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# FRBSF WEEKLY LETTER

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## The Dollar Dilemma

Over the past year, strong upward pressure on the dollar has posed an unexpected dilemma for West Germany and Japan. On the one hand, a rising dollar increases inflationary pressures in the German and Japanese economies, and at the same time threatens to slow the pace of adjustment in their external surpluses. On the other hand, a decision to raise their domestic interest rates to offset the strong dollar carries the risk that German and Japanese domestic demand growth would slow, thereby imperiling their external adjustment.

West Germany and Japan have responded in very different ways to this dilemma. To the surprise of many observers, the West German central bank raised its lending rates twice this year by a total of one percentage point to offset the impact of the stronger U.S. dollar. In contrast, Japan's response has been far more muted. This *Letter* examines the differences in the way a strong dollar affects Germany and Japan in an effort to explain the two countries' contrasting responses to recent episodes of dollar appreciation.

### Robust growth, low inflation

In recent years, Germany and Japan have enjoyed robust economic growth as well as declining inflation and falling current account surpluses. In 1988, real GNP grew 3.4 percent in Germany and 5.7 percent in Japan, well above their respective average annual growth rates of 1.2 percent and four percent from 1981 through 1985. Consumer price inflation was estimated at 1.2 percent in Germany and 0.5 percent in Japan in 1988, down from average annual inflation rates of 3.9 and 2.8 percent, respectively, in the 1981-1985 period, and well below U.S. inflation of 4.1 percent last year. Between 1986 and 1988, current account surpluses as a percentage of GNP declined from 4.4 percent to about 3.7 percent in Germany, and from 4.4 percent to 2.2 percent in Japan.

However, these trends may not continue. Strong demand has raised capacity utilization rates to recent peaks and increased inflationary pressures

in both economies. External adjustment also is expected to slow.

### Tighter U.S. monetary policy

The recent rise in the value of the dollar associated with tighter U.S. monetary policy, as reflected in the gradual increase in the federal funds rate since early 1988, could add to inflationary pressures in West Germany and Japan and further slow the decline in their current account surpluses. Tighter U.S. monetary policy tends to raise U.S. interest rates relative to those abroad, encouraging a shift to dollar-denominated assets that causes the dollar to appreciate. Moreover, upward pressure on interest rates and the dollar is exacerbated by persistently high U.S. budget deficits.

The weaker deutschemark and yen tend to increase inflation in West Germany and Japan, as well as economic growth and exports in these two economies. However, the impact on current accounts is uncertain. On the one hand, export growth and increased interest income on dollar-denominated assets held by German and Japanese residents tend to increase these countries' current account surpluses. On the other hand, income effects tend to reduce such surpluses; faster growth tends to stimulate import demand in Germany and Japan, while demand for German and Japanese exports falls because tighter U.S. monetary policy tends to lower economic growth in the U.S.

### Simulation results

Simulation of the Federal Reserve Board's Multicountry Model (MCM) can help to provide insights into the impact of tighter U.S. monetary policy. (See Federal Reserve Board *International Finance Discussion Papers*, Number 293, October 1986.) According to the MCM, a sustained (over an eight-year period) one-percentage point increase in the U.S. Treasury bill rate causes the U.S. dollar to appreciate relative to the deutschemark and the yen, thereby raising prices in both Germany and Japan. However, the impact on prices in Germany is much larger than it is in

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Japan—about three times higher in the first year, and 70 percent higher in succeeding years. The impact on prices may be stronger in Germany because the ratio of imports to GNP historically is much larger in Germany (24 percent in 1985) than in Japan (nine percent).

On the other hand, the MCM model also predicts that the expansionary impact of a tighter U.S. monetary policy on GNP is much stronger for Japan than for Germany. A dollar appreciation may stimulate a stronger expansion in Japan than in Germany because the U.S. has a larger share in Japan's exports.

Thus, in Germany, tighter U.S. monetary policy entails a larger inflation cost and a smaller GNP gain, but it also apparently facilitates Germany's external adjustment. Over an eight year period, tighter U.S. monetary policy *reduces* Germany's current account surplus, suggesting that the income effects discussed above may predominate. In contrast, Japan's current account surplus increases.

Germany and Japan can attempt to offset the effects of a rise in U.S. interest rates by raising their own domestic rates. However, the MCM model predicts that a rise in short-term rates in Germany and Japan to match the rise in U.S. interest rates would leave the path of their current accounts largely unaffected. The model also finds that higher domestic interest rates have a much stronger contractionary effect in Japan than in Germany. Germany's GNP still expands slightly after an initial contraction, in contrast to Japan, where the economy contracts over the entire simulation period. In addition, prices fall in Japan but still rise in Germany, albeit at a lower rate.

## Implications

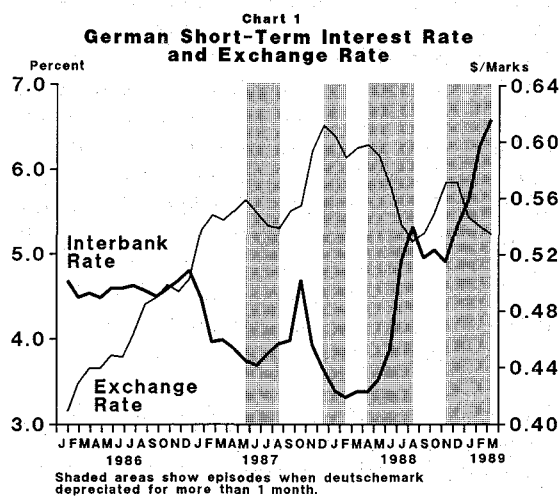
Given the current policy environment in both countries, the MCM simulations suggest one possible explanation for the differences in Germany's and Japan's responses to the dilemma posed by a rising dollar and tighter U.S. monetary policy. In Germany, where inflationary pressures currently are stronger than in Japan, the central bank has a stronger incentive to raise interest rates because the impact of a rising dollar on domestic inflation is much stronger in Germany than it is in Japan and a larger rise in German interest rates is required to offset the impact of a dollar appreciation.

