# TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE OPERATIONS

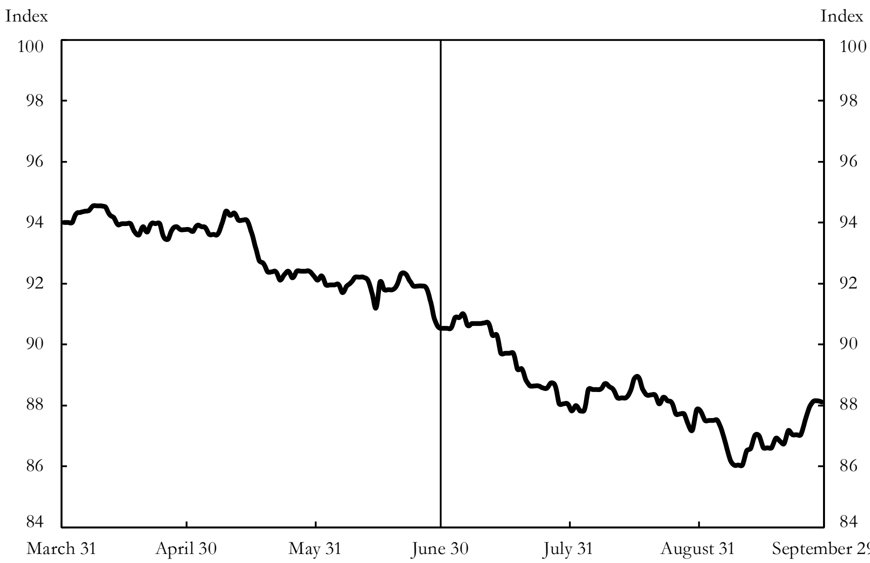
*July – September 2017*

In the third quarter of 2017, the U.S. dollar, as measured by the Federal Reserve Board's trade-weighted major currencies index, declined 2.7 percent. The depreciation of the dollar during the quarter occurred amid uncertainty regarding the implementation of expansionary U.S. fiscal policy, below-consensus U.S. inflation data, and a number of international developments. The dollar depreciated 3.3 percent against the euro and 2.8 percent against the British pound, but was little changed against the Japanese yen. The dollar also depreciated against most emerging market currencies during the quarter, including by 1.9 percent against the Chinese renminbi, amid improving global economic data and continued low financial market volatility. The Federal Reserve and U.S. Treasury 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 July through September 2017. Pertshuhi Torosyan was primarily responsible for preparation of the report.*

*Chart 1*

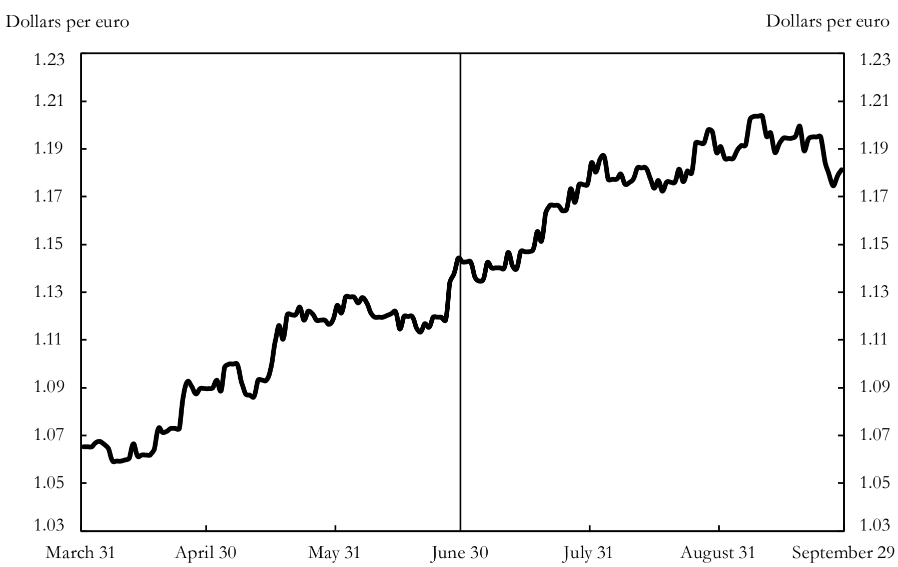
**MAJOR CURRENCY TRADE-WEIGHTED U.S. DOLLAR**




