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Financial Crisis, Capital Outflows and Policy
Responses: Simple Analytics and Examples from
East Asia

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CIES DISCUSSION PAPER 0311

**Financial Crisis, Capital Outflows and
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Examples from East Asia**

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This paper is partly motivated by joint work with Graham Bird

ABSTRACT

Financial crises seem to have become the norm rather than the exception since 1992. In recognition of the frequency with which countries seem to be hit by financial crises, any typical undergraduate course in Money and Banking nowadays includes a section on financial crisis in emerging economies. While these texts offer useful and up-to-date discussions on concepts such as financial crises and sterilization of capital flows, there does not seem to be any attempt to link the discussion of these contemporary issues to the age-old analytics of the money market and money multiplier. This paper examines the impact of a crisis of confidence and resultant capital outflows from a small and open economy, and the possible policy options in response to such outflows using simple tools and definitions that will be familiar to any Money and Banking/Intermediate Macroeconomics student. To facilitate the discussion, examples are drawn from the East Asian crisis of 1997-98 (Indonesia, Korea, Malaysia and Thailand), though the analysis remains pertinent to emerging economies in general.

Keywords: Capital Flows, East Asia, Financial Crisis, Monetary Base, Money Supply, Money Multiplier

1. Introduction

Financial crises seem to have become the norm rather than the exception since 1992¹. Specifically, in 1992-93, Europe was faced with the very real possibility of a complete collapse of the European Exchange Rate Mechanism (ERM). The Italian lira and British pound withdrew from the ERM, three other currencies (viz. the Spanish peseta, Irish pound and Danish krona) were devalued, and there was a substantial widening of the bands within which the currencies could fluctuate. In 1994-95, there was the Mexican currency crisis which saw a steep devaluation of the peso and Mexico on the brink of default. There were also spillover effects on Argentina and Brazil (so-called “Tequila effect”). Between July 1997 and mid-1998, the world experienced the effects of the East Asian crisis, which started somewhat innocuously with a run on the Thai baht, but spread swiftly to a number of other regional currencies, most notably the Indonesian rupiah, Malaysian ringgit and Korean won (so-called “Tom-Yam effect”). Other large emerging economies such as Russia and Brazil also experienced periods of significant market weakness and required the assistance

¹ The term “financial crisis” is used here generically to involve a dual crisis of the financial system (“banking crisis”) and the balance of payments (“currency crisis”). The co-existence of banking and currency crises has been found to be the norm during the late 1980s and early 1990s. Most frequently banking crises appear to have taken the lead (Kaminsky and Reinhart, 1999), and these twin crises seem to be far more pervasive in developing economies than developed ones (Glick and Hutchison, 1999). Banking crises themselves seem to be more likely following financial liberalization, with sharp increases in domestic (bank) lending acting as significant predictors of currency crises. The IMF (1998) has suggested that the greater frequency of banking crises worldwide since the 1980s is “possibly related to the financial sector liberalization that occurred in many countries during this period” (p.115).

of the IMF. The Russian ruble was devalued in August 1998 -- during a period of exceptional financial market turbulence (BIS, 1999) -- while the Brazilian real's peg was eventually broken in January 1999. A number of other smaller emerging economies such as Turkey and Ecuador also experienced currency crises in the 1990s, with Argentina and Venezuela being the most recent victims.

In recognition of this fact, any typical undergraduate course in Money and Banking nowadays includes a section on financial crisis in emerging economies (Chapter 24, pp.494-7 in Mishkin and Chapter 22, pp.595-8 in Hubbard). While these texts offer useful and up-to-date discussions of concepts such as financial crises and sterilization of capital flows, the discussions generally seem to be "stand alones". There is no attempt to link the discussion of these important contemporary issues to the age-old analytics of the money market and money multiplier (Chapters 15, 16 and 21 in Mishkin and Chapters 17, 18 and 23 in Hubbard).

This paper examines the impact of a crisis of confidence and resultant capital outflows from a small and open economy and the possible policy options in response to such outflows using simple tools and definitions that will be familiar to any student who has successfully completed a Money and Banking course or an Intermediate Macroeconomics course for that matter. To facilitate the discussion, examples are drawn from the East Asian crisis of 1997-98 (Indonesia, Korea, Malaysia and Thailand), though the analysis remains pertinent to emerging economies in general².

² No attempt is made here to offer a detailed discussion of the East Asian crisis. Interested readers are referred to Berg (1999), Corsetti et al. (1999) and Rajan (1999).

2. Analytical Framework

2.1 Preliminaries

Consider a semi-open economy (“foreign country”) in the following two senses: (a) the risk adjusted interest parity holds (eq. 1) and (b) exchange rate expectations are loosely anchored to purchasing power parity (eq. 2):

$$i_t = i_t^* + \Delta e_{t+1}^e + rp_t \quad (1)$$

$$\Delta e_{t+1}^e = \lambda (P_t^f - P_t^{US}) + \varepsilon_t \quad (2)$$

where e = foreign currency per US\$, i = Thai interest rates, i^* = LIBOR rate; rp = currency or country risk premium of the emerging economy; P_t^f is the foreign price level; P_t^{US} is the US price level; and λ is a convergence term $0 < \lambda < 1$. Eq. 2 essentially states that purchasing power parity (PPP) is expected to hold over time such that exchange rate expectations adjust partly to the relative price differentials between the two countries. ε_t refers to all other factors that might affect exchange rate expectations (eg. “confidence”, information on real macroeconomic variables, etc).

Consider the domestic money market equilibrium:

$$M_t^s / P_t = M_t^d = f(y_t, i_t, V_t) \quad (3)$$

where: M_t^s = nominal money stock, M_t^d = real money demand, P_t = price level, y_t = real income and V_t = vector of other factors impacting money demand (financial innovations, inflation, etc.). Assume, for simplicity, that P^t is normalized to one to begin with.

Assume the economy is originally in equilibrium at point 0 (Figure 1). Assume a crisis of confidence (reasons for this are unimportant here), such that $(\Delta e_{t+1}^e + r_p)$ jumps up. This leads to a rise in the horizontal parity line from aa to bb . The rise in local interest rates implies a reduction in money demand. Thus, at 1, $M^s > M^d$. This excess liquidity in the economy is translated into a capital outflow. This is usually the beginning of a crisis.

What are the available policy options available to the monetary authorities faced with such a scenario?

