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The East Asian Financial Crisis—Implications for Exchange Rate Management

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Foreword

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Chief Economist

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INTRODUCTION

Although inappropriate exchange rate policies are not a root cause of the financial crisis in East and Southeast Asian countries (Indonesia, Republic of Korea, Malaysia, Philippines, and Thailand) such policies have contributed to the crisis. By the early 1980s, all of the affected countries had moved away from the old policy of pegging to the US dollar toward more flexible exchange rate regimes of basket-pegging or managed "dirty" float. But the extensive intervention policies of the central banks meant that exchange rates were de facto pegged to the dollar.

It is argued that the de facto dollar peg policy contributed to vulnerability in two ways. First, the strengthening of the dollar vis-à-vis the yen after mid-1995 led to an appreciation of the affected currencies and, thereby, to a loss of export competitiveness and current account pressures. Also by increasing the relative profitability of the nontradable sector, the fixed exchange rate encouraged investments in real estate. By contrast, the dollar peg policy served well during 1985 to mid-1995, when the dollar weakened against the yen and fueled export-led growth in East Asia. Second, low exchange rate variability and the predictable pattern of exchange rates under the de facto pegged regime reduced foreign exchange risk for the debtors and creditors and led to large surges of short-term capital held in unhedged positions.

Presently, all of the affected countries have adopted a policy of managed "dirty" float where the exchange rate is essentially determined by market forces albeit with sporadic central bank intervention. This note addresses issues such as: What would be an optimal exchange rate regime for these countries in the medium term? Should they be more rule-based? These issues are relevant not only for the affected countries but also for those that are vulnerable to the forces of globalization.

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1. See ADB (1998) for a discussion of the root causes of the crisis. Recently, Nobel laureate James Tobin has identified fixed exchange rates in these countries as the main culprits.

EXCHANGE RATE REGIMES AND MOVEMENTS

Exchange Rate Regimes

The trends in exchange rate regimes of the affected countries are presented in Table 1. As part of their outward-oriented development strategies, by early 1973, Republic of Korea (hereafter Korea), Malaysia, and Philippines had adopted a more flexible exchange rate regime of managed float. Only Indonesia and Thailand pegged their currencies to the dollar. Subsequently, in 1978, these two countries also moved toward greater de jure flexibility in exchange rate management—Thailand by pegging to a basket of currencies and Indonesia by adopting a regime of managed float. By 1980, therefore, all of the affected countries had abandoned the single currency peg regime. Malaysia and Thailand attempted to stabilize the prices of traded goods by pegging to a currency basket, while Indonesia, Korea, and Philippines moved directly to a managed float regime with the primary objective of attaining policy independence. Between 1981 and 1992, the implicit dollar weight in the currencies of the affected countries ranged from 75 percent to 100 percent.

Bilateral Exchange Rates

Exchange rate regimes in the affected countries became much more flexible after 1980. This is evident, for instance, from the analysis of nominal bilateral exchange rate changes in Table 2. Currency adjustments vis-à-vis the dollar were generally much smaller during 1976-1981 than subsequently.

The classification of exchange rate regimes based on officially announced intervention policies could be misleading as actual exchange rate management might differ from the stated objectives. A floating regime might be "dirty" so as to achieve a result that is a little different from formal pegging. Conversely, countries that maintain a pegged system may make frequent adjustments so that the results resemble floating rates. Indeed, an analysis of data in Table 2 suggests that the affected countries continued to closely peg their currencies to the dollar. Though the dollar weakened significantly against the yen, Deutsche mark, and British pound

Table 1: Exchange Rate Regimes of the Affected Countries

	1973	1980	1996	Dec 1997
Indonesia	PS($)	MF[a]	MF	MF
Korea, Rep. of	MF	MF	MF	MF
Malaysia	MF[b]	PB[c]	PB	MF
Philippines	MF	MF	MF	MF
Thailand	PS($)	PB[d]	PB	MF

Notes:
PS($): Pegged to a single currency (US dollar)
PB: Pegged to a basket of currencies
MF: Managed or "dirty" float

[a] Beginning November 1978.
[b] Beginning June 1973.
[c] Beginning September 1975.
[d] Beginning November 1978.

Sources: Dowling et al. (1991) and IMF (1997a).