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

*Chart 2*

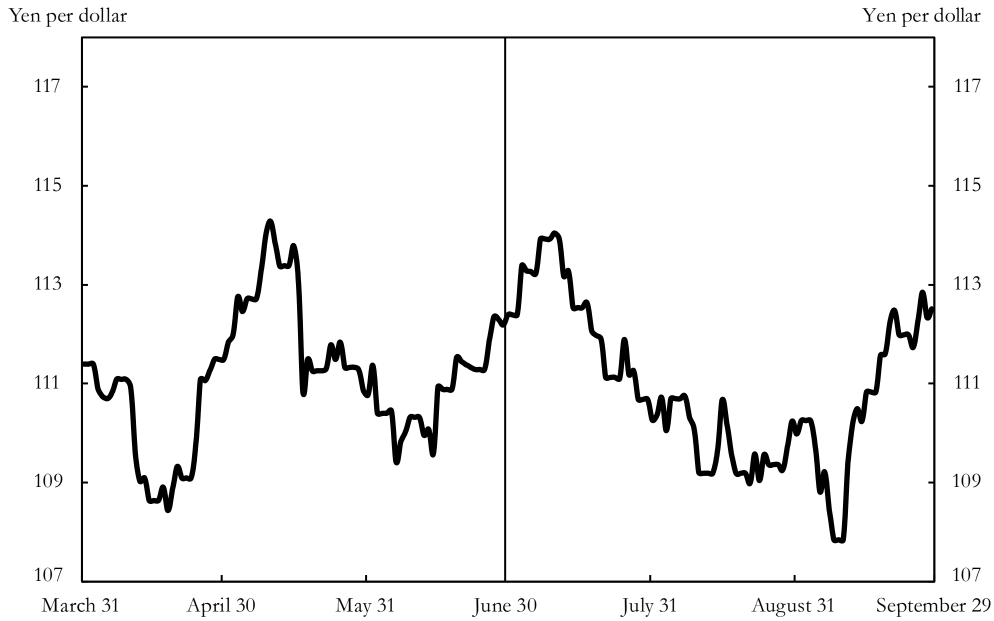
**EURO–U.S. DOLLAR EXCHANGE RATE**




Source: Bloomberg L.P.

*Chart 3*

**U.S. DOLLAR–YEN EXCHANGE RATE**



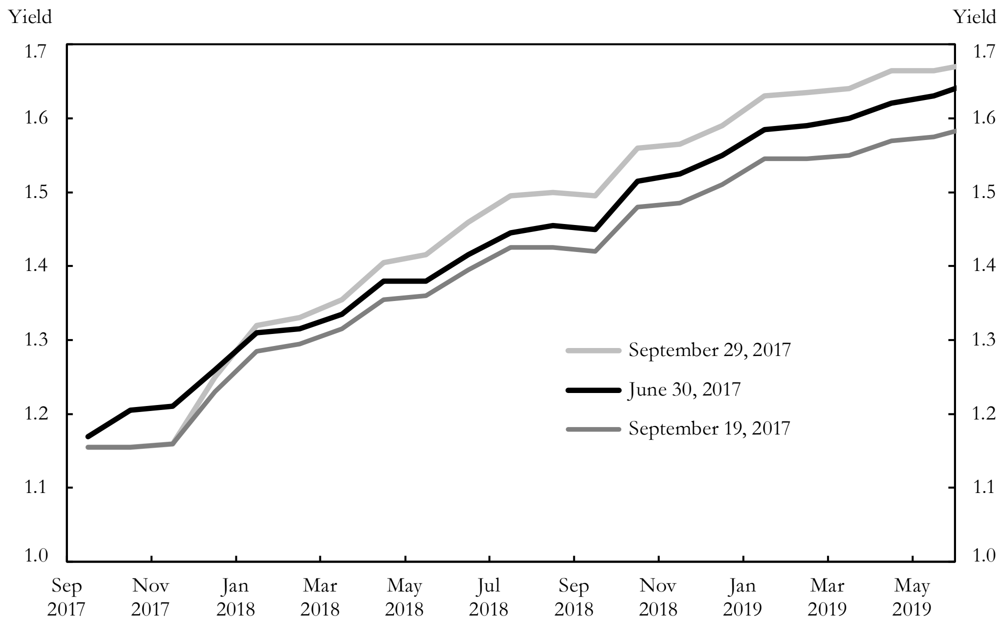

Source: Bloomberg L.P.

## U.S. DOLLAR DEPRECIATES AMID U.S. FISCAL POLICY UNCERTAINTY AND FLATTENING PATH OF MONETARY POLICY

The U.S. dollar depreciated 2.7 percent during the third quarter, as measured by the Federal Reserve Board's trade-weighted major currencies index, continuing the depreciation trend observed in the first half of 2017. On the domestic front, despite a moderate rise in economic activity over the quarter, lower-than-expected U.S. inflation data continued to weigh on the U.S. dollar as the path of expected U.S. monetary policy flattened. The June and July U.S. consumer price index (CPI) data released during the third quarter were the fourth and fifth consecutive below-consensus CPI prints and weighed on market expectations for further policy tightening by the Federal Reserve. U.S. Treasury yields declined as much as 3 basis points, led by shorter-dated tenors, following both prints. The final U.S. headline CPI inflation print released over the quarter was higher than expected but had limited impact on the dollar and U.S. Treasury yields because the core measure of inflation was below expectations. Labor market and other growth-oriented economic data remained buoyant during the quarter, but market participants put more weight on the inflation data, viewing the labor market reports as consistent with Federal Open Market Committee (FOMC) goals while inflation remained below the Federal Reserve's 2 percent target. The Employment Situation Reports throughout the quarter generally showed continued improvement in the labor market with larger-than-expected increases in nonfarm payrolls, while second-quarter GDP growth accelerated to 3.1 percent on an annualized basis, from 1.4 percent in the previous quarter.

