Limiting Moral Hazard and Reducing Risk in International Capital Flows:
The Choice of an Exchange-Rate Regime

by

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The current consensus in the academic literature, endorsed by the IMF and other international organizations, is that one of the main lessons of recent financial crises in East Asia and Latin America is the need for more flexible exchange rate arrangements. Stanley Fischer, the Deputy Managing Director of the International Monetary Fund, stated the matter thus

> "*There is a tradeoff between the greater short-run volatility of the real exchange rate in a flexible rate regime versus the greater probability of a clearly defined external crisis financial crisis when the exchange rate is pegged. The virulence of the recent crises is likely to shift the balance towards the choice of more flexible exchange rate systems, including crawling pegs with wide bands.*" (Fischer, 1999)

This paper analyzes the choice of an exchange rate regime for "emerging-market" economies, i.e., those that are both less developed and net absorbers of private foreign capital. It focuses on the underlying risk minimization problem in two dimensions.

First, suppose that the term structure of domestic and international debt finance is quite short—as is now the case throughout the developing world, such as in East Asia and Latin America. Do fixed or floating exchange rates minimize the incentives for banks and nonbank corporations to borrow *without* covering forward their short-term foreign currency debts? Here, I shall distinguish between "good" fixes and "bad" fixes.

Second is the question of whether the term to maturity of private debt finance is itself endogenous to the nature of the exchange rate regime. Instead of accepting short-term bank deposits, borrowing internationally by issuing long-term bonds is itself a hedge against currency crises—and permits a faster recovery once such attacks occur. Here, I shall argue that a credible domestic monetary program for stabilizing the exchange rate in the long run can lengthen the term to maturity of both national and international finance, and thereby reduce the exposure of an emerging-market economy to sudden reversals of investor sentiment leading to financial panics.

But no exchange rate regime, no matter how well chosen, can avoid the need for prudential regulation of domestic banks to hedge their short-term foreign exchange risks—regulation which, on occasion, could extend to exchange controls over short-term international capital flows. The regulatory problem of getting banks to hedge their foreign exchange risk is, of course, aggravated by moral hazard from deposit insurance—and from other sources of domestic and international bailouts should the payments mechanism be threatened by collective bank failures.

The Exchange Rate as Nominal Anchor:
The Regulatory Dilemma

With the important exception of Japan, a common East Asian monetary standard existed before the crises of 1997 [Frankel and Wei, 1994, Ohno 1999]. By keying on the dollar, the macroeconomic policies of the crisis economies—Indonesia, Korea, Malaysia, Philippines, and Thailand were (loosely) tied to each other—and to those of the non-crisis economies of Hong Kong, Singapore, and Taiwan. Their dollar exchange rates had been fairly stable for more than a decade and, by the purchasing power parity criterion, were more or less correctly aligned with each other and with the American price level [McKinnon 1999]. Besides insulating each other from beggar-thy-neighbor devaluations, these informal dollar pegs had successfully anchored their domestic (wholesale) price levels during their remarkably rapid economic growth in the 1980s through 1996. (Similarly, a credible peg of 360 yen to the dollar the was the monetary anchor in Japan's own great era of high growth and rapid financial transformation in the 1950s and 1960s.)

In more open financial systems without exchange controls on capital account, is moral hazard from using the dollar exchange rate as a nominal anchor too high? Before the 1997 crisis, banks in the East Asian economies faced substantially higher nominal deposit rates in domestic currency than if they accepted eurodollar or euro-yen deposits. Figures 1, 2, 3, and 4 for Indonesia, Malaysia, Thailand and Korea respectively show differentials between 3-month deposits in domestic currency and those in eurodollars of the order of 2 to 10 percent. (And these spreads would be 4 to 5 percentage points higher if the very low short-term euro-yen rates were compared to deposit rates in rupiahs, ringgits, baht, won, and so on.)

Wouldn't banks have greater incentive to borrow *unhedged* in dollars if the domestic exchange rate was pegged rather than floating? Superficially, it seems plausible that, for a given interest differential and short-term finance, the a pegged exchange rate would encourage banks with moral hazard and other risk loving agents to take the risk of borrowing in foreign exchange hoping that the exchange rate will not change within their short time horizons. Whereas, if the exchange rate was floating, they would be more hesitant to do so

> "*The Asian experience shows that a potential problem with using a nominal exchange rate anchor is that while the private sector is supposed to base its wage and price decisions on the assumption of a fixed nominal exchange rate, the*

supervisory authorities may want the private sector to hedge its external
liabilities just in case the exchange rate cannot be held fixed."
Adams et al, International Monetary Fund, Sept 1998. p.79

The dilemma is a real one. Given that domestic interest rates in developing countries on the periphery are naturally higher than those in the center country (the United States), then regulatory authorities must be ever-vigilant to prevent unhedged borrowing by individual banks (or even nonbank firms) in dollars and in other foreign currencies. Otherwise, as unhedged foreign currency liabilities cumulate, risk premia (to be defined below) in domestic interest rates may increase for the country as a whole. As domestic interest rates rise, further adverse selection is triggered as more banks are tempted to borrow by accepting low interest foreign currency deposits. Because no interest rate can be found to price currency risk properly, the international capital market breaks down in the presence of a multitude of national monies.

Floating the exchange rate need not mitigate this regulatory dilemma. Under floating, the temptation to borrow unhedged at short term would still be there, and could even be augmented. For the East Asian economies, giving up on the dollar as a collective nominal anchor, and the considerable long-run benefits deriving from that, may yield no offsetting regulatory advantages to help contain moral hazard in domestic banks and other institutions. A simple algebraic model can show this trade off more precisely.

Modelling the Super Risk Premium

Consider some interest rate identities for a given, fairly short, term to maturity. Suppose no government controls on international payments or domestic interest rates so that a well-organized market in currency futures can exist. Then, by covered interest arbitrage, the (deposit) interest differential is equal to the forward premium, i.e.,

(1) $\quad i - i^* = f \quad > 0 \quad$ where

i = the domestic nominal (deposit) interest rate.
i^* = the dollar (deposit) interest rate in the international capital market.
f = the forward premium on dollars in domestic currency.

If domestic banks accepting dollar deposits at the low interest rate i^* cover by buying dollars forward, the cost of the forward cover per dollar so borrowed is simply f. Thus, the effective interest rate on hedged dollar deposits is $i^* + f$.