At the same time, the simulation results also offer an explanation for Japan's apparent decision *not* to offset the appreciating dollar with tighter monetary policy. On the one hand, the model suggests that the rising dollar poses less inflation risk in Japan than in Germany, and on the other, it shows that the risks of dampening domestic demand growth through tighter monetary policy appear to be greater in Japan than they are in Germany. Thus, Japan has the leeway to allow the dollar to rise against the yen. It can simultaneously offset the tendency for the current account surplus to increase by providing continued stimulus to domestic demand.

## A look at past actions

While this simulation cannot fully capture the factors underlying German and Japanese monetary policies, the results are at least consistent with the behavior of West German and Japanese interest rates when the dollar has appreciated in the last few years. Charts 1 and 2 show the dollar exchange rate and a representative short-term interest rate in Germany and Japan, respectively, as a proxy for their respective monetary policies. The charts show that domestic short-term rates apparently have responded strongly to offset episodes of dollar appreciation in Germany, while they have not done so in Japan.

Since 1987, the German short-term rate rose on three of the four occasions that the deutschemark fell against the dollar (shaded areas in Chart 1). The nearly two-percentage point increase in short-term rates between April and August 1988, when the deutschemark dropped 11.5 percent,



and the sharp increase in rates since the beginning of 1989 are particularly striking.

There are two exceptions to this relationship between the value of the dollar and German short-term rates. First, short-term rates rose sharply between August and October 1987, even though the dollar was not appreciating. In this case, German rates were rising in tandem with a rise in the U.S. federal funds rate (not shown), a rise that was interrupted by the stock market decline of October 1987. The pattern was not repeated in 1988. (Between August and September 1988, German short-term rates declined once the deutschemark stopped falling, even though the federal funds rate continued rising.)

Second, between December 1987 and January 1988, German short-term rates declined even though the dollar rose. Fresh memories of the October 1987 stock market decline apparently encouraged continued German monetary ease to support the dollar's recovery.

Overall, however, Germany appears to follow a monetary policy that leans strongly against movements in the dollar. In sharp contrast, since mid-1987, movements in the dollar apparently have had little effect on Japanese monetary policy. As illustrated in Chart 2, notwithstanding sharp fluctuations in the dollar exchange rate, the path of the Japanese short-term rate was fairly flat from the first half of 1987 up to July 1988, when the rate began to drift upward. Downward movements in the yen (shaded areas in Chart 2)

generally have not been associated with upward movements in the short-term Japanese interest rate (in contrast to Japanese long-term rates, which rose sharply during the periods when the dollar appreciated in 1987 and 1988). And although Japanese rates did rise when the yen depreciated seven percent between May and September 1988, the increase was small.

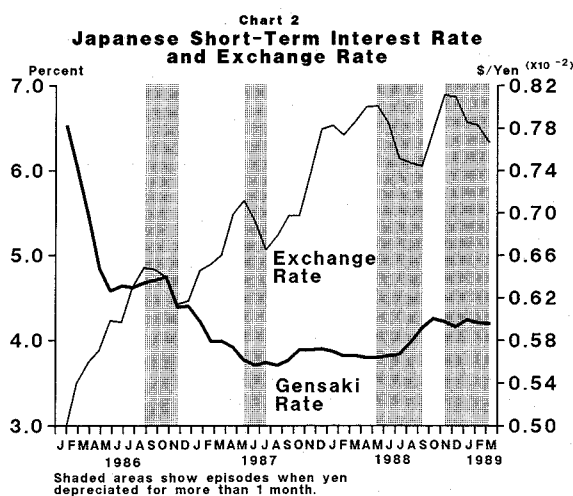
### A paradox

U.S. monetary policy and international policy coordination to stabilize the dollar may be in conflict if the U.S. tightens policy when the dollar is appreciating, as occurred over the Summer of 1988 and early in 1989. The principal difficulty is that a stronger dollar may lead to higher inflation abroad in the short run, particularly in Germany, where monetary authorities tend to respond vigorously to offset movements in the dollar.

Paradoxically, although U.S. trading partners have expressed discomfort at rising U.S. interest rates and the strong dollar, they also have supported the Federal Reserve's efforts to control inflation. One possible explanation is that other industrial countries prefer a tighter U.S. monetary policy, even if it raises foreign inflation above trend in the short run, because it may lower trend inflation abroad in the long-run. An increase in trend U.S. inflation may be exported abroad and may be more costly to offset in the long run.

Foreign monetary authorities also recognize that high U.S. interest rates and the strong dollar are also the result of persistent U.S. government budget deficits. Accordingly, a less expansionary fiscal policy, rather than an easier U.S. monetary policy, may be seen as a better means of easing upward pressure on the dollar while curbing inflation. The need to reduce the U.S. budget deficit was emphasized at the meetings of the Group of Seven major industrial countries (G-7) this year.

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