While the dollar's depreciation trend remained intact for most of the quarter, price action retraced slightly during September. At its September 19-20 meeting, the FOMC kept the target range for the federal funds rate unchanged and announced a change to its reinvestment policy, both of which were widely expected by market participants. Investors interpreted the FOMC events as reaffirming that an additional rate increase is likely by year-end and viewed the lack of downward revisions to the near-term target fed funds rate projections in the Statement of Economic Projections as indicating expectations for a steeper path of policy than some had anticipated. Following the FOMC meeting, the dollar appreciated broadly against both emerging market and developed market currencies, U.S. Treasury yields increased up to 4 basis points led by shorter-dated tenors, and the market-implied path of policy steepened. On net, the two-year U.S. Treasury yield increased 10 basis points over the quarter.

*Chart 4*
**MARKET-IMPLIED RATES ON FEDERAL FUNDS FUTURES**

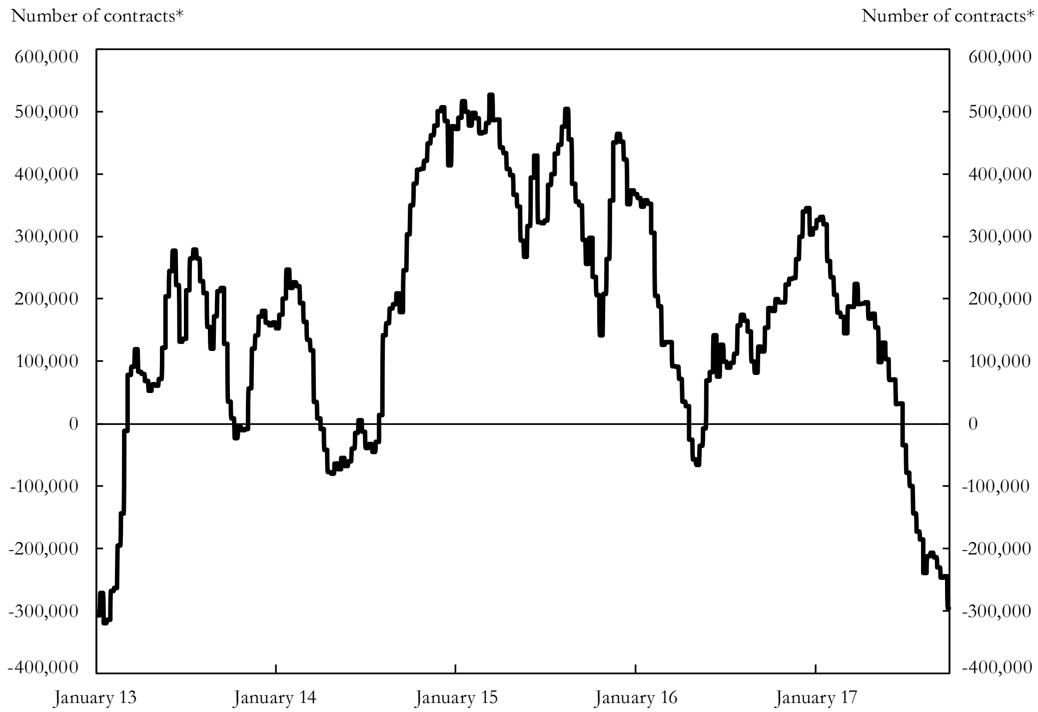



Source: Bloomberg L.P.

Ongoing debate regarding possible changes to fiscal policy in the U.S. also remained a key point of focus for currency traders. In particular, continued uncertainty regarding the prospect for tax reform weighed on dollar sentiment during most of the quarter. Toward the end of the quarter, however, growing expectations for progress on U.S. tax reform, along with the aforementioned shift in expectations for a steeper path of policy after the September FOMC meeting, supported the dollar. Despite the modest rebound in the trade-weighted dollar, however, combined net Commodity Futures Trading Commission (CFTC) noncommercial positioning showed the shortest dollar positioning at quarter-end since January 2013.

*Chart 5*

**NONCOMMERCIAL NET LONG U.S. DOLLAR POSITIONS**




Sources: Commodity Futures Trading Commission; Bloomberg L.P.

