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U.S. Dependence on Foreign Saving

by Gerald H. Anderson and John B. Carlson

Earlier this year, foreign central banks made very substantial purchases of U.S. securities. They did so with some of the proceeds of their massive intervention in the foreign-exchange market, involving purchases of the dollar intended to prevent its depreciation. In the same period, private international investors sharply reduced their net new investment in U.S. financial markets.

Foreign private investors had been investing large amounts in the United States since mid-1982.[1] Through the end of last year, they had placed an average of $22.6 billion per quarter in this country. But an estimate suggests that amount dropped by nearly half in February-April 1987.[2]

The recent shift in foreign investment behavior raises important questions concerning the durability of inflows of foreign private saving. Could these inflows of foreign private saving dry up? Why did central banks intervene in foreign-exchange markets? What would have happened if they had not intervened? Answers to these questions have important implications for the cost and availability of credit and, in turn, for the well-being of the U.S. economy.

This *Economic Commentary* explains how the flow of foreign saving into the United States is determined and how international portfolio holders, private and official, determine the terms at which saving is obtained. We also identify factors that made private international portfolio holders willing to acquire dollar assets at terms consistent with vigorous U.S. economic growth in the early part of the current expansion. Finally, we examine the basis of concerns about the continued willingness of private portfolio holders to purchase dollar assets at terms consistent with the well-being of the U.S. economy.

The Determination of Foreign Saving Inflow and Its Terms

Foreign saving—a net capital inflow—arises when a country spends more than its income.[3] More precisely, it arises to finance the excess of aggregate domestic spending (E), including government expenditures, over national income (Y). The national income accounting (NIA) framework shows that the excess spending (E-Y), in turn, must equal an excess of imports over exports (M-X), that is, a trade deficit of the same amount. In other words, the excess of goods and services purchased by domestic spenders over goods and services produced domestically must be acquired through foreign trade and must be financed by an equal amount of foreign saving.

In this sense, foreign saving is the *sine qua non* of a trade deficit. Factors that generate an excess of imports over exports generate an equal inflow of foreign saving. In fact, both are determined within the general equilibrium process of price and income determination by the fundamental forces that lead a country to spend more than it earns.

Defining foreign saving as a net capital inflow implies an increase in the difference between foreign claims on the United States and U.S. claims on the rest of the world. Though we normally think of foreign saving as an increase in foreign ownership of dollar assets, it need not be. Foreign saving may result from a reduction in U.S. ownership of foreign assets. Regardless, international portfolio holders finance a country's excess spending by adjusting their portfolios to hold the change in net external claims.

The coordination between the need for external financing and the means of such financing involves a simultaneous interaction between goods markets, where trade flows are determined, and asset markets, where changes in private portfolio holdings are determined. An important empirical characteristic of the coordination process is that trade flows adjust rather slowly to international economic conditions. Thus, the flow of foreign saving itself adjusts slowly to international economic conditions.

Because the willingness of private international portfolio holders to finance a nation's trade deficit may change substantially in the short run, such changes will be largely reflected in the terms that are important to

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1. The net inflow of private capital to the United States is the result of investment decisions by U.S. as well as foreign investors, and is the inflow of foreign private capital, less the outflow of U.S. private capital. The term "foreign private investors" is used for convenience of exposition and because the inflows have been much larger than the outflows. The net inflow of private capital is calculated here as the U.S. current-account deficit, minus the increase in foreign official assets in the United States, plus the increase in U.S. official reserve and government assets abroad. This method counts the statistical discrepancy in the balance-of-payments accounts as a private capital flow.

2. Our estimate was made as follows: The current-account deficit was $37.12 billion in the first quarter of 1987. Because the current account changes rather slowly, we assume the deficit was the same in February-April 1987. We estimate official capital inflow in February-April 1987 to be $24.63 billion, from tables 3.12 and

these holders—relative interest rates and exchange rates—rather than in the size of the saving flow. For example, if international portfolio holders sought to shift substantial amounts of their holdings away from dollar assets toward claims on the rest of the world, there would be two potential effects. First, reduced demand for dollar assets would imply a reduced demand for dollars in foreign-exchange markets. Other things being equal, this would put downward pressure on the dollar's exchange rate. While dollar depreciation would also tend to reduce the trade deficit, as we have noted, such an effect occurs rather slowly.[4]

Second, reduced demand for dollar assets would tend to reduce the price of assets and raise the level of interest rates in the United States relative to interest rates abroad. The key implication is that factors that affect domestic and foreign investors' willingness to finance the trade deficit have a much greater effect on the terms of financing than on the size of foreign saving in the short run.[5]

Increasing Dependence on Foreign Saving

Since about 1981, the United States has become increasingly dependent on foreign saving (chart 1, bottom panel).[6] Increased dependence on foreign capital is largely attributable to two factors: the recent decline in the U.S. domestic saving rate and the recent increase in, and persistence of, U.S. budget deficits. To understand the roles of these factors, it is useful to recognize some additional constraints imposed by the NIA framework. The definition of saving allows us to break down excess spending (E-Y) into two components: the difference between private investment and domestic saving (I-S), plus the difference between federal government expenditures and taxes (G-T).[7] Given that excess spending must be the same as foreign saving (FS), then FS = (I-S) + (G-T).

