



Stanford

Center for International
Development

Working Paper No. 419

Rehabilitating the Unloved Dollar Standard

by

Ronald McKinnon

April 2010



Stanford University

John A. and Cynthia Fry Gunn Building, 366 Galvez Street

Stanford, CA 94305-6015

Rehabilitating the Unloved Dollar Standard

Ronald McKinnon¹

Stanford University

April 2010

Abstract

The international dollar standard is an accident of history that greatly facilitates international trade and exchange. But erratic U.S. monetary and financial policies have upset the American and world economies so as to make foreigners unhappy. A weak and falling dollar led to the great price inflations of the 1970s and to disastrous asset bubbles in the noughties. It aggravated the postwar world's three great oil shocks. The asymmetrical nature of the dollar standard also makes many Americans unhappy because they cannot control their own exchange rate. Although nobody loves the dollar standard, it is a remarkably robust institution that is too valuable to lose and too difficult to replace. Rehabilitating the unloved dollar standard by "internationalizing" American monetary and financial policies to better stabilize the U.S. and world economies is the only way out of the current impasse.

Key Words: Dollar standard, Monetary policy, Exchange rate, Asset bubbles.

JEL Codes: F3, F4, F5.

¹ Professor of Economics, Stanford University
mckinnon@stanford.edu, <http://www.stanford.edu/~mckinnon>

Introduction

The world dollar standard dominates the financial underpinnings of most international trade—even trade not directly involving the United States. The dollar standard is an extremely robust institution that, amazingly, nobody likes. Foreigners don't like it because they consider it an exorbitant privilege of the United States. Americans don't like it because they can't control their own exchange rate. Nevertheless, the dollar standard survives despite major worldwide crises precipitated by errant American monetary policies: in 1970–72 with the forced breakdown of the original Bretton Woods dollar parities, and in the recent global credit crisis caused by an overly easy Fed policy in 2003-04. Nobody may love the dollar standard, but it is too valuable to lose and too difficult to replace.

Financial globalization is necessary for multilateral trade. Without financial globalization, all trade would be close to bilateral barter and very inefficient. Even so, why should the dollar standard be the basis for continued financial globalization?

The dollar plays two distinct roles as international money. At the microeconomic level, it facilitates multilateral international exchange. At the macroeconomic level, it naturally serves as a monetary anchor for the price levels and exchange rates of many other countries. The dollar has performed, and still performs, very well as a facilitator, but it has become very shaky as an anchor—and that is the main contradiction in the current dollar-based system. However, there need be no contradiction if American monetary and financial policies are suitably internationalized. A more outward-looking U.S. monetary policy is not only in America's own best interest but also for the rest of the world's.

The Robust Facilitator

In a world of N countries with N currencies, markets if not governments will inevitably select one to be the central money—as Robert Mundell (1968) taught us long ago. This N th currency will then intermediate the clearing of international payments among banks, exporters will use it for invoicing most commodity trade. The other $N-1$ governments will choose it for intervening (if they intervene at all) to target their exchange rates and for holding most of their official exchange reserves. Although this

naturally asymmetrical monetary system is politically unpopular, the efficiency gains are very high.

To see this efficiency gain, consider a world of 150 countries and 150 currencies but *without* one central money. To preserve monetary symmetry, you would need 11,175 bilateral foreign exchange markets for trading goods and services. However, if one money—the Nth—is mutually selected to be the common intermediary currency among banks, then only 149 markets need to be actively traded. Once these 149 dollar exchange rates are established, then private triangular arbitrage will be sufficient to establish the remaining 11, 175 cross rates within each currency pair. With little or no direct trading between minor currencies, many of these bilateral cross rates will be just notional—but still useful to exporters or importers in comparing costs for shipping goods across countries.

This economy of markets is particularly important for forward exchange or options markets, where trading is naturally thin. On a bilateral basis, such markets would be hopelessly illiquid. Brokers would have to wait uncomfortably long between matching buy and sell orders. Their resulting exposure to foreign exchange risk would generate much higher transactions costs (in the form of widened bid-ask spreads) compared to forward transacting against one central money.

Consequently, having one central money to facilitate international exchange is a natural monopoly. More than one intermediary currency would increase the number of foreign exchange markets that must be actively traded. Thus a second intermediary currency could only be justified if there was a sub group of countries, perhaps contiguous with each other, among which trade was particularly intense—so liquidity in these markets was not a problem. Otherwise, just one national money will naturally be chosen as the intermediary currency for minimizing (private) interbank trading costs worldwide.

But which one? The country must be of substantial size so that the extent of its own foreign trade transacting is large and intense (Krugman 1984). Beyond that however, the choice of the intermediary currency is largely an historical accident. After World War II, the U.S. dollar emerged as the only major currency unscathed by the war in sense of having full currency convertibility on both current and capital accounts (no exchange controls). The United States had a relatively stable domestic level with a minimum of

price controls. In 1945, the other industrial countries had varying degrees of open and repressed domestic inflation coupled with widespread currency restrictions.

Since 1945, therefore, banks everywhere have traded against the dollar as the main intermediary currency to service the spot and forward foreign exchange needs of their nonbank customers. Dollar-based interbank markets are relatively deep and liquid at every term to maturity, greatly reducing transactions costs. Empirical evidence shows that the dollar is on one side or the other of 80 to 90 percent of all foreign exchange transactions. But dollar-based foreign exchange trading doesn't have to be centered in New York: much of it has migrated to London, with smaller "offshore" interbank markets in places like Singapore and Hong Kong.

Since 1999, the euro has played a facilitating role for smaller European countries to the east of the euro area—and for a few former European colonies in Africa and elsewhere. But the dollar is much more important for trade among third countries—such as when China trades with Brazil, or anywhere within Asia or Latin America. Thus, between 60 and 70 percent of the world's official exchange reserves remain in dollars despite the monetary travails of the center country. The encroachment of the euro in international transacting has been slow. That said, one area of greater euro encroachment is in international bond issues—where the dollar and euro seem to be about equally important as the currency of denomination.

What about foreign trade in goods and services? It's difficult to find up-to-date information on currencies used to invoice foreign trade on a broad basis. But the Bank of Korea's website shows about 84 percent of Korea's exports and 83 percent of its imports are invoiced in dollars. For China's foreign trade, the proportions of dollar invoicing are probably even higher—despite recent efforts of the People's Bank of China (PBC) to encourage RMB invoicing for trade along China's most immediate borders. International trade in homogeneous primary commodities, such as oil, copper, or soya beans is virtually all invoiced in dollars. So beyond facilitating money changing among banks as an intermediary currency, the dollar remains central as an international unit of account in trade in many goods and services.

However, for the dollar's facilitating role to work smoothly, the U.S. monetary authorities must observe two constraints.

First, the United States must maintain currency convertibility on both *capital* and current accounts. Other countries need only maintain current-account convertibility for importing and exporting, as per the IMF's Article VIII; otherwise they are free to impose capital controls—and many do. But because the dollar is the dominant intermediary currency for clearing international payments, the whole system would fall apart if the United States itself were also to impose capital controls. Because the U.S. maintains open capital markets, other countries are free to buy or sell dollar assets in these highly liquid markets. The Federal Reserve Bank of New York even maintains voluntary custodial accounts for foreign governments' dollar exchange reserves, usually in the form of U.S. Treasury bonds or “agency” securities. Using the Fed as their agent, they can then buy or sell U.S. government securities freely in the New York markets.

Second, the U.S. government must stay out of the foreign exchange markets, with no exchange rate target of its own. The other countries are free to select their dollar exchange rates. But, in a world with 150 countries, only 149 exchange rates can be determined independently. Thus, to avoid conflict, the United States normally stays passive—except in some unusual crisis, such as helping the Bank of Japan in 1995 to hold down the surging value of the yen. However, this doesn't stop the U.S. government from complaining if it believes that other countries are setting their dollar exchange rates “unfairly”—as with the alleged undervaluation of the yen before April 1995 (Japan bashing), and the alleged undervaluation of the renminbi over the past decade (China bashing).

While annoying many Americans that their government cannot set its own exchange rate, the United States gets an extra degree of monetary freedom. By not having to gear its monetary policy to an exchange rate target, the U.S. central bank is then freer than those in other countries to target its own price level. And if the Fed is successful in stabilizing the U.S. price level, the dollar becomes the natural anchor for the exchange rates and price levels of other countries.

But then a problem arises: what should be the *modus operandi* for monetary policy in the Nth country issuing the international reserve currency? In the American case, how can its domestic objectives be best reconciled with its key international role? The changing answers are best viewed in historical perspective.

Insular U.S. Monetary Policy during the Early Dollar Standard

From 1945 through most of the 1960s, reconciliation of America's international and domestic monetary objectives was not a problem. The lack of confidence in the currencies of Europe and Japan, whose industrial and financial sectors had been flattened by the war leading to open and repressed inflation, meant that they had to ring their economies with exchange controls to prevent capital flight. This was the era of the "great dollar shortage": people and corporations wanted to hold only dollar assets with their unique international liquidity.

When Western European countries began to recover under the Marshall Plan, they did so by fixing their exchange rates firmly against the dollar. The capstone of the Marshall Plan was the formation of the European Payments Union (EPU) in September 1950. Sixteen Western European countries declared exact dollar parities (without even small margins around these central rates) at which only their central banks cleared intra-European payments multilaterally while incidentally anchoring their price levels. In parallel, with the help of an American line of dollar credit known as the Dodge Line, Japan eventually managed to stabilize its macro economy by choosing 360 yen to the dollar in 1949 as the anchor for phasing out inflation and restoring a modicum of confidence in the yen (McKinnon 1996). With the important exception of West Germany, industrial countries other than the United States maintained capital controls well into the 1970s. With the fully convertible dollar as the clearing currency, multilateral trade became the engine of strong world economic growth outside the communist bloc from 1950 into the early 1970s.

