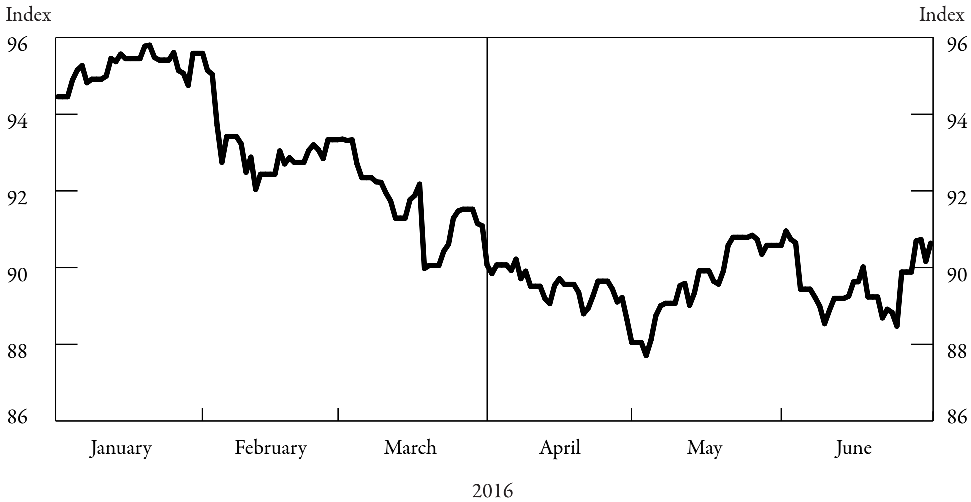
TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE OPERATIONS

April – June 2016

During the second quarter of 2016, the U.S. dollar appreciated 0.9 percent against major currencies as measured by the Federal Reserve Board's trade-weighted major currencies index. The beginning of the quarter saw a continuation of the broad U.S. dollar depreciation that began earlier in the year, but that trend reversed in May owing to communication from the Federal Open Market Committee (FOMC) that market participants interpreted as less accommodative, and stronger U.S. data. Safe haven flows stemming from international developments, namely the June 23 referendum on the United Kingdom's membership in the European Union, led to additional dollar appreciation into the end of the quarter. On net, the U.S. dollar appreciated against most major currencies over the quarter with the exception of the Japanese yen and the Canadian dollar. The British pound depreciated sharply against the dollar immediately following the outcome of the U.K. referendum, leading to a 7.3 percent decline in the pound–dollar exchange rate over the quarter. Most emerging market currencies depreciated against the dollar owing to heightened risk aversion and idiosyncratic issues, with the Mexican peso and Chinese renminbi the weakest performers among the currencies of major U.S. trading partners. The U.S. monetary authorities did not intervene in the foreign exchange markets during the quarter.

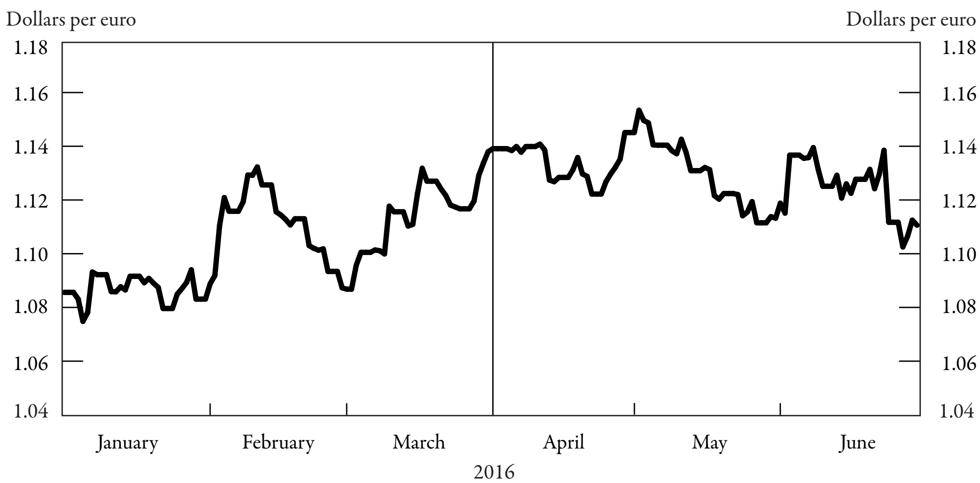
This report, presented by Simon Potter, Executive Vice President, Federal Reserve Bank of New York, and Manager of the System Open Market Account, describes the foreign exchange operations of the U.S. Department of the Treasury and the Federal Reserve System for the period from April through June 2016. Michael Hendley was primarily responsible for preparation of the report.

