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United States: Swaps to the Bank for International Settlements and Deutsche Bundesbank, 1967\(^1\)

Vincent Arnold\(^2\)

Yale Program on Financial Stability Case Study
July 21, 2023

Abstract

The devaluation of British sterling in November 1967 caused major disruptions in currency markets; led to concerns that the US dollar, the lynchpin of the global gold standard system, would also devalue; and threatened the stability of financial markets, particularly the market for US dollars overseas. The Federal Reserve and European central banks used a network of preexisting swap lines in the ensuing weeks to stabilize exchange rates, defend the gold standard, and calm global markets. In most cases, central banks used these swaps to stabilize exchange rates. However, the main purpose of several of these swaps was arguably to ensure US dollar liquidity in markets outside the United States in the wake of the sterling devaluation. For that reason, they are relevant to the New Bagehot series, which seeks to draw lessons about crisis-management tools that promote financial stability. This case focuses on the Federal Reserve’s collaborations with the Bank for International Settlements (BIS) and West Germany’s central bank, the Deutsche Bundesbank, to provide dollar liquidity to the eurodollar market at the end of 1967. In these arrangements, the parties used the swaps to acquire dollars that they could then lend to European banks. The BIS drew USD 346 million on its line with the Fed; in an unusual arrangement, the Fed provided USD 300 million to the Bundesbank by drawing on its swap line. The BIS fully repaid all swap obligations by January 1968. The Fed fully repaid all swap obligations to the Bundesbank by March 1968. The Federal Open Market Committee authorized the expansion of the BIS and German facilities to USD 1 billion on March 17, 1968.

Keywords: Bank for International Settlements, BIS, Bretton Woods, central bank swap line, Deutsche Bundesbank, eurodollar, 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-crises/.

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Overview

On November 19, 1967, the United Kingdom devalued sterling by 14.3% against gold. The devaluation caused major disruptions in currency markets; led to concerns that the US dollar, the lynchpin of the global gold standard system, would also devalue; and threatened the stability of financial markets, particularly the market for US dollars overseas (McCauley and Schenk 2020).

Global central banks used a network of preexisting swap lines in the ensuing weeks to stabilize exchange rates, defend the gold standard, and calm global markets. In most cases, central banks used these swaps to stabilize exchange rates.

However, the main purpose of several of these swaps was arguably to ensure US dollar liquidity in markets outside of the United States in the wake of the sterling devaluation. For that reason, they are relevant to the New Bagehot series, which seeks to draw lessons about crisis-management tools that promote financial stability.

This case focuses on the Federal Reserve’s collaborations with the Bank for International Settlements (BIS) and West Germany’s central bank, the Deutsche Bundesbank, to provide dollar liquidity to the eurodollar market at the end of 1967. In these arrangements, the parties used the swaps to acquire dollars that they could then lend to European banks. Five other central banks participated in swaps with the Fed in late 1967, but the main purpose of most of these transactions was to defend the dollar (see Key Design Decision No. 2, Part of a Package).

Key Terms

| Purpose: to stabilize currency flows in the eurodollar market (McCauley and Schenk 2020) |
| Fed, BIS, Bundesbank |
| Bilateral reciprocal |
| US dollars, deutsche marks |
| BIS: Aug. 1965; Bundesbank: Aug. 1962 |
| BIS: USD 300 million, increased to 600 million; Bundesbank: USD 400 million, increased to 750 million |
| BIS: USD 87 million on Dec. 11, 1967; Bundesbank: Not available |
| The BIS lent dollars downstream to eurodollar market participants via bank deposits; The Bundesbank lent dollars downstream to German commercial banks via swaps |
| The BIS fully repaid all swap obligations by January 1968; the facility was expanded to USD 1 billion on March 17, 1968; The Fed fully repaid all swap obligations to the Bundesbank by March 1968; the facility was expanded to USD 1 billion on March 17, 1968 |
| The BIS swap line was complemented by another Fed-BIS swap line for Swiss francs that the Fed used mainly to defend the dollar |

Journal of Financial Crises Vol. 5 Iss. 1
We focus on the Fed’s swaps with the BIS and Bundesbank because their stated purpose was to provide liquidity to eurodollar markets.\(^3\) Moreover, the Fed described these transactions as having been particularly impactful in lowering eurodollar rates, arguably for financial stability reasons (Coombs 1968a).\(^4\)

The strains in eurodollar markets were partly seasonal. Swiss commercial banks, wanting to show Swiss franc assets at year-end, would sell dollars for Swiss francs to the Swiss National Bank (SNB), leaving a glut of dollars at the SNB\(^5\) but a shortage in the market, drying up dollar liquidity and thereby pushing rates higher. Foreign exchange–related (and in this case sterling-related) tensions could also result in eurodollar rate spikes, since the dollar was a vehicle currency (see Appendix A). When, for example, an investor wanted to sell sterling for Swiss francs, they would first sell sterling for dollars and then sell dollars for Swiss francs, leaving the SNB with dollars and removing dollar liquidity from the market (Bordo, Humpage, and Schwartz 2014).

Another possible reason for elevated eurodollar rates was a risk premium for holding dollars. In other words, depositors—worried about a possible dollar devaluation—demanded higher returns for holding dollars. Our research was unable to uncover whether the dollar-liquidity-draining currency phenomenon or the dollar risk premium phenomenon was primarily the cause of the 1967 year-end eurodollar market rate spike, and it is entirely possible that the driving force was a combination of both.

The devaluation of the pound sterling in late 1967 significantly aggravated market conditions. Investors feared that speculation against sterling would result in contagion and additional pressure would mount against the dollar (Bordo, Humpage, and Schwartz 2014; Bordo, Monnet, and Naef 2017). The resulting market outflows from the dollar and into continental European currencies pushed eurodollar rates even higher. Elevated eurodollar

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\(^3\) The eurodollar market, which now refers to any non-US market for US dollars, came into existence in 1957, and by 1962 it had become an interbank dollar market in London. It was largely an avenue for regulatory arbitrage, initially to avoid Bank of England regulations, but later to avoid US reserve requirements, bank deposit yield cap regulations, and deposit insurance costs. US bank branches paid higher rates in the eurodollar market than in domestic (US) money markets (McCauley and Schenk 2020).

