Review of Income and Wealth
Series 50, Number 2, June 2004

THE ASIAN CRISIS AND FLOW-OF-FUNDS ANALYSIS

BY JOHN C. DAWSON*

Grinnell College, Iowa

This paper is an application of Flow-of-Funds analysis to the case of Thailand during the 1996–97 Asian crisis. It begins with a background historical sketch of the financial crisis in East Asia, emphasizing the central role of weak financial systems and foreign debt. The paper then presents a method of estimating quarterly Flow-of-Funds accounts using Thailand as an example. This simple method is available from data published by the I.M.F. for most of the countries of the world. The Thai data are then used in a Flow-of-Funds analysis of the crisis in Thailand. This analysis contrasts with the opening historical sketch in quantitatively tracing the significant financial flows and, particularly, the finances of the private sector. The paper closes by emphasizing the need for current reporting of data to facilitate such analyses.

INTRODUCTION

In July 1997 the Bank of Thailand unexpectedly floated the Thai currency—the baht—and it soon depreciated to half its value. Amidst a panic among international lenders the heavy flow of private capital into Thailand of the early 1990s sharply reversed itself. The Asian financial crisis had begun. The crisis soon spread to Malaysia and Indonesia and then to Korea. Each of these countries suffered a deep economic downturn. The economic and financial wreckage from the crisis is still being cleared away.

The Asian crisis was a *financial* crisis, one involving lending and borrowing, banking systems and financial markets. Social accountants who wish to track or analyze such a crisis would do well to start with the Flow-of-Funds (FOF) accounts.[1] The FOF accounts—unlike the System of National Accounts—were originally designed for analysis of the financial system. In these accounts key financial variables can be observed embedded in a system of social accounts. Sector financing and financial market operation can be analyzed. And the intersectoral impact of borrowing and lending flows can be traced.

This paper has two objectives. The first is to demonstrate a new method of deriving FOF accounts from published financial data, a method that is simple and that can produce quarterly FOF data for many of the countries of the world. To this end we will present worksheets for Thailand which would permit the reader to duplicate our figures. The second objective is to demonstrate FOF analysis with an investigation of the 1996–97 financial crisis in Thailand. This analysis will stand in contrast to a background historical sketch of the crisis as it occurred in

*Correspondence to: John Dawson, Department of Economics, Grinnell College, Box 805, Grinnell, IA 50112, USA (DAWSON@Grinnell.edu).

[1]The Flow-of-Funds accounts (or National Financial Accounts) correspond to a combination of the capital and financial accounts of the 1993 SNA (United Nations, 1993). The earlier term is used here because the classification of financial transactions will follow earlier flow-of-funds usage.

Thailand, Malaysia, Indonesia, and Korea—the most deeply affected economies. We will begin with this background sketch.

Tobin's Memoriam to Richard Ruggles (Tobin, 2001) speaks of his lifelong love "to mobilize facts for research and to figure out how best to find and display their messages." This is nowhere more in evidence than in Richard and Nancy's 1982 modification and extension of the then existing U.S. national income and product accounts (Ruggles and Ruggles, 1982). In particular they felt it essential to carry the framework through the financial flows to the sector balance sheets. The present paper can be seen as a similar effort. It rearranges the I.M.F's existing financial accounts into an FOF matrix to mobilize them for analysis more effectively. It tries to follow in Richard's and Nancy's footsteps.[2]

1. A Historical Sketch of the East Asian Crisis[3]

1.1. *The Asian "Miracle"*

The early 1990s was a period of unprecedented prosperity for the countries of East Asia.[4] Their steady, real GDP growth rates of some 8 percent per year had put them on the economic map. This leap forward was the result of two major forces. The first was a shift to an export oriented strategy, one that followed in the path of Hong Kong and Singapore. This strategy was implemented by a widespread "capital account liberalization"—a major deregulation effort lowering trade and foreign investment barriers, liberalizing domestic financial markets, and permitting free private access to foreign exchange. The international response was an extraordinary flow of private capital directed to East Asia, largely loans to banks and financial institutions. Accompanying this was an also extraordinary growth in East Asian exports of some 25 percent per year. Real Investment in these countries rose to nearly 40 percent of GDP. And the resulting economic growth spread widely to improve the level of living in East Asia.

On the whole these developments were regarded as healthy ones at the time. It is true that the export growth was accompanied by an even more rapid growth of imports so that balance of payments current account deficits edged up toward 6–8 percent of GDP in the mid 1990s. But these deficits seemed to be sustainable. They were not driven by fiscal deficits or monetary expansion as in a number of preceding crises. Foreign debt looked manageable. Inflation was low—some 4–8 percent. Exchange rates were firmly tied to the dollar. The situation looked safe.

1.2. *The Run-up to the Crisis*

The case has been made—somewhat in retrospect—that during the mid 1990s the East Asian economies were developing some basic weaknesses. One concern

[2]Over the years Richard was a warm, personal supporter of my FOF work. In 1995 during the preparation of my *Flow-of-Funds Analysis* (Dawson, 1996a) he wrote me: "The book is very much needed—the flow of funds is a neglected topic and is of growing importance in economic systems with new kinds of financial arrangements and institutions."

[3]This sketch was assembled from sources listed in the References.

[4]For the purposes of this paper we will consider this group as: Thailand, Malaysia, Indonesia and Korea.

was the sustainability of the current account deficits at a moderate level. Real exchange rates—the nominal rates adjusted for domestic and foreign inflation—had been rising moderately,[5] suggesting some decline in competitiveness. And in 1996 export growth fell in all four countries.

A second strand of the fundamental weakness case concerns the quality of the extraordinary investment levels in the East Asian countries. The productivity and profitability of this investment have been called into question. Speculative real estate projects were prominent in Malaysia and Indonesia and among the swiftly growing finance companies in Thailand. Considerable bank lending went to finance stock purchases. These indications suggest vulnerability by 1996.

However, despite the evidence for these weaknesses, there is little doubt that the key problems leading to the Asian crises relate instead to the nature of the capital flows into Asia in the 1990–96 period and the setting into which they flowed.

1.3. *Development of Financial Fragility*

By the mid 1990s the East Asian financial systems had come to be in a weakened state. To account for this we turn first to the capital account liberalization of the early 1990s, when many restrictions on private banking were removed. East Asian banks and firms were now able to borrow directly from international lenders, at the time eager to lend. The result was a major inflow of short-term bank borrowing. And with the easy credit conditions created by deregulation—such as reductions in bank required reserves—domestic bank lending grew dramatically. In short, the capital inflows fueled domestic credit booms.

The banking arrangements were closely related to the exchange rate regimes of these countries. Their currencies had for some time been tied to the dollar and there was firm confidence that these exchange rates would continue. Consequently, most of the borrowing was unhedged, the borrowers implicitly accepting the risk of any adverse change in the exchange rate. Finally, although the growth in foreign exchange reserves had been kept appropriate relative to imports (the traditional standard of adequacy), the reserves were far too small viewing the risk in relation to foreign short-term debt.

