ISSN 0428-1276

ECONOMIC COMMENTARY

Should We Be Concerned About the Speed of the Depreciation?

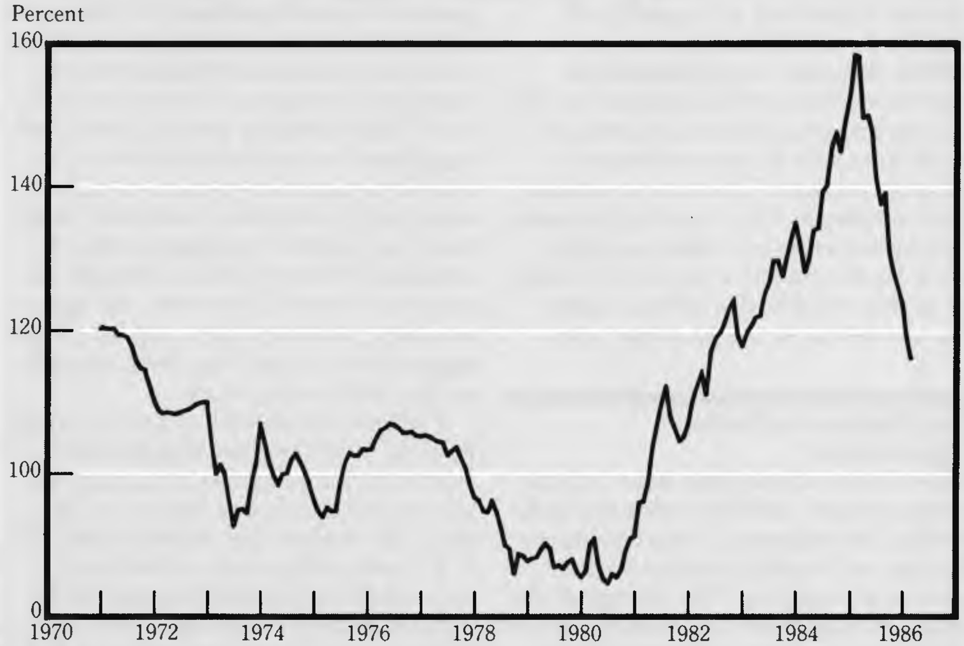
by Owen F. Humpage

Over the past 12 months, the dollar has depreciated approximately 30 percent on a trade-weighted average basis against the currencies of our major trading partners.[1] This recent depreciation, at a rate of approximately 2.4 percent per month, has been the most rapid since the floating-exchange-rate system began in March 1973. In contrast, between September 1977 and October 1978, a period characterized by a worldwide lack of confidence in U.S. economic policies, the dollar depreciated at a pace of only 1.3 percent per month on a trade-weighted basis.

Recently Federal Reserve Chairman Paul Volcker expressed concern about the speed with which the dollar is depreciating. Others, however, dismiss such concerns, noting that the large U.S. trade deficit fully justifies the dollar's depreciation, and that the speed of the recent depreciation is not unlike that of the dollar's recent appreciation (see chart 1).

This *Economic Commentary* suggests why U.S. policymakers might be concerned about the rapidity of the recent dollar depreciation. Concerns could stem from: 1) the varying speeds at which different economic variables can adjust to a depreciation, 2) the interrelationship between confidence in the dollar and the rapidity of a dollar depreciation, and 3) the depreciation's contribution to our uncertainties about the economic outlook.

Chart 1 U.S. Dollar Trade Weighted Exchange Rate



SOURCE: Board of Governors of the Federal Reserve System.

Recent Trends in the Dollar

To understand the effects of depreciation on the economy, one must first understand the forces that prompted the dollar's depreciation. Dollar movements generally are not independent events; other economic developments cause movements in the exchange value of the dollar. Often these initial economic influences will influence the way in which the effects of a depreciation feed back again throughout the economy.

