TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE OPERATIONS

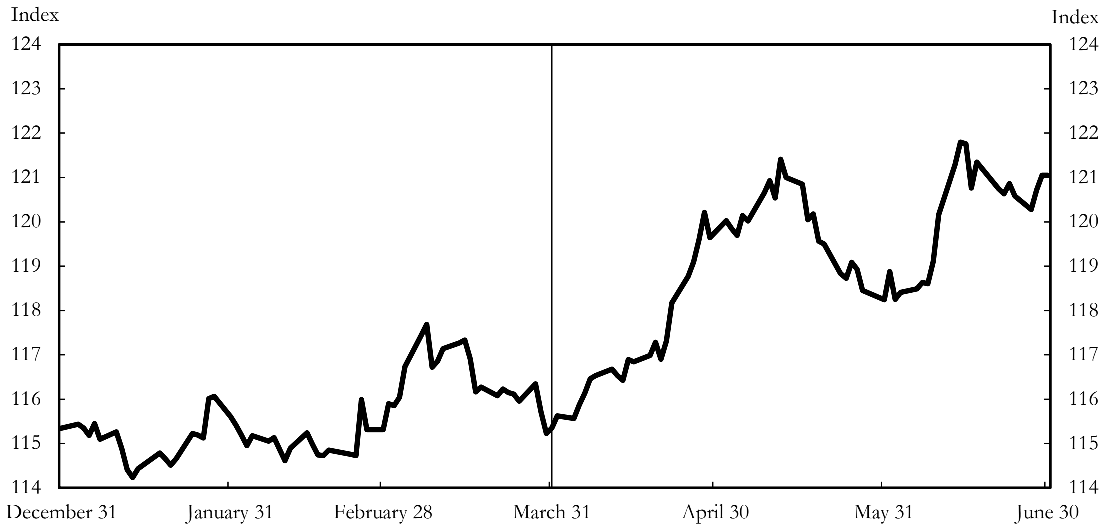
April – June 2022

During the second quarter of 2022, the U.S. dollar, as measured by the Federal Reserve Board's broad trade-weighted dollar index, appreciated 4.9 percent. The move primarily reflected increased dollar demand given heightened concerns of a global growth slowdown, as well as persistently wide interest rate differentials in favor of the United States versus other advanced economies amid market expectations for the Federal Reserve to pursue a more rapid pace of policy rate increases against the backdrop of elevated U.S. inflation. The dollar appreciated against nearly all major currencies. On a bilateral basis, the dollar appreciated 5.6 percent against the euro, 11.5 percent against the Japanese yen, 7.9 percent against the British pound, and 5.7 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 Patricia Zobel, Senior Vice President, Federal Reserve Bank of New York, System Open Market Account Manager pro tem, 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 2022. Colleen Keegan was primarily responsible for preparation of the report.

