TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE OPERATIONS

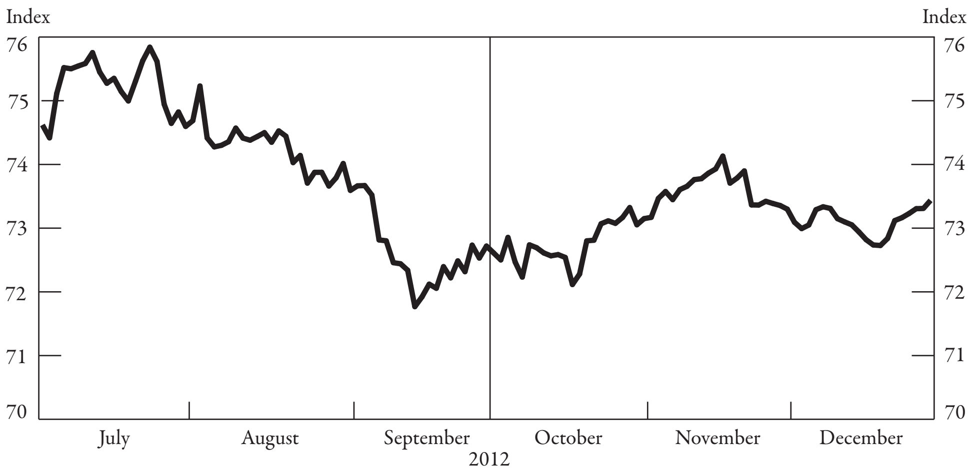
October–December 2012

During the fourth quarter, the U.S. dollar's nominal trade-weighted exchange value increased 1.0 percent as measured by the Federal Reserve Board's major currencies index. The dollar appreciated 11.3 percent against the Japanese yen and depreciated 2.5 percent against the euro, though it remained relatively little changed against most other major currencies over the period. The dollar's notable appreciation against the yen occurred amid expectations of greater fiscal and monetary accommodation resulting from a change in political leadership in Japan. The U.S. monetary authorities did not intervene in the foreign exchange markets during the quarter.

This report, presented by Simon Potter, Executive Vice President, Federal Reserve Bank of New York, and Manager of the System Open Market Account, describes the foreign exchange operations of the U.S. Department of the Treasury and the Federal Reserve System for the period from October through December 2012. Dan Reichgott was primarily responsible for preparation of the report.