\(^4\) Because of the fixed exchange rate system, drawing hard boundaries between the purposes and uses of swap lines during the Bretton Woods era is difficult: pressures in the eurodollar market affected the dollar exchange rate, and liquidity provision to those markets was part of foreign exchange intervention (McCauley and Schenk 2020). Indeed, even in the case of the explicitly eurodollar market–focused BIS swap line, the Fed used the line “particularly when the [eurodollar market] was creating special problems in the exchange market” and with dual consideration for the defense of sterling (to shield sterling from pressures in the eurodollar market) (MacLaury 1969). Inasmuch, the Fed’s swap operations with the BIS and Bundesbank also served to counter feedback into the US market and to safeguard monetary stability. For a discussion of the use of central bank swap lines in foreign exchange (and thereby gold) intervention in the context of fixed exchange rates, see Appendix A.

\(^5\) In 1962, the Fed established a dollar-for-Swiss franc swap line with the SNB that could be used to absorb the SNB’s excessive amounts of dollars through cover operations. The swap line was for up to USD 100 million to provide dollar liquidity to the SNB in exchange for Swiss francs. The majority of the Fed’s cover operations through 1971 were with the SNB (Bordo, Humpage, and Schwartz 2014).
rates also threatened spillover effects in foreign exchange markets and domestic (US) money markets (Coombs 1968a; FOMC 1967b; McCauley and Schenk 2020).

Figure 1 shows eurodollar yield curves at three inflection points in November and December of 1967. Figure 2 shows a stylized subset of the same data, specifically for the November rate spike that occurred before market tensions eased.

**Figure 1: Eurodollar Yield Curves, November–December 1967**

![Eurodollar Yield Curves](image)

*Source: FOMC 1967b.*
In 1967, the Fed maintained a dollar-for-European-currency swap line with the BIS (the BIS swap line, originally entered into in 1965), which permitted the BIS to request dollars in exchange for equivalent amounts of deutsche marks (DM), Austrian schillings, Belgian francs, French francs, Italian lire, Netherlands guilders, Swedish kronor, or Swiss francs as well as Canadian dollars, Japanese yen, and pounds sterling (Fed 1968). In practice, most of the BIS draws on the swap line involved the BIS drawing dollars against marks (McCauley and Schenk 2020). The BIS swap line was intended to be used for eurodollar market interventions.

In response to the Fed’s request that the BIS reactivate its European swap line, the BIS initially agreed that “no more than a token intervention” in the eurodollar market was appropriate (FOMC 1967a, 6). However, conditions continued to deteriorate, and between November 13 and December 27, the BIS drew a total of USD 346 million from the European swap line in 10 draws, mostly with maturities of one month. Figure 3 shows the BIS’s swap draws with associated repayment periods and interest rates.

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6 The Fed also had in place a first swap line with the BIS that solely permitted the exchange of dollars for Swiss francs. Federal Reserve Bank of New York (FRBNY) Vice President Charles Coombs said in a confidential 1965 memorandum to the Federal Open Market Committee (FOMC) about talks with the BIS over the European-currency swap line that the fact that the (then only) BIS swap line was denominated in Swiss francs was “partly a matter of geographic accident; the BIS happened to be in Switzerland” (Coombs 1965, 2). He said that there was “no inherent reason” that the BIS couldn’t obtain other European currencies and serve to supplement existing swap facilities, such that the Fed could obtain foreign currency liquidity from the BIS when it had already drawn its maximum from bilateral swaps with European central banks (Coombs 1965, 2–3).
The BIS then lent dollars downstream to eurodollar market participant banks via deposits at rates above the rate it paid to the Fed. While we found no explicit reference to risk premiums in 1967, in similar 1966 year-end eurodollar market interventions, the BIS received market rates on its downstream lending to commercial banks but paid a lower rate to the Fed in recognition that it was taking uncollateralized credit risk in the form of deposits (whereas collateralized downstream lending is typical in central bank swap line arrangements) (McCauley and Schenk 2020).

In the autumn of 1967, as strains in the eurodollar market developed, the Bundesbank entered into dollar swaps, with commercial banks, worth USD 860 million, USD 600 million of which it channeled into the eurodollar market. Half of the Bundesbank’s eurodollar market interventions, USD 300 million, were funded from its swap line with the Fed, which the parties had originally entered into on August 2, 1962, and which in November 1967 was authorized for up to USD 400 million. Unlike most of the Fed’s swap lines, the Fed was the drawing party under the swap line and provided dollars to the Bundesbank that it used for the eurodollar funding operations. These, according to an FRBNY report, were “especially effective in bringing down [eurodollar] rates” (Coombs 1968a, 51; Bundesbank 1968). Since the Fed was the drawing party, it received West German marks from the Bundesbank and deposited dollars as collateral in the Bundesbank’s account at the Fed, which the Bundesbank then moved into West Germany to lend downstream; normally, collateral currency is held by the lending central bank (see Figure 6 at Key Design Decision No. 2, Part of a Package) (Leimone 1967). Our research was unable to uncover whether the Bundesbank

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7 In the spring of 1967, Germany maintained “plenty of dollars” but pledged voluntarily to avoid exchanging those excess dollars for gold at the US Gold Window (McKinsey 1967, 14).
action was prompted by a request from the Fed, but the direction of the transaction (Fed drawing) indicates that the Fed paid the Bundesbank for the swap transaction rather than the Bundesbank paying the Fed (which would be expected, given that the Bundesbank used dollars for downstream lending) (see Key Design Decision No. 10, Downstream Use of Borrowed Funds).

From July to November 1967, the Fed increased the sizes of its swap lines with the BIS and Bundesbank by USD 300 million and USD 350 million, respectively, as shown in Figure 4. In March 1968, the Fed authorized expansion of each swap line to USD 1 billion (Coombs 1968b).

**Figure 4: Federal Reserve Swap Lines to the BIS and Bundesbank (USD million), 1967–1968**

<table>
<thead>
<tr>
<th>Date</th>
<th>BIS Line</th>
<th>Bundesbank Line</th>
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<tbody>
<tr>
<td>January 1, 1967</td>
<td>200</td>
<td>400</td>
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<tr>
<td>July 20, 1967</td>
<td>300</td>
<td>400</td>
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<tr>
<td>November 30, 1967</td>
<td>600</td>
<td>750</td>
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<tr>
<td>March 18, 1968</td>
<td>1,000</td>
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Note: Entries in italics represent expansions made during the 1967 year-end operations. The BIS line represents the BIS’s second swap line against European currencies, in practice deutsche marks.

Source: Coombs 1968b

By January 1968, the BIS had fully repaid the USD 346 million obligation outstanding as a result of the year-end operations. By March 8, 1968, the Fed had fully repaid its commitments under its drawings on the Bundesbank swap line (Coombs 1968a). The Federal Open Market Committee (FOMC) voted to allow both lines to lapse in its November 17, 1998, meeting, when Board of Governors members described many of the Fed’s various central bank swap lines as “increasingly obsolescent” in light of years of disuse and the advent of the European Central Bank (Fed 1999; FOMC 1998, 36).

