United States: Central Bank Swaps to 14 Countries, 2020

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United States: Central Bank Swaps to 14 Countries, 2020

Benjamin Hoffner

Yale Program on Financial Stability Case Study
July 21, 2023

Abstract

The emergence of the COVID-19 pandemic during the first quarter of 2020 put strains on global US dollar funding markets. In response, on March 15, 2020, the Federal Reserve announced enhanced terms for its standing, uncapped dollar swap lines with five major central banks: the Bank of Canada, Bank of England, Bank of Japan, European Central Bank, and Swiss National Bank. These enhancements lowered the interest rate on the lines by 25 basis points (bps) to the US overnight index swap (OIS) rate plus 25 bps and made available swaps of 84-day maturities in addition to the existing schedule of seven-day maturities. On March 19, 2020, the Fed established temporary, capped dollar swap lines with nine other central banks: the Banco Central do Brasil, Bank of Korea, Banco de Mexico, Danmarks Nationalbank, Monetary Authority of Singapore, Norges Bank, Reserve Bank of Australia, Reserve Bank of New Zealand, and Sveriges Riksbank. The temporary swap lines were capped between USD 30 billion and USD 60 billion, depending on the central bank. Together, these 14 central banks represented the same list of countries that received Fed swap lines during the Global Financial Crisis. Outstanding swap drawings on the Fed’s COVID-19 swap lines peaked during the week of May 27, 2020, at USD 449 billion, with the majority of borrowings made by the European Central Bank and Bank of Japan. The temporary swap lines were extended three times before ultimately expiring on December 31, 2021; peak usage for these temporary lines was under USD 50 billion.

Keywords: central bank swaps, COVID-19 crisis, Federal Reserve

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1 This case study is part of the Yale Program on Financial Stability (YPFS) selection of New Bagehot Project modules considering central bank swap line programs. Cases are available from the Journal of Financial Crises at https://elischolar.library.yale.edu/journal-of-financial-crisis/.

2 Research Associate, YPFS, Yale School of Management.
Overview

By early March 2020, developments related to the COVID-19 pandemic put strains on global financial markets as the desire to hold precautionary dollar balances led to a breakdown in financial intermediation (FRBNY 2021). In response, the Federal Reserve took several steps to mitigate distortions in US dollar funding markets. On March 15, to enhance the provision of US dollar liquidity abroad, the Federal Open Market Committee (FOMC)—the Fed’s monetary policy decision-making body—made enhancements to the standing swap line network\(^3\) between the Fed and five other major central banks: the Bank of Canada (BoC), Bank of England (BoE), Bank of Japan (BOJ), European Central Bank (ECB), and Swiss National Bank (SNB) (Fed 2020c). Those enhancements included lowering the interest rate by 25 basis points (bps) to the USD overnight indexed swap (OIS) rate plus 25 bps and adding 84-day maturities to the existing seven-day tenors (FRBNY 2021). The Fed announced these measures through joint press releases with the other five central banks, emphasizing the coordinated nature of the central banks’ actions to enhance the provision of dollar liquidity in each jurisdiction (Fed 2020c).

Later, on March 19, the Fed established temporary dollar swap lines with nine additional central banks: Banco Central do Brasil (BCB), Banco de Mexico (BoM), Bank of Korea (BOK), Danmarks Nationalbank (DNB), Monetary Authority of Singapore (MAS), Norges Bank, Reserve Bank of Australia (RBA), Reserve Bank of New Zealand (RBNZ), and Sveriges Riksbank (Fed 2020h). Unlike the standing swap lines,

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3 This network of swap lines among the six central banks, composed of bilateral swaps between all participating central banks, enabled any participant to request swaps in another participant’s currency (Fed 2013; FRBNY 2021).

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### Key Terms

| Purpose | To relieve strains in global dollar funding markets |
| Participating Parties | Standing: BoC, BoE, BOJ, ECB, SNB  
Temporary: Nine central banks |
| Type of Swap | Network, unidirectional series |
| Currencies Involved | US dollar and 14 additional currencies |
| Launch Date | Standing enhancements: March 15, 2020  
Temporary lines: March 19, 2020 |
| End Date | Standing: 84-day maturities (July 2021);  
Temporary lines: Dec. 31, 2021 (after three extensions) |
| Date of First Usage | Standing: March 19, 2020  
Temporary: March 27, 2020 |
| Interest Rate and Fees | Standing: US OIS + 25 bps  
Temporary: Rate received from downstream auction |
| Amount Authorized | Standing: Uncapped  
Temporary: USD 30 billion or USD 60 billion, depending on the central bank |
| Peak Usage Amount and Date | USD 449 billion during the week of May 27, 2020 |
| Downstream Use/Application of Swap Funds | Lending to banks in foreign central banks’ jurisdictions |
| Outcomes | Heavily used in initial months |
| Notable Features | All nine temporary swap lines introduced on the same day |
which were uncapped, the Fed limited the temporary swap lines to either USD 30 billion or USD 60 billion, depending on the central bank (Fed 2020e).

