price', an index of the relative prices of traded to non-traded goods. This series updates calculations presented in Warr and Nidhiprabha (1996), which used monthly domestic price data for Thailand to obtain an index of traded goods prices (using 33 individual wholesale prices which approximately match the analytical concept of traded goods) relative to non-traded goods (using 42 individual consumer prices which approximately match the analytical concept of non-traded goods).[4] In the earlier study, the data were presented for 20 years from

[4] For a full discussion of this index and its composition, see Warr and Nidhiprabha (1996, pp. 221–26).

FIGURE 1
Thailand: Real Exchange Rates




Sources: Author's calculations, using data from Thai government sources and International Monetary Fund, *International Financial Statistics*, various issues.

1968 to 1988. Over this period the index took values between a maximum of 1.7 and a minimum of 0.68 (indexed to August 1973 = 1). At the end of the data series (January 1988) the value of this index was 0.7.

For convenience of comparison with the earlier series, the relative price series shown in Figure 1 is indexed to begin at 0.7 in January 1988 and its composition and construction are identical to the earlier study. Leaving aside short-term fluctuations, the index declined steadily from 1990 onwards. By April 1997 its value was 0.38. A very large real appreciation had occurred. The real exchange rate, so measured, had fallen to only 55 per cent of its lowest value over the two decades prior to the boom. Do external exchange rate changes explain this outcome? The question arises because it is now well understood that the depreciation since 1995 of the Japanese yen and other currencies relative to the US dollar meant that any currency pegged to the dollar would suffer a real appreciation. But the answer is no.

The real appreciation within Thailand demonstrated in Figure 1 was not at all confined to the period since 1995, when the US dollar was appreciating. A large real appreciation within Thailand can also be seen in the first five years of the 1990s when the dollar was *depreciating* relative to the yen and other currencies. Most of the real appreciation from 1990 to mid-1997 was already evident by mid-1994, well before the appreciation of the US dollar began. External exchange rate changes were clearly relevant, but they were not the main causal factor.

The principal cause of Thailand's real appreciation resided in forces operating *within* the Thai economy – not external exchange rate adjustments. The principal

source was the demand effects of very large foreign capital inflows, only partially sterilised. The effect of the real appreciation was that it undermined the competitiveness of Thailand's traded goods industries, meaning their capacity to attract resources within the domestic economy in competition with non-traded goods sectors.

Figure 1 also shows three other measures of real exchange rates, also commonly called measures of 'competitiveness'. All three are based not on domestic relative prices but on nominal exchange rates adjusted by foreign and domestic price levels. The two most commonly used in the literature are labelled the 'IMF/World Bank Index', the export share weighted sum of trading partner consumer price indices, each multiplied by the bilateral exchange rate, divided by the domestic consumer price index; the 'Morgan-Guaranty Index', where the two consumer price indices described above are replaced by foreign and domestic wholesale price indices, respectively).

Finally, the series labelled 'Preferred Index' replaces foreign consumer prices in the numerator of the 'IMF/World Bank RER Index' with foreign wholesale prices, but it retains the domestic wholesale price index in the numerator. This index is preferable to either of the other two as a proxy for traded goods prices relative to non-traded goods prices. The reason is that the share of traded goods in wholesale price indices is higher than its share in consumer price indices. Thus the numerator of this index, the export share weighted sum of foreign wholesale price indices, each multiplied by the bilateral exchange rate, may be taken as a (very rough) proxy for domestic traded goods prices and the denominator, the domestic consumer price index, may be taken as a (very rough) index of domestic non-traded goods prices.

For the reasons demonstrated in Warr (1986), all three of these exchange rate based measures, but especially the first two, may be expected to understate the magnitude of a real appreciation, compared with changes in the domestic relative prices of traded goods to non-traded goods.[5] This pattern is exactly borne out by the calculations shown in Figure 1. All four measures shown confirm that a real appreciation did occur but its magnitude is understated in particular by the 'IMF/World Bank' and the 'Morgan-Guaranty' measures.

### *d. Adequacy of Reserves*

The Bank of Thailand was attempting to maintain a (nearly) fixed exchange rate relative to the US dollar.[6] Were its reserves of foreign exchange adequate for

[5] All three also greatly exaggerate the gain in export competitiveness resulting from a depreciation and distort the pattern of its changes over time. See Warr (1986) for a theoretical demonstration of these points.