(2) $\quad i_{hedged} = i^* + f = i$

So, with forward covering, there is no net interest gain from accepting dollar deposits over accepting higher interest deposits in domestic currency. Hedged borrowers in foreign exchange see the same cost of capital as domestic banks accepting deposits denominated in the domestic currency.

Banks without moral hazard would voluntarily cover the exchange risk. They may well have accepted dollar deposits simply for convenience in clearing international payments. In contrast, poorly capitalized banks prepared to gamble on the basis of government deposit insurance might well accept low-cost dollar deposits as an ongoing source of finance for loans denominated in the domestic currency—unless a vigilant regulatory authority forces them to hedge.

But how much of the interest differential in equation (1) represents a "margin of temptation" where banks with (latent) moral hazard will try to avoid regulatory sanctions and borrow in dollars anyway? Let us partition the interest differential into

$$(3) \quad i - i^* = E\hat{e} + r_{currency}$$

$r_{currency}$ is the currency risk premium as ordinarily defined. Apart from any unidirectional expected movement in the exchange rate, it represents the extra return required by investors to hold domestic rather than foreign currency assets. In the specific East Asian context, it represents domestic financial volatility—in interest rates or domestic price levels—measured against similar risk(s) prevailing in the markets of the center county, i.e., the United States. Thus $r_{currency}$ increases with that country's exchange rate volatility against the U.S. dollar.

In the "peripheral" Asian debtor countries, $r_{currency}$ is (was before 1997) normally greater than zero. But it can be reduced toward zero if there is financial convergence with the United States, i.e., the dollar exchange rate has been credibly stabilized through proper price-level alignment (PPP) so that interest rate volatility also approaches American levels.

The other component of the interest differential—the expected depreciation of the domestic currency, $E\hat{e}$ – can be decomposed into two parts. First, within a managed exchange rate regime with a crawling or constant peg (typical of a few South East Asian countries, Mexico, Brazil, and several emerging-market economies), the exchange rate can change predictably and smoothly according to government's policy announcements and commitments—such as the downward crawl in the Indonesian rupiah before the 1997 crash (figure 1). Second, is the small probability of a "regime change": a large, sudden devaluation whose timing is unpredictable.

$$(4) \quad E\hat{e} \equiv E\hat{e}_{predictable} + E\hat{e}_{regime\ change}$$

Although both types of expected change in the exchange rate in (4) widen the nominal interest differential in (3), it is plausible that $E\hat{e}_{regime\ change}$ is part of the margin of temptation for banks with moral hazard to overborrow, while $E\hat{e}_{predictable}$ is not. If the exchange rate was expected to depreciate smoothly through time, even banks with very short time horizons will account for the higher domestic currency costs of repaying short-term foreign currency deposits. Therefore, we exclude $E\hat{e}_{predictable}$ from our measure of the *super risk premium*:

(5) $r_{super} = r_{currency} + E\hat{e}_{regime\ change} = i - i^* - E\hat{e}_{predictable}$

The super risk premium, r_{super} , represents the margin of temptation for banks to overborrow in foreign exchange beyond what they might do if forced to hedge. (Even if banks were required to hedge their foreign exchange exposure, McKinnon and Pill [1996 and 1997] show that international overborrowing could still occur because banks with moral hazard assume too much domestic credit risk.) r_{super} has two components: the currency risk premium, as defined above; and the possibility that the regime could change through a discrete devaluation. The latter source of upward pressure on the interest rate on assets denominated in the domestic currency is sometimes called "the peso problem".

By borrowing unhedged in foreign currency, the domestic banks with deposit insurance and other government guarantees ignore downside bankruptcy risks implied by large devaluations whose timing is uncertain. They also ignore ongoing volatility in the exchange rate as measured by $r_{currency}$. In setting domestic nominal lending rates, the banks will only cover the "predictable" component of the expected depreciation within the currency regime. In the special case where the nominal exchange rate is fixed, unhedged banks on lend at the international *nominal* interest rate plus a normal profit margin. For ease of macroeconomic exposition in this paper, this profit margin between deposits and loans is simply set at zero.

The basic idea here is that the decision-making horizon of the bank with moral hazard is sufficiently short that that it ignores unpredictable changes in the exchange rate. The managers of the bank simply hope that anything drastic, if it happens at all, won't happen "on their watch". The super risk premium in the interest differential then defines their margin of temptation to gamble and accept foreign currency deposits unhedged.

This incentive to gamble by a poorly supervised bank also extends to incurring undue risks with its domestic loan portfolio. McKinnon and Pill (1998 and 1999) show how this domestic credit risk interacts with foreign exchange risk to lead to (potentially) enormous overborrowing in international markets. Using a large cross-country data base, Kaminsky and Reinhart (1999) link the prevalence of domestic banking (credit) crises to foreign exchange crises, i.e., runs on the currency.

"Good" Fixes versus "Bad" Fixes versus Floating

The debate over fixed versus floating exchange rates has been going on since the end of World War II and has many dimensions—all of which can't be covered here. For any emerging-market country where the dollar remains the safe-haven and reference currency as in Asia, Latin America, and elsewhere, the optimal choice of an exchange rate regime can be narrowed down to an exercise in minimizing the super-risk premium. Assuming that there is potential moral hazard in banks, what exchange rate regime would minimize the margin of temptation to overborrow?

Like almost all protagonists in the debate, I initially abstract from term-structure considerations. That is, consider interest rates, exchange rates, risk premia, and so on, as if there was only one, fairly short, term to maturity—as in the algebraic framework developed above. (This assumption is relaxed below.) Under this analytical ground rule, did the Asian-five crisis economies make a mistake in pegging to the dollar before 1997?

The $E\hat{e}_{regime\ change}$ component of the super risk premium would seem to be higher under a pegged than under a floating exchange rate. Fixed exchange rates tend to break down on occasion. Even though the probability of a large discrete devaluation is small in any one decision interval, domestic interest rates can be driven up in the face of this possibility. Thus, at first glance, one might conclude that the margin of temptation, as measured by r_{super}, is higher when the exchange rate is being used as the nominal anchor. And for post-crisis East Asia, influential commentators, for example, the deputy managing director of the IMF, Stanley Fischer [1999], Barry Eichengreen [1999], Martin Wolf [1999],and George Soros [1999] and have argued for greater exchange rate flexibility.