2.2 The “Do Nothing” Option

If the authorities do nothing, the drain in liquidity in the economy implies a reduction in real money stock. Eventually, M^s declines from M_0^s to M_1^s such that the domestic money market is back in equilibrium at point 2 in the near term (Figure 2). Over time, the domestic deflationary pressures ought to lead to an anticipated currency appreciation (from eq. 3), leading to a movement down of the interest parity line. This will be followed by capital inflows and an increase in money supply until a new equilibrium is attained (the equilibrium is below point 2 but may or may not coincide with point 0).

2.3 Impact of Capital Outflows on Domestic Money Supply

But what actually happens to money supply with capital outflows? The answer to this is far from obvious.

Consider the following set of equations:

$$M^s = mm * MB \quad (4)$$

$$MB = NDA + NFA \quad (5)$$

$$NFA = e * R \quad (6)$$

where: mm = money multiplier, MB = monetary base, NDA = net domestic assets, NFA = net foreign assets and R = foreign exchange (forex) reserves. Eq. 4 states that the aggregate money supply equals the money base multiplied by the money multiplier. Eq. 5 states that the monetary base consists of two components, net domestic assets and net foreign assets. Eq. 6 states that the stock of net foreign assets equals the stock of forex reserves multiplied by the nominal exchange rate (foreign currency per US\$).

Assume the country initially maintained a fixed exchange rate. With appropriate substitutions and taking the first derivative of M^s w.r.t. to K derives:

$$\begin{aligned} dM^s/dK &= MB(dmm/dK) + mm(dMB/dK) \\ &= MB(dmm/dK) + mm[(dNDA/dK) + E(dR/dK)] \quad (7) \end{aligned}$$

$dNDA/dK$: During a financial crisis this term is usually negative as the monetary authorities attempt to sterilize capital outflows from the domestic financial system, especially deposit taking ones. What might motivate this bailout (i.e. lender of last resort)? Capital flows tend to be largely intermediated via the

banking system, and bank lending is the dominant form of funding in most developing countries. Consequently, a sustained drop in bank lending following sharp capital outflows and declines in net worth will be severely detrimental to real economic activity. Figure 3 offers some indication of the increase in claims by the domestic monetary authority in Thailand on the domestic financial institutions during the period of massive capital outflows in 1997 and early 1998³.

dm/dK: During a financial crisis this term is usually negative (see Mishkin, Chapter 16, pp.428-9 and Hubbard, Chapter 17, p.459). The reason for this is clear once we consider the definition of the M2 multiplier. To be sure, let the narrow money ($M1$) = currency in circulation (C) plus demand/checking deposits (D). Let $M2 = M1 +$ Savings deposits and small denomination time deposits (generically referred to as S). Let R denote reserve holdings by banks which in turn are made up of required reserves and excess reserves. Thus, the M2 multiplier = $mm = [c + d + s]/[c + r]$, where all italicized variables in small letters are denoted as a proportion of demand/checking deposits. During a financial crisis, individuals will prefer to ensure their financial savings are as liquid as possible, leading to a shift of funds from s to d . In addition, if there are concerns about the viability of the banking system, there may be a sharp increase in c at the expense of all types of deposits. In addition, during the period of capital outflows, banks on their part may prefer to maintain a degree of liquidity, resulting in an increase in r .

³ For details on the Thai crisis and policy response thereof, see BOT (1998) and Rajan (2001).

dR/dK: This term refers to the impact of capital flows on forex reserves. Even if one assumes a fixed exchange rate regime, this effect is generally ambiguous. Why? Consider eq. (7) below which is the usual balance of payments accounting identity.

$$dR = CAB + dK \quad (8)$$

If there is no change in the current account balance, $dR/dK > 0$. This is straightforward, i.e. capital outflows lead to a drain on forex reserves while capital inflows lead to forex reserve accumulation. However, with capital outflows, governments may restrict imports such that the CAB rises. If the rise in CAB outweighs the capital outflows, forex reserves could actually grow⁴. A likely scenario is that initially the direct impact of the capital outflows exceeds the indirect effects via the current account such that forex reserves decline. Over time, however, as capital flows stabilize, the decline in the current account balance continues to improve (due to curb in imports and resurgence in exports following real exchange rate depreciation). This is apparent from Figures 4 and 5 which reveals an initial decline or stagnation in gross forex reserves in East Asia between mid 1997 and mid 1998 before they started to be replenished as the region's current account balances improved⁵.

Putting this all together, the net impact of capital flows on money supply is an empirical issue. An empirical regularity appears to be that the monetary base

⁴ Though this inevitably is accompanied by sharp recessions as in the case of East Asia in 1997-98.

(MB) is more or less constant as the increase in domestic credit (NDA) to accommodate a run on the financial institutions offsets the fall in reserves (NFA), but the money multiplier (m) declines sharply such that overall money supply (M^s) falls. There are always exceptions to this stylization. For instance, during the East Asian crisis of 1997-98, Korea's and Thailand's monetary bases remained more or less constant between 1996 and 1998, that of Indonesia saw a sustained rapid expansion, and Malaysia experienced sharp jumps between Q2: 1996 and Q4: 1997 before falling sharply (Figure 6).

2.4 Depreciating the Currency

Let us consider the case where the monetary authority continues to sterilize capital outflows in order to resist the fall in the MB, as in Thailand, for instance. The persistent monetary disequilibrium in turn implies capital outflows continue unabated. MacIntyre (1999) succinctly summarizes the course of events in Thailand during this period:

A side effect of injecting large scale emergency funding into the...failing finance companies was blowing out the money supply...This served to sharpen the fundamental contradiction in the government's overall macroeconomic position. At the same time as it was pumping money into insolvent finance companies to keep them afloat, the central bank was also

⁵ See Bird and Rajan (2003) and Rajan and Siregar (2003) for discussions of forex reserve management in East Asia post-crisis. The data on reserves excludes swap liabilities.

spending down..(forex)..reserves to prop up the exchange rate...(T)his was not a sustainable strategy (p.14).

