

September 1998

The U.S. Trillion Dollar Debt to Foreign Central Banks
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The dollar-based managed exchange rate system of the past quarter century is approaching a substantial transformation in management stemming from three major developments during the 1990s. The first development is the accelerated pace of economic globalization -- the deepening dependency of national economies on international markets -- and the highly uneven adjustment of national economies to the new globalization realities. The second is the decision of a number of European nations to form a European Monetary Union (EMU) with a single currency -- the euro -- and thus to shift the single key currency dollar system toward some form of dual key currency relationship, probably with a subsidiary role for the yen as well. And third, a cloud continues to grow over the dollar as the United States runs a chronically large and growing current account deficit, which is mainly responsible for converting the United States from a \$350 billion net creditor nation in 1980 to \$1.2 trillion dollar net debtor in 1997.¹

These three developments are interrelated in many ways, and this essay focuses on one specific element of recent change that has had considerable impact on these interrelationships and yet has received relatively little attention, namely the much higher level of dollar purchases by central banks as international reserve holdings during the 1990s. Such official dollar holdings increased moderately from \$286 billion in 1980 to \$487 billion in 1990 and then surged to \$947 billion by 1996. This essay examines this recent dollar reserve purchasing phenomenon in terms of the motivating factors, the likely impact on the U.S. current account deficit, prospective changes in the pattern of reserve holdings from the formation of the EMU, and some comments about the appropriate policy response.

Motivating Factors: The Temptation to Buy Dollars

The sharp increase in dollar purchases by central banks during the 1990s is shown in Table 1. The average annual purchase more than tripled from \$23 billion in the 1980s to \$77 billion during 1990-96. Total official dollar holdings increased by \$461 billion from 1990 to 1996, which amounted to 82 percent of the increase in the overall U.S. net foreign debt (\$561 billion). Even more relevant for the international financial system, the \$461 billion of official dollar purchases equated to 90 percent of the U.S. current account deficit during these years (\$515 billion), thus exerting substantial upward pressure on the dollar exchange rate and a time-lagged increase in the U.S. trade deficit. The share of dollars in total foreign exchange holdings also increased steadily from 58 percent in 1990 to 64 percent in 1996.² The official purchase of dollars leveled off in 1997 and early 1998, related to the Asian financial crisis, but this is likely to be a temporary lull, as explained below.

The reasons for this surge in official dollar purchases derive from the parallel acceleration in economic globalization driven by the rapid pace of technological innovation, the internationalization of corporate production and marketing strategies, and the accommodation of

open trade policies by almost all governments. This accelerated pace of globalization is shown in Table 2. Trade has been growing almost three times as fast as global GDP since 1984 compared with only half this rate in earlier years. Similarly, foreign direct investment as a percentage of global GDP has doubled since the late 1980s. The other items listed in Table 2 are proxies for a corresponding and even more rapid increase in international technology transfer and financial and telecommunications services.

This accelerated pace of globalization produced two motivations for the sharp increase in official dollar purchases. The first is an inherent increase in central bank judgments as to what is a "prudent" level of reserve holdings. The traditional measure of prudent reserves based on import levels is of limited analytic significance today, but the IMF and other observers continue to relate reserve adequacy to imports, and when global import levels doubled between 1988 and 1996, prudent reserves on this basis doubled as well. Moreover, to the extent that recent exchange rate movements have been driven mainly by capital flows, and that this should be factored into a judgment about a prudent level of reserves, the implied increase in reserve levels during the 1990s would be even higher. This extrapolation obviously overstates actual recent behavior by central banks, but in any event prudent reserve levels, however targeted, have been rising faster since the late 1980s than in previous decades.

The second motivation for the accelerated official purchase of dollars in the 1990s is a "mercantilist motivation" evoked by the highly uneven responses of principal trading nations to the often politically difficult and economically painful adjustments to national economies necessitated by the globalization process. The United States is far out in front of other countries with respect to technological innovation, internationalization of corporate strategies, and accommodating policies of free trade and deregulation. As a result, the United States has been enjoying high growth and full employment, even while running a chronically large trade deficit -- a path of domestic-led growth. Most major trading partners, in contrast, have been much slower in opening their economies to international competition and tend to rely on export-led growth to offset lagging performance in the domestic economy. High rates of unemployment in Europe, very low to zero growth in Japan, and the explicit export-led growth strategies of many emerging market economies in Asia, Latin America, and Central Europe are all examples of where the maintenance of a trade surplus -- or at least the avoidance of slipping into a sustained trade deficit position -- are fundamental to satisfactory overall economic performance. This asymmetry in national responses to globalization can lead central banks in nations with export-led growth strategies, especially when they are in current account surplus situations, to buy up dollars rather than to allow their exchange rates to appreciate and thus dampen the export growth that is so critical to overall economic performance. The United States, in response, has generally viewed the resulting strong dollar in a positive light, as a restraining influence on inflation and interest rates, while viewing the consequent (and time-lagged) increase in the trade deficit as of less concern in an already full employment economy.