But this line of argument overlooks $r_{currency}$, the other component of the super risk premium. For any given peripheral country, $r_{currency}$ depends on the stability of its exchange rate cum monetary regime—which largely depends on the robustness of its link to the world dollar standard. In times of crisis, the dollar is viewed as the safe-haven currency or definitive money; and, correspondingly, the yield on U.S. Treasury bonds defines (in the argot of the finance literature) the "risk-free" return. So if a country on the periphery of the dollar standard credibly integrates monetary policy with that of the United States—convergence in rates of price inflation to secure the exchange rate without the threat of using exchange controls—such a "good fix" will be rewarded with a lower $r_{currency}$, and a low $E\hat{e}_{regime\ change}$. Before 1997, Malaysia seems to have come closest to this nirvana of using a good fix to minimize r_{super}. Figure 2 shows its short-term interest rate was closest (within 1 or 2 percent) of the American.

Not under duress, now suppose a country voluntarily decides to "abandon" the dollar standard as the nominal anchor and float its exchange rate. As long as the great mass of internationally tradable goods and services are dollar invoiced and stable valued, this experiment in monetary independence is somewhat difficult to define. Even where the central bank does not directly key on its dollar exchange rate but aims to stabilize the domestic price level by other means, success might still lead to a nearly stable exchange rate with the dollar [McKinnon 1999].

But suppose our monetary authority is a more determined floater. Concerned with the potential moral hazard of a pegged rate that could change discretely, it arranges policy so that the exchange rate continually moves like a "random walk" per month or even per quarter. Then, because random exchange rate movements increase volatility in domestic-currency prices and interest rates, $r_{currency}$ also increases. And this increase in $r_{currency}$ will be aggravated if the country in question is a large foreign currency debtor.

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In summary, moving from a "good fix" to a floating exchange rate need not reduce the super risk premium and the margin of temptation for international overborrowing ex ante, i.e., before any major attack on the currency. Under greater exchange rate flexibility, $r_{currency}$ will increase even if $E\hat{e}_{regime\ change}$ declines. (But even a floating exchange rate can be attacked, so $E\hat{e}_{regime\ change}$ is not negligible.)

Of course, a "bad fix", i.e., one which is obviously unsustainable because of, say, ongoing domestic fiscal deficits likely to be monetized (Russia and Brazil in 1998), will make $E\hat{e}_{regime\ change}$ very large. Correspondingly high domestic interest rates relative to those prevailing in safe-haven-currency countries create a huge margin of temptation for unhedged international borrowing that could completely undermine the domestic system of prudential bank regulations [McKinnon and Pill, 1999]. Here a more flexible but controlled exchange rate, perhaps a downward crawl, coupled with controls over international capital flows seems more likely to be the best way of coping with such an unfortunate situation.

But before the 1997 currency attacks, the East Asian pegs to the dollar looked like good fixes with purchasing power parity, price level stability, and fiscal balance. The problem wasn't with their exchange rate policies but with the weak prudential regulation of their financial systems. In defense of the regulators, however, the resulting overborrowing was aggravated by the erratic behavior of the yen/dollar exchange rate and the extremely low nominal interest rates on borrowing in Japan in yen [McKinnon 1999].

The Restoration Rule and the Long-Run Confidence Problem

In comparing "good" fixes to floating to "bad" fixes, our short-run analysis of the super risk premium proceeded without specifying the term structure of interest rates and exchange rate expectations into the more distant future. In common with the literature on the subject, we focussed on the incentives to overborrow ex ante, i.e., before any speculative attack. Moreover, also in common with the literature, we did not specify the exchange rate obligations of the authorities *after* a (successful) attack had occurred. In a model that had only one term to maturity, we defined a good fix to be one where any peripheral country maintained nominal exchange rate stability and purchasing power parity against the center country's currency ex ante.

However, implicit in the ideal of a good fix is that it is sustainable in the more distant future. Even if a surprise speculative attack upsets the fixed rate system in the short run, the macroeconomic fundamentals and the determination of the authorities would still allow the economy to recover its nominal exchange rate and price-level equilibrium in the long run. If such a favorable long-run expectation could be sustained, this would then prevent—or at least limit—the kind of fundamental loss of confidence in their currencies that the five Asian countries actually experienced.

The behavior of countries operating under the international gold standard before 1914 is instructive. In the face of a liquidity crises, a country would sometimes resort to

gold devices, i.e., it would raise the buying price for gold or interfere with its exportation. This amounted to a minor, albeit temporary, suspension of its traditional gold parity. In more major crises including wars, a few outright suspensions for some months or years occurred. After any suspension and devaluation, however, the gold standard generally succeeded in having countries return to their traditional mint parities. The resulting long-run stability in exchange rates helped anchor the common price level and long-term interest rates. In early 1914, exchange rates, wholesale prices, and interest rates in the industrial countries were virtually the same as they had been in the late 1870s.

This gave the pre-1914 gold standard great long-run resilience. After any short-run crisis that forced the partial or complete suspension of a gold parity, the country in question was obliged to return to its traditional parity as soon as practicable [Bordo and Kydland 1995]. I have dubbed this unwritten obligation of the classical gold standard "the restoration rule" [McKinnon 1996, ch. 2]. Even when a currency crisis undermined the government's ability to sustain convertibility in the near term, longer-term exchange-rate expectations remained regressive with respect to the country's traditional gold parity. Because of the restoration rule, long-term interest rates showed little volatility by modern standards [McKinnon and Ohno 1997, ch. 8]; and, without significant financial risk, their levels also remained low: about 3 percent in the U.K. and 4 percent in the U.S.

