Treasury and Federal Reserve Foreign Exchange Operations

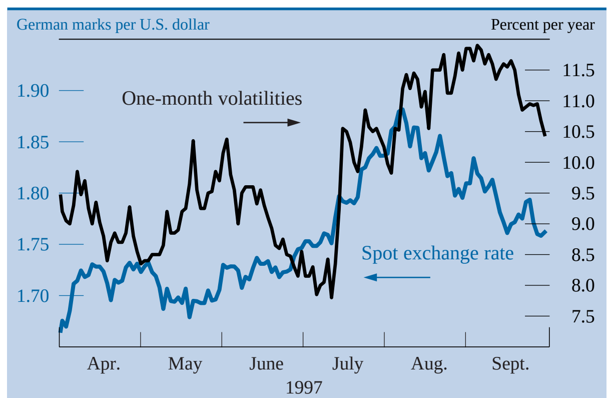
This quarterly report describes U.S. Treasury and System foreign exchange operations for the period from July through September 1997. It was presented by Peter R. Fisher, Executive Vice President, Federal Reserve Bank of New York, and Manager, System Open Market Account. Andrew Jewell was primarily responsible for preparation of the report.

During the third quarter of 1997, the dollar appreciated 5.0 percent against the Japanese yen and 0.8 percent against the German mark. On a trade-weighted basis against other Group of Ten (G-10) currencies, the dollar appreciated 1.4 percent.[1] The dollar reached eight-year highs against the mark in early August, driven by market perceptions that the European Economic and Monetary Union (EMU) would include a broad group of countries and result in a "weak" single currency. Those gains were later reversed amid growing perceptions that the Bundesbank might tighten monetary policy. The dollar rose against the yen as a series of Japanese economic data releases dampened earlier optimism for a near-term improvement in Japan's economic prospects and reduced expectations for a rise in Japanese interest rates. However, the dollar's rise was restrained by renewed concerns over U.S.–Japan trade relations. The U.S. monetary authorities did not undertake any intervention in the foreign exchange markets during the quarter.

Rises in Intraday Volatility of the Dollar

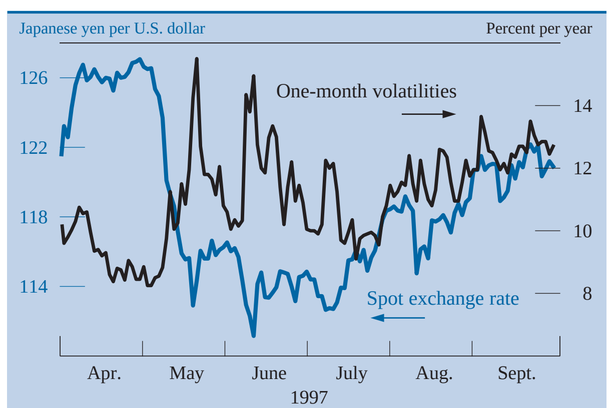
The dollar's intraday volatility continued to rebound from the unusually low levels recorded in 1996. The average daily trading range against the mark and the yen rose to 1.1 percent, compared with average daily ranges of 1.0 percent in the previous quarter and 0.6 percent in the third quarter of 1996. Implied volatility on one-month dollar–mark options rose to its highest levels this year, peaking in late August after the dollar reached eight-year highs against the mark. One-month dollar–yen implied volatility moved higher over the quarter, but fell short of this year's peak levels established in May.

1. Spot exchange rate of the dollar against the German mark and volatility implied by option prices, 1997:Q2–Q3



NOTE. Data are daily.
SOURCE. Federal Reserve Bank of New York; Reuters.

2. Spot exchange rate of the dollar against the Japanese yen and volatility implied by option prices, 1997:Q2–Q3



NOTE. Data are daily.
SOURCE. Federal Reserve Bank of New York; Reuters.

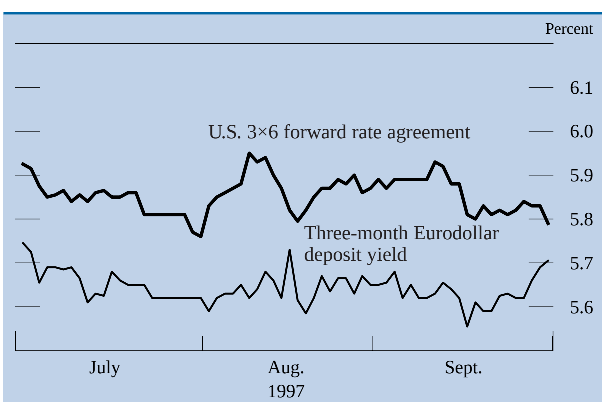
1. The dollar's movements on a trade-weighted basis against ten major currencies are measured using an index developed by staff members of the Board of Governors of the Federal Reserve System.