An exchange rate is the price of one nation's currency in terms of another's. Like all prices, exchange rates are determined by the law of supply and demand. Since February 1985, the demand for dollars appears to have declined. An important factor against holding dollar-denominated assets has been the narrowing in many international interest-rate differentials, and the widely held perception that U.S. interest rates will continue to decline in the future. Most economic forecasts

Owen F. Humpage is an economist at the Federal Reserve Bank of Cleveland. *The author would like to thank Nicholas V. Karamouzis for his helpful comments.*

1. The *trade-weighted dollar* is a weighted average of dollar exchange rates against the currencies of Germany, Japan, France, the United Kingdom, Canada, Italy, the Netherlands, Belgium, Sweden, and Switzerland. The weights are shares of each country's total trade in the trade of all 10 countries from 1972 through 1976.

currently support this interest-rate outlook on the belief that U.S. monetary policy is not likely to tighten, that U.S. economic activity will not accelerate sharply, and that Gramm-Rudman legislation will result in substantial reductions in the federal deficit.

Recent oil-price trends also may have reduced demand for dollars in exchange markets. With worldwide oil prices and payments denominated in dollars, a decline in the price of crude oil will tend to reduce the demand for dollars, at least in the near term.[2] The oil price decline also could promote a depreciation by altering the relative price performance and competitive advantages of the United States and its trading partners. Many U.S. trading partners are more dependent on imported oil than the United States is.

While interest-rate trends and oil prices have reduced the demand for dollars, the growing trade deficit has continued to supply dollars to foreign-exchange markets. The current-account, which measures U.S. trade in goods and services and certain unilateral transfers of funds, posted a record $117.7 billion deficit in 1985, $10 billion higher than the deficit in the previous year.

The Effects of a Dollar Depreciation

Dollar depreciations have many effects on the economy, both favorable and unfavorable. For purposes of discussion, we consider only trade, price-level, and interest-rate effects. The impact of exchange-rate depreciation, whether it improves or worsens the economic outlook, depends largely on the relative strength of these three effects. They, in turn, depend on many factors, one of which is the speed at which the dollar depreciates.

When the dollar depreciates in foreign exchange markets, it becomes less expensive in terms of foreign currencies. A depreciation, therefore, tends to lower the foreign-currency prices of our exports and tends to raise the dollar price of our imports. This relative price change shifts worldwide demand toward U.S. goods and services, and stimulates production and employment in U.S. industries that export or that directly compete with imports.

Adjustments in trade patterns following an exchange-rate change are not instantaneous. Studies suggest that trade patterns take from six to 12 months before they begin to respond to changes in exchange rates. It simply takes time for firms to find new suppliers for the now higher-priced imports, especially if they are produced to the specifications of the importers. Similarly, it takes time for domestic producers to find markets for their products abroad. Foreign trade is often conducted under longer-term contracts that cannot be abrogated or renegotiated because of small changes in exchange rates.

The extent to which a depreciation of the dollar will shift demand to U.S. producers also depends on the extent to which foreigners absorb part of the relative price changes through cuts in their profit margins. A recent study by the Federal Reserve Bank of New York suggested that as the dollar strengthened in the past few years, foreign exporters greatly increased their profit margins.[3] Given the sluggish pace of economic recovery abroad and the importance of the U.S market, foreigners are likely to defend their market shares aggressively by cutting profit margins as the dollar depreciates.

The recent behavior of the U.S. trade balance illustrates the sluggishness with which it responds to changes in the exchange value of the dollar. Despite the sharp dollar depreciation, the U.S. trade deficit widened last year; exports fell and imports continued to expand. Many economists expect only a fairly modest improvement in the U.S. trade balance until late in 1986.

A second effect of a dollar depreciation results from its impact on prices. Depreciation tends to raise the overall level of prices in the United States. The impact on prices will be greater: (1) if the depreciation is large and not likely to be reversed soon; (2) if the foreign producers do not try to offset the depreciation by cutting their prices; (3) if domestic producers are operating close to capacity, or (4) if the Federal Reserve System is conducting an expansionary monetary policy.