Indeed, at some stage, the country's stock of forex reserves declines to some "minimum level" (assume zero or simplicity), necessitating a break in the currency peg (i.e. currency devaluation). This occurred in Thailand in July 1997, followed by Indonesia in August 1997 and other regional currencies soon after. What might happen following this expenditure switching policy? Two possibilities need to be considered:

One, in the "conventional" case, (a) depreciation is expansionary such that output rises, so money demand increases from M^d_0 to M^d_1 and (b) since the expected depreciation has materialized, $\Delta e^e_{t+1} \rightarrow 0$, such that there is a consequent shift down of the parity line from bb to cc (Figure 7). Eventually a new equilibrium (point 3) is attained corresponding to stability of the capital account, improvement in the CAB and rise in output. In other words, *depreciation is the end of the crisis*⁶. Indeed, it is trivial to note that depending on the magnitude of the movements of the interest parity line and the money demand curve, the economy could be faced with capital inflows and resulting increase in domestic money supply/expected exchange rate appreciation. This is consistent with the boom-bust-boom scenario that seems to plague emerging economies (Bird and Rajan, 2001).

⁶ Insofar as the devaluation also has some inflationary effects, from eq. 2, it is expected that the new equilibrium (3) will be higher than the initial one (0).

Two, it is possible that the exchange rate depreciation leads to a hike in the risk premium such that the r.h.s. of eq. 1 remains unchanged or even rises post-devaluation, thus intensifying capital outflows (from *bb* to *dd* in Figure 8). This in turn may occur for a number of reasons: loss of credibility of monetary authorities; concerns about the impact of the currency depreciation of the financial and real sectors (elaborated upon below); loss of exchange rate anchor or shock of revelation of the dramatic decline in forex reserves and general weak state of the economy (as in the case of Thailand in June-July 1997), etc. In other words, where devaluation is part of a credible macroeconomic strategy, is combined with appropriate counter-inflationary fiscal and monetary policy, and leads to a new exchange rate that is perceived by private capital markets to be close to the equilibrium real rate or below it, it will have a positive effect on creditworthiness and capital flows. Where, on the other hand, it is perceived as a panic measure, is combined with excessively expansionary fiscal and monetary policy and leads to a new rate that is still seen as involving currency overvaluation, it will be associated with further capital outflows.

For instance, in the case of Thailand, in the period leading up to the devaluation (i.e. first quarter of 1997) only the non-bank sector experienced capital outflows (Table 1). More precisely it was the non-resident baht accounts (NRBAs) in particular, but also the “other loans” component that recorded net outflows. NRBAs are essentially nostro accounts held in domestic banks that serve various transactions, including baht clearing for foreign currency-related transactions and stock market transactions by foreigners. Net FDI inflows remained positive throughout 1997 and portfolio flows too only changed direction

in November and December 1997. Private bank capital flows turned around sharply by over \$10 billion between the first half and second halves of 1997. This reversal intensified in 1998, with outflows reaching almost \$14 billion. Of significance here is the fact that funds were still flowing into the country during the first half of 1997 right up to the devaluation. It was only *after* the devaluation that there was a massive exodus of these banking sector flows. Capital outflows from NRBA's were \$3.5 billion in the first half of 1997, over \$2 billion in the second half of the year and slowed to about \$2.7 billion for the 1998 as a whole. According to some reports, Thailand was pulled back from the brink of national bankruptcy at the end of 1997 only because creditors agreed to roll over their foreign loans to local firms (Bangkok Post, December 22, 1997).

It is possible that a pre-emptive devaluation in the early stages of the crisis may reduce this "shock impact", thus precluding as large a rise in the risk premium term. Thus, maximum effort needs to be exerted into avoiding the appearance of devaluation as being a panic measure. In this context, an exchange rate stitch in time may save nine! Governments in liaison with the IMF need to address the risk that devaluation may spook private capital markets. Devaluation must be presented as part of a credible economic strategy, and foreign capital needs to be bailed in to support it.

Apart from the shock impact noted above, depreciation may also be contractionary in and of itself such that output (y_t) declines (Figure 9). The recessions ranged from 7 percent in Korea to 17 percent in Indonesia in 1998. The BOT (1998) report on the Thai crisis outlined the "official" reasons behind why a devaluation of the baht was perceived as doing more harm than good:

high import content of Thai exports implying limited competitiveness benefit from a weakened currency; inflationary effects of devaluation leading to wage-price spiral; and unhedged foreign currency debts of corporates leading to bankruptcies and unemployment and deterioration in asset quality of financial institutions due to a weakened corporate. The balance sheet effects due to large unhedged exposure to short term foreign currency denominated debt was a particularly important dimension in the case of the East Asian crisis. According to Dornbusch (2001):

A *new-style* crisis involves doubt about credit worthiness of the *balance sheet* of a significant part of the economy – private or public – and the exchange rate...when there is a question about one, the implied capital flight makes it immediately a question about both...the central part of the new-style crisis is the focus on balance sheets and capital flight...Because new-style crises involve the national balance sheet they involve a far more dramatic impact on economic activity than mere current account disturbances; this far larger impact arises both in terms of magnitude of the financial shock as well as *disorganization effects* stemming from illiquidity or bankruptcy (pp.2-3).

There is also a large body of literature that developed in the 1960s and 1970s which explains why devaluation in emerging economies may be contractionary. It is, however, unlikely that the “conventional” contractionary effects of devaluation via the current account can explain the *magnitude* and *ferocity* of some economic contractions following devaluation (see Bird and Rajan, 2002 and references cited within).

Whatever the exact reasons, if devaluation proves to be contractionary, money demand contracts further from M^d_0 to M^d_2 , such that domestic disequilibrium is further exacerbated (Figure 8). In other words, in this case,

*depreciation exacerbates the crisis, leading possibly to outright economic collapse*⁷. This seems to have been the experience of a number of emerging economies in recent times, including those in East Asia.

2.4 Interest Rate Policy

Another common policy response to currency bearishness is to raise interest rates sharply which effectively involves a leftward shift of the money supply (M^s) curve. Note that if the authorities are keen on building forex reserves via capital inflows, there is a need for a sufficiently contractionary monetary policy such that domestic money market equilibrium exceeds interest rates given by the interest parity condition (point 5 in Figure 10).

Once again, however, the impact of this policy response is not unambiguous. This expenditure reducing policy may in fact have severe contractionary effects, thus reducing M^d . Apart from the conventional transmission channels via which tight interest rate policy may affect output (see Chapter 25 in Mishkin and Chapter 27 in Hubbard), in highly leveraged economies, high interest rates may make it impossible for a country to service its debt (the so-called “Laffer curve” effects of monetary policy *a la* Furman, and Stiglitz, 1998), further swelling the share of non-performing loans (NPLs) held by financial institutions. Decapitalized banks may in turn curtail their lending,

⁷ While devaluation may have inflationary effects, we assume that the indirect deflationary effects via output exceed the direct inflationary effects via pass through. This assumption appears valid for the East Asian countries save Indonesia which was not faced by price pressures during the 1997-98 financial crisis (Boorman et al., 2000). The assumption may not be valid for other developing regions, especially those with a history of price instability.

intensifying the recession (supply side effect). In addition, the collapse in asset prices that tend to accompany - in fact precede - devaluation could deepen the “credit crunch” caused initially by loss of access to international capital markets (BOT, 1998).