**Summary Evaluation**

The head of foreign exchange operations for the FRBNY reported that the central bank actions helped to “induce refloows . . . of hot money” into continental European currency markets (Coombs 1968a) and that, “in response to [BIS] smoothing operations, the [eurodollar] market continued to function efficiently, with no more than a normal seasonal rise in rates” (Coombs 1968a, 40). The report also said that coordinated actions with the Bundesbank in November were “especially effective in lowering [eurodollar] rates—from nearly 7 percent per annum for three months to about [6.25] percent by early December” (Coombs 1968a, 51). In its 1967 annual report, the Bundesbank said that its dollar-providing operations “contributed to the relaxation of tensions in Euro-currency markets” (Bundesbank 1968, 38). In its 1967 annual report, the BIS said that eurodollar rates fell as a result of the interventions (BIS 1968).

Some scholars have said that the Fed’s legal mandate to partake in foreign-exchange operations in the 1960s and 1970s was unclear (Bordo, Humpage, and Schwartz 2014).
Scholars at the BIS have said that “substantial” BIS dollar lending in November “did not seem to succeed” in signaling forthcoming dollar liquidity from the Fed and the Bundesbank (McCauley and Schenk 2020, 32). Those scholars said that the eurodollar operations “seemed to exert a more muted impact, but also faced a greater challenge” (from the sterling devaluation) as compared with previous Fed-BIS eurodollar interventions (McCauley and Schenk 2020, 32). On the whole, though, the BIS scholars said the eurodollar interventions were largely successful in limiting eurodollar rate spikes, even in the context of “a greater challenge” because of pressure on the dollar resulting from the sterling devaluation (McCauley and Schenk 2020, 32).

Federal Reserve Board Governor Sherman Maisel was “concerned over a seeming conflict” between the Fed’s BIS eurodollar operations, which promoted credit overseas, and the Fed’s domestic goal of limiting reserve expansion to tighten credit (MacLaury 1969, 1).

Figure 5 shows eurodollar rates in the relevant scope of the swap operations.

**Figure 5: Eurodollar Rates and BIS Deposits, November–December 1967**

![Graph showing eurodollar rates and BIS deposits](Image)

Sources: Datastream; BIS, BISA 7.24(3) – Banking Daily Sheets, vol. 25, November - December 1967.

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

1. Purpose and Type: This case focuses on the Fed’s swaps with the BIS (through its European swap line) and the Bundesbank in late 1967; their purpose was to provide US dollar funding liquidity to address the disruption in eurodollar markets that the sterling devaluation had caused.

Swap lines were the main tool that the Fed used to defend the dollar and maintain the gold standard during the 1960s. However, the Fed and other central banks also used swaps to promote liquidity in the eurodollar market. Eurodollar markets were typically stressed at year-end by seasonal supply shocks that resulted in elevated eurodollar rates. The devaluation of the pound sterling contributed to steep spikes in eurodollar rates in late 1967. Elevated eurodollar rates threatened spillover effects in foreign exchange markets and in domestic (US) money markets (McCauley and Schenk 2020).

This case study focuses on two swap lines: the Fed-BIS European swap line and the Fed-Bundesbank swap line, which the Fed used to promote liquidity in the eurodollar market in late 1967. Five other central banks participated in swaps with the Fed in late 1967, but the main purpose of most of these transactions was to defend the dollar (see Key Design Decision No. 2, Part of a Package). We focus on the activities of the BIS and the Bundesbank because of their size and because the Fed described their actions as being particularly impactful in lowering eurodollar rates, arguably for financial stability reasons (Bordo, Humpage, and Schwartz 2014; Coombs 1968a).

The Fed and BIS had established the Fed-BIS European swap line in 1965. It was a bilateral reciprocal line that permitted the BIS to borrow US dollars in exchange for deposits of any of eight European currencies as collateral (deutsche marks, Austrian schillings, Belgian francs, French francs, Italian lire, Netherlands guilders, Swedish kronor, and Swiss francs) as well as Canadian dollars, Japanese yen, and pounds sterling (Fed 1968). During the 1967 operations that are the focus of this case, the BIS always provided marks to the Fed as collateral. The swap arrangement was reciprocal and also permitted the Fed to borrow any of the 11 currencies from the BIS in exchange for deposits of dollars as collateral, although in practice, the Fed and BIS swapped dollars and deutsche marks (Leimone 1967).

The Fed and the BIS established the swap line in 1965 for a period of six months, but it had been renewed by mutual consent (Fed 1968; Leimone 1967).

The Fed-Bundesbank swap line permitted the Bundesbank to borrow dollars in exchange for deposits of marks as collateral. The arrangement was reciprocal and also permitted the Fed to borrow marks from the Bundesbank in exchange for deposits of dollars as collateral. The Fed and Bundesbank established the swap line in 1962 for a period of six months, but it was renewed by mutual consent (Fed 1968; Leimone 1967).

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8 In at least one instance, the BIS entered into swap arrangements with the Fed in more than one foreign currency; it was the Fed’s only swap counterparty to do so by December 1967 (Leimone 1967).
2. Part of a Package: The Fed and other central banks used extensive swap lines and other measures in late 1967 to defend the dollar following the sterling devaluation.

The Fed maintained 16 swap lines globally in 1967. The main purpose of these swap lines was to defend the dollar and the gold standard. The Fed used swaps at times to address unwanted holdings of short-term fluctuations in official dollar reserves at foreign central banks (cover operations—see discussion at Overview), and at times to fund spot market intervention (Bordo, Humpage, and Schwartz 2015). Going into the 1967 year-end crisis, the Fed maintained swap lines with 15 central bank (including the BIS) counterparties,\(^9\) the largest of which was with the Bank of England (Coombs 1968b). (For an illustration of aggregate swap facility usage by counterparty from 1962 to 1971, see Figure 9 at Appendix B.)

When the governors of the central banks of the United States, Germany, Switzerland, Belgium, Italy, the United Kingdom, and the Netherlands convened in Frankfurt on November 26, 1967, to collaborate in response to the sterling devaluation, they decided to coordinate central bank actions to intervene in the forward eurodollar market. Five central banks (the central banks of Italy, Germany, Switzerland, the Netherlands, and Belgium) in addition to the BIS intervened in the eurodollar forward market at year-end 1967, sometimes in coordination with the Fed. We focus on the action of West Germany’s central bank and BIS in this case because the Fed noted that their actions were particularly targeted and effective (Coombs 1968a).