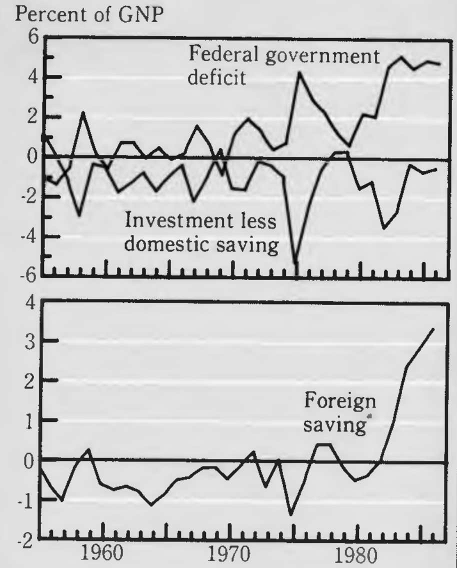
Thus, foreign saving must be equal to the difference between investment and domestic saving, plus the federal budget deficit. This relationship imposes requirements on the various components. For example, when the domestic saving rate declines, as it has since 1982, increases in budget deficits relative to output must be met by a decline in the share of output devoted to private domestic investment or by an increase in the foreign saving rate.

Other than the consistency they impose, accounting identities imply nothing about underlying behavior. Thus, one cannot determine from the identities alone whether one sectoral imbalance (e.g., governmental) implies another (e.g., foreign trade). The channels of influence are identifiable only when auxiliary assumptions are made.

For example, a common view around 1982 was that persistently large U.S. budget deficits would lead to higher interest rates as the U.S. economy approached full employment growth, and would ultimately crowd out private domestic investment. In this view, neither domestic nor foreign saving was presumed to be sufficiently responsive to world financial market conditions to avoid a substantial reduction in domestic investment.

An alternative view, first advanced by economist Robert Mundell, essentially is that foreign capital is sufficiently mobile to compensate for any shortfall in domestic saving. A net inflow of capital would be induced by the upward pressures on U.S. interest rates and, hence, on perceived real returns on dollar assets relative to assets denominated in other currencies. The willingness of portfolio holders to respond strongly to changes in perceived real interest rate differentials would dampen the rise in U.S. interest rates and would thereby moderate the effects on domestic investment. In the process of switching to dollar assets, portfolio holders would bid up the dollar's exchange rate. Dollar appreciation would, in turn, raise the price of goods produced in the United States relative to goods produced in other countries and would generate the trade deficit consistent with the foreign saving inflow.

Chart 1 Investment Less Domestic Saving, Federal Deficit, and Foreign Saving



Note: Foreign saving is measured as the current-account balance with the sign reversed.

SOURCE: U.S. Department of Commerce.

Before the 1980s, the evidence appeared to favor the first view, that budget deficits would crowd out investment. Throughout most of the postwar period, federal budget deficits tended to be the mirror image of the difference between private domestic investment and domestic saving (chart 1, top panel).[8] In cyclical contractions, budget deficits increased, reflecting declining tax revenues and increasing expenditures on income maintenance programs. Both investment and consumption declined relative to income, so that the difference between domestic investment and saving widened as the deficit increased. In economic expansions, deficits shrank while investment and consumption increased relative to income, so that the difference between investment and saving narrowed.

3.15 in the *Federal Reserve Bulletin,* vol. 73, no. 8 (August 1987). We subtracted official capital inflow from the current-account deficit to obtain our $12.49 billion estimate of private capital inflow in February-April 1987.

3. The term "foreign saving" is used in this *Economic Commentary* to mean the net inflow of foreign capital to the United States.

4. See, for example, Gerald H. Anderson and John B. Carlson, "Does Dollar Depreciation Matter: The Case of Auto Imports from Japan," *Economic Commentary,* Federal Reserve Bank of Cleveland, May 1, 1987.

5. More precisely, the current-account deficit, rather than the trade deficit, is financed by foreign investors. The difference between the two is of no consequence in the analysis presented here, so for ease of exposition we continue to refer to the trade deficit.