Thus, where tight monetary policy leads to increased concerns regarding “riskiness and destruction of collateral associated with the balance sheet effects of the crisis itself” (Boorman, et al., 2000), it will prove to be counterproductive. Rather than domestic monetary policy neutralizing the recessionary effects of devaluation, it may lead to additional capital outflows that enhance them. On the other hand, if the authorities relax domestic monetary policy in order to offset to some extent the effects of capital outflows on domestic liquidity, they will neutralize the recessionary effects and may avoid a potential collapse in output. However, the current account effect will then be moderated and it will take longer to replenish depleted forex reserves. Moreover, since the rise in the interest rate will be less pronounced, this could delay the return of foreign capital. In circumstances where governments are anxious to avoid severe recession in the aftermath of devaluation immediately following a crisis, it is easy to see how they may be persuaded to combine currency devaluation with some degree of domestic monetary relaxation (for instance, see Aghion et al., 2000). The problem then is that monetary relaxation may be interpreted by markets as representing exactly the kind of macroeconomic laxity that they fear. Yet there remain Lucas-type dangers with this strategy since capital markets may respond negatively if they perceive monetary policy as being insufficiently tight.

What did the East Asian countries actually do during the crisis period?

According to IMF economists:

Monetary policy in the IMF-supported programs in the Asian countries tried to walk a narrow line, seeking to resist downward pressure on exchange rates while avoiding a crippling effect on the real economy...The design and implementation of monetary policy had to work under significant constraints. High debt-equity ratios in the corporate sectors as well as systemic and structural problems made the financial sector more vulnerable to increases in the interest rates.. (Boorman et al., 2000, pp.31-2).

This conundrum helps explain the initial policy vacillations by the countries which initially raised but then quickly lowered interest rates, only to raise them again substantially following intensified bearish pressures between 1997 and 1998. Specifically, while Korea and Thailand did eventually raise interest rates in 1998 to curb the selling pressures, Indonesia continued with its policy of monetary laxity primarily to infuse liquidity to the financial system (Figure 11). This inevitably led to inflationary pressures and heightened expectations of an exchange rate depreciation (from eq. 2). From eq. 1, it is apparent that interest rates in Indonesia ought to spike upwards (Figure 12). Thus, Boorman et al. (2000) correctly note:

It would be highly misleading to interpret Indonesia's high nominal interest rates in late 1997 and the early months of 1998 as an indication of tight policy; rather, they signalled a loss of confidence in the currency as well as in the country's credit-worthiness." (p.32).

The large and growing disequilibrium in the domestic money market in turn predictably implied large-scale capital outflows and further exchange rate

depreciations which were self-validating (Figure 12)⁸. It is of no surprise, therefore, that Indonesia was the country most severely impacted by the crisis⁹.

2.5 Capital Controls

In the face of persistent capital outflows and concerns about the impact of currency depreciations, the monetary authorities could also attempt to curb capital outflows by breaking the link between domestic and international financial markets (eq. 1) via capital controls. This was the case of Malaysia in September 1998 which imposed wide-ranging capital controls to penalize offshore currency trading and short-term portfolio flows (Bird and Rajan, 2000)¹⁰. The problem with this policy option is that as long as there remains an incentive for capital to flee the country, the controls will be leaky and may thus prove ineffectual. In addition, there are the well known problems relating to the potential for rent-seeking activities (bribery, corruption and so forth) that controls generate, not to mention the high enforcement costs, the inevitable creation of a black market and the general porousness of quantitative restrictions, particularly in the medium and longer terms (Bird and Rajan, 2000). This said, Malaysia's flirtation with capital controls has been rather short-lived and has been at least partly successful (Ariyoshi et al., 2000 and Kaplan and Rodrik, 2001). Many observers have drawn inspiration from this to suggest that an appropriate policy response to sharp

⁸ Another indication of monetary policy laxity in Indonesia was the sharply negative real interest rates on offer in that country in 1997 and 1998 (Boorman et al., 2000).

⁹ To be sure, the country was also faced with severe socio-political instabilities that undoubtedly contributed to its economic collapse.

capital outflows is some combination of restoration of confidence quickly via large-scale liquidity financing, imposing standstills on external creditors and imposing capital controls to try and prevent capital flight (Yoshitomi and Ohno, 1999).

3. Conclusion

Using simple tools that are taught in any typical undergraduate Money and Banking course, this paper has attempted to rationalize the impact of financial crisis and capital outflows in emerging economies, and the possible policy options and dilemmas thereof. Examples have been drawn freely from East Asia which was faced with such a crisis and series of policy conundrums in 1997-98.

From a policy perspective, an important conclusion from the preceding analysis is that while managing a conventional current account crisis involves a judicious combination of adjustment and financing, resolving a crisis involving sharp capital outflows (“capital account crisis”) predominantly involves restoring confidence by managing/anticipating expectations. It is therefore a much more imprecise and messier task. Accordingly, the emphasis is best placed on crisis *prevention* to stem the build-up of weaknesses in the first instance.

¹⁰ Indonesia and Thailand also imposed restraints on offshore trading of their currencies (Ishii et al., 2001).

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Table 1
Thailand: Composition of Net Private Capital Inflows (US\$ billions), 1997-1999

	1997	1998	1998		1999 Q1
			Q1	Q4	
	-6,640	-13,944	1,244	-4,368	-5,497
<i>Banks</i>	-1,727	-4,310	881	-2,445	-3,375
Commercial banks	0	1,986	952	0	21
of which Recapitalization BIBFs	-1,913	-9,634	-2,125	-1,924	-2,123
	-1,912	-2,024	-2,777	1,248	-469
	3,201	4,688	1,066	1,218	902
	3,641	4,810	1,067	1,248	996
<i>Non-banks</i>	-440	-123	-1	-30	-94
Direct Investment	-3,783	-4,279	-1,981	-734	-1,239
Foreign direct investment ^a	4,494	539	437	-15	221
Thai direct investment abroad	3,869	354	434	-75	230
	625	185	3	60	-9
Other Loans	-5,839	-2,714	-2,269	779	-315
Portfolio investment	-242	-494	-186	-160	0
Equity securities	256	237	156	160	-38
Debt securities					
Nonresident baht account	-8,552	-15,967	-4,021	-3,120	-5,966
Trade Credits					
Others					
Total					

