The World Dollar Standard and the East Asian* Exchange Rate Dilemma

Let me say how delighted I am to be here, Il SaKong, and it is true that we met many years ago. My first summer here was in 1967 as a tariff advisor to the Korean government, financed by USAID. I lived on the U.S. Army base, actually, and took a bus every day into downtown Seoul. I've been back several times since then, and it turns out that the last time was in mid-December 1997. At that time, I caused a currency panic. When I came into Korea, I changed my dollars into won, and when I left three days later, I got 25 percent fewer dollars per won. I'm hoping that my talk today doesn't precipitate a similar panic.

I want to talk about the current East Asian exchange rate dilemma and how it is linked to the world dollar standard. It turns out that we live in an unfair world: there can be only one central money for facilitating international exchange in the world system. Inevitably, this leaves most countries on the "periphery" of that central money where their monetary systems are more fragile, and managing foreign exchange and financial policy is actually more difficult, than it is in the center. It is easier to be the U.S. Secretary of the Treasury than Korean Minister of Finance!

One important aspect of this asymmetry is the nature of currency risk in the foreign exchanges. The U.S. economy is by far the biggest debtor to the rest of the world—something like $2.5 trillion of net indebtedness, which continues to increase with the current trade deficit. But nobody thinks that the dollar could really be attacked—or that there could be a currency crisis in the ordinary sense. Insofar as American banks, insurance companies, and so on receive foreign funds, this build up of liabilities to foreigners is entirely denominated in U.S. dollars.

So American banks have dollar-denominated liabilities, and they make dollar-denominated loans—largely to American firms and households. With no net foreign exchange exposure, American financial institutions can absorb this huge capital inflow

* A presentation at Distinguished Lecture Forum on September 4, 2001

without currency risk. There are other risks, but no risks associated with fluctuations in the dollar's exchange rate with other countries.

However, if smaller debtor economies on the periphery of the dollar standard — such as Korea, Thailand, or any in Latin America — absorb foreign capital, typically the debts are denominated in another country's currency. The genesis of the 1997–98 crisis was the huge short-term inflow of capital into East Asian economies, but denominated in dollars or yen. This meant their banks and financial institutions were at risk if there were any exchange rate fluctuations. In particular, any devaluation made repaying these external dollar obligations from earnings on domestic assets denominated in won, or baht, or pesos much more difficult.

In contrast, U.S. exporters might actually benefit from a devaluation of the dollar, and American financial institutions would not be hindered in paying off their dollar-denominated foreign debts. At the present time, many people in the U.S. think that the dollar is too strong anyway.

Part I of my analysis provides an historical perspective on how the world dollar standard has evolved since World War II — with special concern for developing countries and emerging markets on its periphery. Then, Part II focuses on East Asia. Specifically, I link what I call "the East Asian exchange rate dilemma" — including the current plight of Japan — to how the dollar standard now works.

1. THE WORLD DOLLAR STANDARD IN HISTORICAL PERSPECTIVE

How did this asymmetrical position of the dollar become established in the world economy? After World War II, the U.S. had the world's only intact financial system. There were inflation, currency controls, and so on in Europe, as well as in Japan and most developing countries. Thus, in open foreign exchange markets, the dollar naturally became the world's vehicle currency for (private) interbank transacting and the intervention currency that governments used for stabilizing their exchange rates. Under the Bretton Woods agreement of 1945, every country pegged to the dollar, and the U.S. did not have a formal exchange rate policy, except for the residual tie to gold.

This was quite natural given the history of the situation. The U.S. had the only open capital market, so countries could easily build up their dollar reserves and have a

liquid market in which to buy and sell them. Similarly, private corporations in other countries all built up dollar reserves as well because their own currencies had exchange controls. Because of this accident of history, the U.S. dollar became the intermediary currency in international exchange between any pair of "peripheral" monies.

The Dollar as Facilitator of International Exchange

But why does the dollar continue with this facilitating function even when most other industrial countries—such as Japan and those in Europe—no longer have exchange controls? A little algebra helps explain continued dollar predominance. Suppose you have N currencies, say 150, currencies in the world economy. The markets, themselves, would always pick one currency to facilitate international exchange. The reason for that is a big economy of markets.

If we think of world of N countries with independent national monies, then just from your basic high school probability theory, the total number of country pairs in the system is the combination of N things taken two at a time ($^{N}C_{2}$). If foreign exchange dealers tried to trade across each pair, say, Swedish crowns against Australian dollars, or Korean won against Japanese yen, it would turn out that there would be a huge number of different foreign exchange markets. With 150 national currencies in the world (N = 150), and you tried to trade each pair, there would be 11,175 foreign exchange markets!

It is expensive for any bank to set up a foreign exchange trading desk, Thus, rather than trading all pairs of currencies bilaterally, in practice just one currency, the Nth, is chosen as the central vehicle currency. Then all trading and exchange takes place first against the vehicle currency before going to the others. By having all currency trading against that one currency, you can reduce the number of markets in the system to N-1. Thus, with 150 countries, we need to have just 149 foreign exchange markets — instead of 11,175. Unlike the Bretton Woods system where all countries set official dollar parities, this result doesn't depend on any formal agreement among governments. In private markets today, choosing one currency like the dollar to be the intermediary currency is the most natural way of economizing on foreign exchange transacting.

But history is important. If one country starts off providing the central money, as the U.S. in the late 1940s did, then it becomes a natural monopoly because of the economies of scale. The more countries that deal in dollars, the cheaper it is for

everybody to deal in dollars. If you're a Japanese importer of Swedish Volvos and you want to pay for the Volvos, you first get your bank to convert your yen into dollars on the open market, then use the dollars to buy Swedish crowns. Volvo corporation receives the Swedish crowns and the importer gets the Volvos. However, the dollar is the intermediary currency.

Using the standard textbook classification of the roles of money, Box 1 summarizes our paradigm of the dollar's central role in facilitating of international exchange. For both the private and government sectors, the dollar performs as medium of exchange, store of value, unit of account, and standard of deferred payment for international transacting on current and capital account —and has so from 1945 into the new millenium. It is a slight generalization of a similar table presented by Peter Kenen in 1983, but it remains as valid today as then.

Box 1

The U.S. Dollar's Facilitating Role as International Money (1945 to 2001)

	Private	*Official*
Medium of exchange	vehicle	intervention
Store of value	banking	reserves
Unit of Account	invoice	peg
Standard of deferred payment	private bonds	sovereign bonds

First in Box 1, the dollar is a *medium of exchange.* Because the foreign exchange markets are mainly inter bank, the dollar is the vehicle currency in inter bank transacting serving customers in the private sector. Thus, when any government intervenes to influence its exchange rate, it also finds it cheaper and more convenient to use the dollar as the official intervention currency. (The major exception to this convention had been within Europe prior to the advent of the euro, where for many purposes the old deutsche mark was the central money. And now a fringe of small European countries to the east of Euroland mainly use the euro as their central money.)

Second in Box 1, the dollar is an international *store of value.* Corporations and

some individuals hold dollar bank accounts in London, Singapore and other "offshore" banking centers—as well as in the U.S. itself. For governments, international reserves are mainly in dollars—largely U.S, Treasury bonds: Korea has $95 billion, Japan almost $400 billion, China nearly $200 billion, and so on. As a matter of fact, almost half of U.S. Treasury bonds outstanding are held by foreign central banks.

Third in Box 1, the dollar serves as a *unit of account* for much of international trade. Trade in primary commodities shows a strong pattern of using the dollar as the main currency of *invoice*. Exports of homogeneous primary products such as oil, wheat, and copper all tend to be invoiced in dollars, with worldwide price formation in a centralized exchange. Spot trading, but particularly forward contracting, is concentrated at these centralized exchanges—which are usually in American cities such as Chicago and New York, although dollar-denominated commodity exchanges do exist in London and elsewhere.