Chart 1

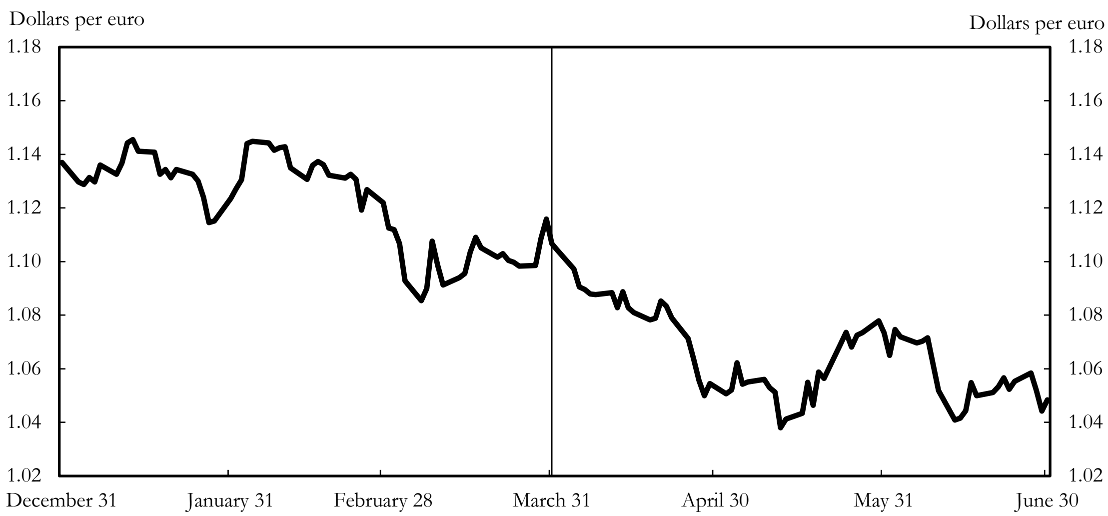
BROAD TRADE-WEIGHTED U.S. DOLLAR INDEX



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

Chart 2

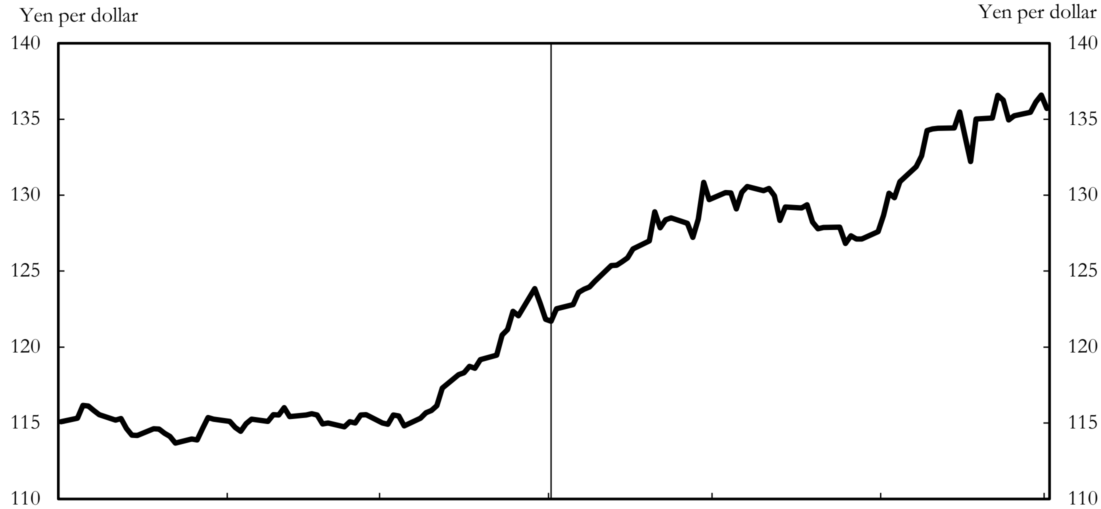
EURO–U.S. DOLLAR EXCHANGE RATE



Source: Bloomberg L.P.

Chart 3

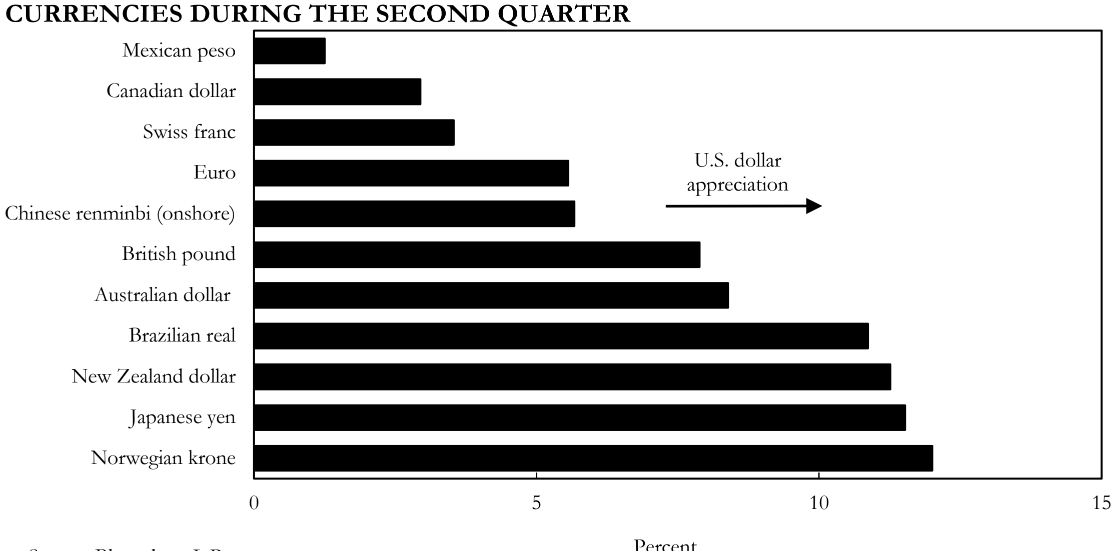
U.S. DOLLAR–YEN EXCHANGE RATE



Source: Bloomberg L.P.