The most immediate price impact of a depreciation results as the exchange-rate change raises the cost of imported goods. The costs to firms that use imports in their production processes increase. As worldwide demand shifts to U.S. exports and to U.S. industries that compete with imports, prices in these industries also begin to rise. Initially, the price effects will be modest, but they will strengthen as production in trade-related industries reaches full capacity.

If monetary policy is accommodative, the price pressures from the depreciation eventually will ripple back to the very basic factors of production. Based on the relationship between exchange-rate depreciations and changes in the consumer-price index during the 1970s, one could expect recent exchange-rate patterns by themselves to add about one percentage point to the inflation rate this year and approximately 1.5 percentage points to the inflation rate in 1987. However, as foreigners cut profit margins to defend their market share, they will blunt most of the price effects of the recent dollar depreciation. In addition, the recent declines in oil prices will mask the remaining price effects of the depreciation over the next six to eight quarters.

Under certain circumstances, depreciation could result in higher U.S. interest rates. In recent years, credit demands in the United States exceeded domestic savings. A substantial inflow of foreign savings to the United States, which accompanied our trade deficit and contributed to the past strength of the dollar, helped finance our credit demands at interest rates below those that otherwise would have prevailed. This inflow of foreign savings totaled approximately $238 billion over the last four years (see chart 2). As the current dollar depreciation reduces the trade deficit and, consequently, the inflow of foreign savings, the United States could experience higher domestic interest rates. This would be especially true if foreigners expected the depreciation to continue. The depreciation might also contribute to pressure on interest rates as it raised domestic prices and inceased economic activity in the trade-related sectors of the economy. U.S. interest rates would rise as the dollar

2. This assumes that the quantity of imported oil does not rise so much in response to the price decline as to increase the total expenditure for oil.

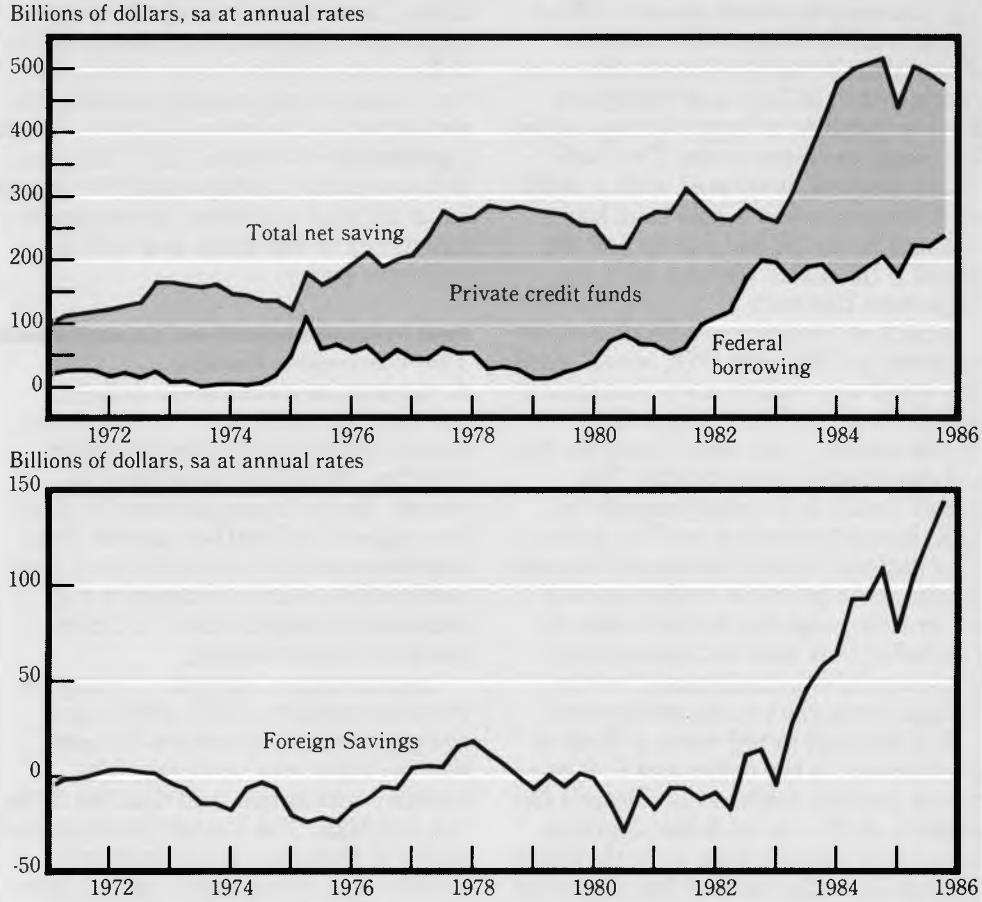
3. See Charles Pigott and Vincent Reinhart, "The Strong Dollar and U.S. Inflation," Federal Reserve Bank of New York *Quarterly Review*, Autumn 1985, pp. 23-29.

