COUNCIL on FOREIGN RELATIONS

Central Bank Currency Swaps Tracker

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Introduction

Since the financial crisis of 2007, central banks around the world have entered into a multitude of bilateral currency swap agreements with one another. These agreements allow a central bank in one country to exchange currency, usually its domestic currency, for a certain amount of foreign currency. The recipient central bank can then lend this foreign currency on to its domestic banks, on its own terms and at its own risk. Swaps involving the U.S. Federal Reserve were the most important of all the cross-border policy responses to the financial crisis, helping to alleviate potentially devastating dollar funding problems among non-U.S. banks. Fed swaps again helped to prevent global dollar shortages in early 2020, when the spread of the COVID-19 pandemic plunged the world into deep recession.

At the bottom of this page, you can explore the evolution of central bank currency swaps over time, in detail, through an interactive map. The introductory slideshow below will show you, in brief, how these agreements have evolved, year by year, in terms of the central banks and amount of funds involved.

Currency Swap Agreements Around the World

Line color and thickness both denote maximum amount drawn in $US equivalent, billions. Unused swap line

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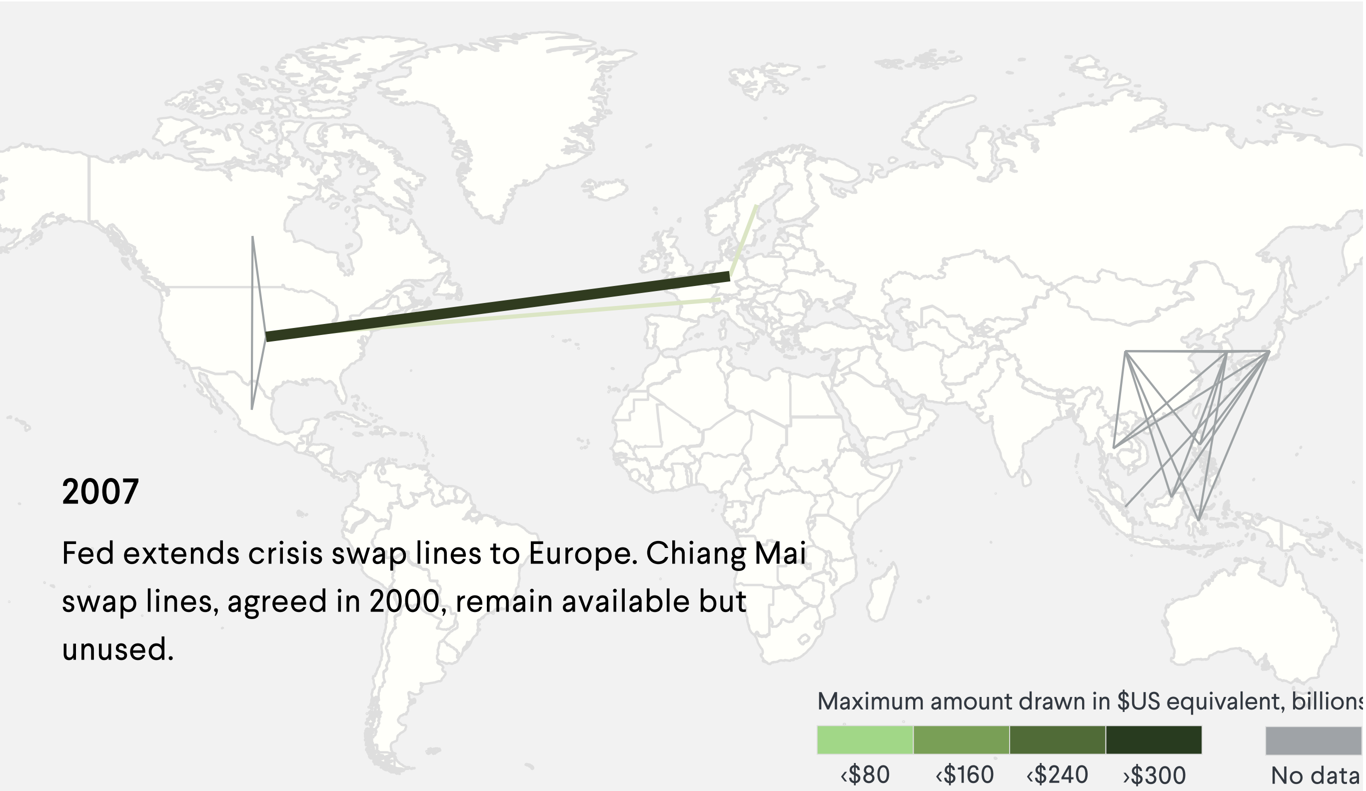

