TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE OPERATIONS

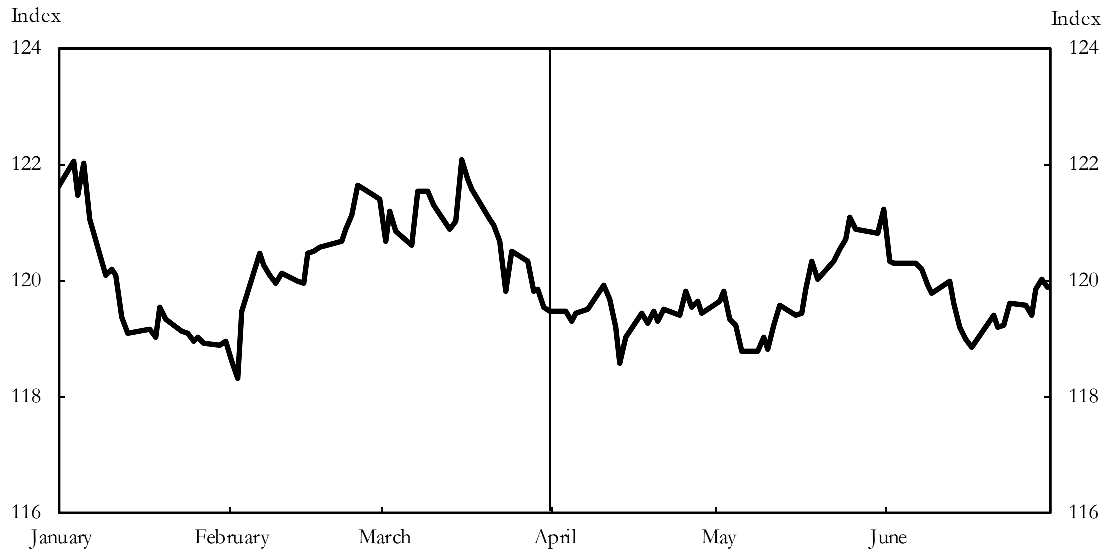
April – June 2023

During the second quarter of 2023, the U.S. dollar, as measured by the Federal Reserve Board's broad trade-weighted dollar index, appreciated 0.3 percent. On a trade-weighted basis, the dollar was little changed against advanced market currencies and appreciated 0.8 percent against emerging market currencies, as markets weighed central bank policy developments over the quarter. Amid small net moves in the broad dollar, some currency-specific developments drew market participants' attention. Most notably, the dollar appreciated by 5.5 percent and 8.6 percent against the Chinese renminbi and the Japanese yen, respectively, reflecting more accommodative monetary policy conditions in these jurisdictions relative to the U.S., as well as weaker-than-expected economic activity in China. In contrast, the dollar depreciated 2.9 percent and 0.6 percent against the British pound and the euro, respectively, amid expectations for further tightening by the respective central banks. Elsewhere, the dollar depreciated 5.5 percent and 5.1 percent against the Brazilian real and Mexican peso, respectively, amid positive economic momentum, falling inflation, and high real rates in those two economies. The Federal Reserve and U.S. Treasury did not intervene in foreign exchange markets during the quarter.

This report, presented by Roberto Perli, 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 April through June 2023. Andrew Coflan was primarily responsible for preparation of the report.