On March 20, the Fed and the five major central banks announced another enhancement to the standing dollar swap lines, increasing the frequency of dollar operations of seven-day maturities from weekly to daily, while keeping 84-day maturities at weekly offerings (Fed 2020f). This daily schedule for standing swap lines did not, however, apply to the temporary swap lines.

The swap lines were regularly used. Aggregate drawings on the facilities peaked the week of May 27, 2020, at USD 449 billion (FRBNY n.d.b). Drawings by the BOJ and ECB constituted the majority of this peak. The central banks of Brazil, Canada, New Zealand, and Sweden were the only participants that did not draw on the swap lines (FRBNY n.d.b).

The temporary swap lines with nine central banks were intended to last at least six months, and the FOMC extended these swap lines three times before they expired on December 31, 2021 (FRBNY 2022).

Previously, during the Global Financial Crisis (GFC), the FOMC had authorized bilateral dollar-providing swap lines with the same 14 central banks—the five major central banks and the nine other central banks. These dollar swap lines expired in February 2010 (Fed 2010d). In May 2010, with the resurgence of US dollar funding strains accompanying the quickly developing European Sovereign Debt Crisis (SDC), the FOMC again authorized temporary bilateral swap lines with the five major central banks (BoC, BoE, BOJ, ECB, and SNB) (Fed 2010b). In 2011, the Fed entered into temporary foreign currency-providing swap agreements with the five major central banks pursuant to which it could borrow any of their currencies in exchange for dollars (Fed 2011a). Previously, the Fed had similar foreign currency swap lines with the BoE, BOJ, ECB, and SNB, signed in April 2009, but these had expired in February 2010 (Fed 2020h). In October 2013, the Fed announced the conversion of the dollar and foreign currency swap lines into part of a permanent standing network of swaps among the six central banks under which any bank could borrow any currency from the other with no specified limit (Fed 2020h; Fed 2013).

Summary Evaluation

Bahaj and Reis (2020) conducted research on the effectiveness of the Fed’s COVID-19 swap lines on market prices through covered interest parity (CIP) deviations—a measure of foreign exchange hedged dollar funding costs—with the US dollar and concludes that swap lines were an effective tool at combatting funding distortions abroad. Compared with countries that did not receive swap lines, the Fed’s swap counterparties saw significant reductions in CIP deviations. These positive effects were most pronounced with countries that actively used swap lines and around the time of swap drawings (Bahaj and Reis 2020).

A study by Aizenman, Ito, and Pasricha (2021) finds that the announcements of swap lines corresponded with appreciations in the recipient central banks’ currencies, as well as reductions in CIP deviations. However, the authors also find that these announcements had little impact on sovereign bond yields and credit default swap spreads (Aizenman, Ito, and
They also find that the downstream dollar liquidity auctions that nonmajor central banks conducted for their domestic financial institutions had minimal effects. In contrast, dollar liquidity auctions of the major central banks had spillover effects, leading to the appreciation of other foreign currencies and immediate reductions in long-term sovereign bond yields (Aizenman, Ito, and Pasricha 2021; Choi et al. 2022). Aizenman, Ito, and Pasricha (2021) also examines the factors explaining the selection of the nine countries for temporary swaps during COVID-19. It finds close trade ties with the US to be the largest determinant, as well as financial ties and military alliances (Aizenman, Ito, and Pasricha 2021).
<table>
<thead>
<tr>
<th>Context: United States 2020–2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (SAAR, nominal GDP in USD)</td>
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<tr>
<td></td>
</tr>
<tr>
<td>GDP per capita (SAAR, nominal GDP in USD)</td>
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<tr>
<td></td>
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<tr>
<td>Sovereign credit rating (five-year senior debt)</td>
</tr>
<tr>
<td>2020</td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>2021</td>
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<tr>
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<tr>
<td>Size of banking system</td>
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<td>Size of banking system as a % of GDP</td>
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<td>Size of banking system as a % of financial system</td>
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<td>Five-bank concentration of banking system</td>
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<td></td>
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<td>Foreign involvement in banking system</td>
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<tr>
<td></td>
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<tr>
<td>Existence of deposit insurance</td>
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</table>

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

1. Purpose and Type: The dollar swap lines aimed to relieve global strains in dollar funding markets through coordinated central bank action.

In March 2020, uncertainties around the emergent COVID-19 pandemic and the expected economic shocks of pandemic-related policy responses led to disruptions in US dollar funding markets (Choi et al. 2022).

On March 15, in a measure of coordinated central bank support to the provision of US dollar liquidity, the Fed announced enhancements to its existing standing network of uncapped US dollar liquidity swap lines with five other major central banks: the Bank of Canada, Bank of England, Bank of Japan, European Central Bank, and Swiss National Bank. The Fed explained that the enhancements to the swap facilities, which lowered the interest rate by 25 bps and provided for 84-day swaps to the existing schedule of seven-day swap operations, would remain in place as long as appropriate to support the smooth functioning of US dollar funding markets (Fed 2020c).

