Order Code RL34582

CRS Report for Congress

The Depreciating Dollar: Economic Effects and Policy Response

July 17, 2008

Craig K. Elwell
Specialist in Macroeconomic Policy
Government & Finance Division

Congressional Research Service

Prepared for Members and Committees of Congress

The Depreciating Dollar: Economic Effects and Policy Response

Summary

From 1994 to early 2002, the real (inflation adjusted) trade-weighted dollar exchange rate appreciated nearly 30%. This appreciation occurred even as the U.S. trade deficit and foreign debt climbed steadily higher. From 2002 to the present, the dollar, for the most part, steadily depreciated, falling about 26%. From early 2002 through 2006 the dollar's fall was moderately paced at about 3.0% to 4.0% annually. Recently, however, the slide has accelerated, falling nearly 10% between June 2007 and June 2008. The weakening of the dollar for over five years has raised concern about the health of the U.S. economy. Addressing that concern, this report examines the likely reasons for the dollar's fall, the effects the depreciating currency could have on the economy, and possible policy responses that could be considered to attempt to alter the dollar's path if needed.

Since the break-up of the Bretton Woods international monetary system in 1973, the real exchange rate of the dollar has been largely determined by the market — the supply and demand for dollars in global foreign exchange markets. Dollars are demanded by foreigners to buy dollar denominated goods and assets. (Assets include bank accounts, stocks, bonds, and real property.) Dollars are supplied to the foreign exchange markets by Americans in exchange for foreign currencies to buy foreign currency denominated goods and assets. In most circumstances, however, there is a strong expectation that asset market transactions will tend to be dominant and ultimately dictate the exchange rate's actual direction of movement. This dominance is the result of asset market transactions occurring on a scale and at a speed that greatly exceeds what occurs with goods market transactions.

A variety of factors can influence the size and direction of cross-border asset flows. Of principal importance are the rate of return on the asset, investor expectations about a currency's future path, the size of the asset market, the need for currency diversification in investors' portfolios, changes in the official holdings of foreign exchange reserves by central banks, and the need for investment safe havens.

The weakening dollar has several effects on the U.S. economy. These include increased net exports, decreased purchasing power, rising commodity prices, upward pressure on interest rates, an elevated risk of a dollar crisis, reduction of external debt, and possible undermining of the dollar's reserve currency status.

Given the importance of international asset markets in determining the dollar's exchange rate, policies aimed at influencing the demand and supply of dollar assets such as foreign exchange intervention, monetary policy, and fiscal policy could potentially have the quickest and most substantial impact on the dollar.

Nevertheless, as long as the market driven exchange rate adjustment remains orderly, most economists would argue against using economic policy to explicitly affect the exchange rate.

Contents

List of Figures

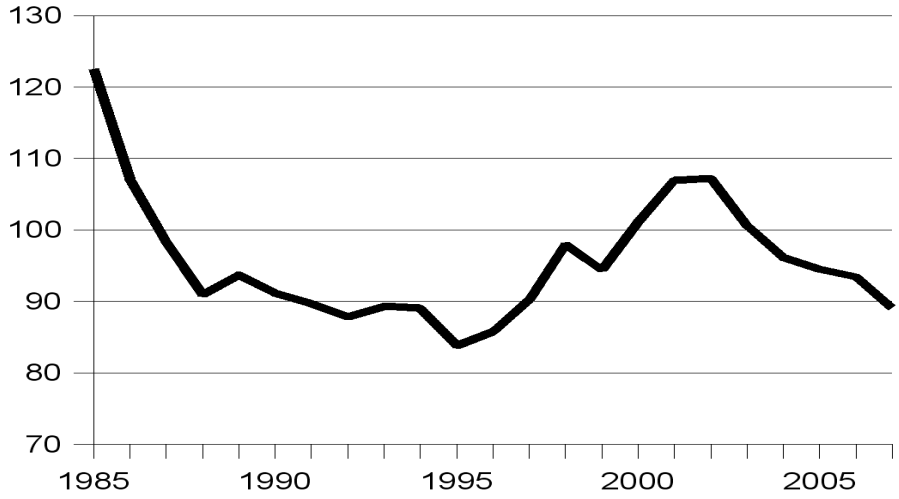
List of Tables

The Depreciating Dollar: Economic Effects and Policy Response

The Recent Behavior of the Dollar

From 1994 to early 2002, the real (inflation adjusted) trade-weighted dollar exchange rate (see **Figure 1**) appreciated nearly 30%.[1] This appreciation occurred even as the U.S. trade deficit and foreign debt climbed steadily higher. From 2002 to the present, the dollar, for the most part, steadily depreciated, falling about 26%. From early-2002 through 2006 the dollar's fall was moderately paced at about 3% to 4% annually. Recently, however, the slide has accelerated, falling nearly 10% between June 2007 and June 2008.

Figure 1. Real Trade-Weighted Dollar Exchange Rate



Source: Board of Governors of The Federal Reserve System.

---

[1] The trade-weighted exchange rate index used is the *price-adjusted broad dollar index* reported monthly by the Board of Governors of the Federal Reserve System. The real or inflation-adjusted exchange rate is the relevant measure for gauging effects on exports and imports. A trade-weighted exchange rate index is a composite of a selected group of currencies, each dollar's value weighed by the share of the associated country's exports or imports in U.S. trade. The *broad* index cited here is constructed and maintained by the Federal Reserve. The *broad* index includes 26 currencies — the seven in the major currencies index plus that of 19 more important trading partners. Among the 19 are the currencies of China, Mexico, Korea, Singapore, and India. The 26 countries account for about 90% of United States trade and, therefore, the broad index is a good measure of changes in the competitiveness of U.S. goods on world markets.

The dollar's fall from 2002 through early 2008 has not been uniform against individual currencies, however. For example, it fell 45% against the euro, 24% against the yen, and 16% against the yuan. These differing amounts of depreciation are partly a reflection of how willing these countries have been to let their currencies fluctuate against the dollar. The euro is free floating, the yen has been moderately managed (mostly before 2005), and the yuan is actively managed (rigidly fixed before 2005 and less rigidly fixed since 2005).[2] But the pattern also reflects significant structural asymmetries in flows of global assets and global goods, as well as differences in business cycles, shocks affecting the different economies, and an unwinding of imbalances that were present in 2002.

The weakening of the dollar for over five years has raised concern about the health of the U.S. economy. Addressing that concern, this report examines the likely reasons for the dollar's fall, the effects the depreciating currency could have on the economy, and possible policy responses that could be could be considered attempt to stabilize or reverse the dollar's path if needed.