The credit boom of the 1990s had left many Asian banks in a most unhealthy position. They had both liquidity and currency mismatches. That is, they had inadequate short-term assets to cover short-term liabilities, and they had inadequate dollar or yen resources to cover dollar or yen liabilities. The latter problem could be managed only so long as dollars could be obtained at the existing fixed exchange rate. In addition bank supervision remained very weak. Over time nonperforming loans had risen to 15–35 percent of bank portfolios—although this was concealed. There was a prevailing sense that governments would not allow banks to fail, a sense that did not encourage prudential management.

This combination of forces left East Asian financial systems in a very fragile state. They were vulnerable to any need to repay their massive short-term foreign debt. And their systems of fixed exchange rates were hostage to possible fears of devaluation and the consequent withdrawal of foreign funds.

[5]Korea is an exception. With its more flexible exchange rate policy it was able to avoid the real appreciation.

1.4. *Panic and Downturn*

During 1996 a crisis of confidence developed among international lenders regarding the continued growth of the East Asian economies. Unquestionably the key concern—especially for lending financial institutions—was the size of East Asian short-term foreign debt relative to their foreign exchange reserves. Some lenders no doubt decided to reduce their exposure to the more troubled East Asian countries.

In Thailand financial institutions in difficulty were receiving major central bank support by early 1997. Then during that spring the Thai currency—the baht—came under heavy speculative attack and usable international reserves were exhausted. On July 2 the Bank of Thailand was forced to float the baht. Its value fell shortly by some 30 percent.

The devaluation of the baht was the trigger for a general crisis. Panic among creditors spread throughout. Short-term lenders refused to roll over the credit they had extended and new credit lines were also refused. The withdrawal of capital put intense pressure on exchange rates and by fall both Indonesia and Malaysia—after using reserves in a futile defense of their exchange rates—devalued. And in October so also did Korea.

The successive devaluations had crushing effects on East Asian financial systems. All debts denominated in dollars or yen were now greatly magnified. Interest rates rose. Many firms—often highly leveraged—were unable to pay debts even in local currency. For banks the volume of nonperforming loans escalated. And many were at the mercy of the foreign lenders who were insisting on repayment of the ever increasing short-term debt. In the already weakened positions of the banks these events were overwhelming.

Of course, the International Monetary Fund was called upon for help.[6] Some $100 billion in emergency funding was provided, much of it going to bail out international lenders. But the associated policies imposed by the Fund were of uncertain help. In the circumstances, tight monetary and fiscal policies and immediate, radical restructuring of financial markets turned out to be the wrong medicine. Fund programs did not quickly restore confidence, and exchange rates continued their decline in 1997 and 1998.

The wave of private capital flowing into East Asia had reversed itself in 1997. The $93 billion inflow to these countries[7] in 1996 had become an outflow of 12 in 1997. In each country the crisis led to a major economic downturn. From long-standing real GDP growth rates of 8 percent the GDP *fell* in 1998 by 14 percent in Indonesia, by 7 percent in Malaysia, by 6 percent in Korea, and by 8 percent in Thailand.

2. Flow-of-Funds Accounts for Thailand

For many countries the International Financial Statistics (International Monetary Fund, monthly) presents a number of accounts commonly used in financial analysis, e.g. the balance of payments, the banking sectors, the government sector.

[6]Malaysia did not seek help from the Fund.
[7]The flow cited here includes the Philippines.

These accounts can be arranged into a simple FOF system, each sector dealing in a common set of financial instruments. This FOF assembly provides a number of analytical advantages not available with the individual sector accounts. It provides, via the FOF matrix, an integrated view of the financial system as a whole. It facilitates the tracing of financial flows from sector to sector. And it permits the derivation of the private sector account, which provides an analysis of how private capital formation is financed. We will illustrate these uses in the analysis of the crisis for Thailand.

Tables 1 through 7 are a set of worksheets that derive these FOF accounts for Thailand for the years 1994 to 1997 that lead up to the crisis, and for the four quarters of 1997, the year of the crisis. Except for a few figures from *Government Finance Statistics 1998* (International Monetary Fund, annual) the data were all obtained from the March 1999 issue of *International Financial Statistics*.[8] The line references in the Source column on each worksheet carry the data back to the published figures. The worksheets are in the form of sector sources (S) and uses (U) of funds accounts, each headed by a sector's gross capital formation (U), gross saving (S), and surplus/deficit (U/S). Then each sector's surplus/deficit is analyzed into five financial market flows: foreign claims, interbank claims, central government debt, private credit, and money and quasi-money. Finally, the flows for 1996—the high water mark of the 1990s—are assembled into a separate matrix format which is Table 8. These tables will be the foundation for the analysis that follows.

3. A Flow-of-Funds Analysis of the Crisis in Thailand

3.1. *The Setting, 1996*

The Thai economy shared in the rapid growth rate of East Asia in the early 1990s, its real GDP growing at faster than 8 percent per year. This growth was powered by an even more rapid growth in real investment and exports. The year 1996 may be taken as the peak of this investment and export boom which in current baht terms is reflected on the Flow-of-Funds Matrix for 1996 (Table 8).

The 1996 gross capital formation of 1923[9] (Table 8, line 2) is 42 percent of GDP (Table 7, line 25), a very high ratio by any standard. As we shall explore by means of the matrix, this high level of real investment is financed by three means: first, a high domestic savings rate; second, a major capital inflow from abroad; and third, an extraordinary domestic boom in private credit.

To trace the inflow of capital from abroad we refer to the rest-of-world account on the matrix and to the breakdown in the placement of its surplus, 372 (Table 8, line 6).[10] There are two main inflows from abroad: (1) a private credit flow of 352 (line 27[11]) received by the private sector and (2) a foreign claims flow of 74 (line 12) received by the deposit money banks. The second of these flows becomes embedded in the intermediary process of the banking system and the domestic private credit boom which we now consider.

[8]These publications are referred to in the worksheets as GFS and IFS.
[9]Unless otherwise indicated data are expressed in billions of baht.
[10]This surplus is the Thai current account deficit as viewed from a rest-of-world perspective.
[11]Except as noted, line references are to Table 8.

During the 1990s the flow of private credit from the deposit money banks had grown rapidly, reaching a peak of 855 in 1995 (Table 4, line 24). In 1996 the banks continued to advance a noteworthy volume of private credit, 602 (Table 8, line 27). They were able to continue to respond to the growth in credit demand as the monetary authorities continued the rapid expansion in bank reserves of 49 (Table 8, line 17). The large growth in money and (especially) quasi-money of 392 (line 29) was the source of funds in the banking sector account for two-thirds of the private credit extension. But the banking sector was able to advance to the private sector much more than its deposit expansion, partly by means of its foreign borrowing, 85 (line 12), but also by a drawdown of foreign assets, −56 (line 11), and a reduction of its net holding of government debt, −59 (line 19). So, all told, a private credit total of 602 is provided (line 27). Together with the inflow of private credit from abroad, the private sector obtains the very substantial total of 964 in private credit (line 27).

We are now in a position to see how the private sector financed its large 1996 gross capital formation, 1684 (Table 8, line 2), and the role played by the large volume of private saving, 1258 (line 4). It is probable that this saving is the main source for household and business accumulation of cash balances, 413 (line 29). So perhaps about 800 of saving remained available as business internal funds to finance about half of the private gross capital formation. Of the 964 in private credit received by the private sector (line 27), probably some 900 went to finance the other half of the capital formation. About a third of this private credit came from abroad and about two-thirds from the banks (line 27). Here we see the sizeable contribution of the private credit boom to capital formation.