Chart 1
MAJOR CURRENCY TRADE-WEIGHTED U.S. DOLLAR



Sources: Board of Governors of the Federal Reserve System; Bloomberg L.P.

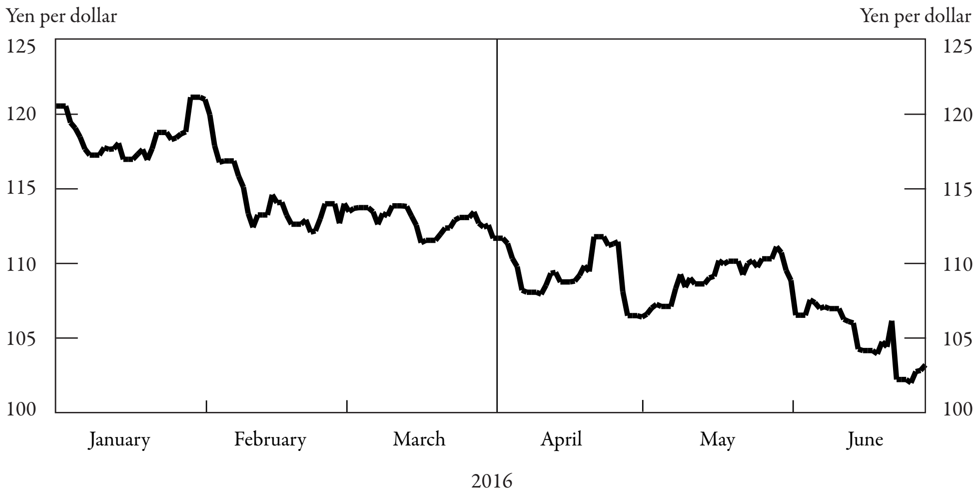
Chart 2
EURO–U.S. DOLLAR EXCHANGE RATE



Source: Bloomberg L.P.

Chart 3

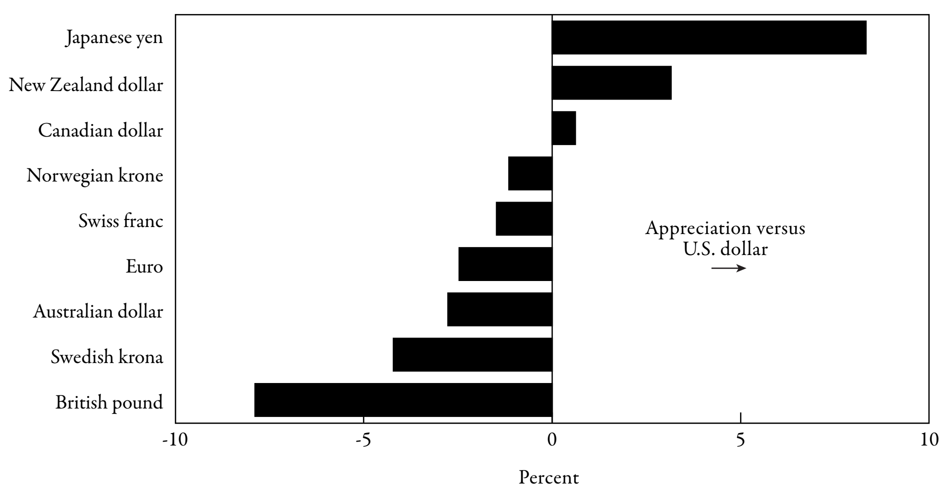
U.S. DOLLAR–YEN EXCHANGE RATE



Source: Bloomberg L.P.