The swap lines are available standing facilities and serve as an important liquidity backstop to ease strains in global funding markets, thereby helping to mitigate the effects of such strains on the supply of credit to households and businesses, both domestically and abroad. (Fed 2020c)

On March 19, as part of the same effort to relieve pressures on global US dollar funding markets, the Fed established new temporary, capped swap lines with nine other central banks, which had also received Fed swap lines during the Global Financial Crisis: Banco Central do Brasil, Banco de Mexico, Bank of Korea, Danmarks Nationalbank, Monetary Authority of Singapore, Norges Bank, Reserve Bank of Australia, Reserve Bank of New Zealand, and Sveriges Riksbank (Fed 2020e). In a corresponding frequently-asked-questions document published the same day, the Fed provided three reasons for extending swap lines to a wide range of foreign countries (Fed 2020a):

- It helps maintain the flow of lending to U.S. households and businesses by reducing the likelihood that distress in foreign financial markets and economies would weigh on global banks that are active in U.S. markets.

- It reduces the likelihood that financial crises could emerge and spread – such crises could disrupt global financial markets and spillover over to harm U.S. markets and economic activity.

- By reducing financial stress, it reduces the likelihood that turbulence and crises would drive up the dollar and weigh on foreign growth, thus hurting our exports and widening our trade deficit.
2. **Part of a Package:** The Fed took other actions to relieve liquidity pressures on the financial system and introduced a new FIMA Repo Facility, which provided dollar liquidity to a much broader list of foreign official counterparties.

The enhancements to the Fed’s standing swap network accompanied a variety of other crisis-related measures announced the same day. On March 15, 2020, the FOMC voted to lower the target range for the federal funds rate by 100 bps, to a range of 0–50 bps, and to authorize large-scale asset purchases of Treasuries (at least USD 500 billion) and agency mortgage-backed securities (at least USD 200 billion) (Fed 2020d).

On March 31, the Fed announced a new temporary repurchase (repo) facility, the Foreign and International Monetary Authorities (FIMA) Repo Facility, which directly complemented the central bank swap lines in supporting the functioning of global US dollar funding markets (Fed 2020g; Fed 2020b). Under the facility, approved foreign official counterparties could secure US dollar liquidity without having to liquidate Treasury portfolios, by instead using those securities as collateral in the FIMA Repo Facility. Unlike the relatively small number of Fed swap line counterparties, eligible FIMA account holders encompassed almost every foreign central bank (Choi et al. 2022).

3. **Legal Authority:** Section 14 of the Federal Reserve Act enumerates the powers of the Fed to conduct foreign currency operations through swap lines.

The Fed operates swap lines under Section 14(1) of the Federal Reserve Act and through the governance of the FOMC (Fed 2020h). Section 14(1) refers to swaps under the category of “cable transfers,” which encompasses the purchase and sale of foreign currencies at home or abroad in the open market (US Government 1913). The FOMC approved the changes to the swap arrangements on March 15, 2020. At the meeting, Fed Chairman Jerome Powell noted that the committee was making the changes in line with the procedures outlined by the Authorization for Foreign Currency Operations (the Authorization) (FOMC 2020e). Under the Authorization, the FOMC authorizes the Federal Reserve Bank of New York (FRBNY) to conduct open market transactions, which include swap line operations (FOMC 2020a; FOMC 2020b; FRBNY n.d.a). The Authorization also notes that swap operations should be aimed at mitigating strains in financial markets, domestically or abroad, or preventing the emergence of such strains, to reduce impacts on economic and financial conditions in the US (FOMC 2020b).

The establishment of temporary swap lines, however, required a vote of the FOMC to approve amendments to the Authorization (FOMC 2020f). The amended Authorization, put

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4 See Kelly (2023) for a separate case study on the Fed’s FIMA Repo Facility.

5 The Authorization establishes the broad delegation of authority to the FRBNY (the selected Reserve Bank) and the general parameters of foreign currency operations that it should follow. The Foreign Currency Directive sets out the specific foreign currency operations that the FOMC directs to the FRBNY to undertake (that is, maintaining the specific standing swap line arrangements). Both documents are internal operating procedures that the FOMC adopted to facilitate its work. The FOMC reaffirms these documents annually and occasionally votes to amend them, as it did on March 19, 2020, to address the operation of temporary dollar swap lines (FOMC 2020d; FOMC 2020f).
into effect on March 19, 2020, simply added language of “temporary swap lines” next to that of the existing standing swap lines with no other material differences from the previous Authorization (FOMC 2020a; FOMC 2020b). The FOMC also amended the Foreign Currency Directive (the Directive), which lists the specific swap lines the FRBNY is directed to maintain for the System Open Market Account (FOMC 2020a). Similarly, the substance of the Directive remained unchanged, with the amendments adding the nine temporary swap lines to the list of swap arrangements (FOMC 2020c).

4. Governance: The FOMC authorizes swap line operations.

The FOMC governs swap lines for the Federal Reserve. The policy boards and executives of the counterparty central banks govern their participation in the swap lines (Fed 2020a).

