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Bretton Woods and the U.S. Decision to Intervene in the Foreign-Exchange Market, 1957-1962

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The deterioration in the U.S. balance of payments after 1957 and an accelerating loss of gold reserves prompted U.S. monetary authorities to undertake foreign-exchange-market interventions beginning in 1961. We discuss the events leading up to these interventions, the institutional arrangements developed for that purpose, and the controversies that ensued. Although these interventions forestalled a loss of U.S. gold reserves, in the end, they only delayed more fundamental adjustments and, in that respect, were a failure.

Keywords: Bretton Woods, Exchange Stabilization Fund, Federal Reserve System, foreign-exchange rates, intervention.
JEL classification: F3, N1, N2

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1. Introduction

The officials who signed the International Monetary Fund (IMF) *Articles of Agreement* at Bretton Woods, New Hampshire, in July 1944 envisioned an international financial system based on close cooperation, which would foster stability, promote full employment, and prevent a return to the beggar-thy-neighbor policies of the early 1930s.[1] Under the agreement, the United States pegged the dollar to gold at $35 per ounce and pledged to buy and sell the metal freely at this price. Other nations established parities for their currencies relative to the dollar and were obliged to keep their exchange rates within a 1 percent band around the central value through foreign-exchange interventions, restraints on financial flows, and ultimately the adoption of compatible monetary policies. When faced with a transitory balance-of-payments problem, a country with insufficient reserves to finance its intervention could borrow from the IMF instead of quickly instituting deflationary macroeconomic programs. The ability to borrow reserves would also lessen the deficit country's incentive to impose trade restraints or exchange controls on current-account transactions.[2]

Exchange rates were not immutable under the Bretton Woods system. After IMF consultation and approval, countries facing a "fundamental disequilibrium" in their balance of payments could adjust their parities. In principle, the IMF could also insist that the country adopt macroeconomic policies consistent with any exchange-rate change, but the IMF lacked a credible enforcement mechanism. Deficit countries, which felt pressures to adjust more heavily than surplus countries, postponed devaluation to avoid the stigma—one of "failed economic policies"—that devaluation carried.

Although the Bretton Woods system began operating in 1946, European currencies remained inconvertible for current-account transactions until late 1958, and the Japanese yen stayed similarly inconvertible until 1964. Initially, these war-ravaged countries maintained inconvertible currencies as a means of limiting their persistent current-account deficits. Most lacked sufficient international reserves to sustain growing deficits for long, even after allowing for IMF credits. In 1949, the situation compelled many European countries to devalue their currencies relative to the dollar. France devalued for a second time in 1957.

During the 1950s, however, the international position of the war-torn industrialized countries greatly improved. Foreign productivity and competitiveness recovered, and Germany began running a sustained balance-of-payments surplus. Government grants and long-term financial outflows from the United States created persistent balance-of-payments deficits that provided a source of international reserves to finance expanding international trade. A general quota increase in 1959 also augmented the IMF funds that were available for temporary balance-of-payments assistance. Consequently, by the late 1950s, more than a decade after its beginning, the Bretton Woods exchange-rate system became functional.

At the same time, however, markets and central banks were quickly losing confidence in the viability of its underlying parity structure. Between 1957 and 1961, the U.S. balance of payments deteriorated markedly, and the United States began losing gold at an alarming rate. By 1960, total external U.S. dollar liabilities exceeded the U.S. monetary gold stock, implying that the United States could not completely honor its pledge to sell gold at $35 per ounce. In an attempt to forestall foreign central banks from

converting their excess dollar reserves into gold and to reduce the chances for disorderly—possibly self-fulfilling—speculative financial attacks, the U.S. Treasury began intervening in the foreign-exchange market in March 1961 after a 20-year hiatus. A year later, the Federal Reserve System also started intervening for its own account.[3]

Economists have long questioned the efficacy of these interventions. In the absence of more fundamental macroeconomic adjustments, these stop-gap operations seemed only to delay—and thereby possibly worsen—the inevitable collapse of the Bretton Woods system. Moreover, the Federal Reserve's decision to intervene raised important questions about the legality of its actions and the implications of intervention for central-bank independence and monetary-policy credibility. Many of these questions remain as relevant today as they were 45 years ago.[4]

This article explores the events between 1957 and 1962 that shaped the U.S. decision to intervene. It is the first of three essays on Bretton Woods that will comprise a chapter in *A History of U.S. Foreign Exchange Market Intervention*. Section 2 argues that while in hindsight events at the time seemed to signal a fundamental flaw with the Bretton Woods system, one fully consistent with Triffin's paradox, policy makers at the time seemed to view developments as temporary and for that reason turned to stop-gap measures—notably exchange-market intervention—to address the emerging U.S. balance-of-payments problem (see Triffin, 1957, 1960). U.S. policy makers thought that devaluation was inconsistent with the dollar's reserve-currency status, and they were unwilling to subvert domestic economic objectives to balance-of-payments considerations. They seemed to hope that foreign countries would eventually bear the costs of any fundamental adjustment. Section 3 describes the Treasury's interventions in

1961. The Treasury's limited resources for foreign-exchange operations, the similarities between these operations and monetary-policy operations, and the perceived success of these activities provided a strong impetus for the Federal Reserve's participation. Section 4 investigates the motives behind the Federal Reserve's decision to intervene, the controversies that this decision engendered, and the apparatus that the United States eventually established for intervention purposes. Section 5 concludes.

2. A Fundamental Flaw

Triffin (1957, 1960) described a fundamental flaw of the Bretton Woods system in his famous paradox:[5] The official price of gold was too low to induce growth in the world's gold supply sufficient to meet the expanding demand for international reserves. Instead, U.S. balance-of-payments deficits accommodated the excess demand and, thereby, promoted the global recovery from the war and subsequent international economic growth. Triffin correctly anticipated that the associated stock of outstanding dollar liabilities would eventually exceed the store of U.S. monetary gold. Consequently, the persistent U.S. balance-of-payments deficits—necessary to accommodate growing reserve needs—eventually undermined the credibility of the official gold price and the entire Bretton Woods parity structure.

Short of finding a reserves source not tied to U.S. balance-of-payments deficits, the major industrialized countries, notably the United States, lacked a viable exit from Triffin's paradox. Devaluing the dollar (raising the official price of gold) would undermine the dollar's reserve-currency status. Eliminating the U.S. balance-of-payments deficit through deflationary macroeconomic policies would stop needed reserve

growth and conflict with the domestic U.S. policy objectives of the early 1960s. The United States therefore only acted to delay the collapse that Triffin thought inevitable.

2.1. Triffin's Paradox

The framers of Bretton Woods set the official price of gold at $35 per ounce, the same price that the U.S. Gold Reserve Act of 1934 established. Because of inflation during World War II and shortly thereafter, this official price became too low in real terms to induce sufficient gold production to meet reserve needs (see Bordo, 1993, James, 1996, and Meltzer, 2004). By the early 1950s, the real price of gold was only half of its 1934 value (see figure 1).[6] Between 1948 and 1958, the free world's gold stock increased only 16% while its imports rose 68% (see Triffin, 1960, table 14, pp. 72-3).

The United States, however, provided needed liquidity by running persistent balance-of-payments deficits. Between 1950 and 1957, these deficits averaged $1.3 billion per year, as government grants, private remittances, and long-term financial outflows typically exceeded surpluses elsewhere in the accounts (figure 2).[7] Neither the United States nor the international financial community seemed to view these deficits with much concern because they stemmed from postwar redevelopment efforts and from the provision of military security. Without the international reserves that these deficits provided, the postwar recovery of global trade and world economic activity would have proceeded more slowly, because countries facing even temporary balance-of-payments deficits would quickly need to deflate, devalue, or impose disruptive trade and financial restraints.

By the early 1960s, however, the total external dollar liabilities associated with the persistent U.S. balance-of-payments deficits began to exceed the U.S. gold stock,

implying that the United States could not completely fulfill its obligation to sell gold at the official price (see figure 3). The very act of providing needed liquidity was itself creating uncertainty about the long-term viability of the parity structure, hence, Triffin's paradox. At the time, however, few interpreted the situation as necessarily leading to the demise of the Bretton Woods system.[8]

An outflow of gold accompanied the U.S. balance-of-payments deficits during the 1950s but seemed a reasonable reversal of the substantial—largely safe-haven—gold acquisitions that the United States experienced in the 1930s and 1940s. The United States, which held 60 percent of the world's gold reserves in 1950, lost only $213 million worth of gold on average each year between 1950 and 1957 (figure 4).[9] During that time, foreign countries increased their gold reserves mainly out of free-world gold production and through small purchases from the Soviet Union. In addition, the IMF sold the United States $800 million worth of gold between 1951 and 1957 (Board of Governors, 1963, p. 422).

Between 1958 and 1960, however, U.S. balance-of-payments deficits widened to $3.7 billion per year on average as surpluses on U.S. goods and services trade narrowed slightly and as long-term financial outflows increased sharply. The most disturbing aspect of the expanding U.S. balance-of-payments deficits, however, occurred with respect to short-term financial flows beginning in 1960. Heretofore, the United States had typically experienced small short-term financial inflows (including unrecorded items), but in 1960 the country witnessed a large outflow of nearly $2.5 billion. Although U.S. balance-of-payments deficits narrowed somewhat in 1961 and 1962,

substantial outflows of short-term financial capital, often motivated by exchange-rate concerns, generally persisted.

Between 1958 and 1962, the average U.S. gold loss increased sixfold to nearly $1.4 billion per year. The U.S. gold stock declined by $6.8 billion or 30% as foreign countries converted dollar reserves into gold.[10] The heavy gold losses would not have been so disturbing to U.S. policy makers if they had not been accompanied by evidence of a run on the dollar. Foreign monetary authorities were not only converting new acquisitions of dollars into gold, but they were also converting—or planning to convert—a substantial portion of their existing dollar balances (FOMC, *Minutes*, January 10, 1961).