Since the 2007 financial crisis, the swaps have been used by central banks to obtain foreign currency to boost reserves and to lend on to domestic banks and corporations. While the terms of swap agreements are designed to protect both central banks involved in the swap from losses owing to fluctuations in currency values, there is some risk that a central bank will refuse, or be unable, to honor the terms of the agreement. For this reason, lending through currency swaps is a meaningful sign of trust between governments. It can also be a sensitive domestic political issue, however; legislators in the United States, and even public commentators in China, have expressed concerns about the level of risk their respective central banks are taking in extending swap lines to certain nations.

How Bilateral Currency Swap Agreements Work

At the start of a swap, central bank 1 sells a specified amount of currency A to central bank 2 in exchange for currency B at the prevailing market exchange rate. Central bank 1 agrees to buy back its currency at the same exchange rate on a specified future date. Central bank 1 then uses the currency B it has obtained through the swap to lend on to local banks or corporations. On the specified future date that the swap unwinds and the funds are returned, central bank 1, which requested activation of the swap, pays interest to central bank 2.

Developed Economies

Currency Swap Agreements Between Developed Economies Since 2007

Line color and thickness both denote maximum amount drawn in $US equivalent, billions. Unused swap line

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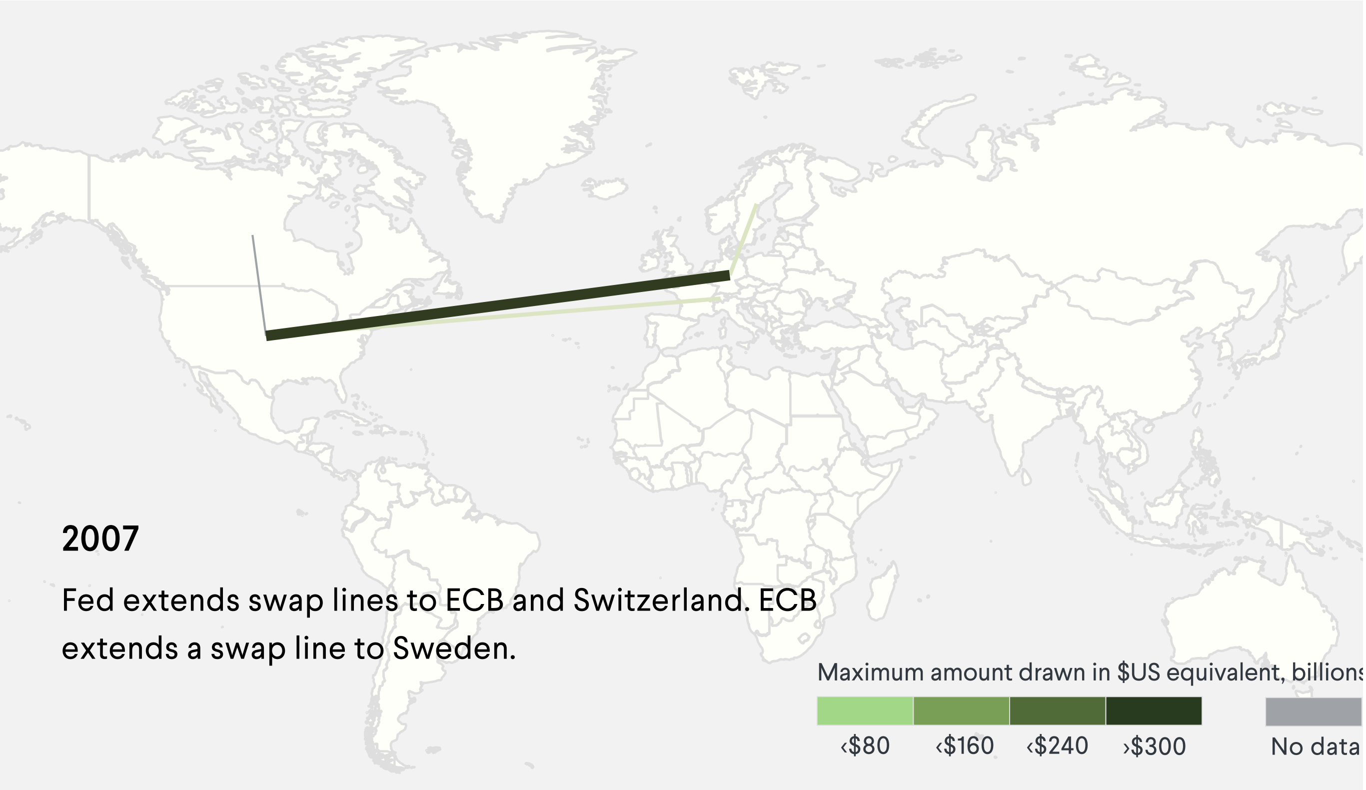