Before moving on we pause to briefly observe the monetary and fiscal policy stance. Fiscal policy was considered quite tight as indicated by the government surplus of 53 (Table 8, line 6)—although the 1996 surplus was smaller than those in 1994 and 1995 (Table 1, line 11). With regard to monetary policy, interest rates had been moderately raised in 1995 but fluctuated widely through 1996. However, as we noted on the matrix (Table 8) a large expansion in bank reserves (line 17) facilitated the very large expansion in money and quasi-money by the deposit money banks of 392 (line 29). The monetary authorities also extended credits of 25 (line 26) to nonbank financial institutions. These signs indicate a rather easy monetary policy in fact—whatever the public stance of the monetary authorities.

3.2. *Matters of Concern*

As we have seen, the 1996 credit boom involved a large credit inflow from the rest-of-world. This inflow had been large for several previous years, reaching a peak flow in 1995 of 613 baht (Table 2, lines 16 + 23). Each year's flow, of course, added to the external debt *level*, and this large external debt level should have become a matter of concern. To estimate the size of debt *levels* we must turn to sources beyond the flow-of-funds accounts.[12] The private external debt level of

[12]The major sources are the World Bank, Global Development Reports (The World Bank, annual), the Thailand Country Reports of the I.M.F. (International Monetary Fund, 1999), and the reports of the Bank for International Settlements (Bank for International Settlements, 1998). These sources break down the total debt by maturity and sector.

Thailand at the end of 1996 was about 85 billion dollars or 2200 billion baht—about half of the GDP (Table 7, line 25). A worrisome aspect of this debt—apart from its size—was the fact that 44 percent of it was short-term, and most of this was owed by banks and finance companies. The Thai borrowers, no doubt, expected that this short-term debt could, if necessary, be rolled over. And they were confident that dollar- or yen-denominated loans would be payable at the fixed exchange rate of 25 baht to the dollar. On the other hand, if lenders should insist on repayment, the ultimate Thai resource would be the foreign reserves of the monetary authorities, some 989 (IFS, line 11). The short-term debt was about to exceed the level of such reserves.

Our analysis has brought us to the heart of the financial fragility situation—short-term foreign debt—noted in the above historical sketch. On the other hand there are aspects of financial fragility which we have not touched upon: the problem of bank loan quality (e.g. nonperforming loans), risk exposure (e.g. credit to real estate and equities), the role of shaky finance companies, and the quality of bank supervision and regulation. To identify these qualitative and institutional aspects of the situation would require a more detailed exploration of the behavior of the banking system going beyond the flow-of-funds accounts.

As a second area of concern we explore the evidence in the accounts that 1996 is the peak year in the Thai growth path of the 1990s. Gross capital formation, having accelerated from 7 percent growth in 1992 to 19 percent in 1995 (Table 6, line 4), grew only 8 percent in 1996. Secondly, the balance of payments current account deficit, which had been running between −5 percent and −6 percent of GDP during 1992–94, rose to −8 percent in 1995 and 1996 (Table 2, line 2 and Table 7, line 25). Lying behind this somewhat disturbing shift is a sudden 1996 halt in the rapid export growth (Table 2, line 38) and a deceleration but nevertheless continued growth in imports (Table 2, line 39). This was an ominous sign indeed for an economy in which export growth was driving rapid capital formation. The halt in export growth would suggest moving beyond the flow-of-funds accounts to investigate related matters such as the real appreciation of the baht (movements in the real effective exchange rate), deterioration in Thai competitiveness, and excess capacity in particular export lines.

3.3. *The Crisis*

The start of the Thai financial crisis is formally marked as July 2, 1997, the day the baht was floated and devaluation began. Analysis of the lead-up to the crisis must include the first half of the year; analysis of the aftermath of the crisis must begin with the third quarter of 1997. Because of this mid-year reversal, the financial flows for the year as a whole are a mixed bag, not useful for our analysis. We need quarterly data and, fortunately, they are available.[13]

[13]With certain exceptions, the quarterly data are derived using the same worksheets and IFS source lines as the annual data. The exceptions are the foreign claim flows for the Monetary Authorities and deposit money banks. For 1997 the balance sheet changes for international items for these sectors contain large valuation changes (due to devaluation) as well as the market transactions, so balance sheet changes cannot be used to estimate the market flows. Instead, international flows in dollars are derived from the International Liquidity section of IFS and are then converted directly into baht flows (using the quarterly average baht per dollar, IFS rf) to provide rough alternative estimates.

The immediate cause of the float was the exhaustion of international reserves with which to defend the fixed exchange rate. This process can be observed on Table 3, line 11. As the baht came under attack in 1Q97 these reserves start to decline. The major decline in 2Q97 of −148 corresponds with heavy intervention in the foreign exchange markets. By mid-year, although a balance of 832 (about 30 billion dollars) apparently remains, it became known that this balance was almost entirely unavailable, having been committed to forward market contracts. Without available resources to intervene, the Bank of Thailand was forced to free the price of the baht.

The key development of the crisis was the sudden cessation and reversal of the private capital inflow into Thailand. This is most immediately seen in the decline in rest-of-world saving (Table 2, line 2)—the movement of the Thai balance of payments away from current account deficit into surplus. Rest-of-world saving drops in 3Q97 and becomes heavily negative in 4Q97.[14] The reversal of the financial flows themselves can be observed by moving forward in time from the major 1996 inflows that were identified on the matrix. The private credit inflow of 352 (Table 2, line 23) has already become negative in the first half of 1997, –23 in 1Q97 and –24 in 2Q97.[15] The inflow to the banks of 74 in 1996 (Table 2, line 16) continues at 71 in the 1Q97 but collapses to 1 in 2Q97 and is negative thereafter.

The advance of the crisis generates great stress in private sector financing. Its saving declines in 1Q97 (Table 6, line 7) and sharply in the 2Q97. And by then it is using its saving largely to accumulate cash (Table 7, line 1). The sector needs external funds to finance its capital formation (Table 6, line 2). Yet its credit flow from abroad has been cut off (Table 6, line 39) and in 2Q97 so also is the flow from domestic banks (Table 6, line 38). Only the flow of nonbank financial institution credit—supported by the monetary authorities—remains (Table 6, line 29). We are left to guess what lies behind the major shift to miscellaneous sources in 2Q97 (Table 7, line 11). Strangely, the private sector's *in extremis* situation recovers sharply in 3Q97 and 4Q97 with a massive new flow of private credit from the banks (Table 6, line 38), some 778 over the two quarters. But we remain suspicious of the health of this credit flow, an issue to which we shall return.

Already in early 1997 the precarious situation of the Thai finance companies had surfaced. The monetary authorities provided some 366 in credit to them, starting in 1Q97 (Table 3, line 28). The total was nearly a quarter of the finance companies' entire portfolio (IFS, 42df and 46gf). Yet the authorities apparently did not accompany this major gift of support with any movement toward financial reform.