Invoicing patterns for exports of manufactured goods are more complex. Major industrial countries with a strong currencies tend to invoice their exports in their home currencies. Before European Monetary Union, more than 75 percent German exports had been invoiced in marks, more than 50 percent of French exports invoiced in francs, and so on. But these illustrative ratios were dominated by intra-European trade. With the advent of the European Monetary Union, how much continental European countries will invoice their exports outside of Europe in euros remains unknown.

Within East Asia, however, foreign trade is invoiced mainly in dollars: Korean trade with Thailand is typically dollar invoiced. Even Japanese trade with other East Asian countries is invoiced more in dollars than in yen. Outside of Europe, the prevalence of dollar invoicing is also true in other parts of the world. For example, intra Latin American exports are almost entirely dollar invoiced.

For pricing manufactures, more than pure invoicing is involved. Exporters everywhere outside of Europe typically opt to quote selling prices for their products in dollars, and then keep these dollar prices fairly constant in industrial catalogs and other published price lists. In effect, they price to the world market—and not just to the American one—in dollar terms. Thus national central banks aiming to stabilize the international purchasing power of their currencies, often opt—either formally or informally—to peg against the dollar, and thus against the huge sticky-priced mass of

internationally traded goods that it represents.

Fourth in Box 1, if we think of *a standard of deferred payment* —which is also a traditional role of money—private and sovereign bonds in international markets are largely denominated in U.S. dollars, though some are now in euros. In international bond markets, U.S Treasuries are taken as the bench-mark or "risk-free" asset. That is, dollar-denominated sovereign bonds issued by emerging markets the world over have their credit ratings (by Moody's, Standard and Poor's, or Fitch) measured relative to U.S Treasuries. Thus, risk premia in interest rates on these bonds are typically quoted as so many percentage points over U.S. Treasuries.

The Dollar as Nominal Anchor

Beyond facilitating international exchange, the dollar has a second and complementary international function. Foreign monetary authorities may better anchor their own domestic price levels by choosing to peg, officially or unofficially, to the dollar. By opting to keep their dollar exchange rates stable, foreign governments are essentially opting to harmonize —without always succeeding—their monetary policies with that of the United States. This monetary harmonization has two avenues: (1) international commodity arbitrage —the *arbitrage avenue*, and (2) the *signaling avenue* where other central banks take their cue from actions of the U.S. Federal Reserve Bank.

The arbitrage avenue arises naturally out of the dollar's facilitating role in international finance. Because international trade in goods and services is largely dollar invoiced (including trade between countries outside of the United States), international arbitrage in the markets for goods and services through a fixed dollar exchange rate can be a powerful device to anchor any one country's domestic price level. Putting the matter the more negatively, if other countries fail to prevent their dollar exchange rates from fluctuating, the degree of pass-through of these exchange rate fluctuations into their domestic prices is (ultimately) very high. (The one big exception would be countries in the large euro area—whose domestic price levels are fairly well insulated from fluctuations in the euro's exchange rate against the dollar.)

Asymmetrically, because both American imports and exports are invoiced in dollars, America's own domestic price level is relatively insulated from fluctuations in the dollar's exchange rate. More generally in the world at large, the *dollar* prices of

internationally traded commodities are relatively invariant to fluctuations in the dollar's value against other currencies. So, as the Nth country in the system, the U.S. alone can carry out an independent monetary policy to target its own domestic price level without being much disturbed by exchange rate fluctuations. For the other N–1 countries, however, direct international commodity arbitrage through a fixed exchange rate can help stabilize their own internal price levels.

In securing monetary harmonization with the United States, the signaling avenue can also be important. If any one national government resists upward pressure on its currency in the foreign exchanges, the resulting increase in its official dollar reserves signals the need for domestic monetary expansion—and vice versa. The national central bank can even takes its cue directly from what the Fed is doing. For example, the Bank of Canada typically changes its own discount rate (interbank lending rate) relatively quickly in response to changes in the U.S. Federal Funds rate.

However, for the dollar to function successfully as nominal anchor, two important conditions must be satisfied:

(1) the American price level, as measured by a broad index of tradable goods prices, is stable and expected to remain so; and
(2) most countries, and certainly neighboring ones, are on the same international standard, i.e, they also fix their exchange rates to the dollar.

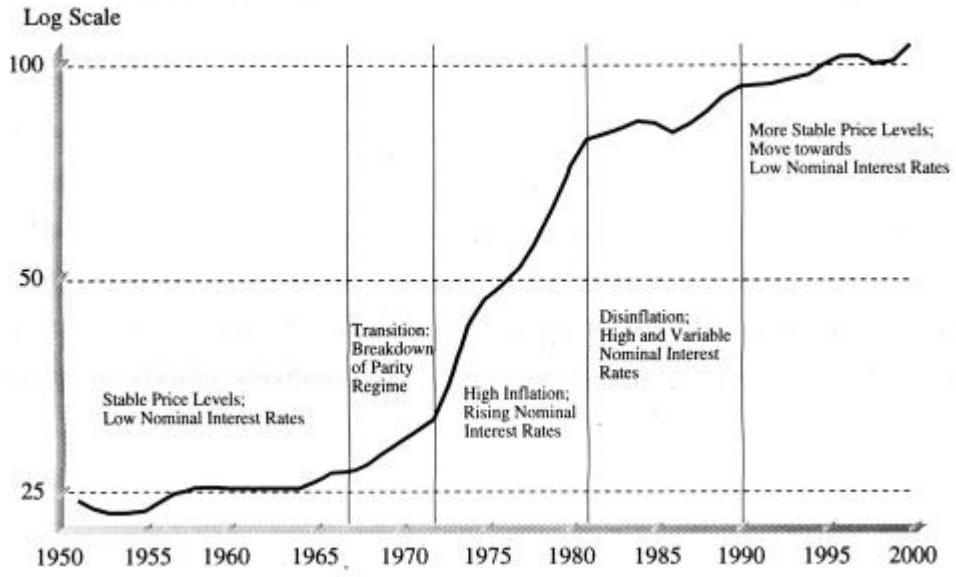
In the history of the postwar dollar standard, these two conditions were satisfied in some periods—but not so in others. Indeed, in contrast to the dollar's ongoing robustness as the facilitator of international exchange under either fixed or floating exchange rates, its function as nominal anchor has continually metamorphosed.

High Bretton Woods, 1950 to 1968

From the 1950s through 1968, the first panel of Figure 1 shows that the U.S. price level for tradable goods prices—as measured by the U.S. wholesale price index—was stable. Also interest rates on dollar assets were low and stable because of the absence of expected inflation. So, under the old Bretton Woods par value system, all other countries willingly declared dollar parities—and kept their market exchange rates

within a narrow band of 2 percent around these central parities, which were seldom changed. During this period of "high" Bretton Woods, IMF member countries could use price stability in the center country as an anchor for their own domestic price levels.

〈Figure 1〉 The World's Nominal Anchor: U.S. Wholesale Prices (1951-2000)



Source: International Financial Statistics, IMF (August 2001)

But more than just the behavior of the center country was involved in this anchoring process. Because virtually all the major industrial countries were on the same fixed exchange rate regime, the "world" price level was more secure. Precipitate devaluations (or appreciations) of any one country, which could impart deflationary pressure to a neighboring one, were avoided. In addition, potentially inflationary national macroeconomic shocks were dampened. The inertia or "stickiness" in each country's price level was greater because all of them were committed to, and bound together under, a common monetary standard –albeit one ultimately dollar based.

During this high Bretton Woods regime, even the American price level itself was more stable because of the generally fixed exchange rates. In the short and medium terms, the center country could benefit from commodity arbitrage with neighboring countries across the fixed exchange rates to dampen potentially inflationary shocks originating at home. In the end, however, the system could not survive persistent inflationary pressure in the center country–as we shall see.

Finally, as the initial panel of Figure 1 indicates, nominal interest rates in the industrial countries were low and remarkably stable in the 1950s and 1960s. Until the very late 1960s, the common rate of price inflation was so low that ordinary Fisher effects in interest rates were largely absent. In these immediate postwar decades, the perceived continued stability in exchange rates meant that cross-country interest differentials remained modest—despite the presence of capital controls in most of the industrial countries. This commitment to fixed dollar parities by the industrial countries finally collapsed in early 1973. However, the common monetary anchor undergirded that era's famously high real economic growth—not matched in the industrial world in any sustained way before or since.

