TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE OPERATIONS

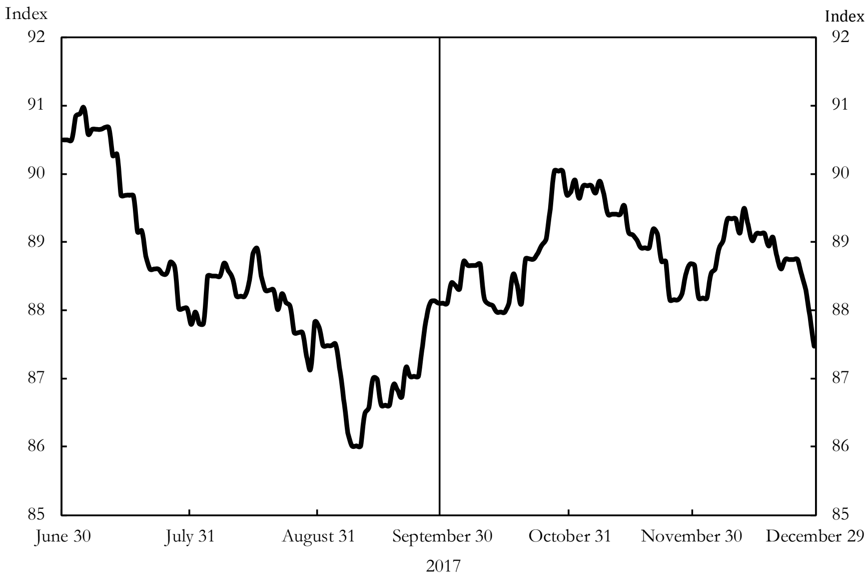
October – December 2017

The U.S. dollar, as measured by the Federal Reserve Board's trade-weighted major currencies index, depreciated 0.7 percent in the fourth quarter of 2017. This modest depreciation came against a backdrop of rising U.S. interest rates relative to those of other advanced economies and the passage of U.S. tax reform, which market participants had previously speculated could support dollar appreciation. The dollar depreciated 1.6 percent against the euro and 0.9 percent against the British pound, but was little changed against the Japanese yen. The dollar was mixed against emerging market currencies, appreciating 7.7 percent against the Mexican peso while depreciating 2.2 percent against the Chinese renminbi. The Federal Reserve and U.S. Treasury did not intervene in 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 October through December 2017. Patrick Douglass was primarily responsible for preparation of the report.

Chart 1

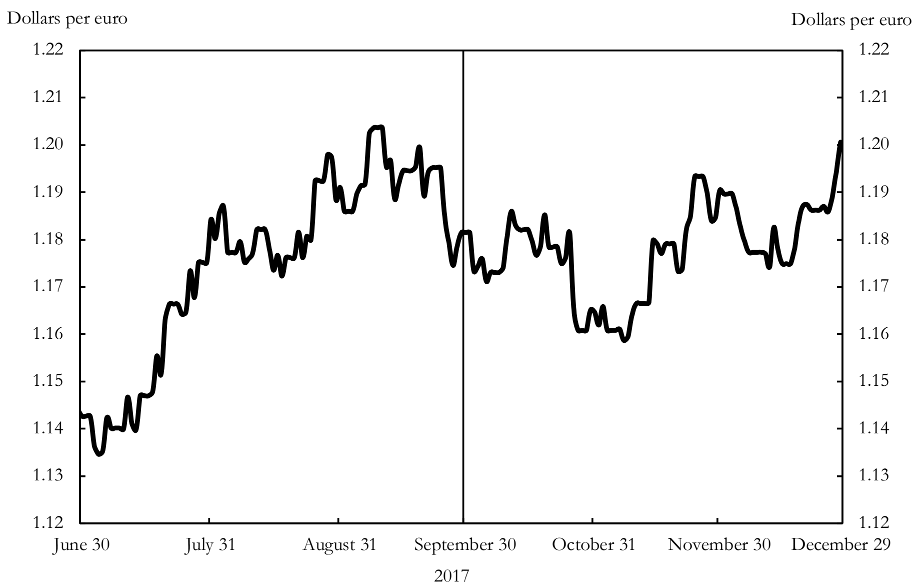
MAJOR CURRENCY TRADE-WEIGHTED U.S. DOLLAR