The Forces Moving the Dollar

Since the break-up of the Bretton Woods international monetary system in 1973, the real exchange rate of the dollar has been largely determined by the market — the supply and demand for dollars in global foreign exchange markets. Dollars are demanded by foreigners to buy dollar denominated goods and assets. (Assets include bank accounts, stocks, bonds, and real property.) Dollars are supplied to the foreign exchange markets by Americans in exchange for foreign currencies to buy foreign currency denominated goods and assets.

The current account is a tally of international purchases (imports) and sales (exports), and the current account balance measures the country's net exports of goods and services. The capital account is a tally of international purchases and sales of assets, and the capital account balance measures the country's net foreign investment. If the capital account is in surplus, foreigners are investing more in the United States then Americans are investing abroad, leading to a net inflow of capital.

Because every purchase of a foreign good or asset requires the payment of a domestic good or asset, net flows in the current account and the capital account will be equal and offsetting. Therefore a current account deficit must be matched by an equal capital account surplus, and a current account surplus by a capital account deficit. The exchange rate adjusts to make this so.

Since the mid-1990s, the United States has had a growing trade deficit in goods transactions, generating a net increase in the supply of dollars on the foreign exchange markets, thereby exerting downward pressure on the dollar's exchange rate. At the same time, the United States has had an equal-sized surplus in asset transactions, generating a net increase in the demand for dollars on the foreign exchange market, thereby exerting upward pressure on the dollar's exchange rate.

---

[2] See CRS Report RL33577, *U.S. International Trade: Trends and Forecasts*, by Dick Nanto, Shayerah Ilias, and Michael Donnelly for more data and charts on exchange rates.

In most circumstances, however, there is a strong expectation that asset market transactions will tend to be dominant and ultimately dictate the exchange rate's actual direction of movement. This dominance is the result of gross asset market transactions occurring on a scale and at a speed that greatly exceeds what occurs with goods market transactions. Electronic exchange makes most asset transfers nearly instantaneous and, in most years, U.S. international asset transactions were two to three times as large as what would be needed to simply finance that year's trade deficit. In 2007, the U.S. capital account records $1.2 trillion in purchases of foreign assets by U.S. residents (a capital outflow) and $1.9 trillion in purchases of U.S. assets by foreign residents (a capital inflow). So while the United States could have financed the $750 billion trade deficit in goods and services for 2007 simply by a $750 billion sale of assets to foreigners, U.S. and foreign investors engaged in a much larger volume of pure asset trading.[3]

Determinants of the Size and Direction of Cross-Border Asset Flows

Rate of Return

The demand for assets (e.g., bank accounts, stocks, bonds, and real property) by foreigners will be strongly influenced by the *expected rate of return* on those assets. When inflation rates are similar, the level of nominal interest rates can be used as a fairly reliable first approximation of the rate of return on assets that can be earned in a particular country. Therefore, differences in the level of interest rates between economies are likely to stimulate international capital flows, as investors seek the highest rate of return for any given level of risk.

Rates of return will be influenced by the general performance of the economy as gauged by its ability to sustain a high rate of economic growth and a low rate of inflation. The Fed's conduct of monetary policy will increase or decrease interest rates as it works to stabilize the economy. Whether a country's business cycle is synchronous or asynchronous with that of other economies will influence the relative level of interest rates between it and other economies. In general, these relatively short-term interest rate fluctuations will tend to either attract or deter cross-border capital flows, particularly in very liquid assets.

The rate of return advantage in the U.S. economy may be greater than the spread between market interest rates would suggest, however. A study by the IMF that focused on both return to debt and equity capital for only publicly traded companies in the large industrial economies and the developing economies for the decade 1994-2003 found the rate of return in the U.S. to have been about 8.6% as compared to a G-7 average of about 2.4% and an emerging market average of about *minus* 4.7%.[4]

---

[3] See U.S. Department of Commerce, Bureau of Economic Analysis, *U.S. International Transactions, 2007.*

[4] IMF, World Economic Outlook, *Global Imbalances: In a Saving and Investment Perspective*, September 2005, pp. 100-104.

Nevertheless, at this time, slower U.S. economic growth relative to other advanced economies and the Fed's lowering interest rates more aggressively than other central banks have probably significantly narrowed the rate of return advantage of many dollar assets relative to what can be earned at similar risk in other advanced economies.

Investor Expectations about the Future Path of the Dollar

Whether the exchange rate is expected to rise or fall in the future can figure prominently in the investor's calculation of what she will actually earn from an investment denominated in another currency. Even a high nominal return would not be attractive if one expects the denominating currency to depreciate at a similar or greater rate and erase all economic gain. On the other hand, if the exchange rate is expected to appreciate the realized gain would be greater than what the nominal interest rate alone would indicate and the asset looks more attractive. If, for example, the dollar depreciated 4% to 5% annually for the next several years, then the 3% to 5% average nominal interest rates currently attached to low risk U.S. securities would at best offer the foreign investor an expected return of approximately zero. Nevertheless, it is not apparent that investors have been significantly deterred by the dollar's ongoing depreciation.

Need for Diversification of the Investor's Portfolio

The size of the stock of assets in a particular currency in investor portfolios can cause a change in investor preferences and a shifting of asset flows away from or toward assets in a particular currency. Prudent investment practice counsels that the investor's portfolio of asset holdings have not only an appropriate degree of *diversification*, across asset types, but also diversification across the currencies in which the assets are denominated. Moving from a relatively undiversified investment portfolio to a more diversified one spreads risk, including exchange rate risk, across a wider spectrum of assets and reduces over- exposure to any one asset. Therefore, even if dollar assets offer a high return, if the accumulation has been large, at some point foreign investors, considering both risk and reward, will decide that their portfolio's share of dollar denominated assets is large enough. To improve the diversity of their portfolios, investors will slow or halt their purchase of dollar assets. How much pure diversification from dollar assets has occurred is difficult to determine. Nevertheless, with over $8 trillion in dollar assets of all forms now in foreign investor portfolios that continues to grow, diversification is likely to be a significant factor governing the behavior of international investors.

The Size and Liquidity of the Asset Market

Large asset markets, such as those in the United States, offer a great variety of assets and a high degree of liquidity. This gives U.S. asset markets the highly attractive attribute of being able to handle large inflows and outflows of funds with only a small impact on the price of the asset. Recent IMF estimates give a sense of the relative size of the asset markets in the advanced economies. Those data show, for example, that in 2006 the U.S. bond market had a total value of over $27 trillion (with government bonds accounting for about $6 trillion of that), while the euro area and Japan had bond markets with a total value of about $19 trillion and $9 trillion respectively. In addition, the U.S. stock market has an estimated capitalized value of

nearly $17 trillion, while the euro area and Japan's equity markets were estimated to have capitalized values of about $8 trillion and $5 trillion respectively.[5]

A good example of high liquidity is provided by the market for U.S. Treasury securities, which has been particularly attractive to foreign investors in recent years. One indicator of how easily a market can absorb large transactions without changing the asset's price is daily turnover, the sum of total purchases and sales. IMF data show that in 2006 the U.S. government securities markets had a daily turnover of nearly $500 billion. By this criterion, Japan is a distant second with $150 billion turnover in government securities per day. Additional evidence of the high liquidity of U.S. government securities market is its small bid-ask spreads.[6]

In recent years, high liquidity has been an attractive feature for foreign central banks, who have greatly increased their holdings of foreign exchange reserves. The same is true for petroleum exporting countries, who have needed to store tens of billions of dollars, and also to have ready access to those funds with minimal market disruption.