For the less developed countries with immature domestic financial markets, having price and interest rate stability in the core industrial economies was particularly advantageous. They would have had great trouble controlling domestic inflation independently of stabilizing their dollar exchange rates. Instead, most simply opted to lock into the high Bretton Woods dollar standard. Of course, some in Latin America and elsewhere had too much domestic inflationary pressure to be able to keep their dollar exchange rates fixed. But even when any one LDC experienced a currency crisis with devaluation, the authorities usually avowed to return to the fixed rate dollar standard when able—thus dampening expectations of further inflation.

Losing the Anchor 1968-73: The Advent of Floating Exchange Rates

With hindsight, the old fixed rate dollar standard began to unravel in the late 1960s as WPI inflation in the United States—the center country—began to escalate toward 3 percent per year (Figure 1, second panel). Other countries—particularly Germany—became unwilling to maintain their old dollar parity and import even moderate inflationary pressure. The deutsche mark was revalued upward in 1969. More importantly, the United States was then hampered by the Keynesian belief (as encapsulated in the so-called Phillips curve) that disinflation would permanently increase domestic unemployment. So largely for doctrinal reasons, the center country refused to embark on a serious program of disinflation.

But the ongoing inflation reduced America's industrial competitiveness. Worried about America's declining foreign trade position, President Nixon in August 1971 closed the vestigial "gold window": America's formal commitment under the old

Bretton Woods articles to formally fix the dollar's value in terms of gold. Simultaneously, Nixon imposed an across-the-board tariff of 10 percent on American imports of manufactures, and insisted that the tariff would not be removed until all the other industrial countries appreciated their currencies against the dollar. They all appreciated between 10 and 20 percent before re-establishing their new "Smithsonian" dollar parities in December 1971. However, because the center country continued to inflate, the Smithsonian dollar parities were destined to fail. In February 1973, the industrial countries gave up on their dollar parities and moved to no-par floating.

In the 1970s into the 1980s in the United States, high and variable price inflation coupled with high and volatile nominal interest rates—see the third panel in Figure 1—largely eroded the dollar's usefulness as nominal anchor. In most developing countries as well as many industrial ones, inflation also increased sharply. Many industrial countries were now quite willing to have their currencies *appreciate* against the dollar to better insulate themselves from what had become a maelstrom of variable inflation rates worldwide. (Europeans were induced to look for a new center currency as anchor—and tried to rebuild monetary stability around the deutsche mark. This effort culminated with the successful advent of the euro in the late 1990s.)

The collective effect of this worldwide monetary instability on world productivity growth was catastrophic. Without a common anchor for domestic price levels and exchange rates, productivity in the industrial world and its periphery—except for the East Asian "tigers"—slowed dramatically after 1973 through to the early 1990s.

Paradise Regained in the 1990s?

But from the early 1990s into the new millenium, the last panel in Figure 1 shows a return to price stability in the United States—with U.S. interest rates becoming moderate to low once more. Thus, the dollar has again become attractive as an international anchor currency, and as the predominant reserve asset worldwide. After the dollar's decline as a reserve asset in the inflationary 1970s and 1980s, the dollar's share in official foreign exchange reserves has greatly increased over the last decade. Table 1 shows the dollar rising from 51.3 percent of official holdings of foreign exchange (of members of the International Monetary Fund) in 1991 to 68.2 percent in 2000. And if one assumed a pro rata share of "unspecified currencies" to be dollars, the dollar's current share in international reserves seems well over 75 percent.

〈Table 1〉 Share of National Currencies in total Identified Official Holdings of Foreign Exchange, End of Year[1]

(In percent)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All countries										
U.S.dollar	51.3	55.3	56.7	56.6	57.0	60.3	62.4	65.9	68.4	68.2
Japanese yen	8.5	7.6	7.7	7.9	6.8	6.0	5.2	5.4	5.5	5.3
Pound Sterling	3.3	3.1	3.0	3.3	3.2	3.4	3.7	3.9	4.0	3.9
Swiss Franc	1.2	1.0	1.1	0.9	0.8	0.8	0.7	0.7	0.7	0.7
Euro	-	-	-	-	-	-	-	-	12.5[2]	12.7[2]
Deutsche mark	15.4	13.3	13.7	14.2	13.7	13.1	12.9	12.2	-	-
French franc	3.0	2.7	2.3	2.4	2.3	1.9	1.4	1.4	-	-
Netherlands guilder	1.1	0.7	0.7	0.5	0.4	0.3	0.4	0.4	-	-
ECUs[3]	10.2	9.7	8.2	7.7	6.8	5.9	5.0	0.8	-	-
Unspecified currencies[4]	6.2	6.6	6.6	6.5	8.9	8.3	8.4	9.3	8.9	9.2
Industrial countries										
U.S.dollar	43.6	48.8	50.2	50.8	51.8	56.1	57.9	66.7	73.5	73.3
Japanese yen	9.7	7.6	7.8	8.2	6.6	5.6	5.8	6.6	6.5	6.5
Pound Sterling	1.8	2.4	2.2	2.3	2.1	2.0	1.9	2.2	2.3	2.0
Swiss Franc	0.8	0.4	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.2
Euro	-	-	-	-	-	-	-	-	10.7[2]	10.2[2]
Deutsche mark	18.3	15.1	16.4	16.3	16.4	15.6	15.9	13.4	-	-
French franc	3.1	2.9	2.6	2.4	2.3	1.7	0.9	1.3	-	-
Netherlands guilder	1.1	0.4	0.4	0.3	0.2	0.2	0.2	0.2	-	-
ECUs[3]	16.6	16.7	15.2	14.6	13.4	12.0	10.9	1.9	-	-
Unspecified currencies[4]	4.9	5.7	4.8	5.0	7.0	6.7	6.4	7.4	6.9	7.6
Developing countries										
U.S.dollar	63.3	64.4	64.3	63.0	62.4	64.4	66.2	65.3	64.6	64.3
Japanese yen	6.7	7.7	7.5	7.6	7.0	6.5	4.7	4.5	4.7	4.4
Pound Sterling	5.5	4.1	4.0	4.4	4.4	4.8	5.1	5.2	5.3	5.2
Swiss Franc	1.8	1.9	2.0	1.7	1.5	1.4	1.1	1.1	1.1	1.1
Euro	-	-	-	-	-	-	-	-	13.9	14.6
Deutsche mark	10.8	10.8	10.5	11.9	11.0	10.6	10.3	11.3	-	-
French franc	2.7	2.3	2.0	2.4	2.3	2.0	1.8	1.5	-	-
Netherlands guilder	1.0	1.0	1.0	0.8	0.6	0.5	0.6	0.5	-	-
ECUs[3]	-	-	-	-	-	-	-	-	-	-
Unspecified currencies[4]	8.2	7.7	8.7	8.1	10.9	9.8	10.1	10.7	10.4	10.4

Note: Components may not sum to totals because of rounding.

[1] Only IMF member countries that report their official holdings of foreign exchange are included in this table.

[2] Not comparable with the combined share of euro legacy currencies in previous years because it excludes the euros received by euro area members when their previous holdings of other euro area members' legacy currencies were converted into euros on January 1, 1999.

[3] In the calculation of currency shares, the ecu is treated as a separate currency. Ecu reserves held by the monetary authorities existed in the form of claims on both the private sector and European Monetary Institute (EMI), which issued official ecus to European Union central banks through revolving swaps against the contribution of 20 percent of their gross gold holdings and U.S. dollar reserves. On December 31, 1998, the official ecus were unwound into gold and U.S. dollars; hence, the share of ecus at the of 1998 was sharply lower than a year earlier. The remaining ecu holdings reported for 1998 consisted of ecus issued by the private sector, usually in the form of ecu deposits and bonds. On January 1, 1999, these holdings were automatically converted into euros.

