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**The World Dollar Standard and Globalization:  
New Rules for the Game?**

by

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## **The World Dollar Standard and Globalization**

### **New Rules for the Game?**

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#### *Abstract*

In the absence of a purely international money, a strong central money (or key currency) becomes dominant—as the U.S. dollar now dominates on a worldwide scale outside of Europe. Today, the general use of the dollar as a vehicle currency in foreign exchange transacting, and as a dominant invoice currency in international trade, greatly facilitates international commerce. On the down side, however, it accentuates financial fragility on the periphery of the dollar standard—both in developing economies, which are dollar debtors and prone to capital flight and devaluations, and in (emerging) dollar creditors such as Japan and China, which are prone to currency appreciation and deflation. New rules for the dollar standard game are proposed for regulating capital flows so as to reduce the likelihood of foreign exchange crises in peripheral countries, to restrain mercantilist tendencies on the part of the United States, and to reduce American trade deficits with their deflationary threat to creditor countries.

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## **Introduction**

In the realm of economics, “globalization” refers to the growing interdependence among countries—the cross-border flows of goods, services, capital, and technical know-how. At first glance, the case for globalization seems to be just a more general version of the case for freer trade. And we have persuasive theorems showing that welfare generally (although not necessarily that of particular individuals or firms) increases as the ambit of trade expands. Indeed, the formal theory underlying the advocacy of free trade has it that small countries are the biggest gainers. Outside the United States, why then should globalization make so many people and their governments uneasy?

The enhanced hegemony of the U.S. is a prime source of international uneasiness in the new millennium—just as British military and financial hegemony made other countries uneasy with the spread of freer international trade in the 19th century. In today’s military terms, there is just one superpower that sends gunboats—i.e., read aircraft carriers—to keep the peace in faraway places, at least where its vital interests are concerned. There is also the invasive crass commercialism of multinational firms, mainly American, that non-Americans see as threats to their traditional way of life—as when French farmers set fire to McDonald’s hamburger stands. American pop culture can be pretty awful. Some countries, particularly regimes that force their people into subservience through a blinkered religion, see American influences undermining their national cultures. However, I am not going to discuss any of these things.

Instead, I will approach the problem of American global hegemony from a monetary perspective: the world dollar standard. In the absence of a purely international money, the ever-widening ambit of international trade and finance today accentuates a natural asymmetry among national currencies. A strong central money (or key currency) becomes dominant—as the U.S.

dollar now dominates on a worldwide scale outside of Europe, and as the old deutsche mark dominated within Europe before the 1999 advent of the euro. In the 19th century, Britain was resented as the world's dominant creditor country that kept the rest of the world in thrall to the London capital market with the pound sterling being the key currency. But because Britain was then on the international gold standard more or less on a par with other industrial countries, it had much less autonomy in monetary matters than does the U.S. in today's world of "fiat" national monies.

### **Definitive and Provisional Monies in International Exchange**

Europe and the euro aside, international trade and capital flows in Asia, Africa, the Americas, and Australasia are mainly invoiced in dollars. Including Europe, governments hold their official foreign exchange reserves in dollars, and private foreign exchange markets are organized using the dollar as the vehicle currency for the inter bank clearing of international payments. Developing countries and many industrial ones cannot borrow internationally in their own currencies—a phenomenon that has been dubbed *original sin* by Barry Eichengreen and Ricardo Hausmann [1999]. In contrast, the United States has a virtually unlimited line of dollar credit with the rest of the world. The resulting currency asymmetry, a strong dollar as "definitive" money at the center and a fragile periphery, unbalances the world's monetary system.

On the crisis-prone periphery, developing countries which are (largely) dollar debtors live on sufferance: their domestic monies are only "provisional". Apart from debts to international agencies such as the IMF and World Bank, their foreign debts are very short term and largely dollar denominated outside of Europe. Any economic or political disturbance at home provokes the suspicion that these foreign-currency debts may not be repayable, and that the domestic currency will depreciate against the dollar—as in the East Asian crisis of 1997-98.

The potential flight from the domestic currency into dollars then forces an increase in domestic interest rates: both on internal domestic-currency debt to slow the run, and, because of default risk, on dollar-denominated debt held both externally and internally. Then if any debtor economy is actually forced to depreciate against the dollar—as did Indonesia, Korea, Malaysia, Philippines, and Thailand in 1997-98—massive internal bankruptcies ensue as bank and firms find that their domestic-currency earnings are no longer sufficient to service their dollar debts.

In Argentina before its currency crashed at the end of 2001, and in Brazil and other Latin American countries for the past several years, high domestic interest rates from this fear of devaluation against the dollar also throw the public finances into deficit. First, economic growth falls and so reduces current tax collections. Second, when interest rates rise, the cost of carrying public sector debt increases almost immediately because the debt is so short term. This fiscal double whammy further undermines confidence in the provisional domestic money: capital flight intensifies and normal bank lending to domestic industry dries up. In the worst case, as in Argentina, output falls sharply and the economy collapses.

Thus it is not surprising that developing countries the world over exhibit “fear of floating”, as neatly shown by Calvo and Reinhart [2002]. In noncrisis periods, they peg “softly” to the dollar. Even though most no longer have official dollar parities, most remain anxious to smooth fluctuations in their dollar exchange rates.

But what about the biggest international debtor of all? After running trade deficits for more than 25 years, the United States is a net debtor: its liabilities exceed its claims on the rest of the world by about \$3 trillion in 2003. At about 25 percent of U.S. GNP, America’s net international indebtedness is higher than that of any other industrialized country—and higher than, say, Brazil’s which is only 20 percent of Brazilian GNP. Yet, unlike Latin American currencies today, and unlike East Asian currencies in the great crisis of 1997-98, the dollar is not

threatened by a loss of confidence. As long as its purchasing power is seen to be stable, i.e., as long as the Federal Reserve Bank keeps ongoing price inflation very low, the dollar cannot be attacked in the usual sense. Why?