Chart 1

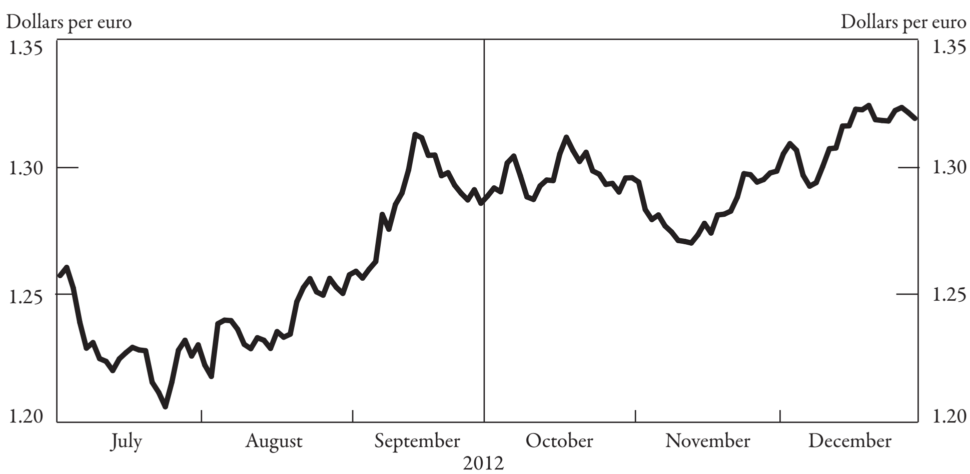
TRADE-WEIGHTED U.S. DOLLAR



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

Chart 2

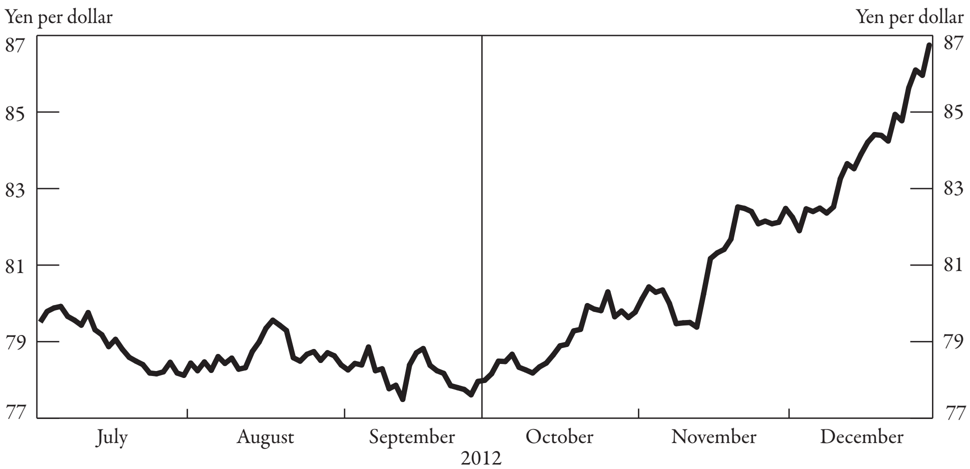
EURO–U.S. DOLLAR EXCHANGE RATE



Source: Bloomberg L.P.

Chart 3

U.S. DOLLAR–YEN EXCHANGE RATE



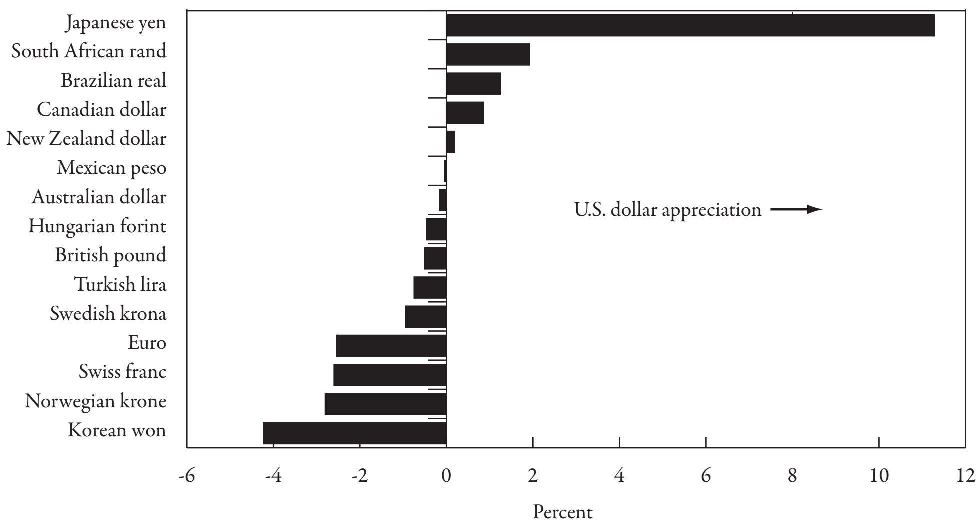
Source: Bloomberg L.P.

U.S. DOLLAR TRACKS DEVELOPMENTS IN "FISCAL-CLIFF" NEGOTIATIONS

During the fourth quarter, the trade-weighted U.S. dollar appreciated 1.0 percent on net. The dollar experienced some modest intraquarter volatility, as evolving U.S. political developments were a predominant focus of financial markets. Developments surrounding the year-end scheduled sequestered fiscal spending cuts of the Budget Control Act of 2011 and expiration of the Tax Relief Act of 2010—collectively referred to as the "fiscal cliff"—dictated market sentiment for much of November and December. The trade-weighted U.S. dollar reached its three-month peak in mid-November, as the increased risk of significant fiscal-cliff-related economic drag in 2013 weighed on broader market sentiment and led investors to seek safe-haven assets in the United States, supporting the dollar against several other global growth-sensitive currencies. This was illustrated by the U.S. dollar's appreciation of between 1.8 percent and 2.9 percent against the Canadian and New Zealand dollars, Brazilian real, and Mexican peso from the beginning of the quarter through November 15. The trade-weighted dollar's intraquarter peak also approximately coincided with the trough in the S&P 500 index, as these two measures tended to inversely track each other throughout the quarter.