The most glaring examples of such mercantilist-motivated official dollar purchases -- with U.S. acquiescence -- are Japan and China, as shown in Table 3. From 1992 until 1997, official dollar holdings are estimated to have increased by \$139 billion for Japan and \$91 billion

for China, even while both countries maintained current account surpluses and reserve levels at overly prudent levels of 65 percent and 101 percent of annual imports, respectively, in 1997.

The accelerated growth in official purchases of dollars -- \$100 billion or more annually in 1994-96 -- leveled off in 1997 and early 1998, principally as a result of the Asian financial crisis, and was at about the same level in March 1998 (\$943 billion) as at the end of 1996 (\$947 billion). Indonesia, South Korea, and Thailand reduced foreign currency reserves by \$22 billion, while Japanese reserves leveled off. Private capital flows out of rather than into Asia caused a sharp depreciation of most East Asian currencies, and thus there was no need for mercantilist-motivated dollar purchases except for China, which became even less disposed to see its currency appreciate as competing Asian exporters depreciated their currencies.

However, to the extent that East Asian economic growth recovers by late 1998 and 1999, based on the depreciated currencies and even more export-oriented growth strategies, the temptation of central banks to buy dollars to avoid an excessive strengthening of their currencies will likely reemerge, perhaps with a vengeance, and the U.S. debt to foreign central banks is predicted here to pass the trillion dollar mark in 1999. This temptation would arise especially in Asian economies where a renewed inflow of private capital added to upward pressures on currencies. In the case of Japan, the "J-curve"-delayed rise in the trade surplus from the weakened yen in late 1997 and early 1998 could present the Bank of Japan with the familiar dilemma of either allowing the yen to rise sharply or buying more dollars.

In June 1997, Japanese Prime Minister Ryutaro Hashimoto commented about "the temptation to sell off U.S. Treasury bills" and the Dow plunged 192 points, but Mr. Hashimoto was bluffing and the stock market quickly recovered. Looking ahead, beyond the short-term lull in official dollar purchases from the Asian financial crisis, the general temptation will be for central banks to buy rather than sell dollars because of the globalization-induced motivations described here, and the result of such purchases would be a stronger dollar and still higher U.S. current account deficits. The accumulation of official dollar holdings by foreign central banks is, of course, only one factor influencing the projected rise in the U.S. current account deficit, but for the purposes of this essay a central question is, How important a factor is it?

The Impact on the U.S. Current Account

The accelerated official purchases of dollars during the 1990s have clearly resulted in a stronger dollar and thus a larger U.S. current account deficit. There is no technical basis, however, for making a precise estimate of how much of the total deficit can be attributed to the official dollar purchases. The best answer that can be offered is a partial one, an estimate of the range of impact, and a judgment based on presumptive evidence.

The negative impact of official dollar purchases on the U.S. current account has two distinct parts. The first consists of the additional annual interest payments to foreign central banks, which are direct and quantifiable. The extra \$460 billion of central bank holdings accumulated between 1990 and 1996, invested mostly in U.S. Treasury securities paying 5 to 6

percent interest, imply roughly \$25 billion of additional annual debt service payments and a corresponding increase in the U.S. current account deficit.

The second part consists of the indirect effect, whereby the dollar purchases first drive up the value of the dollar, which in turn leads to a deterioration of the trade account. The latter exchange rate effect on the trade balance was subject to considerable econometric testing during the 1980s. The response of the U.S. current account to a 20 percent change in the dollar exchange rate was estimated to be about 1.5 percent of GDP, or \$120 billion per year at the 1997 level of GDP.³ This exchange rate effect, however, operates with a considerable time lag, as exporters adjust prices and market strategies, with most of the trade impact coming in the second, third, and fourth years after the exchange rate adjustment. Unfortunately, there are no comparable estimates for the degree to which official dollar purchases cause the initial appreciation of the dollar, although econometric investigation of this relationship should be more feasible as a result of the experience of the 1990s.

