ISSN 0428-1276

ECONOMIC COMMENTARY

The Dollar in the Eighties

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Since mid-1980, the dollar has experienced an unprecedented appreciation in foreign-exchange markets. On a trade-weighted basis, the dollar appreciated 77 percent from its low in mid-1980 to its most recent peak in February 1985.[1] The sharp appreciation of the dollar put U.S. trade-related industries at a competitive disadvantage in world markets and contributed to the record $107 billion trade deficit in 1984. The dollar has since depreciated by approximately 11 percent, but remains high.

The phenomenal appreciation of the dollar was especially puzzling to exchange-market analysts who had widely anticipated a depreciation of the dollar in 1983 and again in 1984. These analysts based their expectations on a limited set of economic variables, such as the growing current-account deficit, which they thought had a strong and consistent influence over movements in the dollar.[2] The expected depreciation of the dollar, however, failed to materialize.

This *Economic Commentary* identifies factors that help explain exchange-rate patterns in recent years and concludes that none of these factors provides a complete or consistent explanation of the behavior of the dollar over this period. This review emphasizes the need to exercise caution when attempting to project exchange-rate trends.

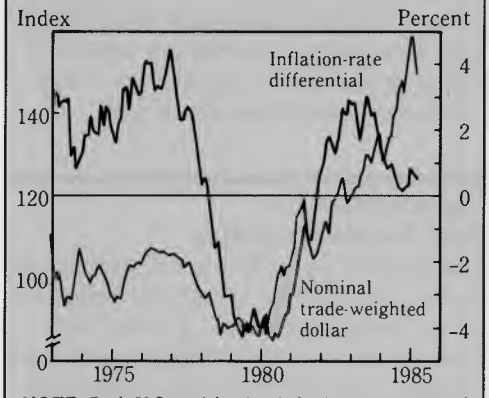
The Dollar and Inflation

In part, the unprecedented appreciation of the dollar since mid-1980 was an adjustment to a slower pace of inflation in the United States as compared to the pace of inflation in most other industrialized countries. If this were the only factor underlying the dollar's movements, the adverse impacts on production and on employment would be quite limited.

According to one theory, exchange rates tend to adjust so that a dollar, after conversion to a foreign-currency equivalent, buys as much in a foreign country as in the United States. The currencies of countries with low rates of inflation should appreciate against the currencies of countries with high rates of inflation. Movements in exchange rates that simply offset inflation-rate differentials among countries are called *nominal* exchange-rate movements. Nominal exchange-rate movements do not alter the international competitive positions of nations and, therefore, do not contribute to a deterioration in a nation's trade balance.

Movements in exchange rates that either exceed or fall short of the adjustments for inflation-rate differentials represent *real* exchange-rate appreciations or depreciations. Real exchange-rate movements alter the relative prices of traded goods among countries and, therefore, can have important influences on real worldwide economic activity.

Chart 1 The Nominal Trade-Weighted Dollar and the Inflation-Rate Differential



NOTE: Both U.S. and foreign inflation are measured by 12-month moving averages of changes in the consumer price indexes. Furthermore, the foreign inflation rate equals a trade-weighted average of inflation in 10 large foreign countries. The inflation-rate differential then is calculated as the foreign inflation rate, minus the domestic inflation rate.
SOURCES: Board of Governors of the Federal Reserve System; and Federal Reserve Bank of Cleveland.

Movements in the trade-weighted dollar do correspond to movements in the differential between the inflation rate in the United States and the trade-weighted inflation rate of our major trading partners (see chart 1). The dollar depreciated sharply between 1977 and 1980, as inflation in the United States accelerated relative to inflation abroad and as international money managers lost confidence in the resolve of U.S. policymakers to adopt and to maintain a credible anti-inflation policy.

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The views stated herein are those of the authors and not necessarily those of the Federal Reserve Bank of Cleveland or of the Board of Governors of the Federal Reserve System.

1. The trade-weighted dollar is an index constructed as the weighted sum of the dollar's exchange value relative to the currencies of 10 important trading partners. The weights are based on each country's worldwide trade share.