Notes: a) Excluding \$2.1 billion in bank recapitalization

Source: Bank of Thailand

Figure 1
Impact of Crisis of Confidence

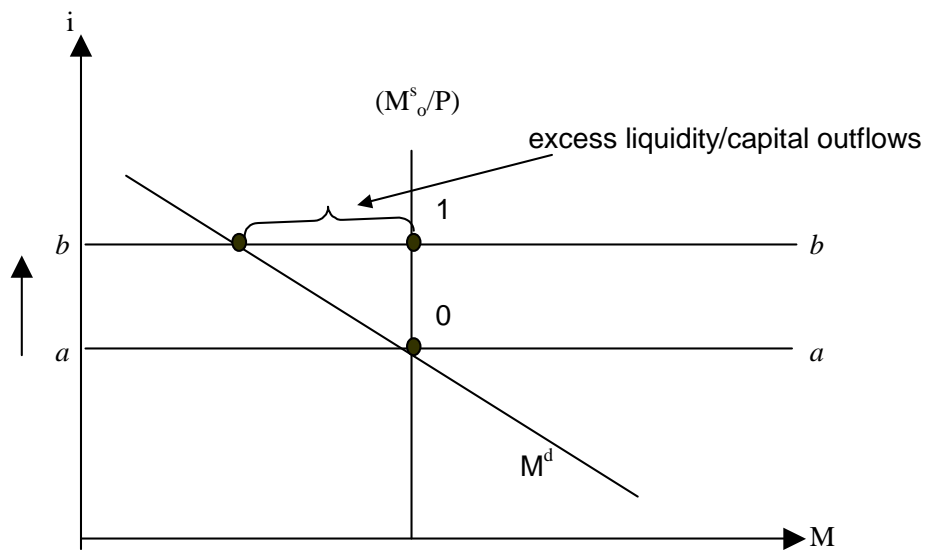


Figure 2
The "Do Nothing" Option

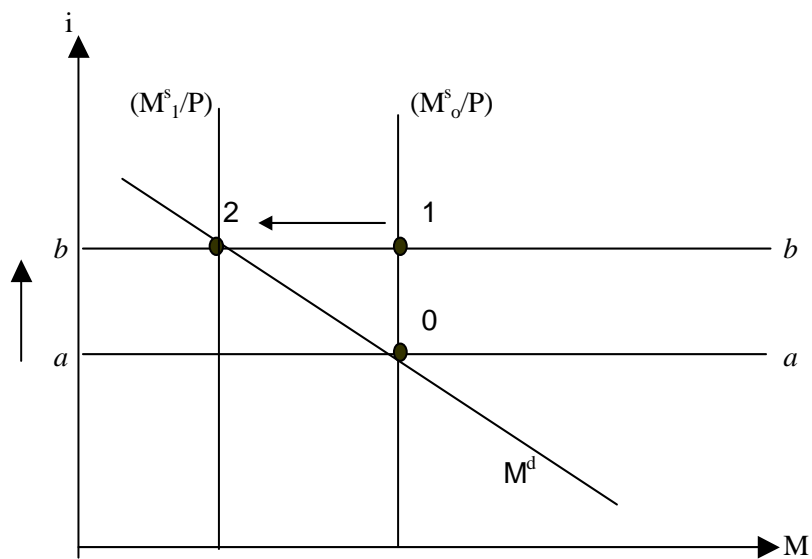
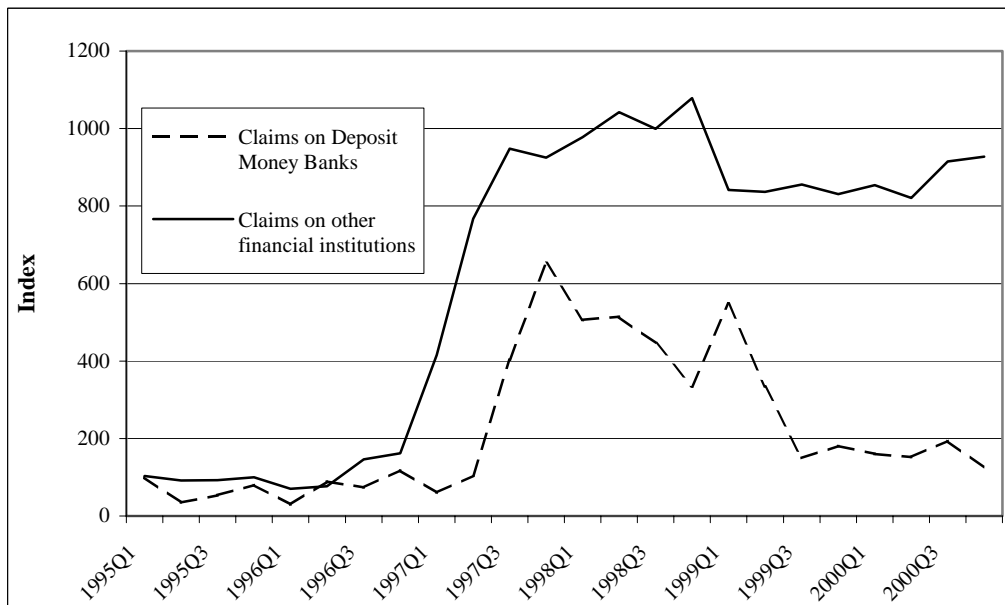
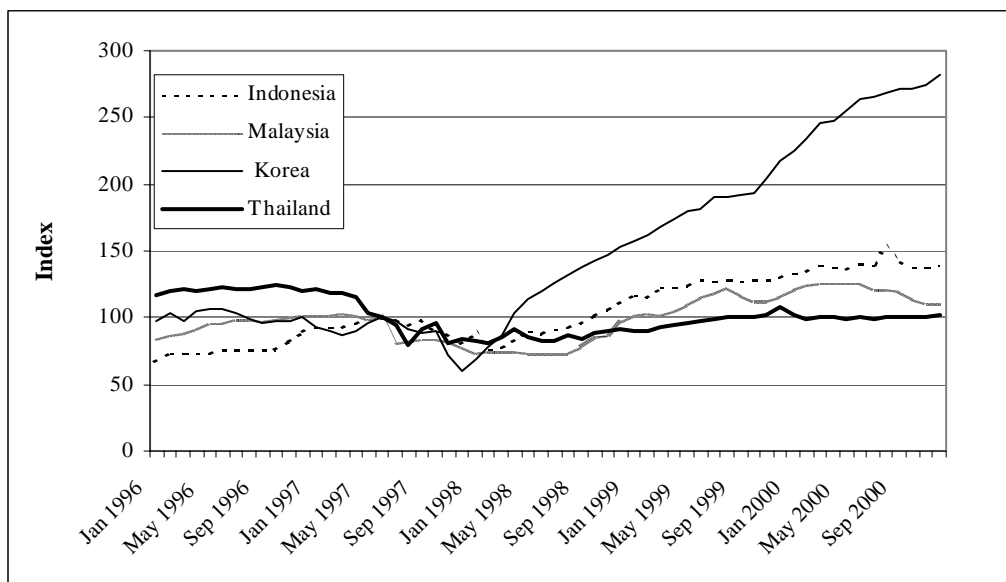