Between 1957 and 1962, the proportion of international reserves held in gold by non-Communist countries increased from 45 percent to 49 percent (Board of Governors, 1963, p. 423). European countries, particularly France, Italy, and Germany, accounted for almost all of this gain; most other countries kept the share of their gold reserves fairly constant (Board of Governors, 1963, p.424). Despite the accelerated gold losses, the United States still held $16 billion worth of gold reserves in 1962, approximately two-fifths of the world's gold stock.[11]

On October 20, 1960, the price of gold on the London market shot above the official U.S. gold price to $40 per ounce, as private demand for gold reached record levels. Among the factors creating a strong demand for gold was the market's concern that if John F. Kennedy became president, he would focus on expansionary domestic policy, rather than on the nation's deteriorating balance-of-payments position and accelerating gold losses. Kennedy subsequently promised, both as a candidate and as

president, to maintain convertibility at the official price, and the premium in the London market disappeared by February 1961. But October 20, 1960, was a turning point of sorts. Henceforth, as we will document, both gold and foreign-exchange markets would remain vulnerable to speculative pressures consistent with Triffin's paradox.

2.2. The U.S. Policy Dilemma

If the emerging U.S. balance-of-payments problems were indeed evidence of a fundamental disequilibrium, the United States had to undertake a real dollar depreciation. Hemmed in by the perception of weak domestic demand, constrained by the dollar's unique role in the Bretton Woods system, and still uncertain about the true underlying nature of recent balance-of-payments problems, none of the standard methods for achieving a real dollar depreciation seemed, at the time, viable or even appropriate. Instead, U.S. policy makers in the early 1960s opted for a number of stop-gap policies, of which exchange-market interventions would be the most enduring.

The Eisenhower and Kennedy administrations did not respond to the widening balance-of-payments deficits, short-term capital outflows, and accelerating gold losses in a manner suggesting that they viewed these disconcerting developments as evidence of a fundamental disequilibrium in the U.S. international accounts. Instead, policy makers attributed the worsening U.S. balance-of-payments position between 1957 and 1962, by and large, to transitory factors stemming from U.S. military and economic aid commitments, recent cyclical developments, and the re-emergence of Western Europe and Japan as global competitors. The United States would undertake a series of policy initiatives to hasten adjustment in the U.S. trade and long-term financial accounts and to

improve the operation of the international financial system. These initiatives, however, were not those of policy makers who interpreted the current situation as critical.

U.S. policy makers also appreciated that with the maturation of the Bretton Woods system—economic recovery abroad, growing currency convertibility and an adequate pool of liquidity—short-term financial flows could henceforth be more sensitive to international interest-rate differentials and exchange-rate uncertainty. They seemed to believe, however, that once the transitory adjustments to the U.S. trade and long-term financial accounts were complete, credibility in the dollar could soon return. After all, reserve gains in France and Italy since 1957 illustrated how quickly countries' international positions could change (Board of Governors, 1963). Renewed credibility in the dollar would lessen the problem of short-term financial flows.

Even if U.S. policy makers had glimpsed emerging events as evidence that the U.S. balance-of-payments position was unsustainable, they were unwilling to make the appropriate policy adjustments in the early 1960s. A fundamental disequilibrium would imply that the dollar was overvalued on a real basis and that a real depreciation was necessary to restore equilibrium to the U.S. balance of payments. The United States could achieve a real depreciation only through a nominal dollar devaluation, a deflation in the United States, an inflation in the rest of the world, a general revaluation of foreign currencies, or some combination of all four. Whereas U.S. policy makers might have welcomed a higher rate of inflation abroad, and whereas they actively encouraged the revaluation of currencies in surplus countries, they were unwilling to alter the official gold price or to dampen aggregate demand in the United States for balance-of-payments purposes.

A one-time nominal dollar devaluation was simply out of the question. By imposing wealth losses on central banks and individuals that held open positions in U.S. dollars, any dollar devaluation would forever threaten the reserve-currency status of the U.S. dollar. Moreover, short-term financial outflows might actually increase if a one-time devaluation proved insufficient for balance-of-payments adjustment, or if other countries simultaneously devalued their currencies against the dollar. The U.S. also opposed an increase in the gold price because it would specifically benefit South Africa and the Soviet Union, the two major gold producers (FOMC, *Task Force Paper #3*, 1990, p. 10). For these reasons, the Kennedy administration went to considerable lengths to convince markets of its commitment to the official gold price.

Similarly, administration and Federal Reserve policy makers, who still operated in the long shadow of the Great Depression, were unwilling to dampen aggregate demand for balance-of-payments purposes. Federal Reserve Bank of Atlanta President Malcolm Bryan seems to have typified the view, at least as it prevailed among many Federal Reserve policy makers:

> "…the last time the System reacted in its policy decisions primarily because of foreign developments was…in 1931. At that time, with unemployment constantly increasing and with every element in the domestic economy calling for ease, the System responded by tightening in order to protect the gold supply." [FOMC *Minutes*, January 10, 1961, p.41]

He, like many other policy makers, feared a replay of the past. The United States had experienced back-to-back recessions from the third quarter of 1957 through the first quarter of 1958 and again from the second quarter of 1960 through the first quarter of 1961. These cost the Republicans the election in 1960. Kennedy pledged to "get the country moving again." The unemployment rate remained stubbornly high, and President

Kennedy's Council of Economic Advisors expected U.S. economic activity to remain below its potential level through 1963. Policy makers would not undertake deflationary macroeconomic programs.

While the overall thrust of macroeconomic policy was to promote the growth of aggregate demand, international considerations did exert some influence on the contours of both fiscal and monetary policies in the early 1960s. Under the Kennedy administration, the federal budget shifted from a surplus of $0.3 billion in 1960 to deficits of $3.4 billion in 1961, $7.2 billion in 1962, and $4.8 billion in 1963.[12] In 1962, the administration introduced an investment tax credit and liberalized depreciation allowances primarily to spur aggregate demand, but the administration also thought that these tax cuts could improve the country's international competitiveness.

For its part, the Federal Open Market Committee (FOMC) eased policy in 1960 and early 1961, initially by cutting the official discount rate, then by injecting reserves through open-market operations and allowing banks to count vault cash as reserves. The FOMC maintained a generally accommodative policy stance—sometimes under pressure from the Kennedy administration—at least throughout mid-1963. Some economists have suggested, however, that Federal Reserve policy would have been even more accommodative during this period had balance-of-payments concerns not constrained the FOMC. Hetzel (1996, pp. 23-24), for example, suggests that the FOMC allowed short rates to rise somewhat in 1961 and 1962 because of concern about external deficits, and Meltzer (1991, p. 59) allows that the 1961-62 period might represent a "possible exception" to an overall excessively accommodative monetary policy in the early 1960s.

Pauls (1990, p. 895) contends that a discount rate hike in July 1963 was designed to offset financial outflows stemming from higher rates abroad.[13]

Short-term capital outflows did affect how the Federal Reserve conducted monetary policy in the early 1960s, even if they did not alter the overall thrust of monetary policy very much. Since April 1953, except for brief periods of extreme market disorder as in 1955 and 1958, the Federal Reserve had operated under a "bills only" doctrine; that is, the Federal Reserve confined open-market operations to the very short end of the market for U.S. Treasury securities. Faced with a potential conflict between domestic and balance-of-payments objectives, the Federal Reserve and, later, the Kennedy administration undertook a program intended to promote domestic investment and economic growth through lower long-term interest rates and to discourage short-term financial outflows through higher short-term interest rates (Martin, 1961).[14] After October 1960, the System began to purchase longer-term securities, while sometimes selling Treasury bills. The Treasury began issuing more short-term securities and government trust funds increased the portion of long-term securities in their portfolios (Yeager, 1966, p. 448). In this way, policy makers hoped to twist the yield curve for balance-of-payments purposes while maintaining an overall accommodative policy stance.

2.3. Stop-Gap Policies

Although U.S. policy makers were unwilling to devalue the dollar or reduce U.S. aggregate demand for balance-of-payments purposes, they instituted a number of policies designed to improve the country's competitive position and, thereby, improve the U. S. balance of payments. Both the Eisenhower and Kennedy administrations, for example,

attributed postwar balance-of-payments deficits primarily to the United States' unusual military-assistance and economic-development programs. These initiatives sought to achieve important foreign-policy objectives, and cutting them could have had severe political and military consequences in the antagonistic Cold War environment (Gavin, 2004). To mitigate the effects of these programs on the U.S. balance of payments, the Kennedy administration, often using the threat of troop redeployment, extended the requirements, initially developed under the Eisenhower administration, that tied military and development assistance to purchases of U.S. goods and services (Gavin, 2004). The United States also encouraged countries to hasten the repayment of their war debts and to contribute aid to developing nations.

After European currencies became convertible in 1958, U.S. traded goods came under more intense competitive pressures. In response, the Eisenhower and Kennedy administrations lobbied for the removal of discriminatory trade practices that foreign countries leveled primarily against the United States. The United States had long tolerated these restraints as means of promoting European and Japanese development and of conserving international reserves. The Kennedy administration also undertook various efforts to promote exports through U.S. embassies and the Export-Import Bank and to reduce the duty-free allowance for U.S. tourists. In 1961, the Kennedy administration also revised the depreciation schedule, hoping to raise U.S. manufacturing productivity, improve international competitiveness, and promote exports.

While undertaking policy initiatives to improve the United States' international competitive position, policy makers here and abroad attempted to shore up Bretton Woods institutions against short-term capital flight and destabilizing reserve losses and to

foster closer cooperation among the major developed countries. A major initiative was the General Arrangements to Borrow. With short-term financial flows larger, more mobile, and increasingly driven by uncertainties about exchange rates, countries—notably the United States and the United Kingdom—might need to borrow foreign exchange reserves to quell temporary balance-of-payments problems. Under existing quota arrangements, however, the IMF might not have sufficient foreign exchange to meet the need for specific currencies. In late 1962, the major developed countries—the G10 and later Switzerland—instituted a new credit mechanism, the General Arrangements to Borrow, within the IMF. These countries collectively pledged $6 billion (equivalent) of their currencies to meet borrowing requests through the IMF (James, 1996, pp. 161-165).