[6] See Warr and Nidhiprabha (1996, chapter 9), for a detailed discussion of exchange rate management over the period ending in 1991, and also Robinson, Byeon and Teja (1991).

this task? The conventional measure of reserve adequacy, the number of months of imports that reserves could finance, relates a financial stock, international reserves, to a trade flow, the monthly value of imports. Based on this measure, reserve adequacy increased steadily throughout the pre-crisis period from three months of imports in 1988 to over six months in early 1997. This measure signalled no problem regarding reserve adequacy at the time of the crisis. On the contrary, it suggested a steady improvement in the adequacy of Thailand's reserves as the boom progressed. But this indicator is conceptually of little relevance as an indicator of vulnerability to a financial crisis.

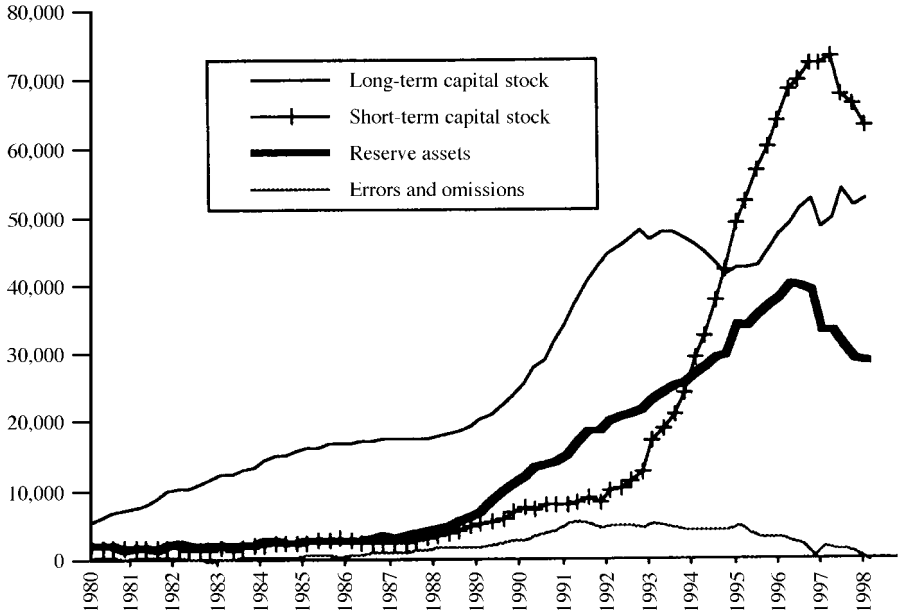
At a time of financial panic it does not matter how many months of imports could be financed from reserves. What matters is whether reserves can withstand a capital outflow. Under a fixed exchange rate regime the relevant magnitudes are: (a) the *stock* of foreign currency available to the central bank to finance transactions which convert domestic currency to foreign currency, namely its international reserves, relative to (b) the *stock* of financial capital which could be presented to the central bank at short notice for such currency conversion. The accumulated stock of foreign-owned, short-term capital is a major component of the latter. It is not the only component, in that it does not include volatile capital held by domestic residents, but it is one of the most volatile and focusing upon it has the advantage that it can be isolated using balance of payments data.

Figure 2 compares the stock of the Bank of Thailand's reserves, on the one hand, with the estimated cumulative stock of short-term, foreign-owned capital, on the other. The latter includes foreign-owned portfolio capital, short-term bank loans and non-resident accounts held in Thai banks. This short-term capital is to be distinguished sharply from long-term, foreign-owned capital, which includes foreign direct investment and long-term loans from abroad. The accumulated stock of long-term capital is also shown in Figure 2. Monthly balance of payments data from the Bank of Thailand on net flows of financial capital are used to construct these stocks. The data are accumulated from January 1970, prior to which flows of foreign-owned capital were very small.

The longer the boom continued, the greater the accumulated stock of mobile funds became, relative to long-term capital and, much more significantly, relative to reserves. Figure 2 reveals a significant increase in vulnerability to a crisis in the years preceding 1997, especially from 1993 onwards. From 1994 onwards, the stock of short-term foreign capital exceeded the value of reserves and the discrepancy between them increased steadily. By early 1997 the stock of short-term, foreign-owned capital exceeded reserves by 80 per cent. Figure 3 shows the composition of this stock of volatile, foreign capital. Both portfolio capital and non-resident accounts increased significantly in the years prior to the crisis, but the most significant component of the increase was in bank loans from abroad.