During the financial crisis, banks became highly reluctant to lend to one another, owing to fears about the true financial condition of counterparts. This drove up the cost of borrowing, as lenders demanded higher interest rates to compensate for rising counterparty risk. While central banks could provide local currency to their domestic banks to lower the cost of borrowing in that currency, their ability to provide foreign currency was limited by the amount of foreign-currency reserves they held. To address these foreign-currency funding issues, developed-economy central banks agreed to provide swap lines to one another.

On December 12, 2007, the Federal Reserve extended swap lines to the European Central Bank (ECB) and Swiss National Bank (SNB). European bank demand for dollars had been pushing up, and creating accentuated volatility in, U.S. dollar interest rates. The swap lines were intended "to address elevated pressures in short-term funding markets," and to do so without the Fed having to fund foreign banks directly.

On September 16, 2008, two days after the collapse of Lehman Brothers, the Federal Reserve Open Market Committee (FOMC) gave the foreign-currency subcommittee the power "to enter into swap agreements with the foreign central banks as needed to address strains in money markets in other jurisdictions." This enabled the subcommittee to extend swap lines to other central banks and to expand the size of the existing swap lines, without the need for the full FOMC to vote on it. The oral understanding was that the subcommittee would have the authority to extend swap lines to Group of Ten (G10) central banks, but that swaps beyond that group would require approval by the full FOMC. Two days after the subcommittee was granted this power, the Fed expanded the size of the swap lines with the ECB and SNB, and extended three new swap lines, to Canada, the United Kingdom (UK), and Japan. On September 24, 2008, further swap lines were extended to Australia, Denmark, Norway, and Sweden. On October 28, 2008, a swap line was extended to New Zealand.

The ECB established swap lines with Sweden in December 2007, the SNB and Denmark in October 2008, and the Bank of England in December 2010. The euro area, Sweden, Denmark, and the UK had relatively low foreign exchange reserves going into the crisis, owing to the costs involved in holding reserves and the belief that there was little likelihood that more would be needed in the foreseeable future. However, banks in these countries borrowed large sums in foreign currencies in the years leading up to the crisis. When it became difficult for them to borrow funds in 2008, they turned to their central banks, reserves of which proved insufficient to meet the unanticipated demand. The ECB swap lines were therefore called into use in 2009 to provide Sweden and Denmark euros with which to top up their foreign exchange reserves, and the swap line with the SNB was called upon to provide the ECB with Swiss francs. The swap line with the Bank of England was put in place as a precautionary measure to ensure that the Central Bank of Ireland, which is part of the Eurosystem, had access to pounds sterling, but it has never been used. Since 2007, Sweden and Denmark have more than doubled their foreign exchange reserves, the UK has doubled its reserves, and the euro area has increased its reserves by 20 percent.

In 2011, the Bank of Canada, Bank of England, European Central Bank, Bank of Japan, Federal Reserve, and Swiss National Bank announced that they had established a network of swap lines that would allow any of the central banks to provide liquidity to their respective domestic banks in any of the other central banks' currencies. In October 2013, they agreed to leave the swap lines in place as a backstop indefinitely.