Figure 3
Liquidity Infusion into Thai Financial System
Q1: 1995 = 100



Notes: Valuation in Thai Baht
 Source: International Financial Statistics, IMF

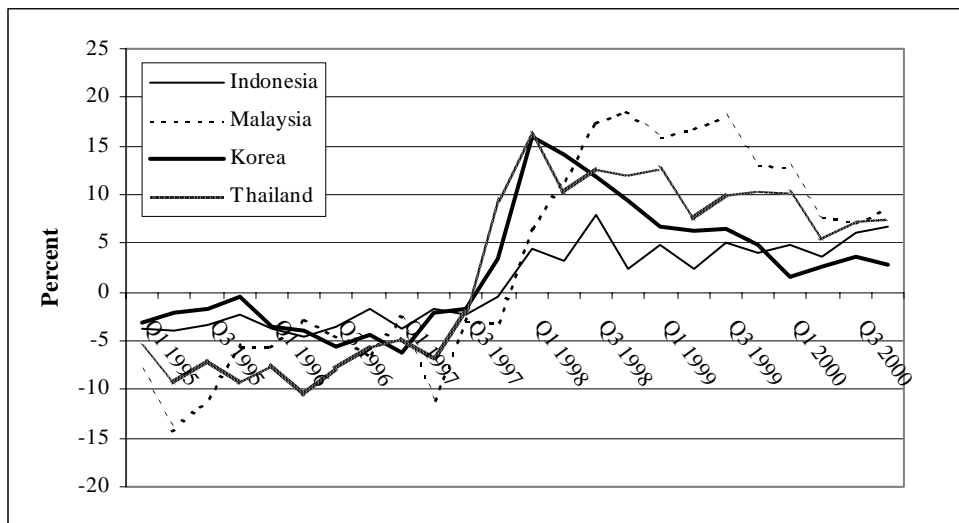
Figure 4
Foreign Exchange Reserve Holdings in East Asia
June 1997 = 100



Notes: Valuation in US dollars

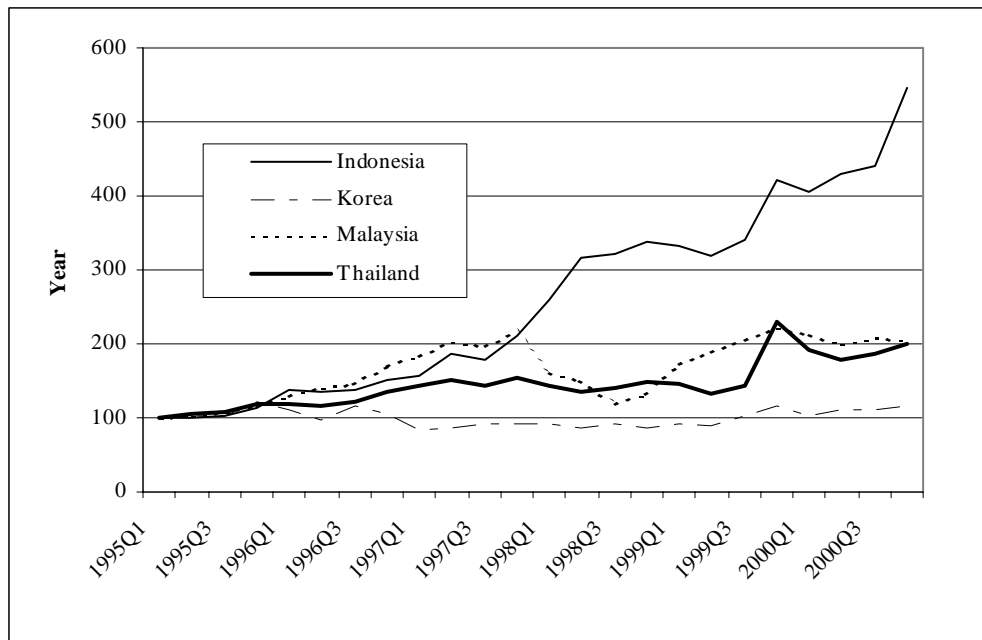
Source: Asian Development Bank-Asia Recovery Information Centre

Figure 5
Current Account Balances as a Proportion of GDP in East Asia
 (percentage)



Source: Asian Development Bank-Asia Recovery Information Centre

Figure 6
Trends in Monetary Base in East Asia
 Index: Q1: 1995 = 100



Notes: Valuation in Local Currencies
 Source: International Financial Statistics, IMF

