TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE OPERATIONS

April-June 1997

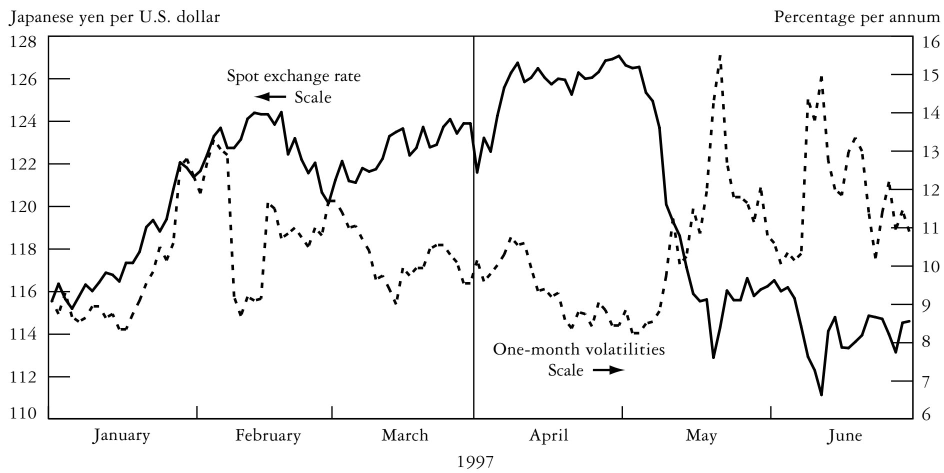
During the second quarter of 1997, the dollar depreciated 7.3 percent against the Japanese yen but gained 4.2 percent against the German mark. On a trade-weighted basis against other G-10 currencies, the dollar appreciated 1.0 percent.[1] The contrast between the dollar's performance against the yen and its performance against the mark primarily reflected broad-based yen strength and generalized mark weakness. Early in the period, the dollar had initially continued the upward trend against the yen established in the previous quarter. However, in the weeks following the April 27 G-7 meeting, the yen appreciated as the Japanese authorities pointed to improvement in Japan's near-term economic prospects and suggested that excessive yen depreciation might be addressed with intervention. The U.S. monetary authorities did not undertake any intervention operations in the foreign exchange market during the quarter.

This report, presented by Peter R. Fisher, Executive Vice President, Federal Reserve Bank of New York, and Manager, System Open Market Account, describes the foreign exchange operations of the U.S. Department of the Treasury and the Federal Reserve System for the period from April 1997 through June 1997. Grace Sone was primarily responsible for preparation of the report.

Chart 1

THE DOLLAR AGAINST THE JAPANESE YEN

Spot Exchange Rate and Volatility Implied by Option Prices

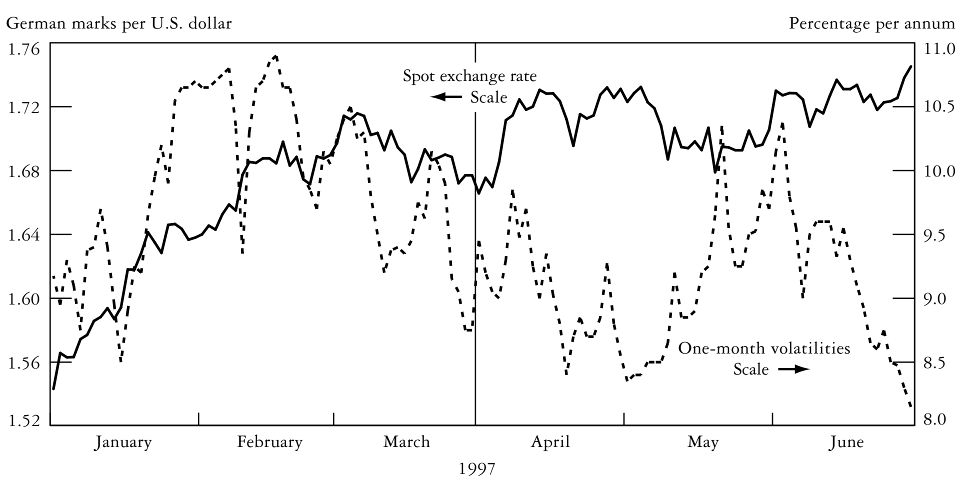


Sources: Federal Reserve Bank of New York; Reuters.