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

Chart 2

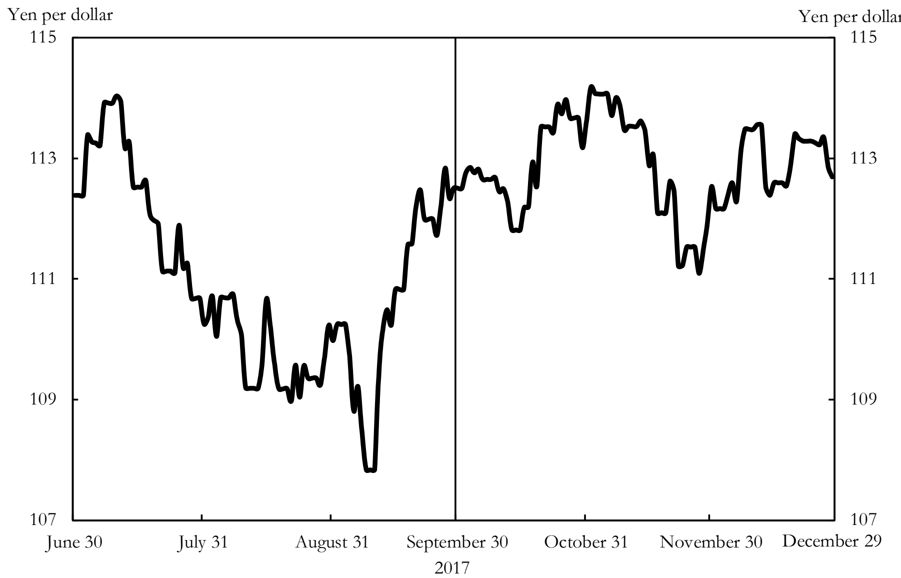
EURO−U.S. DOLLAR EXCHANGE RATE



Source: Bloomberg L.P.

Chart 3

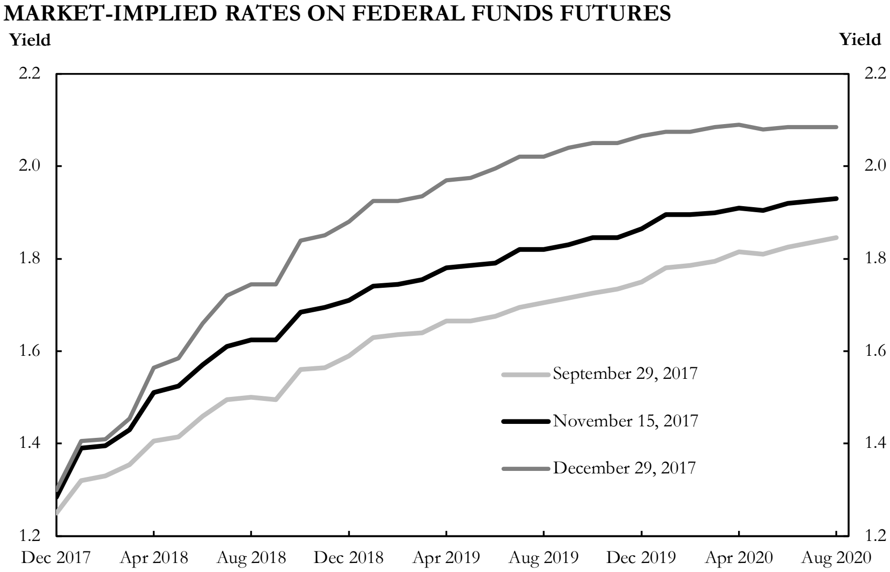
U.S. DOLLAR−YEN EXCHANGE RATE



Source: Bloomberg L.P.