With the advent of official I.M.F. support starting in August 1997, the monetary authorities had the resources to help the stricken banks—and chose to do so. Credit was extended to the banks (Table 4, line 16), which permitted major settlements of their foreign liabilities, –270 in 3Q97 and –152 in 4Q97 (Table 4, line 12). And despite reductions in bank reserves (Table 4, line 17), private credit extension (Table 4, line 27) revives from –16 in 2Q97 to 376 in 3Q97 and 403 in 4Q97. In this light, the private credit expansion has the look of a policy of allowing borrowers in trouble not to repay, of extending further credit according to need rather than the possibilities of repayment.

[14]These movements are accentuated by being measured in the devalued baht. In billions of dollars the rest-of-world saving is: 3.1 in 2Q97, 0.7 in 3Q97, and –2.9 in 4Q97.

[15]These quarterly flows should be multiplied by 4 to make comparison with the annual figures.

During the second half of 1997 the fragility of the entire financial system became apparent. With the devaluation, rising interest rates, and the necessity of repaying the enormous foreign debt, we know that the Thai banking system was in a state of disarray and collapse. It must be admitted that the flow-of-funds accounts would need considerable supplementation for a proper examination of this state of the Thai banking system—a path that would lead to a detailed analysis of the balance sheet of the sector to consider the quality of its assets, the adequacy of its capital, and the many institutional aspects of bank supervision.

Nevertheless, our accounts do indicate that private sector financing was greatly helped in getting through 1997 by the expanded flow of bank credit (Table 6, line 38). This private credit plus the increases in private saving (Table 6, line 7) enabled the private sector to continue to finance its current level of investment expenditures (Table 6, line 2). The policy of credit ease pursued by the monetary authorities seems to have had its justification.

3.4. *Conclusion*

The aim of this flow-of-funds analysis for Thailand has been to illustrate the type of financial analysis made available with these accounts and to have it stand in contrast to other forms of financial analysis as illustrated by the opening historical sketch of the East Asian crisis. What we gain initially is the quantitative overview of the whole financial system as seen in the flow-of-funds matrix. We were then able to trace the inflow of capital partly directly to the private sector and partly indirectly via the banking sector and its extension of domestic credit. These sources together with private domestic saving were seen to finance the huge capital formation of 1996. Then in the first half of 1997 we observed these flows decline and reverse themselves with the withdrawal of capital in the crisis.

What the analysis allows us to judge are those causal forces that are reflected in financial market flows. As we have seen, much of the main Thai action during the crisis is so reflected. What a flow-of-funds analysis does not pick up (at least at first glance) are causal forces that may operate through price effects such as interest rates or through institutional impact such as bank supervision. But even here the flows provide clues that suggest further investigation beyond the accounts. The case for an initial exploratory flow-of-funds analysis seems strong.[16]

Had current flow-of-funds data been available to a Thai policy analyst in 1997, the analyst could have done an analysis quite similar to ours, which might well have helped in understanding the then current financial situation. Unfortunately, current quarterly flow-of-funds data were not available to the Thai policy analysts in 1997; quarterly data existed but the data were far from current. Up to date accounts would surely have helped their work. And the process of estimating up to date FOF accounts is itself a process of discovering the current financial situation using the FOF framework.

Current economic policy analysis is not an easy task. It deserves the best possible support in the form of currently reported social accounts. And among these should be current FOF accounts.

[16]The case made here is for the effectiveness of a FOF analysis using data now being published. Additional data—e.g. data on currency denomination, asset revaluations, derivatives, and especially more stock data—could no doubt add power to the analysis.

TABLE 1

THAILAND FOF K1; CENTRAL GOV'T (BILLIONS OF BAHT)

		Source	1994	1995	1996	1997	1Q97	2Q97	3Q97	4Q97
1	Central gov't									
2										
3	Gross capital formation	5–6	177.4	204.9	239.1	334.5	91.8[e]	90.8[e]	80.9[e]	70.9[e]
4										
5	Capital expenditure, total	GFS C II[1]	191.0	228.1	272.7	371.1	101.0[e]	100.0[e]	90.0[e]	80.0[e]
6	Capital transfers	GFS C II 7[1]	13.6	23.2	33.6	36.6	9.2[e]	9.2[e]	9.1[e]	9.1[e]
7										
8	Gross saving	3+11	291.0	340.5	292.3	333.1	92.7	125.7	65.9	48.7
9										
10										
11	Surplus/deficit	13+14	113.6	135.6	53.2	–1.4	0.9	34.9	–15.0	–22.2
12										
13	Deficit (–) or surplus	IFS 80	101.2	135.0	43.3	–15.1	–1.6	32.4	–19.2	–26.7
14	Lending minus repayments	IFS 83 or GFS C V[1]	12.4	0.6	9.9	13.7	2.5[e]	2.5[e]	4.2[e]	4.5[e]
15										
16	Memo: deficit/surplus	GFS II (see 13)[1]	67.4	123.1	108.2	–42.0				
17										
18										
19	Δ Central Gov't debt, net source	21 + 22 – 23 or 24 – 23	–101.3	–135.0	–43.3	15.1	1.6	–32.4	19.1	26.7
20										
21	Net borrowing: foreign	IFS 85a	7.5[2]	7.5[2]	–3.7	–3.8	–0.6	–0.3	–2.0	–0.8
22	Net borrowing: domestic	IFS 84a	–108.8	–51.6[3]	–25.1	–72.3	–43.4	–15.0	–2.7	–11.3
23	Δ Cen gov't deposits, asset	(IFS 86 + IFS 87) reverse sign	21.2	90.8	14.5	–91.2	–45.6	17.1	–23.8	–38.8
24	Δ Claims on cen. gov't, lia	21 + 22	–80.1	–44.1	–28.8	–76.1	–44.0	–15.3	–4.7	–12.1
25										
26	Δ Private credit, use	IFS 83 or GFS C V[1]	12.4	0.6	9.9	13.7	2.5[e]	2.5[e]	4.2[e]	4.5[e]
27										
28										
29										
30	Δ Misc. and discrep source	residual	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31										
32										
33	Total uses	3 + 26	189.8	207.4	248.8	252.0	94.3	93.3	85.1	75.4
34	Total sources	8 + 19 + 30	189.7	207.4	248.8	252.0	94.3	93.3	85.0	75.4
35										
36										
37										
38										
39										
40										

Notes: [e]Extrapolation.
[1]Fiscal year ending Sept 30.
[2]GFS 13.
[3]Residual estimate.