Chart 4

U.S. DOLLAR PERFORMANCE AGAINST DEVELOPED-MARKET CURRENCIES DURING SECOND QUARTER



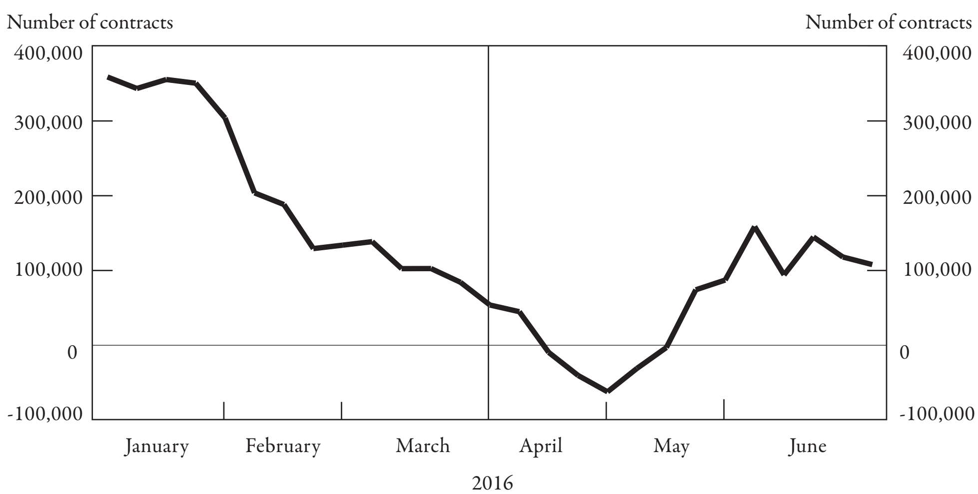
Source: Bloomberg L.P.

U.S. DOLLAR APPRECIATES BROADLY OWING TO IMPROVED ECONOMIC DATA, NEGATIVE GLOBAL RISK SENTIMENT

The trade-weighted U.S. dollar appreciated 0.9 percent against major currencies in the second quarter of 2016. The first month of the quarter saw a continuation of the weaker dollar trend from earlier in the year as the dollar continued to depreciate against most currencies. In early May, the dollar began to appreciate owing to a combination of better U.S. economic data and market participants' interpretation of communication from the FOMC. The U.S. data, including reports on business conditions and consumption, were consistent with a rebound in U.S. growth following a subdued first quarter, which provided additional support to the dollar. A number of FOMC members' speeches, as well as the release of the April FOMC meeting minutes, were interpreted as implying a greater likelihood of a rate increase in the near term. This communication, in turn, resulted in a notable upward shift in the market-implied policy rate curve and appreciation pressure on the dollar. Market participants also pointed to widening interest rate differentials among U.S., European, and Japanese assets as driving the dollar appreciation in May. Futures and options data on the net dollar positions of noncommercial investors on the Chicago Mercantile Exchange (CME), a gauge of speculative investor sentiment, also showed a reversal from the trend of declining net long positions that had persisted since August 2015, reflecting widening interest rate differentials.

Chart 5

NET LONG U.S. DOLLAR FUTURES AND OPTIONS OUTSTANDING



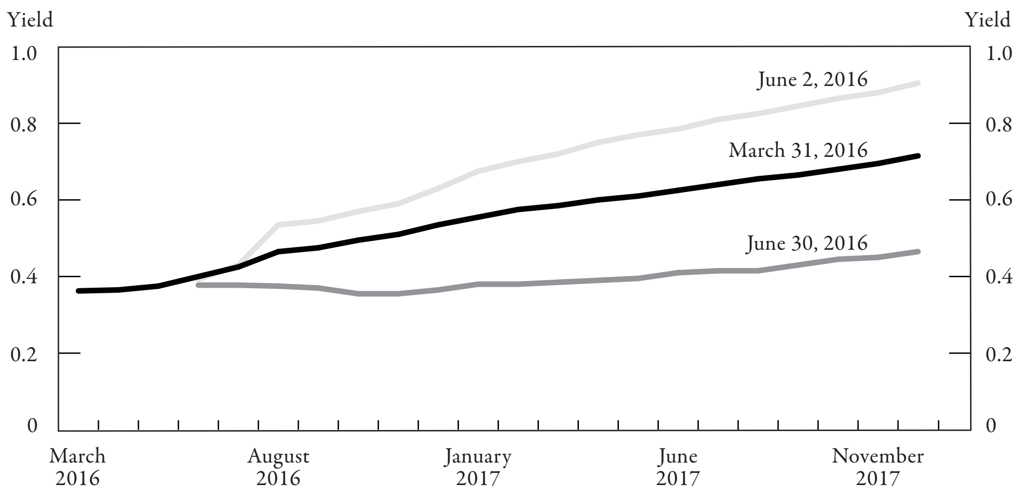
Source: Bloomberg L.P.