[4] The residual is equal to the difference between total foreign exchange reserves of IMF member countries and the sum of the reserves held in the currencies listed in the table.

[5] The calculations here reply to a greater extent on IMF staff estimates than do those provided for the group of industrial countries.

Surprisingly, the advent of the euro has not reduced the dollar's predominance in international reserve holdings. Table 1 also shows that the share of euros in official foreign exchange reserves in 1999 and 2000 was no greater than was the sum of the old legacy currencies—mark, francs, and guilders—before the advent of the euro on January 1, 1999. Although euro has been very successful for securing regional monetary integration in Europe, the dollar remains king in international finance worldwide.

However, in the new millenium, this stronger form of the international dollar standard differs from High Bretton Woods of the 1950s and 1960s in at least two important respects:

(1) In non crisis periods, most governments in developing economies stabilize their exchange rates against the dollar but without declaring official dollar parities. And such informal pegging is also "soft" in the sense that many exchange rates drift.

(2) Most countries on the periphery of the dollar standard are no longer willing or able use capital controls. Thus dollar encroachment on the natural domestic domains of their national monies has become acute.

Let us discuss soft pegging and the encroachment problem in turn.

Soft Pegging

In their landmark study of 155 country exchange rate regimes using monthly data, Guillermo Calvo and Carmen Reinhart show that the only truly floating exchange rates are the euro, dollar, yen, and possibly the pound sterling, against each other. Month-to-month variance in these industrial countries' exchange rates is high—and variance in short-term interest rates is low: short-run shifts in cross-currency portfolio preferences are mainly absorbed by exchange rate changes—while their central banks target short-term interest rates as an instrument of domestic monetary policy.

In contrast, in developing or emerging-market economies, Calvo and Reinhart show that their monetary policies are arranged so that monthly variance in their exchange rates against some key currency—either the dollar or the euro—is low, but that monthly variance in their interest rates is much higher than in the core industrial countries. Except for an Eastern European fringe of countries keying on the euro, the others key on the dollar. The main shock absorber for cross-currency shifts in international asset preferences is changes in their domestic interest rates—except for those developing countries with effective capital controls.

This surprising difference between the core industrial economies at the "center" and emerging-market economies on the "periphery" is even more pronounced at higher frequencies of observation. By accepting higher volatility in domestic short-term interest rates, monetary authorities in emerging markets generally succeed in keeping their dollar exchange rates relatively constant on a day-to-day or week-to-week basis. However, at low frequencies, e.g., quarter-to-quarter, these soft pegs sometimes drift; and, in major crises, even short-term exchange rate stabilization may be impossible.

This new regime of informal i.e., undeclared, dollar pegs for countries on the periphery of the United States differs from High Bretton Woods with its officially fixed dollar parities. In East Asia outside of Japan, for example, all the countries are dollar peggers to a greater or lesser degree. But only Hong Kong with its currency board admits to an official dollar parity of HK$ 7.8 for one American dollar. The others all claim to be "independently floating", or a "managed float", or pegged to a "currency basket". Although the Chinese call their regime a "managed float", the RMB's exchange rate of 8.3 yuan to the dollar has hardly moved since 1994. The others' dollar pegs may drift a bit more when measured at low frequencies, but the variance in their dollar exchange rates is an order of magnitude less than that in the yen/dollar exchange rate.

Negligence of the International Monetary Fund

Why this reticence of governments in emerging markets in East Asia and elsewhere to admit to keying on the dollar—or to go further and declare official dollar parities? The reasons are both political and economic.

On the political side, the asymmetry among national monies—with a center and a periphery—is simply too impolitic to admit. Nationalists in any peripheral country would get restless if their government admitted, by declaring an official dollar parity, that it was in thrall to the United States. De jure, the original Bretton Woods Agreement appeared to treat all its member countries symmetrically. Under Article IV of the 1945 Agreement, all members were obligated to declare an official parity for their exchange rate against gold or any currency tied to gold. In the event, only the United States adopted a very limited form of a gold peg—whereas all the others chose to peg to the dollar as the Nth currency (as described above). Nevertheless, in the 1950s and 1960s, the Bretton Woods Articles provided an acceptable political fig leaf for disguising what

was really a dollar standard. But now the IMF's parity obligation for membership exists no more; it was blown apart by the American inflation of the 1970s.

On the economic side, the modern reluctance of any one government to declare an official dollar parity appears too risky precisely because neighboring countries have not done so. If Country A (say, Argentina) declared an official dollar parity, and then a its close neighbor Country B (say, Brazil) allowed its currency to depreciate against the dollar, Country A could lose competitiveness and be badly hurt. Better for A not to commit itself formally to a particular dollar exchange rate to begin with in case it may want to depreciate in response to a surprise depreciation by B. Hence A dare not commit if B, C, D..... have not committed—and vice versa. In effect, there is a need for collective action—as in 1945—to re-institute a more general system of dollar parities to prevent beggar-thy-neighbor devaluations.

But the old collective agreement under high Bretton Woods was undermined by the American inflation of the 1970s into the 1980s. With no stable anchor currency, maintenance of the old regime of exchange parities became impossible. Now, although the American price level has now been quite stable for almost a decade, the IMF has not attempted to orchestrate a collective return to a parity regime. Whence the prevalence of soft dollar pegging where governments, forced to act individually, are unwilling to commit themselves to anything harder.

The IMF's Article VIII—the commitment of member countries to work toward current-account convertibility, i.e., to remove all restrictions on making or receiving payments from importing or exporting or repatriating interest and dividends, was equally important for the success of high Bretton Woods—and retains its crucial importance today.

But, in the 1950s and 1960s, the obligation of member countries to liberalize exchange controls stopped with Article VIII. Because of the bad experience with "hot" money flows in the 1930s, the peripheral countries around the United States all retained some degree of control over international capital movements—particularly short-term financial flows. The industrial countries of Western Europe retained capital controls well into the 1970s—and Japan into the early 1980s. Indeed, the IMF's articles required any member country receiving funds under a Fund program to impose capital controls if there was any danger of capital flight.

In summary, the IMF's policies today suffer from major sins of omission and of commission. On the omission side, it has failed to promote regional exchange rate stabilization (where feasible) by encouraging the restoration of official exchange rate parities—as if the beggar-thy-neighbor exchange rate devaluations of the 1930s had been forgotten. Apart from outright dollarization, the IMF has even leaned on individual developing countries to flex their exchange rates as if the effect of such changes on neighboring countries did not matter.

For its sin of commission, the IMF has actively encouraged peripheral countries to jettison their capital controls too soon in the process of liberalization—not recognizing the natural asymmetry between a strong center and naturally weaker periphery. (Although within the last year or two there are signs that the IMF may be repenting.) Consequently, dollar encroachment on the monies of developing countries and emerging markets in domestic uses is more pronounced than need be.

The Problem of Dollar Encroachment

This central role of the dollar in international finance today has a darker side: the potential displacement of national monies for domestic uses—displacement that is particularly marked in the Latin American context. Box 2 summarizes how the U.S. dollar might encroach (has encroached) on the natural domains of national monies as medium of exchange, store of value, unit of account, and standard of deferred payment within the country in question. In countries with a history of high and variable price inflation, the dollar encroaches on the national monetary domains in all four dimensions. But outside of this inflationary extreme, encroachment is still a problem.

To be sure this dollar encroachment is not now a problem in the industrial economies, although it was a potential problem in the aftermath of World War II when European and Japanese currencies suffered from a complete loss of confidence. Most countries in Western Europe, as well as Japan, retained capital controls well into the 1970s—in large part to protect the domains of their domestic currencies. But step-by-step European unification, culminating in the late 1990s with the adoption of the euro, ended any lingering problem of dollar encroachment in Europe. This huge new, but highly credible, euro-based regime can operate on a stand-alone basis with perhaps the world's largest market for long-term bonds.