In the 21<sup>st</sup> century, the dollar is definitive money—much like gold was in the 19<sup>th</sup> century. When frightened by events at home, foreigners have no more fundamental monetary asset into which they want to fly. In this sense, the dollar standard now is stronger than it was during the Bretton Woods period of the 1950s and '60s with fixed exchange rates. While other countries had fixed dollar parities, the United States still had a residual commitment to convert dollars into gold at \$35 per ounce. Although the foreign exchanges then as now were organized around the dollar as the vehicle currency, gold was the more fundamental asset. The dollar could be attacked (and was on occasion) as foreigners, speculating that the dollar price of gold might increase, rushed to convert their official dollar holdings into gold. However, this gold convertibility commitment has long since lapsed, and the dollar today is not only the world's vehicle and reserve currency but also its most fundamental monetary asset.

Consequently, the US *alone* can go deeply into debt to the rest of the world in its *own currency*. Private foreigners happily build up their dollar deposits in American banks—Latin Americans particularly like Florida banks!—and purchase dollar-denominated industrial bonds and equities. Foreign central banks have accumulated, and continue to acquire, huge stocks of U.S. Treasury bonds. Indeed, almost half of those outstanding outside of U.S. government agencies are in official foreign exchange reserves. If the dollar depreciates, say 10 to 20 percent against the euro or the yen, the creditworthiness of American banks is not impaired because their assets and liabilities are both denominated in the same currency, i.e., dollars. And the US Treasury's capability of servicing its foreign dollar debts remains unchanged. Thus the dollar can fluctuate more or less randomly against the currencies of other industrial economies—as it

has since 1971—without provoking a banking or currency crisis in the United States itself.

But this virtual invulnerability of the center country as debtor to foreign exchange risk means that this risk is shifted to creditor countries that, Europe aside, cannot lend to the US in their own currencies. After 25 years of large American current-account deficits, willy nilly other countries taken collectively are becoming increasingly increasingly exposed “dollar” creditors.

Take Japan, with its long history of current-account surpluses paralleling—albeit somewhat smaller—the current account deficits of the United States. The cumulative effect of these surpluses have made Japan the world’s largest international net creditor. Under the dollar standard, however, Japan finds it difficult to lend internationally in yen—except for officially sponsored development assistance or subsidized commercial credits. Instead, dollar claims on foreigners pile up within Japanese financial institutions such as insurance companies and banks, whose own domestic liabilities to Japanese households are in yen. Should a run into yen out of dollars force the yen to *appreciate*, these institutions could go bankrupt as the yen value of their dollar assets falls. And the appreciation itself would force Japan into further deflation.

Similarly, China, with borderline deflation, also now faces the uncomfortable problem of managing a huge build up of liquid dollar claims coupled with pressure from foreigners to allow the yuan to appreciate against the dollar. Even post-crisis Korea, after 5 years of trade surpluses, has worked off its dollar debts and is thus becoming a net international creditor—at least at the margin. Because, under the world dollar standard, these creditor countries cannot *lend* in their own currencies, they face the problem of (potential) currency appreciation and deflation—what has been dubbed *conflicted virtue* by McKinnon and Schnabl [2003b] .

Conflicted virtue in creditor countries is the mirror image of original sin in debtor economies. So both creditor and debtor economies are now exposed to serious currency risk should their currencies fluctuate against the dollar. The big exception, of course, is the United

States itself—whether being a large international creditor lending in dollars as in the 1950s and 1960s, or a huge net debtor borrowing in dollars today.

Paradoxically, Americans themselves have shown little appreciation of how the world dollar standard actually works and the currency risk, from which they are immune, that other countries face. Indeed, in the whole postwar academic literature since 1945, the dollar standard has been little analyzed. As a consequence, American policy makers have had little clear guidance in their interactions with other countries—and in their relationships with agencies such as the International Monetary Fund (IMF) or the World Bank—or international conclaves such as those taking place under the auspices of the Group of Seven (G-7). In this intellectual vacuum, how to reform the “International Financial Architecture,” so as to make the world a financially safer place, remains in limbo.

The many facets of the international dollar standard can only be understood in historical perspective. Thus, Part I analyzes how the world dollar standard has evolved since World War II through strong and weak phases—with special concern for developing countries and emerging markets on its periphery which are dollar debtors. Then Part II suggests possible new rules for the dollar standard game, including regional exchange rate arrangements in East Asia, but focusing on the deflationary threat in increasingly impacted dollar creditors.

## **I. 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 US 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, because of the open U.S. foreign exchange and financial 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 US 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 US 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 US 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 there are 150 national currencies in the world economy. To facilitate international exchange, the markets themselves would always pick just one as the central money. The reason is a big economy of foreign exchange markets.

If we think of a world of  $N$  countries with independent national monies, then just from basic 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 does not 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 US 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 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 done so from 1945 into the new millenium.

**Box 1:**

**The US Dollar's Facilitating Role as International Money  
(1945 to 2003)**

	<i>Private</i>	<i>Official</i>
Medium of exchange	Vehicle	Intervention
Store of value	Banking	Reserves
Unit of account	Invoice	Peg
Standard of deferred payment	Private bonds	Sovereign bonds

First, the dollar is a *medium of exchange*. Because the foreign exchange markets are mainly interbank, the dollar is the vehicle currency in interbank transactions serving customers in the private sector. Thus, when any government intervenes to influence its exchange rate, it also

**Table 1: Currencies Involved in Foreign Exchange Trading**  
(per cent of global trading with each trade counting twice)

<b>Currency</b>	<b>1998</b>	<b>2001</b>
Dollar	87.3	90.4
EMS currencies and Euro*	52.5	37.6
Yen	20.2	22.7
Pound	11.0	13.2
Swiss franc	7.1	6.1
Canadian and Australian dollar	6.7	8.7
All other currencies	15.2	21.3
<b>Memorandum:</b>		
<b>Total turnover in \$ billion</b>	<b>1430</b>	<b>1173</b>

Source: Bank for International Settlements, *Central Bank Survey of Foreign Exchange and Derivative Market Activity in April 2001: Preliminary Global Data* (9 October 2001). As each trade involves two currencies, each trade is counted twice, so percentages should add up to 200, but detail may not sum due to rounding. \*EMS currencies include the ECU and Danish Krone.