The FOMC authorizes the FRBNY to administrate swap line operations for the System Open Market Account (FOMC 2020a; FRBNY n.d.a). As the administrator of swap line operations, the FRBNY is responsible for reporting swap transactions at each scheduled FOMC meeting (FOMC 2020a).

The FRBNY publishes operational results for central bank swap lines on a weekly basis through its website (FOMC 2020a). Results include the name of the borrowing central bank, drawing date, term, interest rate, and size of transaction. Weekly results of swap operations are also included in the Fed’s H.4.1 statistical release, a mandated disclosure of the Fed’s balance sheet (Fed 2023).

5. Administration: The FRBNY administered swap operations.

The FOMC elects the FRBNY as the administrator for swap lines operations (FOMC 2020a; FRBNY n.d.a).

Each drawing on standing and temporary dollar swap lines requires approval of the FOMC chairman, who may also choose to approve a schedule of potential drawings (FOMC 2021). The chairman can then authorize the manager of the Fed’s System Open Market Account to approve individual drawing requests under the schedule (FOMC 2020a). This administrative feature, where the chairman alone approves swap drawings and may authorize a schedule of drawings, constitutes a procedural change from the Fed’s swap line administration during the Sovereign Debt Crisis in 2010. See the related case study by French (2023b). The discussion of approving “schedules” of swap drawings first showed up under the FOMC’s Rules and Authorizations in 2017 (FOMC 2017).

6. Communication: The Fed communicated swap line operations as coordinated central bank actions and emphasized the importance of the swaps to domestic and global financial stability.

The Fed announced the enhancements to its standing swap lines on March 15, 2020, in a press release entitled “Coordinated Central Bank Action to Enhance the Provision of U.S. Dollar Liquidity,” which accompanied similar press releases from the five other participating central banks (Fed 2020c).
On March 19, 2020, as part of the announcement of the temporary swap lines with nine other central banks, the Fed produced a corresponding press release entitled “Swap Lines FAQs” (Fed 2020e). These FAQs explained the Fed’s reasons for extending the swap lines, why the Fed chose to expand swaps beyond the five network countries, and other information on the design features of Fed swap (Fed 2020a). Though the stated purpose of the Fed’s swap lines is to “ease strains in global funding markets,” the Fed couched this purpose in the broader goal of mitigating spillover effects to the US economy (Fed 2020c). In the FAQs, the Fed explained this as follows:

They improve liquidity conditions in U.S. and foreign financial markets by providing foreign central banks with the capacity to deliver U.S. dollar funding to institutions in their jurisdictions during times of market stress. By helping to stabilize foreign dollar markets, these swap lines also play a role in supporting foreign economic conditions, which also positively benefit the U.S. economy through many channels, including confidence and trade. (Fed 2020a)

7. **Eligible Institutions: The Fed operated a standing multiparty swap network with five countries and established temporary swap lines with nine other countries.**

In total, the Fed operated swap lines with 14 countries, five of which were included in a standing network arrangement with the nine others part of temporary arrangements introduced on March 19, 2020 (FRBNY 2021). The Fed noted in its FAQs on swaps that these countries also represented the same list of countries that received swap lines during the GFC (Fed 2020a).

The uncapped standing dollar swap lines, enhanced on March 15, 2020, were part of an existing network among the Fed and five other major central banks: the BoC, BoE, BOJ, ECB, and SNB (Fed 2020c). In May 2010, shortly after the expiration of the Fed’s temporary GFC swap lines, the Fed reestablished dollar swap lines with these five central banks in connection with renewed strains in global dollar funding markets (Fed 2011b). In addition to dollar swap lines, the Fed had signed foreign currency swap agreements with the BoE, BOJ, ECB, and SNB, in 2009, which expired in 2010 (Fed 2020h). In 2011, the Fed established similar foreign currency swap agreements with the five major central banks, enabling the Fed to borrow their foreign currencies in exchange for dollars (Fed 2011a). In October 2013, the Fed announced the conversion of both the dollar and foreign currency swap lines into a standing network of swaps with the other five central banks under which any participating central bank could borrow any participant’s currency with no specified limit (Fed 2020h; Fed 2010a).

On March 19, 2020, the Fed reintroduced temporary, capped US dollar swaps with the central banks of nine other countries: Australia, Brazil, Denmark, Mexico, New Zealand, Norway, Singapore, South Korea, and Sweden (Fed 2020h; FRBNY 2021). These nine central banks had previously participated in the Fed’s GFC swaps, but those agreements expired in February 2010 and were not reestablished until 2020 (Allen and Moessner 2010).
Aizenman, Ito, and Pasricha (2021) examines the explanatory variables for selection of the nine countries for temporary swaps during COVID-19. The authors find that close trade ties with the US are the largest determinant, as well as financial ties and military alliances (Aizenman, Ito, and Pasricha 2021).