Chart 4

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



Source: Bloomberg L.P.

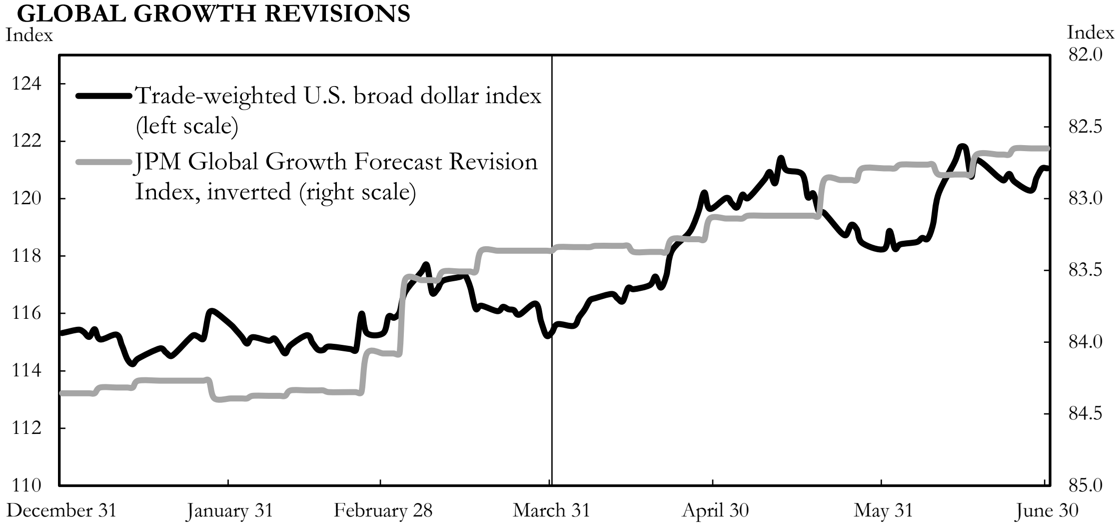
U.S. DOLLAR APPRECIATES BROADLY ON DETERIORATING GLOBAL GROWTH OUTLOOK AND RELATIVELY HIGH U.S. YIELDS

During the second quarter of 2022, the U.S. dollar, as measured by the Federal Reserve Board's broad trade-weighted dollar index, rose 4.9 percent. On a bilateral basis, the dollar appreciated notably against nearly all major G10 and emerging market currencies.[1] This appreciation was largely attributed to deteriorating market risk sentiment fueled by heightened global recession concerns and persistently wide interest rate differentials between the United States and other major economies.

The deterioration in risk sentiment, which was the primary driver of dollar appreciation, reflected global growth concerns, exacerbated by China's economic lockdowns to contain the spread of COVID-19 and the ongoing war in Ukraine. In addition to the direct impact on Chinese growth, China's lockdowns were seen as contributing to more persistent supply chain bottlenecks and amplifying global inflationary pressures. Mounting concerns regarding disruptions to Russian gas exports to Europe and the potential need for energy rationing in the region were also seen as weighing on the global growth outlook. These developments contributed to notable declines in the prices of global risk assets and an increase in foreign exchange implied volatility, which rose to its highest level since early 2020.

Chart 5

U.S. TRADE-WEIGHTED BROAD DOLLAR INDEX AND GLOBAL GROWTH REVISIONS



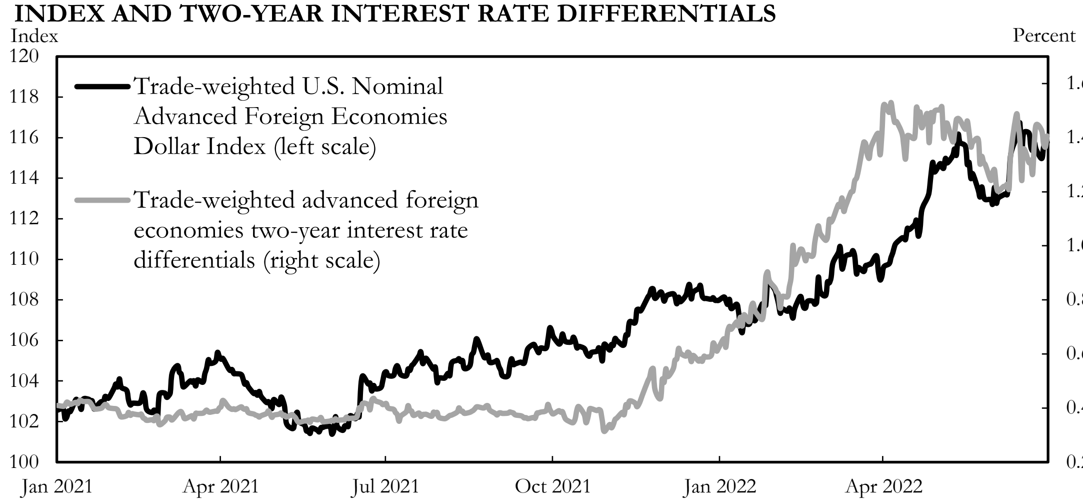
Source: Bloomberg L.P.