Table 2: Changes in Bilateral Nominal Exchange Rates
($/local currency, average year-on-year change)[a]

							Variability during 1980-1996	
	1976-1981	1982-1984	1985-1989	1990-1994	1995-1996	1997	Standard Deviation	Coefficient of Variation
Indonesia	-6.1	-14.7	-9.0	-3.9	-4.0	-51.4	0.000404	0.5
Malaysia	2.4	-2.4	-2.1	1.1	0.7	-32.9	0.026273	0.1
Philippines	-1.4	-25.0	-2.2	-0.7	-4.1	-29.0	0.031520	0.5
Thailand	-1.9	-5.0	1.0	0.5	-0.9	-43.2	0.002838	0.1
Korea, Rep. of	-5.3	-5.5	4.4	-3.1	-2.7	-43.5	0.000117	0.1
Japan	6.8	-3.9	12.7	7.5	-6.1	-12.1	0.002069	0.3
Germany	3.0	-10.0	13.1	2.4	1.0	-12.7	0.115866	0.2
United Kingdom	-0.2	-14.6	7.1	0.2	3.4	-0.2	0.264644	0.2

[a] December of current year over December of preceding year.

Source: International Monetary Fund, *International Financial Statistics* (CD).

during the periods 1985-1989 and 1990-1994, the currencies of the affected countries were remarkably stable vis-à-vis the dollar (especially the Malaysian ringgit, Philippine peso, and Thai baht). During 1995-1996, the dollar strengthened vis-à-vis the yen, but again the currencies of the affected countries were relatively stable. Thus, the currencies of the affected countries were more or less pegged to the dollar.

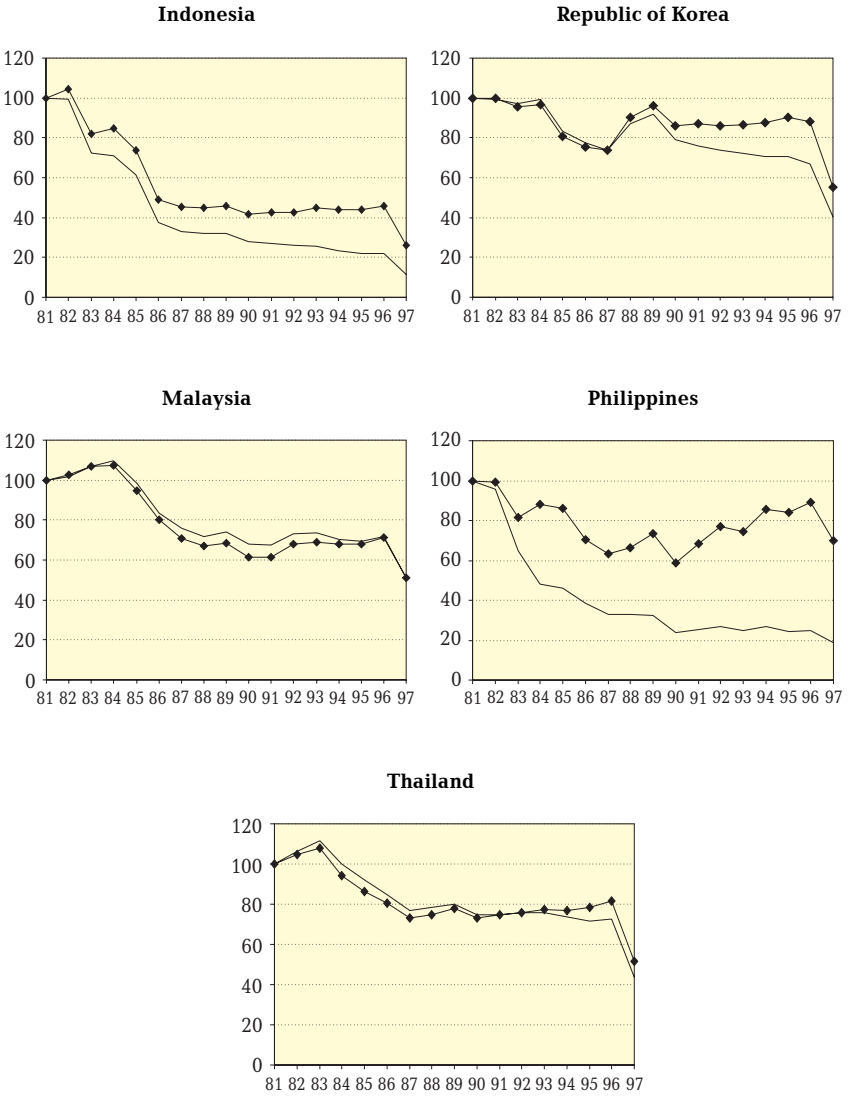
Nominal and Real Effective Exchange Rates

Another useful analysis of exchange rate policies can be provided by examining movements in the nominal effective exchange rates (NEERs) and real effective exchange rates (REERs). While considerable controversy exists in the literature on how to measure it, the REER, in particular, is a good proxy for a country's international competitiveness as it measures the relative price of tradables versus nontradables. In the REER index computation, bilateral nominal exchange rates adjusted for relative inflation rates are weighted by the importance of partner countries.