To address the strong private demand for gold, President Eisenhower issued an order in January 1961 forbidding U.S. residents from holding gold abroad and directing any citizen holding gold to sell it by July. More importantly, in 1961, the United States, the United Kingdom, and six continental European countries formed the "Gold Pool." These countries sold gold to the market in 1961 to keep the London price of gold in line with the official price. By early 1962, the London price of gold stabilized, and the Pool bought back the gold that it previously sold. Thereafter, through November 1968, the Gold Pool operated on both sides of the market, selling gold to eliminate opportunities for central banks to arbitrage between the U.S. Treasury and the London market and buying gold from producers as a consortium.[15]

All of these initiatives attempted to address important aspects of the U.S. balance-of-payments problem. None, however, was capable of immediately offsetting speculative

financial flows. These could arise suddenly. They drew down needed dollar reserves from some countries and provided others with unwanted balances, which they might exchange for U.S. gold. If unchecked, sudden speculative pressures could prove self-fulfilling and present contagion problems for otherwise sound currencies. To address these short-term speculative financial flows, the United States began intervening in 1961.

3. The U.S. Treasury's Decision to Intervene[16]

In early March 1961, Germany and the Netherlands revalued their currencies. These revaluations prompted funds to move out of British pounds and into German marks and Swiss francs, the latter being another strong candidate for revaluation. Although the dollar was not the chief target of this speculative surge, it was the key vehicle currency, and the massive reshuffling of funds through dollars resulted in heavy concentrations of dollars in foreign central banks, which might seek to convert these dollars into gold. In October 1961, the Berlin Wall crisis sparked a further round of speculative financial flows and put additional pressure on the dollar. The U.S. Treasury, with the Federal Reserve Bank of New York as its agent, sought to counter these speculative flows and to forestall a potential drain of U.S. monetary gold through exchange-market intervention.

The Exchange Stabilization Fund (ESF) began to intervene in March 1961 for the first time since World War II.[17] Treasury operations consisted primarily of forward sales of continental currencies, which were designed to reduce forward premia on these currencies. Forward premia served as barometers of market confidence in the dollar, and when a forward premium exceeded the level consistent with its associated interest-rate differential, it provided a strong incentive for financial flows.

Forward transactions offered the Treasury a number of advantages. For one thing, the Treasury, which had only $336 million in assets available for intervention in mid-1961, did not need to commit scarce foreign-currency reserves to a transaction until the contract's maturity date and then only if the position incurred a loss.[18] That, however, was unlikely. Since the ESF sold foreign currencies forward at known premia over official spot rates, the United States could only incur a substantial loss if the foreign currencies were revalued.[19] The ESF typically covered its forward sales against that contingency.

The Treasury also undertook some limited spot transactions in 1961. These were largely experimental, designed to learn how the market operated and to gauge the impact of such operations on speculative activity.

3.1. German Mark Interventions

On March 6 and 7, 1961, Germany and the Netherlands, respectively, revalued their currencies by approximately 5 percent, a smaller amount than market participants anticipated. Within days, funds flowed out of British sterling and, to a lesser extent, out of dollars, and into continental currencies, especially German marks and Swiss francs. British authorities sold dollars in defense of sterling. The speculative attack and Britain's defensive dollar sales inflated dollar holdings at continental central banks and threatened to push their dollar-to-gold reserve ratios above acceptable levels. In addition to adding to the potential demand for U.S. monetary gold, the heavy speculative flows pushed the dollar to a substantial forward discount against many of the European currencies, which tended only to reinforce expectations of further revaluations. Moreover, the limited availability of forward cover induced many market participants with dollar receivables to

borrow dollars in New York or in the Eurodollar market and use these funds to buy marks in the spot market (Coombs, September 1962, p. 1141). This hedging strategy added further to foreign central banks' dollar reserves.

On Monday, March 13, 1961, after consultations with Bundesbank and Federal Reserve officials, the ESF began selling German marks forward in an attempt to reduce the forward premium on marks, which had reached a peak of 4 percent, and, hopefully, to stabilize exchange-rate fluctuations in both the spot and forward markets. A so-called "parallel" agreement covered the Treasury's risk exposure. Accordingly, the Bundesbank would supply the U.S. Treasury with any marks that it might need to fulfill the forward contracts, and the U.S. Treasury and the Bundesbank would split any profits. The forward sales reached $63 million per week by the second week of the operations and continued at a rate of $30 million to $40 million per week for several weeks thereafter. The operations reached a peak of $320 million in mid-June, but then fell off quickly (U.S. Treasury, *Experience*, 1962, p. 4).

The Treasury also concluded an arrangement with the German government whereby Germany would immediately prepay $100 million of its $587 million debt due to the United States in April 1961.[20] The ESF received $50 million of this amount for interventions. The ESF used most of it as cover for forward transactions but made small intervention sales of German marks in the New York market during June and July to lift the dollar off of its floor vis-à-vis the mark. The Treasury coordinated these operations with the Bundesbank's interventions. The Treasury sold the remaining $50 million worth of German marks from the debt prepayment directly to the Bundesbank on September 1,

1962, thereby reducing the potential drain on U.S. monetary gold (U.S. Treasury, *Experience*, 1962, p. 5).

When the Soviets built the Berlin wall in August 1961, a substantial amount of funds quickly moved out of Germany. This reversal of financial flows provided a source for funding the U.S. Treasury's forward commitments, which, unlike the "parallel agreement," would not cause the Bundesbank to again acquire excess dollars. By mid-December 1961, all of the forward mark commitments were liquidated, and although the ESF incurred small losses on its spot transactions, the overall operation accrued a $750 thousand profit (U.S. Treasury, *Experience*, 1962, p. 5).

The success of the German mark operations convinced U.S. Treasury officials that such cooperative arrangements could provide a "first line of defense" for the dollar. With the U.S. balance-of-payments deficit continuing, further speculative attacks seemed certain. Consequently, the ESF acquired additional German marks from the market when the Berlin crisis temporarily weakened that currency. The ESF made further forward mark sales in late December 1961 when that currency's forward premium again rose above 1 percent against the dollar. By the end of January 1962, the ESF held $55 million worth of German marks, of which $50 million (equivalent) were invested in German Treasury bills. Forward commitments amounted to $10 million (equivalent). Of these, "parallel" agreements with the Bundesbank covered $5.6 million (equivalent), and ESF mark holdings covered the remainder (U.S. Treasury, *Experience*, 1962, pp. 6-7). The U.S. Treasury liquidated its forward commitments in German marks by the end of March 1962.

3.2. Swiss Franc Interventions

In early 1961, dollar inflows were increasing liquidity in the Swiss banking system and raising the dollar-to-gold ratio at the Swiss National Bank (SNB) above its legal limit. Instead of converting the excess dollar reserves immediately into gold with the U.S. Treasury, the SNB lent dollars to the Bank of England to finance Britain's pound-stabilization program. The Bank of England, however, was arranging financing through the IMF, which would permit it to liquidate its dollar credit with the SNB (Coombs, September 1962). Some mechanism was needed to reduce the excess liquidity in Switzerland stemming from these dollar inflows.

The SNB believed that the inflow of funds was a temporary phenomenon and that forward sales of Swiss francs could stem or possibly reverse this inflow by reducing the forward premium on francs. Swiss law, however, prohibited the central bank from operating in the forward market. On July 12, 1961, the ESF began forward sales of Swiss francs in the market through the SNB. The ESF intended to use $15 million worth of Swiss francs, which it had acquired earlier from the SNB, as cover for the operation, but the SNB also agreed to provide additional Swiss franc cover against Treasury gold sales at a fixed price based on the existing franc-dollar exchange rate.

These initial foreign-exchange operations were small and mainly experimental, but after the Berlin crisis in August 1961 sharply increased dollar flows into Switzerland, the ESF's forward Swiss franc sales increased substantially to a peak of $152.5 million (equivalent) by the end of November. In September, the SNB had provided the U.S. Treasury with a SF430 million ($100 million) credit line to cover the ESF's forward commitments. To draw on this line, the U.S. Treasury issued $46 million (equivalent) of

certificates of indebtedness denominated in Swiss francs in October 1961—the first time that it had issued foreign-currency-denominated debt since World War I. The Treasury issued the certificates in two lots, at a rate of 1.25% with a three-month maturity. The ESF received $15 million (equivalent) from the proceeds to meet Swiss franc forward commitments, and the Treasury's General Fund kept the remaining $31 million worth of francs with the SNB. The Treasury rolled over one lot of certificates and repaid the other, as pressure on the Swiss franc subsided. In addition to these Treasury activities, the SNB doubled its dollar working balances to $200 million and, thereby, reduced the potential gold drain that the U.S. Treasury faced (U.S. Treasury, *Experience*, 1962, pp. 7-8).

The Treasury viewed the Swiss franc operation as highly successful, contending that without it, the United States would have lost somewhere between $250 million and $400 million in monetary gold (U.S. Treasury, *Experience*, 1962, p. 8). At the end of January 1962, the Treasury had $146.5 million (equivalent) outstanding Swiss franc forward contracts. Profits on the operation amounted to $450 thousand.

In February 1962, the Swiss franc began to weaken, requiring the SNB to support it with dollar sales. To acquire the necessary dollar balances, the SNB sold the Treasury $73.5 million in gold and $93.2 million in Swiss francs through May 1962.[21] Part of the Swiss franc purchases ($28.1 million equivalent) were on a swap basis.[22] The Treasury used Swiss franc balances to liquidate forward commitments and the certificates of indebtedness as they matured. (Coombs, September 1962, p. 1145).

