United States: Central Bank Swaps to Five Countries, 2010–2011

Jack French
YPFS, Yale School of Management

Follow this and additional works at: https://elischolar.library.yale.edu/journal-of-financial-crisis

Recommended Citation
Available at: https://elischolar.library.yale.edu/journal-of-financial-crises/vol5/iss1/19

This Case Study is brought to you for free and open access by the Journal of Financial Crises and EliScholar – A Digital Platform for Scholarly Publishing at Yale. For more information, please contact journalfinancialcrises@yale.edu.
United States: Central Bank Swaps to Five Countries, 2010–2011

Jack French

Yale Program on Financial Stability Case Study
July 21, 2023

Abstract

Following the 2007-09 financial crisis, dollar funding issues in the euro area reemerged during the first half of 2010. By late April, problems in Greece became serious, and concern about the fiscal conditions and growth prospects in Europe heightened. On May 9 and 10, 2010, the Fed reestablished temporary US dollar liquidity swap lines with the European Central Bank (ECB), Bank of England (BoE), Bank of Canada (BoC), Swiss National Bank (SNB), and Bank of Japan (BoJ); similar previous swap lines had expired in February 2010. The Fed’s press release said the purpose of the swap lines was to “improve liquidity conditions in U.S. dollar funding markets and to prevent the spread of strains to other markets and financial centers.” These lines uniquely authorized the Fed to provide dollars to the other five central banks. In November 2011, the Fed and the same five central banks announced a network of bilateral swap lines that allowed each participant to provide liquidity in every other participant’s currency, in exchange for its own currency, should the need arise. In October 2013, the Fed and the other central banks announced that they would convert that network of temporary liquidity swap arrangements into standing arrangements without expiration dates. The Fed swap lines were unlimited in size with the ECB, BoE, BoJ, and SNB, and the swap line with the BoC was for up to USD 30 billion. In 2014, the swap line with the BoC became unlimited as well. Only the ECB, BoJ, and SNB drew on the dollar liquidity swaps, and no central banks borrowed other currencies.

Keywords: central bank swap line, foreign currency liquidity
Overview

In May 2010, the rapid emergence of the European sovereign debt crisis led the US Federal Reserve and other central banks to reinstate currency swap lines that had expired just three months earlier. The purpose of the earlier swaps had been to address dollar funding strains outside the US during the Global Financial Crisis of 2007-09 (Fed 2010e). By February 2010, the parties had agreed that those GFC lines were no longer needed because of improvements in the functioning of financial markets (ECB 2010a).

However, by March 2010, dollar funding issues in the euro area had returned. The emergent concerns focused on financial institutions' exposure to Greece and other vulnerable euro-area economies. By late April, problems in Greece were getting worse and were causing increased uncertainty around the fiscal conditions and growth prospects in European nations. Financial markets reflected these concerns, as investors shifted from relatively risky to safer assets. Stock markets fell, yields on French and German sovereign bonds fell, and the US dollar appreciated (Fed 2011b).

By May, dollar term funding in European markets had become very expensive or not available at all. The foreign exchange swap market had also become relatively illiquid. At that point, Fed officials viewed the situation as primarily impacting European institutions but with risk of spillover into US markets (Fed 2010f).

On May 9 and 10, 2010, the Federal Open Market Committee (FOMC) reestablished dollar liquidity swap lines with the European Central Bank (ECB), Bank of England (BoE), Bank of Canada (BoC), Bank of Japan (BoJ), and Swiss National Bank

Key Terms

<table>
<thead>
<tr>
<th>Purpose: The swaps were put in place “to help improve liquidity conditions in U.S. dollar funding markets and to prevent the spread of strains to other markets and financial centers” (Fed 2010b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating Parties</td>
</tr>
<tr>
<td>Type of Swap</td>
</tr>
<tr>
<td>Currencies Involved</td>
</tr>
<tr>
<td>Launch Date</td>
</tr>
<tr>
<td>End Date</td>
</tr>
<tr>
<td>Date of First Usage</td>
</tr>
<tr>
<td>Interest Rate and Fees</td>
</tr>
<tr>
<td>Amount Authorized</td>
</tr>
<tr>
<td>Peak Usage Amount and Date</td>
</tr>
</tbody>
</table>

(continued)
(SNB) (Fed 2011b). The ECB, BoE, and BoJ had directly requested that the swaps be reopened (Fed 2010f).