[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.

The dollar's appreciation was viewed as broadly consistent with the rise in U.S. yields and the continued wideness of interest rate differentials in favor of the United States. Federal Reserve communications and policy decisions over the quarter were seen as key factors contributing to the rise in U.S. yields, which included a 62 basis point rise at the two-year tenor and a 67 basis point rise at the ten-year tenor. Against a backdrop of higher-than-expected inflation prints—including headline May CPI of 8.6 percent (year-over-year), its fastest pace since 1981—the Federal Open Market Committee (FOMC) increased U.S. policy rates more than anticipated, with hikes of 50 basis points at its May meeting and 75 basis points at its June meeting. In addition, the FOMC's Summary of Economic Projections released at the June meeting indicated a steeper-than-anticipated path of policy, with the federal funds target rate projected to peak at 3.75 percent by year-end 2023.

Chart 6

U.S TRADE-WEIGHTED ADVANCED FOREIGN ECONOMIES DOLLAR INDEX AND TWO-YEAR INTEREST RATE DIFFERENTIALS



Sources: Bloomberg L.P.; New York Fed staff calculations.

Of note, the trade-weighted dollar index declined markedly in late May in the wake of below-expectations U.S. economic data, including consumer sentiment, discretionary spending, and corporate earnings. Following these data releases, market participants marked down their forecasts for U.S. growth and Federal Reserve policy rate increases. However, the broad dollar index resumed its appreciation trend in mid-June amid heightened global growth concerns and above-consensus May CPI data, which increased expectations for policy tightening in the United States.

EURO DEPRECIATES ON EMERGING RISKS TO EURO AREA GROWTH AND EXPECTATIONS FOR A RELATIVELY SLOWER PACE OF POLICY TIGHTENING

The dollar appreciated 5.6 percent against the euro in the second quarter, reflecting downside risks to growth stemming from the euro area's proximity to the ongoing conflict in Ukraine and potential energy supply disruptions, as well as expectations for a relatively slower pace of policy rate tightening by the European Central Bank (ECB) relative to the Federal Reserve.

The euro faced depreciation pressure from a weakening growth outlook amid economic spillovers from the Russia–Ukraine conflict and potential disruptions to Russian gas exports to Europe. Over the quarter, European front-month natural gas futures rose by about 15 percent on net as concerns grew over the impact of a disruption to Russian gas exports to Europe, either from European sanctions or from Russia cutting off supplies. European natural gas futures rose sharply in mid-June on reports that Russia had implemented cuts to gas exports to Germany and Italy. The sharp rise in global energy prices continued to represent a significant negative terms-of-trade shock for the euro area, which is a large net energy importer.

While the ECB shifted to a less accommodative policy stance during the quarter, signaling an earlier start to policy tightening than previously anticipated, expectations for future policy rate increases remained well below those of the United States. At its June meeting, the ECB announced an end to net asset purchases under its Asset Purchase Program (APP), communicated its intention to raise its policy rate by 25 basis points at its July meeting, and indicated that it expected to raise the policy rate again in September. The end of the APP and the timing of the ECB policy rate increases came earlier than market participants had expected based on prior ECB policy communications, contributing to an increase in short-dated euro area yields. However, the euro depreciated further against the dollar following the decision, as investors continued to emphasize expectations for a relatively faster pace of policy tightening by the Federal Reserve.