For the pre-1914 gold standard, Charles Goodhart and P.J.R, Delargy (1998) studied how high-growth debtor countries on the periphery of Britain responded to speculative attacks. Their sample included Austria, Argentina. Australia, Italy and the U.S.A.(which experienced several attacks). They conclude

> *The onset and initial context of the Asian crisis, involving an interaction between a toppling investment boom and a febrile banking system, should not have been surprising. From an historical point of view, it was depressingly familiar. Moreover, it will happen again and again. Much of the pattern is, probably, an inherent feature of development.*
>
> *What, however, differed from our pre-1914 crises and the Asian crisis was the international monetary regime and the consequential implications for post-crisis monetary conditions in the affected countries. Confidence in the maintenance of the gold standard, pre-1914, led to stabilizing mean-reverting expectations, and hence a rapid restoration of gold reserves, liquidity, and low interest rates alongside the maintenance of continued price stability. In the main case in our pre-1914 sample where there was no such confidence (Argentina), pressures on the exchange rate were eased by a (debt) moratorium, allowing a sharply improving trade balance to bring about the needed monetary expansion.*
> Goodhart and Delargy (1998) p. 285

The parallel for a restored East Asian dollar standard is quite clear. Each central bank sets its long-run monetary policy to be consistent with maintaining a "traditional" exchange rate against the dollar within a narrow band, which amounts to having the same long-run rate of price inflation (optimally zero) in its producer price index as in the

United States. (This does not rule out slowly gliding bands as followed by Indonesia and Singapore before 1997.) Each central bank also announces that it will normally adjust short-run interest rates and intervene to keep its exchange rate within the band. But faced with a massive speculative attack, the central bank may well suspend the fixed rate temporarily—and not raise short-term interest rates to exorbitant levels to defend it.

However, this is not the end of the story. As soon as practicable after the speculative attack, the distressed country's central bank would begin nudging its exchange rate back up toward its traditional dollar parity. Allowing for temporary crisis-based suspensions of convertibility, followed by (gradual) restoration of the traditional parity, poses problems for speculators. They don't have any clear point at which to get out of their short position in the domestic currency in order to realize speculative profits. In contrast, a more or less discrete devaluation in response to a speculative attack, with no attempt at restoration, makes it easy for speculators to get out safely. Paradoxically, even though speculators know that temporary suspensions of convertibility are possible, speculative attacks may well be less likely if they also know in advance that the restoration rule is in place.

In highly indebted economies, the worst possible trade off is sharply higher domestic interest rates and deep devaluations that cause massive bankruptcies throughout the economy. The forced suspension of the exchange rate peg is accompanied by such policy disarray that people see *no* future for the dollar value of their currencies, and lose confidence completely—as more or less happened in the Asian five.

To stem this loss of confidence, each affected Asian government should have announced their intention to restore their traditional dollar parities as soon the dust settled. To be sure, re-negotiating the external debt to greatly lengthen its term structure while improving the prudential regulation of the banks would be an important part of the necessary reforms. So would keeping the lid on actual and prospective fiscal deficits. (Remember Keynesian counter cyclical policies can't work, or work perversely, in a confidence crisis.) All would contribute to the credibility of restoring the traditional exchange rate.

Even better to have the restoration rule in place before any speculative attack. It should be one of the "normal" operating rules of the International Monetary Fund. Once a group of neighboring countries, as in East Asia, all have the same commitment to exchange stability in the long run, contagion would be better contained. Indeed, a speculative attack on any one of them becomes less likely to begin with.

By late 1998, Thailand and Korea had already made substantial progress in nudging their exchange rates back up, and have been rewarded by their domestic interest rates coming back down to single digit levels (figures 3 and 4 respectively). But, by delaying the implementation of this "restoration rule", their currencies were left undervalued for too long—leading to so much domestic price inflation that the original exchange rate "parities" became too difficult to retrieve.

Perhaps because France had suffered from numerous confidence crises in the post war, in the early 1990s it provided the best modern example of a country more promptly following the restoration rule. The massive speculative attack against the franc in September 1993 forced a virtual suspension of the ERM bilateral parity grid: official exchange rate margins were widened from 2.25 percent to a ridiculous ± 15 percent. Yet, within a few weeks, the franc-mark exchange rate quickly returned to its traditional level; and French short and long-term interest rates closely tracked German ones in the 1990s. So quickly was the mark/franc exchange rate restored that the devaluation had a negligible effect on the French price level. Because France's monetary and fiscal "fundamentals" were not misaligned with Germany's, restoration was easy—even though defending against the initial massive attack was impossible.

Lengthening the Term Structure of Finance: General Lessons

Is there a general lesson here about the feasibility of freely floating exchange rates among different classes of economies? In his chapter titled "The Confidence Game", Paul Krugman (1999) identifies the differences thus:

> *It seems, in other words, that there is a sort of double standard enforced by the markets. The common view among economists that floating rates are the best, if imperfect, solution to the international monetary trilemma was based on the experience of countries like Canada, Britain, and the United States. And sure enough, floating exchange rates work pretty well for First World Countries, because markets are prepared to give those countries the benefit of the doubt. But since 1994 one Third World country after another—Mexico, Thailand, Indonesia, Korea, and most recently, Brazil—has discovered that it cannot expect the same treatment. Again and again, attempts to engage in moderate devaluations have led to a drastic collapse in confidence. And so now markets believe that devaluations in such countries are terrible things; and because markets believe this, they are.* [Krugman (1999) p. 111]

Krugman makes an important distinction. To cushion the effects of the fall in primary products prices from the Asian crisis, Australia and Canada could let there currencies float downwards without capital controls and not be attacked. Why? Because exchange rate expectations for the Australian and Canadian dollars were already fundamentally regressive: during the course of the downward float, people generally expected the rate to come back. Both were mature market economies with (1) credible internal monetary mechanisms (independent central banks) for targeting their domestic price levels over the long run, and (2) relatively long terms to maturity for their internal and external debts. (In Asia, the non-crisis creditor countries of Taiwan and Singapore were (are) more like mature capitalist ones in these respects.)

Of course, (1) and (2) are complementary. Only with long term confidence in the purchasing power of domestic money (against the center country's) would exchange rate expectations be naturally regressive, and are long-term bond and mortgage markets

possible to organise. And having finance at longer term bolsters the credibility of the central bank to hit its inflation targets over the longer term.