The Fed’s press release announcing the lines said the purpose of the swaps was to “improve liquidity conditions in U.S. dollar funding markets and to prevent the spread of strains to other markets and financial centers” (Fed 2010b).

The dollar liquidity swap lines were part of a broad approach to addressing issues in Europe, including loan guarantees from the European Union and a series of refinancing operations by the ECB (Chan 2010). At the time the Fed was considering the swaps, the ECB was restoring operations that would provide funding to European banks at three- and six-month maturities and was preparing to purchase a wide range of euro-denominated securities in markets that they deemed dysfunctional or illiquid. The funds from the Fed were to be used specifically for liquidity purposes and not for intervening in foreign exchange markets (Fed 2010f). The dollar liquidity swap lines were unlimited in size with the ECB, BoE, BoJ, and SNB and for up to USD 30 billion with the BoC (Fed 2010c; Fed 2010b). These were the same sizes as the swap lines that expired in February 2010 (Allen and Moessner 2010).

In November 2011, the Fed announced temporary foreign currency liquidity swaps with the ECB, BoE, BoC, SNB, and BoJ, which were authorized through February 1, 2013. At that point, the swap arrangements became a network of bilateral swap lines under which each central bank could access liquidity in any of the other five currencies should the need arise. The funds could then be used to lend to banks in the borrower’s jurisdiction. The central banks also lowered the interest rate on the dollar liquidity swaps by 50 basis points, with the new rate equaling the US dollar overnight index swap rate (OIS) plus 50 basis points (bps) (Fed 2011a).

The temporary US dollar liquidity swaps were initially authorized through January 2011 but were extended and stayed in place as temporary lines until October 2013, when the Fed and other central banks announced that the network of temporary liquidity swap arrangements (including the Fed’s US dollar liquidity and foreign currency liquidity swaps) would be converted to standing arrangements without express expiration dates (Fed 2010b). The Fed never used the foreign currency liquidity swaps (FRBNY n.d.). Of the Fed’s five counterparties, only the ECB, BoJ, and SNB drew on the dollar liquidity swaps. The usage came in various amounts, from a small amount right when they were put in place to a large spike around November 2011 (Fed n.d.a; Fed n.d.d). In a speech to the members of the US House of Representatives, then-Chairman of the Fed Ben Bernanke said that when the Fed reduced the swap pricing from 100 bps over the OIS rate to 50 bps, it allowed the borrowing central banks to reduce the cost of their US dollar loans to financial institutions in their

| Downstream Use/Application of Swap Funds | The funds from the Fed were to be used specifically for liquidity purposes. The Eurosystem conducted 34 downstream liquidity providing operations between May 2010 and Feb. 25, 2011 |
| Outcomes | The swaps became a standing facility in 2014 |
| Notable Features | Increased transparency including the public release of swap agreements |
jurisdictions, which helped drive the increased usage during late 2011 to early 2012 (Bernanke 2012).

Figures 1 and 2 provide more information on dollar liquidity swap usage during the crisis.

**Figure 1: US Dollar Liquidity Swaps, Key Statistics**

<table>
<thead>
<tr>
<th>Counterparty</th>
<th>First Usage Date</th>
<th>Outstanding (USD bn)</th>
<th>Outstanding Date</th>
<th>Peak Draw (USD bn)</th>
<th>Peak Draw Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Central Bank</td>
<td>May 12, 2010</td>
<td>89.7</td>
<td>Feb 15, 2012</td>
<td>52.3</td>
<td>Dec 14, 2011</td>
</tr>
<tr>
<td>Bank of Japan</td>
<td>May 20, 2010</td>
<td>20.5</td>
<td>Jan 18, 2012</td>
<td>15.5</td>
<td>Jan 18, 2012</td>
</tr>
<tr>
<td>Swiss National Bank</td>
<td>Aug 11, 2011</td>
<td>0.5</td>
<td>Jan 11, 2012</td>
<td>0.4</td>
<td>Jan 11, 2012</td>
</tr>
<tr>
<td>Bank of England</td>
<td>No usage</td>
<td>0.0</td>
<td>No usage</td>
<td>No usage</td>
<td>No usage</td>
</tr>
<tr>
<td>Bank of Canada</td>
<td>No usage</td>
<td>0.0</td>
<td>No usage</td>
<td>No usage</td>
<td>No usage</td>
</tr>
<tr>
<td>Aggregate</td>
<td>May 12, 2010</td>
<td>109.1</td>
<td>Feb 15, 2012</td>
<td>52.4</td>
<td>Dec 14, 2011</td>
</tr>
</tbody>
</table>

Note: Data shown is weekly as of Wednesdays and is through the dates shown. The Fed’s temporary swap lines were converted to standing facilities in October 2013.