Chart 4

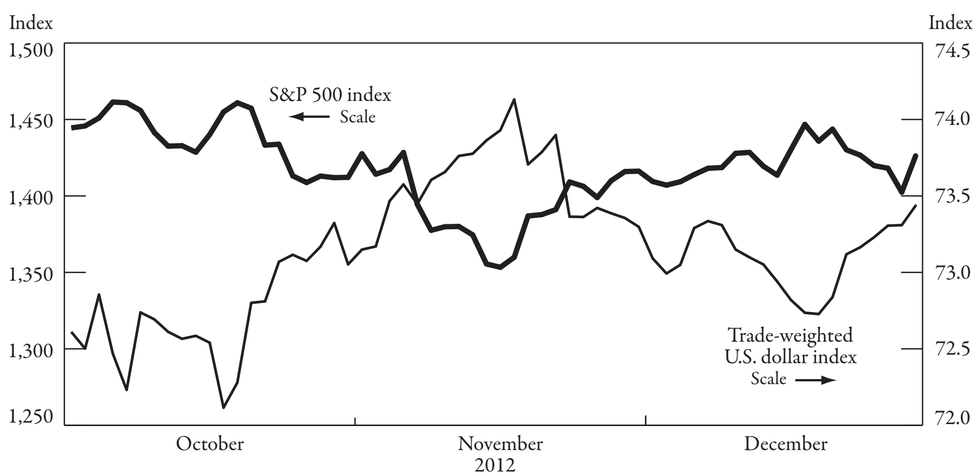
U.S. DOLLAR AGAINST SELECTED CURRENCIES DURING FOURTH QUARTER



Source: Bloomberg L.P.

Chart 5

TRADE-WEIGHTED U.S. DOLLAR INDEX AND S&P 500 INDEX



Source: Bloomberg L.P.

Fiscal-cliff-related sentiment appeared to improve from mid-November into December, prompting the dollar to reverse course as investors expressed increased confidence that the full slate of austerity measures would not be realized. The improved sentiment also resulted in a modest paring back of long-dollar exposures. However, uncertainty did increase somewhat in the final days of 2012, just prior to passage of the American Taxpayer Relief Act on January 1, 2013.

While fiscal-cliff negotiations were the predominant market focus for most of the quarter, investors were also attuned to U.S. monetary policy developments. The Federal Open Market Committee (FOMC) announced at its December meeting that unsterilized purchases of U.S. Treasuries would replace the expiring Maturity Extension Program; the FOMC also introduced quantitative employment- and inflation-related thresholds as guidelines for its easing timeline, replacing the prior calendar-based guidance. Market participants mostly characterized the introduction of thresholds as having little direct impact on the dollar, as it was generally viewed as a continuation of the existing stance of policy and it fit mostly in line with the previously used date guidelines. Improving U.S. economic data, particularly on employment and housing, contributed to a slightly more positive economic outlook over the quarter, though most viewed the improvements as not enough to materially alter the current state of U.S. monetary policy.