TABLE 2

THAILAND FOF K2; REST OF WORLD (BILLIONS OF BAHT)

		Source	1994.0	1995	1996	1997	1Q97	2Q97	3Q97	4Q97
1	Rest of world									
2	Gross saving[2]	IFS 78 ald*ExR[1], reverse sign	203.3	337.7	372.3	94.8	54.3	81.2	23.0	–118.2
3										
4	Surplus/deficit	2	203.3	337.7	372.3	94.8	54.3	81.2	23.0	–118.2
5										
6										
7	Δ Foreign claims, net sources	9–14	–228.8	–82.7	–88.1	–87.6	–90.0	–71.5	–40.5	146.0
8										
9	Rest of world sources	10+11+12	130.7	246.6	–14.4	–250.0	0.5	–158.3	–52.0	–38.6
10	Mon. auth. res	IFS 79 dbd*ExR, reverse sign	104.9	178.4	55.1	–297.4	–2.5	–152.4	–64.5	–79.8
11	Mon. auth. other invmt assets	IFS 78 bod*ExR, reverse sign	–	–	–	–	–	–	–	–
12	Banks, other invmt assets	IFS 78 bqd*ExR, reverse sign	25.8	68.2	–69.5	47.4	3.0	–5.9	12.5	41.2
13										
14	Rest of world uses	15+16	359.5	329.3	73.7	–162.4	90.5	–86.8	–11.5	–184.6
15	Mon. auth. other invmt lia, nie	IFS 78 (78 bsd+79 dcd+79 ded)*ExR	–	–	–	–18.1	19.9	–87.4	95.4	–57.5
16	Banks, other invmt lia, nie	IFS 78 bud*ExR	359.5	329.3	73.7	–144.3	70.6	0.6	–106.9	–127.1
17										
18	Δ Central gov't debt (R of W use)	20+21	–17.7	1.1	–1.5	16.4	–	2.0	14.8	–
19										
20	Gen gov't, other invmt assets	IFS 78 bpd*ExR	–	–	–	–	–	–	–	–
21	Gen gov't, other invmt lia	IFS 78 btd*ExR	–17.7	1.1	–1.5	16.4	–	2.0	14.8	–
22										
23	Δ Private credit (R of W use)	25+26+27	–9.9	283.5	352.1	–61.5	–23.2	–24.2	–25.8	26.5
24										
25	Dir. invmt in rep econ, net	IFS (78 bed+78 bdd)*ExR	22.0	29.4	35.6	104.9	13.9	7.5	49.6	41.3
26	Portfolio invmt lia, net	IFS (78 bgd+78 bfd)*ExR	62.4	101.7	89.8	136.8	4.3	43.7	68.1	18.1
27	Other sectors, other inv. lia nie, net	IFS (78 bvd+78 brd)*ExR	–94.3	152.4	226.7	–303.2	–41.4	–75.4	–143.5	–32.9
28										
29	Δ Misc. and discrep uses	31+32	2.2	–29.8	–66.6	52.3	–12.6	31.9	–6.4	1.3
30										
31	Net errors and ommissions	IFS 78 cad*ExR	2.2	–29.8	–66.6	52.3[3]	–12.6	31.9	–6.4	1.3
32	Capital account, nie	IFS 78 bcd*ExR	–	–	–	–	–	–	–	–
33										
34										
35	Total uses	18+23+29	–25.4	254.8	284.0	7.2	–35.8	9.7	–17.4	27.8
36	Total sources	2+7	–25.5	255.0	284.2	7.2	–35.7	9.7	–17.5	27.8
37										
38	Memo: Thai. exports, goods, f.o.b.	IFS 78 aad	1119.0	1381.0	1379.0	1777.0	353.0	354.0	479.0	605.0
39	Thai. imports, goods, f.o.b.	IFS 78 abd	–1212.0	–1580.0	–1619.0	–1728.0	–391.0	–391.0	–455.0	–451.0
40	Thai. trade balance	IFS 78 acd	–94.0	–198.0	–240.0	49.0	–38.0	–37.0	23.0	153.0
	Exchange rates[1]		25.150	24.915	25.343	31.364	25.862	25.900	33.034	40.662

Notes: [1]Exchange rate in baht per dollar, period average. Source: IFS rf.
[2]Thai Balance of Payments, current account deficit, sign reversed.
[3]Adjusted for currency conversion inconsistencies.

TABLE 3

THAILAND FOF K3; MONETARY AUTHORITIES (BILLIONS OF BAHT)

		Source	1994	1995	1996	1997	1Q97	2Q97	3Q97	4Q97
1	Monetary authorities:									
2	Gross capital formation	(n.a. in IFS)	–	–	–	–	–	–	–	–
3										
4	Gross saving	(n.a. in IFS)	–	–	–	–	–	–	–	–
5										
6	Surplus/deficit	(n.a. in IFS)	–	–	–	–	–	–	–	–
7										
8										
9	Δ Foreign claims, net asset	11–12	110.0	170.7	59.1	–535.5	–16.2	–148.1	–183.6	–175.7
10										
11	Δ Mon auth, foreign assets	IFS 11[1]	109.9	170.7	59.1	–360.5	–16.2	–148.1	–90.3	–98.6
12	Δ Mon auth, foreign lia	IFS 16c[1]	–0.1	–	–	175.0	0.0	0.0	93.5	77.1
13										
14	Δ Interbank claims, net source	17–16	14.5	31.2	24.7	–224.8	37.5	38.2	–173.8	–126.7
15										
16	Δ Mon auth, claims on DMB	IFS i2e	–6.1	1.1	9.7	267.6	–2.8	7.6	137.5	125.3
17	Δ Mon auth, bank reserve lia	18–19	8.4	32.3	34.4	42.8	34.7	45.8	–36.3	–1.4
18	Δ Reserve money	IFS 14	41.8	74.4	54.6	72.5	27.4	32.7	–24.0	36.4
19	Δ Curr outside DMB	IFS 14a	33.4	42.1	20.2	29.7	–7.3	–13.1	12.3	37.8
20										
21	Δ Central gov't debt, net use	23–24	–40.3	–82.1	–9.0	42.9	38.9	–23.1	28.9	–1.8
22										
23	Δ Claims on central gov't	IFS 12a	–18.2	10.6	4.2	–15.5	–5.0	–8.0	5.8	–8.3
24	Δ Cen. gov't deposits	IFS 16d	22.1	92.7	13.2	–58.4	–43.9	15.1	–23.1	–6.5
25										
26	Δ Private credit, net uses	28	7.8	5.8	25.3	365.7	106.7	152.3	106.5	0.2
27										
28	Δ Claims on nonbank fin. insti.	IFS 12f	7.8	5.8	25.3	365.7	106.7	152.3	106.5	0.2
29										
30	Δ Money and quasi-money, source	32	33.4	42.1	20.2	29.7	–7.3	–13.1	12.3	37.8
31										
32	Δ Currency lia	IFS 14a	33.4	42.1	20.2	29.7	–7.3	–13.1	12.3	37.8
33										
34	Δ Misc. and discrepancy sources	36+37[2]	29.7	21.2	30.4	68.4	99.3	–43.9	113.2	–88.3
35										
36	Δ Mon auth, capital accounts	IFS 17a	27.3	28.5	36.8	429.4	–2.0	16.2	247.8	167.4
37	Δ Mon auth, other items, net lia	IFS 17r	2.4	–7.3	–6.4	118.1	114.3	–66.1	129.4	–59.5
38										
39	Total uses	9+21+26	77.5	94.4	75.4	–126.9	129.4	–18.9	–48.2	–177.3
40	Total sources	14+30+34	77.6	94.5	75.3	–126.7	129.5	–18.8	–48.3	–177.2

Notes: [1]1997 flows are special estimates derived from the International Liquidity section of IFS. Dollar flow figures calculated from that section are converted directly into baht flows for the 1997 flow estimates.