Chart 2

THE DOLLAR AGAINST THE GERMAN MARK

Spot Exchange Rate and Volatility Implied by Option Prices



Sources: Federal Reserve Bank of New York; Reuters.

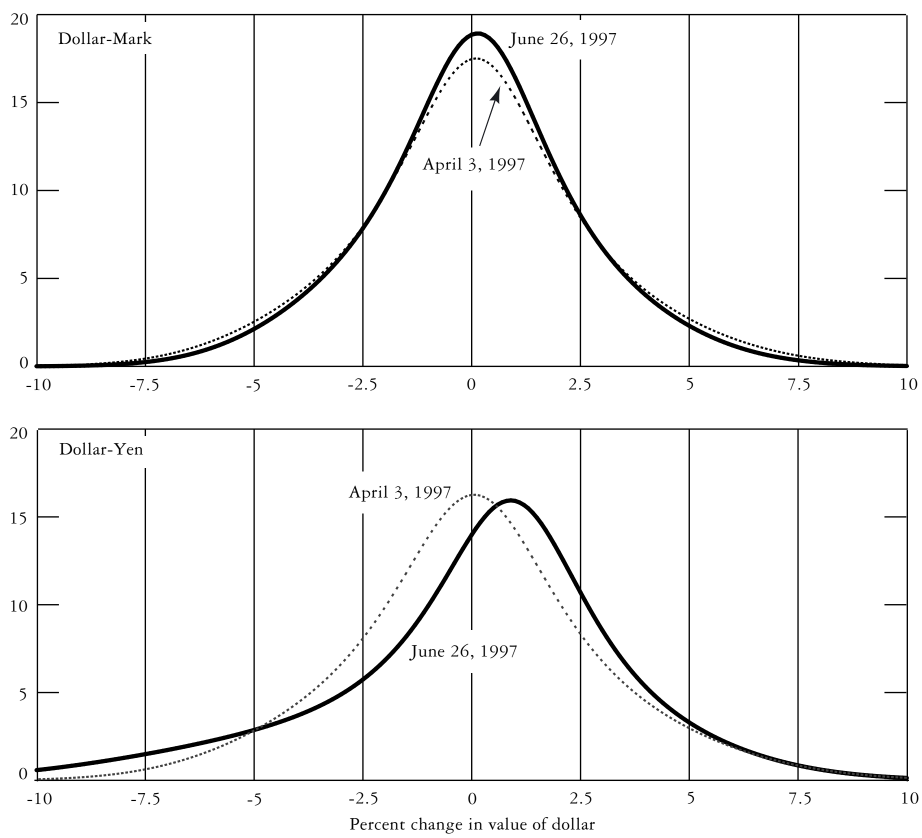
DOLLAR INTRADAY VOLATILITY RISES SLIGHTLY DURING THE QUARTER

Foreign exchange market volatility was slightly higher during the quarter, with the average daily trading range for the dollar widening to 1.0 percent against both the mark and the yen, compared with average daily ranges of 0.9 percent experienced in the previous quarter and 0.7 percent in the second quarter of 1996.

In the middle of the period, implied volatility on dollar-mark and dollar-yen options moved higher as the dollar-yen exchange rate fell 8.5 percent during May, but tapered off as the dollar-yen exchange rate stabilized in June. Dollar-yen implied volatility ended the second quarter only slightly higher than its first-quarter close, while dollar-mark implied volatility ended slightly

Chart 3

OPTION-BASED PROBABILITY DISTRIBUTION OF EXCHANGE RATES, ONE MONTH HENCE



Source: Federal Reserve Bank of New York.

lower. The dispersion of the probability distribution of the future dollar-mark exchange rate one-month hence implied by currency options prices was little changed over the quarter but became skewed towards a weaker dollar against the yen, reflecting a higher cost of protection against a sharp move lower in the dollar-yen exchange rate.