Expectations of Steady Monetary Policy Encouraged by a Benign U.S. Inflationary Environment

Developments in the dollar occurred amid continued signs of moderate growth and expectations of stable monetary policy in the United States. In July, the yield on the benchmark thirty-year U.S. Treasury bond fell to a seventeen-month low of 6.30 percent, and the yield curve reached its flattest level in twenty-nine months. The rally in Treasury prices was supported by a perceived decline in inflationary risk, expectations of moderating economic growth in the third quarter, and anticipation of reduced future borrowing needs given the improving U.S. fiscal situation. In his Humphrey–Hawkins testimony on July 22 and 23, Federal Reserve Board Chairman Alan Greenspan noted that measured inflation was ‘‘lower now than when the [U.S.] expansion began’’ and showed ‘‘little tendency to rebound of late.’’

In August, a stronger-than-expected report from the National Association of Purchasing Managers coupled with larger-than-expected employment gains prompted some market participants to express concern that third-quarter growth might be stronger than anticipated. However, in mid-September, weak consumer price index (CPI) data were viewed as once again confirming the low inflation environment, pushing down the benchmark U.S. Treasury bond yield 18 basis points, to 6.40 percent, in one day. Reflecting market sentiment that the Federal Open Market Committee (FOMC) would not change current policy in the benign inflationary environment, federal funds futures contracts continued to suggest only a modest chance for a hike in interest rates by the end of the year. Against the background of relatively stable U.S. monetary policy expectations, the dollar responded primarily to developments elsewhere.

3. U.S. interest rates, 1997:Q3



Note. A 3×6 forward rate agreement (FRA) refers to the yield on a three-month deposit with a value date three months hence and a maturity date six months hence.

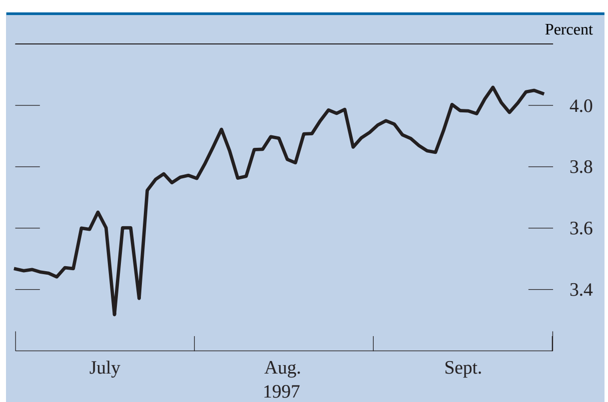
Data are daily.

Source. Reuters.

Retreat of the Dollar from Eight-Year Highs against the Mark

The dollar began the period by extending its gains against the mark from the previous quarter, reaching an eight-year high of DM 1.8913 on August 6. Early in the period, the German mark was pressured lower against a wide range of currencies by growing market expectations that the EMU would proceed with a broad group of countries and result in a ‘‘weak’’ single currency. On July 21, in response to a public audit forecasting a 1997 budget deficit of 3.5 to 3.7 percent of gross domestic product (GDP), the newly elected French government reassured market participants of its commitment to the EMU by announcing deficit-reduction measures designed to lower the deficit to levels modestly above the Maastricht reference value. Subsequent remarks by German officials suggesting that France's situation was not inconsistent with a timely start to the EMU reinforced market perceptions that the Maastricht criteria could be interpreted flexibly. Continued high German unemployment and the government's failure to agree on tax reform supported the view that Germany itself might fail to strictly meet the 3.0 percent deficit criterion, suggesting, in turn, that Germany would not block broad EMU participation. Expectations for a broad EMU supported declines in long-term interest rates in Spain and Italy, where ten-year government bond yields converged to record low spreads over comparable German yields.

4. German government benchmark two-year bond yield, 1997:Q3



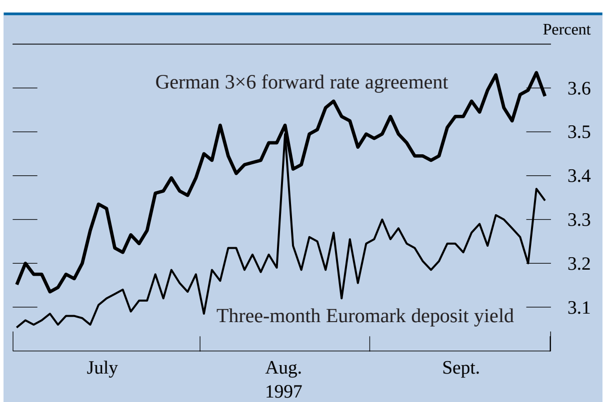
Note. Data are daily.