The six central banks again had occasion to draw on their backstop seven years later. By March 2020, the COVID-19 pandemic had pushed the global economy into deep recession, with governments' public-health orders directing nearly half the world's population to stay indoors. The cratering economy raised counterparty risk and sent borrowers scrambling for cash, which drove up the cost of lending. Just as during the 2007 crisis, developed-world central banks turned to swap lines to provide their domestic banks with foreign currency.

To expand U.S. dollar liquidity, the Federal Reserve, on March 15, cut the interest rate on its outstanding developed-world swap lines to just above zero. The Bank of Canada, Bank of England, European Central Bank, Bank of Japan, and Swiss National Bank also pledged to use their Federal Reserve swap lines to lend U.S. dollars at a maximum maturity of 84 days. Later that month, the Fed extended emergency swap lines to five more developed-country central banks—those of Australia, Denmark, New Zealand, Norway, and Sweden. Australia and Sweden were permitted to draw up to $60 billion; the lines for Denmark, New Zealand, and Norway were capped at $30 billion. Fed officials approved each swap line for six months but, in July 2020, renewed them all until March 2021. The ECB, for its part, extended a new swap line to Denmark.

Throughout 2020, most of the Fed's counterparty central banks—all but those of Canada, New Zealand, and Sweden—drew upon their U.S. dollar swap lines. Japan was by far the largest user, with its outstanding withdrawals peaking at roughly $225 billion. In contrast, the ECB's developed-country swap lines went unused, owing to the relative calm in global markets for euros.

Developed-Emerging Economies

Currency Swap Agreements Between Developed and Emerging Economies

Line color and thickness both denote maximum amount drawn in $US equivalent, billions. Unused swap line

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Since 2007, developed-economy central banks have also provided swap lines to a limited number of emerging economies. Because of the risks associated with swap lines, the Fed has been much more cautious in extending them to emerging economies than it has been with other developed economies. The Fed insisted on provisions allowing it to seize their assets at the New York Fed in the case of failure to repay.

In October 2008, the Fed extended swap lines to Brazil, Mexico, South Korea, and Singapore. How were these countries chosen, out of the many that requested them?

Both the State Department and the Treasury were consulted about which countries fit the criterion laid out by the Fed, which was that "intensification of stresses in [these countries] could trigger unwelcome spillovers for both the U.S. economy and the international economy more generally." The transcript of the FOMC meeting at which the final decision was made shows that members had very specific concerns, such as whether countries with large holdings of mortgage-backed securities issued by Fannie Mae and Freddie Mac might be tempted to dump them all at once if they lacked easier access to dollars, thereby forcing up mortgage rates and impeding recovery in the United States. In his book *International Liquidity and the Financial Crisis*, William Allen provides estimates for a series of countries on the gap between the amount of bank liabilities in a particular currency that needed to be refinanced and the funds available for this purpose. Of the emerging-market economies, the Brazilian banking system had the greatest dollar gap and the Korean banking system had the greatest dollar gap among Asian banking systems. The Fed swap lines to emerging economies, like those to developed economies, helped fill these dollar gaps and lowered dollar interest rates.

The ECB initially agreed to provide euros to Hungary, Latvia, and Poland only through repurchase agreements, in which bonds rather than currency are held as collateral, but eventually extended temporary swap lines to Hungary and Poland. Switzerland also provided Swiss francs to Poland and Hungary in exchange for euros. Many households in Poland and Hungary had taken out foreign-currency-denominated mortgages because of the lower interest rates available on these loans. Demand for Swiss francs and euros from the Hungarian and Polish banks that issued the loans drove up borrowing costs in these currencies; the swap lines were intended to alleviate the upward pressure this demand was placing on euro and Swiss franc interest rates.