**Table 2: Geographic Distribution of Foreign Exchange Trading**  
(per cent of global trading)

Country	1998	2001
United Kingdom	32.5	31.1
United States	17.9	15.7
Euro-zone countries	17.4	14.7
Germany	4.8	5.4
France	3.7	3.0
All other*	8.9	6.3
Japan	6.9	9.1
Singapore	7.1	6.2
Switzerland	4.2	4.4
Hong Kong	4.0	4.1
All other reporting countries	10.0	14.7

Source: Bank for International Settlements, *Central Bank Survey of Foreign Exchange and Derivative Market Activity in April 2001: Preliminary Global Data* (9 October 2001). Detail may not sum to total due to rounding. Every country in this group experienced a fall in its share of global trading.

finds it cheaper and more convenient to use the dollar as the official intervention currency. (The major exception to this convention is a fringe of small European countries to the east of Euroland which mainly use the euro as their central money.) Following Peter Kenen [2002], Tables 1 through 6 analyze the dollar's role in international finance. Table 1 shows that the dollar is on one side or the other of 90 percent of foreign exchange transactions worldwide.

Perhaps counter-intuitively, Table 2 shows that dollar-based foreign exchange transacting is not centred geographically in the US. Although the dollar is the predominant money in foreign currency trading, London has the biggest foreign exchange markets using the dollar as the clearing currency. The UK actually has the bigger proportion of foreign exchange trading. And then you have the offshore markets in Singapore and Hong Kong.

Second, 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 US itself. But it is virtually impossible to obtain the distribution of foreign exchange holdings by currency of denomination for the private sector the world over. It is estimated that more than half the stock of the stock of coin and currency issued by the United States government circulates abroad in Latin America, Russia, Africa and in other financially distressed areas. So too does the euro circulate as hand-to-hand currency outside of Euroland, but more in the smaller countries of Eastern Europe . However, the Bank for International Settlements does compile information on the cross border liabilities of reporting banks identifiable by currency, and this is reported in Table 3.

As the store of value of governments, international exchange reserves are mainly in dollars—as shown in Table 4. Before the advent of the Euro, in 1999, many economists were speculating that foreign central banks were going to start diversifying their reserve portfolios into euros. Thus the dollar standard would not be as strong. Table 4 shows that the degree of this diversification has been minor. In the developing countries, about 70 per cent of their exchange

**Table 3: Cross-border Liabilities of Banks**  
(per cent of global total identifiable by currency)

Currency	1998	2000
Dollar	47.6	51.7
Euro-zone currencies and Euro	26.3	25.6
Yen	8.4	7.4
Pound	6.5	6.6
Swiss franc	3.2	2.7
Other	8.1	6.0
Memorandum:		
Total liabilities in \$ billion	8399	9307

*Source:* Bank for International Settlements, *BIS Quarterly Review*

(March and September 2001). Detail may not sum to total because of rounding.

**Table 4: Currency Composition of Official Foreign-Exchange Reserves  
(per cent of global total)**

Country Group and Currency	1998	2000	2001
Industrial Countries:			
Dollar	66.7	73.3	74.5
Euro-zone currencies and Euro*	16.8	10.2	10.1
Yen	6.6	6.5	5.5
Pound	2.2	2.0	1.8
Other and unspecified	7.6	7.8	8.1
Developing Countries:			
Dollar	65.3	64.3	64.1
Euro-zone currencies and Euro*	13.3	14.6	16.2
Yen	4.5	4.4	4.5
Pound	5.2	5.2	5.5
Other and unspecified	11.8	11.5	9.6

Source: International Monetary Fund, *Annual Report 2001*. Detail may not sum to total because of rounding.

Euro-zone currencies include the Deutschemark, French Franc, and Dutch Guilder, as well as ECU held by industrial countries.

reserves are in dollars if you allocate their unspecified exchange reserves in Table 4 in the same way that the specified reserves are distributed . The developing countries used to hold some deutsche marks, francs, and pound sterling. The euro is held more or less in the same balance as were the old European national currencies, but it is not really encroaching on the dollar-based system. This could change, but the dollar still predominates.

Third, 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 strong currencies tend to invoice their exports in their home currencies. Before the European Monetary Union (EMU), more than 75% of German exports had been invoiced in marks, more than 50% of French exports invoiced in francs, and so on. But these illustrative ratios were dominated by intra-European trade. With the advent of EMU, how much continental European countries will invoice their exports outside of Europe in euros remains unknown—but for manufactured goods, the proportion probably corresponds to the degree that Germany used to invoice in marks.

Within Asia, however, foreign trade is invoiced mainly in dollars. Table 5 displays Korea's invoicing practices. In the 1990s, the percentage of imports invoiced in US dollars was about 80%, while the proportion of dollar invoicing of Korean exports was even higher. Because the other smaller economies countries are less industrialized than Korea, their currencies are even less likely to be used in foreign trade, with the proportion of dollar invoicing being correspondingly greater.