Chart 4

MARKET-IMPLIED RATES ON FEDERAL FUNDS FUTURES



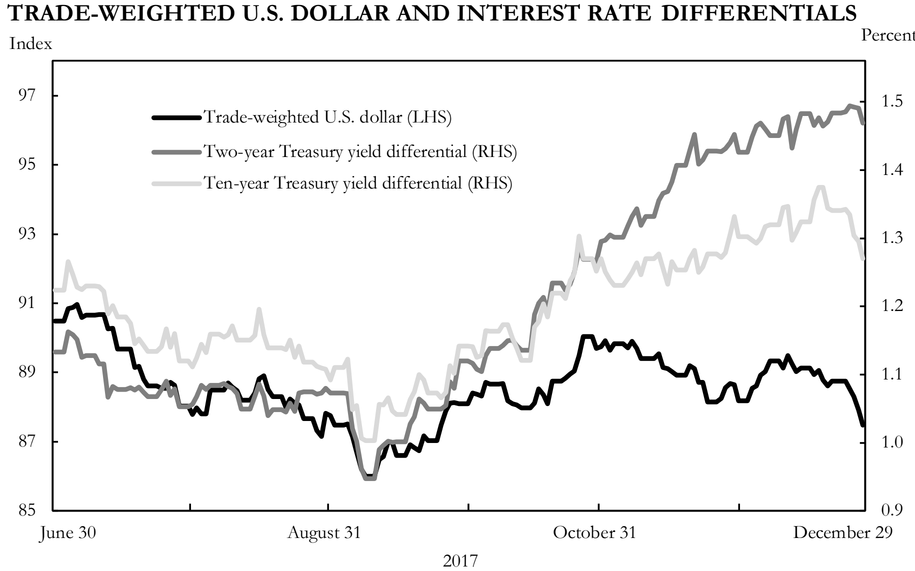
Source: Bloomberg L.P.

U.S. DOLLAR LITTLE CHANGED DESPITE WIDENING INTEREST RATE DIFFERENTIALS AND PROGRESS ON TAX REFORM

The trade-weighted U.S. dollar was little changed in the fourth quarter, depreciating 0.7 percent on net, despite support from rising U.S. interest rate differentials and progress toward U.S. tax reform, which market participants had previously speculated could support dollar appreciation. The dollar's performance over the quarter partly reflected headwinds from medium-term factors. In particular, market participants view the United States as further along in its monetary tightening cycle than other advanced economies—including the euro area, the United Kingdom, Japan, and Canada—which have only recently signaled a shift toward policy normalization. Indeed, market proxies for terminal policy rates suggest that the United States has less room to raise interest rates than other advanced economies. Against this backdrop, the trade-weighted dollar decoupled from interest rate differentials in the fourth quarter, staying essentially range-bound, even as the U.S. yield spread over advanced economy peers continued to widen.

Chart 5

TRADE-WEIGHTED U.S. DOLLAR AND INTEREST RATE DIFFERENTIALS



Source: Bloomberg L.P.; Board of Governors of the Federal Reserve System; New York Fed staff calculations.

Investor perceptions of U.S. tax reform—a key topic of focus since the U.S. presidential election—drove some dollar volatility over the quarter but the net impact was limited as most market participants reportedly viewed the proposed measures as not materially increasing U.S. long-run GDP growth and the terminal federal funds rate. Market participants widely noted that while fiscal expansion via corporate tax cuts may drive an acceleration in near-term growth, it was unlikely to materially alter the growth trajectory over a longer time horizon. In addition, investors expect the impact on the dollar from the repatriation of U.S. corporate earnings held overseas to be minimal.

Of note, developments over the quarter did not prompt investors to take on long dollar positions in aggregate. While the positions of noncommercial investors in futures and options markets were somewhat less short, positioning was essentially neutral at year-end, according to data from the Commodity Futures Trading Commission (CFTC).