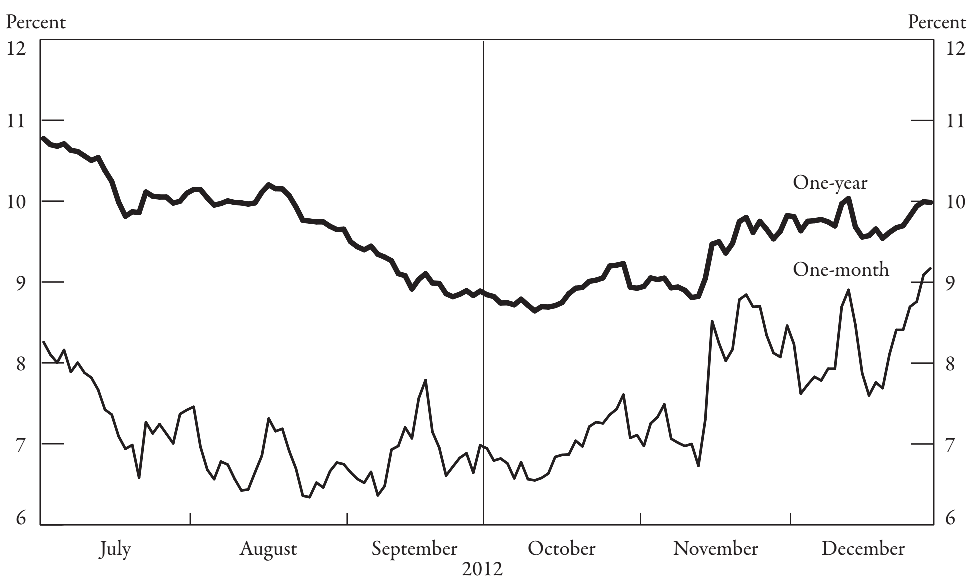
U.S. DOLLAR APPRECIATES SHARPLY AGAINST THE YEN AMID EXPECTATIONS OF GREATER POLICY ACCOMMODATION IN JAPAN

The U.S. dollar appreciated 11.3 percent against the yen during the quarter amid expectations of greater fiscal and monetary policy accommodation resulting from a change in Japan's political leadership. The yen depreciated sharply against most major currencies in mid-November after Prime Minister Yoshihiko Noda announced new elections that raised expectations of a leadership transition to Japan's Liberal Democrat Party (LDP), an outcome that was ultimately realized at the December 16 election. Throughout the quarter, LDP leader Shinzo Abe campaigned on a platform that focused on instituting reflationary policy actions. In particular, his campaign called for greater fiscal expansion and increased policy easing by the Bank of Japan (BoJ) in order to achieve an inflation target of around 2 percent. These calls occurred amid BoJ decisions in October and December to increase asset purchases by ¥11 trillion and ¥10 trillion, respectively, reaching a total purchasing capacity of ¥76 trillion. Ahead of greater policy accommodation by the BoJ, the dollar-yen pair increased to ¥86.75 per dollar, the highest level since June 2010.

Market participants also pointed to other factors as helping drive the yen's depreciation over the period. Japanese trade data continued to deteriorate, particularly reflecting declining exports to China, which analysts attributed to ongoing political tensions between the two countries. The total Japanese trade deficit declined by an additional ¥373 billion, based on data released during the fourth quarter. The spread between interest rates on U.S. Treasuries and Japanese government bonds also widened modestly over the period, though the yen's rate of depreciation significantly outpaced this move, suggesting a greater currency-specific risk premium.

Amid the notable depreciation of the yen in the spot foreign exchange market during the quarter, measures of implied volatility for the dollar-yen currency pair increased moderately, reaching levels last observed during the summer of 2012. During the fourth quarter, one-month and one-year measures of implied volatility increased 2.2 and 1.1 percentage points, respectively, suggesting increased uncertainty over the future path of the dollar-yen exchange rate. The increase in yen-related implied volatility occurred against the trend of generally declining implied foreign exchange volatility in most other major currency pairs. Additionally, 25-delta risk reversals for the dollar-yen currency pair, which measure the relative price premium of call and put options, remained at historically high levels, suggesting increased demand for protection against further yen depreciation.