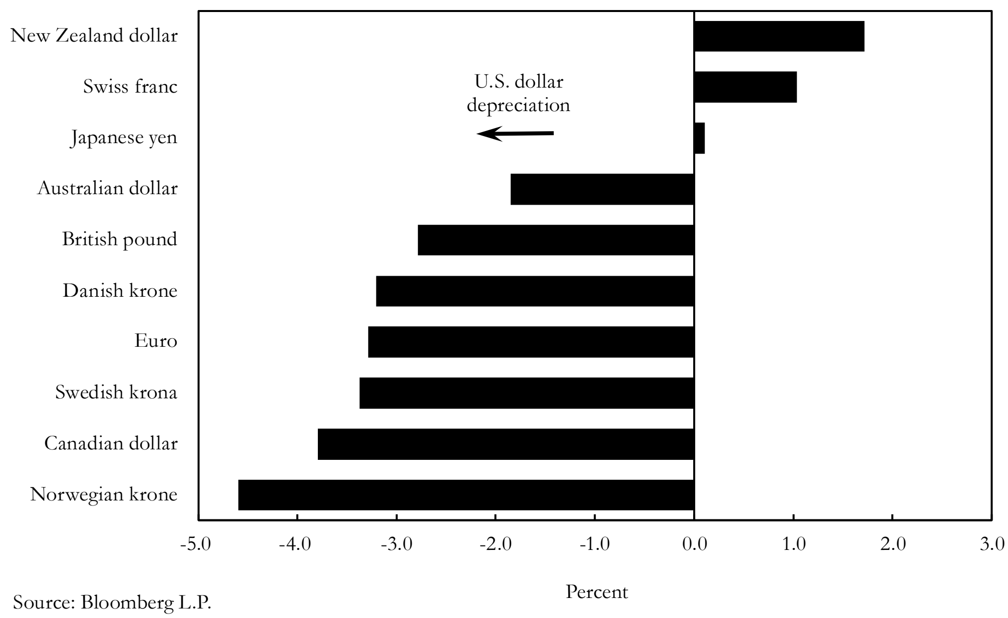
*Aggregate of ten major currency pairs and the U.S. Dollar Index (DXY).

## DOLLAR DEPRECIATES AGAINST MOST G-10 CURRENCIES ON LESS ACCOMMODATIVE CENTRAL BANK COMMUNICATION ABROAD

In addition to the aforementioned domestic factors, continued signals that other major central banks may remove monetary accommodation sooner than previously expected also served as a headwind to the dollar during the quarter. In particular, communications from the European Central Bank (ECB) and the Bank of England (BOE), as well as a policy rate increase by the Bank of Canada (BoC), caused investors to reconsider the interest rate outlooks in these respective economies. This reassessment contributed to the dollar's 3.8, 3.3, and 2.8 percent depreciation against the Canadian dollar, the euro, and the British pound, respectively, during the quarter.

*Chart 6*

**U.S. DOLLAR PERFORMANCE AGAINST G-10 CURRENCIES DURING THE THIRD QUARTER**




Source: Bloomberg L.P.

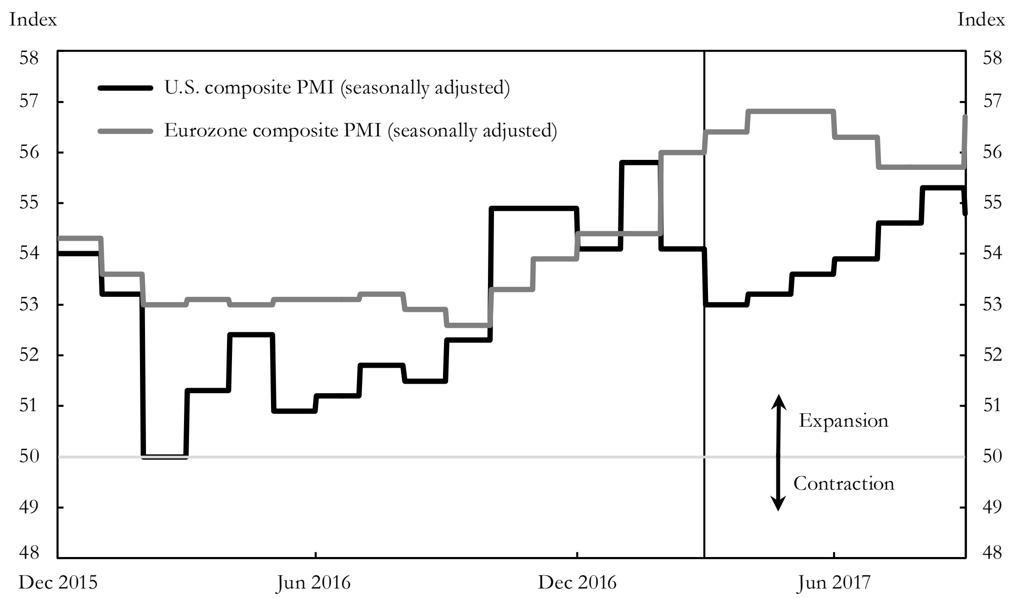
The dollar depreciated 3.3 percent against the euro over the quarter with market participants citing the increasingly broad-based and sustained euro area recovery and the perceived notion that the euro's broad strength in recent quarters would not impact the ECB's policy stance.