3.3. Netherlands guilder Intervention

In September 1961, the U.S. Treasury purchased $15 million (equivalent) of Netherlands guilder, most of which it invested in guilder securities. With these funds providing cover, the Treasury undertook $4.9 million (equivalent) in forward sales of guilder through the Netherlands Bank in the Dutch market beginning in January 1962. In February, the Treasury acquired an additional $15 million guilder (equivalent), raising its total to $30 million, and expanded its forward operations (U.S. Treasury, *Experience*, 1962, p. 10). Treasury forward guilder sales in January and February 1962 reached $20.8 million (equivalent) (Federal Reserve Bank of New York, 1963). In July 1962, Britain made a large drawing of guilder from the IMF, which it used to buy dollars from the Netherlands Bank. To replenish its dollar reserves, the Netherlands Bank sold $20 million guilder (equivalent) to the Treasury under a temporary swap agreement (Coombs, September 1962, p. 1145).

3.4. Italian Lira Interventions

In 1961, strong dollar inflows pushed the Italian lira to its upper parity limit and kindled rumors of a revaluation. As Italy's dollar-to-gold reserve ratio rose, Italian authorities undertook dollar swaps with domestic commercial banks. The authorities would sell dollars for lira spot to the commercial banks and simultaneously buy them back at an established forward exchange rate. Italian authorities would then use the newly acquired lira to buy dollars from the same commercial banks. At the conclusion of the swap transactions, the commercial banks held exactly the same amount of dollars, but their holdings were now covered by a promise to deliver lira for dollars in the future at a set exchange rate. The temporary cover that these swaps provided to the Italian

commercial banks encouraged them to hold dollar balances instead of converting them to lira at the Bank of Italy. The transactions could be renewed.

In January 1962, the U.S. Treasury took over $200 million of these swaps, obligating it to deliver lira forward. The Treasury obtained cover for its commitments through a $150 million (equivalent) credit line with Italian authorities. The Treasury acquired an additional $100 million of these swap obligations in March. In early 1962, the Treasury also undertook some experimental spot lira transactions (U.S. Treasury, *Experience*, 1962, pp. 10-11).

3.5. Gold Swaps

In addition to these transactions, the U.S. Treasury undertook a series of three-month gold swaps with the Swiss National Bank and with the Bank of England in 1961. In March, the Treasury sold gold to the SNB for $25 million (equivalent) Swiss francs under an agreement to reverse the transaction on June 30. At maturity, the Treasury rolled the swap over until July 29, 1961, and also undertook a second $25 million (equivalent) gold swap, which it reversed on July 13, 1961. The Treasury undertook a $50 million (equivalent) gold swap with the Bank of England in April 1961, which matured in equal parts in May and July 1961.

The purpose of these gold swaps is not entirely clear. The Treasury reports that: "These gold transactions were undertaken at U.S. initiative and were designed to smooth out random short-run fluctuations in the Treasury's gold stock." (U.S. Treasury, *Experience*, 1962, pp. 11-12). That may be, but another objective—particularly in the Swiss case—may have been to keep the ratio of dollar reserves to gold below levels that may have required these countries to exchange dollars for U.S. gold.

4. The Federal Reserve's Decision to Intervene[23]

Both the Treasury and the Federal Reserve System viewed the Treasury's exchange-market interventions in 1961 and early 1962 as unmitigated successes (FOMC *Minutes*, September 9, 1961, p. 44). The Treasury had acted against short-term speculative movements of funds and easily—and profitably—unwound its positions when those speculative pressures reversed.

The ability of the U.S. Treasury to mount another broader dollar defense, however, was severely limited. By late 1962, the ESF had assets equal to approximately $340 million, but a large portion of this was committed to stabilization agreements with Latin American countries. This left the ESF with a paltry $100 million equivalent in European currencies and only about $20 million to $25 million available for acquiring additional foreign exchange.[24]

The Treasury welcomed and encouraged the Federal Reserve's participation in foreign-exchange-market interventions primarily because it would increase the amount of funds available for such operations.[25] Since March 1961, the Federal Reserve had sharpened its expertise in the area as the agent for the U.S. Treasury and foreign central banks. The Treasury already had access to the Fed's expertise. What the Treasury needed was the Fed's capacity to acquire additional foreign exchange.

On February 13, 1962, the FOMC authorized intervention in the foreign-exchange market for the System's own account. By participating with the Treasury, the Fed hoped to reassert, and possibly extend, its dormant influence in this area. In fact, Chairman Martin may have wanted to bring the entire foreign-exchange operation into the Federal Reserve's bailiwick (FOMC, *Minutes*, March 6, 1962, p. 72). Foreign-exchange

transactions closely paralleled and often interacted with domestic monetary-policy operations, so much so that many countries viewed intervention as solely a central-bank function. The Federal Reserve Act did not explicitly preclude such activities, and indeed the System had undertaken foreign-exchange operations in the past. One way or another, U.S. foreign-exchange operations were going forward, and the System wanted to shape their development.

To be sure, support for intervention within the System at the time was not unanimous. The debates at the FOMC meetings in late 1961 and early 1962 raised issues that would resurface periodically over the next 35 years, with the exception that as time went on, dissenters became more concerned about the adverse interactions between intervention and monetary policy and less concerned about its legality than they were in the early 1960s. But a clear majority of FOMC members have always favored System foreign-exchange operations, provided that they did not make the Fed in any way subservient to the Treasury, that they did not raise the ire of Congress, and that they did not interfere with the domestic objectives of monetary policy.

4.1. Legal Authority for System Interventions

At their September 12, 1961, meeting, FOMC members first formally discussed System participation in foreign-exchange operations. Chairman William McChesney Martin, with strong support from the New York Federal Reserve Bank, advocated the System's participation. To his mind, there was "no question but that this country was going to be in the business of foreign-exchange operations," and he wanted the Federal Reserve involved either alone, or in conjunction with the U.S. Treasury (FOMC, *Minutes*, September 12, 1961, p. 44).

Martin contended that the public did not distinguish between the Federal Reserve and the U.S. Treasury in these matters. Moreover, congressmen had already asked him informally if the Fed approved of the Treasury's actions, which he interpreted as indicating that the Fed's opinion was important in these matters. To Martin, participating was imperative, even if the Fed's role was very limited. He realized, however, "that the primary direction must come from the Treasury and that everything done by the Federal Reserve must be coordinated with the Treasury," but apparently Martin did not think this threatened the System's independence (FOMC, *Minutes*, September 12, 1961, p. 49). Martin always contended that the Federal Reserve was independent within the government and was not independent of the government. His distinction implied that the System must coordinate and cooperate with the Treasury as far as possible and particularly in government actions that did not directly interfere with monetary-policy decisions (see Bremner, 2004, and Meltzer, 2005).

The FOMC's primary concern was Congress, whose opinion about Fed intervention in the foreign-exchange market had never been unequivocal and firm. In the current climate, if all went smoothly, Congress probably would acquiesce. Congress was aware of the balance-of-payments problem and sympathetic to the policy dilemma that it posed. If the Fed's operations incurred a substantial loss or appeared to interfere with foreign policy, however, the System's relations with Congress could deteriorate. Legislative support for the operations was necessary. At a minimum, the FOMC wanted to be sure that its actions were legal.

The Federal Reserve Act did refer to specific types of foreign-exchange transactions, and at least seven times between 1924 and 1929 the Federal Reserve Bank

of New York extended credits to foreign central banks to shore up their reserves in defense of their currencies (FOMC, *Task Force Paper #1*, 1990, pp. 4-5). In 1925, for example, the Federal Reserve Bank of New York made $200 million worth of gold available to the Bank of England with the understanding that the Bank of England would place proceeds from any gold sales in a sterling investment account for the Federal Reserve Bank of New York. In 1933, however, Senator Carter Glass, whom many regarded as the father of the Federal Reserve Act, criticized these transactions, indicating that such "stabilization operations" were inconsistent with the original act. At that time, as discussed below, the Board of Governors took a position that was not inconsistent with Senator Glass's view. In 1934, Congress passed the Gold Reserve Act, establishing the ESF specifically for the purpose of intervening (see Bordo, Humpage, and Schwartz, forthcoming). But, in passing the Gold Reserve Act, did Congress mean to preclude the Fed from this arena?

In 1962, Howard Hackley, the Board of Governors' general counsel, provided a legal interpretation of the Federal Reserve Act that the FOMC would now adopt. The often-cited "Hackley Memo" argued that various sections of the Act—when considered together—authorized the Federal Reserve System to hold foreign exchange, to intervene in both the spot and forward markets, and to engage in swap transactions with foreign central banks and with the U.S. Treasury.

Section 14 of the Act was the key. It allowed the System to purchase and sell both spot and forward "cable transfers" in both domestic and foreign markets. Since cable transfers were the standard means of acquiring foreign exchange in the early part of the century, section 14 seemed to sanction—according to Hackley's interpretation—both

types of foreign-exchange intervention. More generally, however, section 12A(c) instructed the Federal Reserve System to undertake open-market operations—including transactions in foreign exchange—that accommodate commerce and business by promoting sound credit conditions in the United States. Defending the dollar, cooperating with foreign central banks and the IMF, and promoting trade certainly seemed consistent with this general objective. Section 12A(b) of the Act also specifically required the FOMC's authorization for all such open-market operations.