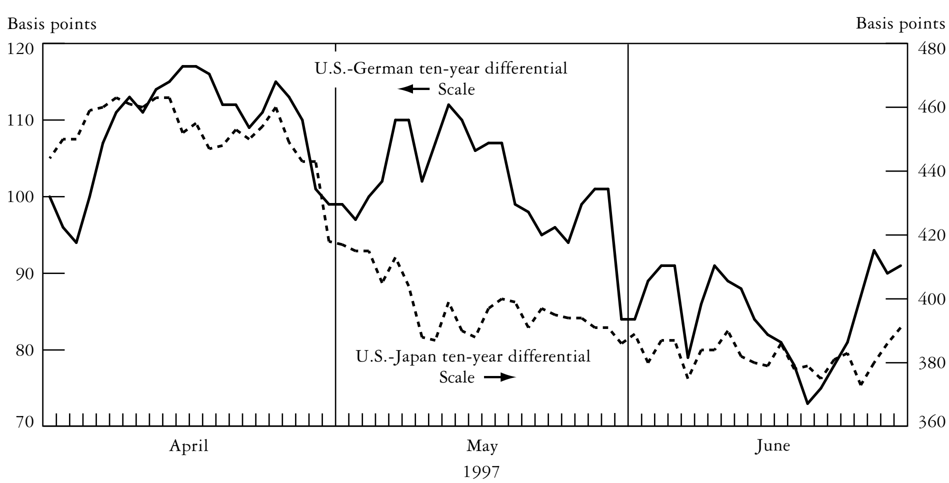
THE YEN STRENGTHENS AGAINST OTHER MAJOR CURRENCIES

The dollar began the quarter by continuing its upward movement against the yen, supported by expectations for further monetary tightening in the United States and steady monetary policy in Japan. The spread between ten-year U.S. and Japanese government bond yields widened to an eight-year high of 463 basis points on April 8. Market participants focused on the reference to "persisting strength in demand" in the press release following the March FOMC meeting, which was viewed as suggesting that the FOMC might apply more monetary restraint than had been anticipated. Meanwhile, market analysts became concerned that Japan's economic recovery was neither broad-based nor self-sustaining and that there was a potential for negative effects from the April 1 consumption tax hike; there were also concerns about strains in the Japanese financial sector.

In this perceived dollar-supportive environment, there was no immediate reaction to the April 27 G-7 statement, which emphasized the importance of avoiding exchange rate levels that could lead to the reemergence of large external imbalances. The dollar rose to a fifty-six-month high of ¥127.50 on May 1 as the yen depreciated against most major currencies. However, initial economic data

Chart 4

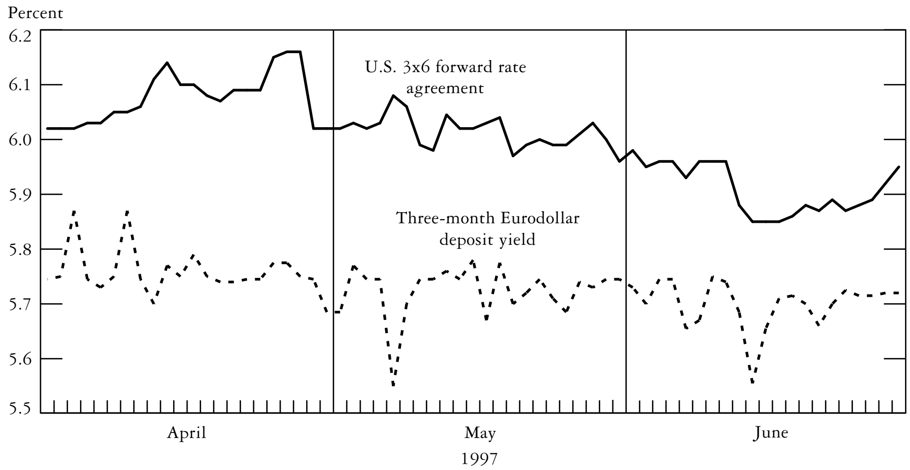
TEN-YEAR BOND YIELD DIFFERENTIALS



Source: Bloomberg L.P.