The Scandinavian economies provided small euro swap lines to surrounding emerging economies to support financial stability in these countries. The Swedish central bank agreed to provide euros to the central banks of Latvia, Estonia, and Iceland. Norway provided euros to Iceland, and Denmark provided euros to Iceland and Latvia. The loans to Latvia from Sweden and Denmark were bridging loans "to support financial stability in Latvia until the IMF programme for Latvia [had] been decided on." Roughly 80 percent of the Latvian banking system, and 90 percent of the Estonian banking system, is owned by banking groups headquartered in Sweden, Norway, and Denmark, so financial instability in Latvia or Estonia would have had repercussions in Scandinavia. Iceland has cooperated with Sweden, Norway, and Denmark through the Nordic Council, an interparliamentary body, since 1952; Nordic countries provided Iceland with $2.5 billion in loans during the financial crisis, and the swap lines were a natural complement to this.

In 2020, during the COVID-19 crisis, both the Fed and the ECB again extended swap lines to select developing-country central banks. The Fed approved emergency lines on March 19 for Brazil, Mexico, South Korea, and Singapore—the same developing nations that had received them in 2008. As with its emergency developed-world swap lines, the Fed approved the lines for six months and later renewed them through the following March. On April 15, the ECB approved a temporary line to Croatia, and eight days later it granted one to Hungary. Over the course of the pandemic's early months, the ECB also established repurchase agreements with Albania, North Macedonia, San Marino, and Serbia.

Chiang Mai

Chiang Mai Swap Lines

Line color and thickness both denote maximum amount drawn in $US equivalent, billions. Unused swap line

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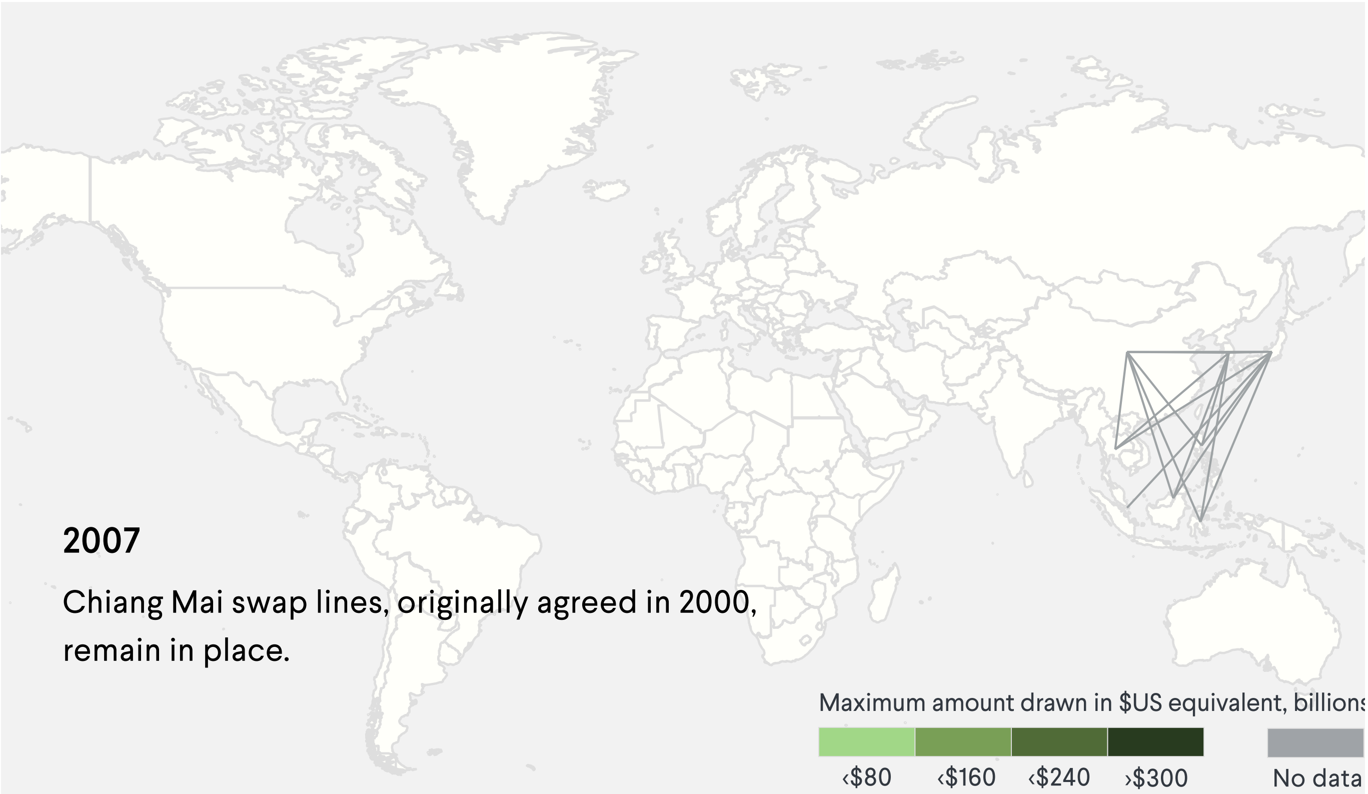