But for countries outside of Europe in the new millenium, let us consider the problem of dollar encroachment in the context of each of the basic domestic functions of money—as laid out in Box 2—in turn.

As *medium of exchange* as per Box 2, the dollar now circulates widely as hand-to-hand currency throughout Latin America, Africa, and many part of the former Soviet Union. In several Latin American countries, dollar bank accounts (interest-bearing and some checking) have even been legalized. This parallel circulation means that comprehensive capital controls, designed to prevent switching between the domestic money and dollars, are impossible to enforce. (But mild reserve requirements or taxes on foreign borrowing, as in Chile until recently, may still be feasible.)

Box 2

Dollar Encroachment on National Monies in Domestic Uses:
Developing Countries on the Dollar Standard's Periphery

- *Medium of Exchange.* Dollar banknotes or deposits circulate in parallel with domestic money in many Latin American, African, and FSU countries but not generally in Asia.

- *Safe Haven (Store of Value).* In normal times, domestic currency assets held only at higher real interest rates than those on similar-term dollar assets: the existence of positive country- or currency-risk premia against the dollar. Private and official liquid dollar assets partially displace holdings of domestic liquid assets.

- *Unit of Account.* Money wage and other short-term domestic contracts directly or indirectly linked to dollar exchange rate. Most common in emerging markets with a history of financial volatility—or ones in the throes of an attempted stabilization program. Uncommon in Asia.

- *Standard of Deferred Payment*: Short-term foreign borrowing—trade credit or interbank borrowing—as well as longer term sovereign bond issues to foreigners are usually dollar denominated. U.S. Treasuries are the "risk-free" asset against which risk premia in interest rates for national dollar bonds are measured. Private long-term bond markets in the domestic currency hardly exist—being dominated by international dollar-bond markets.

Why have Latin American monetary authorities and several elsewhere allowed such invasive parallel circulation in dollars, where the demand for the domestic monetary base erodes and becomes quite unstable, to develop?

First, many governments, with short time horizons of their own, want to attract emigrant remittances to the home country. So they offer domestic dollar deposits to nationals returning money to the country. (Even if Mexico's banking system does not now offer dollar-linked bank accounts, Mexico's long border with the United States with heavy two-way migration makes holding of interest-bearing dollar bank accounts just across the border very easy.)

Second, where records of illegal export earnings don't exist for very important export products, such as narcotics, the national government can neither tax them nor force conversion of dollar export proceeds back into its domestic currency. Better to keep at least some of the dollar proceeds from the coca trade in banks within the country by offering attractive domestic deposit facilities in dollars.

Last, but not least, is the long history in almost all Latin American countries of persistent financial instability: high inflation, temporary stabilizations, currency crashes, renewed inflation, and so on. Holders of naked cash balances in the domestic currency have been heavily taxed in the past. Thus, the precautionary motive for holding at least some dollar balances, at home or abroad, is strong. Similar relatively large dollar holdings are commonplace in much of Africa and in the disintegrated fragments of the old Soviet Union—including Russia itself.

But the internal circulation of dollars in parallel to domestic currencies is not a general phenomenon. Virtually all the economies of East Asia provide counter examples. By and large, they did not have the same turbulent history of inflation and currency attacks so common in Latin America in the postwar. Even in those economies—Indonesia, Korea, Malaysia, Philippines, and Thailand—whose currencies were attacked in the great crisis of 1997-98, the internal circulation of U.S dollars was negligible before the attacks began and (with the possible exception of Indonesia) and is negligible today. These crisis economies—as well as the non crisis ones of China, Hong Kong, Singapore, and Taiwan—all had what looked like sustainable, if informal, fixes for their dollar exchange rates before 1997 and after 1998.

However, as a *store of value* as per Box 2, interest-bearing dollar assets dominate domestic assets of the same term to maturity in Asia as well as in Latin America and other developing countries —unless protected by effective capital controls (as in China). A political or economic crisis in any one of the developing countries on this periphery of the dollar standard generates pressure from domestic nationals to fly into interest-bearing dollar assets as a safe haven.

Even in East Asia (except for Japan), firms and households will only willingly hold domestic bonds or interest-bearing deposits if they bear a real rate of return higher than those on dollar bonds at an equivalent term to maturity. In effect, a substantial risk premium must be paid on term deposits (or bonds) in domestic currency compared to term deposits (or bonds) denominated in dollars —and this risk premium is typically much greater at long term than at short term. Indeed, the risk premium on long-term bonds denominated in domestic currency may be so great that an open market at the long-end of the maturity spectrum usually doesn't exist.

How to measure this risk premium, i.e., distinguish it from the expected annualized depreciation (or appreciation) of the domestic currency, is a tricky econometric problem. Moreover, within developing economies, interest rates are highly variable —both in time series and across countries. Before the 1997 currency attacks began in Thailand, the relevant risk premia on three-month deposits in the East Asian debtor economies averaged about 4 percentage points, whereas in Latin America they averaged closer to 5 to 6 percentage points, above those on benchmark dollar assets.

In the financial markets, *unit of account* and *standard of deferred payment* in Box 2 are closely related concepts, and refer to money's role as a numéraire in domestic contracts: the former is more of short-term concept whereas the latter is longer term. For longer term private debt contracts within Latin American countries, the dollar is commonly used as the standard of deferred payment even when the domestic currency is used as the means of settlement. The presumption is that dollar keeps its real purchasing value through time better, and that one can get instantaneous exchange rate quotes on the value of the dollar in domestic currency when the contract matures. Correspondingly, private debt contracts are seldom linked to domestic price indexes — such as the WPI or CPI —in part because of doubts over the statistical reliability of such indexes and because of lags in collecting price data.

Even with the dollar as numéraire for domestic private and many sovereign bond issues, such bond issues are usually short term—or have a floating interest rate set by the yield on short-term (30-day) assets. Dollar predominance in the international long-term bond markets—where U.S. Treasuries are considered to be the world's "risk-free" asset—provides a competing asset that inhibits the issue of long-term bonds, particularly those issued by the private sector in developing countries. The absence of a firm long-term exchange rate parity that keeps the purchasing power of domestic bonds fairly constant in terms of the world's risk free asset, i.e., U.S. Treasuries, significantly hinders markets in domestic long-term bonds in the peripheral countries.

The upshot is what Ricardo Hausmann calls "original sin" in emerging-market economies. Finance remains very short-term—and the (large) international component of borrowing and lending is denominated in someone else's currency, i.e., dollars. Without a domestic bond market, financial systems in the peripheral countries are more accident prone—which in turn reinforces the inherent asymmetry between weak currencies on the periphery and the strong currency at the center. Both the domestic financial instability that he emphasized, and the international competition from dollar assets that I emphasize, combine to make redemption from original sin very difficult.

II. THE EAST ASIAN EXCHANGE RATE DILEMMA

With this view of how the world dollar standard works in the modern era, what are its implications for East Asia? The East Asian economies including Japan now trade as much with each other as they do with the rest of the world. Because this economic integration continues, a common monetary standard is becoming more necessary. Interest rates must be better aligned and exchange rates made more stable.

Otherwise, in the face of great interest rate disparities and uncertain exchange rates, "hot" money flows—cycles of overborrowing followed by capital flight and currency crashes—as in Indonesia, Korea, Malaysia, Philippines, and Thailand, in 1997-98—will recur. When exchange rates change, the spillover effects from one country to another can generate waves of regional inflation or deflation. Thus much of the potential economic benefit from the ongoing integration in goods and capital flows in East Asia could be lost—as the countries of the European Union (EU) learned to their discomfort before the advent of the euro in January 1999.

On the positive side, East Asian countries collectively have the fiscal potential for securing regional monetary stability. Each—with the possible major exception of Indonesia—has sufficient taxing capability, or a large enough domestic banking system, to support its government's finances without inflating. True, their governments can fail to properly regulate their banks and control their money supplies. But, unlike most countries in Latin America and Africa, countries in East Asia need not resort to the inflation tax and ongoing currency depreciation out of fiscal necessity. Thus, East Asian governments could collectively decide on regional monetary harmonization with stable domestic monies. "Could" is not the same as "will" of course. But, unless the economic pros and cons are spelled out, the political *will* will always be lacking.