The dollar did in fact appreciate by about 20 percent from 1995 to 1997, and the question addressed here is how much of the 20 percent can be attributed to the "exogenous" central bank dollar purchases as distinct from other market forces. The starting point is that 90 percent of dollars accumulated abroad from the current account deficit during 1990-96 were taken off the market through such purchases, a presumptive indicator that the dollar purchases were an important factor. Another presumptive indicator is that U.S. foreign direct investment, after recording a net inflow in the late 1980s, returned to a net outflow position in the 1990s, implying a downward rather than upward pressure on the dollar. Still another consideration is that the "twin deficit" explanation of the 1980s, whereby the federal budget deficit caused much of the trade deficit, became less applicable as the deficit declined.

On the basis of these presumptive indicators, a reasonable range for the exchange rate impact from the official dollar purchases could be from 5 percent to 10 percent to all of the 20 percent appreciation during 1995-97, which with a two- to four-year time lag, would equate roughly to a deterioration in the U.S. current account of \$30 billion, \$60 billion, and \$120 billion per year, respectively, by 1997-99. The judgment made here is that the impact is likely to be significantly above the bottom 5 percent level of the range and probably up to the 10 percent level or higher.

Finally, combining the additional interest payments with the exchange rate effects, the overall negative impact on the U.S. current account from official dollar purchases would range from \$55 billion to \$145 billion, or from more than a third to almost all of the current account deficit of \$155 billion in 1997. The corresponding judgment made here would be that half or more of the current account deficit in the late 1990s is being caused by the very high level of official dollar purchases during the early and mid-1990s. Whether this causal relationship will continue beyond 2000, however, is open to important questions, particularly related to the formation of the EMU.

From a Dollar to a Dual or Trial Key Currency System

The two globalization-related motivations for increased holdings of foreign exchange reserves -- a higher perceived level of prudent reserves and the mercantilist motivation -- will probably continue beyond 2000, but it is less clear whether these official reserve purchases will be as preponderantly in dollars as was the upward trend during the 1990s. The launching of the EMU and the euro, plus a series of "little bangs" to open the Tokyo financial markets, could lead to a more balanced relationship in foreign exchange holdings and thus a reduction in the upward impact on the U.S. external debt and current account deficit described in the previous sections. The launching of the EMU, however, will trigger various reactions, and the net impact is highly uncertain.

There will be a tendency in the private sector to shift from dollar to euro-based financial assets within Europe and adjacent trading regions, in particular, which would put downward pressure on the dollar, but opinions vary widely as to amount and timing.⁴ Foreign exchange holdings by central banks will undergo a fundamental change in 2002 when the euro replaces EMU-member national currencies as official reserve holdings. Ironically, the immediate effect will be to raise sharply the share of total foreign exchange holdings in dollars, since EMU members -- currently the largest holders of nondollar European reserve currencies -- will suddenly be holding a much higher share of dollar reserves because the European Central Bank (ECB) will not be able to hold its own currency -- the euro -- as foreign exchange reserves. Thus, at the outset of an emerging dual (or triad with the yen) key currency relationship, reserve holdings by the three principal currency central banks will be highly asymmetrical. The EMU and Japan will hold the very large majority of their reserves in dollars, whereas the United States will continue to hold the bulk of its international reserves in gold.

Another initial effect of the formation of the EMU will be to create a situation of excessive reserve holdings by the ECB, assuming the aggregate member-state reserve holdings prior to monetary union were "prudent." About two thirds of EMU member international trade will become domestic commerce (the precise figure influenced significantly by the status of the United Kingdom), whereas over half of foreign exchange reserves, before monetary union, were in dollars and other non-EMU currencies. The presumptive response by the ECB would be an orderly sell-off of excessive reserves, which would put further downward pressure on the dollar.