Following the June ECB meeting, the euro and euro area bond yields exhibited heightened volatility with peripheral spreads widening notably amid elevated market concerns about the impact of policy rate increases on euro area countries with higher sovereign debt levels. In response, the ECB announced measures to counteract fragmentation risks among euro area sovereign bond markets following an unscheduled Governing Council meeting. These measures included (i) the application of flexibility in reinvesting redemptions in the Pandemic Emergency Purchase Program (PEPP) and (ii) the acceleration of work to complete the design of a new Transmission Protection Instrument to ensure effective policy transmission throughout the euro area.

JAPANESE YEN DEPRECIATES NOTABLY AMID A FURTHER WIDENING OF INTEREST RATE DIFFERENTIALS AND TERMS-OF-TRADE SHOCK

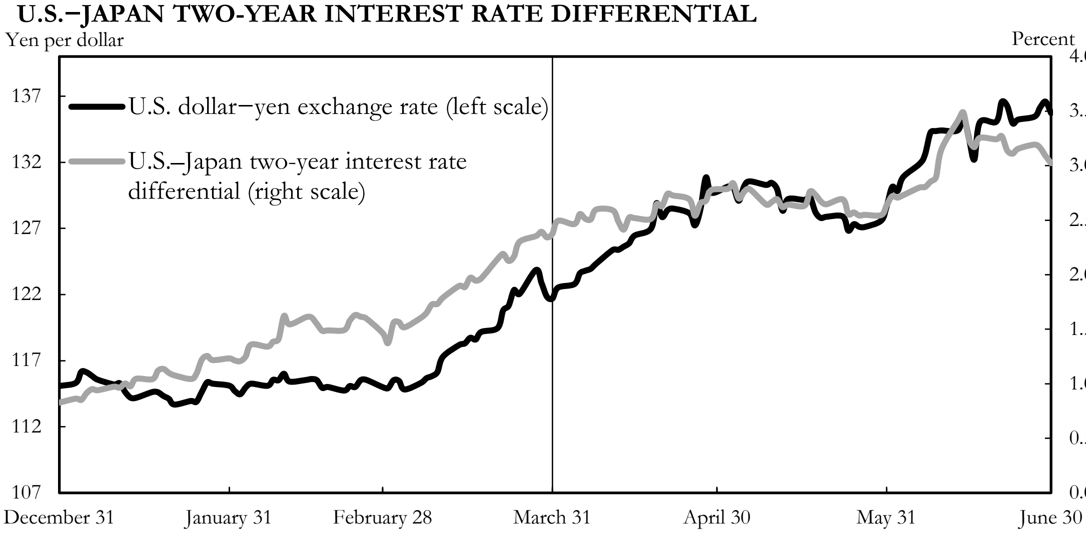
The dollar appreciated 11.5 percent against the Japanese yen in the second quarter, with the yen reaching its lowest level against the dollar since 1998. Yen depreciation largely reflected widening U.S.–Japanese interest rate differentials amid the Bank of Japan's continued accommodative policy stance, in contrast to more rapid policy rate increases by the Federal Reserve, as well as the negative terms-of-trade shock from elevated global commodity prices.

By remaining accommodative in the second quarter, the Bank of Japan's (BOJ) policy stance contrasted notably with that of the Federal Reserve, which continued to tighten policy in response to rising inflationary pressures. At both its April and June meetings, the BOJ maintained its yield curve control framework and continued to implement fixed-rate purchase operations to contain increases in long-end Japanese government bond yields. Comments from BOJ Governor Kuroda further reinforced market expectations that the BOJ would maintain its existing policy stance. In particular, although CPI (excluding fresh food) increased over the quarter, printing above the BOJ's 2 percent target in both April and May, Kuroda noted that much of the rise in inflation was driven by rising energy prices. Signs of an economic slowdown also manifested over the quarter, with first-quarter GDP contracting at a seasonally adjusted annualized rate of 0.5 percent.

The yen also faced depreciation pressure from elevated global commodity prices, which represented a significant negative terms-of-trade shock for Japan—a large net energy importer—and weighed on the trade balance.