Short of introducing an "Asian euro" (and certainly none is in prospect), what monetary impasse inhibits collective progress towards regional exchange rate stability? This "East Asian dilemma" has three interrelated facets.

First, all the East Asian countries except Japan have more or less pegged their currencies to the U.S. dollar—both before and since the 1997-98 crisis. In the absence of major crises, dollar pegging had served before 1997, and does serve now, as a nominal anchor for their domestic price levels while reducing risks in international flows of short-term capital. But the continued use of an "outside" currency as the monetary basis for securing economic integration seems anomalous and remains controversial.

Second, Japan's position with respect to the United States is peculiarly unbalanced. Although Japan is the region's and world's largest creditor country, most of its accumulated claims on foreigners are denominated in a foreign currency, i.e., dollars. When the yen appreciates, Japanese financial institutions suffer balance-sheet losses (measured in yen). Moreover, since 1945, Japan has been vulnerable to American pressure to change this or that domestic policy. Sometimes this pressure is warranted—as when the Americans push for greater liberalization of the Japanese economy. On the negative side, however, episodic American pressure on Japan to appreciate the yen from 1971 into 1995, ostensibly to reduce Japan's trade surpluses, imparted the deflationary momentum to Japan's economy which continues today. Since the late 1970s, this expectation of an ever higher yen and ongoing deflation has helped drive nominal interest rates on yen assets about 4 percentage points below those on dollar assets.

Since 1995, however, the yen has not appreciated on net balance—although it continues to fluctuate widely against the dollar. Nevertheless, the interest differential between yen and dollar assets at all terms to maturity remains as wide as ever—3 to 5 percentage points. Part of the differential could be explained by the market's fear that American mercantile pressure on Japan to appreciate the yen might return—particularly if the American economy turns down. A second part of the differential arises from the risk that Japanese financial institutions now see from holding large stocks of dollar assets, which have been accumulated over the past 20 years of Japan's current account surpluses. Because the yen value of these dollar assets fluctuates with the exchange rate, a negative risk premium reduces interest rates on yen compared to those on dollar assets. Otherwise, private Japanese financial institutions would have insufficient incentive to hold the "surplus" dollar assets.

These two sources of upward pressure on the yen, i.e., the fear of American mercantile pressure and the huge stocks of dollar assets now owned by Japanese financial institutions, force Japanese nominal interest rates below American when the yen/dollar rate is untethered. But, as long as American nominal interest rates were high as in the 1970s and 1980s, having interest rates lower in Japan was relatively harmless. However, when American interest rates themselves fell to lower levels (on average) from the mid-1990s through 2001, short- and long-term nominal interest rates on yen assets became trapped near zero. In this "externally imposed" liquidity trap, the Bank of Japan remains helpless to deal with the country's deflationary slump.

Third, the financial *interaction* between Japan and the East Asian dollar bloc has been a major source of instability caused by unpredictable changes in the untethered yen/dollar exchange rate when the other East Asian countries are tethered to the dollar. These fluctuations in the yen/dollar rate aggravate fluctuations in income and employment. When the yen is overvalued against the dollar, it is also overvalued against all its East Asian trading partners. This induces an inverse business cycle: other things being equal, when the yen is high, the other smaller economies boom while Japan's is depressed—and vice versa.

Also, the discrepancy between the very low interest rates in Japan and the normally higher interest rates in the dollar bloc of East Asian trading partners exacerbates "hot" money flows in the region. For both banks and non financial

corporations in East Asian emerging markets, the margin of temptation to borrow unhedged in foreign exchange can be overwhelming when interest rate differentials are large.

The so-called yen carry trade is a case in point. Before the 1997-98 crisis, banks in some of the East Asian debtor economies would accept low-interest dollar or even lower interest yen deposits; then they would on lend at the much higher yields available on domestic-currency loans. This risky currency mismatch was not confined to financial institutions in the debtor economies themselves. With a low-cost deposit base in yen, Japanese banks acquired higher yield assets in dollars, baht, won, rupiah and elsewhere. Last but not least were (and are) the highly speculative so-called hedge funds that would borrow in Tokyo and on lend in Seoul, Bangkok, Jakarta, and so on. These hedge funds move funds immediately with any whiff of a possible exchange rate change—very hot money indeed!

Such hot money flows were the genesis of the 1997-98 crisis. In the debtor economies of Indonesia, Korea, Malaysia, Philippines, and Thailand, corporations and banks had built up huge uncovered dollar and yen liabilities. When their currencies were attacked, these short-term foreign currency liabilities could not be rolled over. This sudden switch from capital inflows to capital outflows left them helpless to prevent their currencies from depreciating. The depreciations made repaying of their foreign-currency debts, from earnings streams denominated in their domestic currencies, impossible.

A less well-known consequence of the crisis was severe deflation in the *dollar* prices of all goods entering East Asian trade. As the demand for imports by the crisis economies collapsed, and their exports were artificially stimulated by the deep devaluations of their currencies against the dollar, the American nominal anchor could not hold. That is, commodity arbitrage with the center country was insufficient to prevent the dollar prices of goods and services in East Asia from dipping substantially below those prevailing in the United States. Thus, those East Asian economies which were not forced to devalue—China and Hong Kong have maintained their pre-crisis dollar exchange rates to the present day—suffered severe internal deflations, i.e., price declines measured in terms of their domestic currencies. But their exchange rate steadfastness in the face of falling domestic price levels saved East Asian economies from the much greater calamity that would have ensued if China and Hong Kong had depreciated as well.

Clearly, the East Asian monetary system remains unbalanced and accident prone. The post-crash "honeymoon" of 1999 until the present —where short-term interest rates in the crisis economies fell to unusually low levels, and financially chastened corporations, banks, and bank regulators, turned ultra cautious —will not persist indefinitely. The unusually low interest rates on baht, won, and ringgit bank deposits reflect overshooting (overdevaluation) of their currencies, leading to some net expectation of mild appreciation. Once equilbrium real exchange rates are restored, interest rates in these peripheral economies will increase, and the interest differential with the US and Japan (the margin of temptation to overborrow) will widen once more —particularly with Japan stuck in a deflationary slump where short-term interest rates remain close to zero.

Reform Objectives

To overcome this financial fragility and lessen incentives for hot money flows, what should be the key objectives of a reformed East Asian dollar standard? A reformed regime should aim for

(1) greater *long- run* exchange rate security among all the East Asian economies — not only among the current dollar bloc countries but with Japan itself;
(2) a common and highly credible monetary anchor against
    (i) the risk and fear of *inflation* in the debtor economies, and
    (ii) the risk and fear of *deflation* in Japan;
(3) mutual understanding of more appropriate policies for regulating banks and international capital flows.

One incidental consequence would be a better interest rate alignment —smaller interest differentials between debtor and creditor. Speculative hedge funds would no longer be attracted to the yen carry trade. The need for draconian regulation of banks and other financial institutions to prevent undue foreign exchange exposure and overborrowing would be lessened. However, for some emerging-market countries, capital controls (as in China) to prevent undue financial risk-taking would still be necessary.

A second consequence would be the dampening, or elimination, of the intra-East Asian business cycle generated from fluctuations in the yen/dollar rate. However, even a

reformed East Asian dollar standard would remain vulnerable to worldwide disturbances—including those associated with the United States itself.

A third consequence would be help in overcoming Japan's prolonged economic slump. The expectation of ongoing deflation in Japan is now so ingrained that a major international program for ending the threat of yen appreciation and ongoing internal deflation must be seriously considered.

The East Asian Dollar Standard

For more than a decade, the Japanese government has lobbied for the formation of a yen zone in East Asia. Fluctuations in the yen/dollar exchange rate have been all the more disruptive in Japan itself because other East Asian nations—ever more important trading partners—have been pegged de facto to the dollar. Thus prominent economists in Japan and elsewhere advocate weaning Japan's East Asian trading partners away from their fixation with the dollar towards pegging to a trade-weighted currency composite. In such a "basket peg", the yen would have a heavy weight reflecting Japan's role as the largest East Asian trading country. Then, with each of the other East Asian countries pegged to such a basket, changes in their real exchange rates and Japan's would be dampened as the yen/dollar rate fluctuated.

