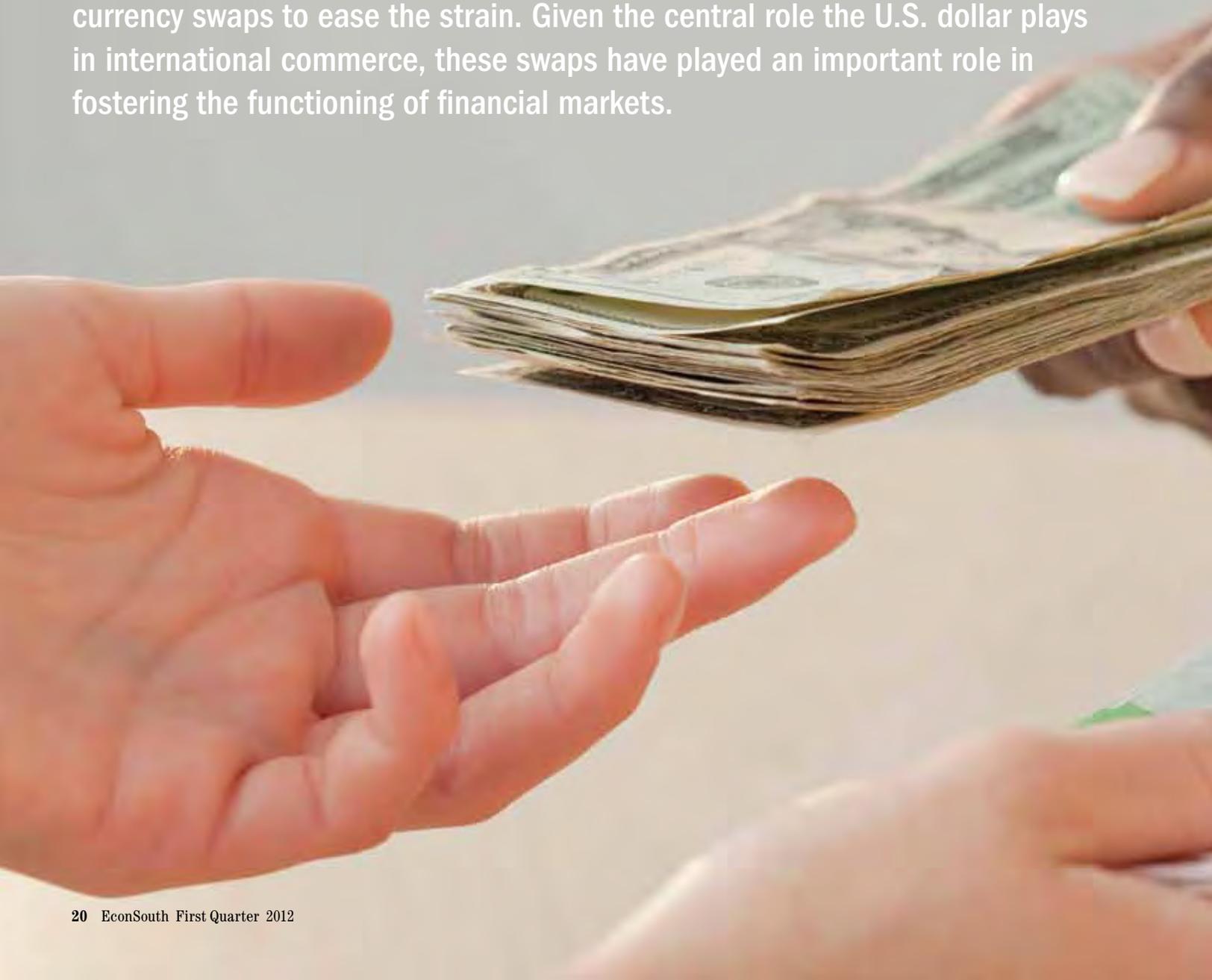


Swap Lines Underscore the Dollar's Global Role

When global financial markets become stressed, central banks coordinate currency swaps to ease the strain. Given the central role the U.S. dollar plays in international commerce, these swaps have played an important role in fostering the functioning of financial markets.



Economic recovery for the U.S. economy is not without potential potholes. One of the biggest risks to continued expansion is the ongoing sovereign debt crisis in Europe, which has been roiling global financial markets for two years and has already slowed global economic growth and impeded parts of the U.S. economy, such as the export sector.