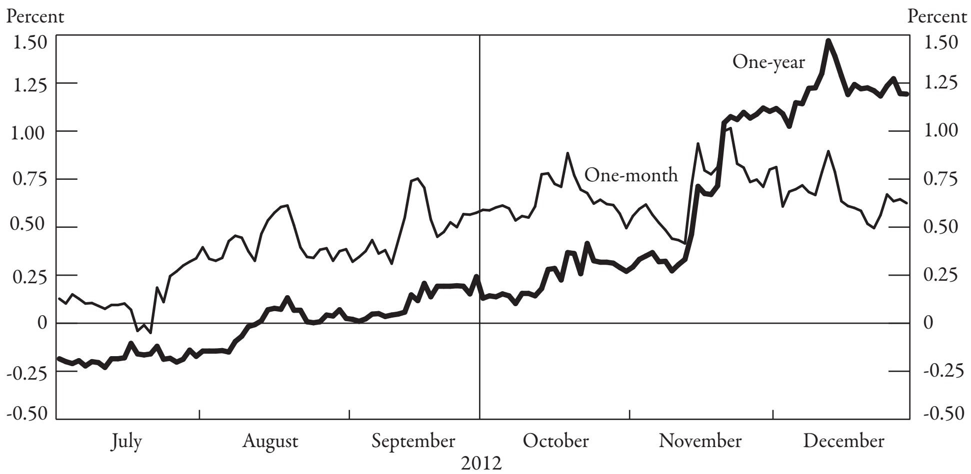
Chart 6
U.S. DOLLAR–JAPANESE YEN AT-THE-MONEY OPTION-IMPLIED VOLATILITY



Source: Bloomberg L.P.

Chart 7

U.S. DOLLAR–YEN 25-DELTA RISK REVERSALS

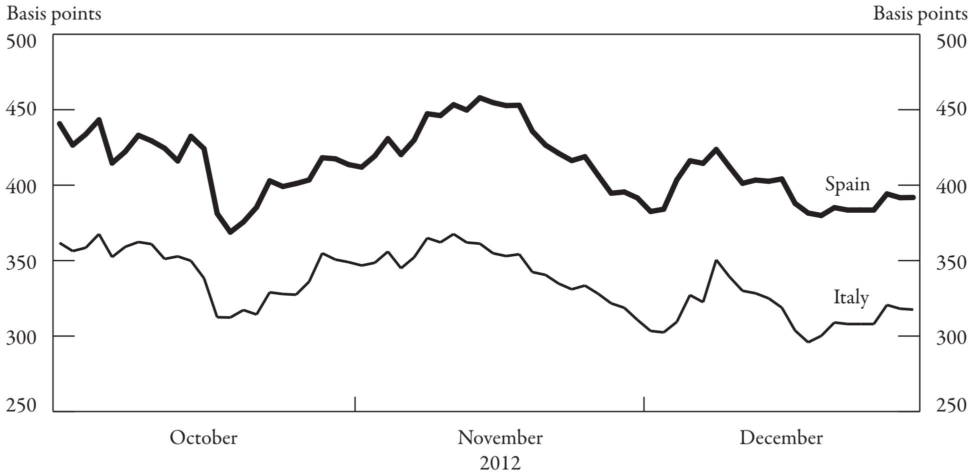


Source: Bloomberg L.P.

U.S. DOLLAR DEPRECIATES AGAINST EURO AMID PERCEIVED REDUCTION IN NEAR-TERM TAIL RISKS IN EURO AREA

The U.S. dollar depreciated 2.5 percent against the euro during the fourth quarter as sentiment toward the euro area continued to improve following the European Central Bank's (ECB) explicitly stated support last summer for the euro and its ensuing announcement of the Outright Monetary Transactions program in September. This sentiment was further supported in November, as European officials approved an additional funding package for Greece. In particular, interest rates were reduced and maturities were extended on existing Greek loans in an effort to reduce the country's long-term debt burden. Consistent with the requirements of the aid package, Greece successfully completed a buyback of its private bond debt in December. This improved tone was further evidenced by the decline in euro-area peripheral sovereign yield spreads in the region. For example, Spanish and Italian ten-year spreads to the German equivalent declined 55 and 47 basis points, respectively, during the fourth quarter.