The Fed swapped USD 1.8 billion with European counterparties by late December to stabilize currency flows and to support the eurodollar market. The largest segment of this amount comprised Swiss franc swaps with the BIS and the SNB. (Coombs 1968a). Figure 6 shows the aggregate Fed swap draws outstanding and their associated counterparties.

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\(^9\) Those counterparties were: Austria, Belgium, the BIS, Canada, Denmark, France, Holland, Italy, Japan, Mexico, Norway, Sweden, Switzerland, the UK, and West Germany (Coombs 1968b).
While the primary goal of the swap operations with European central banks was to operate in forward markets to provide foreign exchange stability, a second-order goal was to induce reflow from continental European currencies back into the eurodollar market (FOMC 1968a). In practice, there were many reasons for the swap line activations. Scholars have noted that, “the distinctions between purposes can be hard to draw . . . pressures in offshore dollar markets may affect the dollar exchange rate; as a result, providing funding to these markets could be seen as part of or akin to [foreign exchange] intervention” (McCauley and Schenk 2020, 15). The FRBNY said that foreign exchange interventions and eurodollar market interventions were related: “sudden shifts of funds out of the [eurodollar] market . . . also had destabilizing effects on the exchange markets as well” (Coombs 1968a, 50). Leimone of the Federal Reserve Bank of Atlanta said, though, that “the drawings of the BIS probably should be distinguished from the others since these drawings were made to channel dollars into the [eurodollar] market” (Leimone 1967, 166).

While not directly related to the eurodollar market but to the extent that dollar fragility played a role in eurodollar market tightening, the US sold USD 1.5 billion of gold between November 18 and the end of December, defending the dollar’s gold peg and thus attempting to defend the currency; compared with recent previous activity, this was a huge quantity (Schenk 2010, 183). Between October 1, 1967, and January 1, 1968, the US lost 7.8% (USD 1 billion) of its monetary gold stock (NBER 2023).

While we found no evidence that the BIS did the same in 1967, the BIS in its eurodollar intervention at year-end in 1966 also sold USD 70 million–75 million in US Treasury bills and injected the dollar proceeds into the market (McCauley and Schenk 2020).

3. Legal Authority: The Federal Reserve Act and FOMC regulations, the Statutes of the BIS, and the Bundesbank Act provided the legal and regulatory basis for central bank swap lines for the respective parties.

Section 14 of the Federal Reserve Act provides that the Fed may transact “in the open market, at home or abroad, either from or to domestic or foreign banks, firms, corporations, or
individuals, cable transfers and bankers’ acceptances and bills of exchange . . .,” a section that, since Federal Reserve Board of Governors’ general counsel Howard Hackley’s 1961 interpretation, was interpreted by the Fed to authorize foreign exchange transactions, including forward and swap transactions (Bordo, Humpage, and Schwartz 2015; US Congress 1913, sec. 14).

The FOMC’s Authorization for System Foreign Currency Operations (FX Authorization) authorized the FRBNY to carry out all spot and forward transactions in authorized currencies on behalf of the FOMC. Any agreements or understandings “concerning the administration of the accounts maintained at the [FRBNY] with foreign banks” were reviewed and approved by the FOMC (Fed 1968, 90-91). The FX Authorization permitted the investment of swap proceeds in accordance with Section 14(e) of the Federal Reserve Act (Fed 1968).

The Fed’s Foreign Currency Directive authorized System Open Market Account (SOMA) operations in foreign currencies to “aid in making the system of international payments more efficient . . . further monetary cooperation with central banks . . . and help insure that market movements in exchange rates . . . reflect the interaction of underlying economic forces” (Fed 1968, 92).

The BIS Statutes authorize the BIS to act as correspondent for any central bank, transact in foreign currencies with central banks, and open and maintain deposits with and for central banks (BIS 1930, art. 21).

The Bundesbank Act of 1957 gave the Bundesbank the authority to conduct foreign exchange transactions, while reserving authority over decisions about foreign exchange transactions for the Board of Directors of the Governing Board (Bundestag 1957, sec. 7[3], 19[8-9]).

4. Governance: The FOMC managed the swaps at a high level and disclosed swap details in annual reports.

The entering into swap lines, their governance, and any agreements or understandings “concerning the administration of the accounts maintained at the [FRBNY] with foreign banks” were reviewed and approved by the FOMC (Fed 1968, 90-91). Both the Fed (Board of Governors) and the FRBNY specifically disclosed the size of the BIS European and Bundesbank swap lines in their annual reports for 1967 (Fed 1968; FRBNY 1968).

The BIS disclosed the size of its swap lines in its annual report for fiscal year 1967 (BIS 1968). The BIS documented details about the use of its swap funds and activities in its Daily Banking Sheets, but did not disclose them to the public (they are housed in the BIS archives) (McCauley and Schenk 2020).

Fed officials worked closely with the Treasury. The Fed was required to advise the Secretary of the Treasury with respect to foreign currency operations; and FOMC staff officers were required to communicate foreign currency operations information to Treasury staff (Fed 1968).
If the Fed failed to pay down its obligations on a swap, the Treasury backstopped the Fed, providing the needed foreign currency by selling foreign-currency-denominated certificates or bonds. These actions shifted exposure from the Fed to the Treasury (albeit while extending maturity), which some scholars have said threatened the Fed’s independence (Bordo, Humpage, and Schwartz 2014).

5. Administration: The FOMC authorized foreign currency operations and collaborated with foreign central banks and the BIS.

The FX Authorization said that the FRBNY should, as a practice, coordinate foreign currency transactions with foreign central banks but could not agree to maintain any specific balance with a foreign central bank unless authorized by the FOMC. The FX Authorization permitted the investment of swap proceeds in accordance with Section 14(e) of the Federal Reserve Act (Fed 1968). This prohibited the investment of foreign currency proceeds in foreign government debt (Leimone 1967). In the event that the FOMC was unavailable, a subcommittee consisting of the chairman and vice chairman of the FOMC and the vice chairman of the Board of Governors could authorize foreign currency operations; any and all subcommittee actions had to be reported promptly to the FOMC (Fed 1968). Draws on Fed swap lines could be arranged within “a few hours” via telephone consultation (Leimone 1967, 162).

6. Communication: The Federal Reserve System disclosed the swap line, as did the BIS and Bundesbank, but research did not uncover any press releases about swap draws.