The precise magnitude of the attractive effect of market size on inflows of foreign capital is hard to determine. But the persistence of large capital inflows to the United States despite already large foreign holdings of dollar assets offering modest interest differentials and the disproportionate share of essentially no-risk and high liquidity U.S. Treasury securities in foreign holdings suggest the magnitude of flows attributable to the liquidity advantage of U.S. asset markets is probably substantial. Nevertheless, recent financial market turmoil in the United States has probably diminished, hopefully temporarily, some of the attractiveness of the United States' large and liquid asset markets.

Seeking Safe Havens

Some investors may be willing to give up a significant amount of return if an economy offers them a particularly low risk repository for their funds. The United States, with a long history of stable government, steady economic growth, and large and efficient financial markets, can be expected to draw foreign capital for this reason. The size of this effect is not easy to determine, but the disproportionate share of U.S. Treasury securities, which are essentially without default risk, in foreign holdings suggests that the magnitude of safe-haven motivated flows is probably substantial, exerting steady upward demand pressure on the dollar.

Official Holdings

Governments (through their central banks) also buy and sell international assets, but most often for reasons apart from expected rate of return. These so-called official purchases serve two objectives. One, the accumulation of a reserve of foreign exchange denominated in readily exchangeable currencies such as the dollar provides a safeguard against currency crises arising out of often volatile private capital flows. This is most often a device used by developing economies that periodically need to

---

[5] IMF, *Global Financial Stability Report*, April 2008.

[6] BIS, *Working Papers no 218*, October 2006.

finance short run balance of payments deficits and cannot fully depend on international capital markets for such finance. In the wake of the Asian financial crisis of 1997-1998, many emerging economies around the globe have over the last few years built up large stocks of foreign exchange reserves, in large part denominated in dollars.

Two, official purchases are used to counter the impact of capital flows that would otherwise lead to unwanted changes in the countries' exchange rates. This is a common practice for many east Asian economies who buy and sell foreign assets to influence their exchange rates relative to the dollar and other major currencies to maintain the price attractiveness of their exports to the United States.

From 2002 to 2007, the IMF reports that official holdings of foreign exchange reserves world-wide increased from about $2 trillion to nearly $6.4 trillion. The dollar's status as the dominant international reserve currency has resulted in a large portion of the accumulation being held in dollar denominated assets. Of the $4 trillion of official holdings whose currency composition in known, nearly $2.6 trillion is in dollar assets.[7] In addition, the U.S. Treasury reports that through 2007, $1.3 trillion or 26% of the $5 trillion outstanding marketable Treasury securities were being held as foreign official reserves.[8]

These large accumulations of dollar denominated assets in foreign official holdings have made foreign central banks important participants in U.S. financial markets, as well as in the wider U.S. economy.[9] In recent years, China has been a high profile accumulator of international assets to stabilize the exchange rate of the yuan relative to the dollar. In 2007, China held foreign exchange reserves valued at more than $1.5 trillion,[10] an increase of nearly $1.2 trillion since 2002.[11] Foreign central banks still have strong incentives to continue accumulating dollar assets.[12]

How These Determinants Have Interacted to Affect the Dollar

The strength of *net* capital inflows (the difference between inflows and outflows) from the rest of the world is a good indicator of the general path of the dollar. For example, during the period from 1996 to 2002, net capital inflows grew from about $150 billion to $570 billion, and the dollar rose. For the period from 2002 to 2004,

---

[7] IMF, *Currency Composition of Official Foreign Exchange Reserves*, March 31, 2008.

[8] U.S. Department of the Treasury, *Treasury Bulletin*, (Washington: June 2008), p. 56.

[9] See CRS Report RL32462, *Foreign Investment in U.S. Securities*, by James K. Jackson.

[10] Statistics on Chinese international reserves are from Chinability, a non-profit provider of Chinese economic and business data.

[11] In contrast, the United States in this time period held foreign exchange reserves of less than $200 billion on average, with annual increments of only $1 billion to $10 billion. It is estimated that 30%-40% of the worldwide increase in foreign exchange reserves since 2000 are of dollar denominated assets.

[12] See CRS Report RS21951, *The Changing Causes of the U.S. Trade Deficit*, by Marc Labonte and Gail Makinen.

growth in net capital inflows flattened and the dollar depreciated. In 2005 and 2006, net capital inflows regained strength, reaching over $833 billion, and the dollar appreciated moderately. In 2007, net inflows fell to $657 billion and the dollar depreciated. This overall pattern of net capital inflows is the consequence of the disparate paths of private capital flows and official capital flows.

Since 2002, the net inflow of private foreign capital to the United States has generally weakened (see **Table 1**). That net inflow fell from $460 billion in 2002 to $186 billion in 2004. In 2005, net private inflows rose to $498 billion, but this strengthening was largely the one-time consequence of U.S. companies moving reinvested earnings to the United States from abroad (reducing capital outflows) to take advantage of the significant tax incentives provided by the American Jobs Creation Act of 2004.[13] Since 2005, net private capital inflows once again weakened, falling to $268 billion in 2007.

Table 1. Net Capital Inflows to the United States
(in billions of U.S. dollars)

	2001	2002	2003	2004	2005	2006	2007
Total Net Inflows	416	570	546	585	777	833	657
Net Private Inflows	393	460	295	186	498	356	268
Net Official Inflows	23	111	251	399	279	448	390

Source: CRS Report RL33274 and U.S. Department of Commerce (Bureau of Economic Analysis).

The weakening of private capital inflows since 2002 is, in part, the result of foreign investors reducing risk by diversifying their dollar saturated portfolios toward assets in other currencies, particularly euro assets. However, since mid-2006, slowing economic growth, financial market turmoil, the decrease of interest rates by the Fed, and the depreciating dollar itself have further reduced the incentive to hold dollar assets. This change in sentiment by foreign investors does not mean that they have actively dumped dollar assets. Rather, it seems that foreign investors have not added dollar assets as fast as they have added assets denominated in other currencies, which exerts downward pressure on the dollar.