Sources: FRBNY; author’s calculations

**Figure 2: US Dollar Liquidity Swaps Outstanding, by Counterparty (in USD)**

Note: Data shown are weekly as of Wednesdays and are from April 28, 2010, to October 30, 2013. The Fed’s temporary swap lines were converted to standing facilities in October 2013. The Fed also had swaps with the BoE and BoC, but these were not in use during this period.

Sources: FRBNY; author’s calculations
Summary Evaluation

When the dollar liquidity swaps were announced in May 2010, the New York Times described them as broadly similar to the December 2007 swap lines and noted that the Fed made money from that swap program (Chan 2010).

However, the swap lines were ultimately not used as much as the GFC swap lines (Fed n.d.a). The ECB’s use of the Fed’s swap lines during the GFC peaked at about USD 600 billion outstanding in late 2008; its use of the lines during the Sovereign Debt Crisis (SDC) peaked at about USD 90 billion outstanding in February 2012. Similarly, the BoJ’s GFC usage peaked at about USD 130 billion outstanding in 2008 but reached only about USD 20 billion in January 2012 (Fed n.d.c; FRBNY n.d.). The SNB only used a maximum of about USD 500 million in swaps outstanding with the Fed during the SDC.

The Fed’s announcement in November 2011 that the Fed and other central banks would work together and lower the interest rate on the swap lines was well received by markets, according to news from the time of the decision. Fed officials at that time viewed it as helping reduce aversion to using the swap facilities (Fed 2011c). CNN reported that the lowering of the interest rate on the swaps would flow through to banks around the world, enabling them to trade in US dollars at lower cost (CNN Money 2011). Banks made relatively little use of the swaps before that announcement. A London School of Economics blog post argued that the rate on the swap lines had been too high, compared to the cost of borrowing dollars in the FX swap market. Usage of the swap lines rose from an aggregate amount outstanding of about USD 2 billion in October 2011 to close to USD 100 billion in December after the cost of borrowing in the market rose and the Fed and other central banks announced the lower interest rate on the swaps (Miu, Sarkar, and Tepper 2012).
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (SAAR, nominal GDP in LCU converted to USD)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>GDP per capita (SAAR, nominal GDP in LCU converted to USD)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Sovereign credit rating (five-year senior debt)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Size of banking system</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Size of banking system as a % of GDP</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Size of banking system as a % of financial system</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Five-bank concentration of banking system</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Foreign involvement in banking system</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Existence of deposit insurance</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Sources: Bloomberg; World Bank Global Financial Development Database; World Bank Deposit Insurance Dataset.
Key Design Decisions

1. Purpose and Type: The Fed entered into bilateral US dollar liquidity swaps with the European Central Bank, Bank of England, Bank of Canada, Swiss National Bank, and Bank of Japan to improve liquidity in US dollar funding markets and to prevent issues from spreading to other markets or countries.

On May 9 and 10, 2010, the Fed announced the reestablishment of temporary US dollar liquidity swap lines with the ECB, BoE, BoC, SNB, and BoJ. The swap lines with the ECB, BoE, SNB, and BoJ were unlimited in size, while the swap line with the BoC was capped at USD 30 billion. Those were the same sizes as the swap arrangements that had expired in February 2010 (Allen and Moessner 2010). The initial press releases said that the purpose of the arrangements was to improve liquidity in US dollar funding markets and to prevent the spread of stresses to other markets. The press release also described the unlimited size swaps with the ECB, BoE, SNB, and BoJ as providing the borrowing banks with the ability to conduct tenders of US dollars in their local markets at fixed rates and for full allotment, which the release noted was similar to the previous arrangements (Fed 2010b; Fed 2010c). In 2014, when the swap network became a standing facility with no expiration date, the USD 30 billion limit on the Fed’s swap line with the Bank of Canada was removed, and the size became unlimited (BoC 2014).