Chart 8
TEN-YEAR YIELD SPREADS OVER GERMAN EQUIVALENT



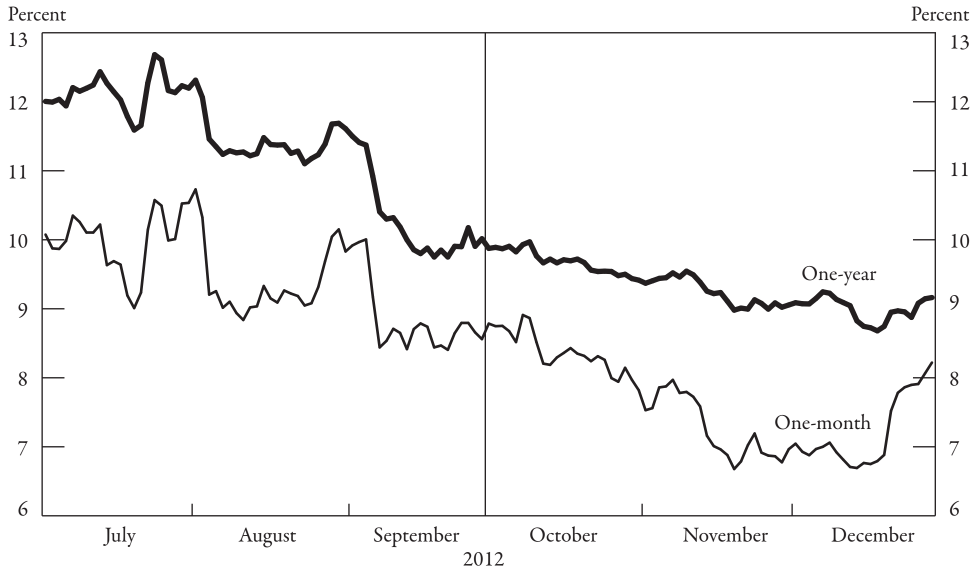
Source: Bloomberg L.P.

Euro-area economic data also improved somewhat throughout the quarter, lending incremental support to the euro in November and December. Specifically, German business survey prints were generally soft early in the fourth quarter, though they rebounded moderately later in the quarter. Manufacturing data across the euro area also improved somewhat toward the end of the period, though they still pointed to contraction in several euro-area countries. Nevertheless, market participants cited an improving trend in the data as providing support for the euro during the end of the quarter. By late December, the euro reached $1.3244 per euro, the currency pair's highest level since April 2012.

The continued theme of reduced near-term tail risks across the euro area contributed to the decline in implied volatility in the euro-dollar currency pair during the quarter. One-month and one-year measures of implied volatility declined by as many as 1.9 and 1.3 percentage points, respectively, reaching levels last observed prior to the escalation of the 2008 financial crisis, though they partially retraced during the final weeks of the quarter. Additionally, risk reversals continued to reflect reduced demand for protection against euro depreciation during the quarter.

Chart 9

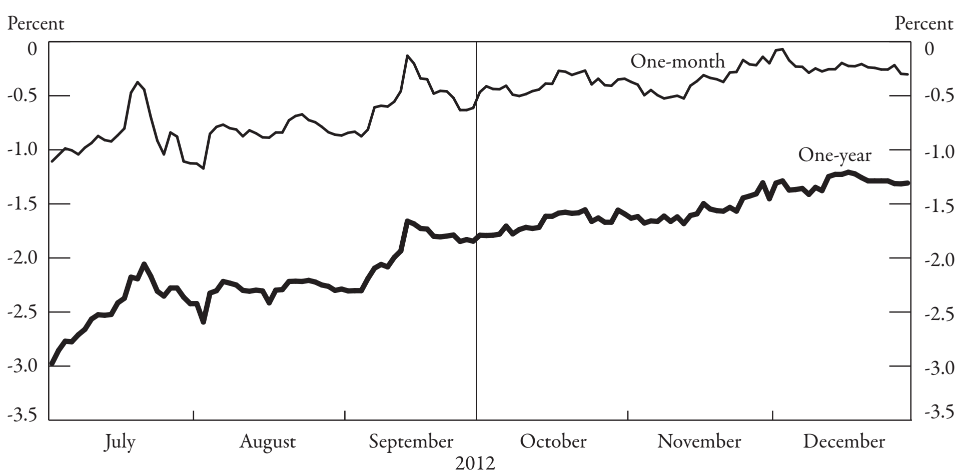
EURO–U.S. DOLLAR AT-THE-MONEY OPTION-IMPLIED VOLATILITY



Source: Bloomberg L.P.

