TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE OPERATIONS

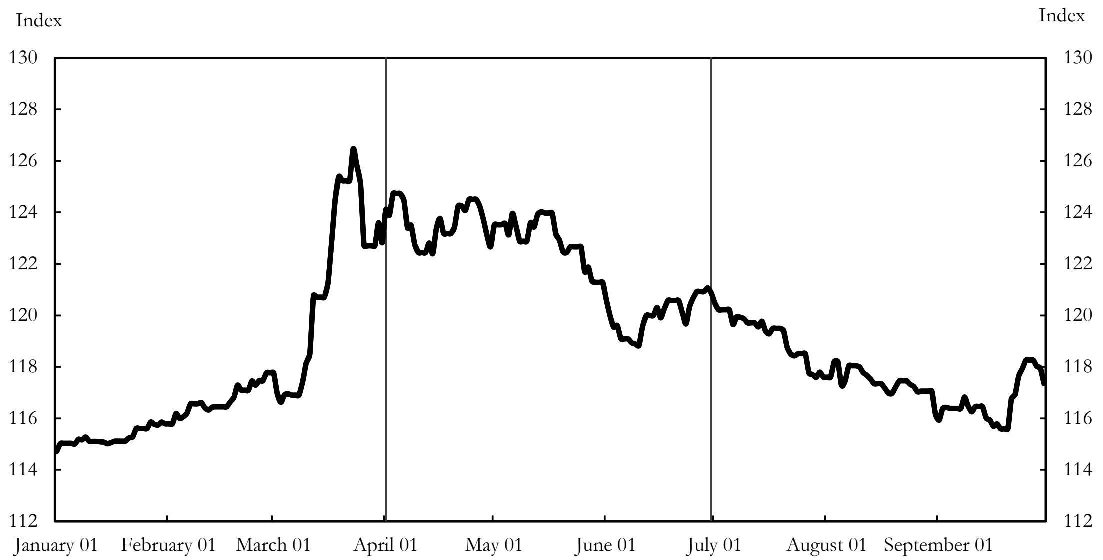
July – September 2020

During the third quarter of 2020, the U.S. dollar, as measured by the Federal Reserve Board's broad trade-weighted dollar index, depreciated 2.9 percent amid a further unwinding of "safe-haven" dollar demand, a narrower U.S. yield advantage relative to other major economies, expectations for relative U.S. economic underperformance, and greater optimism regarding the political and economic outlook in the euro area. Dollar depreciation was broad-based, occurring against G10 and most emerging market currencies, with appreciation in the euro and Chinese renminbi accounting for the largest contributions to the trade-weighted dollar's decline. On a bilateral basis, the U.S. dollar depreciated 4.2 percent against the euro, 4.0 percent against the British pound, 3.9 percent against the Chinese renminbi, and 3.8 percent against the Mexican peso. Against other currencies with perceived safe-haven status, the dollar depreciated more modestly—by 2.8 percent relative to the Swiss franc and 2.3 percent relative to the Japanese yen. The Federal Reserve and U.S. Treasury did not intervene in foreign exchange markets during the quarter.

This report, presented by Lorie Logan, Executive Vice President, Federal Reserve Bank of New York, System Open Market Account Manager, 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 2020. Ian Armstrong was primarily responsible for preparation of the report.