Chart 1

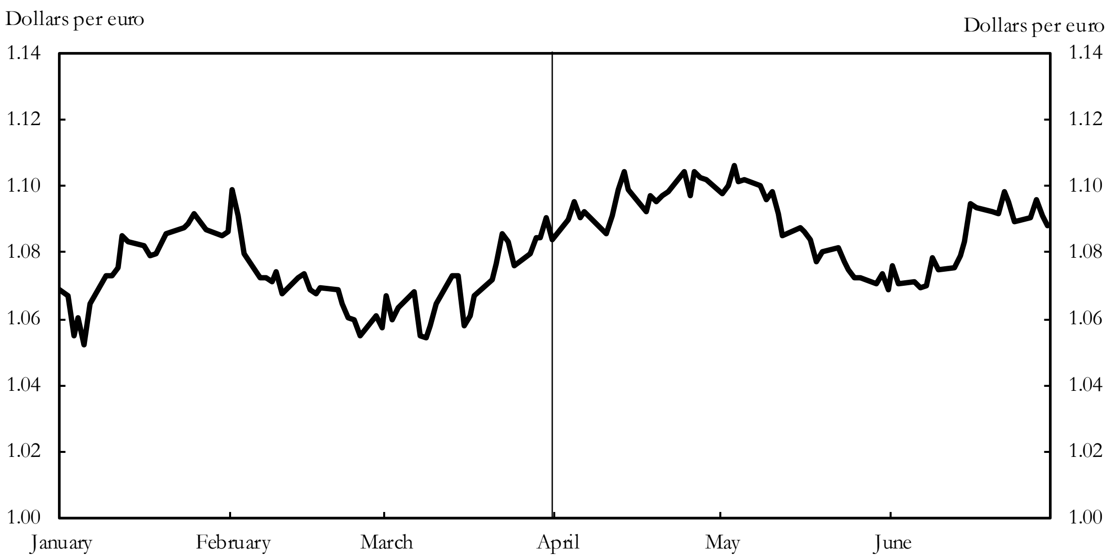
BROAD TRADE-WEIGHTED U.S. DOLLAR INDEX



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

Chart 2

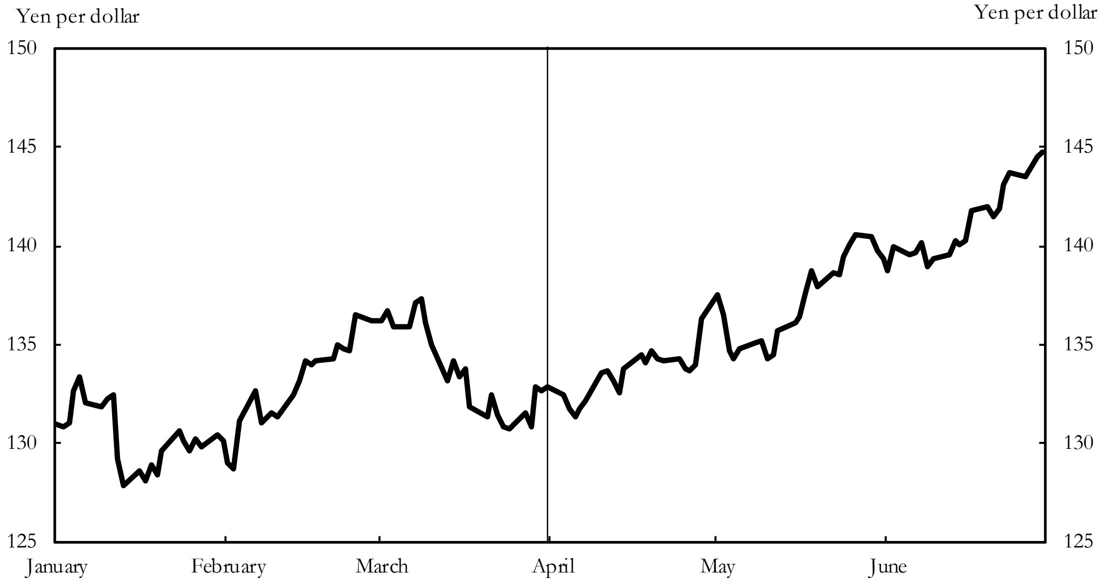
EURO–U.S. DOLLAR EXCHANGE RATE



Source: Bloomberg L.P.