[2]1997 discrepancies are adjusted to balance the special 1997 estimates of foreign claims.

TABLE 4

THAILAND FOF K4; DEPOSIT MONEY BANKS (BILLIONS OF BAHT)

		Source	1994	1995	1996	1997	1Q97	2Q97	3Q97	4Q97
1	Deposit money banks									
2	Gross capital formation	(n.a. in IFS)	–	–	–	–	–	–	–	–
3										
4	Gross saving	(n.a. in IFS)	–	–	–	–	–	–	–	–
5										
6	Surplus/deficit	(n.a. in IFS)	–	–	–	–	–	–	–	–
7										
8										
9	Δ Foreign claims, net asset	11–12	–416.0	–317.3	–141.1	410.2	–62.8	18.1	294.3	171.9
10										
11	Δ DMB, foreign assets	IFS 21[1]	11.6	66.8	–55.9	96.7	7.6	36.9	24.3	19.5
12	Δ DMB, foreign lia	IFS 26c[1]	427.6	384.1	85.2	–313.5	70.4	18.8	–270.0	–152.4
13										
14	Δ Interbank claims, net use	17–16	13.7	37.1	39.1	–234.0	33.4	41.5	–174.2	–134.7
15										
16	Δ DMB, credit from mon, auth, lia	IFS 26g	–7.5	1.0	9.9	271.8	–3.3	7.7	144.9	122.5
17	Δ DMB, reserves, assets	IFS 20	6.2	38.1	49.0	37.8	30.1	49.2	–29.3	–12.2
18										
19	Δ Central gov't debt, net use	21–22	–44.1	–23.9	–59.2	–5.3	–12.7	5.7	6.0	–4.3
20										
21	Δ Claims on central gov't	IFS 22a	–14.3	–10.9	–16.6	7.1	–0.8	–0.9	3.6	5.2
22	Δ Cen. gov't deposits	IFS 26d	29.8	13.0	42.6	12.4	11.9	–6.6	–2.4	9.5
23										
24	Δ Private credit, net uses	26+27	816.7	854.7	602.9	1039.8	158.2	15.5	452.8	413.3
25										
26	Δ Claims on nonbank fin. insti.	IFS 22f	31.4	55.4	0.5	124.3	5.7	31.4	76.9	10.3
27	Δ DMB other claims on pri. sector	IFS 22 (c+d)	785.3	799.3	602.4	915.5	152.5	–15.9	375.9	403.0
28										
29										
30	Money and quasi-money, source	32+33	286.0	437.2	392.5	588.1	80.0	172.3	198.6	137.2
31										
32	Δ DMB demand dep. lia	IFS 24	13.9	–0.1	11.8	–19.5	–1.1	–5.3	–5.4	–7.7
33	Δ DMB time, savings, etc lia	IFS 25	272.1	439.3	380.7	607.6	81.1	177.6	204.0	144.9
34										
35	Δ Misc and discrepancy source	37+38[2]	84.3	113.5	49.3	622.4	35.8	-91.3	380.2	309.0
36										
37	Δ DMB capital accounts	IFS 27a	84.0	88.6	114.9	30.3	0.5	13.1	17.4	–0.7
38	Δ DMB other items, net	IFS 27r	0.3	24.9	–65.6	–182.7	20.0	–96.6	–72.8	–33.3
39										
40	Total uses	9+14+19+24	370.3	550.6	441.7	1210.7	116.1	80.8	578.9	446.2
	Total sources	30+35	370.3	550.7	441.8	1210.5	115.8	81.0	578.8	446.2

Notes: [1]1997 flows are special estimates derived from the International Liquidity section of IFS. Dollar flow figures calculated from that section are converted directly into baht flows for the 1997 flow estimates.

[2]1997 discrepancies are adjusted to balance the special 1997 estimates of foreign claims.

TABLE 5

THAILAND FOF K5; DISCREPANCY ESTIMATES (BILLIONS OF BAHT)

		Source	1994	1995	1996	1997	1Q97	2Q97	3Q97	4Q97
1	Δ Foreign claims, discrepancy source, net	3+8	–77.2	–63.9	6.1	–37.7	11.0	–58.5	151.0	–149.8
2										
3	Δ Foreign assets, discrep source	4+5–6	–9.2	–9.1	17.6	–13.8	–9.1	47.1	–14.0	–40.5
4	Mon auth, Δ foreign assets	K3/11	109.9	170.7	59.1	–360.5	–16.2	–148.1	–90.3	–98.6
5	DMB Δ foreign assets	K4/11	11.6	66.8	–55.9	96.7	7.6	36.9	24.3	19.5
6	Rest of world, Δ foreign lia	K2/9	130.7	246.6	–14.4	–250.0	0.5	–158.3	–52.0	–38.6
7										
8	Δ Foreign liabilities, discrep source	11–9–10	–68.0	–54.8	–11.5	–23.9	20.1	–105.6	165.0	–109.3
9	Mon auth, Δ foreign lia	K3/12	–0.1	–	–	175.0	0.0	0.0	93.5	77.1
10	DMB, Δ foreign lia	K4/12	427.6	384.1	85.2	–313.5	70.4	18.8	–270.0	–152.4
11	Rest of world, Δ foreign assets	K2/14	359.5	329.3	73.7	–162.4	90.5	–86.8	–11.5	–184.6
12										
13	Δ Interbank claims, discrepancy source	15+19	–0.8	5.9	14.4	–9.2	–4.1	3.3	–0.4	–8.0
14										
15	Δ Mon auth, credit to DMB, discrep source	16–17	1.4	0.1	–0.2	–4.2	0.5	–0.1	–7.4	2.8
16	Mon auth, credit to DMB, mon auth use	K3/16	–6.1	1.1	9.7	267.6	–2.8	7.6	137.5	125.3
17	DMB, credit from mon auth, source	K4/16	–7.5	1.0	9.9	271.8	–3.3	7.7	144.9	122.5
18										
19	Δ Bank reserves, discrep source	21–20	–2.2	5.8	14.6	–5.0	–4.6	3.4	7.0	–10.8
20	Mon auth, bank reserves, mon auth source	K3/17	8.4	32.3	34.4	42.8	34.7	45.8	–36.3	–1.4
21	DMB, bank reserves, DMB use	K4/17	6.2	38.1	49.0	37.8	30.1	49.2	–29.3	–12.2
22										
23	Δ Central gov't debt, discrepancy source	25+29	–55.9	–21.3	–39.1	–25.0	–13.0	10.9	18.5	–41.0
24										
25	Δ Claims on cen gov't, discrep source	27–26	–25.2	–6.4	2.2	20.2	0.6	2.3	16.8	0.8
26	Central gov't, net borrowing, foreign	K1/21	7.5	7.5	–3.7	–3.8	–0.6	–0.3	–2.0	–0.8
27	Rest of world, cen gov't debt, use	K2/18	–17.7	1.1	–1.5	16.4	–	2.0	14.8	–
28										
29	Δ Cen gov't deposits, discrep source	30–31–32	–30.7	–14.9	–41.3	–45.2	–13.6	8.6	1.7	–41.8
30	Δ Cen gov't deposits, asset	K1/23	21.2	90.8	14.5	–91.2	–45.6	17.1	–23.8	–38.8
31	Δ Mon auth, cen gov't dep lia	K3/24	22.1	92.7	13.2	–58.4	–43.9	15.1	–23.1	–6.5
32	Δ DMB, cen gov't dep lia	K4/22	29.8	13.0	42.6	12.4	11.9	–6.6	–2.4	9.5
33										
34	Δ Misc and discrepancy source	minus (1+13+23)	133.9	79.3	18.6	71.9	6.1	44.3	–169.1	198.8
35										
36										
37	Total sources	1+13+23+34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38										
39										
40										