Much of the Fed’s discussion on eligibility and other swap details are found in FOMC meeting transcripts, which are typically published on a five-year lag (Todd 2016). As the 2020 transcripts are still unavailable, we refer to discussion on eligibility from the 2008 transcripts. In an October 2008 FOMC meeting, the director of the Fed’s International Finance Division, Nathan Sheets, summarized the three criteria for swap line candidates:

[T]he first is that we are looking for economies that are large and systemically important. The second is that we are looking for economies in which their policies have been strong and it appears that they are largely being influenced by contagion. The third piece is countries for which we believe that the swap line might actually make a difference. (FOMC 2008, 33)

For additional information on central bank counterparty eligibility during the Fed’s GFC swap lines, see a separate case study by French (2023a).

8. **Size:** The standing swap lines were uncapped, while the temporary swap lines were limited to USD 60 billion or USD 30 billion in maximum borrowings, depending on the central bank.

The Fed’s standing liquidity swap lines with five central banks were uncapped, with no specified limit to maximum borrowings, although drawings were subject to approval by the chairman of the FOMC (FRBNY 2021).

The Fed’s temporary dollar swap lines with nine central banks were capped between USD 30 billion and USD 60 billion, depending on the central bank. The central banks of Australia, Brazil, Mexico, Singapore, South Korea, and Sweden could borrow up to USD 60 billion, while those of Denmark, Norway, and New Zealand could borrow up to USD 30 billion (Fed 2020e).

For a comparison of the maximum size of each Fed swap line during the GFC, SDC, and COVID-19, see Figure 1. When introducing the new temporary swap lines on March 19, 2020, the Fed said the decision to raise the size of swap lines relative to the GFC levels reflected an expansion of the global economy since 2008 and the consideration that larger amounts might have been required to address dollar funding strains (Fed 2020a).
Figure 1: Maximum Authorized Size of Fed’s US Dollar Swap Lines across Crises (USD billions)

<table>
<thead>
<tr>
<th></th>
<th>GFC</th>
<th>SDC</th>
<th>COVID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of Canada</td>
<td>30</td>
<td>30</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Bank of Japan</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>European Central Bank</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Swiss National Bank</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Banco Central do Brasil</td>
<td>30</td>
<td>N/A</td>
<td>60</td>
</tr>
<tr>
<td>Bank of Korea</td>
<td>30</td>
<td>N/A</td>
<td>60</td>
</tr>
<tr>
<td>Monetary Authority of Singapore</td>
<td>30</td>
<td>N/A</td>
<td>60</td>
</tr>
<tr>
<td>Reserve Bank of Australia</td>
<td>30</td>
<td>N/A</td>
<td>60</td>
</tr>
<tr>
<td>Sveriges Riksbank</td>
<td>30</td>
<td>N/A</td>
<td>60</td>
</tr>
<tr>
<td>Banco de Mexico</td>
<td>30</td>
<td>N/A</td>
<td>60</td>
</tr>
<tr>
<td>Danmarks Nationalbank</td>
<td>15</td>
<td>N/A</td>
<td>30</td>
</tr>
<tr>
<td>Reserve Bank of New Zealand</td>
<td>15</td>
<td>N/A</td>
<td>30</td>
</tr>
<tr>
<td>Norges Bank</td>
<td>15</td>
<td>N/A</td>
<td>30</td>
</tr>
</tbody>
</table>

Sources: Allen and Moessner 2010; Fed 2010c; FRBNY 2021.

Research has not identified how the Fed selected the size limits on each swap line. Figure 2 provides context for the size of these lines relative to the reserves and GDP of the borrowing country.
Participants made extensive use of the Fed’s COVID-19 swap lines. Outstanding US dollar swap drawings peaked at USD 449 billion in aggregate during the week of May 27, 2020. See Figure 3 for a breakdown of outstanding swaps drawings in 2020. Four central banks did not draw on their dollar swap lines: Canada, Brazil, New Zealand, and Sweden. The five central banks with standing Fed swap lines made up the majority of outstanding drawings, in particular the ECB and BOJ (FRBNY n.d.b).

Source: FRBNY n.d.b.

<table>
<thead>
<tr>
<th>Bank</th>
<th>Billions $</th>
<th>Size as a % of Reserves</th>
<th>Size as a % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of Korea</td>
<td>60</td>
<td>13.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Monetary Authority of Singapore</td>
<td>60</td>
<td>16.2</td>
<td>17.4</td>
</tr>
<tr>
<td>Banco Central do Brasil</td>
<td>60</td>
<td>16.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Banco de Mexico</td>
<td>60</td>
<td>30.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Norges Bank</td>
<td>30</td>
<td>39.9</td>
<td>8.3</td>
</tr>
<tr>
<td>Danmarks Nationalbank</td>
<td>30</td>
<td>41.2</td>
<td>8.5</td>
</tr>
<tr>
<td>Sveriges Riksbank</td>
<td>60</td>
<td>103</td>
<td>11</td>
</tr>
<tr>
<td>Reserve Bank of Australia</td>
<td>60</td>
<td>141</td>
<td>4.5</td>
</tr>
<tr>
<td>Reserve Bank of New Zealand</td>
<td>30</td>
<td>218.5</td>
<td>14.2</td>
</tr>
</tbody>
</table>
9. **Process for Utilizing the Swap Agreement**: The FOMC chairman approved all swap drawing requests either directly or indirectly by approving a schedule of drawings to be maintained by the FRBNY.