From 1945 through the 1980s, the large communist bloc—including China and the former Soviet Union— had currencies without even current account convertibility. In order to organize voluntary trade between nations within the bloc, their own currencies—which had differing (disequilibrium) national prices — were totally unusable. In the event, the dollar was used as a unit of account to price out the "value" of each communist country's putative export basket to a designated bloc neighbor. However, for ideological reasons, the dollar was not used as a means of settlement—which made multilateral trade

next to impossible. Trade within the bloc became narrowly bilateral with no net capital flows [McKinnon, 1979, ch. 3].

The American wholesale price index (WPI) approximates a worldwide index of tradable goods' prices reinforced by the practice of invoicing so much world trade. Figure 1 shows the U.S. WPI to be remarkably stable in the 1950s to the late 1960s during the Bretton Woods period of fixed dollar parities. The WPIs of major trading partners such as Germany and Japan closely tracked the stable American one.

Under the Bretton Woods Agreement of 1945, national monetary autonomy was supposed to be paramount. Because of the disastrous collapse of the gold standard in the interwar period, J.M. Keynes in particular was adamant that never again should national monetary and fiscal policies be subordinated to an international standard. Instead, more by necessity than design, the stable dollar became the monetary anchor for most national price levels outside the communist bloc [McKinnon 1996].

During this postwar period of high noninflationary growth, there were many controversies—particularly between monetarists and Keynesians—on how U.S. monetary policy should be conducted. Nevertheless, the lack of substitutability between dollars and the currencies of the other industrial economies with exchange controls meant that the Fed could conduct an inward looking monetary policy relatively successfully. It could ignore the ebb and flow of the demand for dollars in the foreign exchanges and focus just on conditions in the huge American economy, such as employment and inflation—while benignly neglecting the rest of the world.

These rather special historical circumstances of the early dollar standard conditioned the American monetary authorities to be *insular*. They learned that the demand for money (dollars), and various operating rules governing Federal Reserve behavior, could be based on purely domestic financial indicators such as U.S. inflation and unemployment, or the reserve positions of American commercial banks with the Fed. And this inward-looking U.S. monetary policy was correct for the time.

Unfortunately, however, this insular view became enshrined in U.S. textbooks on money and banking, and on monetary policy more generally, long after financial globalization had made it obsolete. In particular, this insularity has carried over to today's era when runs from dollars into foreign currencies—and vice versa—have become

commonplace. By ignoring the information contained in these runs, the Fed has become much less effective in stabilizing the domestic American financial system while undermining the anchoring function that the dollar had provided to the rest of the world.

The Slipping Anchor

The dollar has become increasingly unsatisfactory as an anchor for price levels and financial stability in the American and world economies. How can this be measured?

First consider the long-term purchasing power of the dollar in a comparative international context. Figure 2 plots the path of the U.S. and German CPIs since 1957, when comparable data first became available, and then splices the CPI for the euro area in 1999 onto the German series through 2009. When the euro area is spliced in, its inflation rate is very similar to that of Germany's—past and present. Since 1957 inflation in the U.S. has averaged 4 percent while Germany's (and the euro area's) is close to 2.7 percent. Because many central banks around the world ostensibly target annual CPI inflation to be about 2 percent, the German-led continental Western Europeans clearly have provided better long-term price-level stability.

What about the short and medium terms? Much of the erratic behavior of American monetary policy in the medium term can be captured by plotting the exchange rate of the dollar against the more stable mark-euro (again spliced together as of 1999) as shown in figure 3. When the dollar was weak and falling (sometimes because the U.S. government “talked” it down), this triggered a flight of hot money from the U.S., and a fall in the demand for money in the U.S. itself. As we shall show, the falling dollar fomented worldwide inflation in commodity and/or asset prices that rebounded in the United States itself. As suggested by figure 3, the outstanding examples of this syndrome of a falling dollar were initiated by the Nixon shock in 1971–73 carrying over to the Carter shock in 1977-78, and the Bernanke-Greenspan shock in 2003–04. Let us consider each in turn.

The Nixon-Carter Shocks and Inflation in the 1970s

In the late 1960s under pressure from financing the Vietnam war, mild inflation began in the U.S (figure 1) which—under fixed dollar parities— made U.S. industry less

competitive against that of the other industrial economies. Instead of disinflating by raising interest rates, the American government chose instead to maintain monetary ease, but insisted that the other industrial countries all appreciate their currencies against the dollar. This was the famous Nixon shock of August 1971. Because discussion of dollar devaluation had already begun by 1970, hot money flooded out of U.S. dollars into all the European currencies and the yen. The resulting fall in the demand for money in the U.S. with no offsetting reduction in supply, and lower dollar in the foreign exchanges, started the great U.S. inflation of the 1970s.

Surprisingly, this loss of monetary control was only evident in the industrial economies on the dollar standard's periphery and not in the United States itself. Figure 4 shows the smooth growth in U.S. M1 after 1970 despite wide fluctuations in the dollar's effective exchange rate and wild bouts of inflation in U.S. price indexes (figure 5).

However, worldwide inflation was aggravated because other countries, industrial and developing, tried to resist further appreciations against the world's dominant money beyond what had been agreed with President Nixon. Their central banks intervened massively to buy dollars, and this triggered an explosion in their dollar foreign exchange reserves. Table 1 shows the foreign exchange reserves of Japan, Western Europe, and Canada, surging about 60 percent per year in 1970-72. Because they could not fully sterilize the domestic monetary consequences, their domestic money supplies also surged in 1970-73 –as shown in Figure 6 [McKinnon 1982].

Inflation became high in both Europe and Japan despite the appreciations of their currencies against the world's central money. Figure 5 shows the surge in inflation in the CPIs of the Western European countries, Japan, and the United States from 1973 to 75, and Figure 7 shows the even higher surge in their PPIs. Notice that monetary control in these periphery countries was lost (Figure 6) well before the first oil shock. The Yom Kippur war started in September 1973 when oil supplies from the Middle East were suddenly curtailed. Undoubtedly, the sudden supply constraint on Middle East crude coming on to the market would have caused the price of oil to jump. But the inflationary genie had already been let out of the bottle because of the flight from the dollar starting in 1970 and the huge increase "ROW" money in 1971-72. So the size of the jump in the

price of oil in 1973-74, if attributed only to the supply constraint, surprised even the most militant of Arab Sheiks.

The sharp global recession of 1975-76 damped the ongoing worldwide inflation temporarily (figures 5 and 7). But the incoming U.S. administration of President Jimmy Carter was also fixated on “unfair” foreign mercantile competition. At the end of 1976, it embarked on another campaign to depreciate the dollar—particularly against the yen. In 1977-78, the result again was a run of hot money out of the U.S, another surge in dollar foreign exchange reserves (table 1), excessive money growth abroad in 1977-78 (figure 6) and a second burst of worldwide inflation (figure 5).

Finally, in October 1978, an international consortium of the major industrial countries rescued the dollar from further declines with actual and threatened intervention. Part of the agreement was a sharp increase in U.S. interest rates to halt further outflows of hot money—and the package did succeed in putting a floor under the dollar. It is interesting to note that the Iranian revolution, held responsible for the second oil shock, did not start until 1979 well after the inflation genie of excessive money issue had been let out of the bottle.

In retrospect, these disruptions in the marketing of oil provided a deceptive excuse for the two great inflationary episodes of the 1970s. But it was the worldwide loss of monetary control following the Nixon Shock of 1971 and then the Carter shock of 1976 that was the primary engine of inflation in both cases—with the surprisingly sharp increases in the price of oil (figure 8) being largely endogenous to the preceding surge in foreign money growth. (Indeed, in 2007-08, the world suffered another big shock when the price of oil more than tripled between 2002 and July 2008 (figure 8)—but *without* politically based disruptions in the supply of oil. As shown below, this last oil shock can again be attributed to hot money outflows from the U.S. associated with a “carry” trade based on a weak and falling dollar. But in most people’s minds, the great inflations of the 1970s are cavalierly remembered as “supply side” oil shocks rather than as worldwide monetary shocks arising out of a malfunctioning world dollar standard—as hypothesized here.

In the 1970s, high and variable inflations— with wild exchange fluctuations continuing into the 1980s— knocked the industrial economies off their paths of high

productivity growth which had prevailed under stable exchange rates and monetary stability of the 1950s and 1960s. The general slowdown in productivity growth was much greater than could be explained by exogenous oil shocks, if indeed such shocks were exogenous.

In light of these disasters, one might ask why the U.S. government failed to disinflate in the late 1960s when inflation was still quite mild (3 to 4 percent per year) compared to what was to come in the 1970s (figure 1) thus preserving the dollar's anchoring effect for the rest of the world? The short answer is that governments everywhere were in thrall to *the Phillips Curve fallacy*: the tradeoff between inflation and unemployment. They imagined that by tolerating (slightly) higher inflation the economy would settle down to a permanently lower rate of unemployment. Thanks to Milton Friedman [1968], this fallacy has been discredited. Doctrinally, we are now in somewhat better shape to reestablish a stable international monetary regime with stable exchange rates. But, before reaching this nirvana, we must still dispense with two other intellectual fallacies.