2. Part of a Package: The Fed’s dollar liquidity swap lines were part of a package intended to promote liquidity for banks in the eurozone.

The dollar liquidity swap lines were part of a package targeting eurozone banks and involving European Union loan guarantees and a series of ECB refinancing operations (Chan 2010). The ECB put back into place operations that would provide funding to banks at three-and six-month maturities. The ECB also prepared to purchase essentially any euro-denominated security in a market that it deemed dysfunctional or illiquid (Fed 2010f). When the ECB announced the reactivation of the swap line with the Fed, it also announced the interventions in public and private debt markets, the longer-term refinancing operations, and the resumption of US dollar liquidity repos as fixed-rate tenders with full allotment (ECB 2010b).

At the same time, the Fed had swap line arrangements under its North American Framework Agreement (NAFA) with the BoC and Bank of Mexico (Fed n.d.d). As was the case in the GFC-era swap lines, the temporary liquidity swap with the BoC was a separate line in addition to the NAFA swap line (Fed 2010f).

In November 2011, the Fed and the five central banks it had opened the dollar liquidity swaps with established temporary bilateral swaps that allowed liquidity to be provided in each jurisdiction in any of the currencies of the participating central banks. This was described as a contingency measure to be used if market conditions made it necessary (Fed 2011a). The Fed never drew on these swaps (Fed n.d.d).
3. **Legal Authority: The Fed has authority to enter into swap lines under section 14 of the Federal Reserve Act.**

The Fed’s swap lines are authorized by section 14 of the Federal Reserve Act and are overseen by the Federal Open Market Committee (FOMC) (Fed n.d.d). The Authorization for Foreign Currency Operations, reaffirmed January 26, 2010, stated that any changes to the Fed’s existing swaps or proposed new arrangements shall be referred to the FOMC for review and approval (Fed 2010a). The FOMC met on May 9, 2010, to establish the swap lines with the ECB, BoE, BoC, SNB, and BoJ (Fed 2010f).

4. **Governance: Drawings under the arrangements were subject to approval by the Federal Open Market Committee (FOMC).**

The FOMC’s 2010 Procedural Instructions with Respect to Foreign Currency Operations, reaffirmed on January 26, 2010, outlined the responsibility of the FRBNY, as the designated administrator of the swap arrangements and the manager of the System Open Market Account (SOMA), to clear foreign currency operations with the FOMC’s Foreign Currency Subcommittee, the FOMC itself, or with the chairman of the FOMC depending on availability. Any such clearances had to be reported to the FOMC promptly. Any swap draws that were relatively small in size could be approved by the subcommittee or by the chairman if the subcommittee was unavailable, while any swap draw greater than the larger of USD 200 million or 15 percent of the size of the swap arrangement would be subject to FOMC approval or that of the subcommittee if full committee consultation was not feasible, or ultimately with the chairman if that was the only option. The manager also had to consult the subcommittee or the chairman for any proposed swap drawings that were “not of a routine character” (Fed 2010a).

Signees of the bilateral swap agreements between the various central banks and the Fed included members of the ECB’s Executive Board, the executive director of markets at the BoE, the head of money markets and foreign exchange at the SNB, the director-general of the International Department at the BoJ, and the general counsel and corporate secretary of the BoC.

Information on the swaps such as context or usage was included in Fed annual reports while the swaps were active, and extensive information relating to actual swap draws is available on the FRBNY’s website (Fed 2011b; FRBNY n.d.).

5. **Administration: The FRBNY administered the swaps for the Fed.**

The FRBNY handled the administration of the swaps while acting at the direction of the FOMC (FRBNY 2010).

The Fed’s annual report in 2010 contained information about the establishment of the swaps, and the Fed released the actual agreements for its swap lines (Fed 2010d; Fed 2011b). The FRBNY released information about swap activity by foreign central banks weekly on its website. The Federal Reserve Board also released information weekly about aggregate activity in the Fed’s H.4.1 Factors Affecting Reserve Balances statistical release,

6. Communication: The Fed and borrowing central banks announced the swaps via coordinated press releases alongside the announcement of additional actions by the ECB and the public release of swap agreement documentation by the Fed.