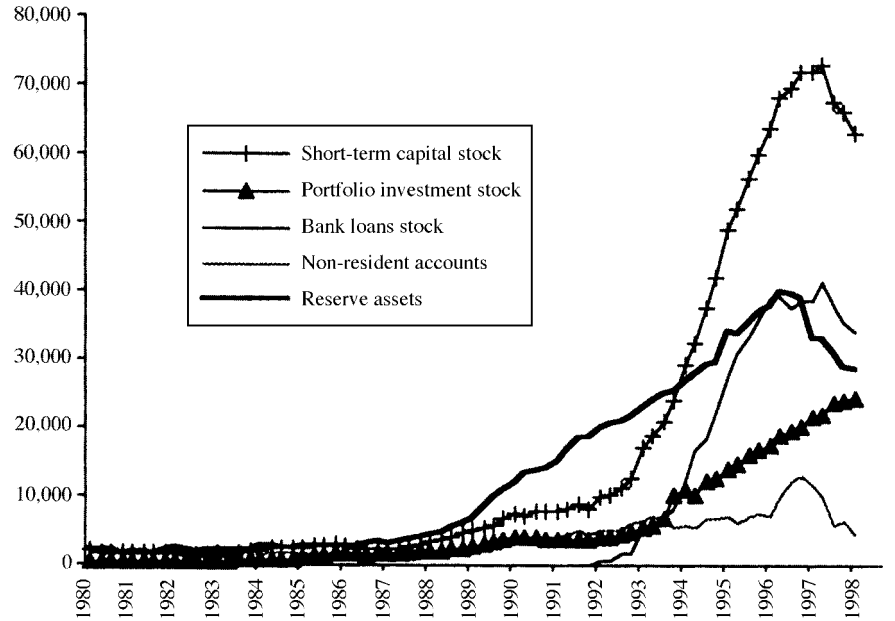
Clearly, the adequacy of Thailand's reserves had declined dramatically, when these reserves are measured in relation to the stock of volatile funds that could be

FIGURE 2
Thailand: International Reserves and Foreign-owned Capital Stocks




Sources: Author's calculations, using monthly data from Bank of Thailand, Balance of Payments data bank.

FIGURE 3
Thailand: International Reserves and Short-term Foreign Capital Stocks




Sources: Author's calculations, using monthly data from Bank of Thailand, Balance of Payments data bank.

presented against them in the event of a loss of investor confidence. Moreover, this vulnerability did not develop suddenly, immediately prior to the crisis, but steadily, over a period of several years. That the subsequent outflow of this stock of short-term foreign-owned capital was the cause of the decline in reserves which accompanied the crisis is confirmed by comparing the decline in reserves during 1997 and 1998, shown in Figures 2 and 3, with the decline in the stock of short-term foreign capital during the same period. The flight of this short-term, foreign-owned capital was clearly the principal source of the loss of reserves.

The growth of volatile foreign capital relative to reserves left had Thailand increasingly vulnerable to a speculative attack on its reserves, but few observers, if any, were looking at the appropriate indicators. Prior to the crisis, both the absolute value of reserves and the number of months of imports they could finance had been increasing, but the growth of reserves was far exceeded by the growth of volatile foreign capital. This was the key to Thailand's vulnerability to a financial crisis.

### *e. The Bubble Economy*

What caused the massive inflow of volatile foreign capital in the years preceding the crisis? Large returns were being made by investing in Thailand and this situation had been sustained over several years. Euphoria induced by almost a decade of high growth produced over-confidence. In addition, the government was assuring the public that reserves were adequate to maintain the fixed exchange rate and the IMF also seemed satisfied, judging from its public statements. Investing in Thailand seemed both safe and profitable. Not to participate was to miss out.

Through the first half of the 1990s, investment in real estate and commercial office space soared. The rate of inflow was so rapid that the quality of the investment inevitably declined, much of it proving to be financially non-performing, destroying the companies which had financed it. But why had investors acted so imprudently? Over-confidence was an important part of the story, but the underlying real appreciation was another. The classic bubble economy is one in which real estate prices continue to rise well beyond levels justified by the productivity of the assets, but so long as the prices continue to rise existing investors are rewarded and collateral is created for new loans to finance further investment, and so on – until the inevitable crash.

Unrealistic expectations of continued boom are the underlying fuel for this process. These expectations are generally possible only after several years of sustained boom. The boom therefore generates the mechanism for a crash. This is why economic booms almost never peter out gradually. They collapse. In these respects, Thailand's financial panic was similar to many previous examples around the world, including the Mexican crash of 1994 (Edwards, 1998).

In the Thai case, there were three other, less well understood causes for over-investment, each of which was policy-induced. First, as described above, the Bank of Thailand was attempting to sterilise the monetary consequences of capital inflows, despite its own relaxation of capital controls. By increasing domestic interest rates this encouraged further short-term capital inflows.