Although smoothing regional fluctuations is all well and good, this basket-peg approach misses the main motivation of why the smaller East Asian economies choose to peg—however loosely and unofficially—to the dollar. The world is on a dollar standard where trade flows in East Asia are overwhelmingly dollar invoiced. Concomitantly, international flows of finance—including huge flows of short-term payments—are also largely dollar denominated. Thus, in non crisis periods, monetary authorities in emerging markets in East Asia have a dual motivation for trying to keep their exchange rates from moving much against the dollar:

(1) Each central bank seeks an *external nominal anchor* as a target or instrument, or both, for securing its national price level when its domestic capital market is underdeveloped. To anchor the domestic price level effectively, a country's dollar exchange rate can't be allowed to move too much on a low frequency basis, i.e., measured monthly or quarterly, although a few East Asian countries have allowed some drift either up or down at these frequencies.

(2) Because finance is so short term in emerging markets generally and in East Asia in particular, monetary policy is organized so as to keep dollar exchange rates very stable at high frequency levels, i.e., measured on a weekly or even a daily basis. *Foreign payments risk is reduced* under high frequency dollar pegging.

So if any East Asian emerging market changes its policy and opts to peg—both at low and high frequencies—against a composite currency basket, its dollar exchange rate will necessarily fluctuate more widely. Hence that country's nominal anchor for domestic prices will become less secure and domestic financial risks will increase—possibly leading to a higher risk premium in its domestic interest rates.

Why not go to the opposite extreme and have all emerging markets in East Asia peg to the yen? The problem is that the yen is not an international currency. Official yen pegs—certainly at high frequencies—would increase the risks of making high frequency dollar payments. Nor would a peg to the yen on a monthly or quarterly basis be a satisfactory nominal anchor for prices and interest rates in other East Asian countries. For over a decade, Japan has been unable to shake its ongoing price deflation and economic slump. Thus other East Asian countries would not want to import that deflation by pegging to the yen, and still less would they want interest rates near zero as in Japan. In contrast, U.S. monetary policy in the 1990s until today presents a better choice for a common East Asian monetary anchor. But, unlike diamonds, nothing is forever.

East Asia still does not have the degree of economic integration of the countries in the European Union. Nor is it anywhere close to having the necessary political cohesion to impose the fiscal conditions on member countries necessary—in the mode of the Maastricht Treaty—for introducing an independent regional currency similar to the euro. Thus, to resolve the exchange rate dilemma, the East Asian dollar standard needs to be rationalized rather than jettisoned.

New Rules for the Dollar Standard Game: A Return to Fixed Exchange Rate Parities?

One way of creating a zone of greater exchange rate stability around Japan would be to require the other East Asian countries to peg more to the yen. But then the 10 emerging markets in East Asia would collectively, and against what they (correctly)

perceive to be their own best interests, have to change their existing exchange rate practices of keying on the dollar. Instead, the political economy of the situation suggests an alternative route. To build an East Asian zone of monetary and exchange rate stability around Japan, Japan itself should join the dollar bloc: "if you can't beat 'em, join 'em".

Could fixing the yen to the dollar within a narrow range in the medium term, and with no upward drift in the longer term, ever be done credibly? Only if there is an explicit agreement with the United States. Beginning in 1971, episodes of American pressure to get the yen up in the face of high and rising Japanese trade surpluses set in train, by the 1990s, much of the deflationary pressure and near zero interest rates we see in Japan today. Thus, quashing the expectation of an ever-higher yen and ongoing deflation requires a pact between the U.S. and Japan with two main provisions:

(i) a commercial accord, perhaps in the form of a bilateral free-trade agreement, for mediating trade disputes *without* resorting to, or advocating, changes in the yen/dollar exchange rate;

(ii) a monetary agreement establishing a long-term parity or benchmark value for the *nominal* yen/dollar rate close to its purchasing power parity (PPP), i.e., that rate which approximately equalizes producer costs in the two countries on the day that the agreement is signed.

To maintain this new parity, say 120 yen/dollar, the two governments would stand ready in the short run to intervene jointly—but only if the market rate began to diverge sharply from 120. Without committing themselves to a narrow band with hard margins, they would stand ready to keep nudging any errant market rate back toward 120. As long as these interventions were done jointly and in a determined fashion, the signaling effect to the markets would be sufficiently strong that little if any immediate monetary adjustment would be required in either country.

However, to maintain the constant rate in the medium and longer terms, monetary adjustment would be necessary. The main responsibility for adjusting would be with the Bank of Japan rather than with the U.S. Federal Reserve Bank. As nominal interest rates on yen assets rose toward those on dollar assets (Japan escapes from the liquidity trap), the Bank of Japan would stand ready to withdraw or inject domestic base money into the system to maintain the yen/dollar benchmark parity.

In contrast, the Federal Reserve would not adjust the American monetary base to fluctuations in the yen/dollar rate—or in any other exchange rate. Instead, as befits the center country, the Fed would focus—as it does now—on managing the U.S. money supply to stabilize the American price level. Under the dollar standard, the American price level becomes the anchor to which other countries adjust.

Once the "loose cannon", i.e., the yen/dollar rate, is properly secured over the long term, the other East Asian countries could more easily convert from informal dollar pegging with drift, to fixed dollar parities with no long-term drift. But why should they even bother converting to more formal long-term exchange parities? The answer is threefold.

(1) A currency attack on any one country becomes less likely, and less damaging if does occur. If the long-term parity is credible, then any sudden crisis where the government has to float the currency and let it depreciate sets up the regressive expectation that the domestic currency must eventually appreciate back to its long-term parity level. Regressive exchange rate expectations limit the extent of any immediate crisis-induced devaluation while reducing the increase in short-term interest rates necessary to defend the currency.

(2) Contagion through (inadvertent) beggar-thy-neighbor devaluations is better contained. If markets know that an unexpected devaluation by any one country is only temporary, then the mercantile pressure on neighboring East Asian countries to let their currencies depreciate will be less. And to complete the virtuous circle, any one East Asian country would find it much easier to maintain the credibility of its long-term dollar parity if neighboring counties, which are also mercantile competitors, were on the same exchange rate regime.

(3) Developing a long-term domestic bond market while reducing risk premia at all terms to maturity becomes easier. Under the world dollar standard, U.S. Treasury bonds are the "risk free" or safe haven asset in the international capital markets. For a smallish and financially open emerging market economy, domestic long-term bond issues will never be attractive unless their payouts at maturity have the same (rough) purchasing power as U.S. Treasuries.

So the payoffs from formalizing the East Asian part of the world dollar standard could be substantial. More secure exchange rate commitments by the smaller, crisis-prone debtor economies—and by Japan as the big creditor—would mutually reinforce the common nominal anchor. A fixed yen/dollar exchange rate is a more powerful anchor against ongoing deflation in Japan if Japan's East Asian neighbors also have secure long-term dollar parities. And vice versa. Emerging markets like Korea would find that long-term dollar pegging is much more attractive when the yen/dollar rate is finally tethered.

Because of China's rapid economic growth and now huge GNP, its ongoing commitment to a longer-term dollar parity is (would be) particularly beneficial for the East Asian economic system as a whole. Indeed, China's maintaining a fixed exchange rate of 8.3 yuan to the dollar during the great crisis of 1997-98 prevented contagious devaluations from being much worse.