Chart 3

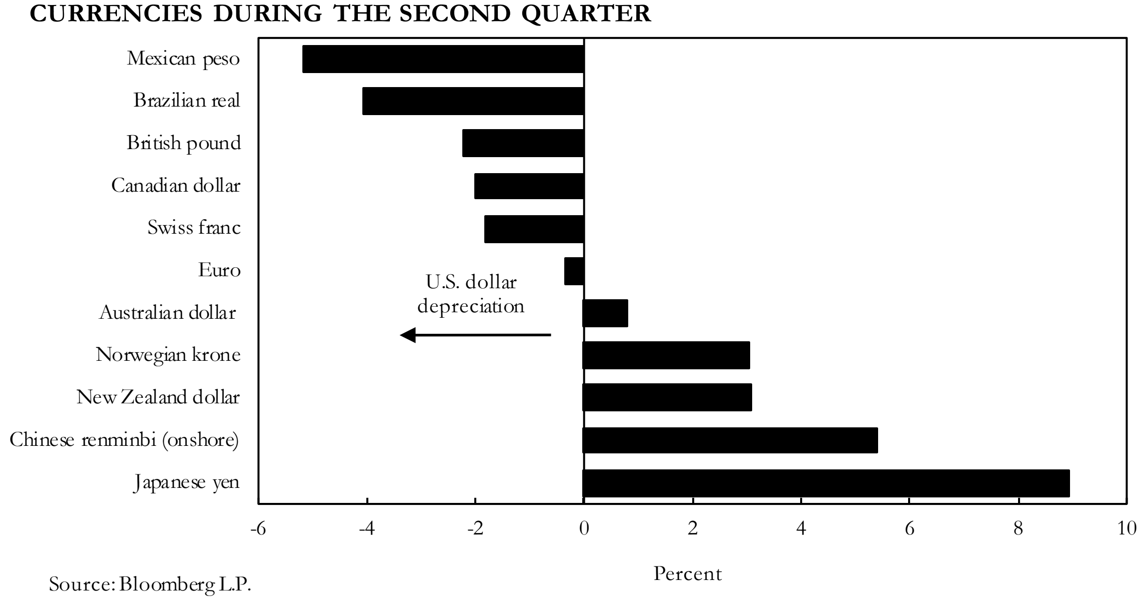
U.S. DOLLAR–YEN EXCHANGE RATE



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 APPRECIATION LIMITED AMID DIVERGING GLOBAL CENTRAL BANK DEVELOPMENTS

During the second quarter of 2023, the U.S. dollar, as measured by the Federal Reserve Board's broad trade-weighted dollar index, appreciated 0.3 percent on net; the dollar was little changed against advanced market currencies and appreciated 0.8 percent against emerging market currencies. While the dollar was supported by abating banking sector stress and widening interest rate differentials from more restrictive U.S. monetary policy, the degree of dollar appreciation was seen as generally contained by market expectations that the Federal Reserve was nearing the end of its tightening cycle, as well as central bank policy in some foreign jurisdictions that was more restrictive than markets had expected.

The Federal Open Market Committee (FOMC) increased its policy rate by 25 basis points at its May meeting, before maintaining the policy rate at its June meeting. Federal Reserve communications over the period—including higher-than-expected upward revisions to the expected path of policy in the Statement of Economic Projections released at the June FOMC meeting, as well as abating banking sector stress—led markets to reevaluate expectations for future policy tightening, with pricing indicating a higher peak rate and a later expected date for the first cut to the Federal Reserve's policy rate. These factors led to an 87 basis point increase in two-year U.S. Treasury yields over the quarter.