Note: A negative number indicates net short positioning.

In early June, significantly weaker-than-expected U.S. labor data led to a sudden reversal of the trend toward dollar appreciation, with policy-sensitive rates falling and the dollar depreciating modestly. However, dollar depreciation was short-lived, as safe haven flows stemming from significant market volatility in the aftermath of the U.K. referendum led to further dollar appreciation.

Chart 6

MARKET-IMPLIED RATES ON FEDERAL FUNDS FUTURES



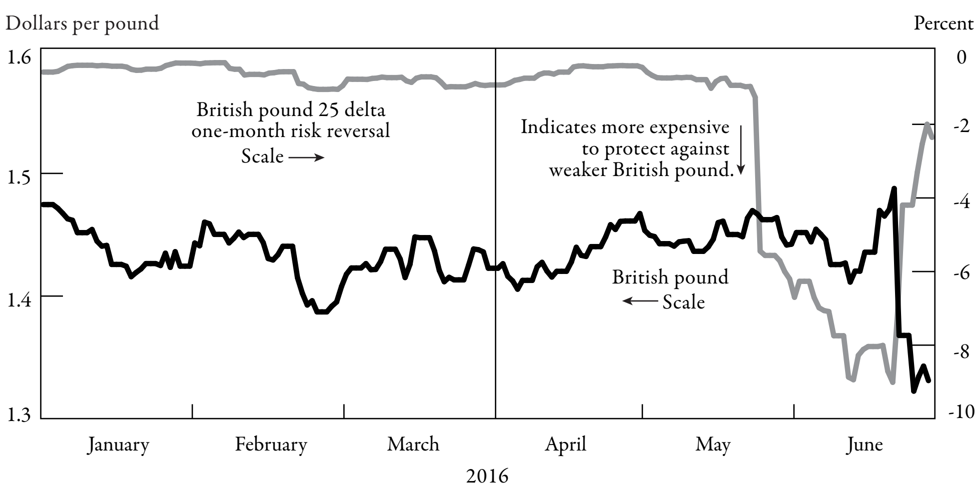
Source: Bloomberg L.P.

U.K. REFERENDUM RESULTS DRIVE SIGNIFICANT MARKET VOLATILITY IN THE BRITISH POUND AND EURO

On June 23, a majority of British voters indicated their preference for the U.K. to withdraw from the EU. The outcome of the referendum was the major driver of global currency markets at the end of the quarter and sparked a selloff in global risk assets, particularly in the U.K. The British pound depreciated more than 11 percent against the dollar in the immediate aftermath of the results, reaching its lowest level in thirty-one years. On net, the pound depreciated 7.3 percent against the dollar over the quarter owing to expectations that exiting the EU will have negative economic consequences for the British economic outlook. The U.K.'s large current-account deficit has also been cited as an economic headwind, especially as it makes the currency vulnerable to possible reductions in foreign capital inflows. In addition, market participants' expectations for additional monetary policy accommodation by the Bank of England increased. Accordingly, U.S. and U.K. sovereign yield differentials widened significantly, further supporting flows into U.S. dollar securities. Meanwhile, market-implied volatility on the pound rose to levels not seen since the 2009 financial crisis, with investors paying much higher premiums for protection against depreciation in the pound.

Chart 7

BRITISH POUND–U.S. DOLLAR AND POUND RISK REVERSAL



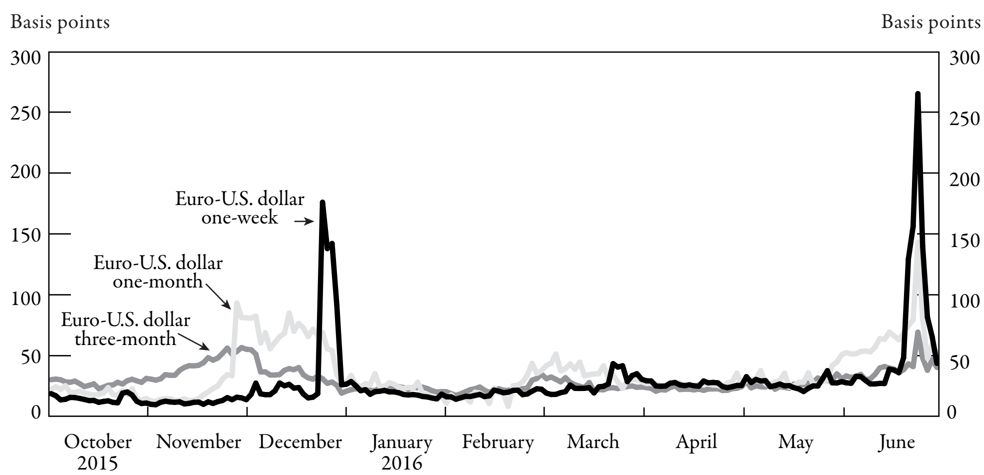
Source: Bloomberg L.P.