Second, beginning in 1993 the Thai government encouraged banks to borrow short-term through its establishment of the Bangkok International Banking Facility (BIBF), again with the apparent approval of the IMF. This development made short-term borrowing from abroad easier and more attractive for domestic banks and from the point of view of the foreign lender, these loans were protected by implicit guarantees from the Bank of Thailand. It can be seen from Figure 3 that the dramatic increase in short-term bank loans began at this time. In addition to new short-term loans, significant substitution of short-term loans for longer-term loans also occurred. This is evident from Figure 2. Beginning in 1993, the stock of long-term loans actually declined for around two years while short-term loans accelerated.

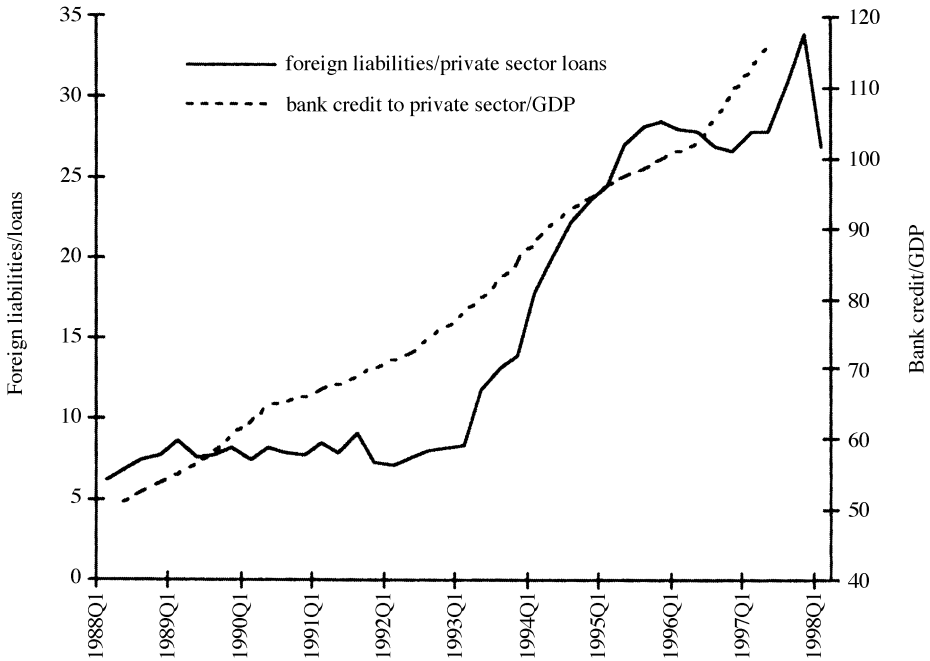
Third, the Bank of Thailand also indirectly encouraged short-term borrowing by non-bank financial institutions. For many years prior to the crisis, banking licences in Thailand had been highly profitable. The issuance of new licences is tightly controlled by the Bank of Thailand but it had become known that the number of licences was to be increased significantly. Thai finance companies immediately began competing with one another to be among the lucky recipients. To project themselves as significant players in the domestic financial market, many companies were willing to borrow large sums abroad and lend domestically at low margins, thereby taking risks they would not ordinarily contemplate. With lenders eager to lend vast sums, real estate was a favoured investment because purchase of real estate requires almost no specialist expertise, only the willingness to accept risk.

### *f. Bank Exposure*

The implication of the above phenomena was a large increase in the exposure of the Thai banking sector to both exchange rate risk and to domestic default. This is indicated in Figure 4. First, the increased level of banks' foreign indebtedness relative to the lending base of the banks increased their exposure to exchange rate risk. Second, the increased level of bank credit to GDP increased their exposure to a domestic contraction.[7] Poor supervision of Thai banks has been widely blamed for their difficulties. There seems little doubt that standards of prudential control were indeed lax, a product of the over-confidence on the part of monetary authorities that also characterised the private sector. Never-

[7] See Sachs, Tornell and Velasco (1996) for a fuller discussion of these concepts.

FIGURE 4
Thailand: Bank Exposure




Sources: Author's calculations, using quarterly data from Bank of Thailand and quarterly GDP data from National Economic and Social Development Board, Bangkok.

theless, the increased exposure of the Thai banks must be seen primarily as the consequence of the macroeconomic events described above and not as a separate event that could have been corrected by tighter supervision alone.