Chart 7

U.S. DOLLAR−YEN EXCHANGE RATE AND U.S.−JAPAN TWO-YEAR INTEREST RATE DIFFERENTIAL



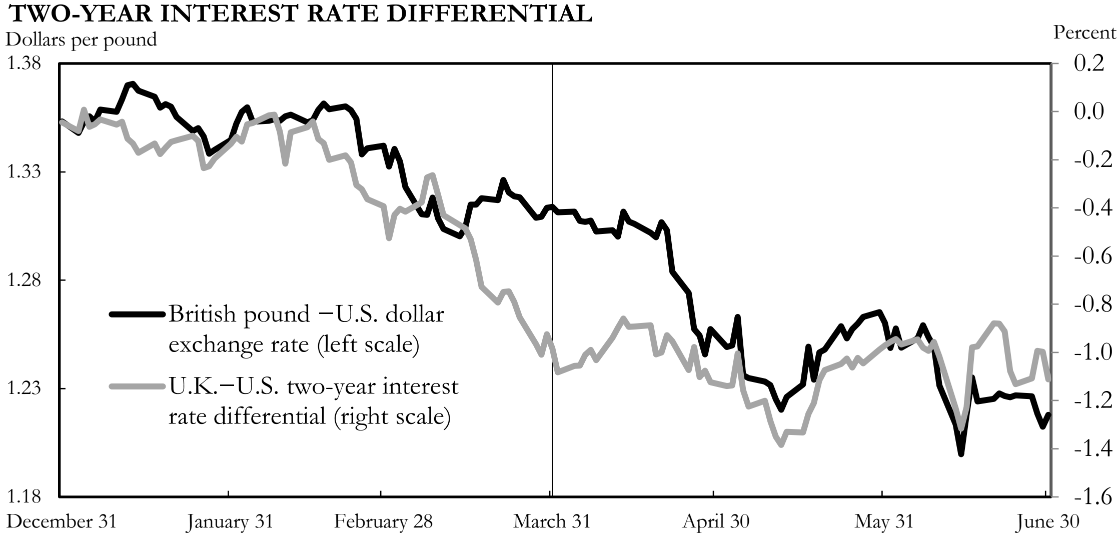
Source: Bloomberg L.P.

BRITISH POUND DEPRECIATES AMID SLOWER PACE OF EXPECTED TIGHTENING, TERMS-OF-TRADE SHOCK, AND SLOWING GROWTH

In the second quarter, the dollar appreciated 7.9 percent against the British pound amid expectations for a slower pace of policy tightening in the United Kingdom relative to the United States, deteriorating terms of trade, and signs of slowing growth. The Bank of England (BoE) raised its policy rate by 25 basis points at both its May and June meetings, and its communications became less accommodative over the quarter. In particular, the BoE's Monetary Policy Committee (MPC) noted at its June meeting that it would "act forcefully" if necessary in response to more persistent inflationary pressures. Nevertheless, yield differentials with the United States remained wide over the quarter, putting downward pressure on the pound. The pound also faced depreciation pressure from the ongoing terms-of-trade shock from elevated commodity prices as well as signs of weakening growth momentum over the quarter, with March and April GDP prints coming in below median expectations.

Chart 8

BRITISH POUND−U.S. DOLLAR EXCHANGE RATE AND U.K.−U.S TWO-YEAR INTEREST RATE DIFFERENTIAL



Source: Bloomberg L.P.

EMERGING MARKET CURRENCIES BROADLY DEPRECIATE AMID CONTINUED FEDERAL RESERVE TIGHTENING AND DETERIORATING GLOBAL GROWTH EXPECTATIONS

The dollar appreciated 3.9 percent against emerging market (EM) currencies during the quarter, as measured by the Federal Reserve's trade-weighted Emerging Market Economies Dollar Index.[2] EM currency depreciation was viewed as primarily driven by policy tightening in the United States and a deterioration in global growth expectations. Nevertheless, given the large increases in U.S. yields, EM currency depreciation was viewed as fairly modest, which market participants widely attributed to