The euro–U.S. dollar currency pair ended the quarter 2.4 percent weaker on net, with most of the depreciation occurring immediately after the U.K. referendum. The decline largely reflected expectations of weaker euro-area economic growth following the vote. Euro-area economic data during the quarter also indicated a slight deceleration of activity, which may have further weighed on the euro. On the margin, some indicators pointed to net portfolio investment outflows resulting from an increasingly large portion of euro-denominated sovereign bonds being traded at negative rates; these outflows may also have been a headwind to the euro throughout the quarter. Policy meetings by the European Central Bank (ECB) on April 21 and June 2 resulted in no significant policy changes and had little impact on currency markets, though market expectations of future ECB rates moved slightly lower following the U.K. referendum.

Market contacts noted higher realized volatility and reduced liquidity in currency markets, including wider bid-ask spreads and smaller trade sizes. However, while liquidity was somewhat impaired immediately after the vote, market functioning generally remained orderly and liquidity conditions mostly normalized in subsequent trading sessions. Short-term foreign exchange swap bases in major currency pairs, an indication of offshore dollar funding pressure, did widen notably around the referendum results but retraced by early July. More generally, market participants attribute persistently wider foreign exchange swap bases since 2014 to a range of structural factors, including higher demand for dollar funding through the foreign exchange swap market.

Chart 8

EURO-U.S. DOLLAR FOREIGN EXCHANGE SWAP-IMPLIED BASIS SPREADS



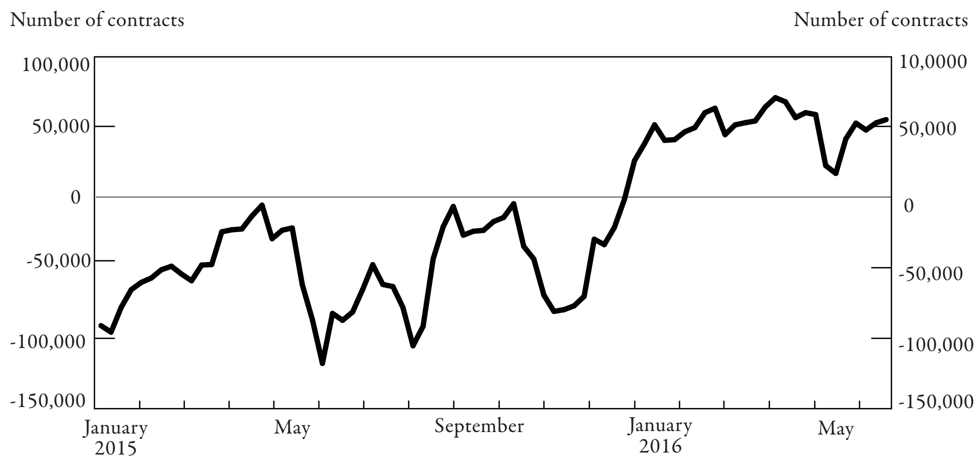
Source: Bloomberg L.P.

JAPANESE YEN CONTINUES TO APPRECIATE

The dollar depreciated 8.3 percent against the Japanese yen, continuing a trend that began in January. The yen was supported by safe haven flows triggered by negative risk sentiment around the U.K. referendum and by Japan's ongoing current account surpluses. Additionally, despite significant expectations going into the quarter of additional Bank of Japan (BoJ) easing measures, the BoJ remained on hold in its April and June meetings, further supporting the yen. In particular, market expectations for additional easing measures had risen before the BoJ's April 27 meeting, leading to notable yen appreciation on the day. Of note, net long yen positions among speculative investors on the CME remained at multiyear highs throughout the quarter.