Source. Bloomberg L.P.

The dollar's retreat from its highs in August was triggered by comments from Bundesbank officials that were viewed as suggesting that the German central bank might raise interest rates to stem further depreciation of the mark. At its final council meeting before the summer recess, the Bundesbank left its key repurchase rate unchanged for only the first two weeks of the four-week intermeeting period, prompting discussion that the central bank was preserving flexibility to raise rates. In August, the Bundesbank announced that it was returning to its previous practice of setting the repurchase rate each week, instead of setting the rate for two weeks. Heightened discussion of a rate hike weighed on the short end of the German yield curve, with yields on two-year government bonds ending the quarter 60 basis points above their trough in early July. Interest rates implied by forward rate agreements rose to reflect increased market expectations for tighter monetary policy.

Market participants also focused on comments from Bundesbank officials for signals of a shift in policy. Although Bundesbank President Tietmeyer indicated in August that more economic data were needed before the Bundesbank could decide to change policy, and that M3 growth remained ''at the top of the hierarchy'' of policy inputs, Bundesbank Chief Economist Issing later remarked that the ''turning point'' in German inflation had been reached and warned that all indicators were ''moving in the wrong direction.'' Meanwhile, regional CPI data, second-quarter GDP data, business confidence, and import price data appeared to some market participants to corroborate claims that the German economy was picking up speed and inflationary risks were growing. While the recovery of the mark in August and

5. German interest rates, 1997:Q3



NOTE. A 3×6 forward rate agreement (FRA) refers to the yield on a three-month deposit with a value date three months hence and a maturity date six months hence.

Data are daily.

SOURCE. Reuters.

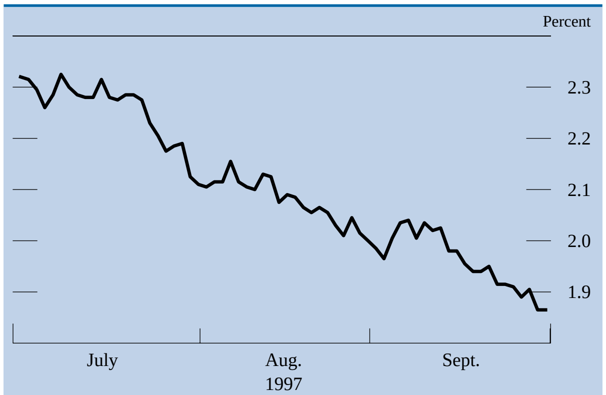
September reduced expectations for an immediate Bundesbank tightening, market participants increasingly accepted the notion that German official rates would need to rise before the announcement of final EMU bilateral conversion rates in the spring of 1998. Three-month interest rates three months hence, as implied by forward rate agreements, ended the period at 3.59 percent, 42 basis points above June 30 levels.

RENEWED PESSIMISM IN JAPAN WEIGHS ON THE YEN

After falling sharply in May, the dollar resumed its upward trend against the yen through the third quarter as market participants reassessed earlier expectations of tighter monetary conditions in Japan. Optimism for a near-term acceleration in economic growth, fueled in part by official comments in May, gave way to renewed pessimism after a series of data releases that were weaker than expected revealed signs of a buildup in inventories and persistent weakness in consumer demand. In the summer issue of its *Quarterly Economic Outlook*, the Bank of Japan acknowledged that the economic recovery was ''unlikely to gather significant momentum, as a result of fragility in some sectors, as well as the continued balance-sheet adjustment pressure.'' Data released on September 11 showed that in the second quarter, the Japanese economy contracted 2.9 percent from the previous quarter and 11.2 percent annually, confirming the lingering effects of the April consumption tax hike. As the dollar moved back above the ¥120 level, market participants focused increasingly on trade issues. Comments by U.S. officials expressing concern over Japan's trade surplus and its commitment to demand-led growth were perceived by market participants as reflecting ongoing bilateral trade frictions and prompted greater caution about extending long dollar–yen positions. Official statements from the September Group of Seven (G-7) meeting in Hong Kong were interpreted as strengthening the language of the April G-7 meeting and, in particular, cautioning against yen depreciation.