Chart 1

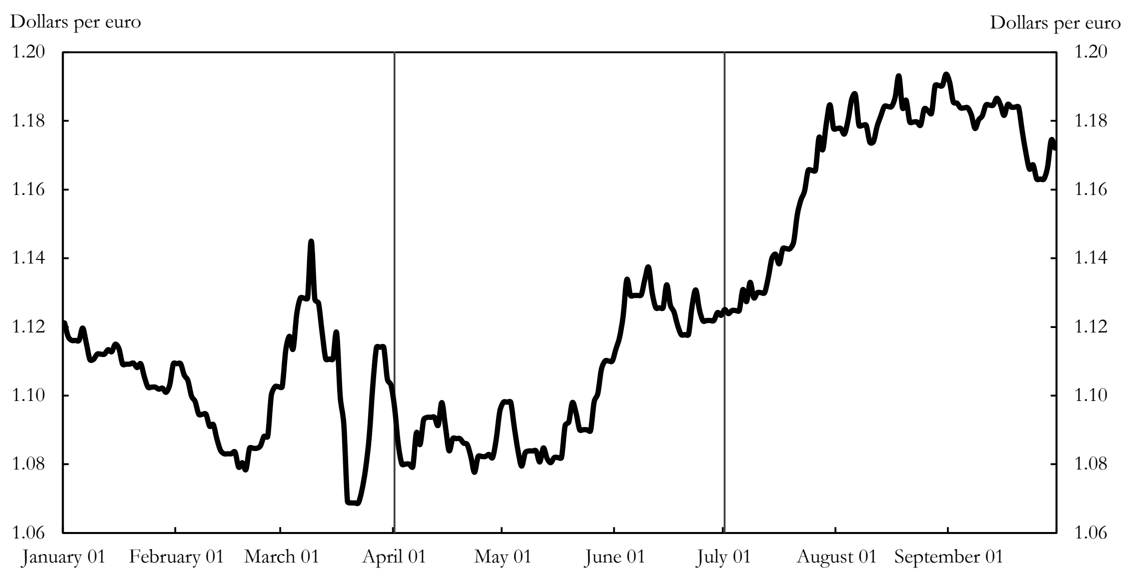
BROAD TRADE-WEIGHTED U.S. DOLLAR INDEX



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

Chart 2

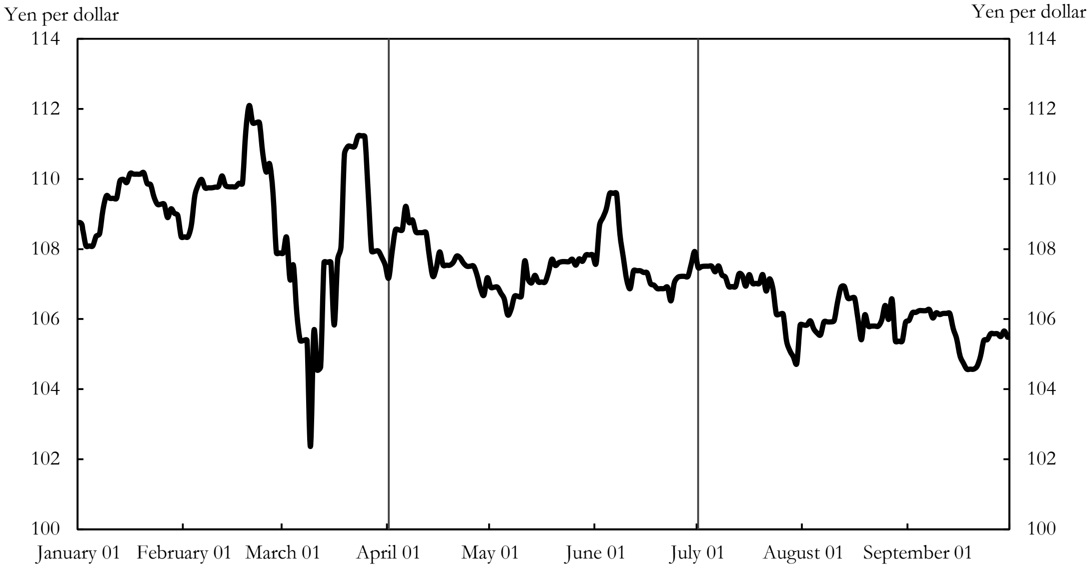
EURO–U.S. DOLLAR EXCHANGE RATE



Source: Bloomberg L.P.

Chart 3

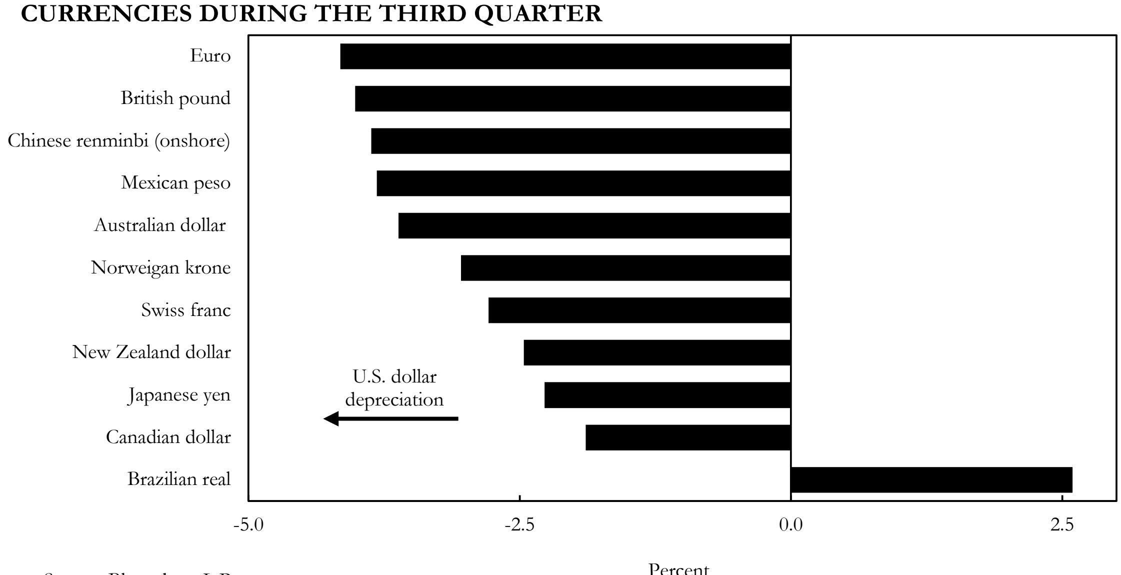
U.S. DOLLAR–YEN EXCHANGE RATE



Source: Bloomberg L.P.