Euro area economic indicators continued to signal strong activity, with real GDP growing 2.3 percent in the second quarter—nearly double most market estimates of the region's potential growth rate. Survey data on economic activity over the quarter, including the euro area's composite purchasing managers' index (PMI), was also consistent with continued improvement in growth. Additionally, currency investors noted that a perception of reduced political risk following the French elections and higher equity inflows were supportive of the euro over the period.

At its July and September meetings, the ECB left its policy stance unchanged, as expected, but expectations that the ECB would announce a reduction in the monthly pace of its asset purchases later this year increased given a significant reduction in market-implied deflation risk and a pickup in economic growth. Following the September meeting, core euro area sovereign yields were little changed while the euro appreciated nearly 1 percent against the dollar. The euro experienced periods of appreciation throughout the quarter, including 1 percent appreciation against the dollar following both the July ECB meeting and President Draghi's remarks at Jackson Hole in August. In explaining the appreciation episodes, market participants cited the perception that ECB communications were not indicative of a significant concern regarding broad euro strength.

*Chart 7*

**U.S. AND EUROZONE PURCHASING MANAGERS' INDEXES (PMI)**



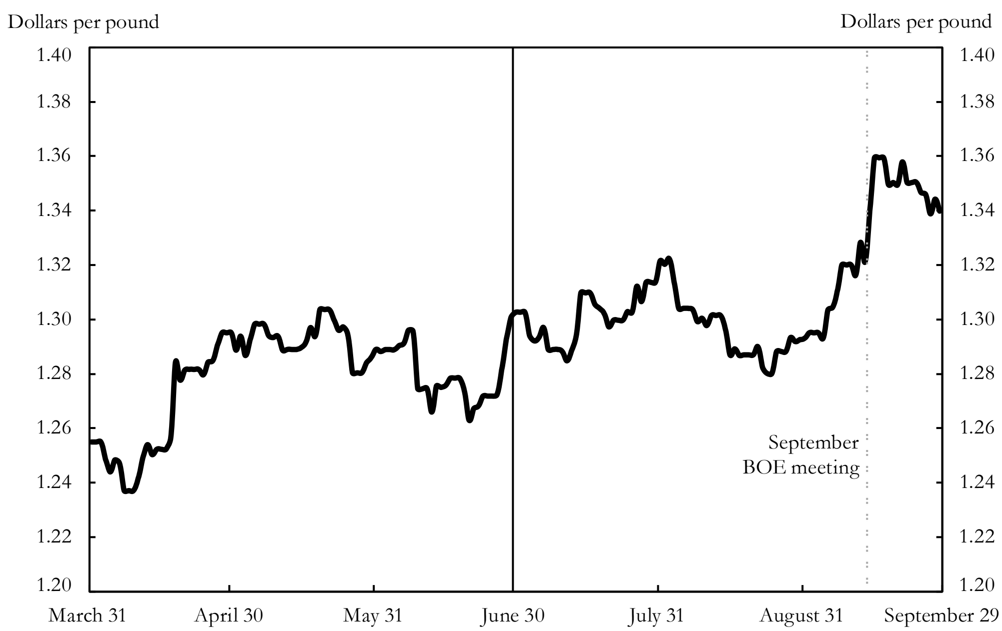

Source: Bloomberg L.P.

In the United Kingdom, the dollar depreciated 2.8 percent against the British pound as BOE communications during the quarter suggested that an increase in the policy rate could be forthcoming sooner than many had previously anticipated. As expected, the BOE's Monetary Policy Committee (MPC) did not change its policy stance during the quarter.

However, investors were attentive to BOE statement language that "A majority of MPC members judge that, if the economy continues to follow a path consistent with the prospect of a continued erosion of slack and a gradual rise in underlying inflationary pressure then, with the further lessening in the trade-off that this would imply, some withdrawal of monetary stimulus is likely to be appropriate over the coming months in order to return inflation sustainably to target." Many suggested that this statement and subsequent comments by MPC members served to heighten the probability of a rate increase at the November MPC meeting. The pound appreciated more than 1 percent against the dollar and gilt yields increased 5 to 7 basis points across the curve following the release of the statement. The market-implied path of policy also steepened across the curve, with short sterling futures-implied yields increasing 9 to 10 basis points on contracts expiring in the first half of 2018.