U.S. economic data and Federal Reserve communications were not seen as having a significant impact on the dollar over the quarter. Consumer price index (CPI) data generally reinforced the market narrative that inflation remains persistently low despite solid growth and a tightening labor market, and nonfarm payrolls data released over the quarter came in mostly weaker than expected. At its December 12-13 meeting, the Federal Open Market Committee (FOMC) raised the target range for the federal funds rate by 25 basis points and left its projected policy rate path unchanged. Market participants interpreted the FOMC events as consistent with their expectations for continued removal of policy accommodation despite recent inflation data falling below the Committee's longer-run objective. However, a number of investors interpreted the December FOMC events as reducing the perceived likelihood of the Committee pursuing a steeper policy path in 2018 and 2019, leading to modest dollar depreciation on the day.

EURO STRENGTHENS AMID STRONG ECONOMIC DATA AND LIMITED IMPACTS FROM POLITICAL UNCERTAINTY

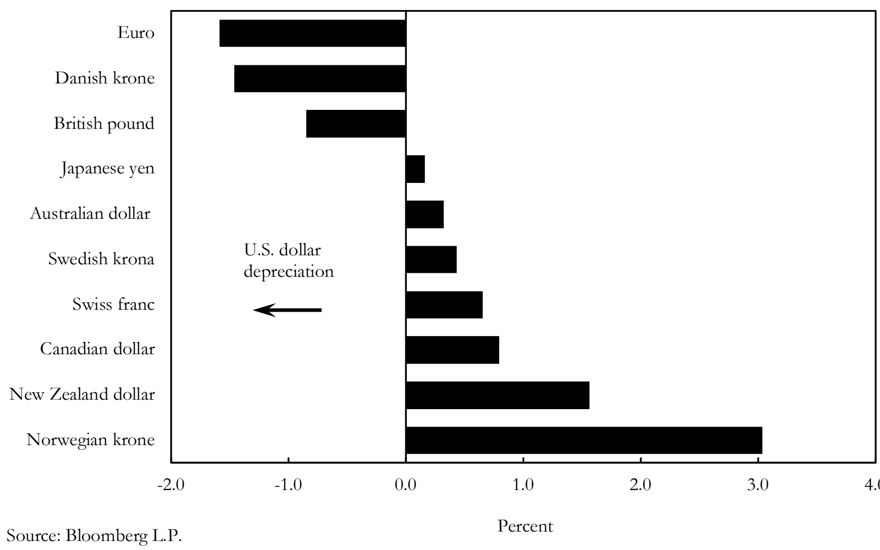
The euro appreciated 1.6 percent against the U.S. dollar over the quarter amid strong economic data. For the year as a whole, the euro appreciated more than 14 percent against the dollar, more than any other G-10 currency and the largest annual increase since 2003. The euro was supported by positive economic data throughout the quarter. Survey data on economic activity, including the euro area’s composite purchasing managers’ index (PMI), showed a steady improvement in growth momentum throughout the quarter, prompting investors to increase their forecasts for euro-area growth.

As was widely expected by market participants, the European Central Bank (ECB) announced at its October 26 meeting that it would extend its asset purchases for nine months at a reduced pace of €30 billion per month from €60 billion per month previously. In light of a stronger growth outlook in the second half of 2017, investors grew increasingly confident that net asset purchases would conclude in 2018 and policy rates would start to rise in early 2019, leading to a convergence of euro-area monetary policy with that of the United States.

Notably, euro appreciation came against a backdrop of political uncertainty, including contentious coalition talks in Germany, a positive showing for pro-independence parties in Catalonia's election in Spain, and the dissolution of the Italian Parliament. However, euro volatility in response to these events was generally muted and short-lived.