Chart 4

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



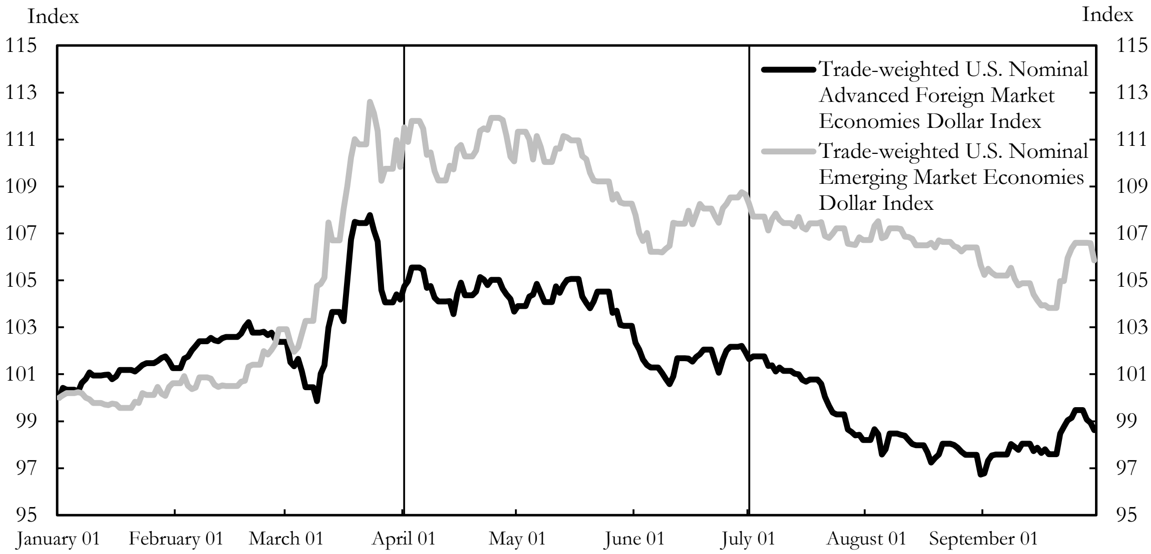
Source: Bloomberg L.P.

U.S. DOLLAR CONTINUES TO DEPRECIATE AMID NARROWER INTEREST RATE DIFFERENTIALS, DIVERGING RELATIVE GROWTH OUTLOOK, AND AN UNWINDING OF SAFE-HAVEN DEMAND

During the third quarter of 2020, the U.S. dollar, as measured by the Federal Reserve Board's broad trade-weighted dollar index, depreciated 2.9 percent on net. [1] The move represented a continuation of the prior quarter's decline, bringing the index back to its level at the onset of the COVID-19 pandemic.[2] Depreciation in the dollar was broad-based against all G10 and most emerging market currencies.

Chart 5

U.S. TRADE-WEIGHTED DOLLAR PERFORMANCE VERSUS ADVANCED FOREIGN AND EMERGING MARKET ECONOMIES



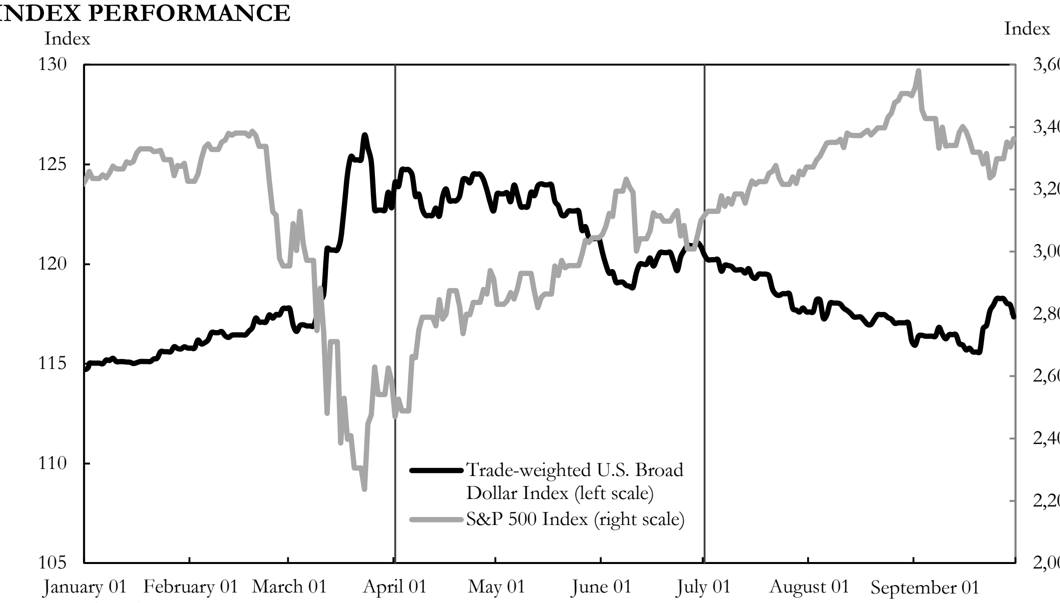
Values indexed to January 1, 2020.
Source: Bloomberg L.P.

The dollar's depreciation in the third quarter was driven in part by a further unwinding of "safe-haven" demand, which occurred amid an improvement in risk sentiment and rising global equities. A number of factors were viewed as contributing to the improvement in global risk sentiment, including the perceived stabilization of COVID-19 infection rates in Europe and China, continued

[1] The Federal Reserve's broad trade-weighted dollar index is based on twenty-six currencies, including major advanced market currencies and currencies of other important trading partners of the United States, including emerging markets.
[2] See Chart 1.

accommodative monetary and fiscal policy globally, improved global macroeconomic data, and perceived progress toward the development of a COVID-19 vaccine. Some market participants also cited an apparent reduction in U.S.–China geopolitical tensions as supportive of the improved sentiment, particularly in contrast to the renewed tensions that had characterized the bilateral relationship at the end of the second quarter.