## 3. THE TRIGGER: EXPORT SLOWDOWN

The underlying causes of the crisis were long-term, as discussed above. The trigger that actually undermined confidence sufficiently to set a speculative attack on the baht in process was the collapse of export growth in 1996. Export growth declined from over 20 per cent per year in previous years, a performance which made the high current account deficits of the time seem (almost) sustainable, to around zero in 1996. This provoked capital outflow and speculation against the baht because it produced the expectation of a devaluation. Once this expectation developed and portfolio capital headed for the exit, the process was unstoppable. Table 1 shows the levels of exports and their growth rates for the years 1984 to 1996. The slowdown was widespread among Thailand's export destinations but was greatest in exports to Japan, NAFTA and the Chinese economies. By looking

TABLE 1
Thailand: Exports by Destination, 1994 to 1996

| *Destination Share (%)* | *1994* | *1995* | *1996* |
|---|---|---|---|
| ASEAN | 18.2 | 19.9 | 19.3 |
| Chinese Economies | 9.5 | 10.5 | 8.7 |
| Japan | 17.1 | 16.8 | 16.7 |
| European Union | 14.9 | 14.5 | 15.8 |
| NAFTA | 22.6 | 19.1 | 18.5 |
| Rest of World | 17.7 | 19.2 | 21.0 |

Source: Bangkok Post, *Year-end Economic Review*, December 1996.

TABLE 2
Thailand: Major Exports by Commodity, 1994 to 1996

| | | *1994* | *1995* | *1996* |
|---|---|---|---|---|
| Total Exports (million baht) | | 1,137,602 | 1,406,310 | 1,401,392 |
| Growth rate (%) | | 20.9 | 23.6 | −0.35 |
| *Growth rate by Commodity* | | | | |
| 1 | Computer and parts | 44.9 | 38.7 | 31.3 |
| 2 | Garments | 12.4 | 1.3 | −21.9 |
| 3 | Rubber | 43.3 | 46.5 | 1.4 |
| 4 | Integrated circuits | 27.5 | 28.4 | 3.4 |
| 5 | Gems & jewellery | 8.3 | 11.5 | 8.4 |
| 6 | Rice | 18.9 | 24.1 | 8.4 |
| 7 | Sugar | 41.2 | 67.2 | 11.7 |
| 8 | Frozen shrimps | 29.9 | 2.3 | −17.8 |
| 9 | Television & parts | 26.2 | 12.7 | 14.1 |
| 10 | Shoes & parts | 40.5 | 37.0 | −40.9 |
| 11 | Canned seafood | 24.7 | 4.1 | −0.3 |
| 12 | Air conditioner & parts | 62.1 | 49.6 | 33.6 |
| 13 | Plastic products | −29.1 | 102.2 | 51.4 |
| 14 | Tapioca products | −13.6 | −2.8 | 16.7 |
| 15 | Textiles | 4.5 | 22.1 | −4.4 |
| | 15 commodities sub-total value (million baht) | 611,536 | 765,734 | 740,683 |
| | growth rate (%) | 20.7 | 25.2 | −3.27 |
| | share in total exports (%) | 53.8 | 54.4 | 52.9 |

Source: Bangkok Post, *Year-end Economic Review*, December 1996.

at the composition of exports by commodity (Table 2) it can be seen that the slowdown was concentrated in manufactured exports from labour-intensive industries.[8]

The export slowdown of 1996 did not *cause* the crisis. In normal circumstances a temporary slowdown in exports would be met by an increased current account

[8] The 15 commodities represented in Table 2 comprised between 52 and 54 per cent of total exports in each of the three years shown.

deficit, financed by a combination of reduced reserves and temporary borrowing from abroad. The slowdown coincided with an already high current account deficit, equivalent to around eight per cent of GDP. Given this, and the high level of vulnerability to a crisis which had developed by 1996, as outlined above, the export slowdown of 1996 affected confidence sufficiently to trigger the expectation of a devaluation and that produced a self-reinforcing capital outflow.

The export slowdown of 1996 has attracted many attempted explanations from observers of the Thai economy. Arranged in what would seem to be increasing order of importance, the causes of the export slowdown included: the political events of the previous two years; monetary policy; Thailand's trade liberalisation; the congestion of industrial infrastructure; falsification of export data to receive value added tax rebates; increasing competition in international markets from China since the latter's devaluation in 1994; a slowdown in demand in importing countries; and effective appreciation of the baht through pegging to the dollar while the latter appreciated relative to the yen from late 1995 through 1997. Each of the above probably played some role in 1996, especially the last, but two other factors appear to have been more important. These were the long-term real appreciation within Thailand resulting from the demand effects of foreign capital inflow, discussed above, and a closely related phenomenon, a large increase in real wages.