The Bernanke-Greenspan Shock and the Dollar Carry Trade, 2003–08

Fast forward 20 years to consider a more recent episode of a persistent fall in the foreign exchange value of the dollar, again using the euro for comparison. Figure 3 shows the dollar falling persistently from about 1.2 euro in 2002 (the top of the U.S. high-tech bubble) to about 0.63 euro in July 2008—when U.S. interest rates averaged much less than European ones. This unduly easy U.S. monetary policy did not show up as high inflation in the U.S. core CPI (figure 9), which excludes more volatile items such as food and energy. But a modest 2 percent or so inflation in this purely domestic (and backward looking) price level indicator missed the bubbles in asset prices in both the American and world economies. Figure 9, courtesy of Steve Hanke (2010), shows that the Commodity Reserve Bureau (CRB) index, a very broad index of dollar commodity prices, rose more than 90 percent from the first quarter of 2003 to peak out in the second quarter of 2008. The price of oil (figure 8) rose even more sharply than the general commodity price indexes. Housing prices, measured by the Case-Schiller index, surged 44.7 percent from the first quarter of 2003 to their peak in the first quarter of 2006.

Fearing deflation after the collapse of the high-tech bubble in 2001-02, the U.S. Federal Reserve Bank lowered the Fed funds interest rate to just 1 percent in 2003-04. At the time, this interest rate was far too low for balancing actual inflation in the “headline” CPI with the economy’s excess capacity. The well known Taylor Rule suggested that the Fed funds rate should have been closer to 4 percent in 2003-04 (Taylor 2009).

Beyond the Taylor Rule violation, however, the persistent weakness of the dollar from 2002 to mid 2008 should have also signaled to the insular Fed that American monetary policy was far too loose. The asset bubbles themselves were not the only indicator. Both the euro area and smaller countries close to the United States with floating exchange rates, such as Canada and several in Latin America, were discomfited by the sharp appreciations of their currencies. China, which was trying to maintain a stable a dollar peg, experienced hot money inflows that made it increasingly difficult to control its monetary base. The People’s Bank of China had to undertake massive sterilization efforts to mop up excess monetary liquidity that was contributing to the bubble in commodity prices, and then re-impose controls on capital inflows. But the Fed, with its orientation toward only domestic monetary indicators, ignored all this.

This insular view of how American monetary should be conducted interacted with a second (after the Phillips curve) major economic fallacy: the so-called *efficient markets theory*. Although observers in the Federal Reserve and elsewhere could see the extraordinary increases in asset prices from 2002 into 2008 shown in figures 8 and 9, they chose to ignore them. The prevailing doctrine of efficient markets convinced the Fed that such bubbles would be efficiently self correcting without any countervailing action by the central bank.

But the persistently falling dollar from 2002 to mid-2008 (figure 10) was more than just a signal of a financial crash to come. It became a vehicle by which “carry traders” helped to create the international bubble economy. Combined with the Fed’s relatively interest low interest rate policy, chartist speculators began to project further depreciations of the dollar. Although risky, this made short-term borrowing in New York at low interest rates to buy appreciating foreign-currency assets and primary commodities look very profitable if such borrowings were repaid in relatively depreciated dollars. Thus

did carry traders collectively accentuate these price movements from which individual traders hoped to profit².

Gyrations in the dollar price of oil in the noughties are again a most interesting part of part of story. Carry traders were well known to be taking long positions in oil from 2003 onwards. Figure 8 shows the price of oil rising gradually and then spiking upward in 2007 through June 2008. Although this spike was strikingly similar to the two in the 1970s, this time there was no politically inspired Middle East embargo or other pronounced supply constraint to explain it away. As with the earlier oil price spikes in the 1970s, overly loose monetary policy in the center country of the world dollar standard, where the Fed failed to heed signals from the international economy that something was amiss, seems to be the main culprit.

The dollar (and Japanese) carry trades ended abruptly with the credit crunch of the second half of 2008³. Carry traders suddenly found they could not roll over their short-term dollar loans in New York (yen loans in Tokyo), and were suddenly forced to sell off their foreign exchange and commodity holdings. The dollar rose precipitately in the foreign exchanges (Figure 10) and commodity prices including oil fell sharply (figure 8). This sudden strength in both the dollar and yen ended the two carry trades for the time being. However, with zero short-term interest rates in both the U.S. and Japan, the international financial system remains vulnerable to their starting all over again.

The U.S. Trade Deficit, China, and the Exchange Rate Fallacy

The Federal Reserve, and the U.S. government more generally, were more willing to tolerate the falling dollar from 2002 to 2008 (figure 10) because they believed that a lower dollar would reduce the burgeoning U.S. trade deficit (figure 11). (The same was true with the more massive depreciations of the dollar in the 1970s when the U.S. government more actively “talked” the dollar down.) Figure 11 shows the trade deficit increasing since 1992, but then rising faster after 2002 to touch 6.5 percent of GDP by

² Japan’s zero-interest liquidity trap had been in place since the mid-1990s. So when the yen also began to depreciate after 2000, the yen carry trade became more intense as chartist-speculators projected further declines in the yen. Thus did Japan also contribute to the commodity price bubbles shown in figures 8 and 9. Because our main concern is to study the dollar standard, I shall treat Japan as a separate story for another time.

³ The origins of the worldwide credit crunch in 2008, triggered by the earlier collapse of the U.S. real estate bubble, is far too complex a story to be covered in this paper. But see Taylor (2009).

2006. Only with the credit crunch beginning in 2007, and becoming severe in 2008, with the bursting of the bubble in U.S. real estate prices, did private spending fall sharply and reduce imports. From this trauma, the trade deficit was reduced to just 3 percent of GDP by 2009.

However, these trade balance gyrations had little or nothing to do with the erratic movements in the dollar's effective exchange rate. Nevertheless, American politicians and economists persisted (and still persist) in claiming that China's "undervalued" exchange rate was the prime cause of its sharply rising exports to the U.S. before the 2008 credit crunch.

Similarly, when Japan developed a big bilateral trade (saving) surplus with the United States from the late 1970s, into the mid 1990s, Japan bashing took the form of serial "voluntary" restraints on particular classes of Japanese exports coupled with American arm twisting to force the yen to go ever higher [McKinnon and Ohno, 1997]. The yen skyrocketed from 360 to the dollar in August 1971 to touch 80 in April 1995. The Japanese economy was thrown into a deflationary slump from which it has yet to recover, but its trade surplus persisted (and still persists) in the face of today's high yen.

Clearly, we can't have monetary stability in the U.S. itself, or exchange rate and monetary stability for the world at large, if the exchange rate of the center country is subordinated to an ineffectual chase to "correct" trade imbalances: *the exchange rate fallacy*. In a globalized world where capital flows freely, the conventional wisdom that the exchange rate should be assigned to correcting trade imbalances is misguided—as discussed in the Box on the next page.

If not the yuan/dollar exchange rate, what then accounts for the increases in China's trade surplus and the even larger U.S. trade deficit over the past decade? Since 2000, the American national saving rate—personal plus government—unexpectedly fell sharply. Also surprisingly, China's net national saving rose from unexpectedly robust enterprise profits and a surge in tax revenue with no increase in tax rates. Because of this large international saving imbalance, the stage was set for a large Chinese trade surplus as the counterpart of America's trade deficit.

Because Chinese exports are mainly manufactures, the real embodiment of China's lending to the United States is China's large bilateral trade surplus in

manufactures—aggravating the painful contraction in America’s manufacturing sector. However, the trade imbalance is a net saving imbalance, and not an exchange rate issue. Any precipitate appreciation of the RMB

Box: The Exchange Rate Fallacy and the Trade Balance

For a “home” country, consider the identity from the national income accounts:

$$X - M = S - I = \text{Trade (Saving) Surplus}$$

where X is exports and M is imports (both broadly defined), and S is gross national saving and I is gross domestic investment

The left hand side of the identity suggests that a depreciation of the home currency will make exports cheaper in world markets, and they will expand. Similarly, the home country’s imports will become more expensive in domestic currency, so they should contract. Thus the conventional wisdom has it that the overall trade balance should improve if the underlying price elasticities are even moderately high. This seemingly plausible result is very intuitive, so even journalists can understand and perpetuate it.

But this "elasticities" approach is basically microeconomic and quite deceptive. In this model, the export supply function is looked at on its own—and the demand for imports is looked at on its own—even by supposedly sophisticated econometricians who purport to measure separately the price elasticities of exports, and of imports, to exchange rate changes. Thus it is called the elasticities approach to the trade balance.

However, if you analyze the right hand side ($S - I$) of the identity, the emphasis is macroeconomic. For the trade balance to improve with exchange depreciation, overall domestic expenditures must fall relative to aggregate output. After some minor algebraic manipulation, this is the same thing as saying that domestic saving must rise relative to domestic investment. Looked at this way, one cannot presume that domestic net saving will rise when the dollar is devalued.

Indeed, the presumption may go the other way when domestic investment (fueled in part by multinational firms) is sensitive to the exchange rate. Suppose the RMB were to appreciate sharply against the dollar. This might set off a minor investment boom in the U.S. where expenditures rise, and a major slump in China's huge investment sector, so that expenditures fall, the economy slumps, and imports contract.

This is what happened to Japan in the 1980s into the mid-1990s when the yen went ever higher. Japan became a higher- cost place in which to invest, large Japanese firms decamped to invest in lower cost Asian countries, and in the U.S. itself. The trade surplus of the slumping Japanese economy increased. No wonder today’s China is reluctant to appreciate!

could well have the perverse effect of increasing China's trade surplus and America's trade deficit—as shown in the preceding Box.

Unfortunately, misinterpreting the trade imbalance as evidence of a misaligned exchange rate has become the conventional wisdom among most economists, which is then adopted by politicians. The U.S. government has continually threatened trade sanctions against China unless the RMB is appreciated. Giving into this pressure in July 2005, China started appreciating the RMB at about 6 percent per year (figure 12). Unsurprisingly, with this one-way bet on the RMB going ever higher, hot money poured into China. More importantly, there were with no private (non-state) capital outflows to finance the large trade surplus. The government was forced to intervene and buy dollars to prevent the RMB from spiraling upward. But despite massive sterilization efforts, the huge increase in official exchange reserves and base money threatened a loss of monetary control with inflation—and contributed to the worldwide bubble in commodity prices shown on in figures 8 and 9. China's trade (saving) surplus got even bigger.