Moving counter to the weakening of net private inflows, however, was a large increase in the demand for dollar assets by foreign central banks. Net official inflows increased from $23 billion in 2001 to $448 billion in 2006. This rapid build-up of official foreign exchange reserves was largely the result of the central banks in China and several other Asian economies aggressively accumulating dollar assets to stabilize their currencies' exchange rates relative to the falling dollar. In 2007, however, net official inflows decreased to $390 billion. Increased demand for dollar assets by foreign central banks has acted to brake the dollar's fall since 2002.

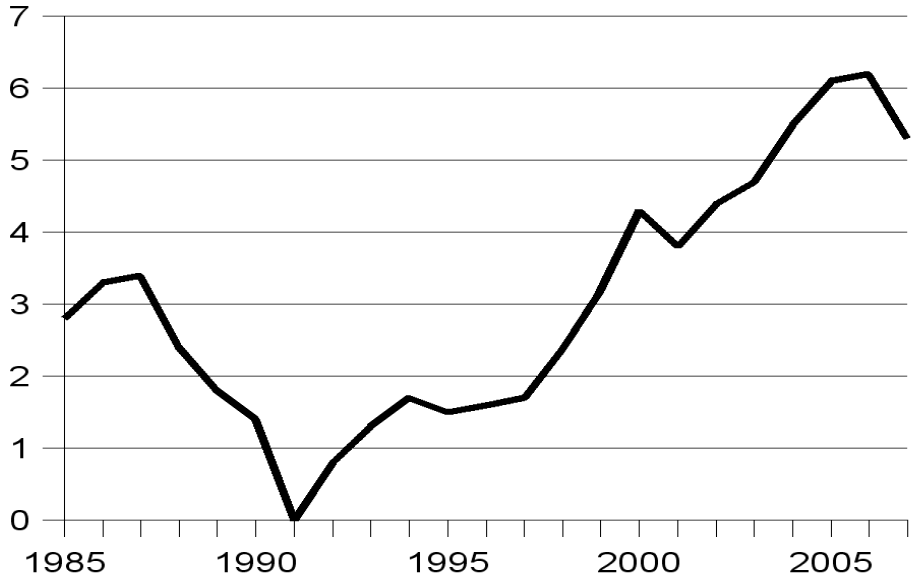
[13] CRS Report RL32652, *The 2004 Corporate Tax and FSC/ETI Bill: The American Jobs Creation Act of 2004*, by David L. Brumbaugh.

Effects of the Weakening Dollar

Smaller Trade Deficit

The U.S. trade deficit, as tallied in the *current account balance*,[14] increased steadily from 1992 to 2006. In 2007, however, the trade imbalance decreased to $738.6 billion from $811.5 billion in 2006. This decrease was a reflection of continued strong growth of exports sales, up $182 billion or 12.6% over their level in 2006; and the continuing deceleration of import purchases, advancing $132.7 billion or 6.0% over their level in 2006. As a percentage of GDP, the 2007 trade deficit stood at 5.3%, down from a record size of 6.1% in 2006.

Figure 2. Current Account Deficit as of GDP



Source: IMF, *World Economic Outlook Data Base*, April 2008 edition.

In 2007, goods exports grew 12.3%, continuing a pattern of rapid growth that began in 2004. In contrast, goods imports grew only 5.5% in 2007, continuing a pattern of deceleration from a 17% annual pace in 2004. In 2007, net exports, for the first time since 1995 made a positive contribution to the growth of real GDP, accounting for about 27% of the 2.2% increase in real GDP. Real exports had been rising strongly since 2004 so the critical change in 2007 was a substantial slowing of the growth of real imports.

This disparate performance of exports and imports reflects, in part, the emerging impact on trade flows of the 26% real depreciation of the dollar since 2002. That depreciation has improved the price competitiveness of U.S. exports in foreign markets and deteriorated the price competitiveness of foreign goods in U.S. markets. Also contributing to this phenomenon was faster economic growth in Japan and the euro area.

---

[14] The balance on current account is the nation's most comprehensive measure of international transactions, reflecting exports and imports of goods and services, investment income (earnings and payments), and unilateral transfers.

Nevertheless, 2007 imports were about $2.4 trillion, which was $700 billion more than 2007 exports of about $1.7 trillion. Therefore, the growth of exports will have to substantially exceed that of imports for several years to erase the deficit in goods and services trade. Such a reduction might require further depreciation of the dollar.

The last time a substantial dollar depreciation and trade deficit adjustment happened was 1985-1991. At that time, the trade deficit started to narrow within two years of the initial depreciation, and fell from 3.5% of GDP to near balance by 1991. In the current episode the process has been much slower despite a very large depreciation of the dollar.

Several factors account for this slow response. First, the rapid shift in trade in recent years toward low-cost emerging economies has tended to erode U.S. price competiveness and offset, in part, the competiveness improving effect of the depreciating dollar.[15] Second, up to 2006 the U.S. economy was growing faster than other advanced economies, tending to boost U.S. imports. Third, oil prices have risen to historic highs increasing the trade deficits of oil-importing countries such as the United States. Fourth, the size, liquidity, and stability of U.S. asset markets made them a particularly attractive destination for private investors and for official purchases by foreign central banks.

As the effect of these factors diminish, economic theory suggests that the current account deficit may, in a belated response to the dollar depreciation of the last several years, begin to narrow significantly.

U.S. Purchasing Power Decreases

The rising price of foreign goods caused by a weakening of the dollar reduces the purchasing power of U.S. consumers and businesses who purchase imports. Since early 2002 through 2007, the price index for imports increased about 32% as compared with an increase in the price index for overall GDP of about 16%. That 32% rise in the average price of imports reflects both the effect of dollar depreciation and increases in the foreign currency price of imports. The price of imported commodities, in particular, have risen sharply in recent years, but because most commodities are priced in dollars, rising commodity prices are not the direct result of a falling dollar. However, it is likely that dollar depreciation has had an indirect elevating effect on commodity prices (see below for further discussion of the dollar commodity price linkage). An appreciating currency serves to insulate the economy from such price increases, while a depreciating currency will tend to exacerbate their effect.