Chart 5

U.S. INTEREST RATES

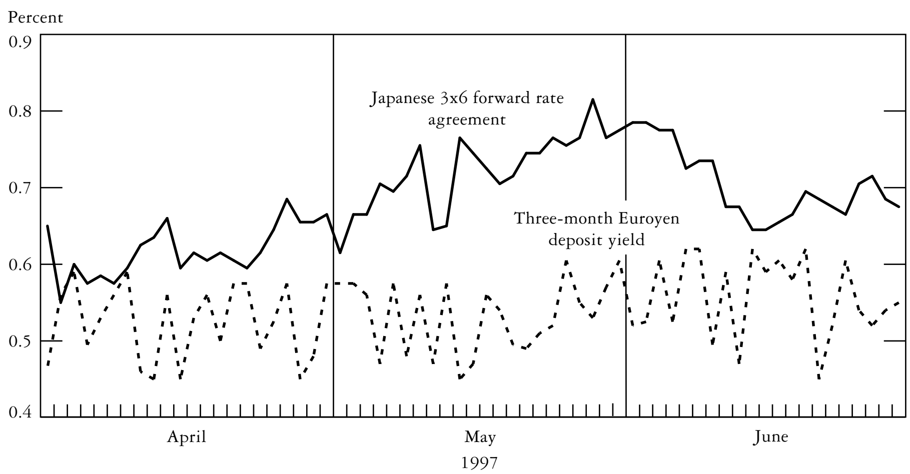


Source: Reuters.

Note: A 3x6 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.

releases for April appeared to suggest that the Japanese economy was not as adversely affected by the consumption tax hike as had been anticipated. Concurrently, Japanese officials began hinting at the possibility of intervention to support the yen. In particular, a Ministry of Finance official noted that the yen might strengthen to ¥103 by year-end, a comment that was interpreted by market analysts as a warning against further yen depreciation. Also, U.S. officials indicated their agreement with Japan's concern about yen depreciation. In addition, Japanese officials commented that the Japanese economic recovery was stronger than perceived by market participants and that an interest rate hike could occur sooner than expected. Against this backdrop, the Nikkei began to rise, closing above the 20,000 level on May 6 for the first time in 1997; yields on the benchmark ten-year Japanese government bond increased; and the yen started to appreciate against a broad range of currencies. Contributing to the yen's broad-based strength was the apparent unwinding of yen- financed positions in emerging market currencies, a move that was exacerbated by reports of worsening current account deficits and downwardly revised economic growth forecasts in countries such as Thailand and the Czech Republic.

Chart 6
JAPANESE INTEREST RATES



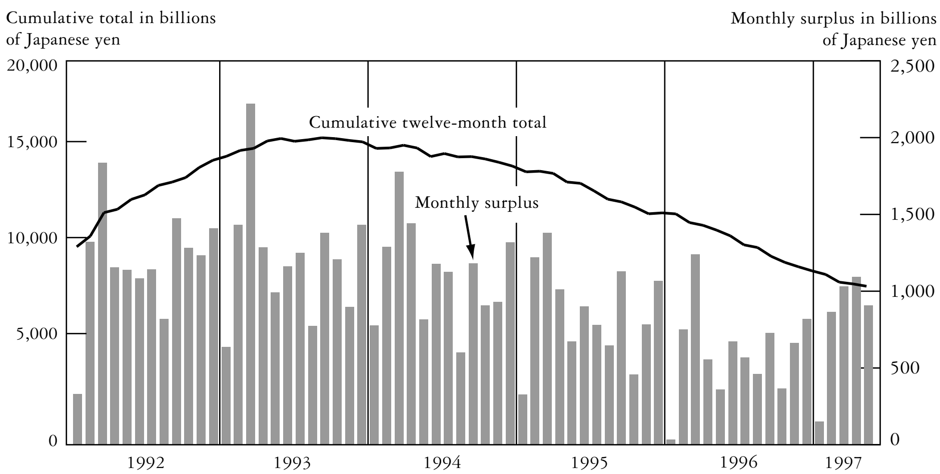
Source: Reuters.

Note: A 3x6 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.