The Fed and the ECB, BoE, BoC, and SNB issued a joint press release on May 9, 2010, to announce the reestablishment of the swap lines. The press release specified that the arrangements were authorized through January 2011 and noted that the BoJ was considering similar measures. The Fed announced the reestablishment of the swap with the BoJ the following day (Fed 2010c). The May 9 press release stated that the central banks would continue to work closely together “to address pressures in funding markets” (Fed 2010b).

On May 11, 2010, the Fed announced the public release of the actual swap line agreement documents with the ECB, BoE, and SNB, and stated that the BoC and BoJ documents would be released once they were finalized (Fed 2010d). In the same press release, the Fed announced that it would disclose aggregate swap activity in the Monthly Report on Credit and Liquidity Programs and the Balance Sheet as usual, and that it would also disclose the weekly swap activity by individual foreign central banks on the FRBNY’s website.

The six central banks announced the establishment of the network of foreign currency liquidity swap lines in November 2011 in coordinated press releases: “The Bank of Canada, the Bank of England, the Bank of Japan, the European Central Bank, the Federal Reserve, and the Swiss National Bank are today announcing coordinated actions to enhance their capacity to provide liquidity support to the global financial system” (Fed 2011a; Fed 2013). At the time, the ECB said the US dollar was the only non-domestic currency they’d need to provide liquidity in, but the central banks wanted the arrangements in place should the need arise (ECB 2011a). The other central banks had very similar language in their press releases. The full network of swap lines wasn’t necessarily needed at the time; it was viewed as a contingency measure.

The same six central banks similarly announced the conversion of all of the temporary bilateral liquidity swap arrangements into standing arrangements in October 2013 in coordinated press releases (Fed 2013). The BoC’s announcement included the removal of the USD 30 billion limit on their swap with the Fed (BoC 2011). The Fed and other central banks had similarly cooperated in their communications during the GFC but not in earlier episodes (see for example, US-BIS 1967 case).

When the dollar liquidity swaps were announced in May 2010, the New York Times described them as broadly similar to the December 2007 swap lines and noted both that the Fed made money from that swap program and that these new lines could produce a significant expansion of the Fed’s balance sheet (Chan 2010).
7. Eligible Institutions: The Fed established swaps with the ECB, BoE, BoC, SNB, and BoJ.

The Fed established dollar liquidity swap lines with the ECB, BoE, BoC, SNB, and BoJ in May 2010 (Fed 2010c). The ECB, BoE, and BoJ had asked the Fed to reopen the swap lines. Similar to the GFC swaps, the line with Canada was a separate swap from the preexisting NAFA arrangement (Fed 2010f). In November 2011, the six central banks announced a network of swap lines that allowed each to access liquidity in any other participating currency (Fed 2011a). Each of the five central banks that the Fed reestablished swap lines with in May 2010 also had a previous US dollar swap arrangement with the Fed that expired in February 2010 (Fed 2010b). The ECB, SNB, BoE, and BoJ had foreign currency swap arrangements with the Fed that expired in February 2010 as well (Fed n.d.d).

However, the Fed did not reestablish nine other GFC-era swap lines that had expired in February 2010—with the Reserve Bank of Australia, Sveriges Riksbank, Danmarks Nationalbank, Norges Bank, Reserve Bank of New Zealand, Banco Central do Brasil, Banco de Mexico (BoM), Bank of Korea, and Monetary Authority of Singapore (see French 2023) (Allen and Moessner 2010). Fed officials briefly discussed the fact that Mexico was not receiving a swap line in May 2010 during the meeting where they voted on the reestablishment of the five swap lines and decided to answer the question if it came up but not address it otherwise (Fed 2010f). The question came up in the context of the NAFA swap lines with Mexico and Canada. Like BoC, BoM had a preexisting NAFA swap line with the Fed, for USD 2 billion in the BoM’s case, but unlike Canada it did not receive an additional line (Fed n.d.d).

8. Size: The swaps were unlimited in size with the ECB, SNB, BoJ, and BoE, and for USD 30 billion with the BoC.

When the swaps were announced in May 2010, the arrangements with the ECB, BoE, SNB, and BOJ were unlimited in size, as the prior swap lines that were terminated in February 2010 had been, to allow the central banks “to conduct tenders of U.S. dollars in their local markets at fixed rates for full allotment, similar to arrangements that had been in place previously” (Fed 2010b; Fed 2010c). The swap with the BoC allowed for up to USD 30 billion outstanding, the same as previously.