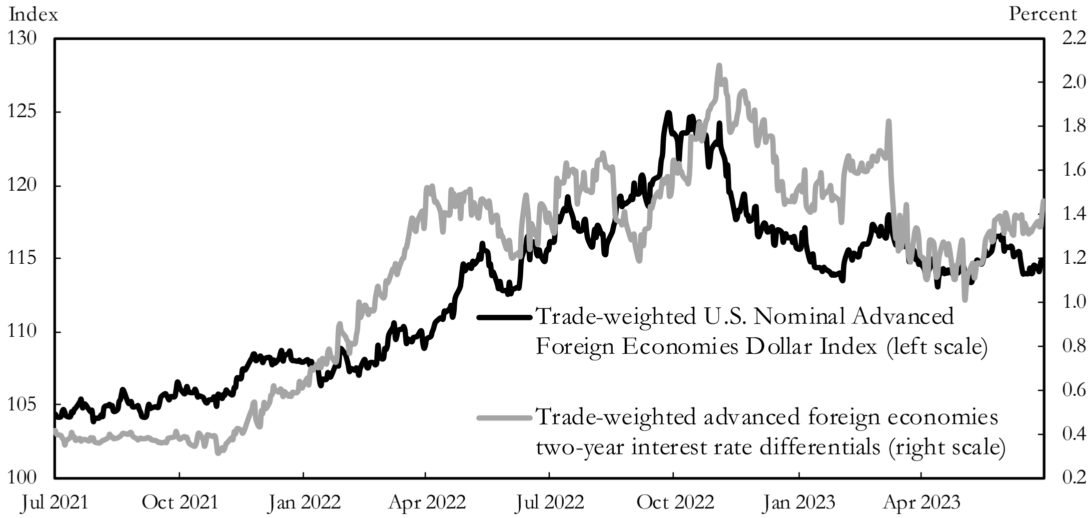
The rise in shorter-dated U.S. rates over the quarter came against a backdrop of continued labor market strength, even as price data showed continued disinflation across indicators. Nonfarm payroll data released over the quarter showed an average monthly increase of 276,000, above market expectations. While later revisions lowered this average, it remained above market expectations, supporting views that the labor market remained robust. Separately, May headline CPI inflation, released in June, fell to 4.0 percent, below market expectations, which some market participants viewed as limiting the overall increase in shorter-dated U.S. rates as it underscored that the Federal Reserve may be approaching the end of its tightening cycle.

Amid more persistent-than-expected inflationary pressure in their jurisdictions, several other major central banks also raised their policy rates, limiting the degree of yield divergence with the U.S. Notably, the European Central Bank (ECB) and the Bank of England (BoE) increased their policy rates at their respective May and June meetings. Additionally, market interpretation of communications from both the ECB and BoE led market participants to increase their forecasts for each central bank's peak rate, as officials underscored the necessity of addressing persistent inflationary pressures. In contrast, the People's Bank of China (PBoC) and the Bank of Japan (BoJ) maintained relatively accommodative policy stances, which, combined with rising U.S. rates, led to widening rate differentials in favor of the dollar and resulted in Japanese yen and renminbi depreciation.

Over the quarter, market participants were attentive to developments related to the U.S. debt ceiling, which drove increased concerns over a potential U.S. default. However, market participants noted that spillovers into the foreign exchange market in the lead-up to and following the passage of the debt ceiling legislation were minimal.

Chart 5

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



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

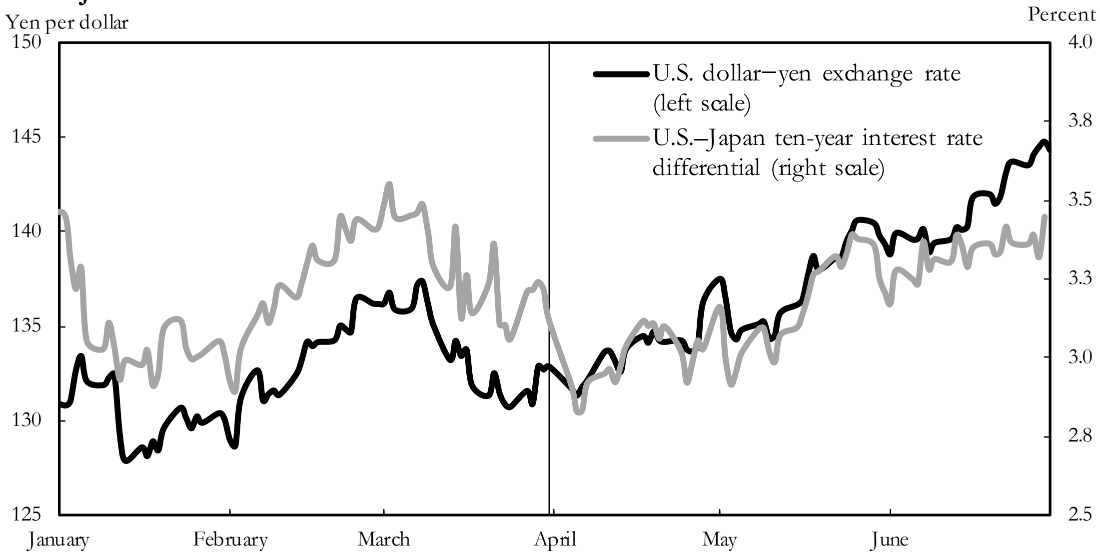
U.S. DOLLAR APPRECIATES AGAINST JAPANESE YEN AMID WIDENING INTEREST RATE DIFFERENTIALS