Chart 9

NET LONG YEN FUTURES AND OPTIONS OUTSTANDING



Source: Bloomberg L.P.

Note: A negative number indicates net short positioning.

REDUCED INVESTOR RISK APPETITE WEIGHS ON MOST EMERGING MARKET CURRENCIES

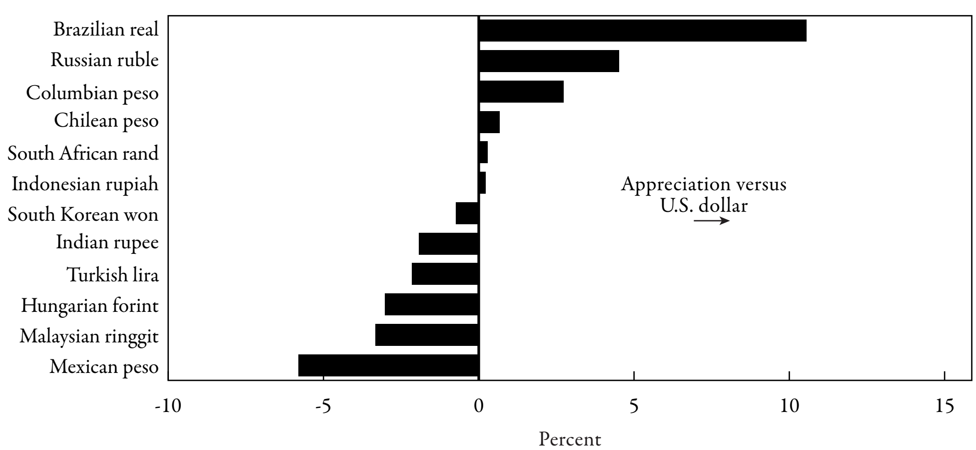
Most emerging market currencies depreciated against the dollar during the second quarter of 2016, in line with the decline in investor risk appetite. This reflected a partial retracement of the prior quarter's price action and was largely attributable to ongoing global growth concerns, financial market volatility, and a general lack of improved emerging market economic data.

Currencies of major U.S. trading partners were among the most notable emerging market underperformers, with the Mexican peso and Chinese renminbi depreciating approximately 6 percent and 3 percent against the dollar, respectively. Weakness in the peso reflected a lower domestic growth outlook and heightened fiscal concerns that drove foreign investor debt outflows. There were also reports of investors using the Mexican peso as a proxy hedge for other, less liquid, emerging markets assets. Contacts linked the renminbi's depreciation to slowing economic momentum and increased outbound mergers and acquisitions activity. Available data from the People's Bank of China (PBoC) indicate that net changes in foreign currency reserves were much smaller than in the previous two quarters.

In contrast with the performance of most other emerging market currencies over the quarter, the Brazilian real and Russian ruble appreciated 11.8 percent and 4.7 percent against the dollar, respectively, with higher oil prices supportive of both currencies, while reduced political risks and increases in a broader array of commodity prices, including agricultural goods, iron ore, and oil, buoyed the real.