Each request to draw on US dollar swap lines requires approval by the FOMC chairman. The chairman may also elect to approve a schedule of anticipated drawings with approval of individual requests under the schedule delegated to the manager of the System Open Market Account (FOMC 2021).

Once approved for a swap draw (or a schedule of draws), the Fed purchases a set amount of foreign currency from the respective foreign central bank in exchange for US dollars at the market spot rate. The foreign currency remains as collateral in the Fed’s account at the foreign central bank until the reversal of the swap. Meanwhile, the Fed transfers dollars to the foreign central bank’s account at the FRBNY (Potter 2017).

10. **Downstream Use of Borrowed Funds**: The Fed’s counterparty central banks draw on the swap lines to lend dollars downstream in their jurisdictions.

Foreign central banks with Fed swap lines use the proceeds of swap drawings to lend dollars downstream (dollar operations) to their domestic counterparties (banks). The foreign...
central bank’s dollar operations are typically structured as repurchase operations (repos), providing dollar liquidity secured by collateral denominated in the foreign central bank’s currency. These dollar operations follow a schedule preapproved by the Fed (Choi et al. 2022).

Choi et al. (2022) describes the steps of dollar operations as follows:

(a) The foreign central bank (FCB) receives approval from the Fed for a schedule of downstream dollar liquidity operations in its jurisdiction.

(b) The FCB conducts a scheduled dollar auction for its counterparties who submit bids.

(c) The FCB draws on its Fed swap line, receiving dollars.

(d) FCB then lends these dollars to its counterparties.

The Fed stated in its swap lines FAQs that the FCB determines the terms of the downstream lending operations to the FCB’s counterparties, including the method of allocation, eligible institutions, and collateral requirements (Fed 2020a).

When the foreign central bank then lends dollars to a counterparty in its jurisdiction, the dollars transfer from the foreign central bank’s FRBNY account to the account of the clearing bank that the borrowing counterparty uses to clear its dollar transactions (Potter 2017). According to Simon Potter, former executive vice president and head of the Markets Group at the FRBNY:

By using its account on the books of the Fed to receive swap proceeds and distribute them, rather than accounts at private-sector bank, the central bank avoids much of the risk of public identification of its borrowers and itself avoids the credit risk, and other risks (operational, reputational, etc.) of a private sector bank account. Moreover, the overall size and ramping up of potential liquidity operations can be virtually unlimited, subject only to the policy limitations set by the central bank counterparties themselves. (Potter 2017, footnote 15)

11. Duration of Swap Draws: Participants could borrow dollars for up to 88 days; actual draws ranged from seven- to 84-day maturities.

Under the 2020 swap lines, the Fed extended dollar swaps up to a maximum maturity of 88 days, though the longest maturity offered during COVID-19 was slightly less at 84 days (FRBNY n.d.b; FRBNY 2021). Between 2014 and the 2020 enhancements, the Fed’s swap operations had typically been confined to seven-day maturities (FRBNY n.d.b). On March 15, 2020, Fed approved dollar swaps with maturities of up to 84 days in support of the standing swap line central banks’ decision to offer downstream dollar operations of extended maturities (FRBNY 2021). During the GFC and European Sovereign Debt Crisis, the Fed also provided longer maturities on its swap lines, typically 84 days or less (FRBNY n.d.b).
The frequency of the Fed’s swap operations with foreign central banks corresponds with the foreign central banks’ downstream dollar lending operations, which follow a schedule approved by the Fed (Choi et al. 2022; FRBNY 2021). The Fed’s standing dollar swap operations are conducted on a weekly basis. On March 20, the Fed and the standing swap line central banks also increased the frequency of the standing swap operations for seven-day maturities from weekly to daily, keeping 84-day maturity operations at weekly offerings (FRBNY 2021). For the temporary swap lines, the frequency of swap operations varied by borrower (FRBNY n.d.b).

12. Rates and Fees: The interest rate on swap drawings was calculated as the overnight indexed swap rate plus 25 bps; central banks with standing swap lines paid this rate to the Fed, while those with temporary swap lines used the rate as the floor for their competitive downstream dollar auctions and remitted all proceeds to the Fed. Actual interest paid ranged between 0.29% and 1.09% from March 2020 to December 2021.

The Fed prices its swap lines as backstop facilities, above rates in regular market conditions, to enable their use in crises while discouraging their use in normal times, when they might crowd out private market alternatives (Choi et al. 2022). Prior to the COVID-19 changes, the interest rate on standing swap lines was the USD OIS plus 50 bps (FRBNY 2021).