China now has an additional reason for formalizing its exchange rate commitment at 8.3 yuan per dollar. Because of the recent large influx of Chinese exports into Japan, Japanese businessmen and farmers are lobbying with some success for tariff and quota protection against Chinese goods. And they also want the Chinese government to appreciate the renminbi! But, of course, appreciation of the RMB would force more deflation on China—just as the lobbying by American businesses to get the yen up in the 1970s through 1995 forced deflation on Japan! Better to secure the East Asian economy by formalizing long-term parity commitments such that governments can't be credibly accused of manipulating their exchange rates for commercial advantage. The common monetary standard in East Asia should be neutral, and seen to be impartial, to the ebb and flow of mercantile competition.

Questions & Answers

Q: You are not a gold bug, but you sound sort of like one because this becomes a political issue of American dominance, which seems to be unpalatable to China, Russia and others. But a commodity standard, like the gold standard, brings about *super*-national control. It allows you to create an international banking system that agrees to currency pegs, I suppose against the commodity. This at least gives the impression of being a super-national policy rather than a sort of monetary hegemony by one country.

A: That's an excellent point. And that's what made the gold standard more acceptable politically. It turns out the Britain had an asymmetrically important role in the middle of it, with the world's capital market. But as long as everyone else could think of it as a gold standard and not pegging to the pound sterling, I think it made it politically more acceptable.

The same is really true with the Bretton-Woods agreement in the '50s and '60s. It was really just a dollar standard, and you can make a case that it came out of the pegging of the exchange rates in Europe during the Marshall Plan, with exact dollar parities, which became the anchor for European price levels, and the attempt to stabilize the Japanese price level with the Dodge Plan in 1949. You pick 360 yen to the dollar as the anchor, and so this then continues for 20 years. But it was politically okay for countries because they could believe they were members of the international monetary fund and they are pro forma equal, and the fact that it was just a dollar standard was officially disguised. Everyone sort of knew it was a dollar standard, but you didn't have to officially admit that.

So, I take your point as being correct. If we go to a more officially sanctioned dollar standard, it is less politic. But to lengthen term structure of finance, I think we need the official dollar parity. It could be bundled, with restrictions, on the behaviour of the United States. In particular, the U.S. has to agree not to arm twist other countries to appreciate its currency. I think South Korea went through a phase in the late 1980s when the U.S. was trying to do that, as well as Taiwan. So any new agreement would probably have to have restrictions on American behaviour. But the principle thing would be to have the centre country keep its price level stable, to do inflation targeting, which is done pretty well, and that could then make the whole thing work.

Q: Your argument is clearly dollar centered. Now, just last week we saw the face of the euro, in the sense that the new currency has been shown publicly. And, of course there's more to come in the next month. How compatible is this prospect with your somehow new dollar standard theory? And how likely is it, in your opinion, that there might be actually *two* currencies on which the international financial system will stand? Would this add stability or instability? Basically, a system based on two feet should be more stable than one based on one foot, no? How do you think about that?

A: First of all, I'm an admirer of the euro. I think it's been a great economic success in terms of unifying capital markets within Europe and so on. But it has not displaced the dollar so far. You know, it came into existence as inter-bank money on Jan.1, 1999, and of course on Jan. 1, 2002, it'll come into existence as pocket money.

But I think we still have, what I call, this *n-1* problem. With 'n' currencies in the world, it's always most efficient to pick just one as the currency of invoice for primary products; sort of a natural monopoly. So unless the U.S. seriously misbehaves, in terms of the rate of inflation and so one, I don't think the euro is going to displace it for most of the world.

The Europeans have their own backyard. They have Eastern Europe and a few ex-colonies in Africa, and so on, and they'll probably be tied a bit more to the euro than to the dollar. But for most of the world it's an informal dollar standard and I don't see that being upset.

I'm in favour of exchange rate stability, so at some point stabilizing the euro-dollar rate would be good. But right now the country that's in desperate shape is Japan. So, what we need to do is stabilize the long-term yen-dollar rate. I think that's the first order of business.

Q: Dr. McKinnon, thank you for taking this subject on. I think it's an intricate and complex subject, though I don't think it's brain surgery either. I stand on the sidelines watching with puzzlement how the world's leading economists find it so difficult to simplify something that is complicating our lives greatly.

You described how under an un-led market, a market with no leading currency, you have 11'000, just for illustration, foreign exchange markets. By using one currency as a leader, you get down to 150. The advent of the euro perhaps complicates that. Perhaps having the euro and the U.S. dollar and the Japanese yen all vying for some sort of leadership maybe takes that 150 and raises it back up to something like 450.

To be honest, I think there is a *de facto* yen standard here, in Northeast Asia at least. If you track the Korean won it has a great tendency to closely watch the movement of the yen and try to maintain a certain parity to it. That parity is around 10:1 at the moment; it used to be 8:1. So there's a bimodal tension already in the Korean won at the moment, where the Japanese yen provides one measure of direction.

But with all of that said, wouldn't it be simpler to only have one currency, period; to get that 'n' calculation down from 11'000, not to 450, not to 150, but to one. I hope that in my children's lifetime we will see that, but I think the rest of us may become very old before that happens.

Perhaps the way to get there—this political dimension that was mentioned—perhaps one day the Federal Reserve will morph the way that the Bundesbank morphed into the European Central Bank, will remove the Federal Reserve from being a U.S. entity, make it a global entity, remove the politics, remove the tendency to try to manage

trade relations through currency.

There is one significant concern though that I have with your model as long as we have those, I'll call them, secondary currencies following some sort of leader or leaders. That is that if you peg it at a fixed rate and ignore the consequences of domestic inflation in any of the countries, whether it's U.S. inflation or Korean inflation, you are inherently going to build in a tension that will lead to unnecessary stress later on. I think that's evident in the Hong Kong peg which has been fixed at a specific rate regardless of the fact that Hong Kong has, over the last decade, run a moderately higher inflation rate than the U.S.

In a sense, it's the Big Mac effect. If you have local inflation running ahead or behind the benchmark currency, that builds up over time, even if its only one percent per year, that becomes 10 percent over a decade. Unless you deliberately relieve that, year-by-year, I feel that you put yourself at risk in the longer term. I think there is an easy mechanism for adjusting that. Everybody can measure inflation. You use the GDP measure of deflator rather than any consumer price index, and you re-fix your rate every quarter, or once a year at worst, in a way that is transparent, that is not manipulatable, and that everybody understands so the expectation can be there.

There are plenty of people who spend their time forecasting and arbitraging inflation factors in the capital markets but perhaps you could comment on that? I like moving to what becomes effectively a single currency even though we have multiple secondary currencies as a step toward my ideal of that one market. But I think this differential inflation factor is very crucial to build into the system, otherwise it will be good for a while but then explode in our face.

A: Before Jan. 1, 1999, I used to say there are 161 currencies in the world, but now after Jan. 1, 1999, with the euro, we're down to 150. So we only have 149 more to go.

You must leave a lot of independence for maneuvering financially on the part of individual countries. That's why I want a weaker form of dollar standard.

But let me address your inflation differential issue. I think it's incorrect. What I want are these commitments, as under the gold standard, to long-term parities. So, for so far as you can, if you are fiscally able, as East Asian countries are, you just gear your monetary policy to maintaining the same price level as in the U.S. It will turn out though, that because some of these East Asian countries are very high growth, like Hong Kong, their consumer price index will move up relative to their wholesale price index.

So this is called the Balassa-Samuelson effect, and its quite consistent; for

Hong Kong to be pegged at HKD 7.8 to USD 1.0 but with a price level that is still measured by the CPI that moves up relative to the U.S. price level. I might say that during the high Bretton-Woods period, Japan was the high growth economy, just growing 10-11% in real terms per year. The yen was pegged at 360 to the dollar. Japanese wholesale price inflation was about the same as American, but its consumer price inflation was about 4-5 inflation points higher. That was just a manifestation of what is called the Balassa-Samuelson effect. In a high productivity growth situation, the productivity growth is concentrated in goods, not in services, so you expect the service industry prices to rise as wages rise.

This is true now in the EU. Under the euro you had rapidly growing countries, like Ireland, which seemed to be having higher price inflation than Germany, so everyone complained; the euro was no good. But this is just a Balassa-Samuelson effect. It' s self-equilibrating. There' s nothing to worry about.