2. The U.S. current account measures imports and exports of goods and services and unilateral transfers.

In October 1979, however, the Federal Reserve made a more concerted effort to reduce inflation. By the early 1980s, the rate of monetary growth in the United States slowed considerably. This, in turn, lowered the inflation rate in the United States compared to inflation rates in most other industrial countries and contributed to the sharp appreciation of the dollar.

Chart 1 also indicates that the dollar appreciation exceeded that dictated by inflation-rate differentials. By the end of 1982, movements in the inflation-rate differential no longer favored a further dollar appreciation. While the inflation rate in the United States remains below inflation rates in most other major developed countries, the differential has narrowed over the past two years. The dollar, however, has appreciated 31 percent on a *real* trade-weighted basis since 1982.

Determinants of Real Exchange Rates

Economists have identified numerous factors that help explain the behavior of real exchange rates. These "fundamentals" include inflation-adjusted interest-rate differentials, unsustainable current-account positions, differences in productivity growth, and risk factors. Unfortunately, none of these factors, or even combinations of these factors, has consistently explained exchange-rate movements with a satisfactory degree of precision. The impact of each, while continuous, is frequently diluted or completely overwhelmed by other market influences, including such unquantifiable factors as political events and expectations.[3]

Exchange-market analysts have offered three major explanations for the rapid, real appreciation of the dollar since 1982. One argument is that inflation-adjusted, or "real" interest-rate differentials favored holding dollar-denominated assets over foreign-currency-denominated assets. A second suggestion is that threats of instability in other countries have enhanced the "safe-haven" qualities of dollar-denominated assets. A third explanation attributes some of the dollar's recent strength to speculation rather than to basic economic factors. Each of these arguments is explored below.

Real Interest-Rate Differentials

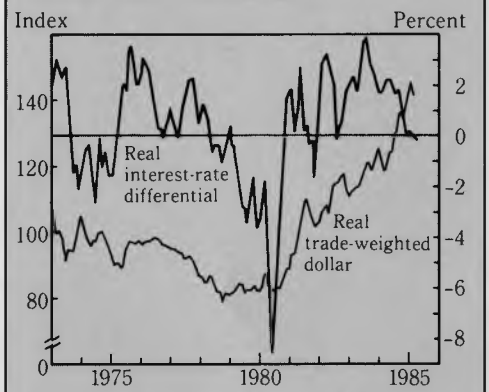
Interest rates are determined by the supply of and demand for loanable funds. In the United States, households are the single most important source of loanable funds. The corporate and the government sectors use these funds to finance their respective investments and deficit spending. The Federal Reserve System influences the supply of loanable funds by regulating the creation of credit through the banking system. If the demand for loanable funds exceeds the supply, real interest rates rise to constrain investment, to encourage saving, and to clear the loanable-funds market.

In an international setting, the rise in real interest rates on dollar-denominated assets tends to attract foreign savings. Foreigners, however, first must obtain dollars to buy dollar-denominated assets and, in doing so, raise the dollar's exchange value. The increased demand for dollar-denominated assets will continue as long as the expected return on dollar assets exceeds the expected return on foreign-currency assets.

International investors receive a two-part return from holding dollar assets. They earn interest from the investments, plus any gains or losses from expected exchange-rate movements. The increased demand for dollar-denominated assets in response to real interest-rate differentials causes an immediate appreciation of the dollar above its long-term value. Investors, consequently, expect the dollar to depreciate in the future. In fact, the expected dollar depreciation should exactly offset the real interest-rate differential and equalize international rates of return.[4] As long as domestic real interest rates exceed foreign rates, the exchange rate should exceed its long-run expected value.

The immediate dollar appreciation, however, weakens exports and encourages imports, causing a gradual deterioration in the current-account balance. This deterioration provides foreign investors with the increased supply of dollars required to purchase additional dollar-denominated assets. Thus, a deterioration in the current account is necessary if the United States is to gain additional foreign savings.

Chart 2 The Real Trade-Weighted Dollar and the Real Short-Term Interest-Rate Differential



NOTE: The interest-rate differential is calculated as the real 3-month U.S. Treasury bill rate, minus a real trade-weighted average of 3-month securities for 10 large industrial countries. The real interest rate is defined as the nominal interest rate, minus a 12-month moving average of inflation (see note to chart 1).
SOURCES: Board of Governors of the Federal Reserve System; and Federal Reserve Bank of Cleveland.