Then a “lucky” accident happened. In the global credit crunch of 2008, the dollar carry trade suddenly unwound: carry speculators could no longer renew their short-term dollar credits in New York and desperately had to sell off their long foreign exchange and commodity positions and get back into dollars. The dollar suddenly shot up in the last half of 2008 against most other currencies (figure10)—including a 25 percent appreciation against the euro—and carried the RMB with it. Prices of primary commodities also collapsed—see the fall in the CRB primary commodity index in figure 9. With the RMB (and dollar) much higher against the currencies of most other countries, the People's Bank of China was emboldened to stop appreciating against the dollar. In July 2008, the PBC reset the rate at 6.83 yuan per dollar where it remains today (figure 12).

This newly stabilized rate was credible for 9 or 10 months into mid-2009: hot money inflows to China stopped and some private capital flowed out. Most importantly, the government could now safely promote a massive internal expansion of bank credit by cutting the reserve requirements on the commercial banks and loosening direct lending restrictions. In 2009, bank credit, largely directed toward domestic investment and consumption, expanded by more 30 percent. China's bank-financed “fiscal” stimulus

was hugely successful. Countering the global downturn in 2008, the increase domestic demand largely offset the 40 percent fall in China's exports. Neighboring countries, particularly in Asia but also with echo effects in the U.S. and Europe, have benefited enormously. China's domestic demand (not exports) has been the engine of the surprisingly fast worldwide recovery from the global credit crunch of 2008. But it would not have been possible without the stabilization of the yuan/dollar rate.

What is the lesson here? A moderately strong dollar makes it easier for trading partners to stabilize their own exchange rates against the dollar. In times of a worldwide recession, trading partners not facing hot money inflows can then come up with more effective countercyclical policies to everyone's advantage.

A sad footnote to this otherwise encouraging story is the depreciation of the dollar after March 2009 which of course, incidentally carried the RMB down with it. Again a Greek chorus of economists is complaining about China (not the United States!) deliberately undervaluing its currency—and hot money inflows into China have started up again in anticipation of another possible RMB appreciation. But the problem lies with America's ultra-loose monetary policy with zero short-term interest rates, which has the "mercantilist" effect of overvaluing floating currencies such as the yen and euro—while generating hot money flows into countries trying to stabilize their dollar exchange rates.

The unfortunate domestic and international effects of the Fed setting short-term interest rates at zero since 2008 into 2010 is a good starting point for discussing how future American monetary policy should be internationalized to reduce financial volatility at home and abroad.

Bagehot's Rule for Internationalizing American Monetary Policy

Suppose the U.S. Federal Reserve became less insular and resolved to adopt a more outward-looking monetary policy as befits the center country in the world's monetary system. To lay out a new set of rules for this new dollar standard game would require an additional paper—perhaps even a book. Short of this, let us take a quick glimpse what history might teach us?

Fast-backward 137 years to 1873 when Walter Bagehot, the eminent Victorian institutional economist and constitutional scholar, wrote *Lombard Street* at a time when

the London capital market was the center of world finance under the gold standard. Bagehot described the intricacies of how money markets worked, including counterparty risks, but he also prescribed how the Bank of England should confront major financial crises.

When people flew from paper money or from domestic bank deposits into gold so as to cause a seizing up of internal financial markets, Bagehot called it a *domestic drain*. A flight of capital abroad so that the pound sterling became weak in the foreign exchanges, he called an *external drain*. What should the central bank (The Bank of England) do when confronted with either or both?

“The two maladies—an external drain and an internal—often attack the money market at once. What then ought to be done? ...

... We must look first to the foreign drain, and raise the rate of **interest** as high as may be necessary. Unless you can stop the foreign export, you cannot allay the domestic alarm. The Bank will get poorer and poorer, and its poverty will protract or renew the apprehension. And at the rate of **interest** so raised, the holders—one or more—of the final bank reserve must lend freely. Very large (domestic) loans at very high **rates** are the best remedy for the worst malady of the money market when a foreign drain is added to a domestic drain. Any notion that money is not to be had, or that it may not be had at any price, only raises alarm to panic and enhances panic to madness. But though the rule is clear, the greatest delicacy, the finest and best skilled judgement, are needed to deal at once with such great and contrary evils.”

Walter Bagehot, *Lombard Street* (Chapter II).

How would Bagehot’s Rule have applied weak and falling dollar after 2002 to the first half of 2008? Bagehot worried about gold losses to foreigners that would cause domestic credit markets to seize up even more and, worse, weaken the pound in the foreign exchanges. During the carry trade from the falling dollar and low U.S. interest rates from 2002 to mid 2008 (figure 10), carry traders disinvested from private U.S. financial assets to buy foreign currency assets and take long positions in primary commodities, worsening the strain in American capital markets.

As in the 1970s but this time outside of Europe, foreign central banks, to stem the appreciations of their currencies against the dollar, built up large dollar exchange reserves—much of which are invested in U.S. Treasury bonds. But U.S. Treasuries are the prime collateral for borrowing and lending in the multi-trillion dollar U.S. interbank

markets. Thus, there was a foreign “drain” of prime collateral from the already-impacted private U.S. markets. The depreciating dollar also greatly exacerbates the threat of future inflation in the U.S.

Consequently, after 2002, Bagehot would have argued for raising the federal funds rate as much as was necessary to prevent the dollar from falling continuously and accentuating the creation of a bubble economy. He would also have cooperated with foreign governments to halt hot money inflows and reverse the appreciations of their currencies against the dollar. Instead, by slashing interest rates too much in 2003-04 and again in 2007-08, the Fed accentuated the foreign drain and thus made the alleviation of the domestic drain more difficult. Indeed, the Fed’s current policy of setting the short-term U.S. Federal Funds rate at zero causes congestion in the wholesale interbank market that contributes to the continued unwanted fall in retail bank credit in the United States [McKinnon 2009].

However, once the real estate and commodity bubbles began to crumble leading to the credit crunch of 2008, Bagehot would have approved of other actions the Fed took to deal with the domestic drain by unblocking specific impacted domestic markets. These include swapping Treasury bonds for less safe private bonds, opening its discount window to shaky borrowers, maybe even rescuing Bear Sterns. He would also approve of the relaxation of capital constraints on Fannie Mae, Freddy Mac, and so on, for mortgage lending.

To repeat Bagehot’s Rule: “Very large (domestic) loans at very high **rates** are the best remedy for the worst malady of the money market when a foreign drain is added to a domestic drain”. In the great credit crisis of 2007-08, the Fed— and the U.S. government more generally—got it only half right.

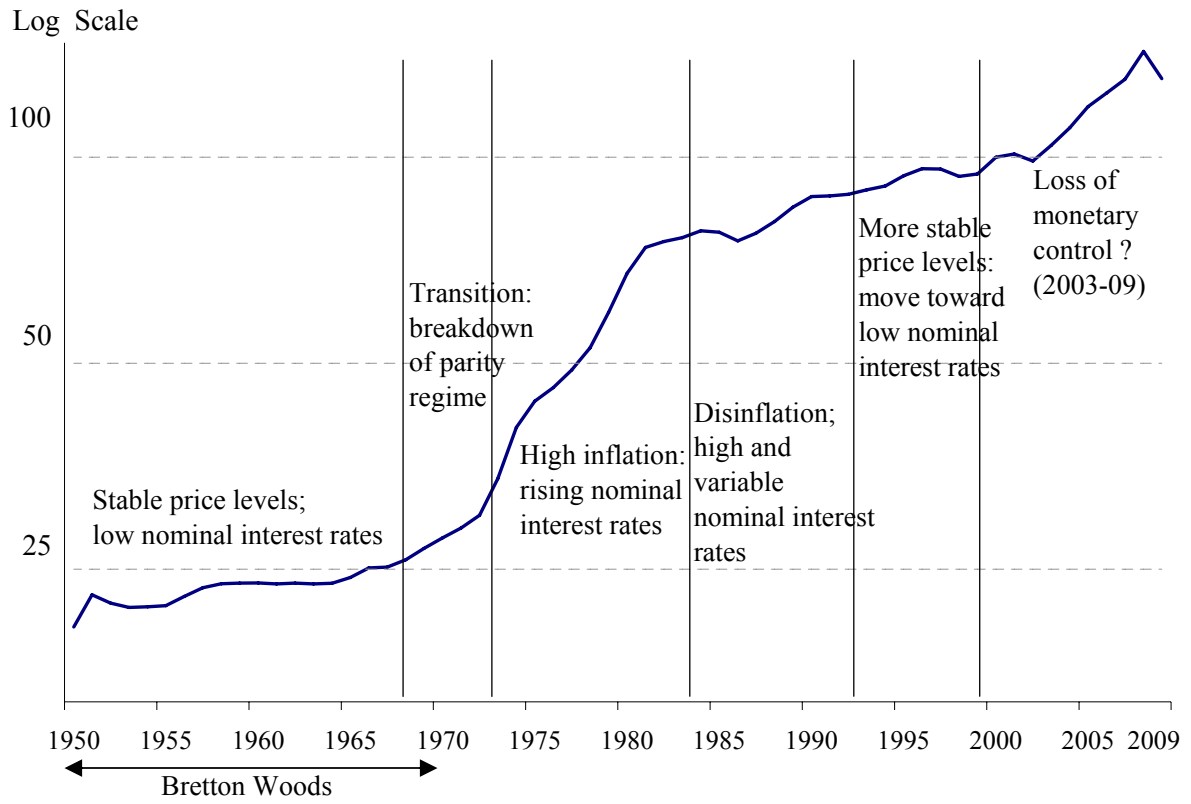
Unfortunately, despite the runs on the dollar in the 1970s and noughties ending in great economic traumas for the rest of the world and for the United States itself, the Fed has not shaken off its insular attitude toward the foreign exchanges it had acquired in the two decades of the early dollar standard after 1945. On the positive side, belief in the Phillips Curve and Efficient Markets fallacies may well have been undermined. But the exchange rate fallacy seems to be alive and well and the biggest obstacle to having the

United States recognize its proper stabilizing role at the center of the world dollar standard.