The FOMC published a press release for its November 27, 1967, meeting with a Record of Policy Actions attached that announced the BIS swap line usage and size increases. In its announcement, the FOMC described the expansion of the lines as necessary to (1) discourage large accumulations of dollars in foreign central bank reserves and (2) to encourage reflows out of continental European currencies into the eurodollar market (FOMC 1968a). The FRBNY published a biannual report on “Treasury and Federal Reserve Foreign Exchange Operations” in its Monthly Review every March and September. In these reports in 1968, the head of foreign exchange operations discussed the BIS swap line and other central bank actions in the eurodollar market (Coombs 1968a).

BIS publications (other than its annual report) were archived and unavailable for review. The Fed and BIS communicated closely about swap draws generally, and the BIS generally alerted the Fed to any potential swap draw and planned downstream use of the resulting funds (Bordo, Humpage, and Schwartz 2015).


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10 In practice, this typically resulted in investment into commercial debt with a maturity of fewer than 90 days (Leimone 1967).
7. Eligible Institutions: The BIS and Bundesbank were the only institutions eligible for their respective swap lines.

The BIS was the only institution eligible for its specific swap facilities (comprising the CHF and European swap lines), and the Bundesbank was the only institution eligible for its specific swap line, although the Fed maintained many similar swap lines with other counterparties (see Key Design Decision No. 2, Part of a Package) (FOMC 1968a).

At the time, the BIS was the only counterparty that was not a central bank. The decision to include the BIS among the Fed’s swap counterparties had to do with the BIS’s special role as a “bank for central banks” and its large dealings in the foreign exchange and eurodollar markets (Leimone 1967, 164). Per Coombs’s memorandum to the FOMC, the Fed viewed the BIS not only as a conduit to the SNB but, increasingly by 1965, as a supplementary provider of European liquidity more generally11 (Coombs 1965). To the extent that the BIS held reserves of most European currencies and could lend directly to European banks (including European central banks), it acted similarly to the way the European Central Bank does today with respect to channeling US funds. In other words, the Fed could lend through the BIS in one transaction to multiple central and commercial banks in Europe.

8. Size: In November 1967, the FOMC increased the Fed-BIS swap facility cap to USD 600 million and the Fed-Bundesbank swap line to USD 750 million.

The FRBNY-BIS European swap line stood at USD 300 million before the FOMC’s November 27, 1967, meeting at which FOMC members voted to double the cap to USD 600 million in order to provide a broader margin of safety for the international monetary system, an enlargement to which the BIS agreed (FOMC 1968a). From 1962 to 1971, the European swap line with the BIS was one of the largest the Fed maintained during this period, and BIS usage of this swap line was second only to usage under the Bank of England’s Fed swap line (McCauley and Schenk 2020). The parties agreed to expand the facility to USD 1 billion on March 18, 1968 (Coombs 1968b).

The Fed-Bundesbank swap line stood at USD 400 million before the FOMC’s November 27 meeting, at which FOMC members voted to increase the cap to USD 750 million in order to improve the safety of the international monetary system, an enlargement to which the BIS agreed (FOMC 1968a). The parties agreed to expand the facility to USD 1 billion on March 17, 1968 (Coombs 1968b).

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11 For example, if the Fed wanted to intervene in the Italian lira-US dollar exchange rate and it had already drawn the maximum from its swap line with Italy, the BIS’s non-Swiss franc European currency swap line with the Fed allowed it to access lira, providing a supplementary facility through which to intervene in that foreign exchange market.
9. **Process for Utilizing the Swap Agreement:** When the BIS drew on the line, it placed deutsche marks in the FRBNY’s account at the BIS. When the Fed drew on its line with the Bundesbank, it placed dollars in the Bundesbank’s account at the BIS.

When the BIS drew on the European swap line, it placed deutsche mark as collateral in the FRBNY’s correspondent account at the BIS (McCauley and Schenk 2020). Deutsche marks served only as collateral—the FRBNY did not use them (McCauley and Schenk 2020). The invested amounts bear interest at a rate agreed to in advance (Leimone 1967).

The BIS then used the dollar proceeds to lend downstream to eurodollar market participants (McCauley and Schenk 2020). Draws on Fed swap lines could be arranged within hours via telephone consultation (Leimone 1967).

When the Fed borrowed deutsche marks, it credited the Bundesbank’s correspondent account at the Fed with dollars, which the Bundesbank could invest in non-transferable Treasury certificates. The invested amounts bore interest at a rate agreed to in advance. However, in the 1967 year-end operations, the Bundesbank swapped those dollars with German commercial banks, meaning that it withdrew the dollar collateral deposited by the Fed and moved those funds into West Germany; we have not been able to determine how this use was authorized, but it most likely required Fed consent (Leimone 1967) (see Key Design Decision No. 10, Downstream Use of Borrowed Funds). The FRBNY reported that the Bundesbank actions were part of a “coordinated central bank effort to calm the exchange markets” and that the Fed “participated in this operation by drawing $300 million equivalent of German marks on its [Bundesbank] swaps line” (Coombs 1968b, 51).

10. **Downstream Use of Borrowed Funds:** The BIS lent dollars downstream directly to eurodollar market participant commercial banks through deposits, while the Bundesbank lent dollars downstream to German commercial banks through swaps.

With its dollar swap proceeds, the BIS offered dollar deposits to eurodollar market participant commercial banks. In November and December 1967, the BIS deposited USD 346 million with at least eight banks for periods of one month or shorter. Not all deposit offers were accepted by commercial banks. All deposits made to eurodollar market participant banks earned 100 basis points more than the rate the BIS paid to the Fed (see Figure 3 at Overview) (McCauley and Schenk 2020).

In November and December 1967, the Bundesbank entered into dollar swaps totaling USD 860 million (USD 300 million of which came from the Fed; see Overview) with German commercial banks at “favourable rates” (Bundesbank 1968, 38). This was an unusual arrangement because the Fed was the drawing party. The Fed drew deutsche marks and deposited dollars as collateral at the Bundesbank’s correspondent account at the FRBNY.

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12 In at least one instance, the BIS entered into swap arrangements with the Fed in more than one foreign currency; it was the Fed’s only swap counterparty to do so by December 1967 (Leimone 1967).

13 McCauley and Schenk (2020) count at least 30 distinct deposits. While some may have been related, the scholars estimate that there may have been between one dozen and two dozen different banks.
which the Bundesbank then had to repatriate to lend downstream. In other words, the Bundesbank was using collateral for downstream lending, whereas usually collateral currency is held by the lending central bank and typically, the use of dollar collateral under Fed swaps was limited to investment in US Treasury certificates of indebtedness due on the maturity of the swap (Leimone 1967). It is likely that the Bundesbank’s eurodollar market interventions at year-end 1967 required special approval and agreement with the FOMC because of those collateral restrictions.