However, even in Canada—where the structure of finance is fairly long and where the Bank of Canada had, by 1991, put a highly credible domestic monetary regime not dissimilar to the American for limiting inflation in place—medium term misalignments of the Canadian dollar with the American have created unhappiness. The run up of the Canadian dollar from 1988 to peak at 89 cents in 1991 seemed to many observers to overvalue the Canadian dollar and aggravate the recession of 1991-92. Similarly, the fall of the Canadian dollar to touch 63 U.S cents in early 1999 seems to be all out of proportion to Canada's now modest dependence on primary products exports. Because of the high degree of trade dependence with the United States, feeling was widespread feeling that this fall reduced Canadian living standards. In June 1999, in a report from the C.D. Howe Institute in Queens University, two of Canada's most distinguished economist wrote

> *"Canada's experience with a floating exchange rate has been disappointing. The floating dollar has been prone to major misalignments, as its current weakness demonstrates, that put Canada at a disadvantage in the North American competition for physical and human capital investment. As the Canadian economy becomes more open to trade and investment flows, and those flows become more focussed on the United States, the benefits of greater fixity with the U.S. dollar are growing."*
> Thomas J. Courchene and Richard G. Harris [1999]

To be sure, there are influential critics of the Courchene-Harris report: Laidler [1999] and Murray [1999] believe that the Canadian dollar should continue to float. Nevertheless, the Canadian experience suggests that, while "first-world" countries can allow their exchange rates to float freely without being attacked as most "third-world" would be, the resulting swings in the exchange rate may still be uncomfortably wide in the absence of any firm long-run exchange rate objective. Even with a stable internal monetary standard in place (a believable set of monetary procedures for targeting and stabilizing the domestic price level), regressive exchange rate expectations are not strong enough to prevent damaging medium-term fluctuations

Now return to our "emerging-market" debtor economy where the term structure of finance is short and where there is no history of central bank independence. Its government would be even more hard pressed than Canada's to put a purely internal monetary standard in place that convincingly pinned down the domestic price level (relative to the center country's) over the long run. Indeed, in most Third World economies—including the Asian five—the central bank has often been commandeered to provide cheap credit for promoting exports, subsidising commercial banks, and otherwise directing credit in line with the government's development program. Sometimes, this strategy has been facilitated by ringing the country with capital controls.

Correspondingly, there is a potential lack of confidence in the long-term exchange rate *unless* the government can effectively restrain itself. By credibly pegging to the

dollar, the central bank shows the market that it is prepared to limit growth in domestic base money and avoid future inflation despite its lack of independence.

Before 1997 during their "miracle" growth phases, the East Asian economies successfully pegged to the dollar as the nominal anchor for their domestic price levels. With the benefit of hindsight, however, we now know that this policy was seriously incomplete. First, and most obviously, there was the failure to properly regulate the financial system—including the central bank itself in some cases—against undue risk taking including short-term foreign exchange exposure.

Second, and more subtly, the East Asian debtor economies had not committed themselves to long-term exchange rate stability in the mode of the 19th century gold standard—even though they seemed to be securely pegged in the short and medium terms. Because of the short-term structure of finance, each was vulnerable to a speculative attack on its currency; but none had a long-run exchange rate strategy in place to mitigate the worst consequences any such attack. That is, there was no restoration rule for keeping exchange-rate expectations regressive.

In part, the problem arose because the pre-1997 East Asian dollar standard was informal rather than formal. With exception of Hong Kong, none of the countries involved had formally declared a dollar parity—and each had been classified by the IMF as following some variety of "managed floating" rather than being a dollar pegger [McKinnon, 1999]. After any forced suspension, there was no traditional (gold) parity in the 19th century sense to which the government was obviously bound to return.

Probably the biggest problem, however, was philosophical. In the endless debate on fixed versus floating exchange rates, academic economists on either side have failed to take the term to maturity of the exchange rate into account. Given the great asymmetry among national monies, I have been arguing that countries on the periphery of the dollar standard will always be subject to speculative attacks and (attempted) flight into dollars. (The small countries in Eastern Europe are similarly situated on the periphery of the euro standard.)

But emerging-market economies whose macroeconomic fundamentals are sound so as to permit a "good fix" for their exchange rates should extend the maturity of that commitment to the distant future, i.e., adopt the restoration rule explicitly—and, ideally, collectively. (Of course, those that must rely on the inflation tax, and cannot credibly commit to long-run exchange rate stability, should not try it.) Indeed, the benefits from having the exchange rate pinned down in long run exceed those from having a hard short-term fix. With regressive exchange rate expectations and the future price level more secure, the authorities can seriously encourage the lengthening the term structure of domestic and foreign finance. As long term bond issues in the 19th century mode begin to displace short-term bank finance, the government's commitment to long-term exchange rate stability is naturally reinforced.

In summary, suppose that the long-run monetary, fiscal, and price-level, fundamentals of an "emerging-market" country could be sustainable. Nevertheless, the national currency is subject to a massive speculative attack—possibly aggravated by contagion from neighboring countries. Then temporary suspension of official intervention should be coupled with the promise of eventually restoring the initial par value of the currency. Despite some unavoidable temporary currency depreciation, our restoration rule would maintain regressive expectations and limit capital flight. This has several advantages:

In the *short run*, the government under attack isn't forced to increase near-term interest rates so sharply in a cyclical downturn—or when its banks are particularly weak from maturity mismatches. The expectation of eventual exchange rate appreciation minimizes (but need not eliminate) the need to increase short-term interest rates to assure the markets that restoration is in prospect.

In the *medium run* when the errant exchange rate is nudged back up, the contagion from "accidental" competitive devaluation is mitigated. Despite a temporary devaluation at the outset of the attack, the other countries within the Asian dollar standard need not worry about persistent beggar-thy-neighbor policies. Moreover, within the domestic economy, the bankruptcy threat to foreign-currency debtors is diminished.

In the *long run*, the central bank can keep the domestic price level consistent with eventually re-storing its "traditional" dollar exchange parity. Domestic inflation would not spiral out of control. If the domestic bond market were open, long-term interest rates would remain fairly stable at levels close to those in the United States. Indeed, only with a credible commitment to long-term exchange rate stability in place, is it possible to develop a long-term domestic bond market—so vital for reducing term-structure risk in a reformed banking system.