**Table 5: Invoice Currencies in Korean Trade, 1980-2000 (percent)**

	Exports (receipts)					Imports (payments)				
	\$	¥	DM	£	other	\$	¥	DM	£	other
1980	96.1	1.2	2.0	0.4	0.3	93.2	3.7	1.7	0.5	0.9
1985	94.7	3.7	0.6	0.3	0.7	82.4	12.3	2.0	0.5	2.8
1990	88.0	7.8	2.1	0.5	1.7	79.1	12.7	4.1	0.9	3.4
1995	88.1	6.5	2.4	0.8	2.2	79.4	12.7	3.8	0.7	3.4
2000	84.8	5.4	1.8	0.7	7.3	80.4	12.4	1.9	0.8	4.4

Source: Bank of Korea: Monthly Statistical Bulletin. Trade in services is not included.

In striking contrast, yen invoicing in Korean trade is surprisingly small. In 2000, Table 5

shows that only 5.4% percent of Korean exports were invoiced in yen—and only 12 to 13% of Korean imports. This is “surprising” because Japan is at least as important a trading partner with Korea as is the United States—and direct investment by Japan in Korea has been much higher. Table 5 also shows that the use of European currencies is negligible.

For smaller East Asian countries not trading with Japan but with each other—as when Thailand trades with Malaysia—everything is typically invoiced in dollars. 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, in Latin America, exports are largely dollar invoiced, and intra regional trade is 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, 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 heavily denominated in US dollars, though the Euro seems to be as important. Table 6 is difficult to interpret because ‘international’ also refers intra European issues of euro denominated bonds. But this ambiguity aside, the growth of a broadly based bond market within Europe denominated in euros has made it much more attractive for foreigners to borrow by issuing euro bonds. So Euroland is unusual. It is a net creditor in the world economy that can lend in its own currency. Other net creditors are more or less confined to lending in dollars.

**Table 6: Net International Issues of Debt Instruments (per cent of global total)**

Currency or Nationality	1998	1999	2000	2001	2002
By Currency of Issue					
Dollar	60.3	44.4	50.1	48.4	41.5
Euro-zone currencies and Euro*	33.0	47.7	37.8	44.3	51.5
Pound	8.4	7.1	8.4	NA	NA
All other currencies	-1.8	0.8	3.7	7.3	6.97
By Nationality of Issuer:					
United States	41.1	39.2	37.7	45.7	34.4
Euro-zone countries	31.4	41.3	45.0	47.9	59.6
United Kingdom	7.7	9.4	9.7	NA	NA
Other industrial countries	4.0	3.9	0.9	NA	NA
Developing countries and offshore centres	7.6	4.2	4.9	6.3	6.01
International Institutions	8.2	2.2	108	NA	NA
<b>Memorandum:</b>					
Net issues in \$ billion	<b>681</b>	<b>1230</b>	<b>1234</b>	<b>1347</b>	<b>1016</b>

*Source:* Bank for International Settlements, *International Banking and Financial Market Developments* and *BIS Quarterly Review* (June 2003). Detail may not sum to total because of rounding. Euro-zone currencies include ECU.

Despite the increasing importance of the euro in international bond markets, US Treasuries are still taken as the bench-mark or “risk-free” asset in international bond markets. 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 US Treasuries. Thus, risk premia in interest rates on these bonds are typically quoted as so many percentage points over US 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 US. This monetary harmonization has two avenues: (i) international commodity arbitrage—the *arbitrage avenue*, and (ii) the *signaling avenue* where other central banks take their cue from actions of the US 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 US), 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 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 US 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 US, the signaling avenue can also be important. If any one national government resists upward pressure on its currency in the foreign

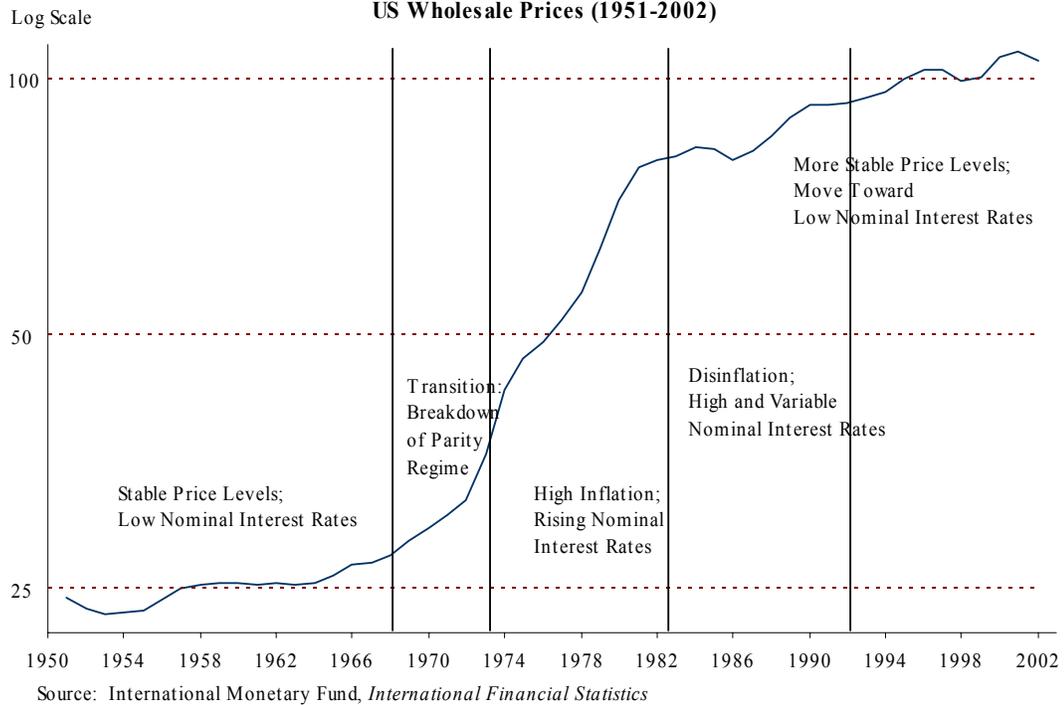
exchanges, the resulting increase in its official dollar reserves signals the need for domestic monetary expansion—and vice versa. The national central bank can even take its cue directly from what the US Federal Reserve Board is doing. For example, the Bank of Canada typically changes its own discount rate (interbank lending rate) relatively quickly in response to changes in the US Federal funds rate.