11. Duration of Swap Draws: Most draws on the Fed-BIS European swap line were for durations of one month, while swap draw durations under the Fed-Bundesbank swap line are unknown.

Swap draws were limited to a period of three months, but were renewable up to three times. Swap transaction periods ranged between one month and three months but were mostly one month (McCauley and Schenk 2020). Our research did not uncover information on the duration of swap draws on the Fed-Bundesbank swap line in the 1967 year-end operations.

12. Rates and Fees: The BIS paid the Fed the prevailing eurodollar interest rate less 100 basis points, while the rate the Fed paid the Bundesbank is unknown.

The BIS paid an interest rate of the eurodollar rate minus 100 basis points, which resulted in year-end operations interest rates ranging between 475 and 575 basis points (see Figure 3 at Overview). Scholars have said that the rate spread (what the BIS earned in the market less what it paid to the Fed) resulted from the BIS taking on uncollateralized bank credit risk (McCawley and Schenk 2020). Our research did not uncover information on the interest rate or fees paid by the Federal Reserve to the Bundesbank when it drew on its swap line in the 1967 year-end operations, but it was likely benchmarked similarly to the rate the BIS paid the Fed.

13. Balance Sheet Protection: The BIS credited the FRBNY’s correspondent account with deutsche marks when it borrowed dollars and credited the Bundesbank’s correspondent account with dollars when it borrowed deutsche marks.

When the Fed borrowed deutsche marks, it credited the Bundesbank’s correspondent account at the Fed with dollars, which the Bundesbank could invest in non-transferable Treasury certificates. The invested amounts bear interest at a rate agreed to in advance. However, in the 1967 year-end operations, the Bundesbank lent those dollars to German commercial banks; we have not been able to determine how this use was authorized, but it most likely required Fed consent (Leimone 1967). While we were unable to view the specific swap agreements with the BIS and Bundesbank, Fed swaps in the 1960s generally had “revaluation clauses,” which protected the lending central bank in the event that the borrowing central bank revalued its currency against gold during the draw period (Bordo, Humpage, and Schwartz 2015, 150-151). While not explicitly balance sheet-related, the Fed frequently sterilized swap draws (Bordo, Humpage, and Schwartz 2015).
14. **Other Restrictions: Research did not uncover other restrictions.**

Our research uncovered no further restrictions on the use of the BIS line and the Bundesbank line.

15. **Other Options: Our research did not uncover other options.**

Our research did not uncover any other options considered by the Fed to provide liquidity to the eurodollar market that we haven’t already covered (for other Fed operations in the eurodollar market, see Key Design Decision No. 2).

16. **Exit Strategy (A): The FOMC approved an increase in the size of the Fed-BIS European swap line three months after the year-end operations.**

By January 1968, the BIS had fully repaid the total USD 346 million obligation outstanding under the swap lines as a result of the year-end operations (Coombs 1968a). That same month, the United States imposed restrictions on US lending in Western Europe via the eurodollar market, among a package of measures that aimed to strengthen the US balance of payments. BIS scholars later argued that those restrictions contradicted the Fed-BIS swap goals to the extent that the lending restrictions curtailed dollar liquidity in the eurodollar market, whereas swap operations had aimed to increase dollar liquidity in the eurodollar market (McCauley and Schenk 2020).

On March 17, 1968, before the United States’ ability to maintain the official gold peg collapsed, the FOMC authorized an increase in the BIS’s European swap facility to a size of USD 1 billion from USD 700 million (FOMC 1968b; McCauley and Schenk 2020). The BIS continued to draw on the European swap line into 1976, after a pause in sizable activity in 1971–1972 (see Figure 10 at Appendix B). The FOMC voted to allow the line to lapse in its November 17, 1998 meeting (FOMC 1998).

**Exit Strategy (B): The FOMC approved an increase in the size of the Fed-Bundesbank swap line three months after the year-end operations.**

On March 17, 1968, before the United States’ ability to maintain the official gold peg collapsed, the FOMC authorized an increase in the Fed-Bundesbank swap facility to a size of USD 1 billion from USD 750 million (FOMC 1968b; McCauley and Schenk 2020). By March 1968, the United States had repaid 69% of its swaps-derived foreign obligations and 100% of its Bundesbank-associated swap obligations (Coombs 1968a). The FOMC voted to allow the line to lapse in its November 17, 1998 meeting (FOMC 1998).
References and Key Program Documents

Legal/Regulatory Guidance

*Law authorizing the powers of the Bank for International Settlements.*
https://ypfs.som.yale.edu/node/22425

https://ypfs.som.yale.edu/node/22449/

https://ypfs.som.yale.edu/node/22450/

Media Stories

https://ypfs.som.yale.edu/node/22451/

https://ypfs.som.yale.edu/node/22452

https://ypfs.som.yale.edu/node/22453

https://ypfs.som.yale.edu/node/22454/
Press Releases/Announcements


Record of policy actions taken by the FOMC at the November 27 meeting.
https://ypfs.som.yale.edu/node/22455/

Reports/Assessments

https://ypfs.som.yale.edu/node/22458

https://ypfs.som.yale.edu/node/22459/

https://ypfs.som.yale.edu/node/22460

https://ypfs.som.yale.edu/node/22461/

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https://ypfs.som.yale.edu/node/22469/

https://ypfs.som.yale.edu/node/22470
_FOMC report on economic and financial conditions, December 1967._
https://ypfs.som.yale.edu/node/22471/

_Record of policy actions taken at March 14, 1968 FOMC conference call._
https://ypfs.som.yale.edu/node/22472

_Transcript of minutes from the November 17, 1998, FOMC meeting._
https://ypfs.som.yale.edu/node/22473

_The Federal Reserve Bank of New York's annual report for 1967._
https://ypfs.som.yale.edu/node/22474

_Article describing the role and applications of Federal Reserve System swap lines._
https://ypfs.som.yale.edu/node/22477/

_Memoranud from Bruce MacLaury to the FOMC regarding questions about the System foreign currency operations with the BIS._
https://ypfs.som.yale.edu/node/22744/

**Key Academic Papers**

_Study examining the Federal Reserve’s involvement in foreign exchange during the Bretton Woods era._
https://ypfs.som.yale.edu/node/22478/

_Study examining the Federal Reserve’s historical use of swap lines._
https://ypfs.som.yale.edu/node/21530
https://ypfs.som.yale.edu/node/22479