On March 15, the FOMC lowered the interest rate on the standing swap lines by 25 bps to the OIS rate plus 25 bps (FRBNY 2021). For the standing swap lines, the foreign central banks used the same rate for their downstream dollar operations, which they offered on a full-allotment basis (Bahaj and Reis 2020; FRBNY n.d.b). For the temporary, capped swap lines, the foreign central banks provided dollars downstream in competitive auctions, typically setting the minimum bid rate at the Fed’s swap rate of OIS plus 25 bps (Bahaj and Reis 2020). Based on the downstream auction data and the rate the Fed received, these foreign central banks then remitted the proceeds of the auctions to the Fed (BOK 2020; DNB 2020; Norges Bank 2020). As a result, the actual interest paid to the Fed through the temporary swap lines varied more than that of the standing swap lines. Between the reduction of the spread on March 15 through the end of 2020, interest paid on swaps ranged between 0.29% and 1.09% (FRBNY n.d.b). See Figure 4.
Figure 4: Interest Paid on Swap Draws, March 2020–December 2021

<table>
<thead>
<tr>
<th>Bank Name</th>
<th>Interest Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of England</td>
<td>0.29%</td>
</tr>
<tr>
<td>Bank of Japan</td>
<td>0.29%</td>
</tr>
<tr>
<td>European Central Bank</td>
<td>0.29%</td>
</tr>
<tr>
<td>Swiss National Bank</td>
<td>0.29%</td>
</tr>
<tr>
<td>Bank of Korea</td>
<td>0.29%</td>
</tr>
<tr>
<td>Banco de Mexico</td>
<td>0.32%</td>
</tr>
<tr>
<td>Danmarks Nationalbank</td>
<td>0.29%</td>
</tr>
<tr>
<td>Monetary Authority of Singapore</td>
<td>0.30%</td>
</tr>
<tr>
<td>Norges Bank</td>
<td>0.32%</td>
</tr>
<tr>
<td>Reserve Bank of Australia</td>
<td>0.30%</td>
</tr>
</tbody>
</table>

Note: Counterparties included in the figure are all central banks that drew on the swap lines. Those in bold are the central banks with standing swap lines.

Source: FRBNY n.d.b.

13. Balance Sheet Protection: Aside from the Fed’s selectivity on counterparty eligibility, the Fed did not note additional measures to protect its balance sheet.

As indicated in the Fed’s Swap Lines FAQs press release, the Fed did not bear direct exchange rate risks or other market risks because of the structure of the swap lines. Both the spot and forward legs of the swap draw were calculated at the same market exchange rate at the time of the initial drawing. This is typical of conventional central bank swap lines, and it eliminated the Fed’s exposure to exchange rate fluctuations (Fed 2020a). The foreign central bank faced counterparty credit risk when it provided dollars through the downstream dollar swap auctions to domestic financial institutions. The Fed itself faced limited credit risk because its counterparties were the foreign central banks (Fed 2020a). Although the FOMC transcripts from 2020 meetings are yet to be released, transcripts from the GFC era provide additional insight into how Fed officials viewed risks of each counterparty central bank. In October 2008, the Fed discussed at length the approval of the last four central bank swap lines, to Brazil, Mexico, Singapore, and South Korea. According to the transcripts, unlike the swap lines with major central banks, the Fed placed addition set-off rights for these four swap lines. In the event of a default, the Fed would be able to take other assets of the defaulting central bank held at the FRBNY (FOMC 2008). It is unclear whether or not these set-off rights, discussed in 2008, applied to the COVID-19-era swap lines.

14. Other Restrictions: The Fed uses its swap lines only to mitigate liquidity strains in financial markets.

Under the Authorization for Foreign Currency Operations, the FOMC stipulates that all swap line operations “shall generally be directed at countering strains in financial markets in the United States or abroad, or reducing the risk that they could emerge, so as to mitigate their effects on economic and financial conditions in the United States” (FOMC 2020b, 2).
15. Other Options: Research could not discover other options considered.

We have not determined other options considered.

16. Exit Strategy: The temporary swap lines were extended three times before expiring in December 2021; the standing swap lines remain in place.

While the Fed’s standing swap lines carry no expiration date, the FOMC reviews the lines and has voted to renew the arrangements annually at its April or May FOMC meeting (FOMC 2020f). In its March 15, 2020, press release, the Fed said the enhancements to its standing swap lines would remain “as long as appropriate to support the smooth functioning of U.S. dollar funding markets” with no set expiration (Fed 2020c). Starting July 1, 2020, the ECB, BoE, BOJ, and SNB\(^6\) decided, in consultation with the Fed, to reduce the frequency of their seven-day maturity downstream dollar operations from daily to three times per week. On September 1, these central banks switched to weekly dollar operations. On July 1, 2021, these central banks decided to discontinue 84-day maturity dollar operations (Bank of Italy n.d.).

In the March 19, 2020, announcement of the temporary dollar swap lines with nine central banks, the Fed said these arrangements would be in place for at least six months, authorized until September 30, 2020 (Choi et al. 2022; Fed 2020e). On July 29, the FOMC extended both the temporary dollar swap lines and the FIMA Repo Facility through March 31, 2021. The Fed extended these arrangements again in December 2020, with a new expiration date of September 30, 2021 (FRBNY 2021). Following another extension in June 2021, the temporary swaps facility finally expired on December 31, 2021 (FRBNY 2022). The Fed announced in July 2021 that the FIMA Repo Facility would become a permanent standing facility (Fed 2021).