Later in the period, market attention again shifted toward signs of a softer Japanese economy following data releases that implied a two-tiered economic recovery led by the export sector. However, the yen remained firm amid heightened concerns over possible intervention to stem any renewed yen weakness. These concerns were prompted by indications of a widening Japanese trade surplus and comments from U.S. officials suggesting that Japan should avoid an export-led recovery. Meanwhile, market participants started to scale back their expectations for U.S. monetary tightening following the release of retail sales and housing data, both of which were viewed as indicating moderating consumer demand. The U.S.-Japan ten-year bond yield spread narrowed from its eight-year high of 463 basis points on April 8 to end the period at 391 basis points. On a trade-weighted basis, the yen appreciated 9.2 percent during the second quarter. Against the Australian dollar, Swiss franc and British pound, the yen appreciated 12.5 percent, 9.0 percent, and 6.3 percent, respectively.

Chart 7

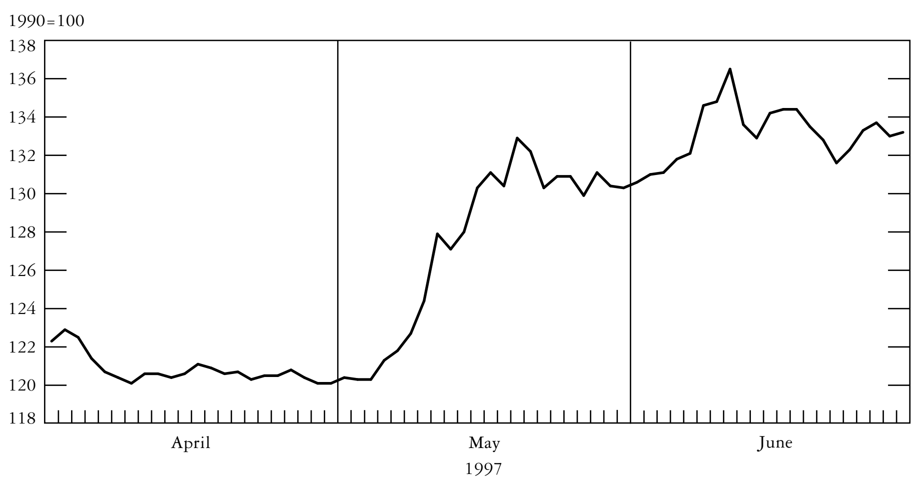
JAPANESE CURRENT ACCOUNT BALANCE



Source: Bloomberg L.P.

Chart 8

TRADE-WEIGHTED YEN

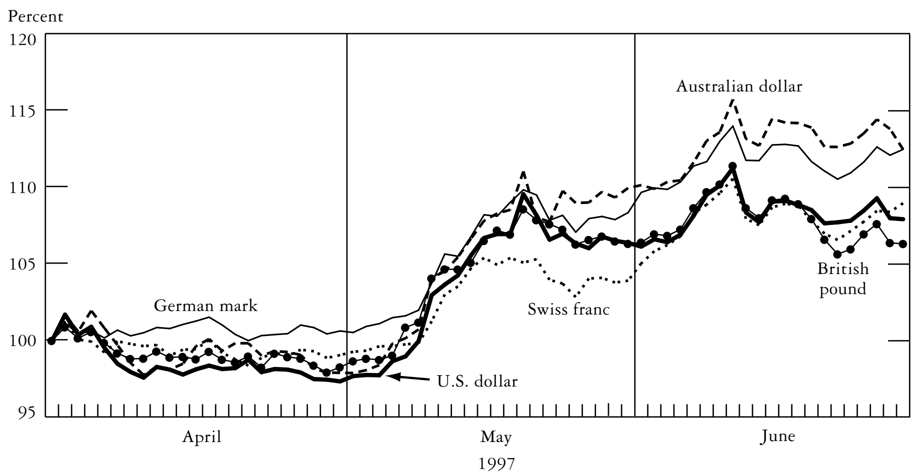


Source: Bloomberg L.P. (Bank of England calculation).

Chart 9

THE VALUE OF THE YEN AGAINST SELECTED CURRENCIES

Foreign Currency per Japanese Yen, Indexed to March 31=100



Source: Reuters.