Such an inflow of foreign savings increases the supply of loanable funds in the United States and helps to keep real interest rates lower than they otherwise would be. These savings flows, however, tend to raise foreign interest rates. Eventually, real interest rates here and abroad should equalize, and the dollar exchange rate should return to its long-term value. These adjustments, however, might take many years to complete.

3. Richard N. Cooper, "Summary of the Symposium on Exchange Rates," *Floating Exchange Rates in an Interdependent World*. Washington, DC: General Accounting Office, April 1984, pp. 1-26.

4. We assume here that holding both securities involves similar risks.

In recent years, U.S. real interest rates frequently have exceeded historic levels. As chart 2 shows, interest rates in the United States rose faster than interest rates in most other industrialized countries. While movements in the trade-weighted dollar seem related to movements in the trade-weighted interest-rate differential, chart 2 indicates that the correlation is not always close, especially since mid-1983.

The substantial tightening of monetary policy, undertaken in the late 1970s and early 1980s to eliminate inflation, contributed to the initial rise in real interest rates in the early 1980s. The dollar appreciated sharply. Because the adjustment in the rate of inflation proceeded more slowly than the movement in interest rates, the dollar appreciated on a real basis. This real appreciation should have been temporary, until the shift in monetary policy fully affected the rate of inflation.

While the slowdown in the rate of U.S. money growth helps explain why the dollar initially appreciated in value in the early 1980s, it does not explain what has happened since 1982. Other factors are involved.

The relatively high level of U.S. real interest rates since 1982 could reflect the relative profitability of plant and equipment investment in the United States. A vigorous, inflation-free recovery in the United States greatly enhanced the prospects for investment in this country. In contrast, the recovery in most other industrialized countries proceeded more slowly. Changes in U.S. tax laws also favored investment by improving depreciation allowances and the investment tax credit. In addition, the cost of investment goods declined between 1982 and 1984, while other business costs, including unit labor costs, rose moderately. Reflecting these developments, business investment rose rapidly during the recent recovery period. As investors, attracted by the high return on real capital in the United States, borrowed to finance their investment programs, they increased market interest rates.

A third explanation for high U.S. interest rates centers on the federal budget deficit. The deficit has equaled between 5 percent and 6 percent of GNP over the past three years. Many analysts expect the deficit to remain roughly equal to 5 percent of GNP throughout the decade. During the 1970s, the federal budget deficit averaged approximately 2 percent of GNP; during the 1960s, it rarely exceeded 1 percent of GNP.

The relationship between the deficit and interest rates is not simple; it depends on how fiscal policies and the deficit affect peoples' decisions to save and invest. A $100 billion deficit that causes private savings to rise by $100 billion could have no effect on interest-rate levels.[5] Most studies have failed to verify that increases in federal borrowing have raised interest rates.[6] These studies rely on historical relationships, but the relative size and expected duration of recent federal deficits is unique, and past relationships offer little insight into the current situation. The unprecedented magnitude of our current deficits undoubtedly has kept real interest rates in the United States above levels they otherwise would have attained.

Ironically, the long-run effect of persistent budget deficits on the exchange rate can be quite different from the short-run impact.[7] The initial appreciation of the dollar tends to produce a trade deficit. This means that the United States is paying for its imports by selling foreign assets and claims on its wealth, such as Treasury securities, stocks, bonds, land, and bank deposits. At some point, foreign portfolios could become saturated with dollar-denominated debt. If foreigners grow reluctant to hold additional dollar-denominated assets, and if they attempt to diversify their portfolios out of dollars, the dollar would depreciate.

It is unlikely that United States has saturated the world market with dollar-denominated claims. Much of the world's trade is conducted in dollars, and international investors traditionally have been willing to hold substantial balances in dollar-denominated assets. Moreover, unlike some countries that must acquire foreign exchange to service their international debts, U.S. foreign liabilities generally are denominated in dollars, and the United States typically pays interest on these obligations in dollars. As discussed in the next section, the market generally appears to view the risks of holding dollar-denominated assets quite favorably.