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

- (i) The American price level, as measured by a broad index of tradable goods prices, is stable and expected to remain so; and
- (ii) 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—as shown by the evolution of the American producer price index (PPI) in Figure 1.

**Figure 1: The World's Nominal Anchor:  
US Wholesale Prices (1951-2002)**



### **High Bretton Woods, 1950 to 1968**

The period of “high” Bretton Woods, as defined here for 1950 to 1968, is when the major industrial countries all had officially committed themselves to fixed dollar parities with little change. From the 1950s through 1968, the first panel of the figure below shows that the US price level for tradable goods prices—as measured by the US 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% 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.

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 the countries 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 the figure 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 less developed country 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 1968–1973: The Advent of Floating Exchange Rates**

With hindsight, the old fixed rate dollar standard began to unravel in the late 1960s as wholesale price index (WPI) inflation in the US—the center country—began to escalate toward 3% per year (second panel of the figure). 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 US 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% 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% before reestablishing 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 US, high and variable price inflation coupled with high and volatile nominal interest rates—see the third panel in the figure—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 the figure shows a return to price stability in the US—with US 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 greatly increased over the last decade. The dollar rising from 51.3% of official holdings of foreign

exchange (of members of the IMF) in 1991 to 68.3% in 2001. 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 70% (Table 4).

Surprisingly, the advent of the euro has not reduced the dollar’s predominance in international reserve holdings. The table 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—marks, francs, and guilders—before the advent of the euro on 1 January 1999. Although the 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:

- (i) In noncrisis 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.
- (ii) 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.

### **Soft Pegging**

In their landmark study of 155 country exchange rate regimes using monthly data, Guillermo Calvo and Carmen Reinhart (2002) showed that the only “truly” floating exchange rates against the dollar were the euro, yen, and possibly the pound sterling and Swiss franc. 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. (However, in 2002 and 2003, the Bank of Japan intervened massively to keep the yen/dollar rate close to 120.)

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. McKinnon and Schnabl [2003a] show that this high frequency pegging is a rational response to incomplete domestic bond and forward exchange markets in developing countries. 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 US differs from high Bretton Woods with its officially fixed dollar parities. In East Asia, 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 PRC calls its regime a “managed float”, the renminbi’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 euro/dollar exchange rate.

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 U.S. 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 US 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 exchange rate parity obligation for membership exists no more; it was blown apart by the American inflation of the 1970s.

On the economic side, the reluctance of any one government to declare an official dollar parity now appears too risky precisely because neighboring countries have not done so. If Country A (Argentina) declared a dollar parity, and then its close neighbor country B (Brazil) allowed its currency to depreciate against the dollar, country A could lose competitiveness and be badly hurt. Better for country A not to commit itself formally to a particular dollar exchange rate to begin with in case it might want to depreciate in response to a surprise depreciation by country

B. Hence, A dare not commit if B, C, D,... have not committed—and vice versa.

As in 1945, collective action is necessary to prevent beggar-thy-neighbor devaluations. But the old collective agreement under high Bretton Woods was undermined by the American inflation of the 1970s and 1980s. With no stable anchor currency, maintenance of the old regime of exchange parities became impossible. Now the American price level has been quite stable got almost a decade (Figure 1). However, 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.

## **II. New Rules for the Dollar Standard Game**

Suppose that the American government finally recognizes its central position in the world monetary system and the “unfair” asymmetry in current financial arrangements. It also agrees to reduce financial fragility on the American periphery, looking at the periphery as being a *collectivity* of debtor and creditor countries whose regional fortunes interact. The IMF as lender of first resort would stay as crisis manager, but the US itself would formally agree to be the residual source of finance—the lender of last resort. The combined IMF-U.S. entity would have sufficient resources to act sooner and more assuredly to limit financial crises on the periphery.

To see how our present international monetary order should be modified, new rules for the dollar standard game are set out in Box 2. Reflecting the inherent asymmetry in the world’s money machine, the first set of 4 rules applies to countries on the dollar’s periphery and the second set of 5 rules applies to the United States. The nine rules are hardly all encompassing—and the European bloc, with the euro as the central currency, really does not fit comfortably into this analytical framework. Yet these nine rules address the philosophical impasse on what should

## Box 2

### New Rules for the Dollar Standard Game

#### *Peripheral Countries*

*Rule 1.* Recognize that the greater fragility of financial systems requires prudential regulations more stringent than those prevailing within the United States. Restrain foreign exchange exposure by banks and other financial institutions, if necessary by capital controls.

*1A:* Debtor economies: Limit build up of short-term dollar liabilities.

*1B:* Creditor economies: Limit liquidity of “overhang” of dollar assets.

*Rule 2.* Recognize that pegging to the dollar may reduce risk in countries that are either dollar debtors or dollar creditors, and is necessary under capital controls or tight limits on foreign exchange exposure by banks.

*Rule 3.* Aim for mutual exchange rate stability within natural economic regions such as East Asia. Set long-term dollar exchange-rate objectives for the group.

*Rule 4.* Use collective action clauses to defer repayment of private and sovereign debts should a debtor country be declared in crisis.

#### *United States*

*Rule 5.* Conduct an independent monetary policy to limit inflation and stabilize the purchasing power of the dollar. Provide a stable potential nominal anchor for the price levels of other countries.

*Rule 6.* In noncrisis periods, remain passive in the foreign exchanges without targeting the dollar’s exchange rate. Allow foreigners to transact freely in dollars. No capital controls for the center country.