References

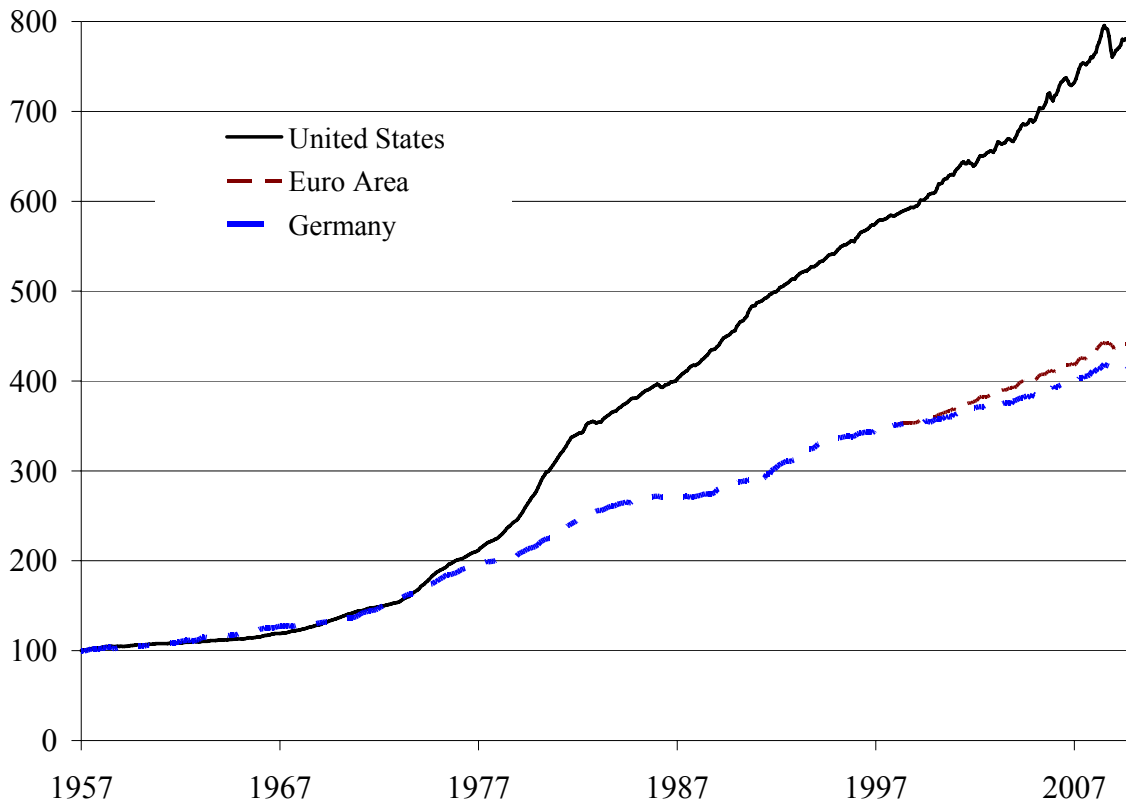
- Bagehot, Walter, *Lombard Street*, 1st Edition 1973, reprinted by BiblioBazaar 2006.
- Friedman, Milton, “The Role of Monetary Policy”, *American Economic Review*, March 1968. Vol.58, No. 1, pp 1-17
- Hanke, Steve , “The Great 18-Year Real Estate Cycle” *Globe Asia* , February 2010. Pp 22-24.
- Krugman, Paul, “The International Role of the Dollar: Theory and Prospect,” in *Exchange Rate Theory and Practice*. Eds.: John F. O. Bilson and Richard C. Marston. University of Chicago Press, 1984 pp 261-78.
- McKinnon, Ronald , “Currency Substitution and Instability in the World Dollar Standard,” *American Economic Review*, Vol. 72, No. 3, June 1982, pp. 320–33.
- _____ *Money in International Exchange: The Convertibility System* , Oxford University Press, New York, 1979.
- _____ *The Rules of the Game: International Money and Exchange Rates*, MIT Press, Cambridge, Mass. 1996.
- _____ ”Why Banks Aren’t Lending: The Unintended Consequences of a Zero Interest Rate Policy”, *The International Economy*, vol 23, No. 4, Fall 2009. pp 20-23.
- McKinnon, Ronald and Kenichi Ohno, *Dollar and Yen: Resolving Economic Conflict between the United States and Japan*, MIT Press, Cambridge Mass. , 1997.
- Mundell, Robert, “The Redundancy Problem and the World Price Level” in *International Economics*, Ed. Robert Mundell. NY : MacMillan, 1968 pp 195-200.
- Taylor, John, *Getting off Track: How Government Actions and Interventions, Caused Prolonged, and Worsened the Financial Crisis*, Hoover Institution Press, Stanford, California, 2009

Figure 1. The World's Nominal Anchor: U.S. Wholesale Prices (1951–2009)



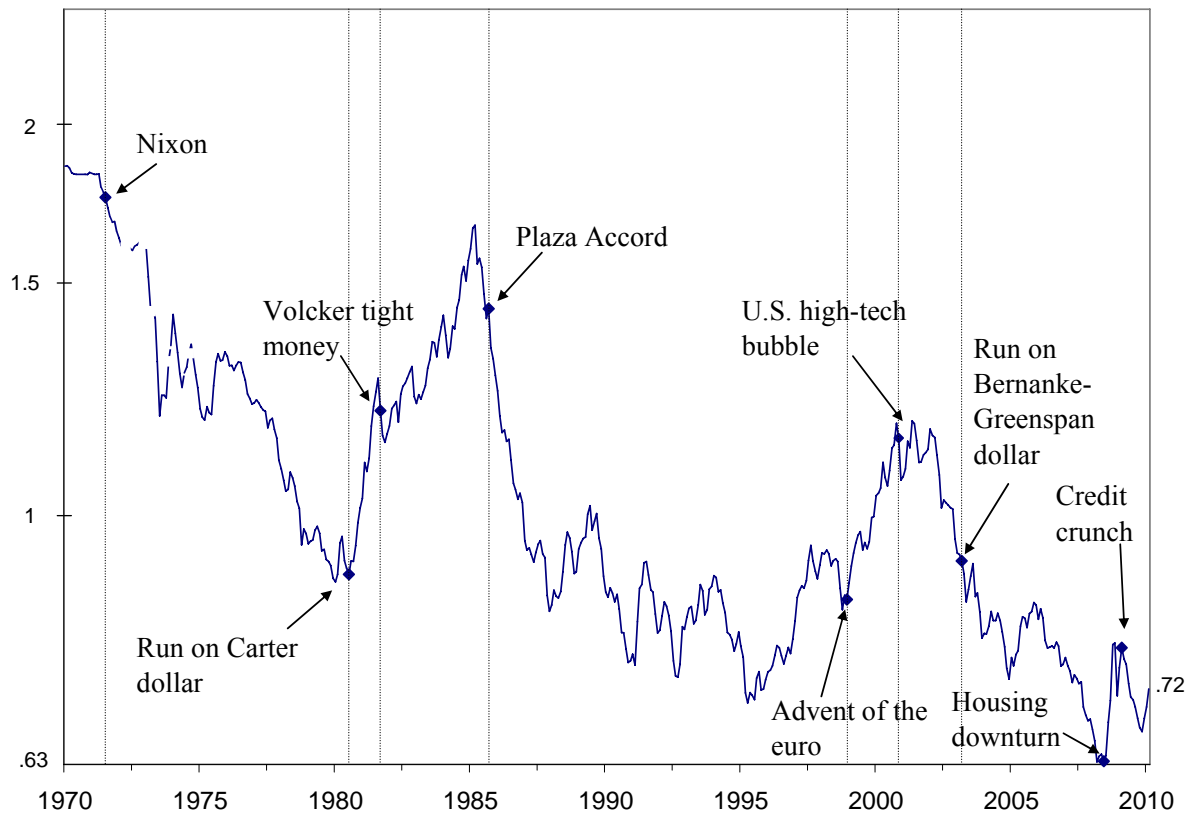
Source: IFS

Figure 2. Consumer Price Indexes for the United States, the Euro Area, and Germany
(1957 Jan = 100)



Source: IFS and globalfinancialdata.com

**Figure 3. Mark-Euro/USD Exchange rate, 1950-2010
(monthly observations on logarithmic scale)**



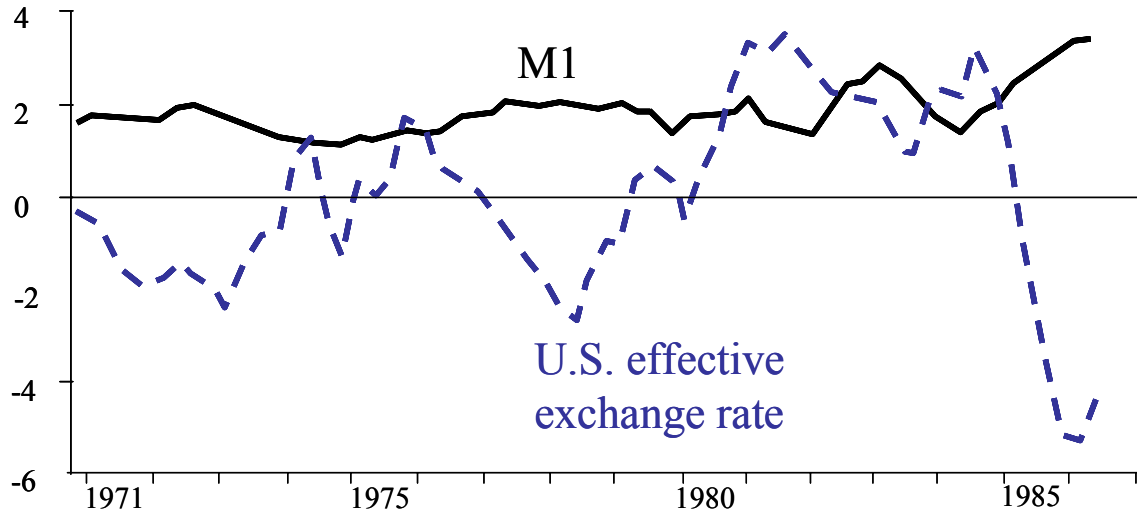
Notes: Exchange rates before 1999 are calculated with DM rates.