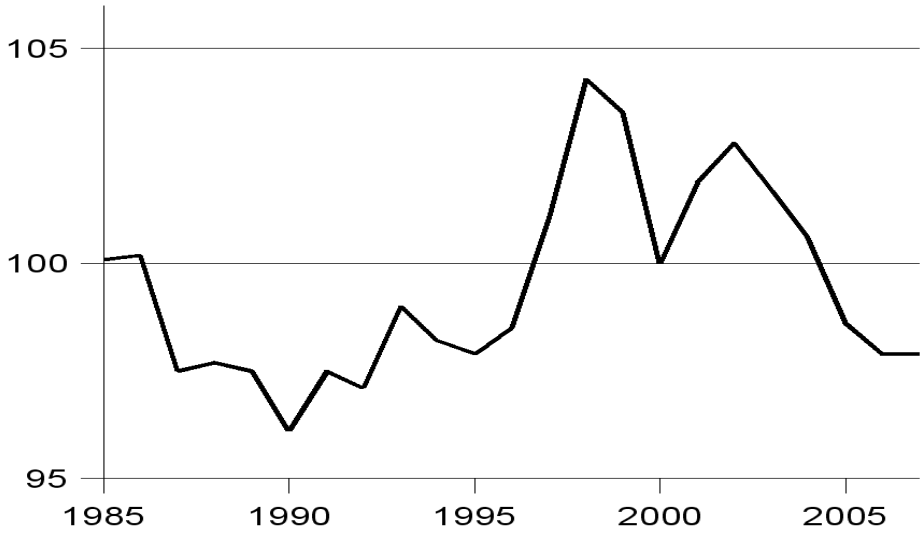
The magnitude of the effect of the weakening dollar on overall purchasing power is, however, muted by two factors. First, a rise in the price of exports tends to enhance purchasing power and offset the purchasing power effect of increased import prices. For this reason economists use the change in the ratio of export prices to import prices or what is called *the terms of trade,* to calculate the change in U.S. international purchasing power. From the time the dollar began to depreciate in February of 2002

---

[15] This was particularly true with respect to China and other Asian trading partners whose currencies were effectively pegged to the dollar for much of this period.

through April of 2008 U.S. export prices rose, but not by as much as import prices, causing the U.S. terms of trade to fall by about 9% (see **Figure 3**). Second, the impact of a fall in the terms of trade on total purchasing power will be proportional to the relative importance of imports in GDP. Given that imports in recent years have accounted for about 16% of U.S. GDP, the 26% real depreciation of the dollar since 2002 has reduced overall U.S. purchasing power by about 1.4% or by about $200 billion. If the dollar continues to depreciate, a further erosion of purchasing power will occur. But this will likely be partially mitigated by imports becoming a smaller share of U.S. GDP.

Figure 3. U.S. Terms of Trade 1985-2007
(Index (2000=100)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

Commodity Prices (in dollars) Increase. The fall of the dollar since early 2002 has coincided with large increases in commodity prices. The price of gold has increased from about $300 per ounce to near $1000 per ounce, the price of oil has increased from about $20 per barrel to near $140 dollars per barrel, and the index of nonfuel commodity prices has risen about 125%. Because most commodities in international markets are priced in dollars, their prices to the U.S. buyer are not directly affected by movements of the exchange rate.

However, the dollar does have an indirect impact on commodity prices. This indirect effect likely works through several channels. First, a dollar depreciation makes commodities, usually priced in dollars, less expensive[16] in nondollar countries, encouraging their demand to increase. Second, a falling dollar reduces the foreign currency yield on dollar denominated financial assets, making commodities a more attractive investment alternative to foreign investors. Third, a weakening dollar could induce a stimulative monetary policy in other countries, particularly those that peg their currencies to the dollar. A stimulative monetary policy tends to decrease interest rates which may stimulate foreign demand, including that for commodities.

[16] Assuming their currency is not pegged to the dollar.

A recent IMF analysis estimates that if the dollar had remained at its peak of early 2002, by the end of 2007, the price of gold would have been $250 per ounce lower, the price of a barrel of crude oil would have been $25 a barrel lower, and nonfuel commodity prices would have been 12% lower.[17]

Other factors have also contributed to the rapid climb of commodity prices. Large increases in world industrial production, particularly in emerging Asian economies, have likely been a factor pulling up commodity prices. Also falling interest rates in the United States have reduced the incentive for current extraction over future extraction and generally lowered the cost of holding inventories, dampening the supply response to higher commodity prices.

U.S. Interest Rates Could Increase. The major force behind the dollar's fall since 2002 has been a weakening of the demand for dollar denominated assets by private investors. A significant slowing of this capital inflow, other things constant, reduces the supply of loanable funds available to the economy, and tends to increase the price of those funds, that is, increase interest rates. A reduced demand for dollar assets was a likely contributor to the rise of U.S. interest rates from 2004 through 2006. If the foreign demand for dollar assets continues to weaken as the U.S. economy moves beyond the current economic slowdown and begins to grow at a more typical pace, a revived demand for loanable funds is likely to lead to an increase in most U.S. interest rates.

At that time, the dual effects of a decreasing inflow of capital, a falling dollar and rising interest rates, could work to change the composition of the economy's output, stimulating net exports and reducing domestic spending by dampening interest sensitive activities like business investment and housing. Rising interest rates are the normal equilibrating mechanism that brings domestic investment in line with the smaller flow of saving available to finance it. In turn, a lower rate of investment slows the growth of the economy's stock of productive capital, and in theory leads to a slower rate of growth of the economy's productive capacity.

If there is an increase in the domestic saving rate to replace some portion of the diminished inflow of saving from abroad, it is likely to moderate the rise in interest rates and lead to a shift of the domestic spending reduction from investment to consumption.

Net External Debt Is Reduced. A depreciating dollar tends to improve the U.S. net debt position. This improvement is caused by favorable valuation effects on U.S. foreign assets. These occur because U.S. foreign liabilities are largely denominated in dollars, but U.S. foreign assets are largely denominated in foreign currencies. Therefore, a real depreciation of the dollar increases the value of U.S. external assets and largely does not increase the value of U.S. external liabilities. This asymmetry in the currency composition of U.S. external assets and liabilities leads to a dollar depreciation to reduce U.S. net external debt.[18]

---

[17] International Monetary Fund, *World Economic Outlook– April 2008*, pp. 48–50.

[18] Most countries are not able to borrow in their own currency, so a fall of their exchange rate will tend to increase their net external debt. This was a problem that plagued the economies caught in the Asian financial crisis in 1997, when their crashing currencies (continued...)