The dollar appreciated 8.6 percent against the Japanese yen in the second quarter amid a widening of U.S.–Japanese interest rate differentials. The increase in interest rate differentials over the quarter was largely driven by rising U.S. rates, while BoJ communications throughout the quarter reiterated that the BoJ would maintain its current policy stance, including its yield curve control (YCC) program. Updates to the BoJ's inflation forecasts remained below the central bank's 2 percent target and at the lower end of market estimates as wage data came in below consensus expectations. Market participants were also attentive to remarks from BoJ Governor Ueda noting improvements in Japanese government bond market liquidity, given that deterioration in bond market functioning had previously motivated the BoJ's widening of the YCC target band in December. Additionally, market participants were attentive to Japanese inflation data, as core CPI inflation accelerated over the quarter, which some viewed as pushing the BoJ to reassess its YCC policy.

Over the second quarter, market participants were attentive to statements by Japanese officials regarding the pace and level of depreciation of the yen, particularly as the U.S. dollar–yen exchange rate approached levels at which the Ministry of Finance intervened in [September]() and [October 2022](). The Ministry of Finance did not report any intervention activity over the second quarter; toward the end of the quarter, the Vice Minister of Finance for International Affairs noted that, "we are watching the currency market with a high sense of urgency and will respond appropriately if there are excessive moves."

Chart 6

U.S. DOLLAR–YEN EXCHANGE RATE AND U.S.–JAPAN TEN-YEAR INTEREST RATE DIFFERENTIAL



Source: Bloomberg L.P.

U.S. DOLLAR DEPRECIATES AGAINST EURO ON EXPECTATIONS FOR MORE RESTRICTIVE ECB POLICY

The dollar depreciated 0.6 percent against the euro over the second quarter. While shorter-dated interest rate differentials were little changed, relative peak rate expectations between the euro area and the U.S. moved in favor of the euro toward the end of the quarter, providing support to the euro against the dollar. On net, the euro–U.S. dollar exchange rate was largely rangebound over the quarter.

The ECB raised policy rates by 25 basis points at each of its May and June policy meetings, despite softening economic data, as official statements focused on persistent inflationary pressures. Of note, a larger-than-expected increase in May manufacturing purchasing managers index (PMI) data, followed by a sharp drop in services PMI toward the end of the quarter, indicated slowing economic momentum. Commentary from ECB President Lagarde toward the end of the quarter underscored the likelihood of further rate hikes at upcoming ECB meetings, leading market participants to further increase expectations for the ECB's peak rate, for a net increase of 50 basis points relative to the beginning of the quarter, narrowing peak rate differentials between the U.S. and euro area.