Chart 10

EURO–U.S. DOLLAR 25-DELTA RISK REVERSALS



Source: Bloomberg L.P.

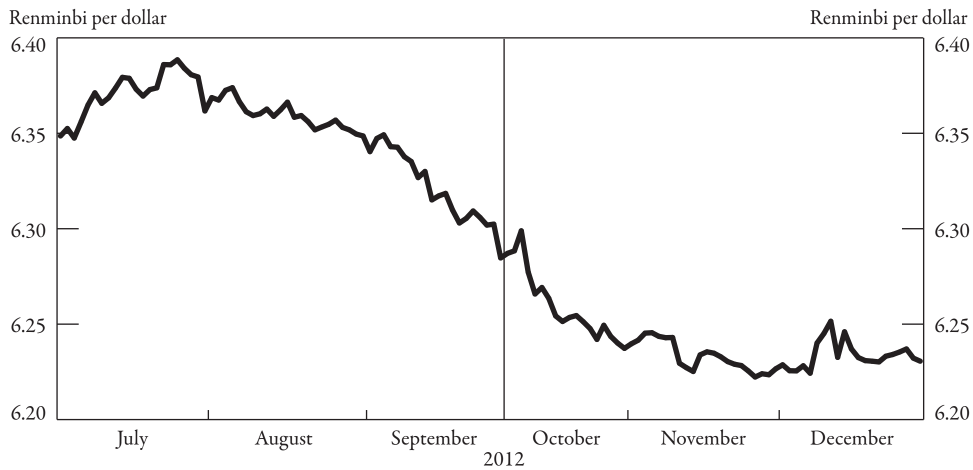
U.S. DOLLAR DEPRECIATES AGAINST THE RENMINBI TO REACH STRONGEST LEVELS SINCE 2005 DE-PEG

The U.S. dollar depreciated 0.9 percent against the Chinese renminbi during the fourth quarter, with the renminbi reaching its strongest level since the Chinese authorities de-pegged the exchange rate in June 2005. The renminbi appreciated 2.5 percent against the dollar from the currency pair's recent peak in late July through the end of the year. Market participants pointed to China's improved economic data, a moderation of its trade balance, and reduced euro-area uncertainty as contributing to the currency's appreciation. For the year, the renminbi rose 1.0 percent against the dollar, a more modest appreciation than the 5.0 percent figure observed in 2011.

The magnitudes of the daily maximum intraday deviations between the dollar-renminbi spot rate and the official fixing rate were also notable during the fourth quarter, continuing the trend of increased deviation observed since September. The dollar-renminbi spot rate consistently traded at the stronger end of the People's Bank of China's +/- 1.0 percent intraday band over the most recent quarter. This price action represented a reversal from the trend seen earlier in the year, in which the renminbi regularly traded above the official fixed rate, reflecting depreciation pressures arising from Chinese macroeconomic concerns at the time.

Chart 11

U.S. DOLLAR–RENMINBI EXCHANGE RATE



Source: Bloomberg L.P.

TREASURY AND FEDERAL RESERVE FOREIGN EXCHANGE HOLDINGS

The U.S. monetary authorities did not undertake any intervention operations during the quarter. As of December 31, the value of the U.S. Treasury's Exchange Stabilization Fund foreign-currency-denominated assets totaled $24.95 billion, comprised of euro and yen holdings. The Federal Reserve System Open Market Account holdings of foreign-currency-denominated assets totaled $24.97 billion, also comprised of euro and yen holdings.

Dollar Liquidity Swap Arrangements with Foreign Central Banks

On December 13, 2012, the Federal Reserve, in coordination with the Bank of Canada (BoC), the Bank of England (BoE), the BoJ, the ECB, and the Swiss National Bank, agreed to extend authorization of both the U.S. dollar and foreign currency liquidity swap arrangements through February 1, 2014. The rate on the dollar liquidity swap arrangements was unchanged at the U.S. dollar overnight indexed swap rate plus 50 basis points. As of December 31, the ECB had $8.89 billion outstanding under the U.S. dollar liquidity swaps, of which $8.29 billion was in three-month tenors with the remainder in a fourteen-day transaction over year-end. The BoJ had only $1 million outstanding, all of which was part of a twenty-one-day transaction over year-end.