TABLE 6

THAILAND FOF K6; PRIVATE SECTOR[1] (BILLIONS OF BAHT)

		Source	1994	1995	1996	1997	1Q97	2Q97	3Q97	4Q97
1	Private sector									
2	Gross capital formation, pri. sector	4–5	1319.0	1570.6	1683.7	1213.0	303.8	305.0	329.0	275.2
3										
4	Gross capital formation, total	IFS (93e + 93i)	1496.4	1775.5	1922.8	1547.5	395.6	395.8	409.9	346.1
5	Gross capital formation, cen. gov't	K1/3	177.4	204.9	239.1	334.5	91.8 [e]	90.8 [e]	80.9 [e]	70.9 [e]
6										
7	Gross saving, private sector	9–10–11–12	1002.1	1097.3	1258.2	1119.6	248.6	188.9	321.0	415.6
8										
9	Gross saving, total	4	1496.4	1775.5	1922.8	1547.5	395.6	395.8	409.9	346.1
10	Gross saving, rest of world	K2/2	203.3	337.7	372.3	94.8	54.3	81.2	23.0	–118.2
11	Gross saving, cen. gov't	K1/8	291.0	340.5	292.3	333.1	92.7	125.7	65.9	48.7
12	Gross saving, mon auth + DMB	K3/4 + K4/4	–	–	–	–	–	–	–	–
13										
14	Surplus/deficit, private sector	7–2	–316.9	–473.3	–425.5	–93.4	–55.2	–116.1	–8.0	70.9
15										
16										
17	Δ Central gov't debt, private sector, use	19	–55.1	–51.3	–12.7	–63.9	–37.6	–6.1	–12.1	–8.2
18										
19	Δ Claims on cen gov't, private sector, use	21+25–22–23–24	–55.1	–51.3	–12.7	–63.9	–37.6	–6.1	–12.1	–8.2
20										
	Δ Claims on cen gov't, cen gov't lia	K1/24	–80.1	–44.1	–28.8	–76.1	–44.0	–15. 3	–4.7	–12.1
22	Δ Claims on cen gov't, mon auth	K3/23	–18.2	10.6	4.2	–15.5	–5.0	–8. 0	5.8	–8.3
23	Δ Claims on cen gov't, DMB	K4/21	–14.3	–10.9	–16.6	7.1	–0.8	–0.9	3.6	5.2
24	Δ Claims on cen gov't, rest of world	K2/18	–17.7	1.1	–1.5	16.4	–	2.0	14.8	–
25	Δ Claims on cen gov't, discrep source	K5/25	–25.2	–6.4	2.2	20.2	0.6	2.3	16.8	0.8
26										
27	Δ Private credit, private sector source, net	35+29	827.0	1144.6	990.2	1357.7	244.2	146.1	537.7	444.5
28										
29	Δ Bank claims on nonbank fin. insti., pri. sec. source	31+32	39.2	61.2	25.8	490.0	112.4	183.7	183.4	10.5
30										
31	Δ MA claims on nonbank fin. insti. use	3/28	7.8	5.8	25.3	365.7	106.7	152.3	106.5	0.2
32	Δ DMB claims on nonbank fin. insti. use	4/26	31.4	55.4	0.5	124.3	5.7	31.4	76.9	10.3
33										
34										
35	Δ Other private credit, pri. sec. source	37+38+39	787.8	1083.4	964.4	867.7	131.8	–37.6	354.3	434.0
36										
37	Δ Pri. credit, cen gov't use	K1/26	12.4	0.6	9.9	13.7	2.5	2.5	4.2	4.5
38	Δ Pri credit, DMB use	K4/27	785.3	799.3	602.4	915.5	152.5	–15.9	375.9	403.0
39	Δ Pri credit, rest of world use	K2/23	–9.9	283.5	352.1	–61.5	–23.2	–24.2	–25.8	26.5
40										

Notes: [e]Extrapolation.

[1]The private sector includes the entire economy other than the sectors enumerated on K1 to K4. It thus includes state, provincial, and local govemment, nonbank financial institutions, nonprofit institutions, all nonfinancial business including government enterprises, and households.

TABLE 7

THAILAND FOF K7; PRIVATE SECTOR (BILLIONS OF BAHT)

		Source	1994	1995	1996	1997	1Q97	2Q97	3Q97	4Q97
1	Δ Money and quasi-money, pri sec use	3+8	319.4	479.3	412.7	617.8	72.7	159.2	210.9	175.0
2										
3	Δ Curr. and demand dep	5+6	47.3	40.0	32.0	10.2	–8.4	–18.4	6.9	30.1
4										
5	Δ Curr and dem dep, mon auth lia	K3/32	33.4	42.1	20.2	29.7	–7.3	–13.1	12.3	37.8
6	Δ Curr and dem dep, DMB lia	K4/32	13.9	–2.1	11.8	–19.5	–1.1	–5.3	–5.4	–7.7
7										
8	Δ Time, savings, etc. dep, DMB lia	K4/33	272.1	439.3	380.7	607.6	81.1	177.6	204.0	144.9
9										
10										
11	Δ Misc. and discrepancy, pri. sec. source	minus (13+14+15+16–17)	–245.7	–243.8	–164.9	–710.4	–153.8	122.8	–330.7	–418.2
12										
13	Δ Misc and discrep, cen gov't source	K1/30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	Δ Misc and discrep, mon auth source	K3/34	29.7	21.2	30.4	68.4	99.3	–43.9	113.2	–88.3
15	Δ Misc and discrep, DMB source	K4/35	84.3	113.5	49.3	622.4	35.8	–91.3	380.2	309.0
16	Δ Misc and discrep, source	K5/34	133.9	79.3	18.6	71.9	6.1	44.3	–169.1	198.8
17	Δ Misc and discrep, rest of world use	K2/29	2.2	–29.8	–66.6	52.3	–12.6	31.9	–6.4	1.3
18										
19										
20	Total uses, private sector	K6 (2+17) + K7/1	1583.3	1998.6	2083.7	1766.9	338.9	458.1	527.8	442.0
21	Total sources, private sector	K6 (7+27) + K7/11	1584.0	1998.1	2083.5	1766.9	339.0	457.8	528.0	441.9
22										
23										
24										
25	Memo: Thai gross domestic product	IFS 996	3598.6	4094.5	4610.3	4706.7	1145.9	1149.1	1180.4	1231.3
26	Thai consumer prices (1990 = 100)	IFS 64	119.5	126.4	133.8	141.3	137.3	138.7	142.7	146.3
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										