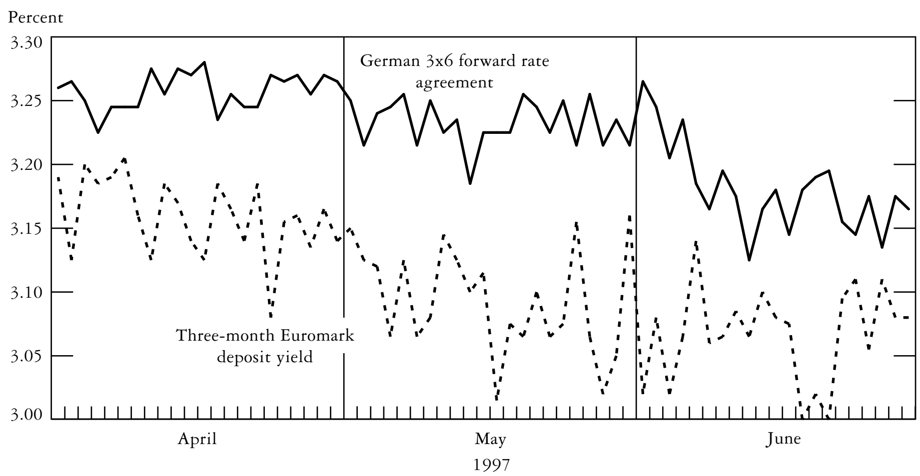
DOLLAR-MARK SUPPORTED BY BROAD GERMAN MARK WEAKNESS

Over the reporting period, the German mark was pressured lower by growing market expectations of broad participation in European monetary union (EMU). In addition, expectations of steady monetary policy in Germany, supported by reports that German unemployment remained at high levels, contributed to the weakness of the mark. Although the yield differential between U.S. and German ten-year bonds narrowed 20 basis points to end the quarter at 90 basis points, the dollar continued to move higher against the German mark as market participants focused on developments in Europe.

In May, the German mark firmed somewhat as doubts about the likelihood of a timely start to EMU reemerged. This uncertainty reflected both the prospects for a Socialist victory in the French elections and the criticism raised regarding the German government's proposal to revalue the Bundesbank's gold reserves. At this time, the dollar-mark exchange rate moved from around DM 1.73 to near DM 1.68. However, by mid-June, the dollar-mark exchange rate moved back above DM 1.73, toward levels seen in April, as earlier market doubts about a timely launch to EMU dissipated. Reports that France and Germany would have difficulty strictly meeting the 3 percent deficit-to-GDP Maastricht reference value, combined with assertions from French and German officials of their commitment to start EMU on time, made it appear increasingly likely that EMU would start with a broader set of countries. During the second quarter, the mark depreciated by more than 4.0 percent against the U.S. dollar and Japanese yen, and by more than 12.0 percent against the British pound. On a trade-weighted basis, the German mark depreciated 2.4 percent during the period.

Chart 10

GERMAN INTEREST RATES

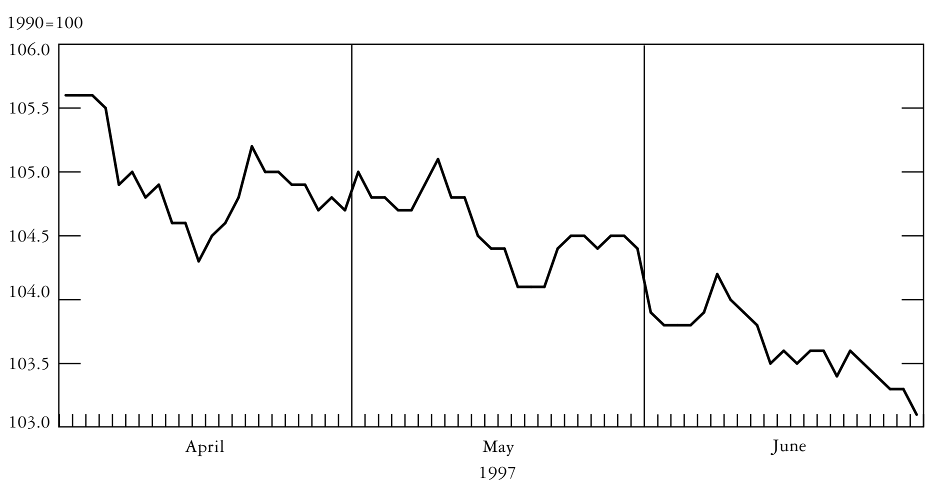


Source: Reuters.

Note: A 3x6 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.