*Rule 7.* Supplement the resources of the IMF in major crises and, if necessary, act as lender of last resort with the aim of maintaining or restoring exchange stability.

*Rule 8.* Do not force developing countries to open their financial markets internationally—and cease pushing the entry of American banks and other financial institutions into their domestic economies.

*Rule 9.* Limit or reverse current account deficits by increasing domestic saving, government and private.

be America's relationship to both debtor and creditor countries in the rest of the world.

Using similar rule boxes, I previously described how the actual rules of the international money game evolved from the 19<sup>th</sup> century classical gold standard through the various phases of the post World War II dollar standard (McKinnon 1993, and 1996). As summarized in Box 2 for the new millenium, however, my analysis is both descriptive in describing how the dollar standard now works but also more prescriptive in suggesting major improvements. Let us discuss each rule in turn.

*Rule 1.*

The greater financial fragility of peripheral countries, whether they be dollar debtors or creditors, might require international capital flows to be directly regulated to prevent undue turbulence in the foreign exchanges. But the regulatory problems would differ between debtor and creditors.

For developing debtor economies, the incentives of banks and other financial institutions to finance themselves by borrowing more cheaply in foreign currencies to make domestic loans needs to be curbed either by direct controls or by very high capital requirements on net foreign exchange exposure. The international Basel Accord recommends uniform bank capital requirements for all classes of countries making no distinction between the center and the periphery. Remarkably, the Accord fails to deal satisfactorily with foreign exchange exposure: the most pressing regulatory problem faced by developing countries, but not one seen to be all that important by American or European banking authorities who dominated the decision making leading up the Basel Accords. In a generally more fragile financial environment, governments in developing countries need to be much more stringent in regulating against foreign exchange risk, but also against interest rate and default risks, than the Basel Accords suggest.

For dollar creditor economies, the regulatory problem is more subtle: how to prevent the

build up of privately held dollar claims by domestic households, firms, and financial institutions that are so liquid that they become a dollar “overhang”. Continual conversions of dollars into the domestic currency could force repeated appreciations of the domestic currency followed by deflation—as in Japan in the past [Goyal and McKinnon, 1993] and threatens to be the case in China in the future [McKinnon and Schnabl, 1993b].

One illustrative, but very draconian, way of avoiding a dollar overhang is that followed by Singapore—which, on a per capita basis, may well be the world’s largest dollar creditor. The Singapore government essentially nationalizes most of domestic private saving through compulsory forced contributions to its Provident Fund, which is a defined-contribution retirement plan where each individual household is kept fully informed of the Singapore dollar value of its accumulated assets. However, in investing the proceeds from this Fund, government entities act as agents in domestic real estate, business ventures, *and* in huge overseas investments.

But the (mainly) dollar assets held by Singapore’s overseas investment agency on behalf of households are in “safe hands”, i.e., there is no threat to have them suddenly converted back into Singapore dollars. From a household’s point of view, these dollar claims are essentially illiquid, and cannot even be separated from the domestic assets in its share of the Provident Fund. Thus, there is no U.S. dollar overhang, and no danger of forced appreciation(s) of the Singapore dollar. The Singapore government has no trouble in keeping the exchange rate more or less stable.

### *Rule 2*

Rule 2 addresses the pressing need to achieve exchange rate security on the periphery. It codifies the existing practice of both debtor and creditor countries that informally peg to the dollar to reduce foreign exchange risk. One aim is to dissuade the IMF from dissuading peripheral countries from stabilizing their exchange rates.

### *Rule 3*

Rule 3 complements Rule 2 in two respects. First, it identifies need for concerted action to stabilize exchange rates when countries are closely integrated in trade and capital flows—as in East Asia. In effect, exchange rate stabilization by any one country is a “public good” for its neighbors, and thus any changes in exchange rates should be by mutual agreement.

Second, Rule 3 identifies the need to lengthen the maturity of credible exchange rate commitments to the dominant central money if currency risk is to be minimized: specifically, to reduce positive risk premia in the interest rates of debtor economies [McKinnon, 2001] and negative risk premia interest rates of creditor economies [Goyal and McKinnon, 2003].

The need for concerted action among countries that are closely integrated in trade to stabilize their exchange rates over the long term suggests the need for official exchange rate parities. In East Asia, China has kept its exchange rate stable at 8.28 yuan/dollar since 1994—and this seems like a natural fixed point around which to stabilize the exchange rates of other countries in the region.

### *Rule 4*

“Collective Action Clauses” (CACs) in debt contracts allow for a moratorium on debt servicing should the debtor country (as distinct from the individual borrower) be declared, by some impartial arbiter, to be in crisis. CACs would reduce the moral hazard in international banks and other short-term creditors to *overlend* to emerging market economies. Should there be a general attack on the domestic money, suddenly they would suddenly become long-term lenders. CACs have been mooted by the IMF for sovereign borrowing, but Rule 4 would cover private foreign debts as well. Rules 1, 3, and 4 together could nudge developing countries away from short-term borrowing in favor of longer-term sources of finance.

Consider now the behavior of the United States itself as encapsulated in Rules 5 to 9.

Macroeconomic policies of the American government have typically been implemented with little or no thought to what is going on in the rest of the world. And, up to a point, this has served the rest of the world quite well—as per Rules 5 and 6.

*Rule 5*

The U.S. Federal Reserve orients domestic monetary policy towards stabilizing the U.S. price level, i.e., the purchasing power of the dollar in terms of a broad basket of goods and services. For the Nth or center country in the system without any exchange rate objectives or commitments of its own, American monetary independence is best utilized by using the Fed's domestic open market operations to target the U.S. price level. This then can provide an independent nominal anchor for the price levels of the other N-1 countries that are targeting their dollar exchange rates to greater or lesser degrees.