depreciated in order to reduce the domestic demand for credit and to encourage domestic savings.

At present, this does not appear to be happening. A general decline in U.S. interest rates has accompanied the dollar's depreciation. Recent Federal Reserve policies have encouraged lower domestic interest rates, and the market does not expect monetary policy to tighten significantly in the near future. The Gramm-Rudman legislation promises future reductions in federal credit demands, and economic activity is not so robust as to suggest heavy private credit demands in the near term.

The net effect of an exchange-rate depreciation on real GNP depends on the balance between the positive trade effects and the negative interest-rate effects. Various economic models project conflicting results.[4] What will actually happen depends, to a large extent on what else in going on as the dollar depreciates, but the speed of the depreciation seems to be important.

Chart 2 Foreign Savings Flow and Total U.S. Savings



NOTE: Quarterly data are at seasonally adjusted annual rates.
SOURCE: Board of Governors of the Federal Reserve System; Flow-of-funds accounts.

The Speed of Adjustment Problem

Because such economic variables as prices, trade flows and interest rates adjust to exchange-rate changes at different rates, the speed at which the dollar depreciates is of concern. Exchange rates, interest rates, and trade flows work together to maintain a balance between the supply of dollars and the demand for dollars. One can think of the current-account deficit as largely determining the supply of dollars being pumped onto the foreign exchange market, and one can envision the demand for dollars as being determined by foreigner's desires buy U.S. goods and services or to invest in dollar-denominated assets.

As illustrated above, a decrease in the demand for dollars, or an increase in the supply of dollars, will cause a depreciation of the dollar that will work to reestablish an equilibrium in the exchange market. This will be done by reducing the current-account deficit, thereby reducing the quantity of dollars supplied to exchange markets, and/or by increasing interest rates, thereby increasing the quantity of dollars demanded in the market.

Whereas a gradual shift out of dollars produces a gradual depreciation and allows time for positive trade effects to offset negative interest-rate effects, a rapid shift out of dollars would produce a rapid depreciation and could force most of the initial economic adjustment to take place through higher interest rates. This would occur because trade flows and the current account adjust slowly to exchange-rate changes. U.S. interest rates would need to rise sufficiently above foreign interest rates to compensate foreign investors for the expected depreciation of the dollar. In addition, the dollar would be likely to overshoot its new equilibrium when the shift out of dollars is rapid because, with current account flows slow to adjust, exchange rates are likely to depreciate further to balance quantities of dollars supplied and demanded.[5]

The speed of adjustment could create special problems for the Federal Reserve System, especially if the System is attempting to reduce interest rates. A rapid depreciation could put additional pressure on interest rates, which could cause the Federal Reserve to expand the money supply. This could create a process in which monetary expansion induces a further rapid dollar depreciation which, in turn, results in higher interest rates and faster money growth. The net effect eventually could be a substantial acceleration in the inflation rate in the United States, along with a heightening of inflation expectation.