In reality, two related issues are at work in Europe: a sovereign debt crisis caused by high government debt burdens and pressure on European financial institutions related to large holdings of that debt by financial institutions there.

Regarding the latter, banks in Europe, like their counterparts elsewhere, often borrow to fund their activities. But when the health of European banks deteriorated because of their ex-

posure to the fiscally weak countries in the euro area, borrowing money, including U.S. dollars, became increasingly difficult. Europe's troubled banks faced a dollar shortage as other financial institutions, such as U.S. money market funds, became reluctant to lend them greenbacks.

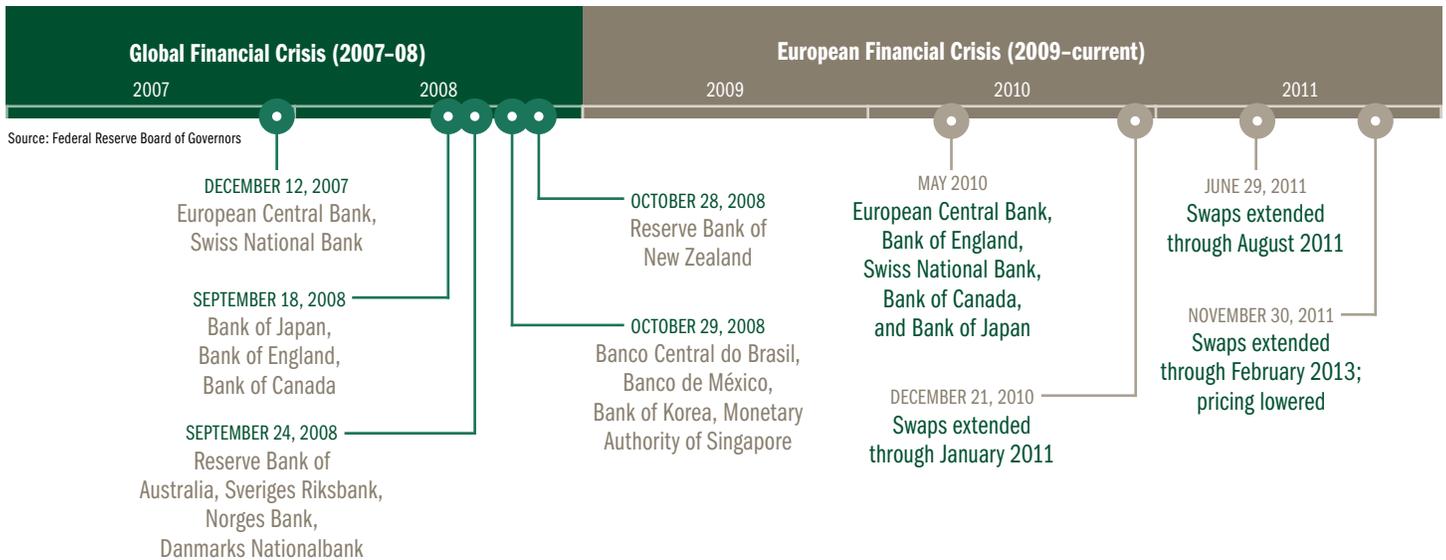
This situation is significant because one of the major business lines of European banks is providing financing in dollars on a global scale—for trade, purchasing dollar-denominated assets, or syndicating loans to corporations. Banks the world over, in fact, have a great need for dollars because much of the world's trade, investment, and lending is conducted in U.S. currency.

Swaps ease the strain

Given the dollar's importance throughout the world, it is vital to ensure that its global use as a medium of exchange is unimpeded. To prevent Europe's dollar funding troubles from spreading to



A TIMELINE OF RECENT FEDERAL RESERVE SWAP LINES



other parts of the world and harming the U.S. financial system, in May 2010 the Federal Reserve opened temporary central bank liquidity swap lines (also referred to as reciprocal currency arrangements) with a number of foreign central banks. The swap lines were used extensively during the last financial crisis a few years earlier. The swap lines are consistent with the Federal Reserve's mandated responsibility to provide liquidity to the financial system in times of stress in order to shield the U.S. economy from the effects of financial instability, regardless of its source.