In addition, section 14(e) allowed the Federal Reserve to hold foreign exchange in the form of open accounts in foreign countries, to appoint correspondents, and to establish agencies.[26] These are necessary aspects of an intervention operation, particularly if the Federal Reserve hoped to operate through a foreign commercial bank or a central bank in a foreign market. In the 1930s, however, the Board of Governors interpreted this clause narrowly, arguing that the Act allowed the System to open accounts only to facilitate direct intervention transactions, but that it did not allow the System to hold foreign currency beyond what was immediately necessary for intervention. This interpretation seemed to preclude holding foreign-currency positions acquired outright or through swaps. In 1962, Hackley broadened the interpretation, arguing that the FOMC instead could construe the Act as allowing the System to maintain such accounts provided that it had a reasonable expectation of using them to finance intervention (Hackley, 1961, p. 13). Accordingly, the System regarded section 14(e) as authorizing it to undertake swaps with other central banks and eventually to amass a huge portfolio of foreign exchange. Hackley's interpretation was a clear change in the Board's

attitude and was in agreement with the Federal Reserve Bank of New York's original actions in the 1930s.[27]

More problematic for the System, however, was finding legal authority for purchasing foreign exchange from the ESF and for undertaking swap agreements (warehousing) with that agency.[28] The Banking Act of 1935 prohibited the Federal Reserve from purchasing government obligations except in the open market. Although Congress had permitted some direct purchases of government securities during World War II and although the Fed retained some very limited authority to do so after the war, Congress clearly did not want the System lending resources to the Treasury "in a manner that might be inconsistent with the System's monetary and credit responsibilities" (Hackley, 1961, p. 18). Hackley argued that swap agreements with the Treasury did not violate the open-market provisions of the Banking Act of 1935. In contrast to government securities, foreign currency was not a liability on the U.S Treasury's balance sheet; therefore, that agency was part of the open market for foreign exchange. Moreover, the United States was a "domestic corporation." This was a necessary criterion because the Federal Reserve Act also limited open-market operations to domestic corporations. In Hackley's opinion, the System could lawfully buy and sell foreign exchange from the ESF or the Treasury.[29] Unlike most of the legal controversies associated with Federal Reserve intervention, the debate about the appropriateness of warehousing would never quite disappear (see Broddus and Goodfriend, 1996, and Hetzel, 1996). Opponents would consistently argue that warehousing constituted a System loan to the ESF using foreign exchange as collateral and was, therefore, inappropriate. It contravened principles of central-bank independence and thereby

impinged on the credibility of monetary policy. Proponents would eventually argue that warehousing did not constitute a loan, but instead was a straightforward and permissible asset swap between the two agencies.

4.2. Other FOMC Objections

Aside from the question of the Federal Reserve's legal authority for intervention, four other key issues arose during the FOMC's discussions in late 1961 and early 1962. One was political: Some members of the FOMC feared that even if the Federal Reserve Act did provide legal authority for intervention, Congress might interpret the Federal Reserve's involvement as a budgetary bailout for the Treasury. Congress established the ESF specifically for the purpose of intervening in the foreign-exchange market, and capitalized the fund with an appropriation of $2.0 billion. In 1945, Congress used $1.8 billion of ESF funds to pay the U.S. contribution to the IMF. Karl Bopp, the president of the Federal Reserve Bank of Philadelphia, argued that these events suggested that Congress intended to limit the amount of funds that the ESF could devote to foreign-exchange operations (FOMC, *Minutes*, September 12, 1961, pp. 49-50). If so, then the System's unlimited participation with the ESF might appear as a method of circumventing Congress's budgetary authority. If the ESF wanted more funds for intervention, it should seek a larger Congressional appropriation.[30] Moreover, the ESF made loans to developing countries and currently had a substantial amount committed to Latin America. These were essentially foreign policy actions related to State Department functions. Might Congress view the Federal Reserve's foreign-exchange operations as a back-door means of financing these foreign-policy operations? Could the Federal

Reserve become embroiled in a dispute among Congress, the Treasury, and the State Department about foreign policy?

A second FOMC concern focused on the bureaucratic authority for intervention and its implication for Federal Reserve independence. Congress created the ESF and vested the Treasury with primary responsibility for intervention in part because of its dissatisfaction with Fed interventions during the 1920s and 1930s. If the Treasury had primary responsibility for intervention, as Chairman Martin acknowledged, could it direct how the Federal Reserve operated for the System account? The U.S. secretary of the treasury, the nation's primary financial officer, is responsible to both the president and the Congress of the United States for formulating and implementing all U.S. financial policies, and the Gold Reserve Act of 1934 gave the Treasury primary responsibility for intervention. If, as the FOMC now claimed, the Federal Reserve Act authorized the System to independently conduct foreign-exchange operations, the potential for conflict with the Treasury existed. At a minimum, the System's foreign-exchange operations cannot act in a way contrary to U.S. international financial policies (FOMC, *Task Force Paper #6*, 1990). In subsequent testimony before the House Committee on Banking and Currency, Chairman Martin pledged to avoid conflicts with the Treasury in conducting the System's intervention operations, saying "the System will, of course, coordinate its foreign-exchange operations with those of the Treasury Stabilization Fund" (quoted in FOMC, *Task Force Paper #6*, 1990, p. 1). Coordination would be on a day-to-day basis.

In addition, the Board staff assumed that the Treasury could not direct the Federal Reserve in operations for the System's account (FOMC, *Minutes*, September 12, 1961, p. 51). In a December 18, 1961, letter to Chairman Martin, Treasury Secretary Dillion

pledged, "the Treasury on its part would naturally want to avoid impinging on the independence of the Federal Reserve System within the Government." [31] The lines of authority were not clearly defined in the early 1960s, and experience would show that the Treasury's preeminence in the area would only occasionally create difficulties for the Federal Reserve System (as when the System later sought to terminate its swap drawings with Belgium).

On the surface, the third concern focused on the ability of the Federal Reserve to respond quickly to speculative attacks against the dollar, but underlying this may have been a deeper concern about who would actually run the show within the Fed and how it would affect the relative authority of the FOMC, the Board of Governors, and the Federal Reserve Bank of New York. Many within the Federal Reserve System thought that a special subcommittee of the FOMC was necessary to directly oversee foreign-exchange intervention because an emergency situation could quickly arise when the full committee was unavailable for consultation and immediate decisions. Making a quick response time all the more crucial, the Fed needed to coordinate most operations with foreign central banks, which might be five or even twelve hours ahead. In a memorandum dated February 8, 1962, the Board's General Counsel, Howard Hackley, recommended that foreign-exchange operations be put under the supervision of the Board of Governors instead of the FOMC. The Board meets almost daily and has foreign-exchange experts on staff. Moreover, while Hackley contended that the law allowing the Fed to engage in foreign-exchange operations was clear, he also argued that giving control to the Board of Governors instead of the FOMC was "…more defensible from a legal standpoint." (FOMC, *Minutes*, February 13, 1962, p. 64). Others, including Governor Robertson, who

opposed Hackley's interpretation of the Federal Reserve's authority for intervention, and the president of the Federal Reserve Bank of Cleveland, W. D. Fulton, supported Hackley by arguing that the Board was more of a "public body" than the FOMC. Apparently, because elected officials appointed governors, but not Federal Reserve Bank presidents, the former had more authority to deal with issues that touched the fringe of foreign policy than the latter. The president of the San Francisco Federal Reserve Bank, Eliot Swan, however, articulated the underlying concern with Hackley's recommendation: "To shift from the Committee to the Board might give support to those who would like to change rather basically the fundamental structure of the System." (FOMC, *Minutes*, February 13, 1962, p. 68).

While most participants favored maintaining FOMC authority, many thought that a smaller management group was necessary to deal with emergency situations. At issue was the extent of a subcommittee's authority. A subcommittee with broad authority might not confine its activities to administration, but would instead actually make policy (FOMC, *Minutes*, December 5, 1961, p. 71). Ultimately, the FOMC decided to authorize a committee consisting of the chairman and the vice chairman of the FOMC and the vice chairman of the Board to conduct operations when the full committee was unavailable. The subcommittee, however, was to act within FOMC guidelines, which we discuss below. This subcommittee could, however, set maximum amounts of individual currency holdings, establish exchange-rate limits, review and approve any agreements between the Federal Reserve Bank of New York and foreign central banks, and take emergency actions when the full FOMC was unavailable.

Chairman Martin also wanted the special manager, who actually undertook intervention operations through the Foreign Exchange Desk at the Federal Reserve Bank of New York, to be an employee of the FOMC and not, as currently was the case, an employee of the Federal Reserve Bank of New York. Not surprisingly, the president of the Federal Reserve Bank of New York objected that this move would reduce the bank's authority—specifically the authority of its directors—and wanted to maintain the current set-up. The FOMC, however, accepted the chairman's recommendation and the special manager became an employee of the FOMC (FOMC, *Minutes*, April 17, 1962 pp. 2-3).

A final issue focused on the exact role of intervention. Policy makers at the Federal Reserve all seemed to agree that the broad objective of intervention was to defend the dollar, thereby reducing gold outflows and bolstering confidence in the dollar's parity. But how extensive should these operations be? At one point, the Federal Reserve Bank of New York suggested undertaking seasonal and cyclical interventions to smooth out anticipated balance-of-payments flows (FOMC, *Minutes*, December 5, 1961, p. 49). Some FOMC members, however, were concerned that prolonged intervention might actually interfere with balance-of-payments adjustment and actually prolong disequilibrium. Governor Mitchell argued that if a foreign country had a balance-of-payments surplus and wanted to acquire gold, the United States should accommodate that country. The United States, therefore, needed a policy to facilitate an orderly loss of gold. Intervention might prevent a sudden loss of gold, but the danger was that absent a fundamental policy change, the demand for gold would grow and eventually worsen confidence in the official gold price. Similarly, Governor King feared that "people would be likely to put too much reliance on these operations to guard the dollar…" (FOMC,

Minutes, September 12, 1961, p. 55). Governor Roberts also feared that if the Fed repeatedly disrupted the private market's pricing process, the willingness of private market participants to make a market in foreign exchange might deteriorate (FOMC, *Minutes*, December 5, 1961, p. 60). For these reasons, the FOMC favored only temporary interventions that would offset transitional, disequilibrating disruptions in the foreign-exchange market and that would not attempt to avoid fundamental market adjustments. As time would tell, however, distinguishing between temporary, disequilibrating developments and those of a more fundamental nature was difficult.[32]

As time would tell, however, it became increasingly difficult to distinguish between temporary, disequilibrating developments and those requiring a more fundamental adjustment.