After the 1997–98 Asian financial crisis, the Association of Southeast Asian Nations (ASEAN), China, South Korea, and Japan established a network of bilateral currency swap agreements “to supplement the existing international facilities.” In 2010, the Chiang Mai Initiative (CMI) was multilateralized, meaning that it was converted from a network of bilateral agreements between countries into one single agreement, the Chiang Mai Initiative Multilateralization (CMIM). A surveillance unit, the ASEAN+3 Macroeconomic Research Office (AMRO), was created to monitor member economies for signs of emerging risks and to provide analysis of countries requesting funds from the CMIM, much as the International Monetary Fund (IMF) does for its member countries. The fourteen countries participating in the CMIM agreed to a certain financial contribution and were thereafter entitled to borrow a multiple of this, ranging from 0.5 for China and Japan to five for Vietnam, Cambodia, Myanmar, Brunei, and Laos. In 2014, the size of the agreement was doubled from $120 billion to $240 billion, and the amount a country could access without being on an IMF program was raised from 20 percent to 30 percent.

These swap lines have never actually been used. Even during the financial crisis, when Korea was drawing as much as $16.4 billion from its swap line with the Federal Reserve, neither Korea nor any other country that was party to these agreements used them to obtain foreign currency. While the amounts available through Chiang Mai were potentially large enough to significantly augment a country's reserves, IMF conditionality (for borrowing beyond 30 percent of a country's quota) was a major deterrent to using Chiang Mai funds; in contrast, borrowing the full amount available through the Fed's swap lines did not require any kind of IMF program.

China

China's Swap Lines

Line color and thickness both denote maximum amount drawn in $US equivalent, billions. Unused swap line

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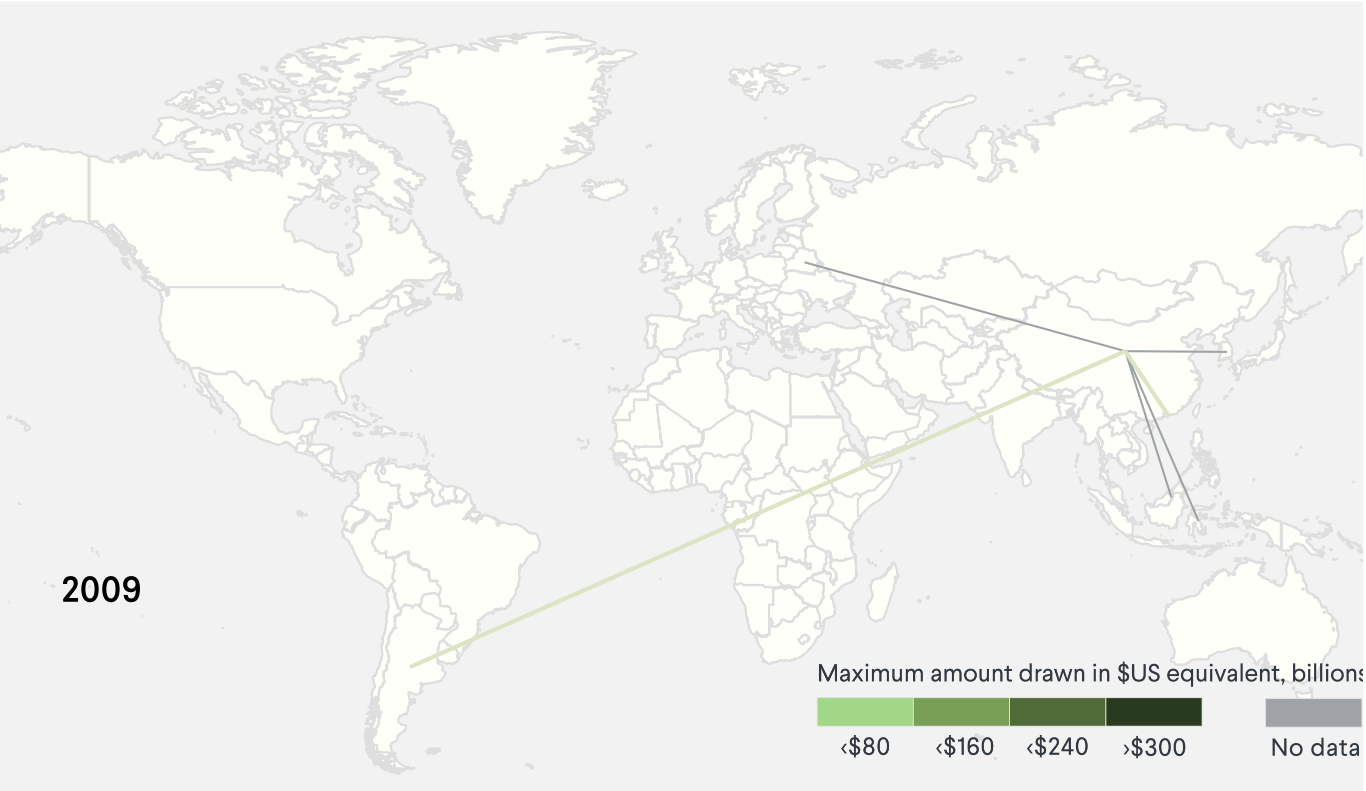