6. Foreign saving is measured here as the current-account balance with the sign reversed. Thus, it includes measured net capital inflow plus the statistical discrepancy in the balance-of-payments accounts. This measure differs only slightly from net foreign investment in the National Income and Product Accounts, which is another name for foreign saving. This slight difference does not affect our analysis.

The cyclical patterns appeared to support the first view because investment tended to decrease when budget deficits increased, while foreign saving seemed to be unaffected. The budget deficits during this period, however, might not have been persistently large enough to provide a basis for discriminating between the two views of the effects of budget deficits.

After 1982, budget deficits averaged about 5 percent of GNP, compared with 2.4 percent in the 1970s and less than 1 percent in the 1960s. Moreover, the domestic saving rate decreased from 18.0 percent in 1981 to 16.2 percent in 1986. Nonetheless, private investment increased, supported by an enlarged inflow of foreign saving. The strength of investment—particularly in the earlier stages of the recovery—and the appreciating dollar suggest that the Mundell view was correct.

On the other hand, estimates of real U.S. interest rates suggest that rates rose sharply and stayed high through 1984. Moreover, real interest rate differentials also increased in favor of dollar assets.[9] To many analysts, real interest rates in the United States seemed too high to be consistent with the strong economic recovery, particularly the strong investment boom in 1983-1984. The administration reasoned, however, that the Economic Recovery and Tax Act of 1981, together with disinflation, significantly raised the after-tax real rate of return on new business investment. This increase in the real rate of return on new capital assets spilled over into markets competing for dollar assets and, in the context of unchanged monetary policy, raised their yields.

Because these interest rate increases were caused by an increase in demand for U.S. real capital assets, rather than just an increased supply of Treasury debt, the interest rate increase was not associated with a decline in investment. Thus, it is not clear which of the two views—investment crowding out, or compensating foreign capital—would have prevailed in the absence of tax incentives for investment.

While it seems clear that foreign capital is more responsive to interest rate differentials than many analysts previously had thought, other factors also may have accounted for the willingness of foreign investors to make up the shortfall in U.S. saving at the terms they did. One important reason was the debt crisis in developing countries that surfaced in 1982, which discouraged international lenders from lending to those countries and encouraged capital flight from those debtor nations to the United States and other havens.

In addition, the Japanese government liberalized its own foreign-exchange laws in December 1980, which enhanced the marketability of U.S. securities in Japan. Japanese net purchases of U.S. securities increased from $0.8 billion in 1982 to $29.9 billion in 1985. Finally, in 1984, the U.S. repealed its 30 percent withholding tax on interest paid to foreign residents, further enhancing foreign demand for U.S. securities.

To the extent these factors increased the demand for dollar assets, they helped to keep U.S. interest rates below what they would have been and to drive the dollar's exchange rate higher. Moreover, to the extent these factors can change, there is a risk that foreign investors will begin to demand even greater returns on their investments than have recently prevailed.

How long foreign lenders will continue to lend at present terms may be less important than a pressing problem that reflects the counterpart to foreign saving: the trade deficit. While large budget deficits have not had a discernible adverse effect on domestic investment, they have, through the associated trade deficits, crowded out both exporters and businesses that compete against imports. The strain in these sectors has led to the most serious threats of protectionism since the Great Depression.

Reducing Dependence on Foreign Saving

Senior officials of the Group of Five nations (France, West Germany, Japan, the United Kingdom, and the United States) recognized that the large U.S. external imbalance could lead to damaging protectionist actions by the United States. Following its meeting in September 1985, the Group of Five stated in its Plaza Accord that protectionism here "...could lead to mutually destructive retaliation with serious damage to the world economy..."[10]

Protectionism can damage the world economy by interfering with the gains from international trade and by raising prices. To reduce the U.S. external imbalance, the Group agreed on the need to reduce the U.S. budget deficit, to encourage orderly depreciation of the dollar, and to encourage spending growth in U.S. trading partner countries.[11] Together, these actions would tend to reduce excess spending in the United States and excess saving abroad, as well as reduce trade imbalances.

Following the Plaza Accord, the dollar continued the depreciation that began in February 1985. By February 1987, the dollar had fallen to a level that officials of major nations agreed was low enough. They agreed that their currencies were then "...within ranges broadly consistent with underlying economic fundamentals..."[12] Although the nominal trade deficit had shrunk only slightly, the real trade imbalance was beginning to show solid progress, which was augmenting economic growth in the United States and tending to diminish growth in West Germany and Japan. The officials agreed that "further substantial exchange rate shifts among their currencies could damage growth and adjustment prospects in their countries."[13]

7. Domestic saving is defined here and in chart 1 as nonfederal domestic saving, which includes private saving, gross business saving, and the budget surplus of state and local governments.