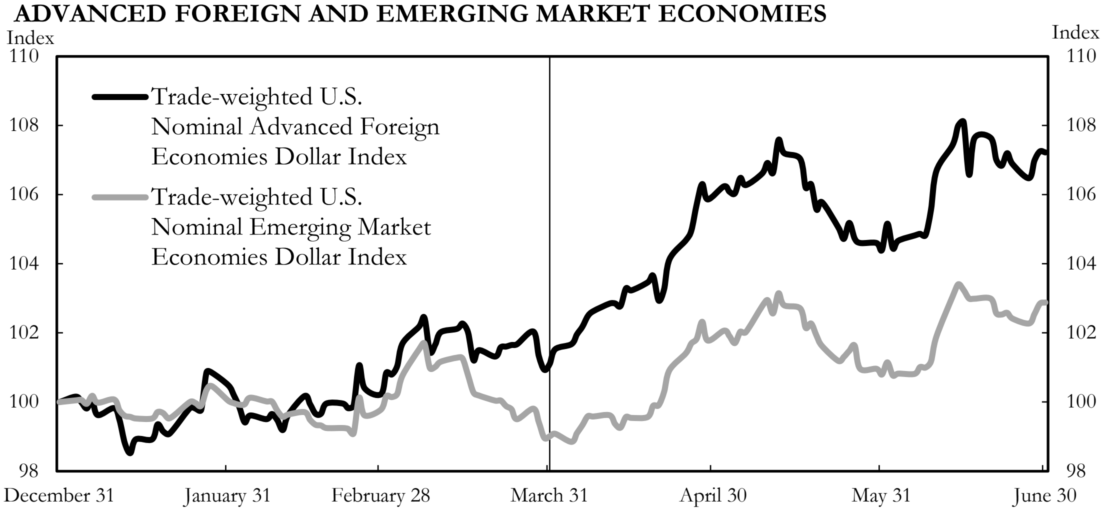
[2] The Federal Reserve's Emerging Market Economies Dollar Index, formerly known as the Other Important Trading Partners (OITP) index, is a weighted average of the foreign exchange value of the U.S. dollar against a subset of emerging market currencies. For more information on the index, see Revisions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

preemptive policy rate increases by EM central banks over the past year and elevated commodity prices, which provided a terms-of-trade boost to many currencies of commodity-exporting countries. In contrast to its strength against EM currencies, the dollar depreciated roughly 33 percent against the Russian ruble, reflecting Russian trade surpluses from oil and natural gas exports and continued capital controls as well as reduced global investor activity in the currency since the start of the war.

The dollar appreciated 5.7 percent against the Chinese renminbi—its largest quarterly appreciation against the currency on record—following several months of relative stability. Market participants cited two major factors as driving the move. First, interest rate differentials between the United States and China widened notably over the quarter amid monetary policy divergence, with the People's Bank of China's (PBOC) perceived more accommodative policy stance contrasting with the Federal Reserve's signaling of a more rapid pace of U.S. policy tightening to come. In particular, the PBOC announced a 25 basis point cut to its reserve requirement ratio (RRR) in mid-April. Second, China's growth outlook was marked down notably by market participants amid heightened uncertainty stemming from local COVID-19 outbreaks and new government lockdown measures to contain the spread of COVID. Portfolio outflows by foreign investors were also seen as contributing to renminbi depreciation.

Chart 9

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



Source: Bloomberg L.P.

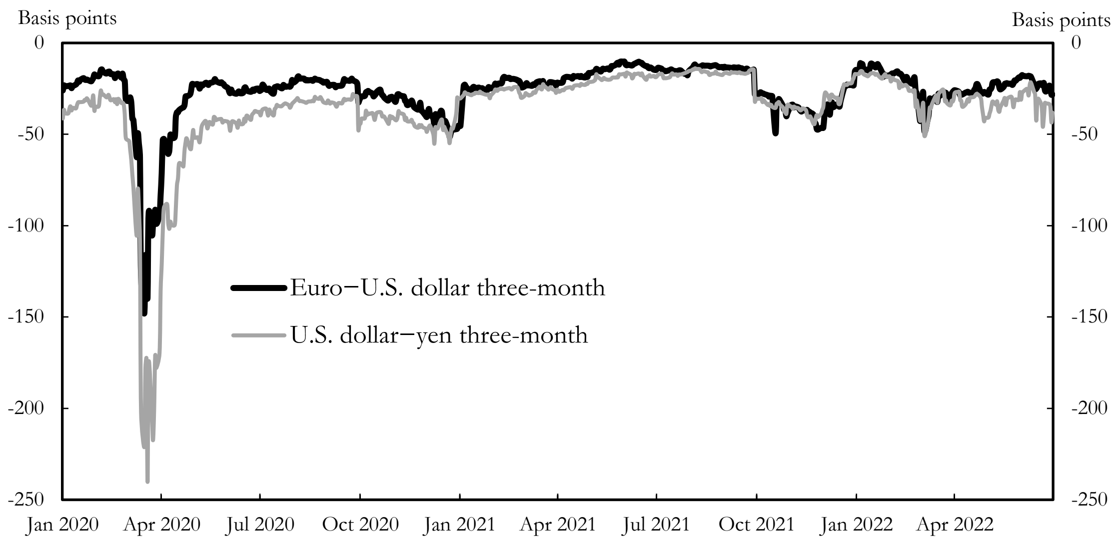
Note: Values indexed to December 31, 2021.