Then–Vice Chairman of the Fed William C. Dudley discussed the idea of unlimited swaps during the FOMC meeting on May 9, 2010. He said the GFC-era swaps became unlimited in size not to make a statement about how much liquidity the market demanded but just to offer to supply whatever was needed. Dudley argued that a fixed size might lead to more demand on the basis of people worrying about it running out, whereas unlimited size swaps can act as a backstop. Dudley noted that the unlimited size worked well in the GFC era (Fed 2010f).
9. **Process for Utilizing the Swap Agreement:** The processes and documentation were consistent across the five dollar liquidity swap lines and roughly consistent with the foreign currency liquidity swaps.

Under the swap agreements, when the parties agreed to enter into a transaction, they would agree to the amount, value date, exchange rate, maturity date, and interest rate in accordance with the Section 3(b) specification of how the interest rate would be calculated.\(^3\) The dollar liquidity swap agreements also specified that the borrowing central bank was agreeing to sell its domestic currency to the FRBNY and to purchase USD via a spot transaction while simultaneously entering into a forward transaction to sell the USD back to the FRBNY and repurchase their respective currency on the maturity date of the swap (FRBNY 2010; FRBNY and BoC 2010; FRBNY and BoE 2010; FRBNY and BoJ 2010; FRBNY and SNB 2010).

The agreement with the BoC, the only one not unlimited in size, stated that an additional maximum of USD 5 billion would be available, on top of the USD 30 billion, solely for the purpose of rolling over swap transactions. The parties agreed to roll over any amount of US dollars due under a swap transaction that the BoC failed to repay. The rollover swap transaction would use the same interest rate and exchange rate as the maturing transaction (FRBNY and BoC 2010). The unlimited swap arrangements had similar rollover and set-off provisions but did not state a limit for how much could be rolled over (FRBNY 2010; FRBNY and BoE 2010; FRBNY and BoJ 2010; FRBNY and SNB 2010). The agreements specified that the FRBNY could invoke a rollover swap on the borrowing central bank’s behalf to cover any unpaid swap amounts at maturity.

Under the foreign currency liquidity swap lines, the documentation was slightly different from the US dollar liquidity lines to reflect that the Fed was the borrowing bank, but it was largely consistent across the five lending banks. If the Fed wanted to draw on the line, it would purchase foreign currency from the foreign central bank and sell US dollars, which would then be reversed on the maturity date (FRBNY and BoC 2011; FRBNY and BoE 2011; FRBNY and BoJ 2011; FRBNY and ECB 2011; FRBNY and SNB 2011).

10. **Downstream Use of Borrowed Funds:** The funds were used to provide liquidity to banks.

Borrowing central banks ran Term Auction Facility\(^4\)-like auctions independent of the Fed (Fed 2010f). Between May 2010 and February 25, 2011, the ECB conducted 32 operations at seven-day maturity, one 14-day operation, and one 84-day operation. The ECB’s downstream operations were repurchase agreements carried out as fixed-rate tender

---

\(^3\) For example, “Interest payable by the BOJ on proceeds of any Swap Transaction (the "Interest Rate") shall be no less than the applicable Overnight USD Indexed Swap Rate (OIS) (rounded to 4 digits after the decimal point) plus a 100-basis point spread. Interest shall be calculated on a 365-day basis from, and including, the Value Date to, but excluding, the Maturity Date. On the Maturity Date, such interest shall be paid by the BOJ to FRBNY in USD (based on the Exchange Rate applicable to the Swap Transaction), and FRBNY will debit the BOJ Account (defined below) with said interest amount” (FRBNY and BoJ 2010).

\(^4\) A facility that allowed the Fed to provide term funding to a broader range of counterparties and against a wider variety of collateral than normal market operations (Fed 2007).
procedures with no size cap (ECB 2011b). In November 2011, the ECB reduced its initial margin requirement on the three-month maturity downstream dollar operations effective December 7, 2011 (ECB 2011a).

Figure 3 shows the swap draws from each central bank counterparty during the crisis and up until the temporary swap facilities became standing facilities.

**Figure 3: US Dollar Liquidity Swap Draws, by Counterparty**

Note: Data shown is weekly as of Wednesdays and is from April 28, 2010, to October 30, 2013. The Fed’s temporary swap lines were converted to standing facilities in October 2013. The Fed also had swaps with the BoE and BoC that were not in use during this period.