Chart 6

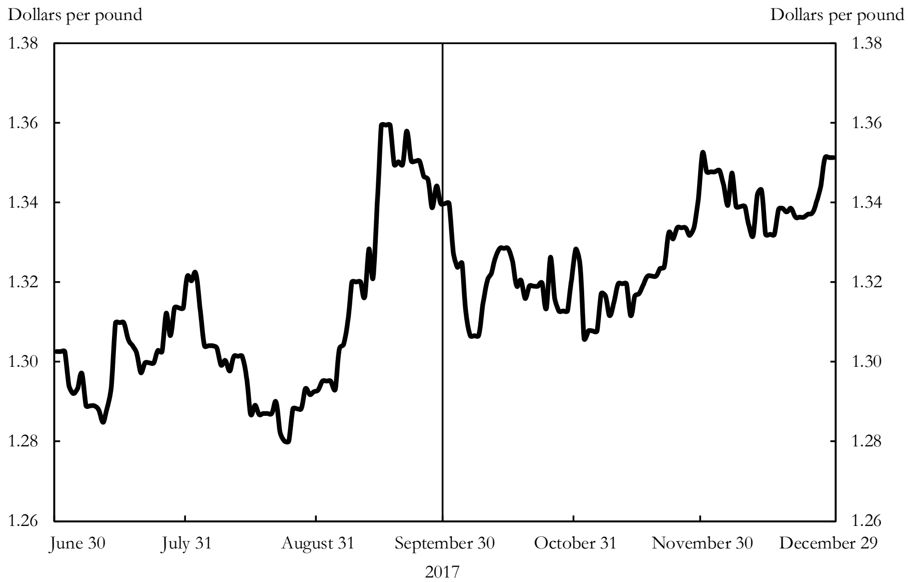
U.S. DOLLAR PERFORMANCE AGAINST G-10 CURRENCIES DURING THE FOURTH QUARTER



Source: Bloomberg L.P.

Chart 7

BRITISH POUND–U.S. DOLLAR EXCHANGE RATE



Source: Bloomberg L.P.

BRITISH POUND APPRECIATES AMID PROGRESS ON U.K.–EU NEGOTIATIONS

The British pound strengthened 0.9 percent against the U.S. dollar in the fourth quarter amid signs of progress in U.K. negotiations to exit the European Union (EU). Indeed, most of the appreciation came after reports that Prime Minister May had agreed on a financial settlement as part of the United Kingdom's withdrawal from the EU, addressing a key challenge in negotiations.

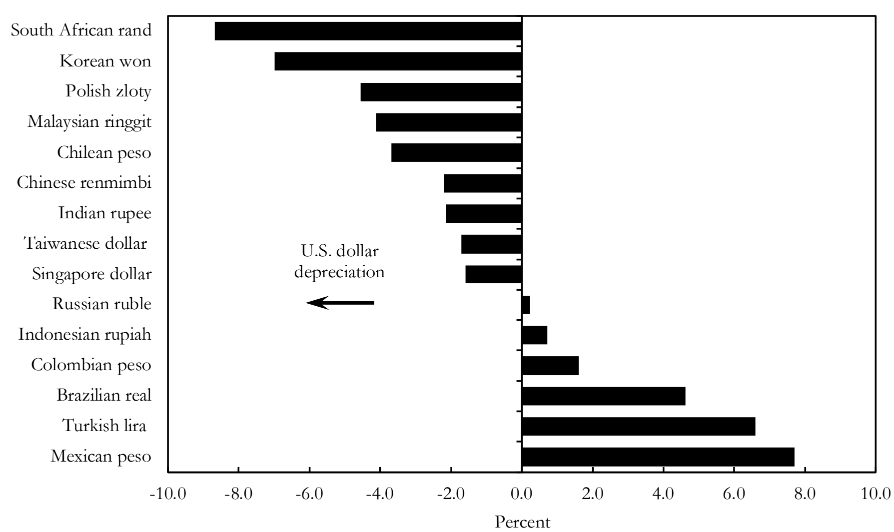
On November 2, the Bank of England (BoE) voted to raise the policy rate by 25 basis points, as expected, marking the first rate increase in more than a decade. Nevertheless, gilt yields declined up to 9 basis points in the short end of the curve and the pound depreciated against the dollar on the day, as market participants generally viewed the Monetary Policy Committee's (MPC) statement as signaling a more accommodative monetary policy stance. Contacts were particularly attentive to the statement's omission of language from earlier MPC communications that more increases in the target rate may be warranted than implied by market pricing, as well as the MPC's use of stronger language to characterize risks related to the United Kingdom's exit from the euro area.