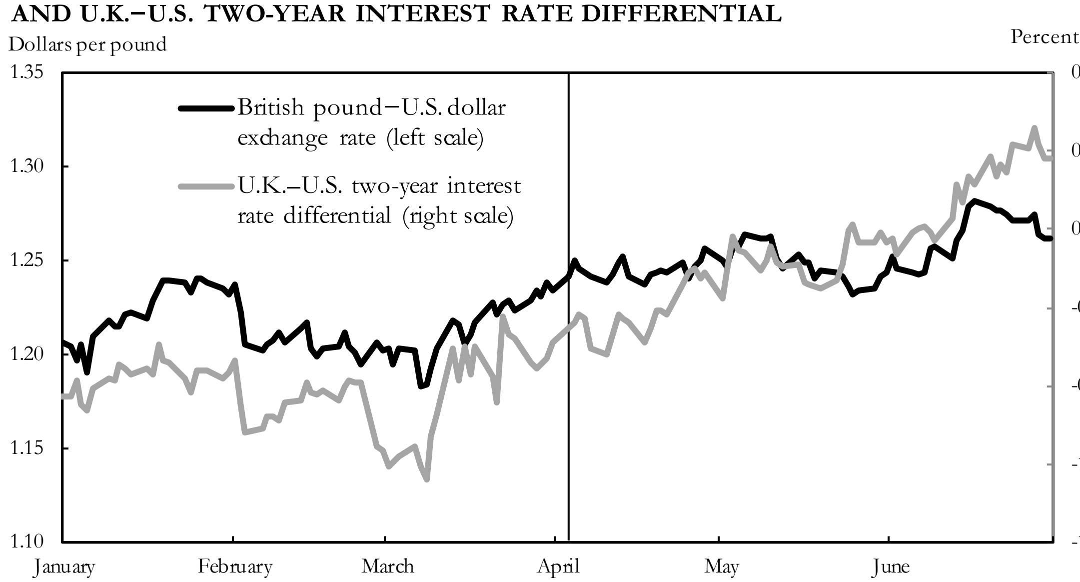
U.S. DOLLAR DEPRECIATES AGAINST BRITISH POUND ON U.K. ECONOMIC DATA AND WIDENING INTEREST RATE DIFFERENTIALS

The U.S. dollar depreciated 2.9 percent against the British pound during the second quarter, reflecting stronger-than-expected U.K. economic data and a widening of interest rate differentials in favor of the U.K. Inflation data drew the most attention, as core U.K. CPI inflation accelerated to a multidecade high of 7.1 percent versus expectations of 6.8 percent in May. Additionally, stronger-than-expected U.K. earnings and employment data were seen as further adding upward pressure to interest rates. The constellation of economic data led shorter-dated U.K.–U.S. interest rate differentials to widen in favor of the U.K., as U.K. yields rose more than U.S. yields over the quarter.

The BoE raised its policy rate by 25 basis points in May and 50 basis points in June, with the June rate increase above market consensus expectations of a 25 basis point hike. Additionally, expectations for further rate increases rose toward the end of the quarter following statements by BoE officials, who highlighted the upside data surprises and persistent inflationary pressures. Toward the end of the quarter, market participants focused on the implications of a higher expected peak rate for the U.K.'s growth outlook, which was seen as weighing on the pound despite favorable moves in interest rate differentials.

Chart 7

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



Source: Bloomberg L.P.