*Study critically examining the Triffin-esque view of the collapse of the Gold Standard and Bretton Woods.*
http://link.springer.com/10.1057/s41308-019-00088-y

*Study examining the history of the Gold Pool and its role in the Bretton Woods system.*
https://ypfs.som.yale.edu/node/22480

*Report of the Federal Reserve and Department of the Treasury outlining recent foreign exchange activities.*
https://ypfs.som.yale.edu/node/22481/

*Study examining the cooperation between the Federal Reserve and the Treasury in foreign exchange operations in the 1960s.*
https://ypfs.som.yale.edu/node/22482/

*Study examining the use of central bank swap lines in the context of Bank for International Settlements operations in the 1960s.*
https://ypfs.som.yale.edu/node/22483/

*Dataset of US monetary gold stock between 1947 and 1970 (FRED dataset no M1476CUSM144NNBR) retrieved from NBER data.*
https://ypfs.som.yale.edu/node/22475
https://ypfs.som.yale.edu/node/22485
Appendix A

Federal Reserve Swaps and Foreign Exchange Intervention in the Bretton Woods Era

The Gold Standard and Fixed Exchange Rates in Bretton Woods

Under the Bretton Woods system, exchange rates were fixed to one another, ultimately to the US dollar (USD), which itself was pegged to the price of gold. Dollars were convertible on demand for gold at the Treasury at the official peg of USD $35 per ounce. Since the advent of the Bretton Woods system after World War II, the United States ran a widening balance of payments deficit, which, according to US authorities, was at least partially the result of post-war reconstruction and security guarantees. This deficit resulted in a ballooning ratio of external dollar liabilities to gold stock, which put pressure on the gold peg\textsuperscript{14} (the resolution of which would be a devaluation) (Bordo, Humpage, and Schwartz 2014). Figure 7 shows the US gold stock and external dollar liabilities from 1951 to 1975.

Figure 7: US Gold Stock and External Dollar Liabilities, 1951–1975

![Graph showing US gold stock and external dollar liabilities from 1951 to 1975.]

Source: Bordo, Humpage, and Schwartz 2014.

The US was not the only nation facing such pressures. The UK was by the 1960s also experiencing a widening balance of payments deficit and had already faced speculative crises in 1964 and 1965, the former of which only narrowly avoided devaluation by a multilateral\textsuperscript{14} This is because an increasing ratio of dollar liabilities to US gold stock implied that the US may not have been able to convert all its dollar obligations into gold if needed (Bordo, Humpage, and Schwartz 2012). Some scholars have suggested alternative explanations for the collapse of the Gold Standard and Bretton Woods. For a dissenting view on this narrative, see Bordo and McCauley 2019.
aid package and the latter of which was narrowly avoided with American aid (Schenk 2010, 157–67).

In the Bretton Woods system, the dollar was the key vehicle currency. For example, when investors moved out of pounds sterling and into Swiss francs, they sold sterling for dollars and then dollars for Swiss francs, which left the Swiss National Bank (SNB) holding dollars. The Swiss franc, however, was a key safe-haven currency and, consequently, the SNB, which attempted to maintain strict limits on the proportion of its reserves held in dollars, frequently received unwanted dollar inflows (Bordo, Humpage, and Schwartz 2014).

In sum, the US dollar and its gold peg was the foundation of the fixed exchange rate system, but both the dollar and sterling faced increasing pressure to devalue as a result of balance of payments pressures. When fear spread about the ability of nations to maintain their pegs, fund flows moved (1) out of fiat currencies and into gold, and (2) out of troubled currencies and into safe ones (frequently the Swiss franc), often leaving a dollar shortage in the process (and in turn leaving the safe currency-issuing central bank with an excess of dollars).

**Federal Reserve Swaps During Bretton Woods**

In March 1962, the US set up a network of reciprocal swap lines through the Fed to forestall a run on the US gold stock after the Treasury’s Exchange Stabilization Fund (ESF) had reached its limits. From that point on, the swaps network became the “first line of dollar defense” (Bordo, Humpage, and Schwartz 2014, 3). The Fed used its swap lines for three distinct (though related) purposes: (1) to provide cover for unwanted dollar inflows at foreign central banks; (2) to intervene in foreign exchange markets; or (3) to provide dollar liquidity to overseas markets (the focus of this case study) (Bordo, Humpage, and Schwartz 2014). (For a discussion of dollar liquidity provision to overseas markets, see Overview.)

(1) **Cover Operations.** When a foreign central bank received unwanted dollar inflows, it could exchange them at the US Gold Window for gold, draining down the US gold stock. In such a case, the Fed defended the US gold stock through “cover operations,” in which the Fed activated a swap to obtain foreign currency with which to absorb temporary unwanted surges in a foreign central bank’s uncovered dollar balances, so as to obviate the need for the foreign central bank to convert those dollars for gold at the Treasury (Bordo, Humpage, and Schwartz 2015, 152). A cover operation took place in two distinct transactions: (1) the Fed swapped dollars for a foreign currency, for example, deutsche marks, receiving deutsche marks and providing

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15 Prior to the Fed’s network, the Treasury had established swap lines—which, in contrast to the Fed’s, were not all reciprocal—with foreign monetary authorities since 1936 on a case-by-case basis (Bordo, Humpage, and Schwartz 2014; 2015).

16 The Treasury historically used the ESF to intervene in foreign exchange markets, but it was limited through the Congressional appropriations process. The Fed, on the other hand, had more “elastic capacity” to obtain foreign exchange (Bordo, Humpage, and Schwartz 2014, 3).

17 The Fed also, on an ad hoc basis, from time to time engaged in third-currency swaps, wherein it swapped one non-dollar currency to obtain another foreign currency, but these swaps were not a part of the standing network (Leimone 1967).
dollars; (2) the Fed then sold that foreign exchange back to the foreign central bank for dollars. The foreign central bank ended up with the same amount of dollars as before the transaction, but those dollars were now protected against foreign exchange risk. The risk to the Fed was that if, in this example, the Bundesbank chose not to renew the swap, the Fed would have to come up with the deutsche marks by purchasing them in the market or obtaining them from the Treasury (Hetzel 1996). These operations protected the US gold stock. From the beginning of the Fed’s swap network to 1971 (when the US closed the Gold Window), the Fed drew USD 11.6 billion for cover operations (Bordo, Humpage, and Schwartz 2014).

(2) Foreign Exchange Intervention. A foreign central bank could draw dollars from a Fed swap line and use those dollars to buy up its currency—reducing supply and driving up the exchange rate—to defend an exchange rate (which was always a peg in the Bretton Woods context (Bordo, Humpage, and Schwartz 2015; Leimone 1967)).