Exchange rate induced valuation effects are substantial because they apply to the entire stock of U.S. foreign assets, valued at about $14 trillion in 2006. The large scale of U.S. foreign assets means that valuation changes can offset a sizable portion of the current account deficit's annual addition to the existing stock of external debt. For example, in 2006, the current account deficit made a $811.4 billion contribution to U.S. external debt. But the total value of net external debt in 2006 increased only about $300 billion due to an offset of over $500 billion (over 60%); nearly half of this offset was attributable to positive valuation effects on U.S. foreign assets caused by the dollars depreciation that year.[19]

The Dollar's Reserve Currency Status Threatened? Central bank holdings of reserve currency assets have risen sharply in recent years. These "official holdings" have nearly quadrupled since 1997, increasing from about $1.7 trillion to about $6.4 trillion by the end of 2007. Nearly $5 trillion of this total is held by developing countries. These large accumulations of reserves have been concentrated among countries with large global current account surpluses. China, in particular, through 2007 has official reserves that exceed $1.7 trillion. In addition, the oil-exporting countries have increased their official reserves by about $700 billion.[20]

The dollar's status as the dominant international currency has meant that a large share of this accumulation of foreign exchange is held as some form of dollar asset. Of the $4 trillion reserves of which the currency composition is known about 65% are in dollar assets. Euro denominated assets have the second largest share at about 25%. The U.S. Treasury reports that through 2007, over 50% of the more than $4 trillion outstanding marketable Treasury securities were being held in foreign official reserves.[21]

For the United States, there are significant benefits to issuing the world's primary reserve currency. Central banks' demand for the reserve currency tends not to be as volatile as that of private investors. This stabilizes the demand for dollars and reduces the foreign exchange risk faced by U.S. companies in their international transactions. Exchange rate risk is also reduced because the United States borrows in its own currency, so that the appreciation of foreign currencies against the dollar cannot increase debt service cost or raise default risk.

Another major benefit of being the primary international reserve currency is that it enables the United States to borrow abroad at a lower cost then it otherwise could. This cost advantage occurs because there will be a willingness of foreign central banks to pay a liquidity premium to hold dollar assets.

---

[18] (...continued)
ballooned their external debt.

[19] For further details on net external debt and valuation effects see U.S. Department of Commerce, Bureau of Economic Analysis, *U.S. Net International Investment Position*, July 2007.

[20] IMF, *Global Financial Stability Report*, World Economic and Financial Surveys, (Washington: April 2008), pp. 74-76.

[21] U.S. Department of the Treasury, *Foreign Portfolio Holdings of U.S. Securities* (Washington: April 2008), p 13.

Also, the dollar's status as the world's reserve currency raises the likelihood of foreigners using U.S. asset markets. This added foreign involvement increases the breadth and depth of these markets, which then tends to attract even more investors, which then continually magnifies the benefits of issuing the reserve currency.

However, the prospect of substantial further depreciation of the dollar could erode the dollar's ability to provide the important reserve currency function of being a steady store of value. Foreign central banks may see the erosion of this function as growing disincentive for using dollars as their principal reserve currency. In contrast, the appreciation of the euro exchange rate and the substantial increase in the liquidity of the euro caused by the improvement in the breath and depth of euro area financial markets since 1999 raises the attractiveness of the euro as a reserve currency.

Yet, so far there appears to be only modest diversification from dollar assets by foreign central banks. The dollar share of official reserves reached a peak value of about 72% in 2001. By 2003, that share fell to about 66% and has remained near this level through 2007. Since its creation in 1999 the euro's share of global official reserves rose from about 18% to 25% in 2003, but has remained near this level through 2007. However, most of this decline reflects passive valuation changes from the dollar's depreciation rather than an active diversification away from dollar assets by foreign central banks.

Despite the problem posed by the dollar's ongoing depreciation, the currency retains significant advantages. The most important advantage is the size, quality, and stability of dollar asset markets, particularly the short-term government securities market where central banks tend to be most active. The low risk and high liquidity of these financial markets make the dollar an excellent medium of exchange for foreign central banks. A further advantage is the power of "incumbency" conferred by the important "network-externalities" that accrue to the currency that is currently dominant. Together these factors will likely inhibit a large or abrupt change in the dollar's reserve currency status. Nevertheless, further dollar depreciation could lead to more active movement away from dollar assets by central banks.[22]

Risk of a Dollar Crisis. While asset market trade offers opportunities to raise overall economic efficiency and improve the economic welfare of borrower and lender alike, trade in assets is prone to occasional mistakes, the disorderly resolution of which can lead to crisis and collapse. The negative repercussions of such a collapse could extend beyond the asset market to the wider economy.

The essential weakness of asset markets is that assets are a claim on a stream of earnings over time — and the future is always uncertain. This can mean that relatively small changes in investors' beliefs about that future could have large effects on the value of the asset. Historically this has tended to make these markets much more volatile than goods markets, where value is generally far less contingent on the uncertainties of the future. Add to this the often observed tendency for "herd-like" behavior among investors, particularly those focused on the short run, and the volatility in asset markets can grow larger. Then add in "leveraged purchases", the inherent weakness of modern "fractional-reserve banking," "exchange rate risk," and

---

[22] For further discussion of this issue, see CRS Report RL34083, *The Dollar's Future as the World's Reserve Currency: The Challenge of the Euro*, by Craig K. Elwell.

the usual problems of distance (i.e., different language, law, and business practices) and the potential for volatility and crisis becomes even larger.

There is no precise demarcation of when a falling dollar moves from being an orderly decline to being a crisis, but the depreciation would be significantly more rapid then the orderly fall that has already occurred. The troubling characteristic of a dollar crisis would be that this adjustment moves from orderly to disorderly, due to a precipitous decline in the willingness of investors to hold dollar assets, causing a sharp decrease in the price of those assets and an equally sharp increase in the interest rates attached to those assets. The spike in interest rates would be a large and abrupt shock to the U.S. economy that would slow domestic spending more quickly than the falling dollar can stimulate net exports. This negative impulse could cause overall economic activity to slow, perhaps to the point of recession.

A critical factor governing whether dollar depreciation is an orderly or disorderly adjustment is investor expectations about future dollar depreciation. Rational expectations will have a stabilizing effect on the size of international capital flows. The rational forward-looking investor will have some notion of what is the equilibrium exchange rate and whether the currency is currently overvalued or undervalued. The investors' exchange rate expectations will tend to be stabilizing if an increase in the exchange rate causes investors to reduce their expectation of the currency's future rate of change and increase their expectations of a future depreciation of the currency. Such investors would tend to sell when the currency was high and buy when the currency was low, which helps stabilizes the currency's fluctuation. Also, such investors would only hold assets that have expected yields high enough to compensate for the expected depreciation and also preserve a competitive rate of return. Therefore if investors have a realistic expectation that the dollar will depreciate 5% in the period ahead they would likely only be willing to hold dollar assets with yields above 5%.

In contrast, a sharp plunge of the dollar is likely to occur if most investors do not form rational expectations about a likely future depreciation of the dollar. Once investors come to realize that the dollar is falling at a faster rate than they had expected, there could be a sudden attempt by large numbers of investors to sell their dollar assets. But with many sellers and few buyers, the exchange rate would fall precipitously, along with the price of dollar assets, before stabilizing.

Some economists argue that foreign investors do not appear to have built a rational expectation of future dollar depreciation into the nominal yields they are accepting to hold dollar assets. The average nominal rate of return on low-risk treasury securities is about 4.2% and the dollar has recently been falling on average at about a 10% annual rate, so that the ex-post rate of return for foreigners has been negative. If there is substantial probability that the dollar will continue to depreciate at a non-trivial rate, then there is a risk of crisis.