Foreign Exchange Reserve Holdings

The U.S. monetary authorities invest their foreign currency reserves in a variety of instruments that yield market rates of return and have a high degree of liquidity and credit quality. To the greatest extent practicable, the investments are split evenly between the System Open Market Account and the Exchange Stabilization Fund. A significant portion of the U.S. monetary authorities' foreign exchange reserves is invested on an outright basis in German, French, and Japanese government securities. The amount of euro-denominated reserves held on deposit at official institutions continued to rise in the fourth quarter, given extremely low rates in euro-denominated money markets, whereas the amount of yen-denominated deposits has remained fairly steady over recent quarters. A smaller portion of the reserves is currently invested in euro-denominated repurchase agreements, under which the U.S. monetary authorities accept sovereign debt backed by the full faith and credit of the following governments: Belgium, France, Germany, Italy, the Netherlands, and Spain. Foreign currency reserves are also invested at the Bank for International Settlements and in facilities at other official institutions. As of December 31, 2012, direct holdings of foreign government securities totaled $23.67 billion and foreign government securities held under repurchase agreements totaled $1.32 billion.

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, September 30, 2012[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, December 31, 2012[a]
Federal Reserve System Open Market Account (SOMA)						
Euro	13,852	0	25	0	356	14,233
Japanese yen	11,936	0	5	0	(1,202)	10,740
Total	25,788	0	30	0	(846)	24,972

		Changes in Balances by Source				
	Carrying Value, September 30, 2012[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, December 31, 2012[a]
U.S. Treasury Exchange Stabilization Fund (ESF)						
Euro	13,830	0	25	0	355	14,210
Japanese yen	11,936	0	5	0	(1,202)	10,740
Total	25,766	0	30	0	(846)	24,950

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, 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, 2012

	U.S. Treasury Exchange Stabilization Fund (ESF)[a]	Federal Reserve System Open Market Account (SOMA)[a]
Euro-denominated assets	**14,209.9**	**14,232.6**
Cash held on deposit at official institutions	8,902.6	8,925.3
Marketable securities held under repurchase agreements[b]	659.3	659.3
Marketable securities held outright	4,648.0	4,648.0
German government securities	2,178.1	2,178.1
French government securities	2,469.9	2,469.9
Japanese-yen–denominated assets	**10,740.0**	**10,739.9**
Cash held on deposit at official institutions	3,553.1	3,553.0
Marketable securities held outright	7,186.9	7,186.9
Reciprocal currency arrangements		
Euro-denominated assets		**8,888.3**
Other assets[c]		8,888.3
Japanese-yen–denominated assets		**1.0**
Other assets[c]		1.0
Swiss-franc–denominated assets		**0.0**
Other assets[c]		0.0
Canadian-dollar–denominated assets		**0.0**
Other assets[c]		0.0
British-pound–denominated assets		**0.0**
Other assets[c]		0.0

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

[a] As of December 31, both the euro SOMA and ESF portfolios had Macaulay durations of 9.0 months; the yen SOMA and ESF portfolios had Macaulay durations of 11.8 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, and the Bank of England.

Table 3

RECIPROCAL CURRENCY ARRANGEMENTS

Millions of U.S. Dollars

Institution	Amount of Facility	Outstanding as of December 31, 2012
	Federal Reserve System Open Market Account (SOMA)	
Bank of Canada	2,000	0
Banco de México	3,000	0
European Central Bank[a]	Unlimited	8,888
Swiss National Bank[a]	Unlimited	0
Bank of Japan[a]	Unlimited	1
Bank of Canada[a]	30,000	0
Bank of England[a]	Unlimited	0
	Unlimited	8,889

Institution	Amount of Facility	Outstanding as of December 31, 2012
	U.S. Treasury Exchange Stabilization Fund (ESF)	
Banco de México	3,000	0
	3,000	0

[a]Temporary swap arrangement.