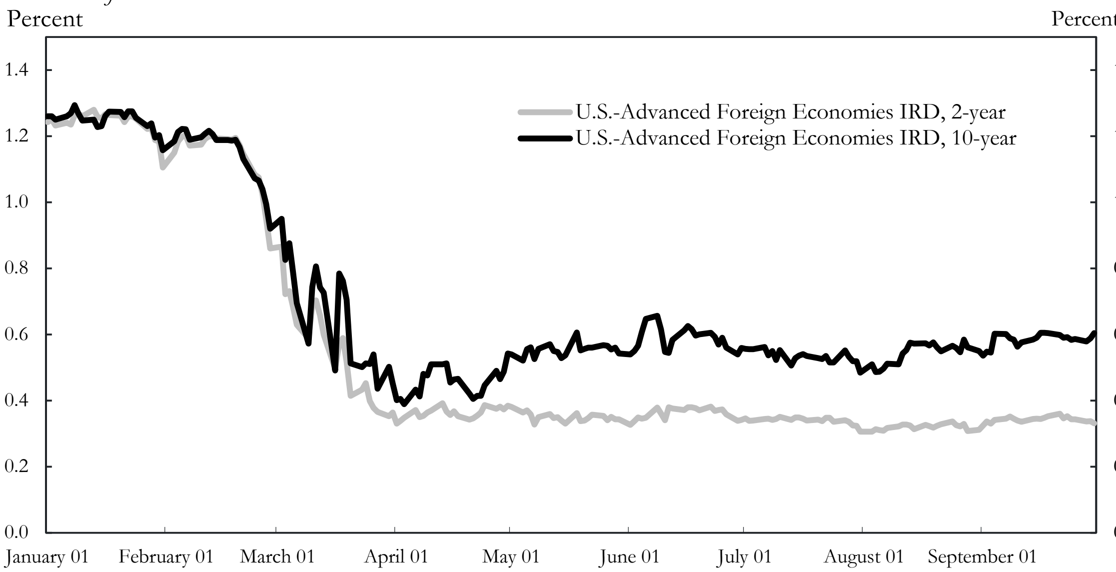
Chart 6
U.S TRADE-WEIGHTED NOMINAL BROAD DOLLAR INDEX AND S&P 500 INDEX PERFORMANCE



Source: Bloomberg L.P.

Expectations for a more enduring accommodative monetary policy stance in the United States relative to other major economies were also seen as weighing on the dollar. This included expectations for increased asset purchases by the Federal Reserve and for the Federal Open Market Committee's (FOMC) potential adoption of flexible average inflation targeting, which was later confirmed at the Jackson Hole Symposium in August and codified in forward guidance at the September policy meeting. These developments—along with the federal funds target range remaining near the zero lower bound—were viewed as signaling that U.S. monetary policy will remain accommodative for an extended period, with federal funds futures at the end of the quarter implying a flat policy path through 2024.

Chart 7
TRADE-WEIGHTED INTEREST RATE DIFFERENTIALS (IRDs)
U.S. v. Major Economies



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

Furthermore, the reduced U.S. yield advantage relative to other advanced economies since the first quarter continued to be cited by market participants as a source of depreciation pressure on the dollar, having become particularly evident to investors in the third quarter as safe-haven dollar support unwound further. Relatedly, investors noted that the steepening of the U.S. yield curve following U.S. policy rate cuts reduced the cost of hedging U.S. asset purchases for foreign investors. This resulted in an increase in U.S. Treasury purchases on a hedged basis, removing a previous source of support for the dollar. At the margins, some investors also attributed dollar depreciation to declining U.S. real yields amid expectations for relatively more accommodative policy in the United States.

Lastly, another component to dollar depreciation pressure was a growing perception that U.S. growth may underperform that of other major economies following a resurgence in COVID-19 infection rates in the United States, increasing the risk of a slower or partial reversal of the country's economic reopening. Notably, the deterioration in sentiment toward the U.S. outlook came despite above-expectations economic data over the period, including stronger-than-expected Employment Situation Reports in July, August, and September.[3]

[3] Most notably, the June Employment Situation Report, released in July, reported an increase in nonfarm payrolls of 4.8 million jobs compared to the median Bloomberg estimate of an increase of 3.2 million jobs. While releases in August and September showed nonfarm payroll increases modestly above or within expectations, both reports indicated a more significant decline in the unemployment rate than was forecasted.

While the broad dollar depreciated on net over the quarter, its downward trend was partly reversed in the final two weeks of September. This reversal was viewed as reflecting a decline in global risk sentiment driven by resurging COVID-19 case rates in major European economies, mounting uncertainty about the U.S. election, and perceived declining odds for additional U.S. fiscal stimulus in the near term.