Developments in Southeast Asian financial markets exacerbated the negative sentiment in Japan. In the previous quarter, expectations of rising Japanese interest rates contributed to mounting pressure on Southeast Asian currencies as investors covered yen-financed positions, while perceptions of weakening economic fundamentals in Southeast Asia further pressured financial markets. In early July, the Bank of Thailand abandoned its basket currency peg regime, allowing the Thai baht to depreciate sharply against

6. Japanese government benchmark two-year bond yield, 1997:Q3

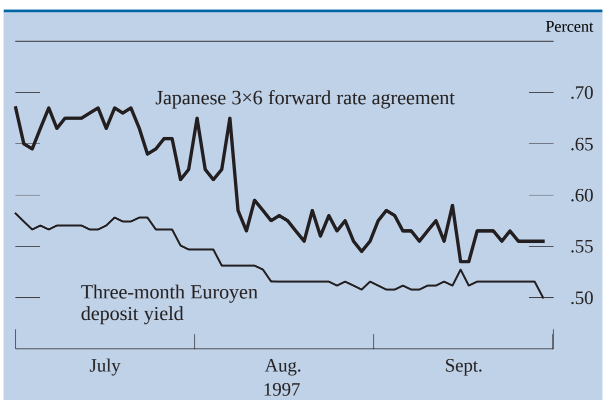


NOTE. Data are daily.
SOURCE. Bloomberg L.P.

the dollar. The crisis in Thailand spread to other countries in the region, with the Indonesian rupiah, the Malaysian ringgit, and the Philippine peso weakening significantly against the dollar after decisions to move to more flexible exchange rate regimes. Despite diminishing expectations of higher rates in Japan over the course of the period, Southeast Asian currencies remained under pressure and regional equity markets weakened. The perceived loss of competitiveness of Japanese exports to other Asian markets given the effective devaluation of several regional currencies was seen as another factor weighing on the yen.

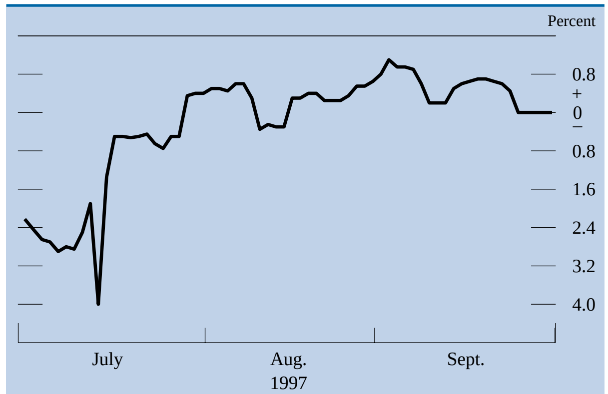
Japanese bonds gained and equities weakened, reflecting the view that renewed growth was farther off than had been expected. The yield on the bench-

7. Japanese interest rates, 1997:Q3



NOTE. A 3×6 forward rate agreement (FRA) refers to the yield on a three-month deposit with a value date three months hence and a maturity date six months hence.
Data are daily.
SOURCE. Reuters, Bloomberg L.P.

8. Dollar–yen one-month risk reversals, 1997:Q3



NOTE. Risk reversals are option positions consisting of a short (written) put and a long (purchased) call that mature on the same date and are equally out-of-the-money. The price of a risk reversal indicates whether the call or the put is more valuable. If the price is positive, the call is at a premium, indicating that the market is willing to pay more to insure against the risk that the dollar will rise. If the price is negative, the put is at a premium, indicating that the market is willing to pay more to insure against the risk that the dollar will fall.
Data are daily.
SOURCE. Reuters.

mark ten-year Japanese government bond fell to record lows, dropping below 2.00 percent in late August and ending the quarter at 1.87 percent. The spread between ten-year U.S. and Japanese government bond yields widened as much as 55 basis points from an intra-period low of 358 basis points set on July 22. Equity market sentiment was dampened by concerns over the health of the construction sector and by racketeering scandals in the financial sector. In a reversal of the gains achieved in the previous quarter, the Nikkei-225 index fell 13.2 percent. Market participants scaled back expectations for an end to the Bank of Japan's accommodative monetary policy, with forward rate agreements suggesting expectations for virtually no change in policy through the end of 1997. Prices of one-month risk reversals for dollar–yen, which had been skewed since May to favor yen call options, flipped to favor dollar call options in late July, reflecting a higher cost for insurance against further dollar gains against the yen.

TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE RESERVES

The U.S. monetary authorities did not undertake any intervention operations this quarter. At the end of the quarter, the current values of the German mark and Japanese yen reserve holdings totaled $17.5 billion for the Federal Reserve System and $14.6 billion for the Exchange Stabilization Fund.

The U.S. monetary authorities invest all of their foreign currency balances in a variety of instruments that yield market-related rates of return and have a high degree of liquidity and credit quality. A significant portion of these balances is invested in German and Japanese government securities held directly or under repurchase agreement. As of September 30, outright holdings of government securities by U.S. monetary authorities totaled $6.9 billion.