The swaps involve two steps. The first is literally a swap—U.S. dollars for foreign currency—between the Federal Reserve and a foreign central bank. The exchange is based on the market exchange rate at the time of the transaction. The Fed holds the foreign currency in an account at the foreign central bank, while the other central bank deposits the dollars the Fed provides in an account at the Federal Reserve Bank of New York. The two central banks agree to swap back the money at the same exchange rate, thus creating no exchange rate risk for the Federal Reserve. The currencies can be swapped back as early as the next day or as far ahead as three months.

The second step involves the foreign central bank lending dollars to commercial banks in its jurisdiction. The foreign central bank determines which institutions can borrow dollars and whether to accept their collateral. The foreign central bank assumes the credit risk of lending to the commercial banks, and the foreign central bank remains obligated to return the dollars to the Fed. At the conclusion of the swap, the foreign central

bank pays the Fed an amount of interest on the dollars borrowed that is equal to the amount the central bank earned on its dollar loans to the commercial banks. The interest rate on the swap lines is determined by the agreement between the Fed and foreign central banks.

Paula Tkac, a vice president and senior economist in the Atlanta Fed's research department, described swap lines in terms of access. "Think of currencies as differently colored tickets—you wouldn't want a crisis to occur because some institutions need green tickets, represented by dollars, but they only have access to blue tickets, represented by euros," she said. "Most of the time, markets allow institutions to swap green for blue and vice versa, but in periods of market stress and concerns about counterparty risk, swap lines can help to ensure that tickets of all colors are accessible."

A program with precedent

The dollar swap program begun in May 2010 to prevent the fallout from European financial turmoil was most recently extended in November 2011. The program is not unprecedented. Swap lines were opened in 2001 following the terrorist attacks of September 11 to address any dollar shortages that might have affected financial markets as a result of heightened concern about the U.S. economy. Swap lines were also used extensively during the 2008 financial crisis, when a massive dollar shortage developed offshore. At the height of the crisis, the dollar became very hard to borrow, especially in the fall of 2008. This scarcity

pushed up interest rates for all dollar borrowers and raised the foreign exchange value of the dollar.

The scarcity was directly linked to the massive expansion of offshore banks' balance sheets since 2000, especially those of European banks. For example, Swiss banks' foreign assets increased from about five times Swiss gross domestic product (GDP) in 2000 to more than seven times GDP in mid-2007. Foreign banks were on a spree, buying up U.S. dollar-denominated assets such as retail and corporate loans, loans to hedge funds, and U.S. asset-backed securities, including securities backed by mortgages. The amount of assets that those banks acquired far surpassed their dollar deposits, so banks chose to borrow in the interbank and other wholesale markets. By mid-2007, European banks needed massive short-term dollar funding—from \$1 trillion to as high as \$2.2 trillion, according to estimates from the Bank for International Settlements (BIS).

Offshore banks can obtain dollars from many sources. Obviously, they can take short-term loans from other banks. Foreign banks can also secure dollar financing via foreign exchange (FX) swaps, which are usually even shorter term—most mature in less than a week. Offshore banks might access dollars from nonbank financial firms and other sources, including eurodollar deposits by businesses and individuals, deposits from central banks, and dollar money market funds. (A eurodollar has no connection to the euro. It is a term for a deposit denominated in U.S. dollars at a bank outside the United States.) Before the global financial crisis, for example, major European banks borrowed some \$400 billion in the interbank market and nearly \$400 billion from central banks, and used about \$300 billion in FX swaps to convert their domestic currency temporarily into dollars, a report from the BIS shows.

Dollars on demand

By August 2007, short-term dollar funding markets began showing signs of stress. Financial turbulence intensified further after the failure of Lehman Brothers in September 2008. The offshore dollar interbank market effectively froze and many financial institutions found that obtaining dollars had become prohibitively expensive. Furthermore, the banks found it

more difficult to borrow from nonbank financial intermediaries, such as the dollar money market funds. As if all these factors didn't present sufficient challenges, foreign central banks that held their dollar reserves with commercial banks started to withdraw them—either to deposit at “safer” places such as the Bank for International Settlements or to sell in foreign exchange markets to support their depreciating currencies.