*Source: FRBNY; author’s calculations.*

11. **Duration of Swap Draws: Swap draws ranged from 6 to 85 days.**

The May 2010 dollar liquidity swap agreements specified a maximum duration of “88 days or as agreed upon by the parties” across all five swaps. Actual durations ranged from 6 to 85 days (FRBNY n.d.).

The foreign currency liquidity swap agreements specified a maximum duration of “88 days or as agreed upon by the parties” as well.

12. **Rates and Fees: Interest rates ranged from 0.57% to 1.25%, and transactions took place at market exchange rates.**

Under the dollar liquidity swap agreements, the spot rate for a swap would be based on the prevailing market spot exchange rate, and that rate would be applied to the forward leg as well.
The dollar liquidity swaps had a minimum interest rate of the US dollar OIS rate plus 100 bps (FRBNY 2010; FRBNY and BoC 2010; FRBNY and BoE 2010; FRBNY and BoJ 2010; FRBNY and SNB 2010). The interest rate was cut by 50 bps to OIS plus 50 bps in November 2011. Fed Chairman Bernanke said on the November 28, 2011, FOMC conference call that he expected lowering the rate would help destigmatize the dollar auction facilities and make the swap lines more effective as a liquidity backstop. The first series of downstream dollar auctions after the rate reduction brought meaningful increases in demand across the ECB and BoJ (Fed 2011c). See Figure 2 for a representation of swap usage by borrowing central banks, which had been low during the early stage of the crisis and rose substantially after the rate reduction.

The actual interest rates paid on draws ranged from about 0.57% to about 1.25%, according to the FRBNY’s data releases (FRBNY n.d.).

The dollar liquidity swap agreements specified that the FRBNY would not pay interest on any part of the swap.

Under the foreign currency liquidity swaps, the lending central banks would not pay interest on US dollar deposits but would hold them in a non-interest-bearing account at the FRBNY. Like the dollar liquidity swaps, transactions would take place at the prevailing market spot exchange rate, with that rate then used as the forward rate as well. The FRBNY’s payment to the lending central bank was described as a fee equal to the amount borrowed multiplied by a rate that they would agree to when they agreed to enter a transaction.

13. **Balance Sheet Protection:** The Fed had the protection of holding the borrower’s currency as collateral and transacting with creditworthy central banks rather than dealing directly with foreign financial institutions.

The swap agreements all involved the foreign central bank drawing dollars in exchange for foreign currency at the prevailing market exchange rate and being obligated to buy back the currency at a later date for the same rate.

When Fed officials discussed the swap lines on May 9, 2010, they described the main source of security as the guarantee from the major central banks that they would unwind the swap. There was risk that the value of the collateral would fluctuate from changes in market exchange rates, but the FOMC did not think marking to market or requiring margin was necessary, particularly given the short duration of the transactions. The structure of the swaps essentially meant that, absent a default by a central bank, the Fed would get their dollars back with an interest rate applied and zero exchange rate risk (Fed 2010f).

Chairman Bernanke noted the safety of the swaps in his 2012 speech to the US House of Representatives. He described them as not having interest rate or exchange rate risk and said that each drawing had a short maturity and was subject to the Fed’s approval (Bernanke 2012).
14. Other Restrictions: The swaps were intended to be used for liquidity auctions.

Fed officials discussed the fact that the swaps were not meant for intervention in foreign exchange markets but instead intended to be used for liquidity auctions (Fed 2010f).

15. Other Options: Fed officials discussed having central banks use their foreign currency reserves instead of swaps.

When considering the initial introduction of the swap lines in May 2010, Fed officials addressed the question that had come up in the GFC of why swaps made sense instead of requiring foreign central banks to use their own dollar reserves to provide funding. The upsides of using swap lines were viewed as providing a confidence boost to the market, symbolizing cooperation, segregating reserves, and allowing central banks to have access to dollars without them having to sell dollar assets or use up liquidity in dollar funding markets. At the time, the ECB and its member banks had just over USD 150 billion in dollar reserves (Fed 2010f). The subject was debated by the FOMC, particularly in regard to sterilization and the impact on dollar funding that swaps would have relative to using reserves (Fed 2010f).