If many holders of dollar assets realize their expectations for dollar depreciation had been too low and try to move quickly out of dollar assets, the ensuing stampede could potentially cause a dollar crisis. To shed dollar assets one needs to find a buyer, but in a crisis environment this occurs only through a tremendous bidding down of the price of the less desirable dollar assets. This leads not only to a sharply falling

exchange rate, but also to sharply rising interest rates in U.S. financial markets (lower asset prices translate into higher effective interest rates).

Thus, in a dollar crisis two sharp negative impulses would be transmitted. One, a sharply falling dollar would likely mean a sharply rising euro and yen, and lead to severe decreases in the export sales for these economies. There would be positive impulses associated with a falling dollar for the United States — increased export sales in the United States and stimulus to interest sensitive sectors abroad. In the *dollar crash scenario*, however, the negative impulses have a more immediate effect and would not sufficiently offset soon enough to prevent recession in the United States, Europe, and Japan. Two, sharply rising interest rates in the United States would dampen spending in interest sensitive sectors as well as reveal any lurking weaknesses in financial markets.

The dollar, of course, has been depreciating since 2002, and foreign investors have continued to hold dollar assets for which the attached interest rate seems insufficient to compensate for that depreciation. There has been no dollar crisis. This is, perhaps, explained in part by the large accumulation of dollar reserves by foreign central banks. If foreign central banks have longer investment horizons then private investors they will tend to stabilize the demand for dollar assets. In addition, the sheer scale of earnings of oil-exporting countries seeking a place for liquid storage of wealth, made it likely that a large portion of those funds would flow to the United States. [23]

Policies That Could Potentially Influence the Dollar

Policies to Influence the Demand for U.S. Assets

Given the importance of international asset markets in determining the dollar's exchange rate, policies aimed at influencing the demand and supply of dollar assets would potentially have the quickest and most substantial impact on the dollar.

Foreign Exchange Market Intervention. This policy involves the Federal Reserve buying or selling foreign exchange in an attempt to influence the exchange rate. (This intervention will most often be *a sterilized* intervention that alters the currency composition of the Fed's balance sheet but does not change the size of the monetary base, neutralizing any associated impact on the money supply.) To strengthen the dollar, the Fed could attempt to boost the demand for dollars by selling some portion of its foreign exchange reserves in exchange for dollars. (Sterilization in this case would require the Fed to also purchase a like value of domestic securities to offset the negative effect on the monetary base of its selling of foreign exchange reserves). The problem with intervention is that the scale of the Fed's foreign exchange holdings is small relative to the size of global foreign exchange markets which have a *daily* turnover of more than $3 trillion. Facing markets of this scale, currency intervention by the Fed would likely be insufficient to counter a strong market trend away from dollar assets.

---

[23] For more discussion of this issue, see CRS Report RL34311, *Dollar Crisis: Prospect and Implications*, by Craig K. Elwell.

A coordinated intervention by the Fed and other central banks would have a greater chance of success because it can increase the scale of the intervention. Since 1985 there have been five coordinated interventions: the Plaza Accord of 1985 to weaken the dollar, the Louvre Accord of 1987 to stop the dollar's fall, joint actions with Japan in 1995 and 1998 to stabilize the yen/dollar exchange rate, and G-7 action in 2000 to support the newly introduced euro. All but the Louvre Accord do correspond with turning points for the targeted currencies. However, these interventions were most often accompanied by a change in monetary policy that was consistent with moving the currencies in the desired direction. Many economists argue that coordinated intervention in these circumstances played the useful role of a signaling device helping overcome private investors' uncertainty about the future direction of monetary policy and the direction the central banks want the currency to move. But absent an accompanying change in monetary policy it is unlikely that even coordinated intervention would be successful at altering the exchange rate's path if it were being strongly propelled by private capital flows.

Monetary Policy. A principal instrument for macroeconomic policy is the Fed's use of monetary policy. Monetary policy is the decision by policymakers to influence economic conditions by tightening or loosening credit conditions. Monetary tightening will tend to increase interest rates while monetary loosening will tend to decrease interest rates.

Changing the level of interest rates also influences the dollar's exchange rate. A contractionary monetary policy would tend to strengthen the dollar because higher interest rates, by making dollar assets more attractive to foreign investors, other things equal, boosts the demand for the dollar in the foreign exchange market. In contrast, an expansionary monetary policy would tend to weaken the dollar because lower interest rates reduce the attractiveness of dollar assets. In either case, however, it would be unprecedented for the Fed to use monetary policy to exclusively target the exchange rate, but it could be the side-effect of policies aimed at slowing the economy to control inflation or stimulating the economy to forestall recession.

It is likely that the Fed's recent policy turn toward economic stimulus and lower interest rates has contributed to the depreciation. While not an explicit target of this monetary policy, the depreciation of the dollar does contribute to the Fed's stabilization goal by providing a significant and timely boost to the economy by increasing net exports.[24]

Fiscal Policy. Government choices about spending and taxing can also influence the exchange rate. Budget deficits tend to have a stimulative effect on the economy. However, because the government must borrow funds to finance a budget deficit, that policy also tends to increase interest rates. (This upward pressure on interest rates would be unlikely to occur when the economy has significant economic slack such as in a recession when the demand for funds is generally weak relative to the supply of funds.) Other things equal, higher interest rates will tend to increase the foreign demand for dollar denominated assets, putting upward pressure on the exchange rate.

---

[24] If the European Central Bank were to also lower interest rates, it would be possible for the dollar to strengthen, despite low U.S. interest rates. However, the ECB initiated a new tightening cycle on July 3, 2008, so lowering interest rates soon does not seem likely.

As the U.S. economy gathers more momentum, the interest rate elevating effects of budget deficits will be more evident. Over the near-term, foreign investors are likely to be attracted by these higher interest rates and increase their purchases of dollar assets, tending to put upward pressure on the dollar. Persistent large budget deficits, however, would likely degrade the long-term performance of the U.S. economy by crowding out productive investment and slowing the pace of economic growth. This deterioration would likely also reduce the long-term demand for dollar assets and exert downward pressure on the dollar.

Policies to Influence the Demand for U.S. Exports

Policies focused on increasing the foreign demand for U.S. goods and services would also tend to strengthen the dollar.

Lower Foreign Trade Barriers. The continued existence of various trade barriers in many countries may keep the demand for U.S. exports weaker than it otherwise would be. If lowering those barriers significantly boosts the demand for U.S. goods and services, it would also exert some upward pressure on the dollar exchange rate. It is difficult to judge how strong this upward pressure would be. Moreover, this is not likely to be a readily implementable policy tool and probably has little near-term significance for the dollar's exchange rate.