*Chart 8*

**BRITISH POUND–U.S. DOLLAR EXCHANGE RATE**




Source: Bloomberg L.P.

Finally, the U.S. dollar depreciated 3.8 percent against the Canadian dollar during the quarter. The BoC raised its policy rate twice by a cumulative 50 basis points during the quarter to 1 percent, representing the first rate increases by a major central bank since the Federal Reserve began raising rates in 2015. Investors interpreted the second, somewhat unexpected, rate increase in September as an indication that the BoC had prioritized growth considerations over subdued inflationary pressures. Following the central bank's September meeting, market-implied expectations have shifted to between two and three additional 25 basis point rate increases in the next twelve months from between one and two hikes. Yields on Canadian government bonds also increased as much as 11 basis points, which overall was supportive of the Canadian dollar.

## JAPANESE YEN LITTLE CHANGED AGAINST THE DOLLAR DESPITE RISING GEOPOLITICAL CONCERNS

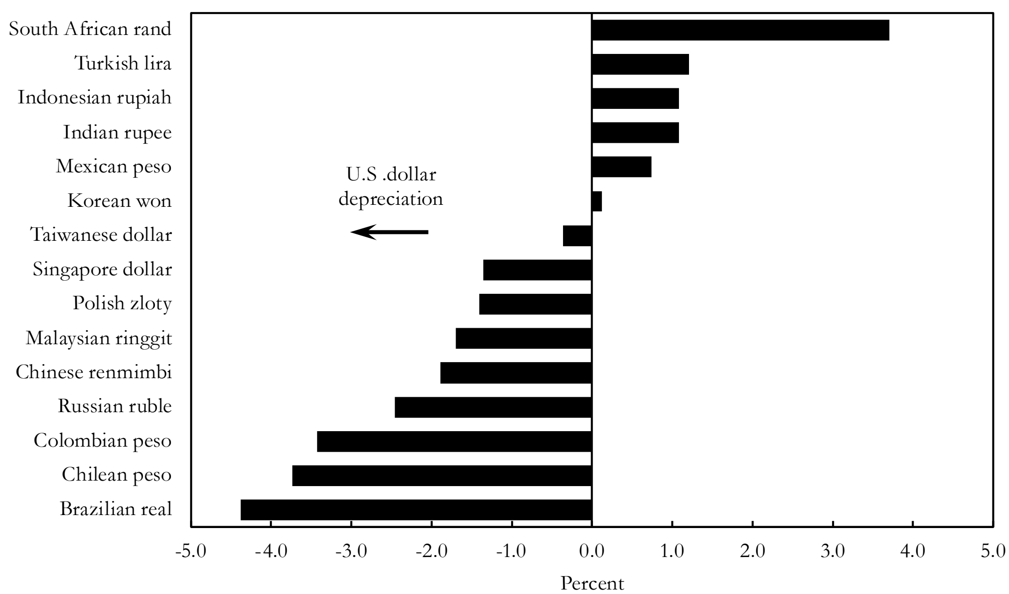
During the third quarter, the Japanese yen was on net little changed against the U.S. dollar despite an escalation in geopolitical risks related to North Korea. The yen experienced periods of appreciation pressure immediately following news headlines regarding North Korea, as demand was driven by position squaring and the home bias of Japanese investors amid increased volatility. However, price responses to the headlines were generally short-lived, as events failed to escalate beyond the heightened rhetoric. Separately, the Bank of Japan did not make any changes to its policy stance or asset purchase programs nor did it signal that changes might be forthcoming.

EMERGING MARKET CURRENCIES APPRECIATE AMID IMPROVING GLOBAL ECONOMIC DATA AND LOW FINANCIAL MARKET VOLATILITY

In the third quarter, on net, the dollar depreciated slightly against most emerging market currencies, continuing the trend observed in the second quarter. While the aforementioned rise in geopolitical risk in the Korean peninsula garnered some attention, most investors noted that this risk did not fundamentally change the broader emerging markets view, which was underpinned by a positive-growth narrative. Improving global economic data releases—including above-consensus exports and PMI prints—in an environment of persistently low financial market volatility were cited as supporting emerging market assets. Market participants also cited attractive emerging market currency valuations relative to developed market assets, stable economic growth in China, and higher commodity prices as supportive of emerging market assets.

*Chart 9*

**U.S. DOLLAR PERFORMANCE AGAINST EMERGING MARKET CURRENCIES DURING THE THIRD QUARTER**




Source: Bloomberg L.P.

The U.S. dollar depreciated against most commodity-linked currencies, including the Brazilian real, Colombian peso, and Russian ruble. Some of these currencies were supported in part by a 20 percent increase in crude oil prices. Market participants cited ongoing efforts by OPEC (Organization of the Petroleum Exporting Countries) to cut production and incremental news regarding the potential for supply disruptions in the Middle East as supportive of oil prices in the third quarter.