4.3. A Cautious Approach

Most FOMC members favored intervention and were sympathetic to Hackley's interpretation of the Federal Reserve Act. Nevertheless, they wanted to proceed cautiously and to first seek, with the cooperation of the Treasury, legislative clarification from Congress (FOMC, *Minutes*, December 5, 1961, pp. 78-79). In the face of this hesitancy, Chairman Martin, Alfred Hayes, president of the Federal Reserve Bank of New York, and Charles Coombs, first vice president of the Federal Reserve Bank of New York, stressed that foreign-exchange markets were currently very sensitive to speculative pressures. They argued for going forward on an emergency basis and seeking Congressional approval afterwards. (The Treasury made a similar appeal.) The sense of urgency swayed the FOMC. While urgency was the chairman's stated motivation, he

also may have hoped to avoid a full-fledged Congressional review of the System's role in intervention, especially, one that might provide an opportunity for other changes in the Federal Reserve Act.[33]

On January 23, 1962, with two members dissenting, the FOMC approved foreign-exchange operations for the System's account on an experimental basis (FOMC, *Minutes*, January 23, 1962, p. 41). Governor Mitchell objected, contending that the System first needed Congress's explicit approval. Similarly, Governor Roberts dissented, arguing that the Federal Reserve Act did not clearly authorize these types of stabilization actions, that the FOMC was basing its decision on incidental authority in the Act, and that Congress intended to confer only limited authority for such actions to the Treasury's ESF.[34]

In late February 1962, Chairman Martin reported to the House Committee on Banking and Exchange that the Federal Reserve "had recently decided to reenter the field of foreign-exchange transactions." He reported that the general counsel for the U. S. Treasury and the attorney general of the United States concurred with Hackley's interpretation of the legal basis for the FOMC's decision. In general, the U.S. Congress accepted the Federal Reserve's interpretation of its authority. Representatives Henry Reuss and Wright Patman, however, did not agree. Representative Reuss contended:

> Much of the operation that you are doing…seems to me to duplicate the foreign exchange stabilization operation that the Secretary of the Treasury has very properly undertaken pursuant to the Gold Reserve Act of 1934. To me this is a tremendous power you have taken upon yourself, and I must serve notice on you right now that I consider this an usurpation of the powers of Congress… You come in here and tell us that you propose to go off on, if I may say so, a frolic of your own, involving unspecified sums without the slightest statutory guidance." (quoted in Hetzel, 1996)

The System has since reported on its foreign-exchange operations, and Congress has been aware of its activities. In the 1980s, under the Monetary Control Act, Congress amended section 14(B)(1) of the Federal Reserve Act to allow the System to invest foreign currencies acquired through its foreign-exchange operations in short-term foreign government securities.[35] The FOMC has interpreted this as tacit Congressional approval of the Federal Reserve's foreign-exchange operations. Serious concern about the legal authority of the Federal Reserve's intervention activities never again arose within the FOMC. Instead, concern focused on how intervention conducted in conjunction with the Treasury and, especially, warehousing might interfere with Federal Reserve independence and the credibility of monetary policy (see Broaddus and Goodfriend, 1996, and Hetzel, 1996).

4.4. Operations

On February 13, 1962, the FOMC approved the *Authorization Regarding Open Market Transactions in Foreign Currencies*, the *Guidelines for System Foreign Currency Operations*, and the *Continuing Authority Directive on System Foreign Currency Operations.* These documents provided the FOMC's instructions to the Subcommittee of Foreign Exchange, the special manager, and the Foreign Exchange Desk of the Federal Reserve Bank of New York for undertaking foreign-exchange operations for the System's account.

The *Authorization* lists the broad and specific goals of the operations, and sanctions specific types of transactions. As stated in this document, the basic purposes of the operations were: (1) to safeguard the value of the dollar, (2) to improve the efficiency of payments by avoiding disorderly conditions, (3) to promote monetary cooperation

among central banks and international organizations, (4) to moderate temporary international payments imbalances that might adversely affect reserves, and (5) to foster growth in international liquidity compatible with the needs of an expanding world economy. In addition to these basic purposes, the document also listed more specific aims for the Federal Reserve's transactions. These were: (1) to protect the U.S. gold reserve from international payments flows stemming from temporary disequilibrating forces or transitional market unsettlement, (2) to temper abrupt changes in spot rates and moderate forward premia and discounts judged to be disequilibrating, (3) to supplement exchange arrangements such as those made through the IMF, and (4) to provide a means whereby reciprocal holdings of foreign currencies might contribute to international liquidity needs. The *Authorization* allowed spot and forward transactions at prevailing rates in both U.S. and foreign markets and allowed transactions with the ESF.

The *Authorization* also provides guidance with respect to communications. Besides keeping the FOMC informed of the operations, the *Authorization* required close consultation with foreign central banks, and also instructed the chairman to keep the secretary of the treasury fully advised about System foreign currency operations. The chairman was to consult with the secretary on all matters that related to Treasury responsibilities, and the Federal Reserve staff was to transmit all pertinent information about System foreign-currency operations to the U.S. Treasury. A daily conference call would take place among representatives of the Federal Reserve Board, the Treasury, and the Federal Reserve Bank of New York (see U.S. Treasury, *Memorandum*, 1962, pp. 5-6). At this call, participants would discuss current market conditions and any planned operations. At the end of the day, the Federal Reserve Bank of New York would provide

all principals a summary of the day's operations. The *Authorization* also instructed the chairman to report periodically to the National Advisory Council on International Monetary and Financial Problems. The FOMC also understood that the System and the Treasury would consult before "either entered into any agreements with foreign central banks or governments regarding possible foreign-currency operations." (FOMC, *Minutes*, February 13, 1962, p. 93). The *Authorization* established the aforementioned subcommittee for foreign-exchange operations to instruct the special manager when the full FOMC was unavailable.

The *Guidelines* are more explicit with respect to current operations. On February 13, 1962, they limited the holdings of foreign currency to an amount that would allow the Foreign-Exchange Desk to "exert a market influence," and to cover outstanding forward commitments. It also instructed the Federal Reserve Bank of New York on operating procedures. The desk was to transact at prevailing exchange rates and was not to attempt to establish rates that were inconsistent with underlying market forces. Absent explicit authorization to the contrary, the Federal Reserve Bank of New York was to purchase foreign currencies at, or below their par values and was to lower the purchase rate that it paid for any foreign currency as the amount that the Bank held approached the limits that the FOMC set. The Federal Reserve Bank of New York was to follow a similar technique for sales of foreign exchange. The document also required that operations be coordinated in the sense of not acting at cross purposes with another central bank.

The *Guidelines* indicated that spot intervention was appropriate "whenever exchange-market instability threatens to produce disorderly conditions" and listed some conditions (e.g., political tensions, wide interest-rate differentials) that might signal such

developments. Forward operations were appropriate when forward premia or discounts were inconsistent with interest-rate differentials or when such forward operations "encouraged the retention or accumulation of dollar holdings abroad." This latter condition allowed for swap transactions. The *Guidelines* also allowed the FOMC to take over outstanding forward contracts that the ESF originated. The System also agreed to purchase foreign currencies that the Treasury acquired under existing credit arrangements with foreign central banks and governments and to do likewise—after consultation—in the future, and to buy foreign currencies that the Treasury acquired from the IMF (FOMC, *Minutes*, February 13, 1964, p. 94). Moreover, the System agreed "to purchase currencies…from the Treasury either outright or under mutually satisfactory resale agreement [warehousing], in the event that exchange-market developments obliged the Fund to exhaust available resources." (FOMC, *Minutes*, February 13, 1964, p. 94).

The initial *Continuing Authority* sanctioned transactions in: British pounds, French francs, German marks, Italian lira, Netherlands guilders, and Swiss francs, with total holdings not to exceed $500 million. This limitation would frequently change to accommodate broader operations.

4.5. Acquiring an Initial Position

With a balance-of-payments deficit and the dollar often trading at the lower end of parity bands, the Fed needed foreign exchange to mount a dollar defense, but any purchase of foreign exchange would supply more dollars to the market, put additional downward pressure on the dollar, and increase the potential drain of U.S. monetary gold (see U.S. Treasury, *Memorandum*, 1962). The Fed looked to acquire a small amount of foreign exchange from the market or from foreign central banks whenever a fortuitous

opportunity presented itself, and some occasions arose in early 1962. In addition, the Treasury sold outright to the Federal Reserve System $32 million equivalent German marks in February and March, and $0.5 million equivalent each in Swiss francs, Netherlands guilder, and Italian lira (Federal Reserve Bank of New York, 1963, tables 3, 6, and 7). The Treasury also agreed to sell to the Federal Reserve System, either outright or through repurchase agreements, currencies held by the ESF, if the ESF exhausted its available dollar funds for foreign-exchange operations. These currencies permitted the System to open accounts with the central banks of Germany, Switzerland, the Netherlands, and Italy. The System already had British sterling and French francs in accounts with the Bank of England and with the Bank of France (FOMC, *Scope and Character*, 1962, p. 1).[36]

The System also established a series of reciprocal currency arrangements—the swap network—with major central banks. Swaps are standard foreign-exchange-market transactions in which parties simultaneously undertake spot and offsetting forward transactions at agreed prices and settlement dates. The swap network provided the System and foreign central banks an off-market means of financing interventions during the Bretton Woods era. By the end of 1962, the Federal Reserve System's swap network totaled $900 million and included nine countries and the Bank for International Settlements (see table 1). By 1973, the network grew to $17.4 billion (see figure 5).

5. Conclusion

By mid-1962, U.S. monetary authorities had established the necessary institutional arrangements for defending the U.S. gold stock and ultimately the official dollar price of gold against temporary speculative financial flows. Chiefly by providing

foreigners—usually monetary authorities—with cover for their excess dollar exposures, swaps and foreign-currency-denominated securities encouraged them to maintain these positions instead of converting them to gold. To this end, these arrangements were eminently successful.