Big questions, however, remain as to what central banks actually will do in the new situation. There should be a general tendency for central banks to shift to more balanced foreign exchange holdings, meaning a smaller share of dollars, which with the likely similar pattern in the private sector could lead to considerable downward pressure on the dollar. The biggest question of reserve-holding policy will be faced by the ECB. Internal domestic objectives of sustained growth and reduced unemployment, with likely imbalances developing among member-states during initial monetary union, will be constrained by the new ECB dedicated to price stability *über alles*. Under such circumstances, shifts out of the dollar into the euro, in the private sector and by other central banks, not to mention a presumptive sell-off of excessive dollar reserves by the ECB, would all tend to strengthen the euro and weaken the dollar along with the EMU trade account, an unwelcome development on the domestic front. Indeed, if the internal EMU economy were to turn sluggish, the strong ECB temptation would be to buy rather than to sell dollars.⁵

Overarching these various questions is the growing cloud over the dollar, as noted in the opening paragraph, from the rise in the U.S. net debtor position to \$1.2 trillion in 1997 and heading toward \$2 trillion by about the time the EMU and the euro come fully into play. The composition of this growing debt position, on the debit side, includes the trillion dollars in U.S. Treasury securities held by central banks, of particular interest here, as well as another trillion dollars of Treasury securities in private hands abroad and a wide range of other foreign-held dollar-denominated financial assets. Early in the coming decade, however, as explained above, there is a strong expectation of a central bank and private sector shift out of dollar-denominated financial assets, largely as a result of the formation of the EMU. Such an anticipated shift and consequent downward pressures on the dollar exchange rate, together with a continually growing U.S. external debt, could stimulate further speculative movements out of the dollar and even stronger downward pressures on it. Under such circumstances, there would be clear mutual interest among key central banks not to see a disruptive drop in the value of the dollar, especially for those economies still heavily dependent on export-led growth, but what would be the appropriate policy response?

The Policy Response

The policy challenge that flows from all of the foregoing is, in effect, a systemic dilemma for the long-standing dollar-based, managed flexible exchange rate system. The chronic U.S. current account deficit and foreign debt accumulation, driven during the 1990s largely if not primarily by central bank purchases of dollars, will likely continue if not accelerate over the next several years, and then be confronted by a new situation in which one or two other key currencies will play larger roles so as to shift the balance of supply and demand for dollar-denominated financial assets against the dollar.

The policy response to this challenge may or may not lead to substantial change in the current order of international financial relationships wherein the multilateral IMF focuses on short-term financial crises in developing economies while the principal currency nations, defined from G-3 to G-7, manage a flexible exchange rate relationship based on exhortation and highly asymmetrical central bank intervention whereby the United States sits passively on its inoperable gold reserves while the others buy and sell mostly dollars to maintain ill-defined exchange rate targets or bands. This core key currency relationship will at a minimum polarize into a reconstituted G-3 with the creation of the EMU.

There are some immediate technical steps that can be taken to understand better what is evolving in central bank behavior, just as the IMF is pressing for greater transparency in the private banking sectors of troubled economies. The composition of central bank holdings of foreign exchange reserves could be made publicly available, at least for dollars and other key currencies.⁶ A consultation process could be activated within the IMF for members displaying the prima facie characteristics of mercantilist-motivated reserve accumulation, namely, increasing reserves when in sustained current account surplus and with an exceptionally high ratio of official reserves to imports or some other benchmark.

A central question, however, which should largely determine the substantive policy response, is whether it is in the interest of the international financial system for the United States to continue to run large if not growing current account deficits. And more narrowly defined, because what the United States does will be critical to the future course of the system, is it in the U.S. interest to continue such large current account deficits?

It is extraordinary how neglected or diverse the answers are to these fundamental questions. There has been little international discussion of the subject, while in the United States some leaders and experts claim that a large external deficit is a net benefit for the United States, others believe that it has a negative impact, and still others view it as of little significance one way or the other.⁷ There are four largely independent reasons, however, which lead to the conclusion that continued large current account deficits could have substantial adverse impact on U.S. interests:

1. Interest payments on the debt. The net external U.S. debt is rising toward \$2 trillion by early in the next decade, which at 7 percent interest would equate to \$140 billion per year in debt servicing, or about 1.5 percent of GDP, a significant cost for Americans now and in the future.

2. Protectionist backlash. A rising U.S. trade deficit will increase protectionist pressures which, however irrational, can have an adverse impact on the overall international economic system.

3. Market volatility against the dollar. The likelihood of a disruptive shift out of dollars by foreign holders of dollar-denominated financial assets grows as the volume of such assets increases rapidly and apparently without end. The launching of the euro could generate additional speculative incentives to move in this direction.

4. Foreign government leverage against the United States. During the 1990s, central banks have been tempted to buy rather than sell dollars, but this macroeconomic-based situation could change, in conjunction with a speculative run out of dollars as in (3), whereby some other governments with large dollar holdings -- China, for example -- could threaten the sale of official dollar holdings as leverage for foreign policy or other objectives.