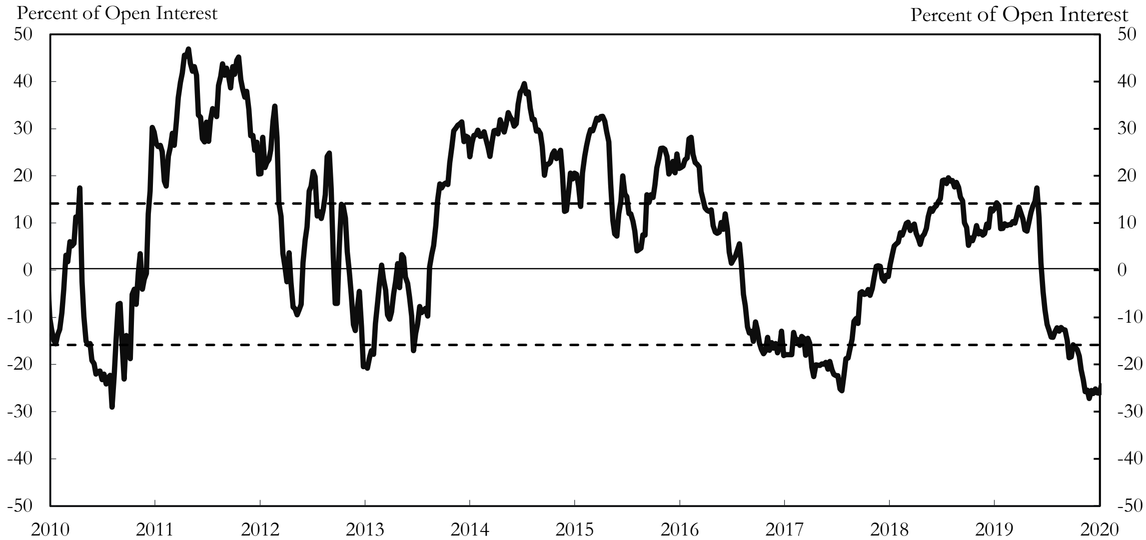
EURO APPRECIATES ON IMPROVED EURO AREA OUTLOOK

The U.S. dollar depreciated 4.2 percent against the euro in the third quarter amid an improved euro area outlook following the European Council's agreement on a stimulus package, greater perceived euro area political unity, improvements in European economic data, and comparatively lower COVID-19 infection rates relative to the United States. Appreciation in the euro represented the largest contribution to the decline in the trade-weighted broad dollar index.

Most of the euro's appreciation relative to the dollar occurred in the run-up to and immediate aftermath of the European Council's July 21 agreement on an additional 750 billion euro fiscal package, known as the EU Recovery Fund, allocated to member countries through a mix of grants and low-interest loans. The agreement—first proposed in May—was viewed by market participants as a significant development that sets a precedent for broad EU debt issuance, and it supported the euro through improved euro area growth prospects and reduced fragmentation risks, which removed some of the euro's risk premia. Improved market sentiment toward the euro area was consistent with futures market data indicating that noncommercial dollar positioning versus the euro ended the quarter at its shortest level since 2011.

Chart 8

U.S. DOLLAR NET LONG POSITIONING VERSUS THE EURO



Net long positioning is calculated as the difference between non-commercial long and short positioning, divided by total open interest. Dotted lines represent the 25th and 75th percentiles.

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

The euro area economic outlook was also supported by a string of above-expectations economic data releases. Notably, in both July and August, euro area aggregate PMIs printed stronger than expected, while national-level data for Germany exceeded forecasts, with the August ZEW[4] survey of economic expectations printing markedly higher than forecast. Broadly, these better-than-expected data prints were reinforced by the comparatively lower COVID-19 infection rates in Europe relative to the United States. While the rates of infection began to resurge in major European economies late in the quarter, contacts highlighted that governments were restrained in the re-implementation of restrictive measures, avoiding the widespread lockdowns seen during the initial outbreak in favor of more targeted actions with lower economic impact. The European Central Bank (ECB) left interest rates and the parameters around its asset purchases and lending facilities unchanged over the quarter, in line with market expectations.

[4] Zentrum fuer Europaeische Wirtschaftsforschung.

JAPANESE YEN APPRECIATES MODESTLY AMID BROAD DOLLAR WEAKNESS, NARROWER U.S. INTEREST RATE DIFFERENTIALS

The U.S. dollar depreciated 2.3 percent against the Japanese yen, with the currency pair trading within a relatively narrow range throughout the quarter. Appreciation in the yen was viewed as largely a factor of broad dollar weakness against advanced market currencies throughout the quarter rather than Japan-specific factors. In particular, market participants highlighted that the yen continued to benefit from the Federal Reserve's maintenance of low interest rates throughout the third quarter, which has narrowed U.S.–Japan interest rate differentials and removed a previous source of support for the dollar relative to the yen.

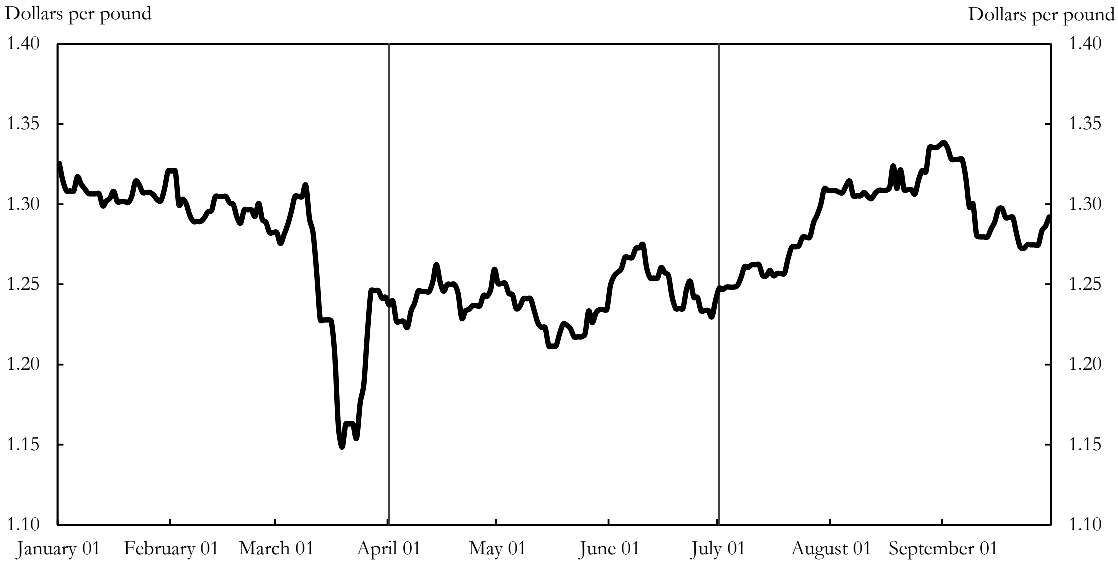
Market participants were also attentive to the resignation of Prime Minister Shinzo Abe in August due to health concerns. However, the resignation was not viewed as having a persisting impact on the yen exchange rate, owing to expectations that Abe's successor, Yoshihide Suga, would maintain the government's policy posture in the near term.