These policies ultimately failed, however, because U.S. policy makers predicated their construction on a false premise. At the time, U.S. policy makers viewed the deterioration in the U.S. balance of payments after 1957 as a temporary phenomenon—one that would reverse itself. They failed—or refused—to recognize emerging balance-of-payments and gold-market patterns—specifically the relationship between dollar liabilities and the U.S. gold stock—as evidence of a fundamental problem with the Bretton Woods system. They failed to undertake a real dollar depreciation to stem the persistent U.S. balance-of-payments deficit and to devise a mechanism for providing reserves that were not tied to the U.S. dollar and ultimately linked to a U.S. balance-of-payments deficit. To the extend that these mechanisms for intervention delayed the necessary adjustments, they did little more than delay the ultimate unfolding of the Bretton Woods system and in so doing, may have made the collapse worse than it otherwise would have been.

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Endnotes

[1] For an overview of Bretton Woods see: Meltzer (1991), Bordo (1993), and James (1996). Previous discussions of U.S. intervention during the period include Pauls (1990), Todd (1992), and Hetzel (1996).

[2] Article VI of the IMF *Articles of Agreement* authorized restrictions on financial flows.

[3] Pauls (1990, p.894) claims: "The Federal Reserve had operated on a very limited ad hoc basis for its own account in the forward exchange market in 1961." We have not been able to verify this in official documents.

[4] Meltzer (1991, 2005), Broaddus and Goodfriend (1996), Hetzel (1996), and Todd (1999) have explored these themes.

[5] Although we only consider Triffin's paradox in this paper, two other factors contributed to the demise of the Bretton Woods system. The second problem underlying the unraveling of Bretton Woods was an unacceptable rise in U.S. inflation beginning in 1965. This exacerbated Triffin's paradox by forcing other countries to hold even more dollars. Once President Nixon closed the gold window in 1971, foreign nations that were unwilling to inflate along with the United States either could impose costly and disruptive restraints on international transactions or float their currencies. In March 1973, they generally chose the latter. The third factor was shortcomings associated with the adjustment of cross rates within the system. Although cross-rate-adjustment problems stemmed from economic developments within specific foreign countries and not directly from the persistent U.S. balance-of-payments deficits, they contributed to the dollar's difficulties because they created uncertainty about the entire Bretton Woods parity structure, and because they induced speculative flows from deficit countries to surplus countries, which passed through dollars and added to the large, often unwanted dollar positions of surplus countries.

[6] To construct the real price of gold, we deflate the official price using the nonseasonally adjusted consumer price index, 1982-84 =100.

[7] All U.S. balance-of-payments data are from the U.S. Commerce Department as reported in the *Economic Report of the President*, 1969.

[8] Triffin (1960) suggested creating a source of non-dollar international reserves through the IMF. The IMF first issues Special Drawing Rights in January 1970.

[9] Unless otherwise indicated, data on gold in this section are from Board of Governors (1976) tables 14.1 & 14.3.

[10] These figures include a $344 million payment (gold subscription) to the IMF in 1959.

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[11] Until 1968, U.S. law mandated a 25% gold reserve requirement on outstanding notes and liabilities of the Federal Reserve Banks.

[12] Budget deficit data are from the *Economic Report of the President* (2005), Table B-78, and include on-budget and off-budget balances.

[13] Maisel (1973, pp. 221-222), who served as a Federal Reserve governor, estimates that "international consideration caused a change in the actual target of the FOMC, during the period I served on the Fed [1965-1972], from what it would have been on purely domestic grounds in only eight out of more than one hundred directives. In some additional cases, the directive was shaded, but not drastically, because of international reserve flows."

[14] Eventually, policy makers referred to this program as "Operation Nudge" and later still as "Operation Twist."

[15] Bordo, Humpage, and Schwartz (forthcoming) discusses the Gold Pool in detail.

[16] Unless otherwise indicated, the information and data in this section about Treasury interventions all come from an internal document that the U.S. Treasury prepared and transmitted to the Board of Governors. The document is entitled: "Treasury Experience in the Foreign-Exchange Market," and is hereafter referred to as "U.S. Treasury, *Experience (1962)*" (see References).

[17] Congress established the Exchange Stabilization Fund under the Gold Reserve Act of 1934 for the purpose of foreign-exchange-market intervention. We discuss the ESF in chapter 2 of *A History of U.S. Foreign-Exchange-Market Intervention*.

[18] U.S. Treasury, (1962, p. 721).

[19] This statement, of course, ignores the cost of financing and covering the transactions.

[20] Debt prepayments stemmed from negotiations between the Eisenhower administration and Germany over the cost of troop deployment.

[21] Coombs (1962) and Federal Reserve Bank of New York (1963) report different amounts for the Swiss franc sales to the SNB in early 1962. We report data from the Federal Reserve Bank of New York (1963), p. 7 and p. B-23.

[22] The Treasury swaps were on an *ad hoc* basis. Unlike the Federal Reserve System, which we discuss below, the Treasury did not maintain formal reciprocal swap lines that reverted to a standby basis when not drawn down.

[23] The analysis in this section draws on the Federal Open Market Committee *Minutes* of September 12, 1961 and December 19, 1961. See also Hetzel (1996), Todd (1992), and FOMC Task Force Paper #1.

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[24] These data on the ESF are discussed in U.S. Treasury, *Memorandum* (1962, p. 2). U.S. Treasury, *Experience* (1962) also contains a table showing foreign currency holdings.

[25] Whether the impetus for the Federal Reserve's participation in U.S. foreign-exchange operations originated with the Treasury or with the Federal Reserve System is not entirely clear. The Treasury's website suggests that the Treasury "invited" the Federal Reserve to participate in the interventions in 1962, and this is the conventional view (see www.ustreas.gov/offices/international-affairs/esf/history). The FOMC, *Minutes*, (January 9, 1962, p. 66-67), however, seem to suggest that the Federal Reserve System considered foreign-exchange intervention on its own initiative.

[26] Although open-market operations, including foreign-exchange interventions, fell under the purview of the FOMC, these associated activities fell under the Board of Governor's jurisdiction.

[27] In 1920s and 1930s, however, the Federal Reserve Bank of New York was providing stabilization funds to foreign central banks; it was not directly defending the dollar's exchange value.

[28] Warehousing refers to a swap transaction between the Federal Reserve System and the U.S. Treasury in which the Treasury sells foreign currency to the System for dollars spot and buys it back forward at a specific rate and settlement date.

[29] Hackley (1962, 19 – 20), however, did not believe that the Federal Reserve could deal directly with the IMF in any other than in its capacity as an agent of the Treasury.

[30] Why the Treasury did not seek to increase the ESF's appropriation is unclear. The Treasury may have feared that Congress would only increase the ESF's appropriation if the Treasury would agree to some type of Congressional oversight. The ESF is unusual in that only the president and the secretary of the treasury can review its actions (see Schwarz, 2005).

[31] A copy of this letter is found in *Task Force #2*, 1990, appendix A.

[32] We develop this theme more fully in the next two essays on Bretton Woods.

[33] Robert H. Knight, General Counsel of the Treasury, had warned Hackley that the System should move forward without legislation in part because "there was a range of ideas on the Hill with regard to the Federal Reserve System, including varying views with respect to the operation and organization of the System. Legislation, if sought, might become a vehicle for adding various amendments the nature of which could not be foretold." See FOMC, *Minutes*, January 9, 1962, p. 61.

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[34] Governor Robertson expressed the reasons for his dissent at the December 5, 1961 FOMC meeting. See FOMC, *Minutes*, December 5, 1962, pp. 57-62. See also *Task Force* #2, pp. 3-4

[35] In 1982, with the onset of developing-country-debt problems, some members of Congress expressed concern that the Fed might use its authority to invest in foreign securities as a means of providing financial assistance to debtor countries (FOMC, *Task Force #1*, pp. 23-24)

[36] It is not clear when or how the System obtained these accounts.