TABLE 8

THAILAND FLOW OF FUNDS MATRIX 1996; (BILLIONS OF BAHT)

		Central Gov't (K1)		Rest of World (K2)		Mon. Auth (K3)		Dep Money Banks (K4)		Private Sector (K6, K7)		Discrep	Total	
		U	S	U	S	U	S	U	S	U	S	Sources (K5)	U	S
1														
2	**Gross capital formation**	**239.1**				–		–		**1683.7**			**1922.8**	
3														
4	**Gross saving**		**292.3**		**372.3**		–		–		**1258.2**			**1922.8**
5														
6	Surplus/deficit	53.2		372.3		–		–		–425.5			0.0	
7														
8														
9	**Δ Foreign claims, net**				**–88.1**	**59.1**		**–141.1**				**6.1**	**–82.0**	**–82.0**
10														
11	Δ Foreign assets				–14.4	59.1		–55.9				17.6	3.2	3.2
12	Δ Foreign liabilities			73.7			–		85.2			–11.5	73.7	73.7
13														
14	**Δ Interbank claims**						**24.7**	**39.1**				**14.4**	**39.1**	**39.1**
15														
16	Δ Mon auth credit to DMB					9.7			9.9			–0.2	9.7	9.7
17	Δ Bank reserves						34.4	49.0				14.6	49.0	49.0
18														
19	**Δ Central gov't debt**		**–43.3**	**–1.5**		**–9.0**		**–59.2**		**–12.7**		**–39.1**	**82.4**	**82.4**
20														
21	Δ Claims on cen gov't		–28.8	–1.5		4.2		–16.6		–12.7		2.2	–26.6	–26.6
22	Δ Cen gov't deposits	14.5					13.2		42.6			–41.3	14.5	14.5
23														
24	**Δ Private credit, net**	**9.9**		**352.1**		**25.3**		**602.9**			**990.2**		**990.2**	**990.2**
25														
26	Δ Claims on nonbank F.I.					25.3		0.5			25.8		25.8	25.8
27	Δ Other private credit	9.9		352.1				602.4			964.4		964.4	964.4
28														
29	**Δ Money and quasi money**						**20.2**		**392.5**	**412.7**			**412.7**	**412.7**
30														
31	Δ Curr and demand dep						20.2		11.8	32.0			32.0	32.0
32	Δ Time, savings dep								380.7	380.7			380.7	380.7
33														
34	**Δ Misc and discrepancy**		**0.0**	**–66.6**			**30.4**		**49.3**		**–164.9**	**18.6**	**–66.6**	**–66.6**
35														
36														
37	**Total**	**249.0**	**249.0**	**284.0**	**284.2**	**75.4**	**75.3**	**441.7**	**441.8**	**2083.7**	**2083.5**	**0.3**		
38														
39														
40														

Notes: U, use of funds.
S, source of funds.

Source: Worksheets K1 to K7.

References

Bank for International Settlements, *68th Annual Report*, Basle, 1998.

Board of Governors of the Federal Reserve System, *Guide to the Flow of Funds Accounts*, Washington, D.C., 2000.

Chang, Roberto and Andrés Velasco, "The Asian Financial Crisis in Perspective," in Uri Dadush, Dipak Dasgupta, and Marc Uzan (eds), *Private Capital Flows in the Age of Globalization*, Edward Elgar, Northampton, MA, 2000.

Commission of the European Communities, International Monetary Fund, Organization for Economic Cooperation and Development, United Nations and World Bank, *System of National Accounts, 1993*, New York, 1993.

Corsetti, Giancarlo, Paolo Pesenti, and Nouriel Roubini, "What Caused the Asian Currency and Financial Crisis?" *Japan and the World Economy*, 11, 305–73, 1999.

Dawson, John C., "Flow-of-Funds Accounts, A System of National Accounts, and Developing Countries," in Vicente Galbis (ed.), *The IMF's Statistical Systems*, International Monetary Fund, Washington, D.C., 1991.

——— (ed.), *Flow-of-Funds Analysis*. M.E. Sharpe, Armonk, NY, 1996a.

———, "Financial Intermediaries and Financial Accounts," in John W. Kendrick (ed.), *The New System of National Accounts*, Kluwer, Boston, 1996b.

———, "Flow-of-Funds Accounts and Macroeconomic Policy," in *Use of Macro Accounts in Policy Analysis*, United Nations, New York, 2002.

Feldstein, Martin, "Economic and Financial Crises in Emerging Market Economies: An Overview of Prevention and Management," in Martin Feldstein (ed.), *Economic and Financial Crises in Emerging Market Economies*, University of Chicago Press, Chicago, 2003.

Flatters, Frank, "Thailand and the Crisis: Roots, Recovery, and Long-Run Competitiveness," in Wing Thye Woo, Jeffrey D. Sachs, and Klaus Schwab (eds), *The Asian Financial Crisis*, MIT Press, Cambridge, MA, 2000.

Fleming, Alexander E. and Marcelo M. Giugale (eds), *Financial Systems in Transition*, World Scientific, Singapore, 2000.

Goldstein, Morris, *The Asian Financial Crisis: Causes, Cures, and Systemic Implications*, Institute for International Economics, Washington, D.C., 1998.

Haggard, Stephan, *The Political Economy of the Asian Financial Crisis*, Institute for International Economics, Washington, D.C., 2000.

International Monetary Fund, *Government Finance Statistics*, Washington, D.C., annual.

———, *International Financial Statistics*, Washington, D.C., monthly.

———, *Thailand, Selected Issues*, Washington, D.C., 1999.

Kenen, Peter B., *The International Financial Architecture*, Institute for International Economics, Washington, D.C., 2001.

Kruegar, Anne O., "East Asian Growth: Retrospect and Prospect," in *Structural Aspects of the East Asian Crisis*, O.E.C.D., Paris, 1999.

Krugman, Paul, "What Happened to Asia?" in Gregor Irwin and David Vines (eds), *Financial Market Integration and International Capital Flows*, Edward Elgar, Northampton, MA, 2001.

Radelet, Steven and Jeffrey D. Sachs, "The East Asian Financial Crisis: Diagnosis, Remedies, Prospects," in Gregor Irwin and David Vines (eds), *Financial Market Integration and International Capital Flows*, Edward Elgar, Northampton, MA, 2001.

Ruggles, Richard and Nancy D. Ruggles, "Integrated Economic Accounts for the United States, 1947–80," in U.S. Department of Commerce, *Survey of Current Business*, Washington, May 1982.

Sachs, Jeffrey D. and Wing Thye Woo, "Understanding the Asian Financial Crisis," in Wing Thye Woo, Jeffrey D. Sachs, and Klaus Schwab (eds), *The Asian Financial Crisis*, MIT Press, Cambridge, MA, 2000.

Stiglitz, Joseph E., "The East Asia Crisis: How IMF Policies Brought the World to the Verge of a Global Meltdown," in Joseph E. Stiglitz, *Globalization and its Discontents*, Norton, New York, 2002.

Tobin, James, "In Memoriam: Richard Ruggles (1916–2001)," *The Review of Income and Wealth*, 47, 405–8, September 2001.

(The) World Bank, *Global Development Finance*, Washington, D.C., annual.