Figure 1: INDONESIA

Exchange Rate

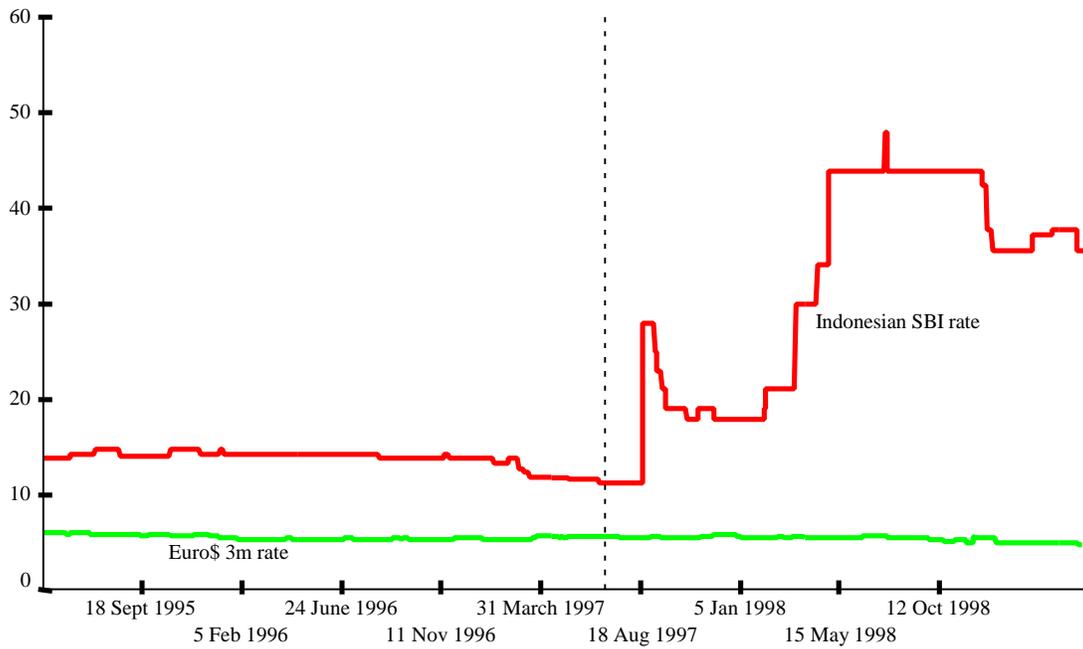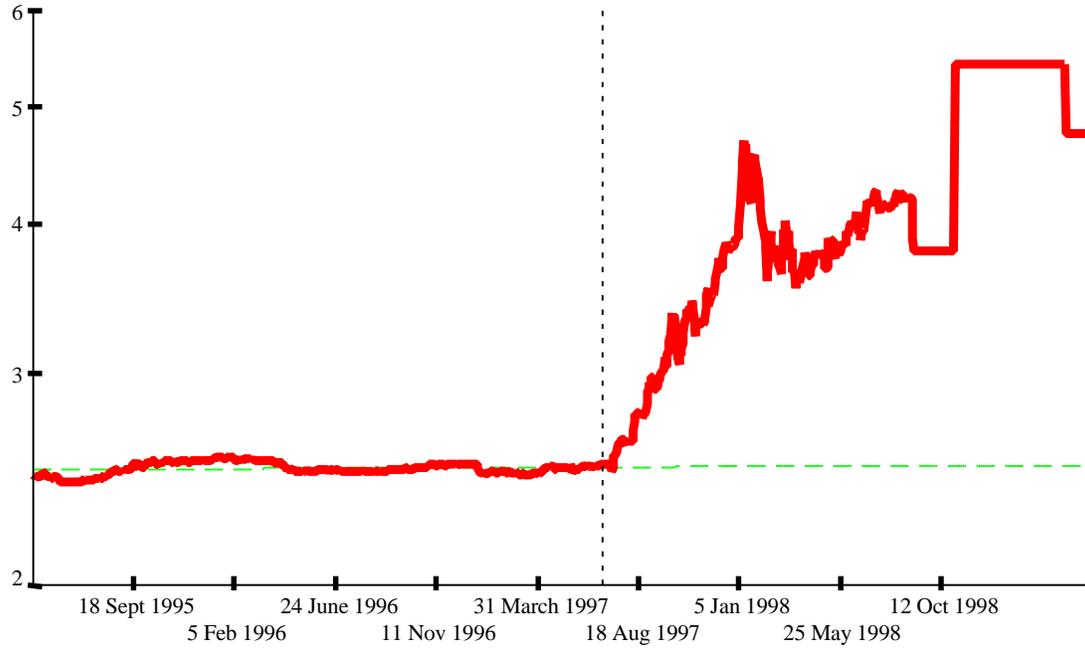*Indonesian rupiah per US dollar*
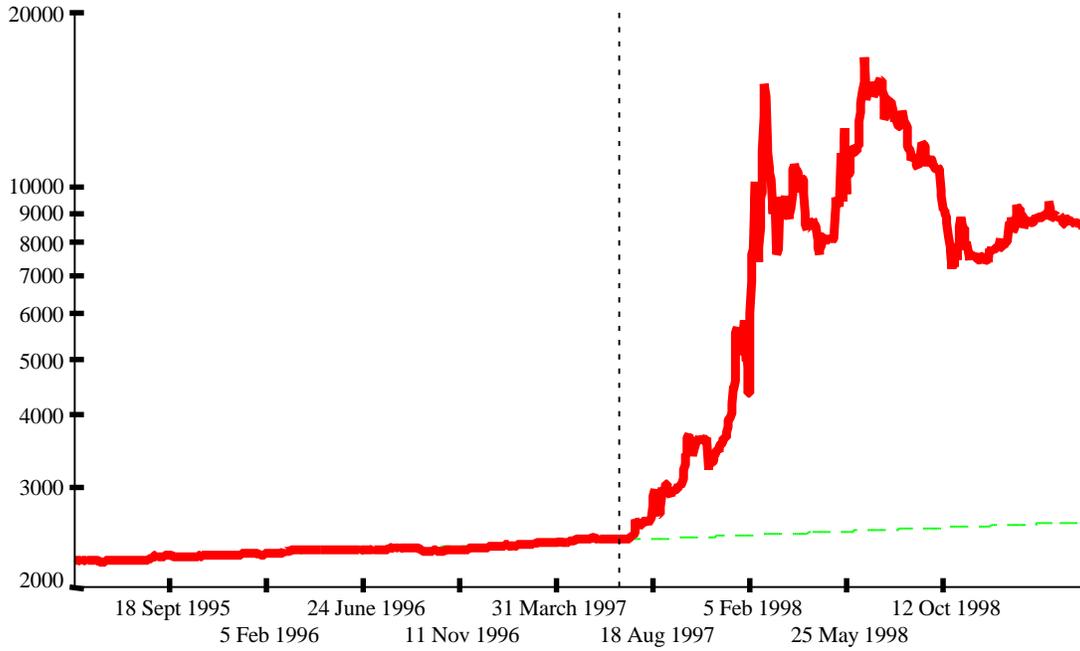
Interest Rates