JAPANESE YEN LITTLE CHANGED, AS STRONG DATA RELEASES LARGELY OFFSET IMPACT OF POLITICAL DEVELOPMENTS

The Japanese yen was on net little changed against the U.S. dollar during the quarter, as the impact of political developments was largely offset by strong data releases. The yen depreciated ahead of the Japanese election in October as investors viewed polls showing public support for Prime Minister Abe as an indication that accommodative fiscal and monetary policy would remain in place. This depreciation trend continued following the election itself, which resulted in Abe's Liberal Democratic Party winning a supermajority in the lower house of parliament. The yen then appreciated in November, reversing the prior month's moves, after the release of third-quarter Japanese GDP showed a seventh consecutive quarter of growth. As was the case earlier in the year, the yen was little changed on reports of North Korea's ballistic missile launch in November.

Chart 8

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



Source: Bloomberg L.P.

EMERGING MARKET CURRENCIES MIXED AGAINST THE DOLLAR

The U.S. dollar strengthened against the peso and weakened against the renminbi, but was on balance relatively unchanged against emerging market currencies. Emerging market currencies were broadly supported by further signs of robust global growth, though a small number of larger economies saw currency depreciation owing to rising political uncertainty and other idiosyncratic factors. The best performing major emerging market currencies against the dollar were the South African rand and Korean won, which appreciated 9.5 percent and 7 percent, respectively, with the former reflecting investor expectations that the new political leadership will pursue market-friendly policies, and the latter largely reflecting an improvement in expectations for export demand and the central bank's decision to raise its policy rate.

The Mexican peso underperformed during the quarter, depreciating more than 7 percent against the U.S. dollar, after strengthening notably earlier in the year. Market participants attributed the peso's depreciation to rising investor uncertainty over the future of the North American Free Trade Agreement and heightened political risk ahead of Mexico's 2018 presidential election. Against a backdrop of peso depreciation and heightened volatility, Banco de México increased its benchmark interest rate by an additional 25 basis points during the quarter, and auctioned a total of $4.5 billion in non-deliverable forwards, which settle in pesos.

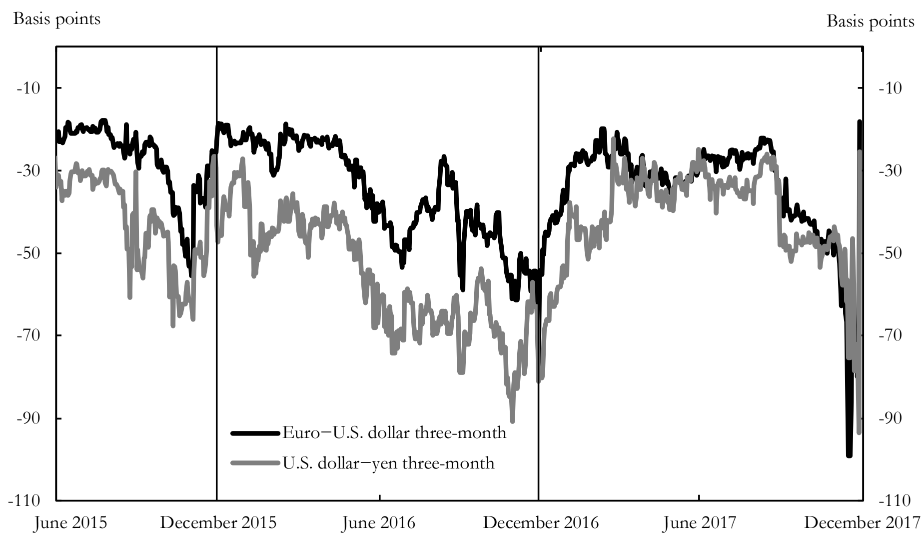
The Chinese onshore renminbi was relatively stable for much of the quarter before strengthening roughly 1.6 percent against the dollar in the last two weeks of the year. Contacts did not coalesce around any specific drivers for the move but noted that it may have reflected increased market demand for renminbi, some form of exchange rate management by Chinese authorities following the increase in U.S. policy rates, or a combination of the two factors. In addition, market participants were attentive to China's annual Central Economic Work Conference report, which stated that the policy of "prudent and neutral" monetary policy and "proactive" fiscal policy would remain in place in 2018. More broadly, the renminbi remained supported by a stable growth backdrop in China, a large yield spread relative to the United States, and more balanced capital flows amid tighter capital controls.