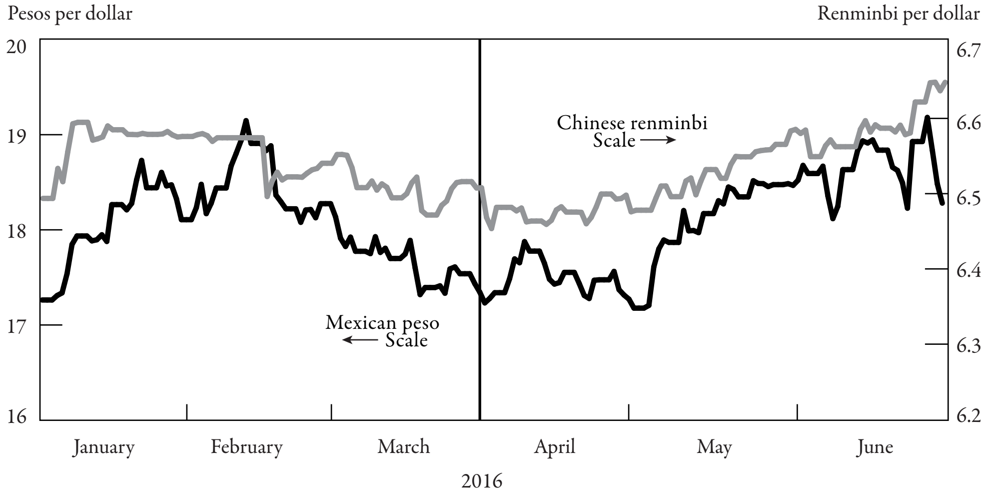
Chart 10

U.S. DOLLAR PERFORMANCE AGAINST EMERGING MARKET CURRENCIES DURING SECOND QUARTER



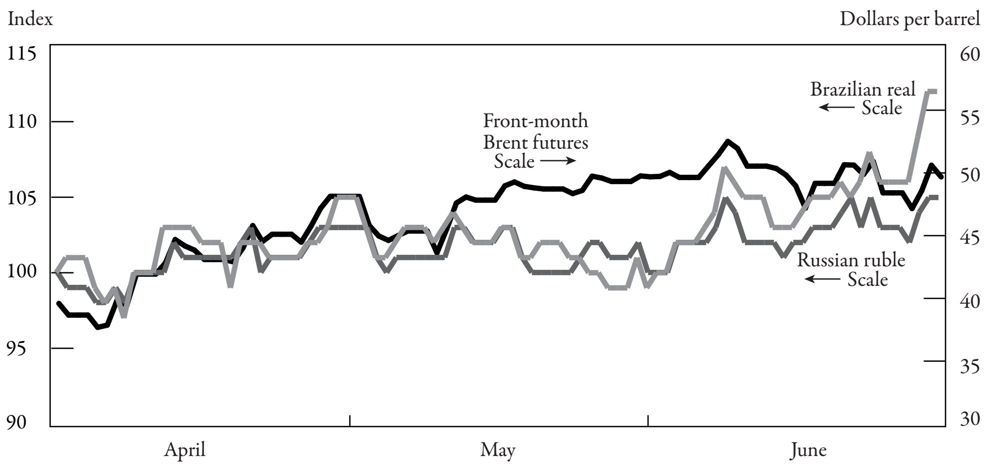
Source: Bloomberg L.P.

Chart 11
MEXICAN PESO AND CHINESE RENMINBI PERFORMANCE



Source: Bloomberg L.P.

Chart 12
COMMODITY-SENSITIVE CURRENCIES AND OIL PRICES



Source: Bloomberg L.P.

TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE HOLDINGS

The U.S. monetary authorities did not undertake any intervention operations during the quarter. As of June 30, the value of the U.S. Treasury's Exchange Stabilization Fund foreign-currency-denominated assets totaled $21.1 billion, comprised of euro and yen holdings. The Federal Reserve System Open Market Account holdings of foreign-currency-denominated assets totaled $21.1 billion, also comprised of euro and yen holdings.

Foreign Exchange Reserve Holdings

The U.S. monetary authorities invest their foreign currency reserves, which are held in the System Open Market Account (SOMA) and the Exchange Stabilization Fund (ESF), in a variety of instruments that yield market rates of return in their respective currencies and have a high degree of liquidity and credit quality. The Authorization for Foreign Currency Operations defines the permitted investments for the SOMA foreign currency portfolio.

A significant portion of the U.S. monetary authorities' foreign exchange reserves is typically invested on an outright basis in German, French, and Japanese government securities. A smaller portion of the reserves is typically invested in euro-denominated repurchase agreements. The securities accepted in repurchase agreements are typically consistent with the investments made on an outright basis. Foreign currency reserves may also be invested at the Bank for International Settlements and in facilities at other official institutions such as the Deutsche Bundesbank, the Banque de France, and the BoJ. To the greatest extent practicable, the investments are split evenly between the SOMA and the ESF.

As of June 30, the euro reserves held by both the SOMA and ESF totaled $24.1 billion. Cash held in euro-denominated deposits at official institutions declined to $12.9 billion from $13 billion, while direct holdings of euro-denominated government securities declined to $11.2 billion from $11.9 billion. These declines resulted from translation effects as the dollar appreciated against the euro. Foreign government securities held under repurchase agreements remained at zero. The amount of yen-denominated deposits and government securities increased to $18.2 billion at quarter-end from $16.6 billion, which is also attributable to depreciation of the dollar against the yen.