Support for Development of New Products. If the U.S. has goods and services that are strongly in demand in the rest of the world, there will be some upward pressure on the exchange rate. Economic theory suggests that the government's role in this process is to support those aspects of research and development that are likely to be under-invested in by the private market. This type of policy would most likely have long-run implications, and not have much effect on the near-term value of the dollar.

Will the Dollar Continue to Depreciate?

Forecasting the path of the exchange rate is highly problematic, as the weight of economic fundamentals on the dollar can be easily countered in the short-run by sudden shifts in investor sentiment that are imperfectly understood. However, there are three reasons to think that investors around the globe may actively reduce their exposure to dollar assets, and thereby exert substantial downward pressure on the dollar.[25] First, yields on high quality foreign bonds are higher than yields on similar U.S. securities, making investments in those currencies more attractive than dollar investments. If U.S. GDP growth is perceived to be slower than in other advanced economies for the next few years, the yield disadvantage of dollar assets could be prolonged. Second, keeping the rapidly rising external debt to GDP ratio, which is now at a historical high of about 21%, in "realistic" bounds will require large reduction of the U.S. trade deficit. Erasing the trade deficit is likely to require substantial real depreciation of the dollar. Therefore, a prudent investor is likely to

---

[25] "Other things" would not be equal if there were a sharp tightening of monetary policy or major changes in the economy-wide rates of saving and investment in the United States and abroad that would redirect capital flows toward the United States.

include this trend of decline into the calculation of the expected return, in their own currency, of holding dollar denominated assets. This expected depreciation makes the relative return on dollar assets even lower than the nominal interest differential, further reducing the attractiveness of dollar denominated assets.[26] Third, for the next few years, the U.S. trade deficit, although it might be falling, will continue to add a large volume of dollar assets to the portfolios of foreign investors. This accumulation generates an increasing need for portfolio diversification into assets in other currencies.

The accumulation of reserves by foreign central banks is likely to be relatively stable and continue to exert some upward pressure on the dollar. Also the sizable liquidity advantages of U.S. asset markets will likely continue to attract a large inflow of earnings from the oil-exporting countries adding more upward pressure on the dollar.

Does the United States Have a Dollar Policy?

Since the 1973 demise of the Bretton Woods fixed rate international monetary system, the basic U.S. dollar policy has been to let market forces determine the dollar's value. The change to a floating currency freed the central bank from having to use monetary policy to maintain the fixed exchange rate, eliminating the possibility of conflict between domestic stabilization goals and exchange rate targets that was a recurring problem under the Bretton Woods system.

The macroeconomic tools of monetary and fiscal policy have the potential to strongly influence the value of the dollar exchange rate. In practice, however, these strong policy instruments only rarely take the dollar as their primary concern. The goals of strong and stable economic growth, high employment, and low inflation are usually the principal targets of macroeconomic policy. The dollar will likely be influenced by such policy actions, and its movement might well support achieving broader macroeconomic goals; but a particular level for the exchange rate is unlikely to be an explicit policy goal, and most economists agree that it would be misguided to describe such indirect exchange rate effects as evidence of an explicit "strong" or "weak" dollar policy.

If faced with a dollar crisis, stabilizing the exchange rate may call for raising interest rates, but that would intensify the pressures faced by domestic interest-

---

[26] How much further real depreciation of the dollar might be needed to reduce the current account balance to a sustainable level? The IMF estimates that a sustainable current account deficit is probably at least in the area of 3% of GDP. Also, most economic studies indicate that a narrowing of the ratio of the current account deficit to GDP by 1 percentage point would require a real depreciation of 10% to 20%. Therefore, given a U.S. current account deficit that is now 5% of GDP, a further real depreciation of at least 20% could be needed to reach a sustainable current account balance. If the adjustment is orderly and the dollar falls about 10% annually and allowing for lags in the response of trade flows, this process take would likely take approximately two to three years. See, IMF *World Economic Outlook* (Washington: April 2008), pp. 18-22 and Maurice Obsfeld and Kenneth Rogoff, "Global Current Account Imbalances and the Exchange Rate Adjustment, *Brookings Papers on Economic Activity 1*, May 2005, pp. 67-123.

sensitive sectors. Stabilizing domestic economic activity, however, may call for lowering interest rates, at the risk of intensifying the dollar's depreciation.

Global Imbalances, the Dollar, and Economic Policy

The dollar's exchange rate is only a symptom of more fundamental economic forces, particularly those that influence the demand for and supply of assets on the international financial markets. Currently, an examination of those forces highlights a large and potentially destabilizing imbalance in the global economy: in the United States persistent large trade deficits and the accumulation of foreign debt, and in the rest of the world large trade surpluses, weak domestic demand, and the accumulation of dollar denominated assets. Most economists would argue that this is a condition that carries more than a negligible risk of generating financial instability and global recession.

A commonly asked policy question is how to facilitate an orderly correction of these imbalances that assures more stable exchange rates and leaves all the involved economies on sounder macroeconomic footing. Mainstream economic thinking[27] suggests that this adjustment can be achieved by a coordinated international policy response, some salient elements of which are likely to be

- raising the U.S. national saving rate and reducing its trade deficit to a "sustainable" size;
- generating faster economic growth in Japan and Europe propelled primarily by domestic spending rather than net exports;
- fostering a recovery of domestic investment and reducing the outflow of domestic saving in Asia (excluding Japan and China) and the oil-exporting economies; and
- having China and other surplus economies that fix their exchange rates to the dollar allow their currencies to appreciate and channel more of their savings into domestic spending.

Over the long run, three fundamental factors will likely continue to support the international demand for the dollar. First, the basic economic performance of the U.S. economy as measured by GDP growth, productivity advance, and pace of innovation has for the past 25 years been superior to that of Japan and the major euro area economies.[28] Second, the Fed is widely seen as a credible manager of monetary policy and has a strong record of maintaining macroeconomic stability. And last, the large

---

[27] See for example: IMF "How Can Existing Global Current Account Imbalances be Reduced", *World Economic Outlook* (Washington: September 2005) pp. 110-116 and IMF "IMF Sees Global Imbalances Narrowing, But More Needs to Be Done", *IMF Survey Magazine*, February 19, 2008.

[28] The World Economic Forum in its 2008 *Global Competitiveness Report* ranks the United States as the most competitive economy in the world. The United States has been at or near the top of this ranking since it began in 1979.

and highly liquid U.S. asset markets will likely continue to be an attractive destination for foreign investors. Therefore, policies that enhance or degrade any of these three attributes of the U.S. economy will accordingly tend to strengthen or weaken the dollar's long-term path.