BRITISH POUND APPRECIATES AMID BROAD DOLLAR WEAKNESS DESPITE LATE-QUARTER REEMERGENCE OF BREXIT RISKS

The U.S. dollar depreciated 4.0 percent on net against the British pound in the third quarter amid widespread dollar weakness and expectations for additional UK fiscal stimulus. At the start of the quarter, the pound was supported by expectations for an additional UK fiscal package totaling roughly one percent of GDP. Although the stimulus, which was formally announced on July 8, was smaller than market expectations, the pound continued to appreciate against the dollar owing to improvements in global risk sentiment, narrower short-term U.S.–UK interest rate differentials, and the United Kingdom's comparatively lower COVID-19 infection rates.

Chart 9

BRITISH POUND–U.S. DOLLAR EXCHANGE RATE



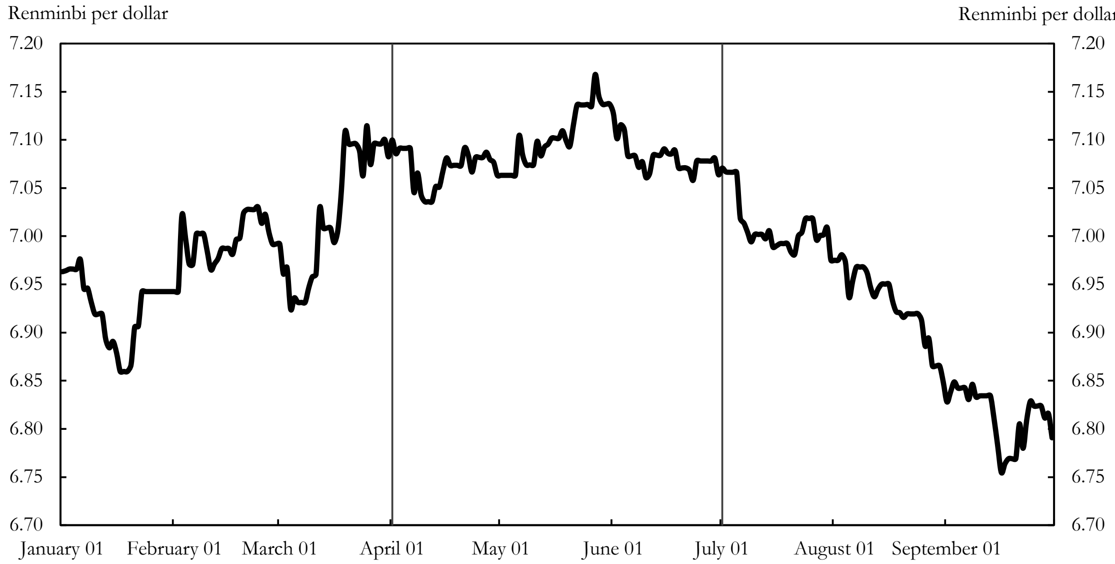
Source: Bloomberg L.P.

Notably, the pound depreciated sharply against the dollar in September as the probability of a no-deal Brexit increased and a surge in COVID-19 cases raised concerns about the trajectory of UK economic growth. No-deal Brexit concerns arose following the UK government's proposal of the Internal Market Bill, which would override part of the UK–EU Withdrawal Agreement. UK economic data were also mixed over this period, with UK manufacturing PMIs printing above expectations while UK services PMIs printed slightly below forecasts.

In the third quarter, the Bank of England (BoE) Monetary Policy Committee (MPC) kept its policy rate and asset purchase programs unchanged while adopting an outcome-based forward guidance, broadly in line with market expectations. Market contacts were also attentive to MPC statements indicating that negative policy rates may be considered as a monetary policy tool in the future, pending a review of the approach's operational feasibility. In addition, the BoE's continued contemplation of a negative policy rate, on the margins, was viewed by some participants as weighing on the pound late in the quarter.

Chart 10

U.S. DOLLAR–ONSHORE CHINESE RENMINBI EXCHANGE RATE



Source: Bloomberg L.P.

IMPROVED RISK SENTIMENT SUPPORTS RENMINBI, OTHER EMERGING MARKET CURRENCIES

The U.S. dollar depreciated 3.9 percent against the onshore Chinese renminbi in the third quarter—the largest quarterly decline since 2008 and a roughly 2 standard deviation move over a ten-year time horizon. On a trade-weighted basis, appreciation in the renminbi was the second largest contributor to the decline in the broad dollar index.

In addition to improved global risk sentiment and broad dollar weakness, renminbi appreciation was attributed to China's economic recovery and the expectation for a more robust rebound in growth relative to the United States. Second-quarter GDP printed above expectations on a year-over-year basis, while industrial production also exceeded market expectations and saw a return to positive growth in August.

Furthermore, the renminbi was seen as supported by favorable China–U.S. interest rate differentials, which reached multiyear highs during the third quarter as the People's Bank of China pursued a more modest pace of monetary easing relative to other major central banks. Some market participants also highlighted the rising Chinese current account surplus as further supporting the renminbi.

Finally, renminbi appreciation was partly attributed to a perceived easing of U.S.–China trade tensions and the broad adherence to the "Phase One" trade deal despite continued disagreement over geopolitical and technology matters.