Figure 1 shows that the affected countries experienced considerable fluctuations in their effective exchange rates. During 1981-1996, all affected currencies depreciated in nominal effective terms. In Malaysia and Thailand, domestic inflation was close to inflation in trading partner currencies and the export competitiveness gained through nominal exchange rate depreciation was maintained. In the other countries, domestic inflation was higher than foreign inflation. Despite that, Indonesia and Korea were successful in targeting the REER between the late 1980s and 1996. Only in the Philippines did the REER appreciate, although slightly, and a certain amount of export competitiveness was lost.

The pace of nominal and real effective depreciation of the affected currencies accelerated sharply in 1997 with the deep devaluations beginning in Thailand in July 1997. McKinnon (1998) has suggested nudging all currencies upward through regional coordination. If exchange appreciation were tried in only one country, it would lack credibility when the currencies of its competitors remained undervalued.

Figure 1: Nominal and Real Effective Exchange Rate Indexes



Note: Data as of end-December.
Source: Institute of World Economics, Kiel, Germany

Aside from the longer-term trends discussed in the previous paragraph, it is also useful to examine trends over shorter intervals. Such an analysis in Tables 3 and 4 is consistent with the two hypotheses discussed above:

(i) The de facto dollar pegging policy led to a depreciation of the affected currencies in nominal effective terms during the 1985-1989 and 1990-1994 periods, when the dollar was weak (Table 3). The rate of depreciation slowed or turned into an appreciation (in Malaysia) during 1995-1996, when the dollar strengthened in world markets.

(ii) The real effective exchange rates of the affected countries followed a similar depreciating trend during 1985-1994, except in the Philippines (where it appreciated slightly, Table 4). However, the rates appreciated during 1995-1996 —by about 3 percent per annum in Thailand; about 2 percent in Indonesia, Malaysia, Philippines, and Thailand; and less than 1 percent in Korea.

(iii) Real exchange rate appreciation could have led to an export slowdown in the affected countries. By estimating export demand functions for a wide range of Asian countries using quarterly data during 1970-1979, Bautista (1981) found that real currency appreciation led to export slowdowns. Similarly, Rana (1983) found that in Asian countries, the exchange rate as well as its variability was an important determinant of imports.

(iv) The de facto dollar pegging policy also led to relative stability in the currencies of the affected countries (last two columns of Table 2). This could have contributed to excessive amounts of short-term capital inflows in the affected countries in the 1990s. Large inflows were also unhedged because of the absence of perceived exchange rate risks.

Table 3: Changes in Nominal Effective Exchange Rates[a]

(Average year-on-year change[b])

	1982-1984	1985-1989	1990-1994	1995-1996	1997
Indonesia	-9.9	-13.5	-5.9	-3.4	-48.4
Korea, Rep. of	-0.1	-0.8	-5.1	-2.3	-40.0
Malaysia	3.1	-7.3	-0.9	1.2	-28.8
Philippines	-20.7	-7.3	-2.6	-3.5	-24.6
Thailand	0.3	-4.3	-1.6	-0.4	-40.1

[a] SDR weighted; an increase means appreciation.
[b] December of current year over December of preceding year.

Source: Institute of World Economics, Kiel, Germany.

Table 4: Changes in Real Effective Exchange Rates[a]

(Average year-on-year change[b])

	1982-1984	1985-1989	1990-1994	1995-1996	1997
Indonesia	-4.6	-10.5	-0.7	2.0	-43.5
Korea, Rep. of	-1.1	0.8	-1.8	0.4	-37.3
Malaysia	2.4	-8.5	0.1	2.5	-28.1
Philippines	-3.4	-3.1	4.2	2.1	-21.5
Thailand	-1.6	-3.6	-0.2	3.2	-36.7

[a] SDR weighted; an increase means appreciation.
[b] December of current year over December of preceding year.

Source: Institute of World Economics, Kiel, Germany.

OPTIMAL EXCHANGE RATE REGIMES

There are basically two approaches in the determination of optimal exchange rate regimes. The early literature on the subject was based on the theory of optimum currency area and focused on the characteristics that determined whether a country would be better off, in terms of maintaining internal and external balance, with different choices of exchange rate regimes. For example, small open economies are better served by a fixed exchange rate regime. Also the less diversified a country's production and export structures, the stronger the case for fixed exchange rates becomes.