Chart 11

TRADE-WEIGHTED MARK



Source: Bloomberg L.P. (Bank of England calculation).

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 and Japanese yen reserve holdings totaled \$18.0 billion for the Federal Reserve System and \$15.1 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 either directly or under repurchase agreement. As of June 30, outright holdings of government securities by U.S. monetary authorities totaled \$7.4 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 \$11.8 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.

ENDNOTES

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

Table 1

FOREIGN CURRENCY HOLDINGS OF U.S. MONETARY AUTHORITIES, BASED ON CURRENT EXCHANGE RATES

Millions of Dollars

	Balance as of March 31, 1997	Quarterly Change in Balance by Source: Net Purchases and Sales[a]	Impact of Sales[b]	Investment Income	Currency Valuation Adjustments[c]	Balance as of June 30, 1997
Federal Reserve						
Deutsche marks	12,113.8	0.0	0.0	87.3	($529.5)	11,671.7
Japanese yen	5,761.5	0.0	0.0	4.5	456.1	6,222.1
Subtotal	17,875.3	0.0	0.0	91.8	(73.4)	17,893.7
Interest receivables[d]	76.4					73.2
Other cash flow from investments[e]	(1.6)					2.9
Total	17,950.1					17,969.8
U.S. Treasury Exchange Stabilization Fund						
Deutsche marks	6,131.3	0.0	0.0	45.1	(268.0)	5,908.4
Japanese yen	8,445.4	0.0	0.0	6.8	667.2	9,119.4
Subtotal	14,576.7	0.0	0.0	51.9	399.2	15,027.8
Interest receivables[d]	40.0					40.4
Other cash flow from investments[e]	(3.8)					10.4
Total	14,612.9					15,078.6

Note: Figures may not sum to totals because of rounding.

[a] Purchases and sales for the purpose of this table include foreign currency sales and purchases related to official activity, swap drawings and repayments, and warehousing.

[b] This number is calculated using marked-to-market exchange rates; it 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 reflected in Table 2.

[c] Foreign currency balances are marked-to-market monthly at month-end exchange rates.

[d] 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.

[e] Values are cash flow differences from payment and collection of funds between quarters.

Table 2

NET PROFITS (+) OR LOSSES (-) ON U.S. TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE OPERATIONS, BASED ON HISTORIC COST-OF-ACQUISITION EXCHANGE RATES

Millions of Dollars

	Federal Reserve	U.S. Treasury Exchange Stabilization Fund
Valuation profits and losses on outstanding assets and liabilities as of March 31,1997		
Deutsche marks	956.3	75.2
Japanese yen	589.6	871.7
Total	1,545.9	946.9
Realized profits and losses from foreign currency sales March 31, 1997 – June 30, 1997		
Deutsche marks	0.0	0.0
Japanese yen	0.0	0.0
Total	0.0	0.0
Valuation profits and losses on outstanding assets and liabilities as of June 30, 1997		
Deutsche marks	426.9	(192.8)
Japanese yen	1,047.2	1,542.7
Total	1,474.1	1,349.9

Note: Figures may not sum to totals because of rounding.

Table 3

FEDERAL RESERVE RECIPROCAL CURRENCY ARRANGEMENTS

Millions of Dollars

Institution	Amount of Facility	Outstanding as of June 30, 1997
Austrian National Bank	250	0
National Bank of Belgium	1,000	0
Bank of Canada	2,000	0
National Bank of Denmark	250	0
Bank of England	3,000	0
Bank of France	2,000	0
Deutsche Bundesbank	6,000	0
Bank of Italy	3,000	0
Bank of Japan	5,000	0
Bank of Mexico	3,000	0
Netherlands Bank	500	0
Bank of Norway	250	0
Bank of Sweden	300	0
Swiss National Bank	4,000	0
Bank for International Settlements		
Dollars against Swiss francs	600	0
Dollars against other authorized European currencies	1,250	0
Total	32,400	0

U.S. TREASURY EXCHANGE STABILIZATION FUND CURRENCY ARRANGEMENTS

Millions of Dollars

Institution	Amount of Facility	Outstanding as of June 30, 1997
Deutsche Bundesbank	1,000	0
Bank of Mexico	3,000	0
Total		0