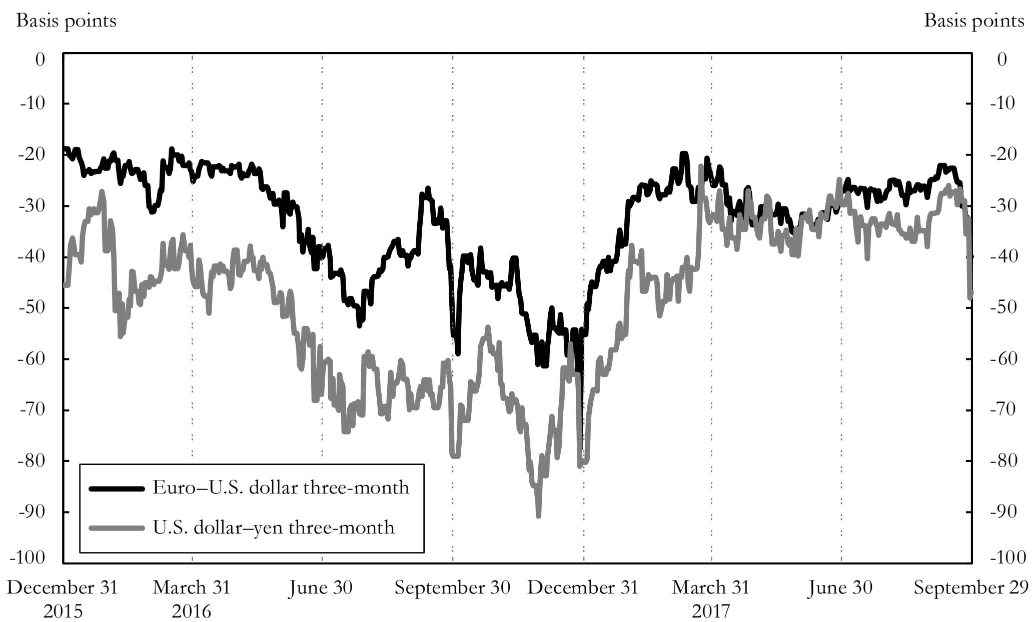
The U.S. dollar also depreciated 1.9 percent against the Chinese renminbi, with the renminbi 1 percent stronger against the China Foreign Exchange Trade System's trade-weighted basket of currencies. Outside of broad U.S. dollar weakness during the quarter, market participants attributed renminbi strength in part to improved sentiment on the currency. Market participants' more constructive view on the renminbi was driven by a combination of stable economic growth in China, a further rise in Chinese government bond yields over U.S. equivalents, and People's Bank of China communications suggesting confidence that renminbi liberalization would not result in a sharp depreciation. In addition, some market participants noted that the currency was supported by more balanced capital flows amid Chinese capital control measures to reduce outflows and a modest rise in inflows from foreign institutional investors. Of note, Chinese foreign exchange reserves, used by market participants to estimate foreign exchange intervention, were little changed over the quarter.

## FOREIGN EXCHANGE SWAP BASIS SPREADS REMAIN STABLE DURING THE QUARTER

During the third quarter, foreign exchange swap basis spreads of key U.S. dollar currency pairs remained relatively stable given a continuation of less-stretched dollar funding supply and demand dynamics compared with the second half of last year.[1] Consistent with this stability, trading conditions in foreign exchange swap markets at September quarter-end were said to be orderly and similar to the prior quarter-end. However, the three-month foreign exchange swap basis spreads widened in late September as these contracts began to capture financing over the turn of the year.

*Chart 10*

**FOREIGN EXCHANGE SWAP-IMPLIED BASIS SPREADS**




Source: Bloomberg L.P.

[1] A negative foreign-exchange swap basis spread represents the premium to borrowing U.S. dollars in the foreign-exchange swap market, vis-a-vis foreign currency, relative to the London Interbank Offered Rate.

## TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE HOLDINGS

The Federal Reserve and U.S. Treasury did not undertake any intervention operations during the quarter. As of September 30, the value of the U.S. Treasury's Exchange Stabilization Fund (ESF) foreign-currency-denominated assets totaled $21.2 billion, comprised of euro and yen holdings. The Federal Reserve System Open Market Account (SOMA) holdings of foreign-currency-denominated assets totaled $21.2 billion, also comprised of euro and yen holdings.

### *Foreign Exchange Reserve Holdings*

The Federal Reserve and U.S. Treasury invest their foreign currency reserves, which are held in the SOMA and the 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.

The Open Market Trading Desk of the Federal Reserve Bank of New York (the Desk) utilizes an investment framework for the management of the foreign currency assets. The framework involves a routine affirmation of objectives and constraints from policymakers. The Desk then utilizes an investment approach designed to meet those objectives to maximize return subject to maintaining sufficient liquidity and a high degree of safety.