Exchange-Rate Appreciation and the Safe-Haven View

The dollar's recent strength could result from the perception of the United States as a "safe-haven" for investments. If Americans and foreigners believe that investments abroad are more risky than investments in the United States, they will invest more here than abroad, even when foreign assets offer a higher yield than dollar assets. Such perceived risks reflect concerns that host governments might confiscate assets, restrict the free flow of capital, tax foreign investments excessively, or fail to earn enough foreign exchange to meet external obligations.

The dollar's safe-haven role derives from the long history of political stability in the United States, from the large, diversified U.S. economy, and from our success at maintaining relatively stable economic growth. Dollar-denominated assets are widely held and used in international transactions not directly involving Americans. Broad liquid markets exist for dollar-denominated assets, so investors easily can trade dollar assets without fear that their individual trades will affect prices adversely. At times during the 1970s, when U.S. inflation accelerated, the attractiveness of dollar assets waned. The recent success

5. If people view current deficits as implying a higher future tax liability for themselves or for their children to retire the debt, they might save more. For a discussion, see Neil A. Stevens, "Government Debt Financing—Its Effects in View of Tax Discounting," *Review*, Federal Reserve Bank of St. Louis, vol. 61, no. 7 (July 1979) pp. 11–19.

6. For a summary of the literature see U.S. Treasury Department, Office of the Assistant Secretary for Economic Policy, *The Effect of Deficits on the Prices of Financial Assets: Theory and Evidence*. U.S. Government Printing Office, March 1984.

7. See: Alessandro Penati, "Expansionary Fiscal Policy and the Exchange Rate," *International Monetary Fund Staff Papers*, vol. 30, no. 3 (September 1983), pp. 542–69.

of U.S. policymakers at reducing inflation has renewed confidence in the dollar.

Dollars and Speculation

Many exchange-market analysts believe that speculators sometimes cause the dollar to deviate from the path it would normally follow based solely on economic developments. Occasionally, since early 1983, analysts have used this argument to explain the behavior of the dollar.

Exchange traders use all available information, including expectations of future events and policies, when buying and selling currency. Sometimes when new information becomes available, it is incomplete or partially incorrect, thus traders are slow to form firm opinions about its implications. Analysts then might rely solely on recent movements in an exchange rate to indicate market sentiment and future movements in the rate. Traders then might buy an appreciating currency, reinforcing the rise and expectations. More and more traders might buy the appreciating currency, perpetuating the speculative run.

The process continues, and the exchange rate moves further away from its "equilibrium," as long as participants believe that the gains from further appreciation outweigh possible losses associated with an end to the speculative run. The further the exchange rate deviates from equilibrium, the greater the liklihood that the run will end and that investors will incur losses.

Speculative runs probably do not last very long, but they could form and fade away frequently. While they could be influential in the short term, they do not adequately explain long swings in exchange rates.

Recent Trends

The dollar has depreciated about 11 percent on a nominal and a real trade-weighted basis since February 1985. This depreciation is substantial in view of the dollar's persistent advance in recent years. As yet, however, it has offset only a small proportion of the dollar's appreciation. Unless it continues, the depreciation's influence on the trade balance and on price levels is likely to be small.

The recent depreciation of the dollar, in large part, seems to reflect uncertainty about the future course of U.S. monetary policy. Economic activity appears to be slowing, federal borrowing requirements remain large, and the U.S. banking system is burdened with troubled agricultural and international loans. To exchange-market participants, these developments increase the likelihood that the Federal Reserve System might pursue a more expansionary monetary policy in the future. Such a policy would promote a nominal dollar depreciation by raising prices. As explained earlier, a nominal depreciation of the dollar would do little to enhance the United States' international competitiveness. A more expansionary monetary policy also could lower the real exchange value of the dollar, because price levels often respond slowly to changes in monetary policy. The real depreciation, however, would only be temporary.

While the factors supporting the dollar's real appreciation in recent years no longer seem to favor a continued appreciation, it is too soon to argue that these factors favor a sharp dollar depreciation. The recent decline in the dollar's real exchange value is not much larger than that of early 1984, early 1983, or late 1981. To the dismay of exchange-rate forecasters, all of these depreciations reversed themselves.

The recent experience in exchange markets has shown that, because of the complicated interactions among economic variables and expectations, exchange-market analysts cannot forecast accurately the near-term path of exchange rates. Such failure is not uncommon when one is dealing with prices of financial assets.

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