Elsewhere, the U.S. dollar depreciated 2.6 percent against emerging market currencies in the third quarter, as measured by the Federal Reserve's trade-weighted Emerging Market Economies Dollar Index.[5] Emerging market currency appreciation accounted for roughly 40 percent of the decline in the broad dollar index. Improved global risk sentiment and stable oil prices were seen as supporting commodity-sensitive emerging market currencies.

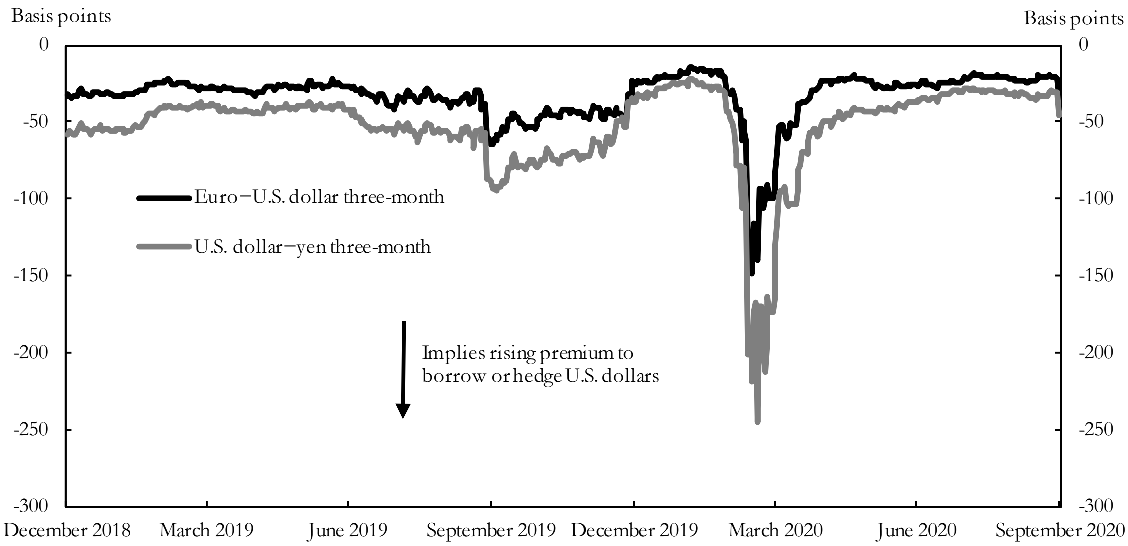
Of note, the dollar depreciated 3.8 percent against the Mexican peso, which benefitted from Mexico's more restrained easing of fiscal and monetary policy relative to emerging market peers, a posture that market participants viewed as benefitting the country's medium-term fiscal position. For context, deep policy rate cuts by most emerging market central banks earlier in the year significantly narrowed the interest rate differentials of those countries vis-à-vis the United States, eroding a source of support for emerging market currencies broadly. In addition, the Mexican peso was supported by its status as a proxy for emerging market currencies more broadly against the backdrop of improving global risk sentiment.

While the dollar depreciated against most emerging market currencies, some emerging market currencies—such as the Brazilian real—underperformed against the dollar. The Brazilian real's 2.6 percent depreciation against the dollar was seen as reflecting Brazil's low interest rates relative to other emerging market countries and emergent concerns over Brazil's fiscal trajectory. In addition, the Turkish lira depreciated 12.6 percent against the dollar amid significant concerns over declining Turkish foreign exchange reserves and a perceived reluctance by the central bank to pare back its highly accommodative monetary policy despite signs of an economic rebound.

[5] The Federal Reserve's Emerging Market Economies Dollar Index, formerly known as the other important trading partners (OITP) index, is a weighted average of the foreign exchange value of the U.S. dollar against a subset of emerging market currencies. For more information on the index, see Revisions to the Federal Reserve Dollar Indexes.

Chart 11

FOREIGN EXCHANGE SWAP-IMPLIED BASIS SPREADS



Source: Bloomberg L.P.

FOREIGN EXCHANGE SWAP MARKETS REMAIN STABLE

Foreign exchange swap market pricing and trading conditions stabilized further in the third quarter following significant market volatility exhibited in March and April. By the end of the third quarter, market participants characterized conditions as generally in line with those exhibited prior to the pandemic, reflecting a well-functioning market with balanced dollar supply and demand dynamics.

Accordingly, three-month foreign exchange swap basis spreads of key U.S. dollar currency pairs trended toward the relatively narrow ranges exhibited before the market volatility experienced in the spring. Three-month foreign exchange swap basis spreads for the euro–dollar and dollar–yen pairs widened modestly in late September—consistent with patterns seen in prior years as contracts begin to capture funding demand at year-end. That said, the level of the spreads was lower compared to those observed at the same time in prior years, reflecting early expectations for fairly benign trading conditions around the year-end turn given the relatively higher levels of excess bank reserves and the sustained presence of Federal Reserve liquidity backstop facilities.

The stabilization in U.S. dollar funding conditions globally also resulted in a continued decline in aggregate U.S. dollar swaps outstanding at the Federal Reserve's U.S. dollar liquidity swap facilities. Aggregate swaps outstanding of the standing and temporary dollar liquidity swap arrangements declined to roughly \$24 billion by the end of the third quarter from a peak of nearly \$450 billion in late

May. Given the improved conditions and lower usage of the facilities, standing swap line central banks—which include the ECB, Bank of Japan (BoJ), BoE, Bank of Canada (BoC), and Swiss National Bank (SNB)—jointly announced in late August a reduction in the frequency of their seven-day U.S. dollar operations from three times per week to once per week, effective September 1, 2020. The frequency of these operations had been increased on March 23 in response to the market volatility of March and April.