Liquidity Swap Arrangements with Foreign Central Banks

As of June 30, the BoJ and the ECB each had $1.5 billion of swaps in seven-day transactions outstanding. The Bank of Canada, Bank of England, and Swiss National Bank did not have any dollar swaps outstanding at the end of the quarter.

Table 1

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

Millions of U.S. Dollars

	Carrying Value, March 31, 2016[a]	Changes in Balances by Source: Net Purchases and Sales[b]	Investment Earnings[c]	Realized Gains/Losses on Sales[d]	Unrealized Gains/Losses on Foreign Currency Revaluation[e]	Carrying Value, June 30, 2016[a]
Federal Reserve System Open Market Account (SOMA)						
Euro	12,447	0	(2)	0	(391)	12,054
Japanese yen	8,308	0	1	0	780	9,089
Total	20,755	0	(1)	0	389	21,143

	Carrying Value, March 31, 2016[a]	Changes in Balances by Source: Net Purchases and Sales[b]	Investment Earnings[c]	Realized Gains/Losses on Sales[d]	Unrealized Gains/Losses on Foreign Currency Revaluation[e]	Carrying Value, June 30, 2016[a]
U.S. Treasury Exchange Stabilization Fund (ESF)						
Euro	12,428	0	(2)	0	(391)	12,035
Japanese yen	8,308	0	1	0	780	9,089
Total	20,735	0	(1)	0	390	21,124

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

[a] Carrying value of the reserve asset position includes interest accrued on foreign currency, which is based on the "day of" accrual method.

[b] Net purchases and sales include foreign currency purchases related to official activity, as well as repayments and warehousing.

[c] Investment earnings include accrued interest and amortization on outright holdings.

[d] Gains and losses on sales are calculated using average cost.

[e] Reserve asset balances are revalued daily at the noon buying rates.

Table 2

BREAKDOWN OF FOREIGN RESERVE ASSETS HELD

Carrying Value in Millions of U.S. Dollars, as of June 30, 2016

	U.S. Treasury Exchange Stabilization Fund (ESF)[a]	Federal Reserve System Open Market Account (SOMA)[a]
Euro-denominated assets	**12,034.8**	**12,053.7**
Cash held on deposit at official institutions	6,433.2	6,452.0
Marketable securities held under repurchase agreements[b]	0.0	0.0
Marketable securities held outright	5,601.7	5,601.7
German government securities	2,178.3	2,178.3
French government securities	3,423.4	3,423.4
Japanese-yen–denominated assets	**9,089.1**	**9,089.1**
Cash held on deposit at official institutions	4,011.1	4,011.0
Marketable securities held outright	5,078.1	5,078.1
Reciprocal currency arrangements		
European Central Bank[c]		1,519
Bank of Japan[c]		1,475
Swiss National Bank[c]		0
Bank of Canada[c]		0
Bank of England[c]		0
Banco de México[c]		0

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

[a] As of June 30, the euro SOMA and ESF portfolios had Macaulay durations of 14.10 and 14.12 months, respectively; the yen SOMA and ESF portfolios both had Macaulay durations of 10.92 months.

[b] Sovereign debt obligations of Belgium, France, Germany, Italy, the Netherlands, and Spain are currently eligible collateral for reverse repo transactions.

[c] Carrying value of outstanding reciprocal currency swaps with the European Central Bank, the Swiss National Bank, the Bank of Japan, the Bank of Canada, the Bank of England, and Banco de México.

Table 3

RECIPROCAL CURRENCY ARRANGEMENTS

Millions of U.S. Dollars

Institution	Amount of Facility	Outstanding as of June 30, 2016
	Federal Reserve System Open Market Account (SOMA)	
Reciprocal currency arrangement		
Bank of Canada	2,000	0
Banco de México	3,000	0
Standing dollar liquidity swap arrangement		
European Central Bank	No preset limit	1,519
Swiss National Bank	No preset limit	0
Bank of Japan	No preset limit	1,475
Bank of Canada	No preset limit	0
Bank of England	No preset limit	0
	No preset limit	2,994
Standing foreign currency liquidity swap arrangement		
European Central Bank	No preset limit	0
Swiss National Bank	No preset limit	0
Bank of Japan	No preset limit	0
Bank of Canada	No preset limit	0
Bank of England	No preset limit	0
	No preset limit	0
	U.S. Treasury Exchange Stabilization Fund (ESF)	
Banco de México	3,000	0
	3,000	0