*Rule 6*

Similarly, the United States normally keeps its financial markets open and let foreign citizens and governments buy and sell dollar assets freely. Indeed, the Federal Reserve Bank of New York often acts the agent of foreign central banks in acquiring and holding U.S. Treasury bonds, and increasingly U.S. government agency securities, on their behalf. About 200 foreign official institutions own so-called Fed Custodial accounts, and more than half of official exchange reserves throughout the world are in this form. Clearly, the imposition of capital controls by the United States would undermine a central feature of how the world dollar standard works. The U.S. government should normally be quite passive in the foreign exchange markets.

*Rule 7*

Because the dollar is definitive money in the world system, in major crises the U.S. government is the natural lender of last resort to other governments. Because its ability to issue Treasury bonds—many of which are purchased by foreign entities anyway—is virtually

unlimited, the U.S. government has great credibility in any financial rescue operation. However, the International Monetary Fund's has the technical expertise, and better political cover from being an international agency with a wide voting membership, for crisis management. To alleviate minor crises, the IMF (with the tacit consent of the U.S. Treasury) has sufficient resources on its own to act as lender of first resort. But in great crises, the U.S. Treasury must eventually be drawn upon.

Rules 5, 6, and 7 described benign behavior followed more or less unconsciously by the United States, and arise naturally from the inherent currency asymmetry in the world system. However, the unbalanced world monetary regime turns more malign when the center country tends to act—either consciously or unconsciously—in an exploitive fashion. Rules 8 and 9 are designed to identify, and then curb, these unfortunate tendencies.

#### *Rule 8*

Every government faces pressure from specific domestic mercantile interests, which are highly focused politically, to intervene for their benefit—even though such interventions may be against the general welfare at home or abroad. Domestic lobbying for protection against foreign imports is a well known example. Beyond this “normal” petitioning by special interests, however, the central position of the U.S. government gives it unusual leverage to influence policies in other countries.

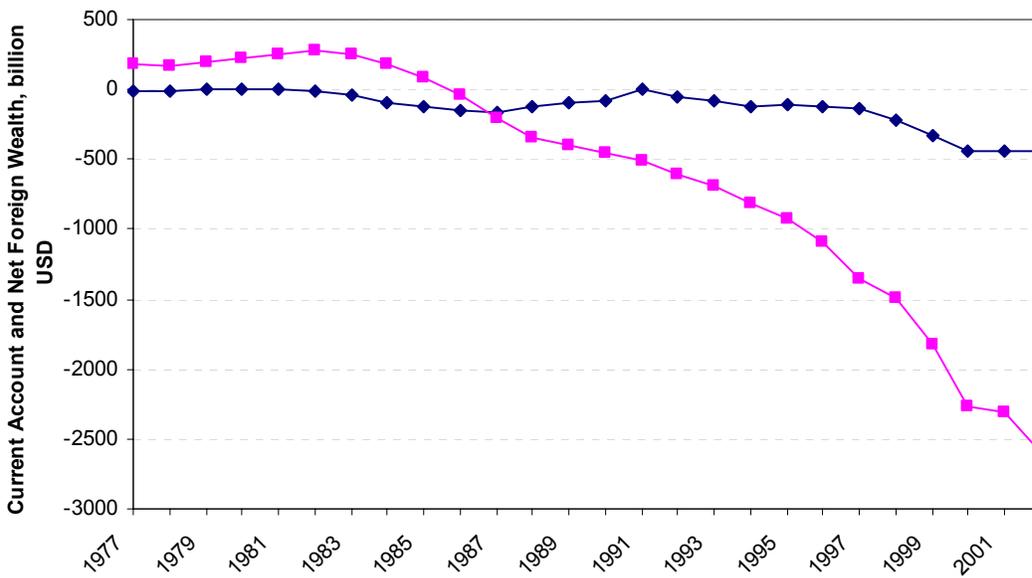
For example, the U.S. Treasury has pressured developing countries to (prematurely) jettison capital controls and open their domestic financial markets in the interests of American banks, insurance companies, stock brokerages, and so on. China is the most recent case in point where its application to WTO was held up until the U.S. government secured a separate agreement (not part of the normal WTO articles) from the Chinese to liberalize capital controls and admit foreign financial firms into China's domestic markets. For many developing countries,

this pressure contravenes the good financial practices embodied in Rules 1 and 2.

*Rule 9*

The same unlimited line of credit with the rest of the world that makes the United States the international natural lender of last resort (Rule 7) can be exploited, consciously or unconsciously, to borrow indefinitely for domestic purposes. Since the early 1980s, the U.S. government, corporations, and increasingly households, have borrowed heavily—and almost invisibly through financial intermediaries and banks—from foreigners. Figure 2 shows the resulting current account deficits (about 3-5 percent of GNP in the 1980s into 2003) and the decline in America’s net asset position from being positive in the 1950s and 60s to being highly negative (about 25%) of GNP today.

**Figure 2: The U.S. Current Account and Net Foreign Wealth Position 1977-2002**



Source: US Department of Commerce, Survey of Current Business, June 2003

This huge inflow of capital into the world’s richest and most mature capitalist economy

is perverse in the sense of draining capital from poor Third World countries. India, in 2003, is now running a current account surplus, building up official exchange reserves in dollars, and lending to the United States! American households can borrow too easily on their consumer credit cards because banks issuing the cards have no trouble attracting capital from foreigners. America's budget constraints, both of the Federal Government and of households, are unduly (artificially?) soft because of an accident of history: the position of the United States at the center of the world dollar standard. Thus, from a long run perspective, Rule 9 enjoins the United States to reduce its current account deficits by increasing government saving, i.e. run government budgetary surpluses rather than deficits, and increase the incentives of American households to save via pension plans and fully funded social security arrangements.