Since 2009, China has signed bilateral currency swap agreements with thirty-two counterparties. The stated intention of these swaps is to support trade and investment and to promote the international use of renminbi.

Broadly, China limits the amount of renminbi available to settle trade, and the swaps have been used to obtain renminbi after these limits have been reached. In October 2010, the Hong Kong Monetary Authority and the People's Bank of China (PBoC) swapped 20 billion yuan (about $3 billion) to enable companies in Hong Kong to settle renminbi trade with the mainland. In 2014, China used its swap line with Korea to obtain 400 million won (about $400,000). The won were then lent on to a commercial bank in China, which used them to provide trade financing for payment of imports from Korea.

In addition to using the swaps to facilitate trade in renminbi, China is also using the swap lines to provide loans to Argentina in order to bolster the country's foreign exchange reserves. In October 2014, a source at the Central Bank of Argentina reportedly told Telam, the Argentine national news agency, that the renminbi

Argentina receives through the swap could be exchanged into other currencies. Argentina has had difficulty borrowing dollars on international markets since it defaulted on its debt in July and has faced shortages on a range of imported goods as a result. Swapping renminbi into dollars would enable companies to import more than they would be able to otherwise.

Much as the Fed faced domestic criticism for "bailing out" European banks during the financial crisis, the PBoC was subjected to public chiding for signing a swap agreement with Russia shortly before the plunge in the value of the ruble in late 2014. The PBoC felt compelled to respond through Chinese social media, explaining that swaps are collateralized based on the exchange rate prevailing at the time they are actually used, and not at old rates prevailing at the time agreements are signed. Past movements in the value of the ruble were, therefore, irrelevant—the Bank was, in fact, well protected. But the controversy highlighted how sensitive the issue of swaps had become in an era of global financial turbulence.

The Future

In October 2008, then New York Fed President Timothy Geithner observed that Europe "ran a banking system that was allowed to get very, very big relative to GDP, with huge currency mismatches and with no plans to meet the liquidity needs of their banks in dollars in the event that we face a storm like this." While the swap lines prevented fire sales of assets and other actions that would have exacerbated the crisis, the fact that the swap lines now appear permanent may actually encourage these "huge currency mismatches" to grow. Banks will now expect their central banks to provide them with foreign currency if market stresses once again make this funding difficult to obtain in private markets, and those who lend to foreign banks will continue to do so in the expectation that, in a crisis, they will be repaid with funds borrowed from the central bank. The existence of swaps therefore makes restraints on banks' reliance on short-term funding, and requirements that foreign banks hold high-quality, liquid, local-currency assets, all the more important.