Source: www.globalfinancialdata.com and Federal Reserve Economic Data

Figure 4. Rate of change in U.S. money supply (M1) and in effective dollar exchange rate,

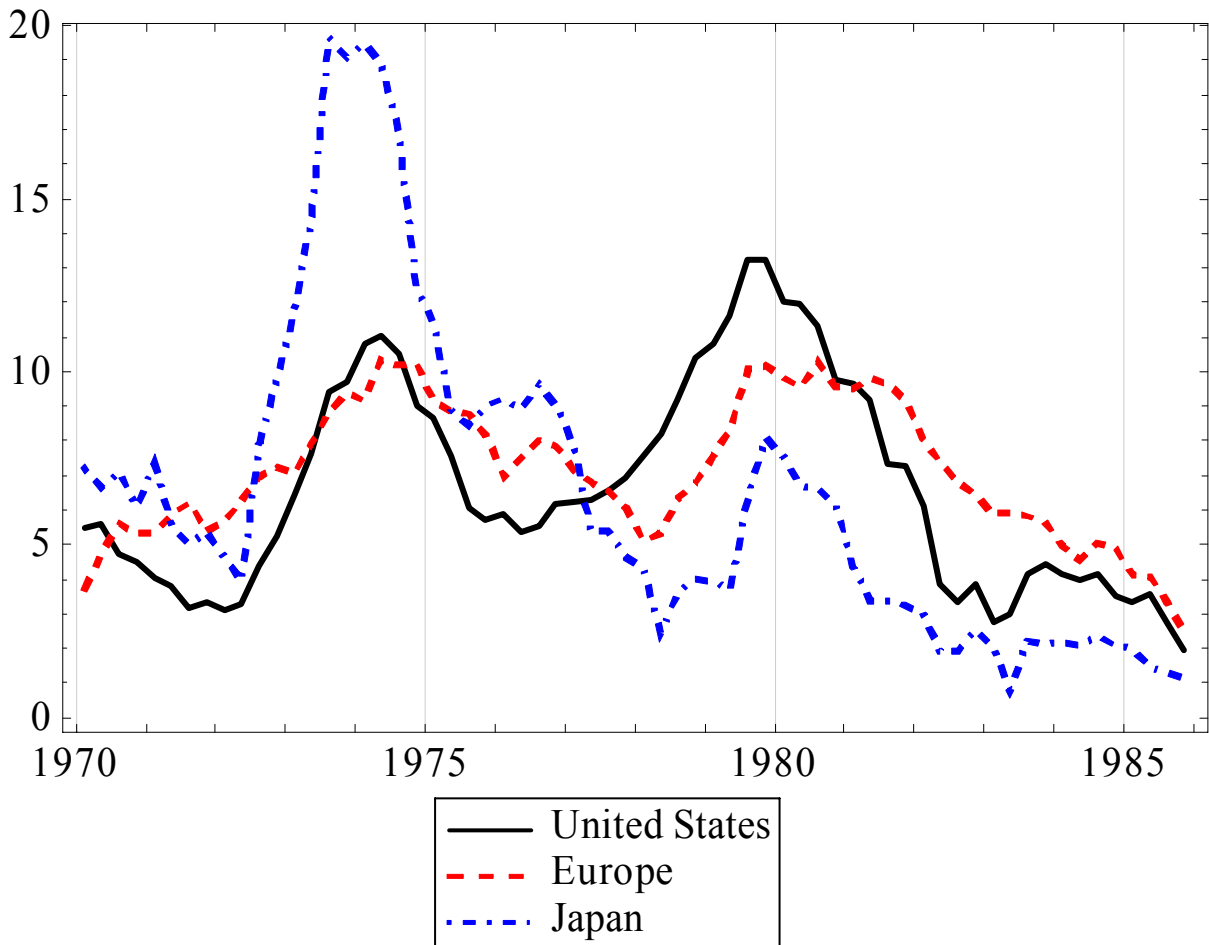
1970-1986

(percent per year, five-quarter moving average)



Source: McKinnon (1996)

Figure 5. Consumer Price Index of the Principal Western European Countries, United States and Japan (1970–1985, five-quarter moving average)

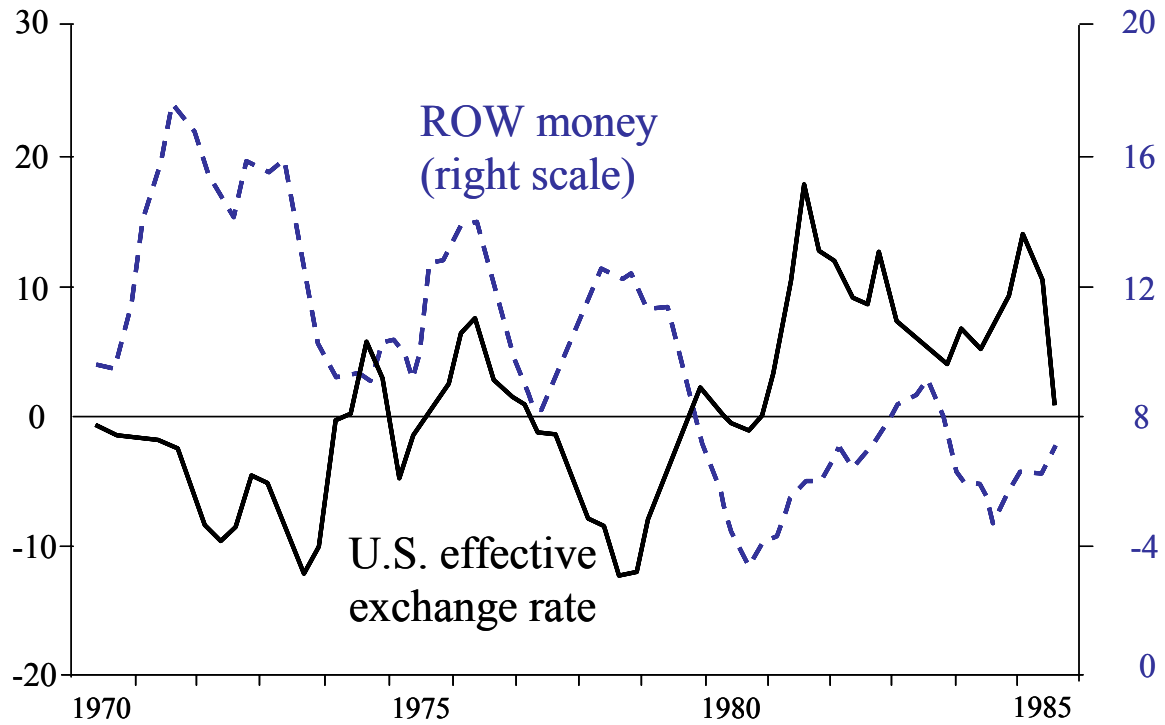


Source: globalfinancialdata.com

Figure 6. Rate of change in effective dollar exchange rate and in rest of the world (ROW)