Whether continued large U.S. current account deficits are in the interest of other nations and the international financial system as a whole is less clear. Reasons one and four above could be to the advantage of other nations, although reasons two and three should be a negative for all and could be of overriding importance.

To reduce or eliminate the chronic U.S. current account deficit, there are three possible elements of a policy response. The first is macro-policy adjustment in other countries to achieve more balanced, less-export-led growth, although recent experience in Japan and elsewhere is not encouraging for the short- to medium-term. The second is for the United States to increase its internal savings rate, which is more promising in view of the elimination of the federal budget deficit and rapid growth of contribution-based retirement accounts. The third would be a

managed transition to a more balanced structure of foreign exchange holdings by central banks, including disciplines to limit mercantilist-motivated reserve accumulation.

The concluding prediction is that the third element of the policy response -- a more balanced and disciplined structure for foreign exchange holdings -- will become an important and probably contentious issue during the first decade of the new millennium. The lack of response on element one (macro-adjustments by Japan, et al.) and a more favorable response on element two (higher U.S. savings) would exert conflicting pressures on the U.S. trade deficit and increase the temptation for some central banks to buy dollars. In response, governments, and the U.S. government most of all, would need to confront the question of the appropriate level and composition of official foreign exchange holdings. Perhaps in the process, the operative adjective will be upgraded from self-assessed "prudent" to mutually defined "permissive."

Endnotes

1. The rise in the net external debt is closely related to the size of the current account deficit, although other factors also influence the debt level. As shown in Table 1, the change in the U.S. net external credit/debit position and the cumulative current account deficits were almost identical over the period 1980-97 -- \$1.57 trillion versus \$1.59 trillion, respectively. On capital accounts, U.S. foreign direct investment shifted from net outflow to net inflow to net outflow again during the period, while other capital flows, more prone to cyclical movements, evidently balanced out to a large extent as well.
2. The percentage figures cited include ECU-dollar swaps. Without them, the share of dollar holdings rises even more sharply from 49 percent to 60 percent. The dollar percentages declined in 1997, however, to 61 percent including ECU-dollar swaps and 57 without the swaps, probably reflecting the Asian financial crisis because Asian nations hold especially large shares of dollars.
3. The analytic work is summed up in Paul R. Krugman, Has the Adjustment Process Worked?, (IIE, 1991), and the estimated trade effects cited in the text are taken from Krugman's summary result, pp. 9-10.
4. For example, Fred Bergsten in "The Dollar and the Euro," (Foreign Affairs, July-August 1997) estimates a potential diversification range of \$500 billion to \$1 trillion, including a drawdown of official dollar reserves. Others anticipate a considerably more modest outcome or even a smaller euro role at the outset of the EMU. See C. Randall Henning, Cooperating with Europe's Monetary Union (IIE, May 1997), who concludes "the new European currency will probably grow into this [major international] role only gradually over time. There will be no precipitous displacement of the dollar by the euro at the outset of EMU" (p. 14).
5. Another complicating factor is that the euro is likely to be undervalued vis-à-vis the dollar at the outset. See Simon Wren-Lewis and Rebecca Driver, Real Exchange Rates for the Year 2000 (IIE, 1998).
6. Currently, the IMF provides a dollar share of global foreign exchange holdings in September, eight months after the fact. Neither the IMF nor the U.S. Treasury provides a country breakdown for dollar or other currency holdings.
7. The issue of whether a current account deficit is good or bad for the United States was raised during the 1980s, and a definitive response in the affirmative was provided by Herbert Stein: "The U.S. has a trade deficit because people in the rest of the world invest their savings here. As a result of the capital flow. . .the stock of productive capital in the U.S. is. . .higher than it would otherwise have been...This inflow of capital has been mainly of benefit to American workers who as a result of it worked with a larger capital stock and have higher productivity and real incomes." ("Don't Worry about the Trade Deficit," The Wall Street Journal, May 16, 1989). Questions could have been raised about this market-perfect beneficial result for the U.S. economy, such as whether the capital inflow actually led to additional productive investment, but the majority of experts in the 1980s did not rise to the Stein challenge, and although they

admitted there was merit to his argument, they largely evaded the issue by concluding that in any event if the U.S. trade deficit became too large, irrational protectionist forces would carry the political day and that was reason enough to reduce the trade deficit. The debate has not progressed much since then, although in the 1990s, with the U.S. trade deficit caused largely if not mostly by exogenous purchases of dollars by foreign central banks rather than by a domestic savings gap, the market-based beneficial result is even more open to question.