Interactive Map

Interactive Map: The Spread of Central Bank Currency Swaps

Line color and thickness both denote maximum amount drawn in $US equivalent, billions. Unused swap line

Year

2007

Category

- All
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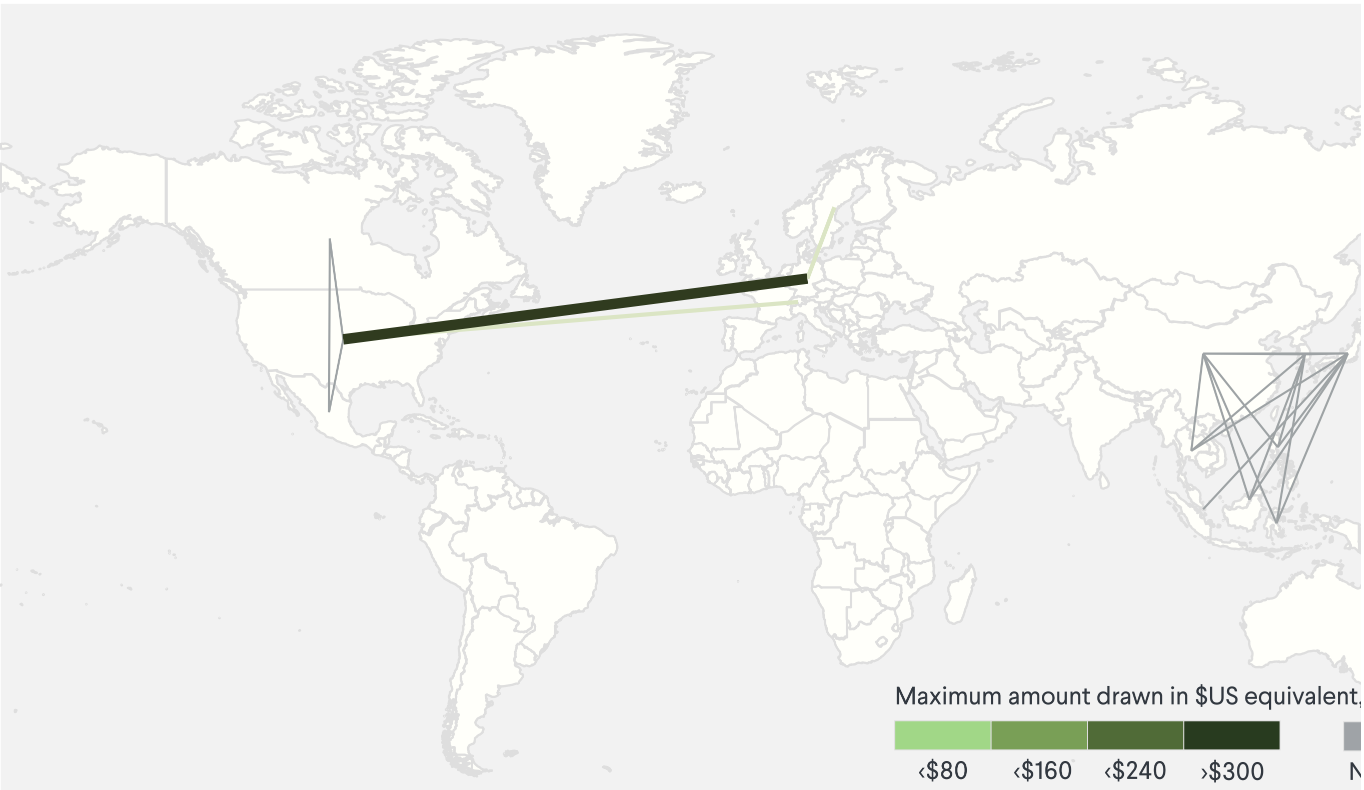
- Developed Market to Er
- Developed Economy Sw
- China
- Emerging Market Swap



This currency swap interactive was created by Director of International Economics Benn Steil, Analyst Benjamin Della Rocca, and former analyst Dinah Walker.

Please also visit our Global Monetary Policy Tracker and Sovereign Risk Tracker.