However desirable to put in train these long-run reforms in American saving practices, the immediate pressure is slack in the world economy and potential deflation—which militates in the opposite direction of running fiscal deficits for Keynesian reasons. I now turn to this “short-run” counter cyclical problem.

### **U.S. Current Account Deficits and the Threat of Deflation**

The current macroeconomic threat to the world economy is generalized deflation. The American economy, at the center of the world dollar standard, is still suffering the deflationary aftermath of the collapse of the high-tech bubble economy that lasted from 1995 through 2000. Ultra low American interest rates and large fiscal deficits may or may not provide enough domestic stimulus for the American economy to resume growing. However, because of the fundamental asymmetry in the world's money machine where the dollar is the central money in international trade and finance, coping with deflation in other economies is much more difficult.

In a deflationary world, each foreign government on America's periphery is paranoid

about having its currency appreciate against the dollar with a consequent loss of mercantile competitiveness against its neighbors. In East Asia in particular, the currencies of Japan, China, and now most recently Korea, are facing strong upward pressure in the foreign exchanges. So, the Bank of Japan, the People's Bank of China, and the Bank of Korea, are all intervening heavily to buy dollars with their domestic monies to forestall appreciation.

For example, the Bank of Japan has intervened quite massively in 2003 and earlier to sell yen for dollars in a desperate attempt to prevent the yen from appreciating—buying US\$34.4 billion in May 2003 alone. Japan's official foreign exchange reserves now total more than half a trillion dollars. The People's Bank of China has been selling yuan for dollars so that the recent run up in its exchange reserves, which are now more than \$370 billion, has been proportionately faster. The run up of exchange reserves in Korea over the last two years has been proportionately much slower, but seems to be intensifying as of mid-2003. And each central bank is more or less forced to cut domestic interest rates to stem the conversion of privately-held dollar assets into domestic-currency assets. The Bank of Japan has cut the short-term interest rate in Japan's money market to virtually zero. However, if these intervention efforts were to break down, with a sharp appreciation, the deflationary domestic impacts could be traumatic.

Right now, China seems to be the flash point for such speculative pressure. Clamoring from foreign industrialists and politicians—particularly in Japan—that China's economy is too competitive and that the yuan should be appreciated, compounds the problem. China's exchange rate of 8.28 yuan to the dollar has been constant since 1994 and its internal price level is now quite stable at that rate. China has had a trade surplus since 1995, except for the first few months of this year when its trade happens to be roughly balanced multilaterally. However, many economists believe that China's trade surplus could be reduced, and even become negative, if an appreciated yuan made Chinese exports more expensive in dollar terms so that fewer are sold

abroad.

But this conventional wisdom is misplaced. China's trade surpluses reflect its surplus saving, just as America's huge ongoing trade deficit reflects the extraordinarily low net saving within the American economy—zero net personal saving and now large government dissaving from extraordinary fiscal deficits. Changing an exchange rate does not change these net savings propensities in any obvious way. However, in a deflationary world, if one country is forced to appreciate its currency against all its neighbors, the fall in its domestic-currency prices of tradable goods and services could create a downward deflationary spiral in prices and output with a consequent fall in imports. Thus, there would be no predictable effect on China's net trade surplus from appreciating the yuan.

Among the emerging creditor economies of East Asia (Korea has now had five years of trade surpluses), this tension in the foreign exchanges could well provoke a new currency crisis which is the mirror image of the forced depreciations of 1997-98. If any one East Asian currency is "attacked" with a run *into* it and so is forced into a substantial appreciation against the dollar, then the contagious pressure on the remaining creditor economies will intensify and possibly force appreciations there as well.

The best defense against these runs from dollars into East Asian currencies is a collective one. Building on China's very strong decade-long effort to sustain the yuan at close to 8.28 to the dollar, Japan (120 yen to the dollar?) and Korea (1200 won to the dollar?) could well jointly announce more specific goals for stabilizing their exchange rates. A collective agreement among the major players makes it easier for any one central bank to defend its position, and also easier for smaller economies like Malaysia and Hong Kong to keep their exchange rates fixed against the dollar.

The other major player, Western Europe with its new euro, is a huge economy somewhat

better—but not completely— insulated from the world dollar standard. Its foreign trade and international lending is denominated in its home currency euros. Traditionally, the European Central Bank (ECB) does not intervene to keep the euro stable against the dollar and has been more sanguine, and probably too willing to ignore, the deflationary impact of the rise in the euro over the past two years from about US\$.85 to US\$1.13 . True, partly in response to the euro's rise, the ECB cut its interbank rate sharply down to 2 percent in early June. But, given the weak state of the German and French economies, that might be too little and too late.

My guess is that further significant ratcheting up of the euro will eventually elicit official intervention in the foreign exchanges by European governments, and more interest rate cuts by the ECB, to prevent further appreciation. But, of course, once interest rates approach zero, this avenue will no longer work, Then, Western Europe will be in the same financial trap as its neighbors in East Asia: massively intervening to keep their domestic currency from appreciating while not being able to do much to stimulate their internal economies.

So everybody will be waiting for the huge US economy to recover and once again start attracting private capital from the rest of the world. Only then may foreign governments withdraw from intervening to keep their currencies from rising, and make use of a more buoyant world economy to expand their exports and recover.

Notice that in neither of these scenarios has the United States any problem in covering its own massive current-account deficits. If the American economy recovers, it will again attract private capital inflows. But if the American economy continues to languish, then official capital inflows—the result of foreign governments intervening to prevent their currencies from appreciating—provide the finance for America's external trade deficits.

And there is a final irony. More and more countries on the American periphery are being induced to run trade surpluses as the inevitable counterpart of America's high trade deficits and

unlimited line of credit from the rest of the world. Although the US is the calm at the center of the world's financial storm, its profligate trade deficits are at the root of the strong deflationary pressure—from the threat of exchange appreciation—now faced by many other countries that have become dollar creditors.

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