Figure 7
Exchange Rate Depreciation: Conventional Expansionary Effects

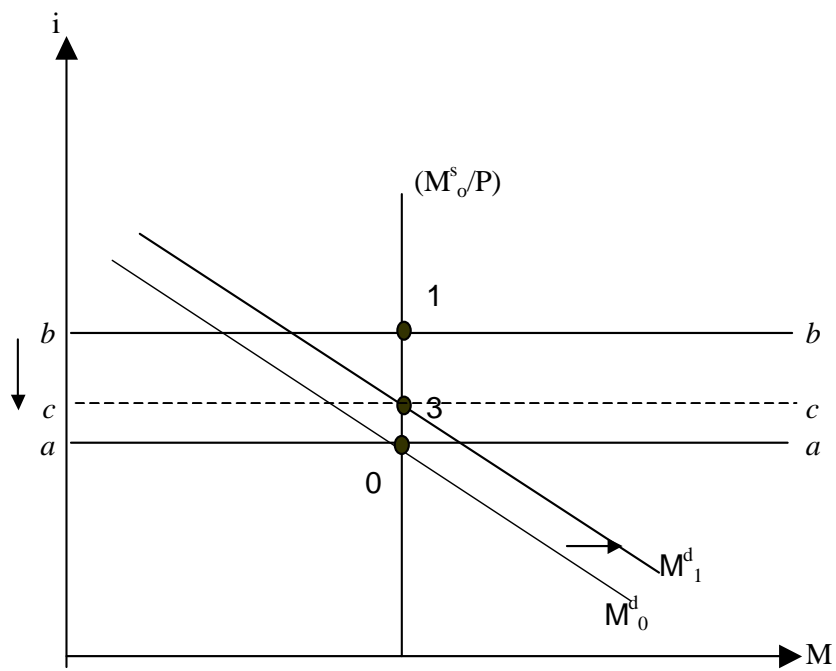


Figure 8
Exchange Rate Depreciation: Perverse Contractionary Effects

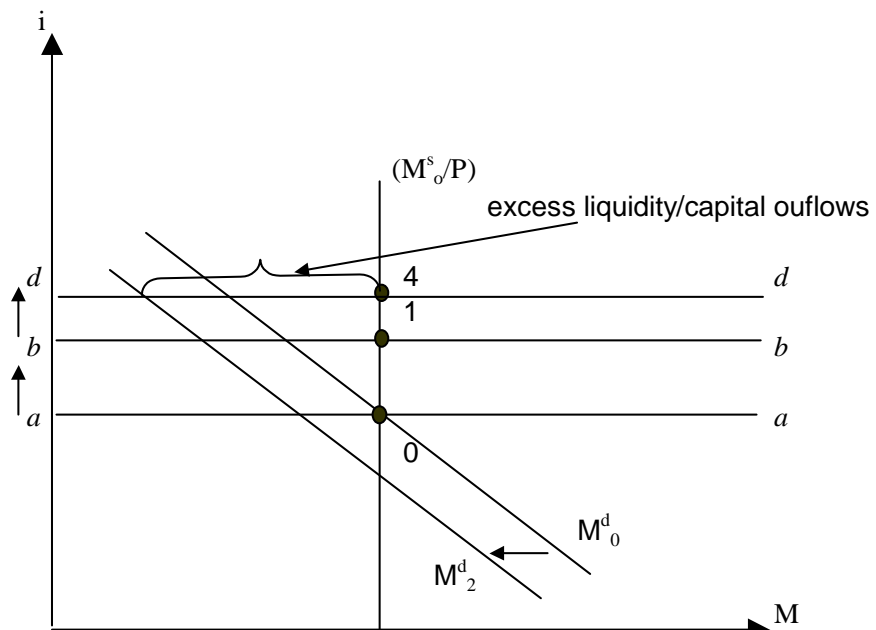
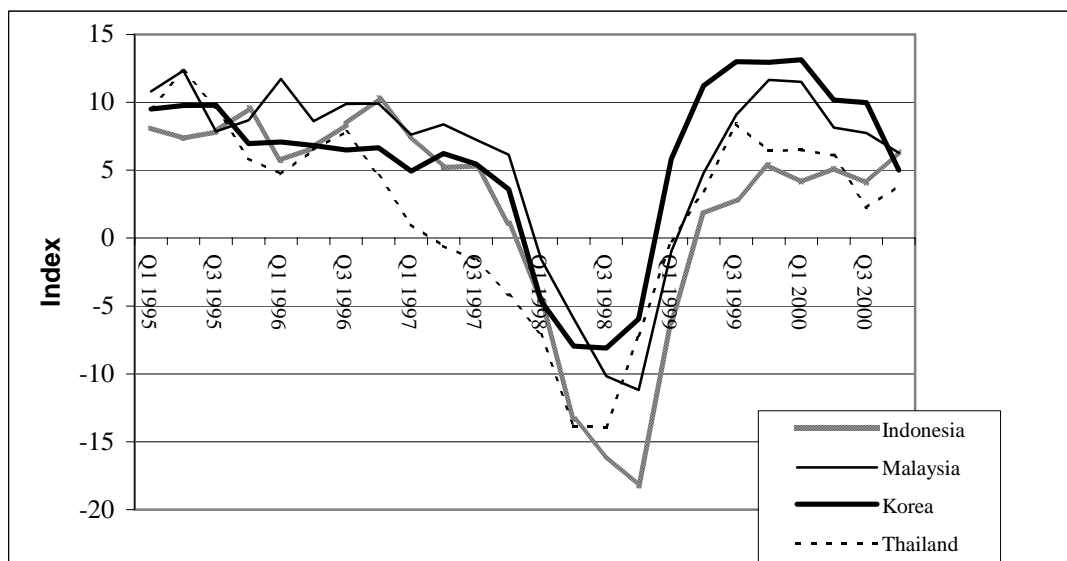


Figure 9
 GDP Growth Rate
 (percentage)



Notes: Year-on-year changes in US dollar terms
 Source: International Financial Statistics, IMF