Japanese and German government securities held under repurchase agreement are arranged either through transactions executed directly in the market or through agreements with official institutions. Government securities held under repurchase agreements by the U.S. monetary authorities totaled $11.2 billion at the end of the quarter. Foreign currency reserves are also invested in deposits at the Bank for International Settlements and in facilities at other official institutions. □

1. Foreign exchange holdings of U.S. monetary authorities based on current exchange rates, 1997:Q3

Millions of dollars

Item	Balance, June 30, 1997	Quarterly changes in balances by source					Balance, Sept. 30, 1997
		Net purchases and sales[1]	Impact of sales[2]	Investment income	Currency valuation adjustments[3]	Interest accrual (net) and other	
FEDERAL RESERVE							
Deutsche marks	11,671.7	.0	.0	89.9	−152.1	.0	11,609.5
Japanese yen	6,222.1	.0	.0	4.5	−311.4	.0	5,915.2
Interest receivables[4]	73.2	...	...	...	...	.3	73.5
Other cash flow from investments[5]	2.9	...	...	...	...	−9.0	−6.1
Total	**17,969.9**	...	...	**94.4**	**−463.5**	**−8.7**	**17,592.1**
U.S. TREASURY EXCHANGE STABILIZATION FUND							
Deutsche marks	5,908.4	.0	.0	45.9	−77.0	.0	5,877.3
Japanese yen	9,119.4	.0	.0	6.0	−450.4	.0	8,675.0
Interest receivables[4]	39.0[6]	...	...	...	...	−3.0	36.0
Other cash flow from investments[5]	10.4	...	...	...	...	−22.4	−12.0
Total	**15,077.2**	...	...	**51.9**	**−527.4**	**−25.4**	**14,576.3**

NOTE. Figures may not sum to totals because of rounding.

1. Purchases and sales include foreign currency sales and purchases related to official activity, swap drawings and repayments, and warehousing.

2. Calculated using marked-to-market exchange rates; represents the difference between the sale exchange rate and the most recent revaluation exchange rate. Realized profits and losses on sales of foreign currencies computed as the difference between the historic cost-of-acquisition exchange rate and the sale exchange rate are shown in table 2.

3. Foreign currency balances are marked to market monthly at month-end exchange rates.

4. Interest receivables for the ESF are revalued at month-end exchange rates. Interest receivables for the Federal Reserve System are carried at average cost of acquisition and are not marked to market until interest is paid.

5. Cash flow differences from payment and collection of funds between quarters.

6. As of May 31, 1997.

Tables 2 and 3 appear on page 952.

2. Net profits or losses (–) on U.S. Treasury and Federal Reserve foreign exchange operations based on historical cost-of-acquisition exchange rates, 1997:Q3

Millions of dollars

Period and item	Federal Reserve	U.S. Treasury Exchange Stabilization Fund
Valuation profits and losses on outstanding assets and liabilities, June 30, 1997		
Deutsche marks	426.9	–192.8
Japanese yen	1,047.2	1,542.7
Total	**1,474.1**	**1,349.9**
Realized profits and losses from foreign currency sales, June 30–Sept. 30, 1997		
Deutsche marks	.0	.0
Japanese yen	.0	.0
Total	**.0**	**.0**
Valuation profits and losses on outstanding assets and liabilities, Sept. 30, 1997		
Deutsche marks	274.8	–269.8
Japanese yen	732.9	1,081.8
Total	**1,007.7**	**812.0**

NOTE. Figures may not sum to totals because of rounding.

3. Currency arrangements, September 30, 1997

Millions of dollars

Institution	Amount of facility	Outstanding, Sept. 30, 1997
	Federal Reserve Reciprocal Currency Arrangements	
Austrian National Bank	250	0
National Bank of Belgium	1,000	
Bank of Canada	2,000	
National Bank of Denmark	250	
Bank of England	3,000	
Bank of France	2,000	
Deutsche Bundesbank	6,000	
Bank of Italy	3,000	
Bank of Japan	5,000	
Bank of Mexico	3,000	
Netherlands Bank	500	
Bank of Norway	250	
Bank of Sweden	300	
Swiss National Bank	4,000	
Bank for International Settlements		
Dollars against Swiss francs	600	
Dollars against other authorized European currencies	1,250	
Total	**32,400**	**0**
	U.S. Treasury Exchange Stabilization Fund Currency Arrangements	
Deutsche Bundesbank	1,000	0
Bank of Mexico	3,000	0
Total	. . .	**0**