In terms of the composition of foreign currency reserves, a significant portion of the Federal Reserve and U.S. Treasury's foreign exchange reserves remained invested on an outright basis in German, French, Dutch, and Japanese government securities. 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 Bank of Japan. To the greatest extent practicable, the investments are split evenly between the SOMA and the ESF.

As of September 30, the euro reserves held by both the SOMA and ESF totaled $25.7 billion, an increase from $24.9 billion owing to foreign exchange translation effects as the dollar depreciated against the euro. Cash held in euro-denominated deposits at official institutions increased to $12.3 billion from $10.7 billion, while direct holdings of euro-denominated government securities decreased to $13.4 billion from $14.2 billion. The amount of yen-denominated deposits and government securities held by the SOMA and the ESF was unchanged at $16.6 billion at quarter-end, which was mostly attributable to the limited change of the dollar against the yen.

Consistent with the current Authorization for Foreign Currency Operations, the Desk conducts small-value exercises for the foreign currency reserves as a matter of prudent advance planning. No inference about policy should be drawn from these exercises. In the third quarter, the Desk entered into a small-value euro-denominated repurchase agreement.

*Liquidity Swap Arrangements with Foreign Central Banks*

As of September 30, the ECB had $3.2 billion of swaps and the Bank of Japan had $400 million in seven-day transactions outstanding. The BoC, the BOE, and the Swiss National Bank did not have any dollar swaps outstanding at the end of the quarter.

*Table 1*

FOREIGN CURRENCY HOLDINGS OF THE FEDERAL RESERVE AND U.S. TREASURY BASED ON CURRENT EXCHANGE RATES

Millions of U.S. Dollars

| | | Changes in Balances by Source | | | | |
|---|---|---|---|---|---|---|
| | Carrying Value, June 30, 2017[a] | Net Purchases and Sales[b] | Investment Earnings[c] | Realized Gains/Losses on Sales[d] | Unrealized Gains/Losses on Foreign Currency Revaluation[e] | Carrying Value, September 30, 2017[a] |
| **Federal Reserve System Open Market Account (SOMA)** | | | | | | |
| Euro | 12,451 | 0 | (6) | 0 | 439 | 12,883 |
| Japanese yen | 8,313 | 0 | 1 | 0 | (18) | 8,296 |
| Total | 20,764 | 0 | (5) | 0 | 421 | 21,179 |

| | | Changes in Balances by Source | | | | |
|---|---|---|---|---|---|---|
| | Carrying Value, June 30, 2017[a] | Net Purchases and Sales[b] | Investment Earnings[c] | Realized Gains/Losses on Sales[d] | Unrealized Gains/Losses on Foreign Currency Revaluation[e] | Carrying Value, September 30, 2017[a] |
| **U.S. Treasury Exchange Stabilization Fund (ESF)** | | | | | | |
| Euro | 12,431 | 0 | (6) | 0 | 438 | 12,863 |
| Japanese yen | 8,313 | 0 | 1 | 0 | (18) | 8,296 |
| Total | 20,744 | 0 | (5) | 0 | 420 | 21,159 |

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 September 30, 2017

| | U.S. Treasury Exchange Stabilization Fund (ESF)[a] | Federal Reserve System Open Market Account (SOMA)[a] |
|---|---|---|
| **Euro-denominated assets** | **12,863.2** | **12,883.2** |
| Cash held on deposit at official institutions | 6,161.8 | 6,181.8 |
| Marketable securities held under repurchase agreements[b] | 0.0 | 0.0 |
| Marketable securities held outright | 6,701.4 | 6,701.4 |
| German government securities | 1,698.0 | 1,698.0 |
| French government securities | 3,386.1 | 3,386.1 |
| Dutch government securities | 1,617.3 | 1,617.3 |
| **Japanese-yen–denominated assets** | **8,296.1** | **8,296.1** |
| Cash held on deposit at official institutions | 6,489.4 | 6,489.3 |
| Marketable securities held outright | 1,806.7 | 1,806.7 |
| **Reciprocal currency arrangements** | | |
| European Central Bank[c] | | 3,220 |
| Bank of Japan[c] | | 400 |
| 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 September 30, the SOMA and the ESF euro portfolios had Macaulay durations of 23.05 and 23.09 months, respectively; both the SOMA and ESF yen portfolios had Macaulay durations of 5.03 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 September 30, 2017 |
|---|---|---|
| | 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 | 3,220 |
| Swiss National Bank | No preset limit | 0 |
| Bank of Japan | No preset limit | 400 |
| Bank of Canada | No preset limit | 0 |
| Bank of England | No preset limit | 0 |
| | No preset limit | 3,620 |
| **Standing foreign currency liquidity swap arrangements** | | |
| 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 |