% per annum

Figure 2: MALAYSIA

Exchange Rate
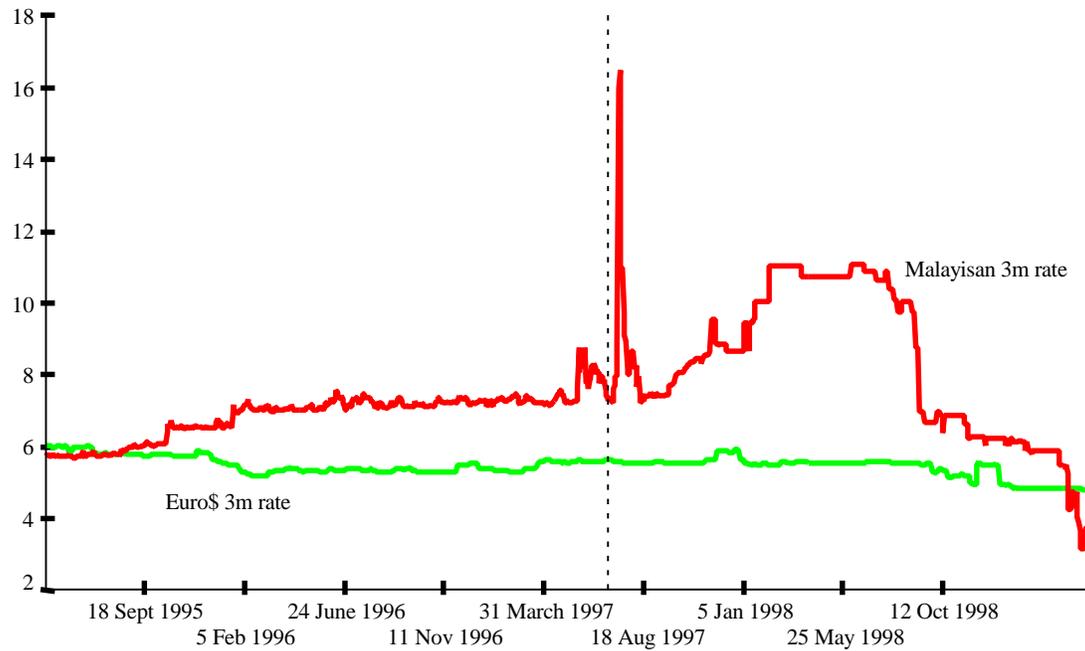
Malaysian ringitt per US dollar