*a. Real Wages*

Data on real wages provide a powerful explanation for Thailand's export slowdown and its concentration in labour intensive industries. Research at the Thailand Development Research Institute has recently produced a reliable series of wage data for Thailand's manufacturing sectors. When these data on average nominal wages in manufacturing are deflated by the consumer price index they indicate that over the 15 years from 1982 to 1996, real wages roughly doubled, but this increase was heavily concentrated in the years since 1990. Over the years 1982 to 1990 the increase was from an index of 100 to 117, an average compound rate of increase of two per cent. But over the following six years to 1996 the same real wage index increased to 202, an average annual rate of increase of real wages of nine per cent!

Both supply and demand side forces played a role in the real wage increases. First, the supply side. During the early stages of Thai economic growth the rising industrial and services sector demand for labour could be satisfied from a very large pool of rural labour with relatively low productivity. The potential supply of unskilled rural labour was so large and so elastic that as workers moved from agriculture to more productive jobs in the manufacturing and services sectors, it was possible for these sectors to expand their levels of employment without significantly bidding up real wages. Thailand at this time was apparently a classic

Lewis 'surplus labour' economy. But as this process continued that pool of 'cheap' rural labour was largely used up, so that by the early 1990s labour shortages were becoming evident. Labour supply was no longer as elastic as it had been. Agricultural industries were themselves experiencing serious problems of seasonal labour shortages. Further increases in the demand for labour outside agriculture then led to rising wages.

Changes in the demand for labour also played a role, as a consequence of the real appreciation described above. Non-tradables are on average more labour-intensive in their production than tradables. As non-tradables' prices rose, relative to tradables, wages were bid up relative to both tradables and non-tradables' prices (the Stolper-Samuelson effect) and wages therefore rose relative to the consumer price index.

With the end of the era of 'cheap labour', the competitiveness of Thailand's labour intensive export industries declined. The importance of this point is confirmed by the fact that the export slowdown shown in Table 2 was concentrated in labour intensive industries such as garments, footwear and textiles.[9] Thailand's export industries are especially vulnerable to increases in real wages for two basic reasons. First, many of Thailand's most successful export industries are highly labour intensive, implying that a given increase in real wages has large effects on their costs. Second, these export industries face highly competitive international markets for their products, where they must act as price-takers. This means that cost increases cannot be passed on in the form of increases in product prices, whereas producers for the domestic market may have greater scope for doing so.

## 4. THE CRISIS

Through late 1996 and the first half of 1997 the Bank of Thailand struggled to maintain the stability of the baht/US dollar exchange rate against speculative attacks. The speculation was fuelled by expectations of a devaluation. Despite the insistence of the government and the Bank of Thailand that the exchange rate could be defended, market participants did not believe them. They were right. The level of official foreign exchange reserves declined from US$40 billion in January 1997 to well under 30 billion six months later. On 2 July, the Bank of Thailand announced a float of the currency. The rate moved immediately from 25 baht per US$ to 30. By January 1998 it was 55, subsequently moderating by February to 45. Late in 1997 IMF assistance was requested, and a stringent package of financial measures was required by the fund.

[9] The frozen shrimp industry is a special case, where US import restrictions were important, effectively banning imports of non-farm shrimps from Thailand. These restrictions were lifted in the following year.

*a. The Politics*

The crisis had political casualties. In November 1997, a year after it came into government, the administration of Prime Minister Chavalit Yongchaiyudh was forced to surrender office as its coalition of political parties unravelled. It was replaced by a new coalition government led by Democrat Party leader and former Prime Minister, Chuan Leekpai, who had led the parliamentary opposition to the Chavalit government. The Chavalit government had lost public confidence, appearing unable to cope with the developing crisis.

The change of government gave Thailand a major political advantage in responding to the crisis that some of its neighbours lacked. The new government did not need to defend itself against blame for the crisis itself. Notwithstanding the parliamentary efforts of the new Opposition, now led by General Chavalit, there seemed little political necessity for debate as to whether foreigners, domestic businessmen or the domestic government were ultimately responsible for the nation's problems. Full attention could be given to instituting the reform package which might resolve the emergency.

There was considerable debate as to what the most appropriate reform package should be. The government felt constrained to implement the IMF package and to announce public commitment to it. The package was widely criticised within Thailand, however, and behind the scenes the government was lobbying to have the package modified. The economic crisis produced a contraction of domestic demand which was much larger than expected by most observers, including the IMF. Private consumption and investment spending declined significantly. Inflation remained low, in spite of the mid-year depreciation of the baht.