Another approach to the choice of exchange rate regime focuses on the effects of random disturbances on the domestic economy. The optimal regime in this framework is the one that stabilizes macroeconomic performance, that is, minimizes the fluctuations of output, prices, or other macroeconomic variables. This approach typically finds that a system of fixed exchange rates is superior if the disturbances impinging on the economy are predominantly domestic nominal shocks (e.g., interest rate changes), whereas a flexible regime is preferable if disturbances are foreign (e.g., terms of trade) or domestic real shocks (e.g., famines). The various considerations and their implications for exchange rate regimes summarized by the International Monetary Fund are given in Box 1.

How do the affected countries fare against the checklist in Box 1? At first glance, they are relatively small, highly open economies where imports account for more than 40 percent of GDP, twice the average for developing countries. Inflation rates are also modest by developing country standards and labor markets are relatively flexible at least in most of the countries. In other words, floating rates are probably not the best option. But then again they are small open economies with relatively open capital accounts and are vulnerable to external shocks. The affected countries also rely extensively on foreign investors to finance their investment requirements. Therefore, a rigid exchange rate regime may not be the most suitable.

Credibility of regimes is also important. In the context of the ongoing crisis with severe banking sector problems and low levels of reserves, the return to an announced peg is an open invitation

for future speculative attacks. On the other hand, a floating system would bring about considerable volatility in the exchange rates of the affected countries where financial markets are not well developed and foreign markets are thin. In such a situation, a few large transactions could cause large short-term exchange rate movements. In light of these problems, an intermediate regime of managed float is worth considering.[2]

Under the managed float regime, one possibility is to retain the present "dirty" float in which the nominal exchange rate is essentially determined by market forces with sporadic central bank intervention.[3] The other is to move to an officially determined—but better managed—exchange rate regime within a band, or a crawling peg system. The difference between the two is that in the crawling peg system, the monetary authorities make specific commitments about the path of the real exchange rate, as well as about the range of variability of the nominal exchange rate. In the medium term and as credibility of the affected countries is restored, the move to a crawling peg system may be advisable as it combines the advantages of both fixed and flexible exchange rates. It helps to impose discipline on policies, but it still provides flexibility if the country is hit by surges in capital flows. By allowing some uncertainty about the exchange rate, the band would reduce incentives for heavy currency borrowing. Chile, Israel, and Mexico have had favorable experience with the crawling peg system (Helpman, Liederman, and Bufman 1994).

The crawling peg system is not, however, a panacea. Indonesia adopted the system in 1978 and widened the band on several occasions—most recently in 1997 from 8 to 12 percent; nonetheless, Indonesia was subject to speculative attacks, most notably in early 1998.

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2. After falling into a disrepute because of their colonial shadows, currency boards have staged a revival most recently in Indonesia. However, as argued in Box 2, this idea also lacks credibility in the affected countries at the present time. This situation could, of course, change in the future as recovery proceeds and the international reserve position of the countries improve.

3. The regime is closer to free floating because the affected countries are facing a serious shortage of intervention currency.

Box 1: Considerations in the Choice of Exchange Rate Regime

Characteristics of Economy	Implications for the Desired Degree of Exchange Rate Flexibility
Size of economy	The larger the economy, the stronger is the case for a flexible rate.
Openness	The more open the economy, the less attractive is a flexible exchange rate.
Diversified production/export structure	The more diversified the economy, the more feasible is a flexible exchange rate.
Geographic concentration of trade	The larger the proportion of an economy's trade with one large country, the greater is the incentive to peg to the currency of that country.
Divergence of domestic inflation from world inflation	The more divergent a country's inflation rate from that of its main trading partners, the greater is the need for frequent exchange rate adjustments. (But for a country with extremely high inflation, a fixed exchange rate may provide greater policy discipline and credibility to a stabilization program).
Degree of economic/financial development	The greater the degree of economic and financial development, the more feasible is a flexible exchange rate regime.
Labor mobility	The greater the degree of labor mobility, when wages and prices are downwardly sticky, the less difficult (and costly) is the adjustment to external shocks with a fixed exchange rate.
Capital mobility	The higher the degree of capital mobility, the more difficult it is to sustain a pegged-but-adjustable exchange rate regime.
Foreign nominal shocks	The more prevalent the foreign nominal shocks, the more desirable is a flexible exchange rate.
Domestic nominal shocks	The more prevalent the domestic nominal shocks, the more attractive is a fixed exchange rate.
Real shocks	The greater an economy's susceptibility to real shocks, whether foreign or domestic, the more advantageous is a flexible exchange rate.
Credibility of policymakers	The lower the anti-inflation credibility of policymakers, the greater is the attractiveness of a fixed exchange rate as a nominal anchor.