Interest Rates

% per annum

15

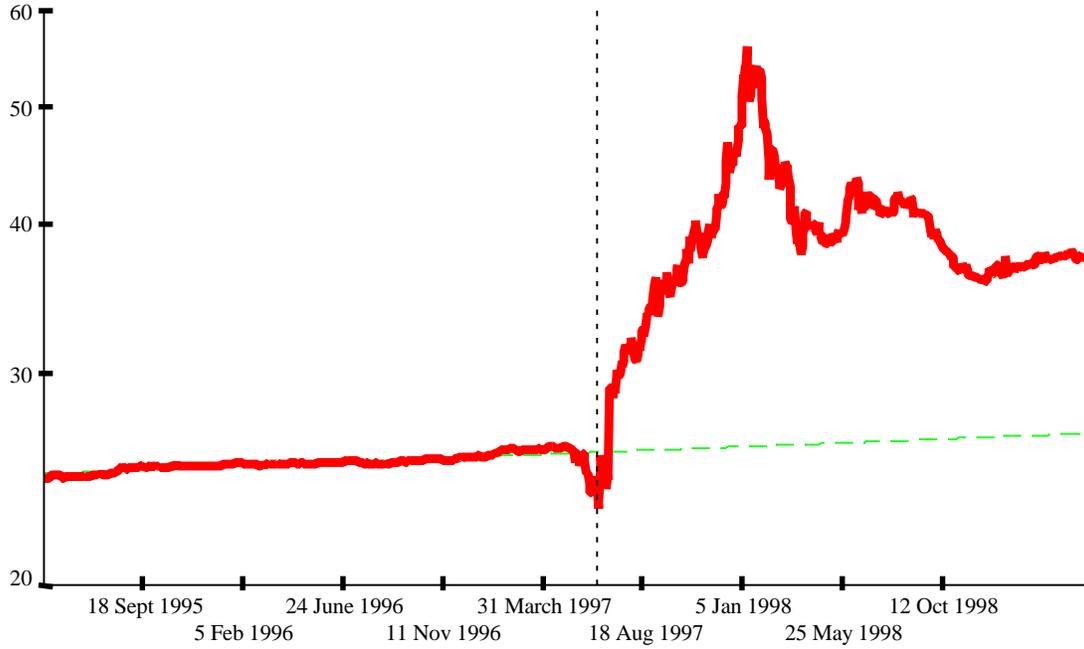**Figure 3: THAILAND**

Exchange Rate
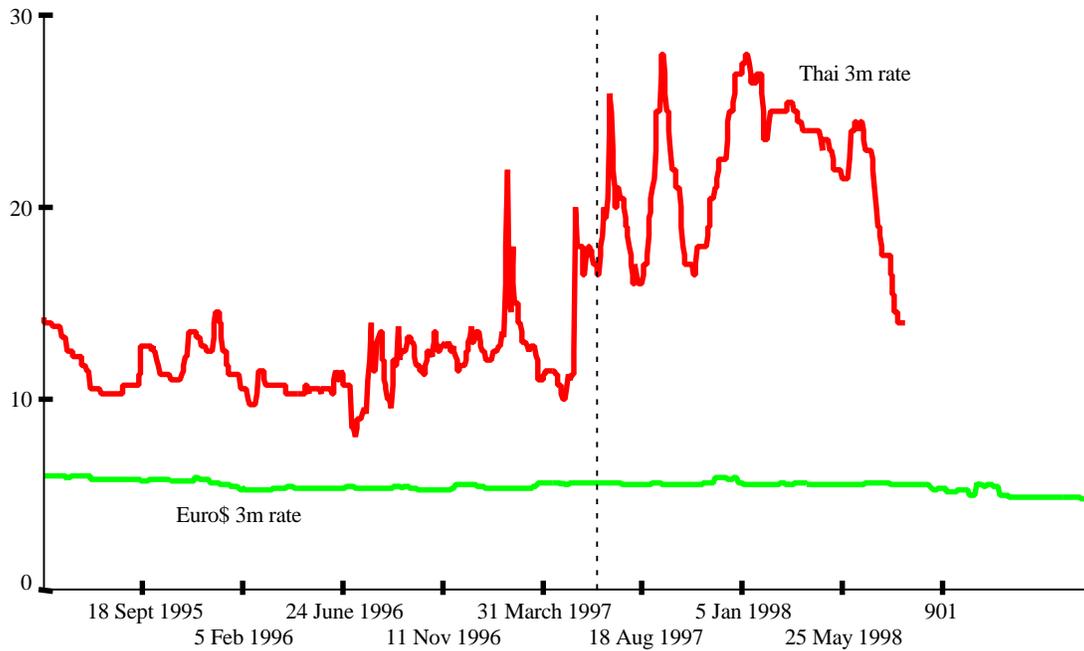
Thai baht per US dollar

Interest Rates
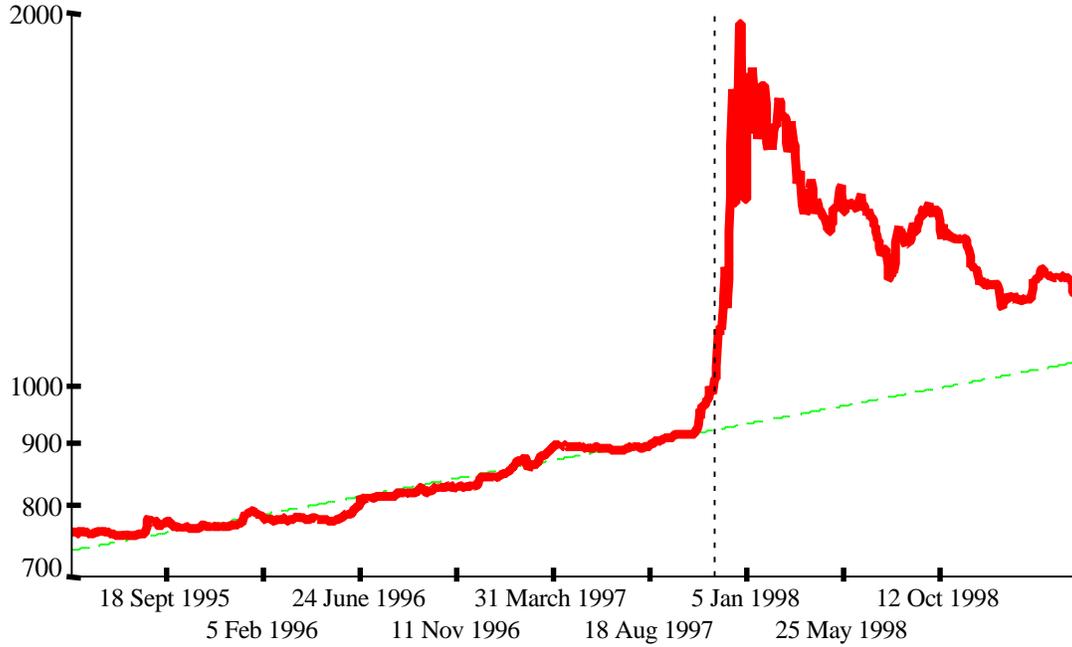
% per annum

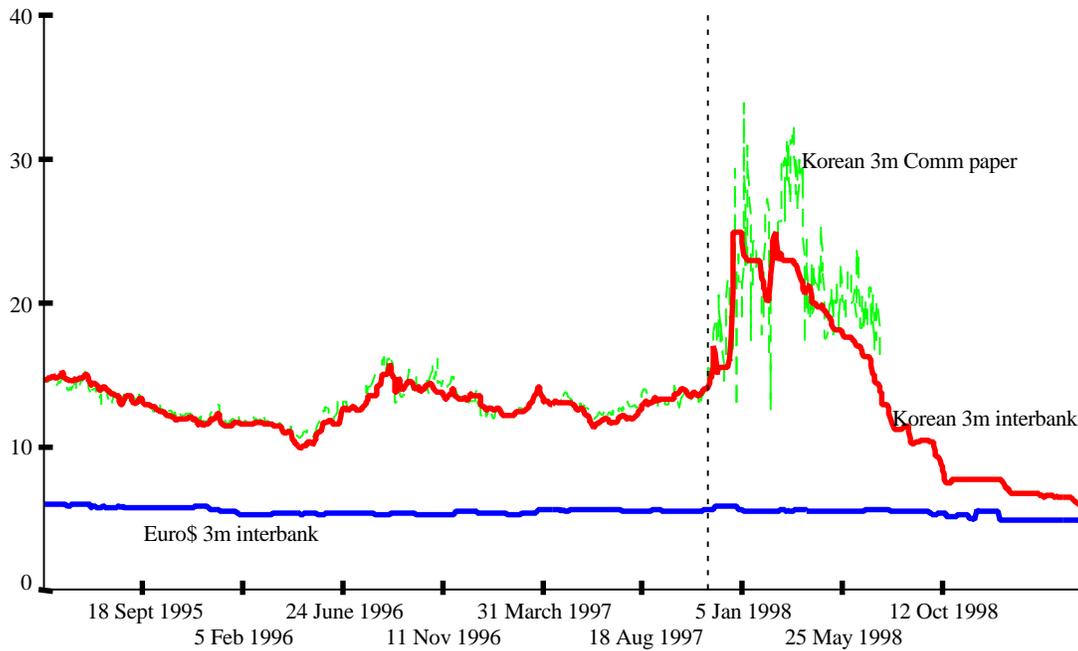16

Figure 4: KOREA

Exchange Rate

Korean won per US dollar

Interest Rates

% per annum

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