\(^6\) The BoC is excluded as it never drew on its Fed swap line.
References and Key Program Documents

Summary of Program

*FAQs on the Fed’s swap lines, published when the Fed announced the establishment of temporary swap lines with foreign central banks in March 2020.*
https://ypfs.som.yale.edu/node/22589

*Document listing FIMA repo FAQs.*
https://ypfs.som.yale.edu/node/22418/

Legal/Regulatory Guidance

*Annual pamphlet containing FOMC rules and authorizations.*
https://ypfs.som.yale.edu/node/22581/

*Annual pamphlet containing FOMC rules and authorizations.*
https://ypfs.som.yale.edu/node/22422/

https://ypfs.som.yale.edu/node/22591/

https://ypfs.som.yale.edu/node/23012/

*Annual pamphlet containing FOMC rules and authorizations.*
https://ypfs.som.yale.edu/node/22582

*Web page outlining central bank swap arrangements.*
https://ypfs.som.yale.edu/node/21539
Section of the Federal Reserve Act outlining the legal authority to conduct foreign currency operations.  
https://ypfs.som.yale.edu/node/16232/

Press Releases/Announcements

Results from the Bank of Korea’s first downstream dollar auction in 2020.  
https://ypfs.som.yale.edu/node/22962/

Webpage reporting results from downstream dollar auctions in 2020.  
https://ypfs.som.yale.edu/node/22963/

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

Fed press release announcing the reinstatement of dollar liquidity swap lines with the ECB, BoC, BoE, and SNB.  
https://ypfs.som.yale.edu/node/21876/

Fed press release announcing the reestablishment of the Fed's swap with the BOJ.  
https://ypfs.som.yale.edu/node/22576/

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


Press release announcing expansion of standing swaps.

https://ypfs.som.yale.edu/node/22433/


Press release on discussing changes to the Fed’s standing swap lines and other policy measures.

https://ypfs.som.yale.edu/node/22590


Press release announcing nine new temporary swaps.

https://ypfs.som.yale.edu/node/22434/


Press release discussing an increase in frequency of dollar swap operations from weekly to daily.

https://ypfs.som.yale.edu/node/22583


Press release announcing creation of the FIMA Repo Facility.

https://ypfs.som.yale.edu/node/22436/


Press release announcing the conversion of the FIMA Repo Facility to a standing facility.

https://ypfs.som.yale.edu/node/22440/


Webpage providing results from downstream dollar auctions.

https://ypfs.som.yale.edu/node/23013/
**Reports/Assessments**

*Report discussing changes to ECB-Fed swaps.*  
https://ypfs.som.yale.edu/node/22966/

*Policy review discussing FIMA and swaps.*  
https://ypfs.som.yale.edu/node/22462/

https://ypfs.som.yale.edu/node/22300

*Fed annual report covering 2010.*  
https://ypfs.som.yale.edu/node/22393

*Fed webpage describing central bank swap lines.*  
https://ypfs.som.yale.edu/node/21501

*Weekly release detailing the Fed’s balance sheet.*  
https://ypfs.som.yale.edu/node/22445/

*FOMC transcript with discussions on swap lines.*  
https://ypfs.som.yale.edu/node/14326

https://ypfs.som.yale.edu/node/23010/
Minutes of unscheduled FOMC meeting discussing the enhancements to standing swap lines. 
https://ypfs.som.yale.edu/node/19151

Minutes detailing the FOMC meeting of April 28–29, 2020. 
https://ypfs.som.yale.edu/node/22443/

Annual FRBNY report describing the Fed’s market activity. 
https://ypfs.som.yale.edu/node/18538/

Annual FRBNY report describing the Fed’s market activity. 
https://ypfs.som.yale.edu/node/22585

Data pulled from FRBNY site disclosing transaction details of central bank swap operations. 
https://ypfs.som.yale.edu/node/22466

Speech from FRBNY official describing banking services provided to the foreign official sector. 
https://ypfs.som.yale.edu/node/22447/

Report discussing history of FOMC disclosure. 
https://ypfs.som.yale.edu/node/23011/

Key Academic Papers

NBER working paper covering the swap arrangements during the COVID-19 crisis. 
https://ypfs.som.yale.edu/node/22587/
*Overview of central bank responses to the GFC.*
https://ypfs.som.yale.edu/node/19791

*Paper discussing the operations of the Fed’s swap lines during the COVID-19 crisis.*
https://ypfs.som.yale.edu/node/22586

*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-crises/vol5/iss1/20

*Case study discussing the Fed’s swap line to five countries.*
https://elischolar.library.yale.edu/journal-of-financial-crises/vol5/iss1/19

*Case study discussing the US Foreign and International Monetary Authorities liquidity facility.*
https://elischolar.library.yale.edu/journal-of-financial-crises/vol5/iss1/23