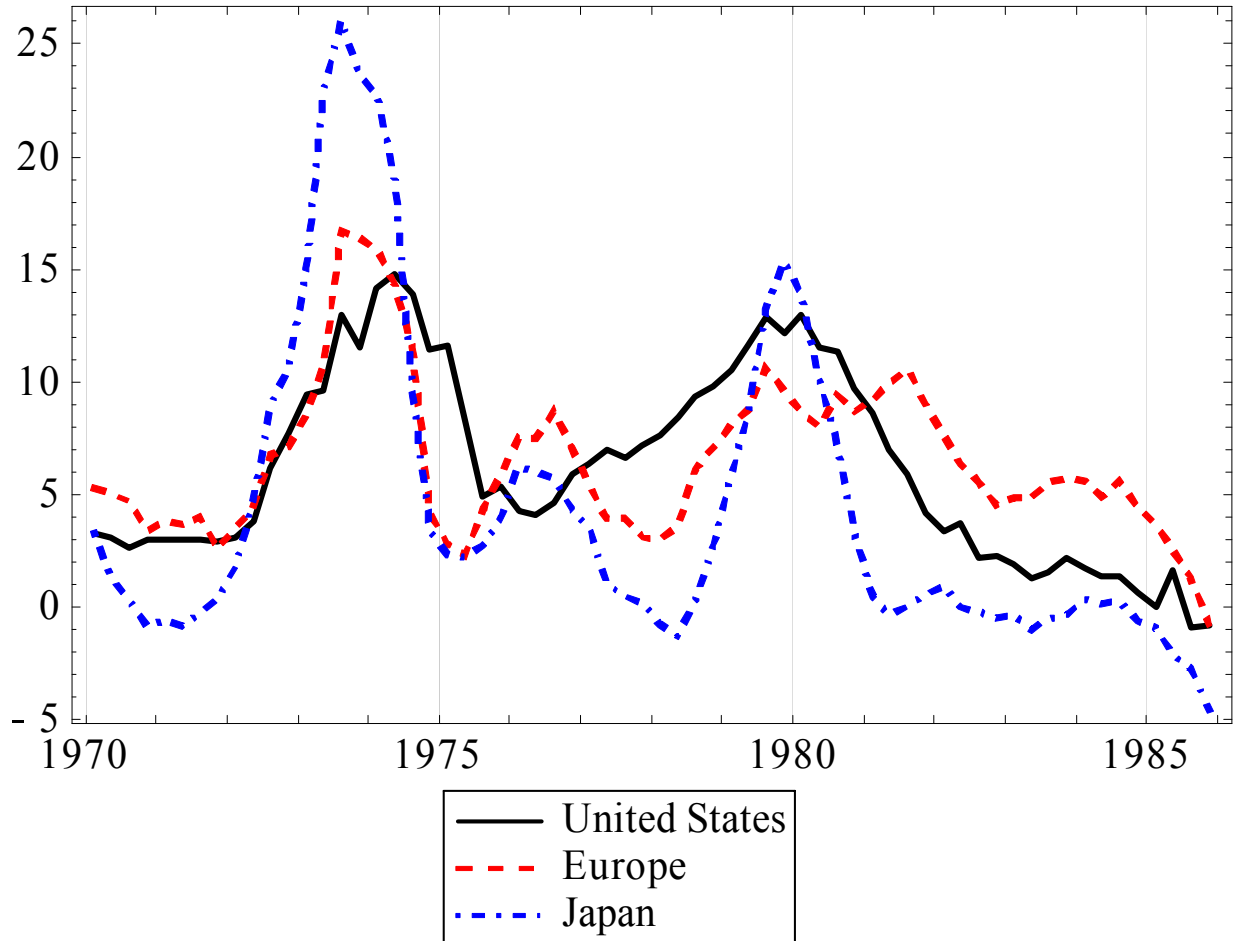
money, 1970-1986

(percent per year, five-quarter moving average)



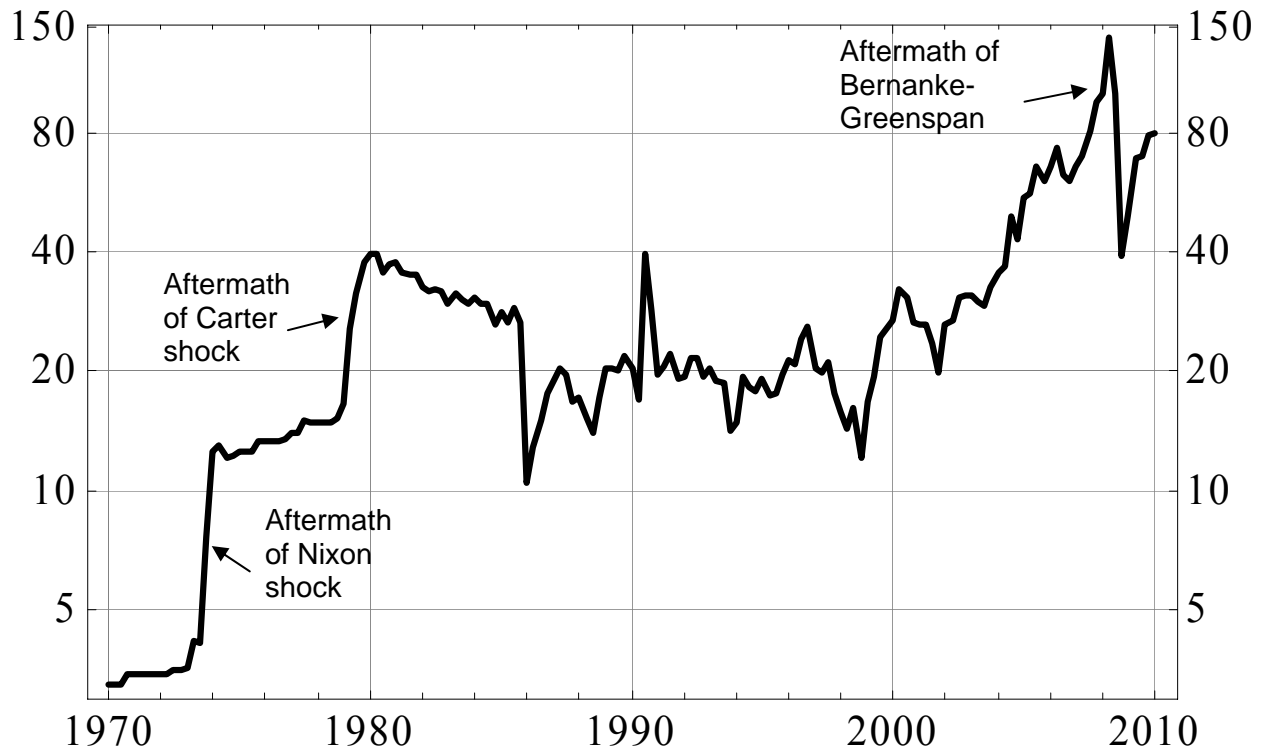
Source: McKinnon (1996)

Figure 7. Producer Price Index of the Principal Western European Countries, United States and Japan (1970–1985, five-quarter moving average)



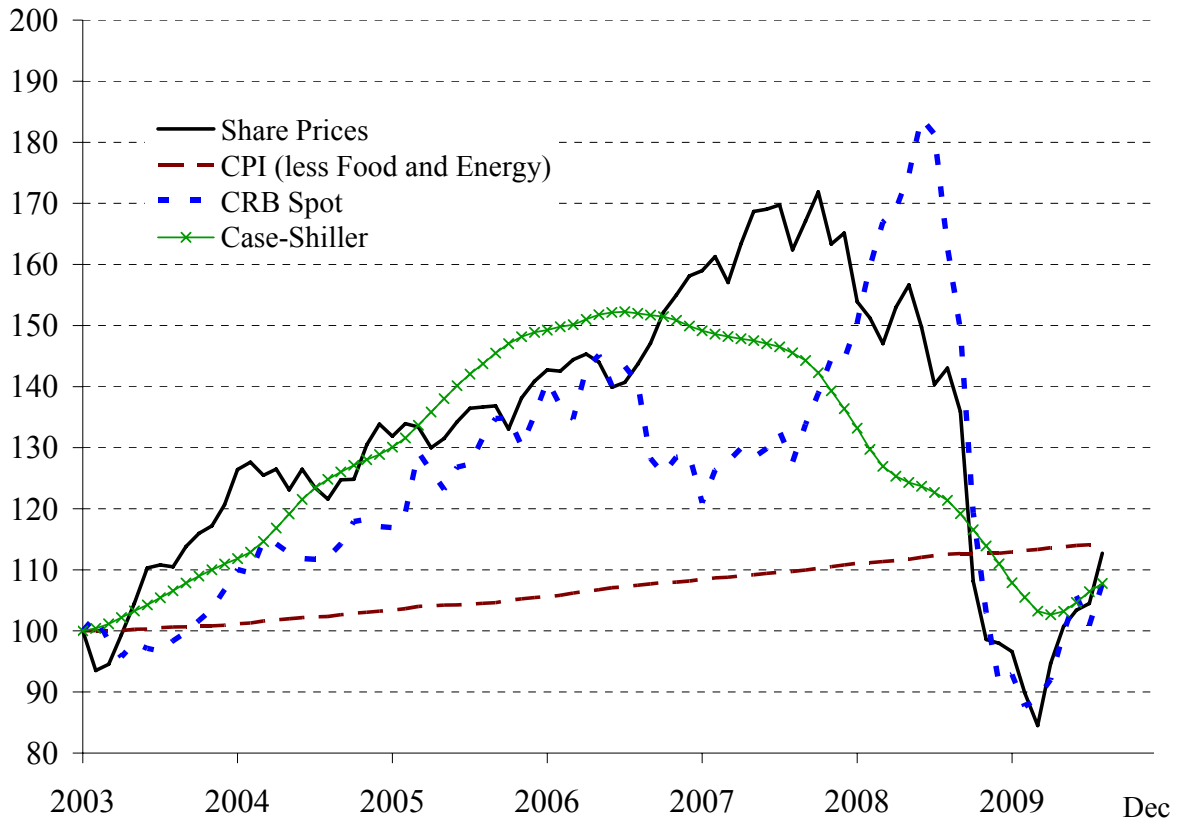
Source: *globalfinancialdata.com*

Figure 8. West Texas Intermediate Oil Price, 1970–2010
(in log scale)