The IMF programme seemed a copy of packages the Fund had previously devised for Latin American countries burdened with external imbalances associated with massive public sector debt, hyperinflation and low rates of private saving. The external imbalance in Thailand, like most of its neighbours, lacked any of these features. Inflation was relatively low, debt was primarily a private sector problem (US$72 billion out of US$99 billion total external debt) and saving rates remained high. The crisis produced a massive contraction in private spending. The IMF package added a public sector contraction by initially requiring a budget surplus equivalent to one per cent of GDP, subsequently relaxed. Moreover, at a time when confidence in the financial sector was essential, the IMF required that problem institutions be closed. Given the circumstances of the time, this requirement seemed to many observers to be ill-advised.

While the IMF rescue package was handled poorly, this was not the main failure. That occurred *before* the crisis, not after it. The main failure was that the developing crisis had apparently not been foreseen in time and was thus not averted. Some IMF officials have subsequently stated that the Thai government

was indeed properly warned during 1996 about the impending danger. If so, the warnings were made only in secret and cannot be verified. They were also inconsistent with published IMF commentary on Thailand during the immediate pre-crisis period, including Kochhar et al. (1996) and the Fund's Annual Reports.

The economic boom since the late 1980s had encouraged the Bank of Thailand to remove almost all of its earlier restrictions on movement of financial capital into and out of Thailand. What surprised all observers was the rate at which funds could flow out of the country in response to what seemed small changes in market sentiments, putting irresistible pressure on the Bank of Thailand's foreign exchange reserves. The crucial point was the very large volume of short-term capital that had entered Thailand during the boom. To attract this capital Thailand had removed most of the capital controls that had made maintenance of its fixed exchange rate policy consistent with a degree of monetary independence. But the liberalisation meant that speculative attacks on the baht were now much easier than previously. To attract large volumes of financial capital into Thailand it had been necessary to demonstrate not only that entry was open, but that the exit was unobstructed as well. When market expectations moved in favour of a devaluation, the rate of financial outflow was so great that the expected depreciation became inevitable. In January 1998 the influential *Bangkok Post Year-end Economic Review* commented (p. 18) that:

> Liberalised capital flows but a fixed exchange rate proved to be the undoing of the Thai economy.

## 5. FUTURE PROSPECTS

The increase in real wages described above reduced the competitiveness of Thailand's labour-intensive exporters. The depreciation of the baht will reverse that decline, at least temporarily. The depreciation means a re-orientation of domestic prices, with tradable goods prices (exportables and import substitutes) rising relative to non-tradables, especially services and construction. The more rapidly resource allocation can adjust in response, the smaller will be the unemployment and consequent human suffering that will result. Resources will be released by the services and construction sectors and absorbed by exporters. The net consequences for the path of unemployment will depend in part on the flexibility of resource allocation. The question is to what extent resources can be moved efficiently from services sectors that are now laying off workers to the export industries that are now becoming so much more profitable. The less flexible is resource re-allocation, the greater will be the frictional unemployment. The flexibility of the Thai economy is being tested.

Financial reform and facilitation of the response of exports to the increased profitability created by the depreciation are the priority areas for policy. Like the

Indonesian government, the Thai government has expressed an interest in a currency board, but there seems no prospect of any such policy change being implemented, at least until the stability of the banking system is restored. Increased inflation, in response to the devaluation, is inevitable. Poverty incidence will increase at a rate determined by the rate at which labour can relocate from the services and construction industries which are contracting to the now more profitable export industries. Financial reform will be an important determinant of the success of that adjustment.

Many observers have said that the 'fundamentals' for Thailand are good and that rapid growth will soon be restored. It is seldom specified what these 'fundamentals' actually are. Closer examination raises doubts. First, the domestic resource which fuelled the boom, cheap unskilled labour, will no longer be abundant once the unemployed workers released by the current recession are re-absorbed. Once these workers re-enter the work force the era of cheap labour will be over for Thailand. The evidence for this view is the dramatic increase of real wages over the early 1990s described above. The failure of the education system to supply the skilled labour required to facilitate movement to more skill-intensive modes of production, especially for export, will then be critical. The problem is the low rates of secondary school participation in Thailand, rather than failure at either the primary or tertiary levels.