Separately, the FOMC announced on August 5 that the temporary swap lines established with nine additional central bank counterparties, as well as the temporary FIMA (foreign and international monetary authorities) Repo Facility, would continue to operate through March 2021. The announcement was viewed as supportive of ongoing market stability, reinforcing the backstop role the facilities play in supporting smooth conditions going into the year-end period and mitigating the risk of any sudden or unexpected market pressures.

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 $21.5 billion, comprised of euro and yen holdings. The Federal Reserve System Open Market Account (SOMA) holdings of foreign-currency-denominated assets also totaled $21.5 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, the Federal Reserve and U.S. Treasury's foreign exchange reserves can be invested in German, French, Dutch, and Japanese government obligations and in instruments at official institutions, such as the Bank for International Settlements and foreign central banks. To the greatest extent practicable, the investments are split evenly between the SOMA and the ESF.

As of September 30, the U.S. dollar value of euro-denominated deposits and government securities held by the SOMA and the ESF increased to $25.3 billion from $24.3 billion on June 30. The U.S. dollar value of yen-denominated deposits and government securities increased to $17.7 billion from the prior quarter's balance of $17.3 billion. These changes are largely driven by foreign exchange translation effects.

Liquidity Swap Arrangements with Foreign Central Banks

With respect to standing dollar liquidity swap arrangements, the Federal Reserve had a total of $21.0 billion of swaps outstanding with these central banks at the end of the quarter. As of September 30, the BoJ had $18.5 billion of swaps outstanding, the ECB had $1.8 billion of swaps outstanding, and the SNB had $0.7 billion of swaps outstanding. The BoC and the BoE did not have any dollar swaps outstanding at the end of the quarter.

With respect to the temporary swap lines[6] with nine additional central banks, the Federal Reserve had a total of $2.9 billion of swaps outstanding with these central banks at the end of the quarter. As of September 30, Banco de México had $1.8 billion of swaps outstanding and the Monetary Authority of Singapore had $1 billion of swaps outstanding. Bank of Korea, Danmarks Nationalbank, Norges Bank, Sveriges Riksbank, Reserve Bank of Australia, Reserve Bank of New Zealand, and Banco Central do Brasil did not have any dollar swaps outstanding at the end of quarter.

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 U.S. dollar-denominated rollover swap exercise with the European Central Bank, Bank of England, Bank of Canada, and Swiss National Bank.

[6] Temporary swap line central banks include Banco Central do Brasil, Banco de México, Bank of Korea, Danmarks Nationalbank, Monetary Authority of Singapore, Norges Bank, Reserve Bank of Australia, Reserve Bank of New Zealand, and the Sveriges Riksbank.

Table 1

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

Millions of U.S. Dollars

		Changes in Balances by Source				
	Carrying Value, June 30, 2020[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, 2020[a]
Federal Reserve System Open Market Account (SOMA)						
Euro	12,166	0	(10)	0	526	12,682
Japanese yen	8,674	0	0	0	180	8,854
Total	20,840	0	(10)	0	706	21,536

		Changes in Balances by Source				
	Carrying Value, June 30, 2020[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, 2020[a]
U.S. Treasury Exchange Stabilization Fund (ESF)						
Euro	12,148	0	(10)	0	525	12,663
Japanese yen	8,674	0	0	0	180	8,854
Total	20,822	0	(10)	0	705	21,516

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, 2020

	U.S. Treasury Exchange Stabilization Fund (ESF)[a]	Federal Reserve System Open Market Account (SOMA)[a]
Euro-denominated assets	**12,662.5**	**12,682.0**
Cash held on deposit at official institutions	7,530.6	7,550.1
Marketable securities held under repurchase agreements[b]	0.0	0.0
Marketable securities held outright	5,131.9	5,131.9
German government securities	1,043.7	1,043.7
French government securities	2,600.2	2,600.2
Dutch government securities	1,488.0	1,488.0
Yen-denominated assets	**8,853.8**	**8,853.8**
Cash held on deposit at official institutions	8,478.5	8,478.5
Marketable securities held outright	375.3	375.3

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 16.32 and 16.34 months, respectively; both the SOMA and ESF yen portfolios had Macaulay durations of 0.14 months.

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

Table 3

RECIPROCAL CURRENCY ARRANGEMENTS

Millions of U.S. Dollars

Institution	Amount of Facility	Outstanding as of September 30, 2020
	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	Unlimited	1,763
Swiss National Bank	Unlimited	746
Bank of Japan	Unlimited	18,536
Bank of Canada	Unlimited	0
Bank of England	Unlimited	0
		21,045
Temporary dollar liquidity swap arrangements		
Banco Central do Brasil	60,000	0
Banco de Mexico	60,000	1,815
Bank of Korea	60,000	0
Danmarks Nationalbank	30,000	0
Monetary Authority of Singapore	60,000	1,035
Norges Bank	30,000	0
Reserve Bank of Australia	60,000	0
Reserve Bank of New Zealand	30,000	0
Sveriges Riksbank	60,000	0
		2,850
Standing foreign currency liquidity swap arrangements		
European Central Bank	Unlimited	0
Swiss National Bank	Unlimited	0
Bank of Japan	Unlimited	0
Bank of Canada	Unlimited	0
Bank of England	Unlimited	0
		0
	U.S. Treasury Exchange Stabilization Fund (ESF)	
Banco de México	9,000	0
	9,000	0