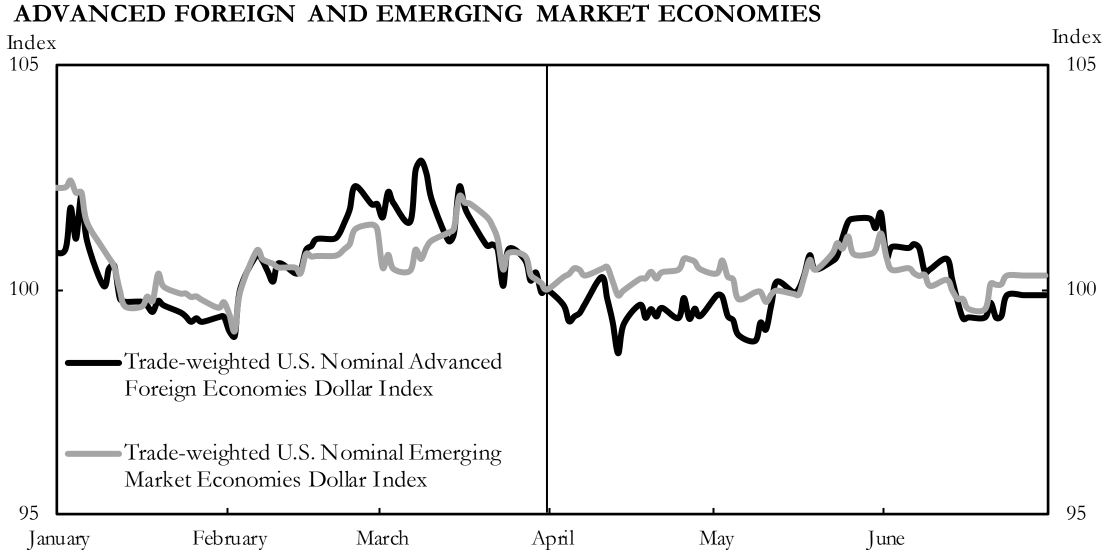
EMERGING MARKET CURRENCIES MIXED AMID DIVERGENT CENTRAL BANK POLICY

The dollar appreciated 0.8 percent against emerging market currencies during the second quarter, as measured by the Federal Reserve's trade-weighted Emerging Market Economies Dollar Index. Notably, the U.S. dollar depreciated 5.1 percent and 5.5 percent against the Mexican peso and the Brazilian real, respectively, as the Banco de México and the Banco Central do Brasil maintained their respective policy rates amid falling inflation, supporting higher real rates on a relative basis. Market participants also broadly viewed the outperformance of the peso as supported by above-expectations growth through the second quarter, as well as remittances.

Meanwhile, the U.S. dollar appreciated 5.5 percent against the Chinese renminbi, as market participants viewed the momentum of China's economy following its economic reopening as underperforming expectations. Property sector investment continued to contract amid weak domestic demand, while falling exports late in the quarter underscored challenges to external demand. Additionally, the PBoC continued to maintain an accommodative policy stance, cutting rates by 10 basis points over the quarter amid slowing economic activity. Notably, the dollar also appreciated against the currencies of several Asian economies that are particularly exposed to the slowdown in Chinese growth, such as the Thai baht, the Malaysian ringgit, and the Taiwanese dollar.

Chart 8

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



Source: Bloomberg L.P.

Note: Values indexed to March 31, 2023.

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

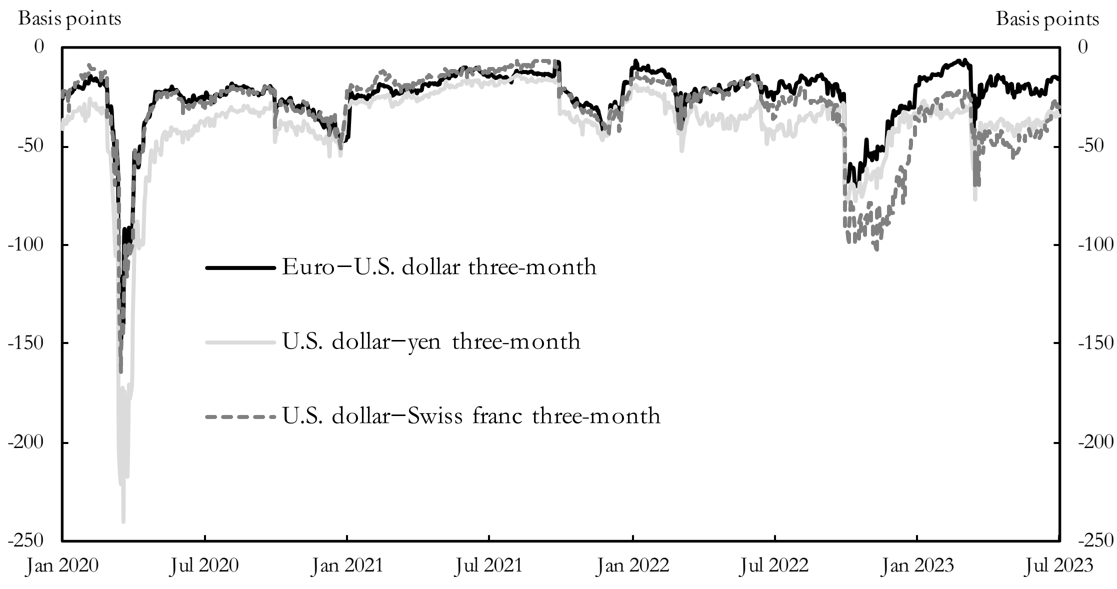
Foreign exchange swap market conditions were broadly stable over the second quarter amid abundant liquidity in U.S. dollar funding markets and fading banking sector concerns. Moreover, the passage of debt ceiling legislation in early June, as well as the smooth absorption of subsequent increased Treasury bill issuance, supported efficient U.S. dollar funding conditions in the U.S. and abroad. Against this backdrop, short-term foreign exchange swap basis spreads across major currency pairs narrowed.