Source: IMF (1997b).

Box 2: Currency Boards

Currency boards have been adopted in a number of countries as a means of enforcing financial discipline especially from initial circumstances of financial instability. Although both a standard peg and a currency board aim to maintain fixed exchange rates, the currency board goes one step further: it limits the permissible increase in domestic currency to the stock of foreign reserves, and allows the free conversion between the domestic and the backing currency at the announced rates. The currency board, in the pure form, cannot act as the lender of last resort and extend credit to the government, banks, or anyone else. By sharply limiting the ability of the board to conduct discretionary monetary policy, it is hoped the credibility gains would be more pronounced and immediate.

For the successful implementation of a currency board, two preconditions have to be fulfilled. First, the commitment to exchange monetary liabilities for foreign currency at the fixed rate requires that the currency board have sufficient foreign exchange reserves to honor this commitment. This ideally means that its foreign reserves should at least equal the value of its monetary liabilities. Second, given the absence of a lender of last resort, governments and banks must show financial discipline. The former must commit themselves to appropriately tight fiscal positions and the latter must be adequately robust so that they can function without additional credit from the lender of last resort.

Unless the above commitments are fulfilled, a currency board would not be credible. This is critical because in the absence of confidence, the financial community may view the arrangement not as a mechanism for restoring stability, but merely as an opportunity to convert financial assets into foreign exchange at an attractive rate. A currency board that is not credible also provides an inviting target for speculators and hedge funds.

The decisions that need to be made to manage a crawling peg system consists of how to adjust the parity, how wide to set the band, and how to intervene within the band. The consensus view is that the objective of setting the central parity should be to maintain competitiveness—that is, the central parity should track the long-run equilibrium effective exchange rate reflecting the relative importance of various trading partners to the extent possible—to prevent expectations of discrete realignments. This means adjusting the parity not only in accordance with the domestic–foreign inflation differential but also in accordance with changes in the underlying equilibrium real exchange rates, which are driven by permanent changes in fundamental factors such as terms of trade, productivity, and saving rates.

Given that the central parity should seek to track the long-term equilibrium real exchange rate, the next issues are how wide the band should be and how much intervention should take place within it. The desirable width of the band depends on the value to the domestic economy of an independent domestic monetary policy. The wider the band the greater the scope for an independent domestic monetary policy. In turn, the usefulness of an independent monetary policy for reducing volatility depends on the availability of alternative stabilization instruments (e.g., fiscal policy) and on the sources of shocks to the economy. The traditional analysis of this issue focuses on the nature of the shocks, the standard prescription being that, holding the fiscal policy constant, domestic real shocks call for exchange rate flexibility, while nominal shocks call for fixed exchange rates. This suggests that if fiscal policy is not available as a stabilization tool, countries in which domestic real shocks predominate should adopt fairly wide bands, while those in which domestic nominal shocks predominate should keep the exchange rate close to its parity. However, with a flexible fiscal policy, domestic real shocks can be countered through fiscal adjustment, thereby diminishing the value of independent monetary policy as a stabilization instrument. Thus the adoption of a fairly narrow band is more likely to be consistent with the stabilization objective if fiscal policy is available as a stabilization instrument. Regarding intervention within the band, active intervention should accompany nominal shocks, whereas real shocks instead call for some combination of exchange rate and fiscal adjustment.

CONCLUSION

The exchange rate is a highly visible indicator and a key policy variable in determining a country's economic well-being. During the post-1995 strong dollar period, the East Asian countries should have delinked their currencies from the dollar in order to improve export competitiveness. They should have also permitted greater flexibility of their exchange rates for two reasons: (i) to reduce incentives for currency speculation and excessive inflow of foreign capital, and (ii) to acquire greater independence of macroeconomic policies. Failure to do so contributed to the crisis, although inappropriate exchange rate policies were not the root causes of the East Asian financial crisis.

In the post-crisis period, the affected countries have moved to a de facto "free" float regime. In the medium term and as credibility is established, they may consider adopting the more orderly system of a crawling peg as in the case of several Latin American countries and Israel. But crawling pegs alone cannot be a panacea. A proper mix of monetary sterilization, fiscal flexibility, and greater exchange rate flexibility is an appropriate policy response by the affected countries to maximize the benefits of globalization of financial markets and to reduce its challenges. This combination of macroeconomic policies is also applicable to other vulnerable DMCs. In the choice of an exchange rate regime, however, they may also consider the existing differences in the other determinants such as size, diversification, and degree of openness.

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