In 1962, the Fed entered a dollar-for-Swiss franc (CHF) swap line (the “CHF swap line”) with the BIS. This line was initially meant to provide dollar liquidity to the BIS, which would in turn provide such liquidity to the eurodollar market (for a background on the eurodollar market, see Appendix B). The CHF swap line was a tool to bypass Swiss regulations limiting the SNB’s ability to lend (including via swaps) to foreign central banks. This swap line was essentially a pass-through to the SNB, wherein the BIS swapped gold with the SNB for Swiss francs and then, in a second step, swapped Swiss francs with the Fed for dollars.

From 1962 to 1971, the BIS was a frequent user of Fed swap lines, accounting for 15% of all draws during this period (Bordo, Humpage, and Schwartz 2014).

Originally, the Fed made a clear distinction that the European currencies swap line should be used for eurodollar market operations, not for foreign exchange interventions. In 1966, the FOMC authorized the BIS to use the European swap line for eurodollar interventions, after which point it became the primary funding source for BIS intervention in the eurodollar market (for background on the eurodollar market, see Appendix B) (Bordo, Humpage, and Schwartz 2015; McCauley and Schenk 2020). Figure 8 compares the changing uses of the different BIS and SNB swap lines with the Fed in the 1960s.

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18 For the Treasury to obtain foreign currency, it sometimes resorted to the issuance of so-called Roosa Bonds (named after Undersecretary of the Treasury Robert Roosa), which were foreign currency-denominated Treasury bonds. For example, in 1962, the Treasury issued three-month certificates in Italian lira worth USD 150 million. Outside the context of swap line backstops, the Treasury could use them to similar effect in diminishing the desire of foreign banks to convert dollars for gold: for a foreign central bank, holding non-dollar US debt protected them against a dollar devaluation (Bordo, Humpage, and Schwartz 2015).

19 For example, in June 1962, the Bank of Canada drew down its new swap facility with the Fed and used the dollar proceeds to defend its exchange rate parity (Bordo, Humpage, and Schwartz 2015).

20 In 1967, the Fed also drew on its CHF swap line with the BIS, but this is treated separately as a related but distinct cover-providing intervention and not part of the effort to manage dollar liquidity and interest rates (see Key Design Decision No. 2, Part of a Package).
Scholars have said that the cover operations via the Fed's swap network were ultimately ineffective:

The US foreign-exchange operations between 1961 and 1973 were paradoxically both a short-term success and a long-term failure. By raising the costs of speculation and by providing cover for unwanted, temporary, and ultimately reversible dollar flows, these operations forestalled US gold losses and boosted credibility in the Bretton Woods system, but to the extent that these operations substituted for more fundamental adjustments, they only postponed and heightened the inevitable collapse of Bretton Woods. (Bordo, Humpage, and Schwartz 2015, 121)

Forms of Foreign Exchange Intervention

The Fed and the Treasury used foreign exchange tools to intervene in the foreign exchange markets and defend gold parity, including spot operations, forward operations, IMF drawings, the issuance of foreign currency-denominated Treasury bonds, and the use of the Gold Pool. In 1961, the US Treasury began to use the ESF for foreign exchange intervention in defense of the dollar, but by 1962 it had reached its resource limits and thereafter swaps became the first line of defense for the dollar (the US continued to make use of the Gold Pool) (Bordo, Humpage, and Schwartz 2014).

The Gold Pool

In the London gold market, buyers and sellers could engage in the private sale of gold (in other words, not through redemptions at government gold windows). As a result, deviations of the London gold market price and the official gold pegs created arbitrage opportunities for central banks (one could, for example, buy gold on the London gold market and then redeem it for dollars at the US Treasury's Gold window). In order to defend gold parity, eight central banks pooled gold reserves (the Gold Pool) in the London gold market in order to defend the 35-dollars-per-ounce peg (and thus their reserves) and safeguard the stability of the international monetary system (Bordo, Monnet, and Naef 2017).

According to scholars, the Gold Pool functioned successfully for years, but ultimately the November 1967 sterling devaluation caused its collapse. Gold Pool interventions accounted for three-quarters of the US gold stock losses during the 1967 year-end operations (Bordo, Monnet, and Naef 2017).

<table>
<thead>
<tr>
<th>Year Originated</th>
<th>Counter-party</th>
<th>Collateral Currencies</th>
<th>Authorized Amount (USD millions)</th>
<th>Original stated purpose</th>
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<tr>
<td>1962</td>
<td>BIS</td>
<td>Swiss franc</td>
<td>100</td>
<td>Foreign exchange intervention</td>
</tr>
<tr>
<td>1965</td>
<td>BIS</td>
<td>European currencies</td>
<td>600</td>
<td>Eurodollar market liquidity</td>
</tr>
</tbody>
</table>

Sterling Devaluation Crisis, 1967

The US had numerous incentives to support sterling and help the UK avoid a devaluation: (1) the US estimated costs of USD 1-2 billion in losses to the US gold reserves; (2) a larger devaluation could force the US to suspend its own gold convertibility, thus ending the Bretton Woods system; and (3) the US linked sterling support with British military presence in Southeast Asia, which it wanted to remain.\(^{21}\) (Schenk 2010, 157–67).

US authorities recognized a relationship between pressure on sterling and further speculation about the strength of the dollar peg. A scholar of sterling’s decline said that “sterling’s fortunes were of crucial importance . . . in Washington because of the potential for contagion from speculation on sterling to spread to the US dollar . . . .” (Schenk 2010, 157).

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\(^{21}\) The relationship between American support for sterling and British military presence in Asia was documented in archives. A US national security adviser said, “George Ball really put it to the British on Singapore and our support of the pound,” and a scholar said that there was a “formal quid pro quo” between the two governments about American support for sterling and British military presence east of the Suez (Schenk 2010, 168). An American government official informally suggested that “a battalion would be worth a billion dollars of sterling support”; he later revised this comment (Schenk 2010, 168).
Appendix B

Figure 9: Aggregate Draws on Federal Reserve Swap Lines, 1962–1971

Note: Negative amounts (in blue) indicate draws by the Fed, while positive amounts (in red) indicate drawings by European counterparties (so that the total amounts indicate the aggregate as an asset or a liability of the Fed).
Source: Bordo, Humpage, and Schwartz 2014.

Figure 10: BIS Draws on European Swap Line, 1966–1976 (in USD millions)

Figure 11: Federal Reserve Swap Lines with European Market Participants,\(^A\) 1967

\(^A\) Excludes Switzerland.

Source: FOMC 1968a.