The Confidence Problem

A second concern of the Federal Reserve System is that rapid depreciation of the dollar could either produce,

4. See Arnold Kling, "Simulating Exchange Rate Shocks in the MPS and MCM Models: An Evaluation," *International Finance Discussion Papers No. 260,* August 1985.

5. In most markets, demand shifts result in bigger price changes in the short run than in the long run, because quantities supplied to the market do not change much in the short run.

or reflect, a lack of confidence in U.S. economic policies. The U.S. dollar is a key currency in world markets. Much of the world's trade, even trade not directly involving the United States, is conducted in dollars, and foreigners have accumulated large holdings of dollar assets in recent years. The confidence problem associated with a rapid dollar depreciation would be of less concern to the United States and the world if the dollar was not such an important currency.

A lack of confidence in the dollar, as occurred in 1977 and 1978, would manifest itself as a reluctance of foreigners to hold dollars. Trading in dollars would become "one way," with the dollar depreciating very rapidly. The result would be intense pressure on U.S. interest rates and on U.S. prices. The decline in the dollar could be accentuated, because when traders cannot accurately judge the correct value of the dollar they tend to project recent movements into the future, thereby exaggerating the recent movements.

It is difficult to tell when a "lack of confidence" in the dollar and U.S. economic policies might occur. Despite the rapidity of the recent dollar depreciation, there does not seem to be the degree of disorder in the market that characterized the dollar's depreciation in the late 1970s. Moreover, the dollar continues to remain above levels many economists believe are consistent with a long-term balance in the trade-accounts. Since the United States recently became a net debtor, the market might accept a somewhat lower dollar to help finance and retire this debt.

On the other hand, we do not fully understand the psychology of confidence. In an attempt to avoid the consequences of a loss of confidence in the dollar, it is in the interest of this country to seek a gradual depreciation. Federal Reserve Chairman Volcker's recent expressions of concern about the pace of depreciation perhaps could be viewed as an attempt to bolster the market's confidence in the dollar and in U.S. economic policy.

The Uncertain Future

At present, concerns about inflation accelerating in the near future are not widely shared. In the view of many analysts, the inflation problem has passed. Recent sharp declines in oil prices suggest that further general price improvements are on the horizon. Conventional measures of capacity and employment suggest that cost pressures are not imminent.

In some ways, however, the current situation parallels 1977, when many analysts and policymakers thought that inflation was declining, that capacity was ample, and that the dollar was too high. The United States geared policy to stimulating real economic activity and encouraged a dollar depreciation. The situation, however, deteriorated quickly, and confidence in the dollar waned as inflation in the United States accelerated sharply in late 1978 and in 1979.

How quickly could the current situation turn around? Could 1987 or 1988 bring a surprising rise either in the rate of inflation or in U.S. interest rates? Productivity and labor-force growth in the United States remains very low, casting doubt on the traditional relationships between inflation and excess capacity. Furthermore, the money stock grew quite rapidly until recently. Historically, rapid money growth and higher rates of inflation are associated. Although the Gramm-Rudman legislation is encouraging, it has not yet delivered very much in deficit reductions. Moreover, the recent declines in oil prices will have major impacts on income and, as explained earlier, could alter international competitive positions.

Conclusion

Despite the rapidity of the dollar's recent depreciation, it apparently has not yet had a detrimental effect either on economic growth or on inflation. Exchange markets have not lost confidence in the dollar, but the situation bears close watching, because experience has shown that the economic climate can change quickly. In view of the uncertainties about the future, economic policies that promote a gradual, rather than a rapid depreciation appear preferable. Such policies would provide time to watch future developments unfold and give policymakers time to encourage further depreciation if, and when, conditions warrant.

Federal Reserve Bank of Cleveland
Research Department
P.O. Box 6387
Cleveland, OH 44101