Source: *globalfinancialdata.com*

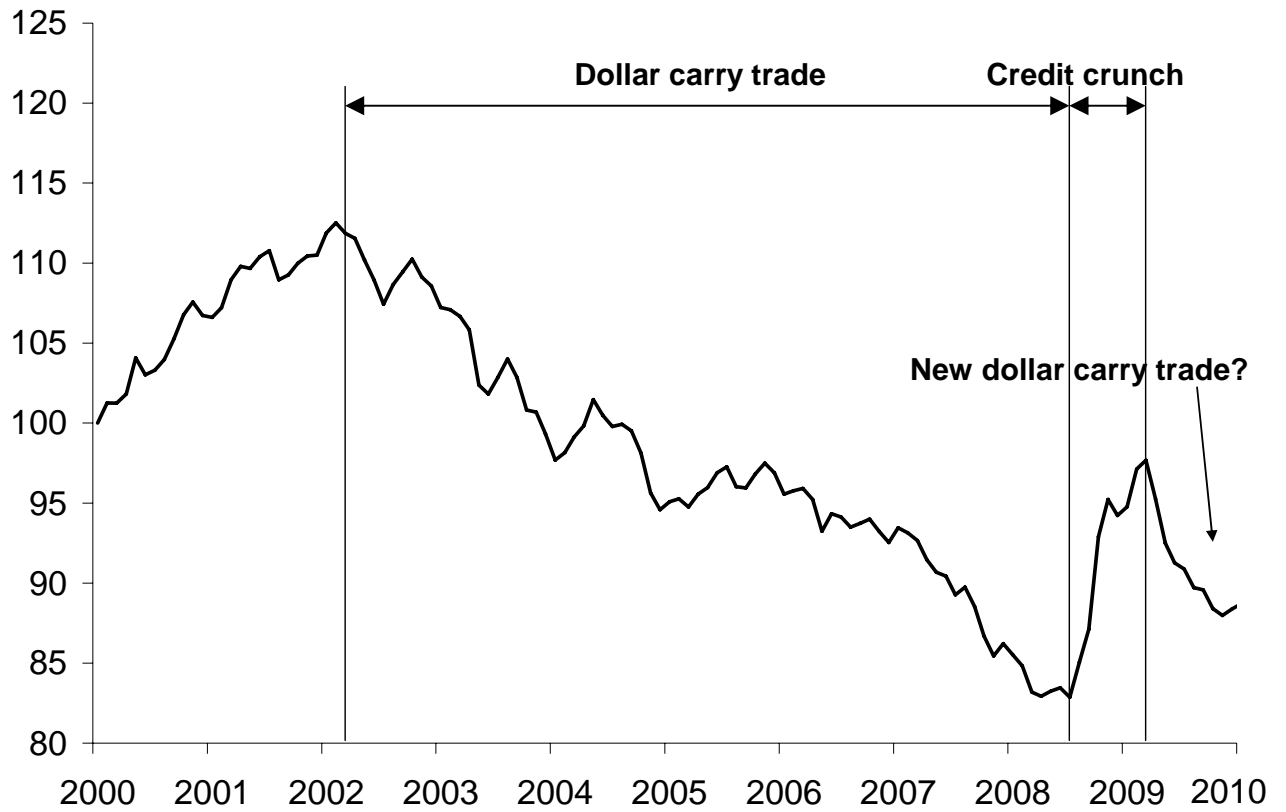
Figure 9. Price Indexes (2003 Jan=100)



Notes: reproduced from Steve Hanke (2010).

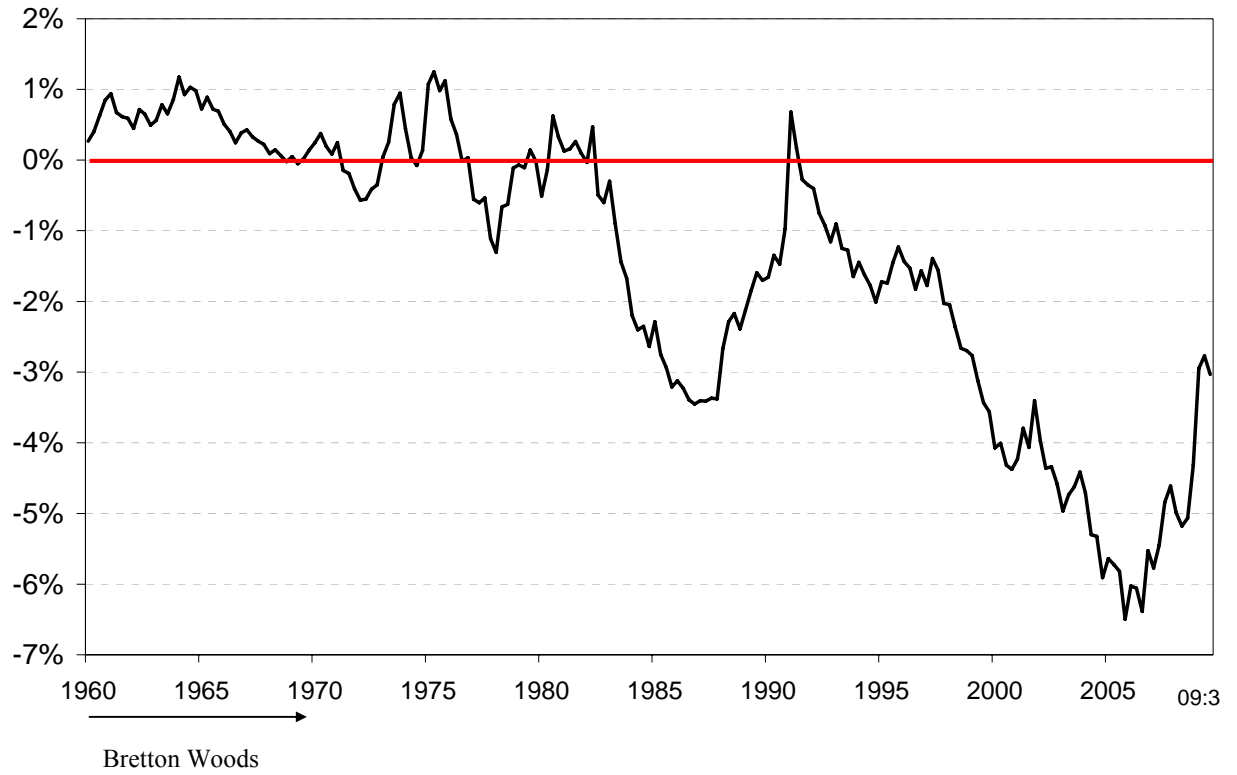
Source: www.globalfinancialdata.com and Federal Reserve Economic Data

Figure 10. The U.S. Dollar's effective exchange rate (Jan 2000=100)



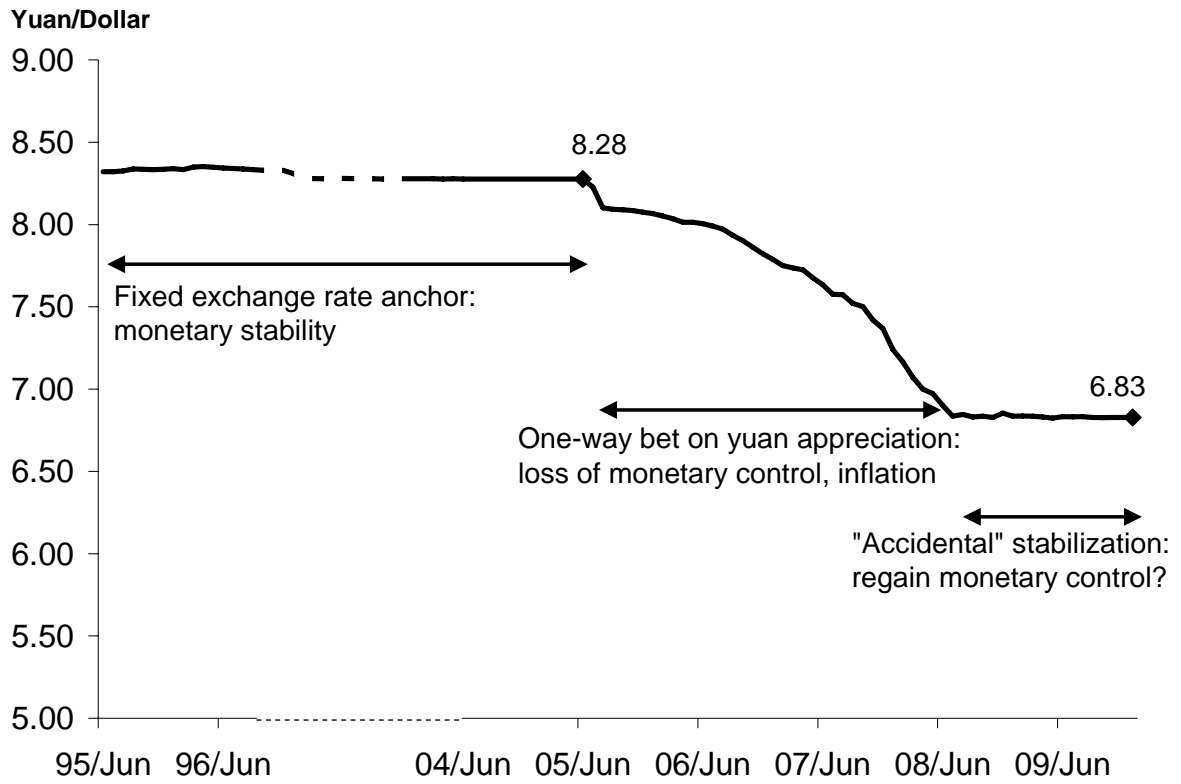
Source: Federal Reserve Economic Data

Figure 11. The U.S. Current Account (% of GDP)



Source: Bureau of Economic Analysis

Figure 12. China's monetary policy and the yuan/dollar rate (1995-2010)



Source: Federal Reserve Economic Data

**Table 1. Direct dollar liabilities of the U.S. to foreign central banks and governments
(billion dollars, year-end stocks)**

Year	Canada	Japan	Western Europe	Total	Annual percentage change
1970	2.95	3.19	13.61	19.75	74.8
1971	3.98	13.78	30.13	47.89	142.5
1972	4.25	16.48	34.20	54.93	14.7
1973	3.85	10.20	45.76	59.81	8.9
1974	3.66	11.35	44.33	59.34	-0.8
1975	3.13	10.63	45.70	59.46	0.2
1976	3.41	13.88	45.88	63.17	6.2
1977	2.33	20.13	70.75	93.21	47.6
1978	2.49	28.90	93.09	124.48	33.5
1979	1.90	16.36	85.60	103.86	-16.6
1980	1.56	21.56	81.59	104.71	0.8
1981	2.40	24.72	65.22	92.34	-11.8
1982	2.08	19.17	60.72	81.97	-11.2
1983, Q3	2.76	20.45	63.25	86.46	5.5

Source: McKinnon (1996)