Responding to the crunch

The severe dollar shortage in foreign banking systems needed an international policy response, hence the Federal Reserve's establishment of a network of swap lines with other central banks to increase the availability of U.S. dollars offshore. In addition to soothing stresses abroad, the Fed introduced the swap lines to lower the cost of dollar funding in the United States during the

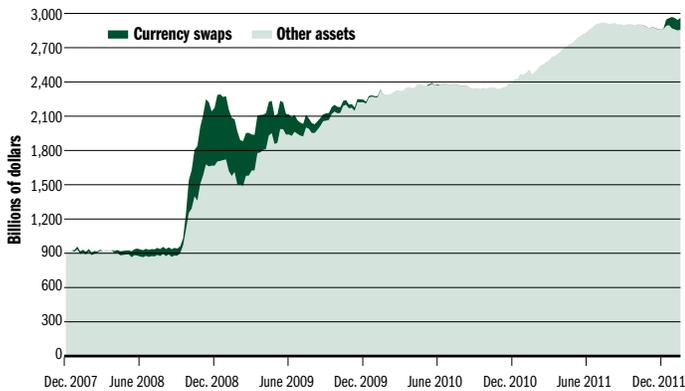
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financial crisis. High demand for U.S. dollars by foreign commercial banks at the time was not only putting strain on global financial markets but on U.S. markets as well, pushing up interbank interest rates and further reducing credit availability in the United States. The swap lines also helped curtail the distressed selling of various types of U.S. financial assets. A few years later, when stresses in the global financial markets resurfaced because of the European sovereign debt crisis, Atlanta Fed President Dennis Lockhart explained in a January 9, 2012, speech the implications of such distressed selling: “A forced sale of dollar assets in Europe could drive up interest rates for U.S. businesses and consumers and crimp the flow of credit that is sustaining the recovery and job growth.”

In this case, the Federal Reserve effectively became the international dollar lender of last



Federal Reserve Assets (Uses of Funds)



Notes: Data are through January 18, 2012. "Other assets" includes Treasuries, agency debt, and lending to nonbank credit markets. Source: Federal Reserve Board

resort. It extended dollar loans to foreign central banks, collateralized by those central banks' currencies. Foreign central banks then were able to provide dollars to their domestic financial institutions. The swap mechanism made U.S. dollars accessible to commercial banks all over the world, including those that did not have a subsidiary in the United States or eligible collateral that would allow them to borrow directly from the Federal Reserve.

The Fed set up that round of swap lines in December 2007. It announced it would supply up to \$20 billion to the European Central Bank (ECB) and \$4 billion to the Swiss National Bank (SNB) for up to six months. The Fed extended the swap lines, to additional central banks and for larger amounts, in March 2008, May 2008, and September–October 2008 (see the table). The last extension involved the largest quantity of dollars, as the Fed also removed limits from the swap lines with the ECB and SNB as well as the central banks of the United Kingdom and Japan.

The use of swap lines also reflects the extent of dollar shortages in foreign banking systems. According to some estimates, the euro area, the United Kingdom, Canada, and Brazil experienced the largest U.S. dollar shortages. Among the 15 nations whose economies experienced significant dollar shortages, all received swap lines from the Fed except six: Russia, Turkey, India, Chile, Hungary, and Iceland. Those countries employed other means to address their dollar shortages. For example, Russia had substantial foreign exchange reserves, India received a dollar swap line from Japan's central bank, and Hungary and Iceland received infusions from the International Monetary Fund.

As stresses ease, swap lines ebb

The volume of dollars the Fed swap lines channeled overseas surged in October 2008 and peaked at \$583 billion in December 2008. The volume of the dollar swaps gradually subsided to \$50 billion in October 2009, and all the swap lines expired in February 2010. The use of the swap lines that were reopened a few months later remained very light for more than a year, but as the European financial situation intensified and euro area banks found it increasingly difficult to borrow dollars in the market, a significant number of European financial institutions turned to their central banks for dollars. The use of swap lines rose sharply in December 2011 after the Fed lowered the interest rate that foreign central banks pay to the Fed when they draw on the swap facility, although their levels remained well below those seen at the end of 2008 (see the chart).

The dollar swap program reflects both the role of the U.S. dollar as the world's main international currency and the interconnectedness of the global financial system. Non-U.S. banks' demand for U.S. currency is based on its use in financing trade and investment worldwide. At the same time, financial institutions headquartered outside the United States provide hundreds of billions in overall financing *within* the United States. Dollar shortages abroad restrain international trade and credit supply to businesses, governments, and consumers outside the United States, thus slowing global economic growth. Those shortages also mean that non-U.S. banks become less willing to lend to their customers in the United States, which could lead to higher borrowing costs for U.S. businesses and households and slower economic growth in this country. The swap lines support both the international role of the dollar and safeguard the U.S. economy from financial turbulence abroad. ■

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