 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. 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 rate 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 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 exchange rate’s contribution to our uncertainties about the economic outlook.

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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...
The Speed of Adjustment Problem
Because such economic variables as prices, trade flows and exchange rates, interest rates, and trade flows work together to maintain a balance between the demands at interest rates below those otherwise would have prevailed. This inflow of foreign savings totalled approximately $238 billion in 1985. Exchange rate depreciations 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, along with a heightening of inflation expectation, resulted in higher interest rates and fast-er money growth. The net effect even-tually could be a substantial acceler-a-tion 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, directly compete with imports. Recent oil-price trends also may have seriously eroded the demand for dollars in exchange markets. With rising oil prices and payments denominated in dollars, a decline in the price of crude oil would tend to reduce the demand for dollars, at least in the near term.2 The oil price decline also could promote a depre-ciation by altering the relative price of dollars and other exports.

The Effects of a Dollar Depreciation
Dollar depreciations have many effects on the economy, both favorable and unfavor-able. For purposes of discussion, we consider only trade, price-level, and interest-rate effects. The impact of ex-change-rate depreciation, whether it im-proves or worsens the economic outlook, depends largely on the relative strength of these three effects. They, in turn, de-pend on many factors, one of which is the speed at which the exchange rate changes.

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


4. See Arnold Kling, “Simulating Exchange Rate Shocks in the MPS and MCM Models: An Ev-a-luation of the International Financial Discussion Papers” Board of Governors of the Federal Reserve System, especially if the Sys-tem 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 mone-ty expansion induces a further rapid dollar depreciation which, in turn, results in higher interest rates and fast-er money growth. The net effect eventu-ally could be a substantial acceler-a-tion in the inflation rate in the United States, along with a heightening of inflation expectation.

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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 imports 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 pattern of U.S. goods and services, and toward U.S. goods and services, and U.S. dollar depreciations have many effects on the economy, both favorable and unfavorable. Fears of funds, posted a record $117.7 billion 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 economic activity of the dollar-priced sectors of the economy. An immediate price 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 exchange rate changes. 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, thereby encouraging a demand increase. An immediate price change affects trade-world 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 eight quarters to respond to changes in exchange rates. It simply takes time for domestic producers to adjust their production for the 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 abandoned or renegotiated because of small changes in exchange rates.

The extent to which a depreciation of the dollar will shift demand away from the dollar-priced sectors of the economy depends also on the extent to which foreign producers absorb part of the price changes through cuts in their profit margins. A recent study by the Federal Reserve Bank of New York estimated that as the dollar depreciated in the past two years, foreign exporters generally increased their profit margins. Given the sluggishness of economic recovery abroad and the importance of the U.S. market for foreign producers, firms are likely to defend their market shares aggressively by cutting profit margins as the dollar depreciates.

A second effect of a dollar depreciation on the U.S. trade balance illustrates the sluggishness with which it responds to changes in exchange rates. Despite the dollar depreciation, the U.S. trade deficit widened last year, exports fell and imports continued to expand. Even 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) the depreciation is large and not likely to be reversed soon; (2) if the foreign producers do not try to offset the exchange-rate change 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. Trade patterns take from six to eight quarters to respond to changes in exchange rates. As worldwide demand shifts to U.S. imports, it can be expected that prices in these industries also begin to rise. Initially, they 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 foreigner cut profit margins to defend their market shares, much of the price effects of the recent dollar depreciation. In addition, the recent declines in oil prices are unlikely to last very long, and the remaining price effects of the depreciation over the next six to eight quarters.

Unfavorable trade balances, depreciation could result in higher U.S. interest rates. In recent years, credit demands in the United States have increased substantially as a result of the dollar's depreciation. A substantial inflow of foreign savings to the United States, which is the dollar's depreciation, helped finance our credit demands and contributed to the strength of the dollar, helped finance our credit demands at interest rates below those that otherwise would have prevailed. This inflow of foreign savings totalled 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. Exchange rate depreciation could also contribute to pressure on interest rates as it raised domestic prices and increased economic activity in the trade-related sectors of the economy. U.S. interest rates would rise as the dollar depreciated in order to reduce the domestic demand for credit and to encourage savings.

The Speed of Adjustment Problem

Although the effects of exchange-rate depreciations are often described by numerical indicators such as the speed of adjustment, the effects of the recent sizable dollar depreciation are likely to be much more complex and less easily measured.

Because such economic variables as prices, trade flows and certain unilateral transactions are the dollar's depreciation, the speed of adjustment is critical. whereas a gradual 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

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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.


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.
ECONOMIC COMMENTARY

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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.

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