Figure 10
 Impact of Interest Rate Hike

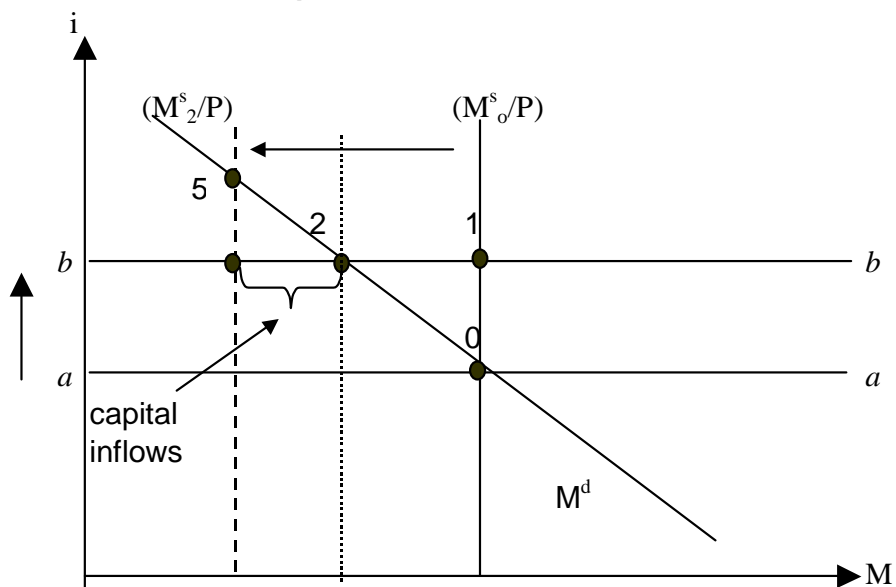
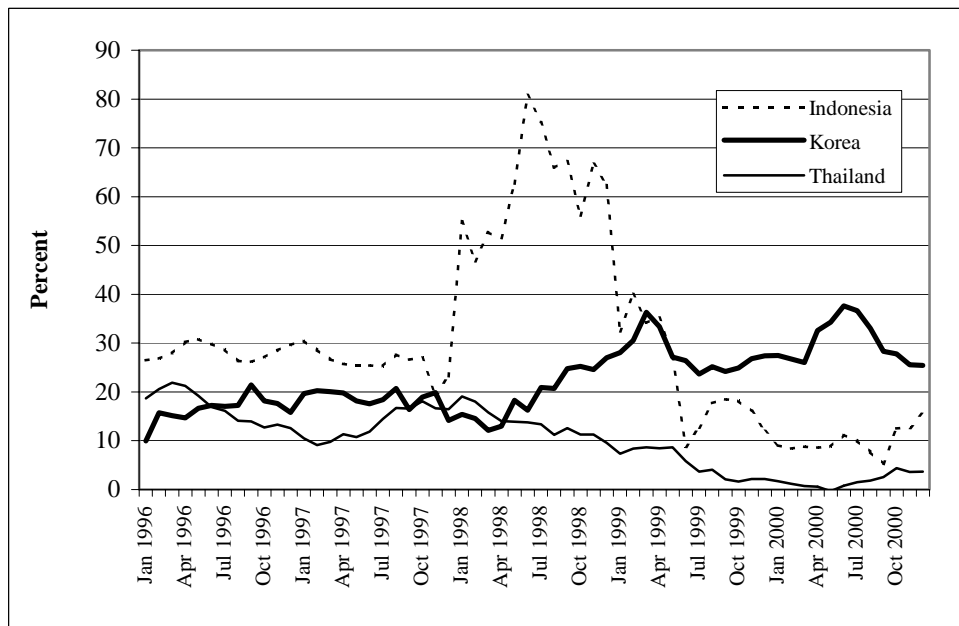


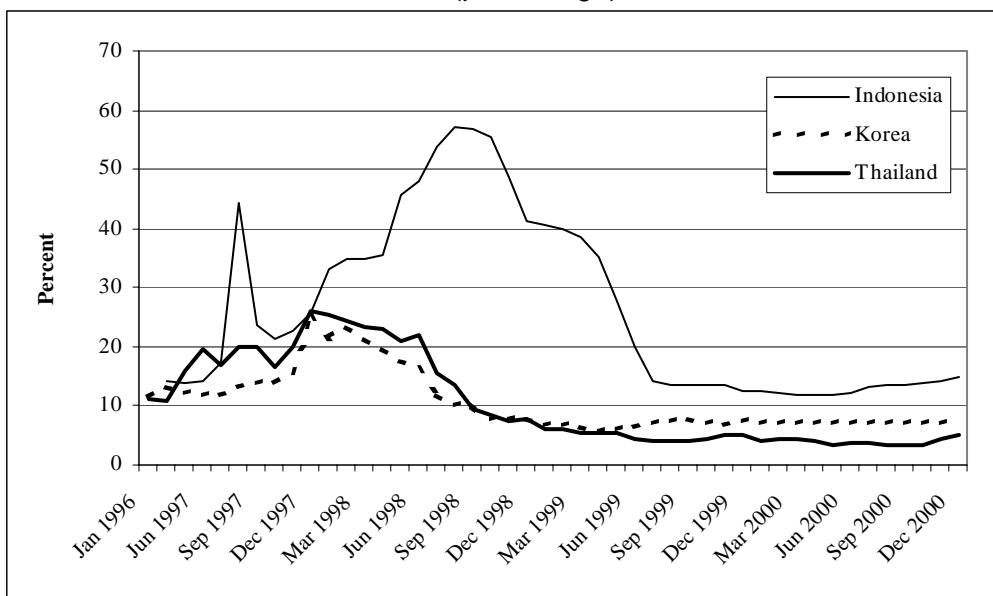
Figure 11
Growth in Broad Money Supply (M2)
 (percentage)



Notes: Year-on-year change in US dollars
 Source: Asian Development Bank-Asia Recovery Information Centre

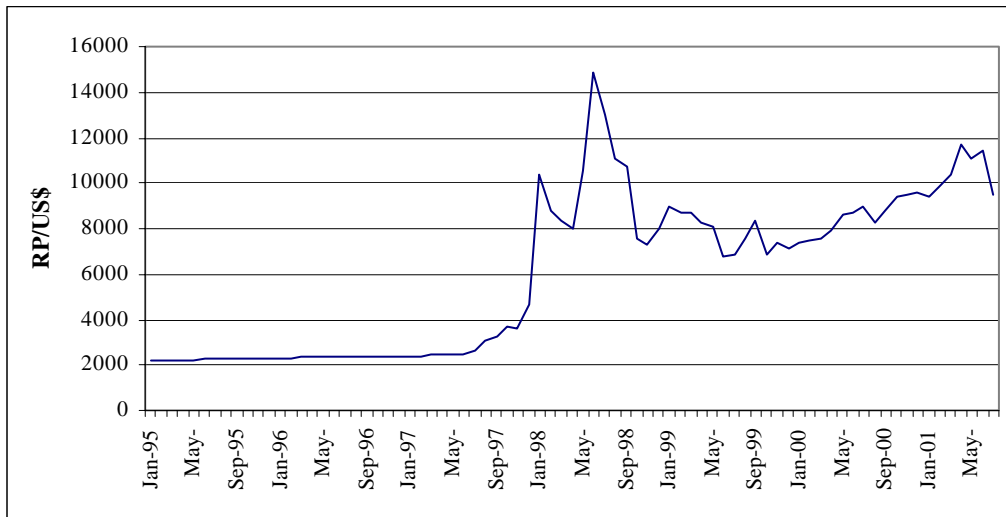
Figure 12

Three-Month Interbank Lending Rate in East Asia
 (percentage)



Source: Asian Development Bank-Asia Recovery Information Centre

Figure 13
Bilateral Nominal Exchange Rate: Rupiah per US Dollar



Source: [International Financial Statistics](#), IMF

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