FOREIGN EXCHANGE SWAP MARKETS REMAIN STABLE AMID ABUNDANT U.S. DOLLAR LIQUIDITY

Foreign exchange swap market conditions were generally stable, including over the June quarter-end period. Foreign exchange swap contacts remain attentive to central bank policy decisions and communications regarding interest rates and balance sheet policy, noting that elevated volatility in rates markets may have led some market participants to act more cautiously when lending or borrowing dollars over longer tenors. However, contacts also noted that continued abundant liquidity in dollar funding markets is likely to support narrower foreign exchange swap basis spreads in the near term and highlighted that elevated volatility in broader financial markets had not materially affected conditions in foreign exchange swap markets.

Chart 10

FOREIGN EXCHANGE SWAP-IMPLIED BASIS SPREADS



Source: Bloomberg L.P.

U.S. DOLLAR LIQUIDITY SWAP ARRANGEMENTS WITH FOREIGN CENTRAL BANKS

Aggregate swaps outstanding of the U.S. dollar liquidity swap arrangements with foreign central banks decreased to roughly $0.3 billion by the end of the second quarter of 2022, compared to $0.4 billion at the end of the first quarter of 2022. All outstanding central bank liquidity swaps at the end of June were with the ECB, while the BOJ, BoE, Swiss National Bank, and Bank of Canada did not have any U.S. dollar swaps outstanding.

TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE HOLDINGS

The Federal Reserve and U.S. Treasury did not undertake any foreign exchange intervention operations during the quarter. As of June 30, the value of the Federal Reserve System Open Market Account (SOMA) foreign-currency-denominated assets totaled $18.1 billion, comprised of euro- and yen-denominated holdings. The value of the U.S. Treasury's Exchange Stabilization Fund (ESF) foreign-currency-denominated assets totaled $18.1 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.[3]

In terms of investment eligibility, 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 June 30, the U.S. dollar value of euro-denominated deposits and government securities held by the SOMA and the ESF decreased to $22.5 billion from $23.9 billion on March 31, 2022, and the U.S. dollar value of yen-denominated deposits and government securities decreased to $13.8 billion from $15.4 billion on March 31, 2022. These changes are largely driven by foreign exchange translation effects.

[3] 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.

Table 1

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

Millions of U.S. Dollars

	Carrying Value, March 31, 2022[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, 2022[a]
Federal Reserve System Open Market Account (SOMA)						
Euro	11,939	0	(10)	0	(672)	11,257
Japanese yen	7,697	0	0	0	(808)	6,888
Total	19,635	0	(10)	0	(1,480)	18,145

	Carrying Value, March 31, 2022[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, 2022[a]
U.S. Treasury Exchange Stabilization Fund (ESF)						
Euro	11,920	0	(10)	0	(671)	11,240
Japanese yen	7,697	0	(0)	0	(808)	6,888
Total	19,617	0	(10)	0	(1,479)	18,128

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 "day of" accrual method.

[b]Net purchases and sales include foreign currency purchases related to official activity, 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, 2022

	U.S. Treasury Exchange Stabilization Fund (ESF)[a]	**Federal Reserve System Open Market Account (SOMA)[a]**
Euro-denominated assets	**11,240.0**	**11,257.2**
Cash held on deposit at official institutions	6,621.6	6,638.8
Marketable securities held under repurchase agreements[b]	0.0	0.0
Marketable securities held outright	4,618.3	4,618.3
German Government securities	734.1	734.1
French Government securities	2,653.3	2,653.3
Dutch Government securities	1,231.0	1,231.0
Yen-denominated assets	**6,888.3**	**6,888.3**
Cash held on deposit at official institutions	6,415.4	6,415.3
Marketable securities held outright	472.9	472.9

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

[a]As of June 30, the SOMA and the ESF euro portfolios had Macaulay durations of 20.60 and 20.63 months, respectively; both the SOMA and ESF yen portfolios had Macaulay durations of 0.16 months.

[b]Sovereign debt obligations of Belgium, France, Germany, Italy, 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 June 30, 2022
	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	347
Swiss National Bank	Unlimited	0
Bank of Japan	Unlimited	0
Bank of Canada	Unlimited	0
Bank of England	Unlimited	0
		347
Standing foreign currency liquidity swap arrangement		
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