FOREIGN EXCHANGE SWAP BASIS SPREADS WIDEN ON YEAR-END DYNAMICS

During the fourth quarter, short-term foreign exchange swap basis spreads of key U.S. dollar currency pairs[1] widened notably owing to year-end dynamics. At year-end the supply of dollars reportedly decreases and banks require higher pricing for lending dollars ahead of year-end-specific regulatory reporting deadlines. Despite the observed increase in volatility in the foreign exchange swap market, contacts reported no signs that market participants were unable to obtain dollar funding in offshore money markets.

Chart 9

FOREIGN EXCHANGE SWAP-IMPLIED BASIS SPREADS



Source: Bloomberg L.P.

[1] The foreign exchange swap basis represents the premium to borrow dollars in the foreign exchange swap market 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 December 31, the value of the U.S. Treasury's Exchange Stabilization Fund (ESF) foreign-currency-denominated assets totaled $21.4 billion, comprised of euro and yen holdings. The Federal Reserve System Open Market Account (SOMA) holdings of foreign-currency-denominated assets also totaled $21.4 billion, 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 instruments 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 December 31, the euro reserves held by both the SOMA and ESF totaled $26.2 billion, an increase from $25.7 billion owing to foreign exchange translation effects as the dollar depreciated against the euro. Cash held in euro-denominated deposits at official institutions decreased to $12.1 billion from $12.3 billion, while direct holdings of euro-denominated government securities increased to $14.1 billion from $13.4 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 fourth quarter, the Desk entered into a small-value euro-denominated repurchase agreement and a small-value euro-denominated reverse repurchase agreement.

Liquidity Swap Arrangements with Foreign Central Banks

As of December 31, the ECB had $11.9 billion of swaps and the Bank of Japan had $160 million in seven-day transactions outstanding. The Bank of Canada (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 U.S. MONETARY AUTHORITIES BASED ON CURRENT EXCHANGE RATES

Millions of U.S. Dollars

	Carrying Value, September 30, 2017[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, December 31, 2017[a]
Federal Reserve System Open Market Account (SOMA)						
Euro	12,883	0	(6)	0	228	13,105
Japanese yen	8,296	0	0	0	(4)	8,293
Total	21,179	0	(6)	0	224	21,398

	Carrying Value, September 30, 2017[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, December 31, 2017[a]
U.S. Treasury Exchange Stabilization Fund (ESF)						
Euro	12,863	0	(6)	0	227	13,085
Japanese yen	8,296	0	0	0	(4)	8,293
Total	21,159	0	(6)	0	224	21,377

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 December 31, 2017

	U.S. Treasury Exchange Stabilization Fund (ESF)[a]	Federal Reserve System Open Market Account (SOMA)[a]
Euro-denominated assets	**13,084.6**	**13,104.9**
Cash held on deposit at official institutions	6,046.9	6,067.2
Marketable securities held under repurchase agreements[b]	0.0	0.0
Marketable securities held outright	7,037.7	7,037.7
German government securities	2,269.2	2,269.2
French government securities	3,124.0	3,124.0
Dutch government securities	1,644.5	1,644.5
Japanese-yen−denominated assets	**8,292.9**	**8,292.9**
Cash held on deposit at official institutions	6,765.1	6,765.1
Marketable securities held outright	1,527.8	1,527.8
Reciprocal currency arrangements		
European Central Bank[c]		11,907
Bank of Japan[c]		160
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 December 31, the SOMA and ESF euro portfolios had Macaulay durations of 24.78 and 24.82 months, respectively; both the SOMA and ESF yen portfolios had Macaulay durations of 4.43 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 December 31, 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	11,907
Swiss National Bank	No preset limit	0
Bank of Japan	No preset limit	160
Bank of Canada	No preset limit	0
Bank of England	No preset limit	0
	No preset limit	12,067
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