8. For a more detailed discussion, see *Economic Report of the President,* January 1987, U.S. Government Printing Office, Washington, D.C., pp. 109-111.

9. For estimates of real interest rates and their role in the dollar's appreciation, see Owen F. Humpage and Nicholas V. Karamouzis, "The Dollar in the Eighties," *Economic Commentary,* Federal Reserve Bank of Cleveland, September 1, 1985.

10. See "Group of Five's Communique on Coordination of Economic Policies and Steps to Be Taken Leading to Dollar Depreciation, Released Sept. 22, 1985: Announcement of the Ministers of Finance and Central Bank Governors of France, Germany, Japan, the United Kingdom, and the United States," *Daily Report for Executives,* The Bureau of National Affairs, Washington, D.C., September 24, 1985, pp. M1-M3.

11. A factor contributing to the trade deficit was that the economies of several other major nations had been growing more slowly than that of the United States.

12. See "Text of the Communique Issued by the Ministers of Finance and Central Bank Governors of Six Major Industrialized Countries Following Their Meeting in Paris on 2/22/87," Bank for International Settlements, *BIS Review,* no. 37, February 23, 1987.

13. Ibid.

The February-April 1987 Episode

When the dollar started to decline again late in March 1987, officials apparently feared that it was falling too far. Excessive decline risked recession abroad and additional inflationary pressures in the United States. Officials of the major nations had "...agreed to cooperate closely to foster stability of exchange rates around current levels."[14] Consequently, major nations' central banks began intervening in foreign-exchange markets, buying dollars to resist the depreciation.

Central-bank-intervention purchases of dollars typically result in an official capital inflow to the United States—a form of foreign saving. Because total foreign saving—private and official—can change no more rapidly than the typically slow change in the trade deficit, a sharp increase in official foreign saving must be accompanied by an equally sharp decrease in private foreign saving. The volume of the intervention in this episode was extremely large and, when measured relative to the size of the U.S. economy, is among the largest for any three-month period.

The possibility that there had been a sudden, large decline in private foreign saving raised concerns about the continued willingness of private portfolio holders to acquire dollar assets. Of course, if central banks had not intervened, exchange rates and interest rates would have changed enough to attract the amount of foreign private saving necessary to finance the trade deficit. The real question is whether that saving would have come on terms compatible with domestic investment of an amount sufficient for continued growth of the U.S. economy.

We don't know what caused private portfolio holders to seek more favorable terms. A reasonable conjecture is that rising prices of U.S. imports increased investors' fears that inflation in the United States would accelerate. Another possibility is that actions and proposals by the administration and Congress that would be adverse to foreign investment in the United States may have frightened foreign investors.[15]

Whatever the cause for private portfolio holders' reluctance to invest in the United States in the February-April period, the terms of investment ultimately adjusted enough to induce private capital inflow to recover. Interest rates rose in the United States and fell abroad, changing interest rate differentials in directions that made dollar assets more attractive. The dollar depreciated somewhat despite the intervention, reducing the potential for future depreciation and making purchases of dollar assets more attractive. Moreover, then-Federal Reserve Chairman Paul Volcker announced at the end of April that the Federal Reserve had tightened monetary policy slightly "in view of the weakness of the dollar on foreign-exchange markets."[16]

14. Ibid.

15. See Alan Murray, "Debtor's Dilemma: U.S. Efforts to Deter Foreign Investors Vie with Need for Capital," *The Wall Street Journal,* Midwest Edition, August 5, 1987, p. 1.

16. See Charles W. Stevens, "Dollar Gains, But Traders Call Its Move Weak," *The Wall Street Journal,* Midwest Edition, May 1, 1987, p. 24.

Conclusions

When viewed from the perspective of the framework we have presented, foreign private funds did not "dry up" during the February-April 1987 episode. Instead, the willingness of foreign private portfolio holders to invest in the United States diminished. When central banks prevented investment terms from changing sufficiently to maintain the inflow of private funds, private portfolio holders, given their diminished willingness to invest, sharply slowed their acquisition of dollar assets. When the investment terms subsequently changed enough, the inflow of private funds recovered. Thus, the important issue in this regard is not the possibility of foreign funds suddenly becoming unavailable, but rather the possibility that they may become available only at interest rates so high that private domestic investment will be crowded out.

The danger of crowding out domestic investment could be reduced in at least three ways. First, the United States could reduce the federal budget deficit and thereby reduce its need for foreign saving. Second, the United States could continue to pursue policies that will prevent the reigniting of inflation or expectations of inflation. Third, the United States could avoid taking actions that discourage foreign investment here. These would be constructive actions, in contrast to protectionism, which would be a destructive response to symptoms caused by excess U.S. spending and resulting dependence on foreign saving.

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