Second, foreign investment was fuel for the boom because it brought with it advanced technology and skills. It seems doubtful that foreign investment will return to the levels experienced during the boom because investors will surely be more cautious. In 1998 there were signs of a recovery of foreign direct investment, but it was still too early to distinguish adequately between temporary bargain-seeking in asset markets and a long-term commitment to introduce new capital. Finally, public infrastructure, especially transport, was badly congested by 1996. The severe cut-backs in public investment which followed the crisis will mean that after the recovery that constraint will operate again.

By late 1998 the exchange rate had stabilised to around 35 baht per US$ and the high interest rates that accompanied the crisis had abated significantly. There is every reason to expect that with the restoration of confidence, Thailand can return to moderate rates of growth, potentially in the neighbourhood of around six per cent, and possibly even more during the recovery phase. The heady growth that Thailand experienced during the boom will surely not be repeated and that may be just as well.

## 6. CONCLUSIONS

Thailand's crisis must be understood as the collapse of a boom. It was not caused by evil speculators or by corrupt politicians. It was caused by errors of

macroeconomic policy, themselves an outcome of complacency arising from a decade of unprecedented economic growth. Central among these policy mistakes was the insistence on retaining a fixed exchange rate when circumstances no longer suited it. The boom produced a euphoria that also led business decision makers to take risks they would not ordinarily have accepted.

The prolonged boom which preceded the crisis was fuelled by high levels of foreign direct investment. As the boom developed, these high levels of capital inflow, combined with Thailand's fixed exchange rate policy, set in train a 'Dutch disease' real appreciation in which real wages increased unsustainably, undermining the competitiveness of the traded goods sector. In 1996 this produced a dramatic slowdown in export growth which provoked the expectation of a devaluation.

Over the same pre-crisis period, the vulnerability of the country's foreign exchange reserves to a financial panic had increased very substantially. The vulnerability derived from a greatly increased stock of volatile capital within Thailand which could be presented for conversion into foreign exchange at short notice. The growth of this stock of volatile capital relative to reserves was itself the outcome of macroeconomic policies. First, the attempt to sterilise capital inflows raised domestic interest rates and induced very large inflows of short-term foreign capital. Second, controls on capital movements were largely eliminated in the early 1990s. Second, the Bangkok International Banking Facility, established by the government in 1993, encouraged domestic banks to borrow abroad, short-term. Finally, non-bank financial institutions were encouraged to borrow abroad as well, in the hope of qualifying for highly profitable domestic banking licences.

## REFERENCES

Corden, W.M. (1984), 'Booming Sector and Dutch Disease Economics: a Survey', *Oxford Economic Papers*, **36**, 359–80.

Edwards, S. (1998), 'The Mexican Peso Crisis: How Much Did We Know? When Did We Know It?', *The World Economy*, **21**, 1–30.

Ingram, J.C. (1971), *Economic Change in Thailand: 1850–1970* (Stanford University Press, Stanford, California).

Khoman, S. (1993), 'Education', in P. G. Warr (ed.), *The Thai Economy in Transition* (Cambridge University Press, Cambridge).

Kochhar, K., L. Dicks-Mireaux, B. Horvath, M. Mecagni, E. Offerdal and J. Zhou (1996), 'Thailand: The Road to Sustained Growth', *Occasional Paper* No. 146 (International Monetary Fund, Washington, DC, December).

Manorungsan, S. (1989), *Economic Development of Thailand, 1850–1950* (Institute of Asian Studies Monograph No. 42, Chulalongkorn University).

Robinson, D., Y. Byeon and R. Teja (1991), 'Thailand: Adjusting to Success, Current Policy Issues', *Occasional Paper* No. 85 (International Monetary Fund, Washington, DC).

Sachs, J., A. Tornell and A. Velasco (1996), 'Financial Crises in Emerging Markets: The Lessons from 1995', *Brookings Papers in Economic Activity*, No. 1, 147–215.
Warr, P.G. (1986), 'Indonesia's Other Dutch Disease: Economic Effects of the Petroleum Boom', in J.P. Neary and S. van Wijnbergen (eds.), *Natural Resources and the Macroeconomy* (Basil Blackwell, Oxford), 288–320.
Warr, P.G. (1993), 'The Thai Economy', in P.G. Warr (ed.), *The Thai Economy in Transition* (Cambridge University Press, Cambridge), 1–80.
Warr, P.G. and B. Nidhiprabha (1996), *Thailand's Macroeconomic Miracle: Stable Adjustment and Sustained Growth* (World Bank and Oxford University Press, Washington and Kuala Lumpur).
World Bank (1998), *World Development Report, 1998* (Oxford University Press, New York).