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 remained relatively unchanged, falling slightly from $0.6 billion at the end of the first quarter of 2023 to $0.2 billion at the end of the second quarter. Most outstanding central bank liquidity swaps at the end of June were with the ECB, while the BoE, and the BoJ had minimal use of the U.S. dollar swaps during the quarter. The Bank of Canada and the Swiss National Bank had no U.S. dollar swaps outstanding. The seven-day maturity U.S. dollar operations of operating standing swap line central banks reverted to weekly from daily at the end of April; the adjustment reflected improved market conditions and low demand at the daily operations.

Chart 9

FOREIGN EXCHANGE THREE-MONTH SWAP-IMPLIED BASIS SPREADS



Source: Bloomberg L.P.

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, 2023, the value of the Federal Reserve System Open Market Account (SOMA) foreign-currency-denominated assets totaled $18.3 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 $18.3 billion, comprised of euro- and yen-denominated 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.[1]

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; purchases of obligations of European sovereign issuers eligible to be held outright under agreements for repurchase of such securities; 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, 2023, the U.S. dollar value of euro-denominated deposits and government securities held by the SOMA and the ESF increased to $23.7 billion from $23.5 billion on March 31, 2023, and the U.S. dollar value of yen-denominated deposits and government securities decreased to $12.9 billion from $14.1 billion on March 31, 2023. These changes were largely driven by foreign exchange translation effects.

[1] 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

		Changes in Balances by Source				
	Carrying Value, March 31, 2023[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, June 30, 2023[a]
Federal Reserve System Open Market Account (SOMA)						
Euro	11,751	0	58	0	52	11,862
Japanese yen	7,040	0	(0)	0	(571)	6,469
Total	18,792	0	58	0	(519)	18,330

		Changes in Balances by Source				
	Carrying Value, March 31, 2023[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, June 30, 2023[a]
U.S. Treasury Exchange Stabilization Fund (ESF)						
Euro	11,733	0	58	0	52	11,843
Japanese yen	7,040	0	(0)	0	(571)	6,469
Total	18,774	0	58	0	(519)	18,312

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, 2023

	U.S. Treasury Exchange Stabilization Fund (ESF)[a]	Federal Reserve System Open Market Account (SOMA)[a]
Euro-denominated assets	**11,843.3**	**11,861.5**
Cash held on deposit at official institutions	7,594.8	7,613.1
Marketable securities held under repurchase agreements[b]	0.0	0.0
Marketable securities held outright	4,248.5	4,248.5
German government securities	653.5	653.5
French government securities	2,538.9	2,538.9
Dutch government securities	1,056.0	1,056.0
Yen-denominated assets	**6,469.0**	**6,468.9**
Cash held on deposit at official institutions	6,466.6	6,466.5
Marketable securities held outright	2.4	2.4

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

[a]As of June 30th, the SOMA and the ESF euro portfolios had Macaulay durations of 16.26 and 16.28 months, respectively; both the SOMA and ESF yen portfolios had Macaulay durations of 0.01 months.

[b]Debt obligations of the European sovereign issuers eligible to be held outright in the foreign currency reserves are 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, 2023
	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	218
Swiss National Bank	Unlimited	0
Bank of Japan	Unlimited	1
Bank of Canada	Unlimited	0
Bank of England	Unlimited	0
		219
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