Chairman Bernanke noted at the FOMC meeting that the ECB and the Fed saw value in segregating reserves that they could use for exchange rate intervention, and the funds from the swaps that were specifically meant for providing liquidity. The other benefits that Bernanke pointed out were confidence and symbolism from the swaps (Fed 2010f).

16. Exit Strategy: The swaps were converted into a standing facility in October 2013.

The dollar liquidity swaps were initially intended to expire after January 2011 but were later extended to February 1, 2013 (Fed 2010b; Fed 2011a). The foreign currency liquidity swaps put in place in November 2011 were initially authorized through February 1, 2013 (Fed 2011a). However, in October 2013, the Fed announced that the network of US dollar and foreign currency swaps, effectively bilateral swaps, would be converted into standing facilities without an express expiration date. The press release announcing the conversion said that the temporary swap arrangements had helped to “ease strains in financial markets and mitigate their effects on economic conditions” and described the standing arrangements as liquidity backstops (Fed 2013).
References and Key Program Documents

Implementation Documents


Legal/Regulatory Guidance


Media Stories


Press Releases/Announcements

Bank of Canada press release announcing new actions between the BoC, BoE, BoJ, ECB, Fed, and SNB to support the global financial system.
https://ypfs.som.yale.edu/node/22568

ECB press release announcing the end of the GFC swap lines with the Fed on February 1, 2010.
https://ypfs.som.yale.edu/node/22291

Foreign currency liquidity swap agreement between the Fed and ECB dated December 22, 2011.
https://ypfs.som.yale.edu/node/20070

ECB Press release announcing new actions between the BoC, BoE, BoJ, ECB, Fed, and SNB to support the global financial system.
https://ypfs.som.yale.edu/node/22574

Fed press release announcing measures to address short-term funding markets.
https://ypfs.som.yale.edu/node/11185/

FOMC statement announcing the reestablishment of swaps with the ECB, BoC, BoE, and SNB.
https://ypfs.som.yale.edu/node/21876/
FOMC statement announcing the reestablishment of the Fed’s swap with the BoJ.
https://ypfs.som.yale.edu/node/22576/

Fed press release announcing the release of swap agreements with the BoE, ECB, and SNB.
https://ypfs.som.yale.edu/node/22577

Press release announcing coordinated action by six major central banks regarding a multilateral network of swaps to address pressures in global money markets.
https://ypfs.som.yale.edu/node/22412

Fed press release announcing the swaps with the BoC, BoE, BoJ, ECB, and SNB were being converted to standing arrangements.
https://ypfs.som.yale.edu/node/21866

Reports/Assessments

Weekly Fed data describing the Wednesday level of the aggregate central bank liquidity swaps outstanding.
https://ypfs.som.yale.edu/node/22303/

Data sheet on GFC era central bank swap lines.
https://ypfs.som.yale.edu/node/22466

Federal Reserve Board web page describing central bank swap lines.
https://ypfs.som.yale.edu/node/21501

Web page reporting usage of the Fed’s central bank liquidity swaps from May 2010 to present.
https://ypfs.som.yale.edu/node/22466
BoC annual report covering 2013.  
https://ypfs.som.yale.edu/node/22569

Yearly report of activity by the ECB.  
https://ypfs.som.yale.edu/node/21868/

(Fed 2010e) Federal Reserve Board (Fed). 2010e. “System Open Market Account and  
https://ypfs.som.yale.edu/node/2300

Market Committee on May 9, 2010,” May 9, 2010.  
FOMC conference call regarding reopening central bank swap lines.  
https://ypfs.som.yale.edu/node/3311

https://ypfs.som.yale.edu/node/22393

FOMC minutes from November 28, 2011.  
https://ypfs.som.yale.edu/node/22578

European Debt Crisis and the Dollar Funding Gap.” London School of Economics, August.  
Blog post on the debt crisis in Europe.  
https://ypfs.som.yale.edu/node/22579

**Key Academic Papers**

Co-Operation and International Liquidity in the Financial Crisis of 2008-9.” BIS Working  
Overview of central bank responses to the GFC.  
https://ypfs.som.yale.edu/node/19791

(French 2023) French, Jack. 2023. “United States: Central Bank Swaps to Five Countries,  
Case study describing the Fed’s swap lines with 14 central banks during the Global Financial  
Crisis.  
https://elischolar.library.yale.edu/journal-of-financial-crisis/vol5/iss1/20