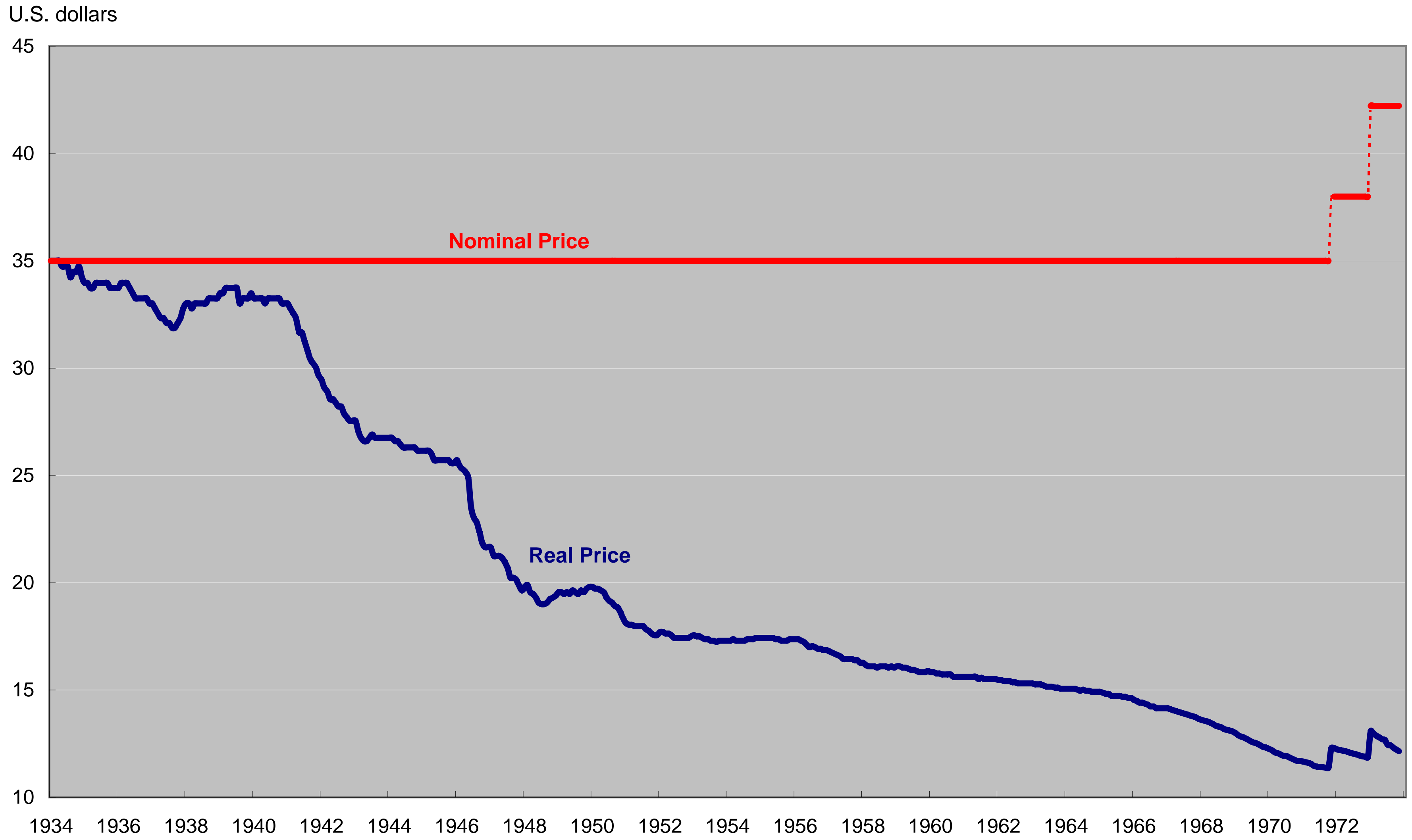


Figure 1: Real and Nominal Gold Prices
U.S. dollars
45
40
35
30
25
20
15
10
Nominal Price
Real Price
1934
1936
1938
1940
1942
1944
1946
1948
1950
1952
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
Source: Bureau of Labor Statistics

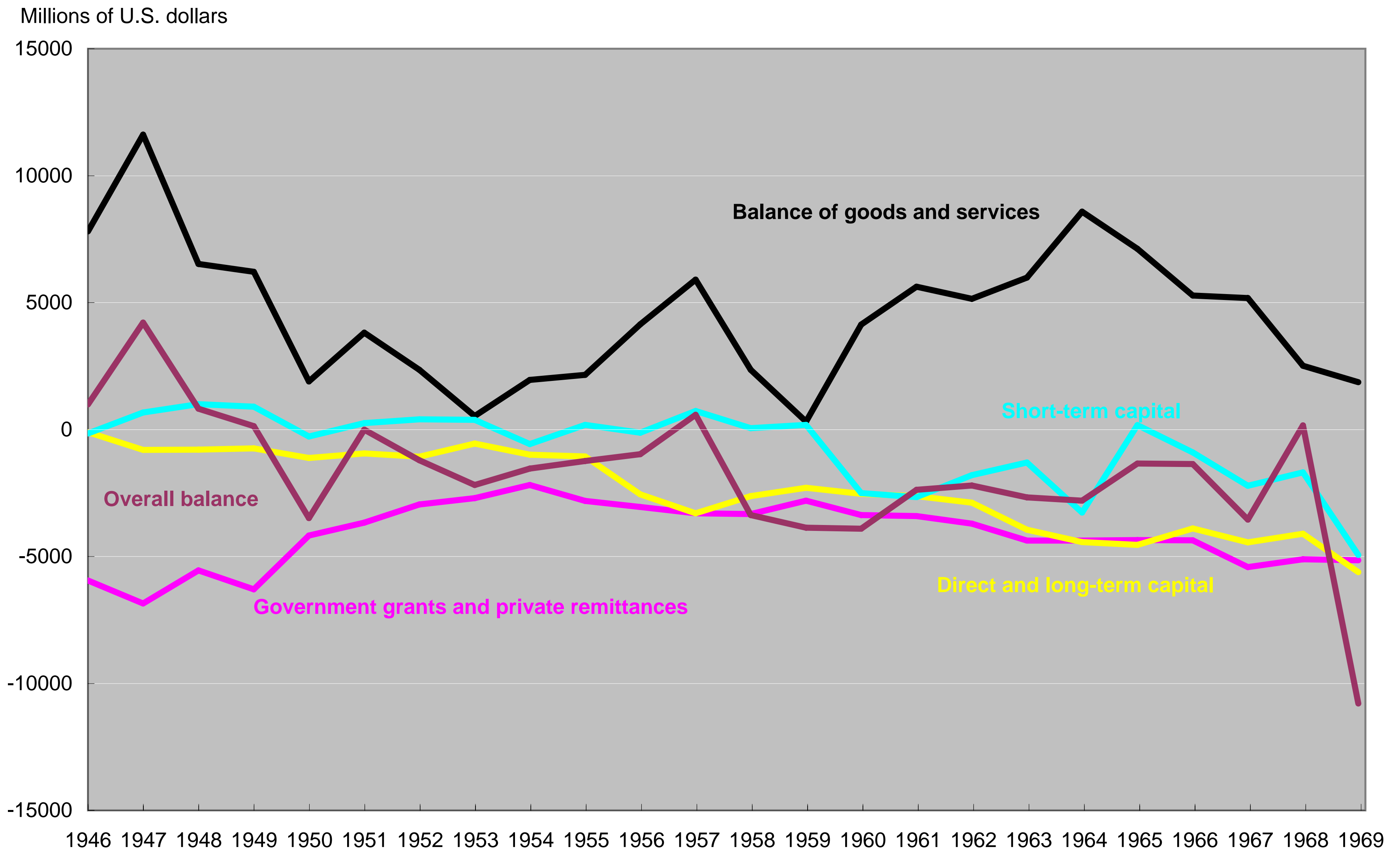
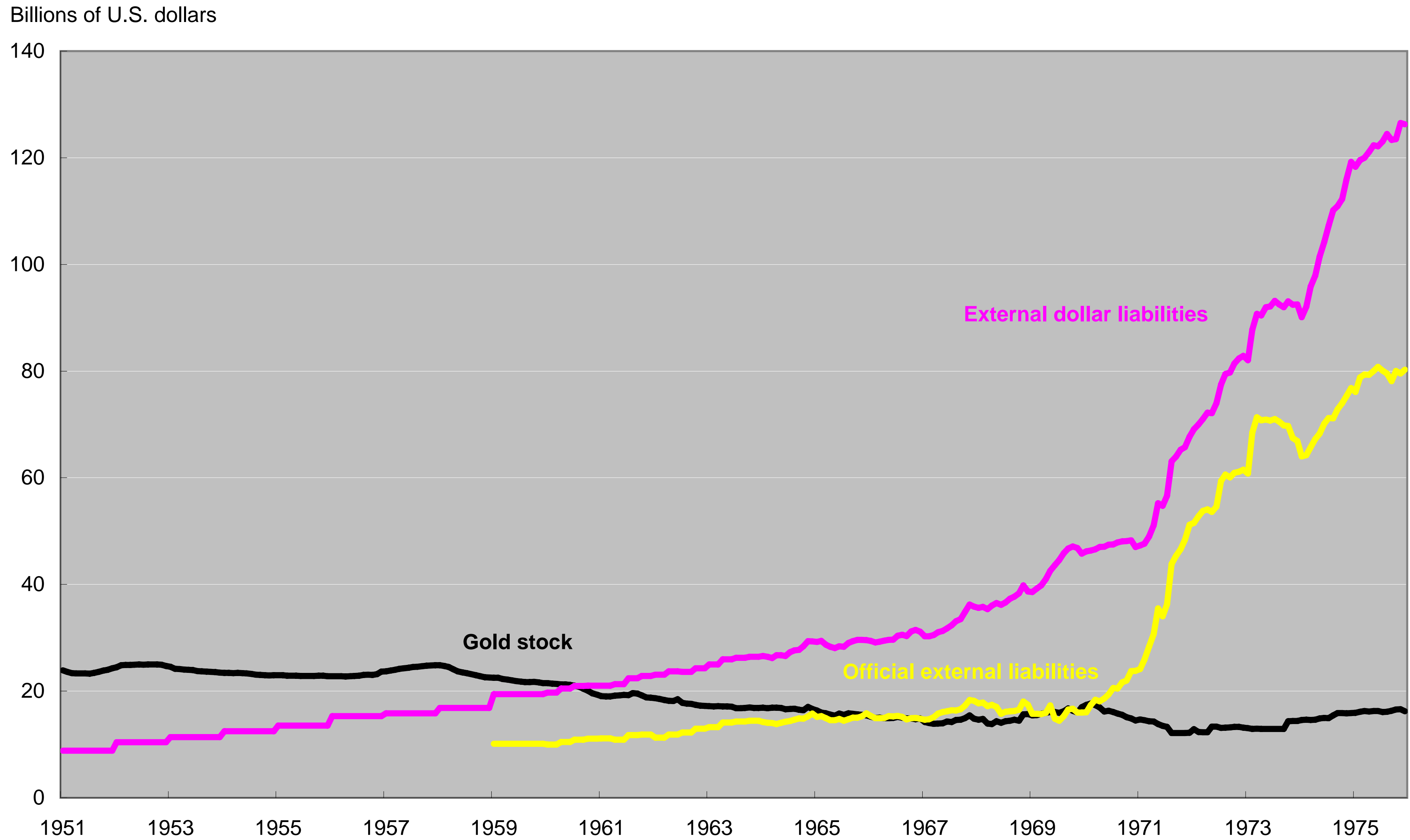


Figure 2: U.S. Balance of Payments Trends, 1946-1969
Millions of U.S. dollars
15000
10000
5000
0
-5000
-10000
-15000
Balance of goods and services
Short-term capital
Overall balance
Direct and long-term capital
Government grants and private remittances
1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969
Source: U.S. Department of Commerce



Source: Banking and Monetary Statistics 1941-1970. Washington D.C. Board of Governors of the Federal Reserve System. September 1976. Table 14.1, 15.1

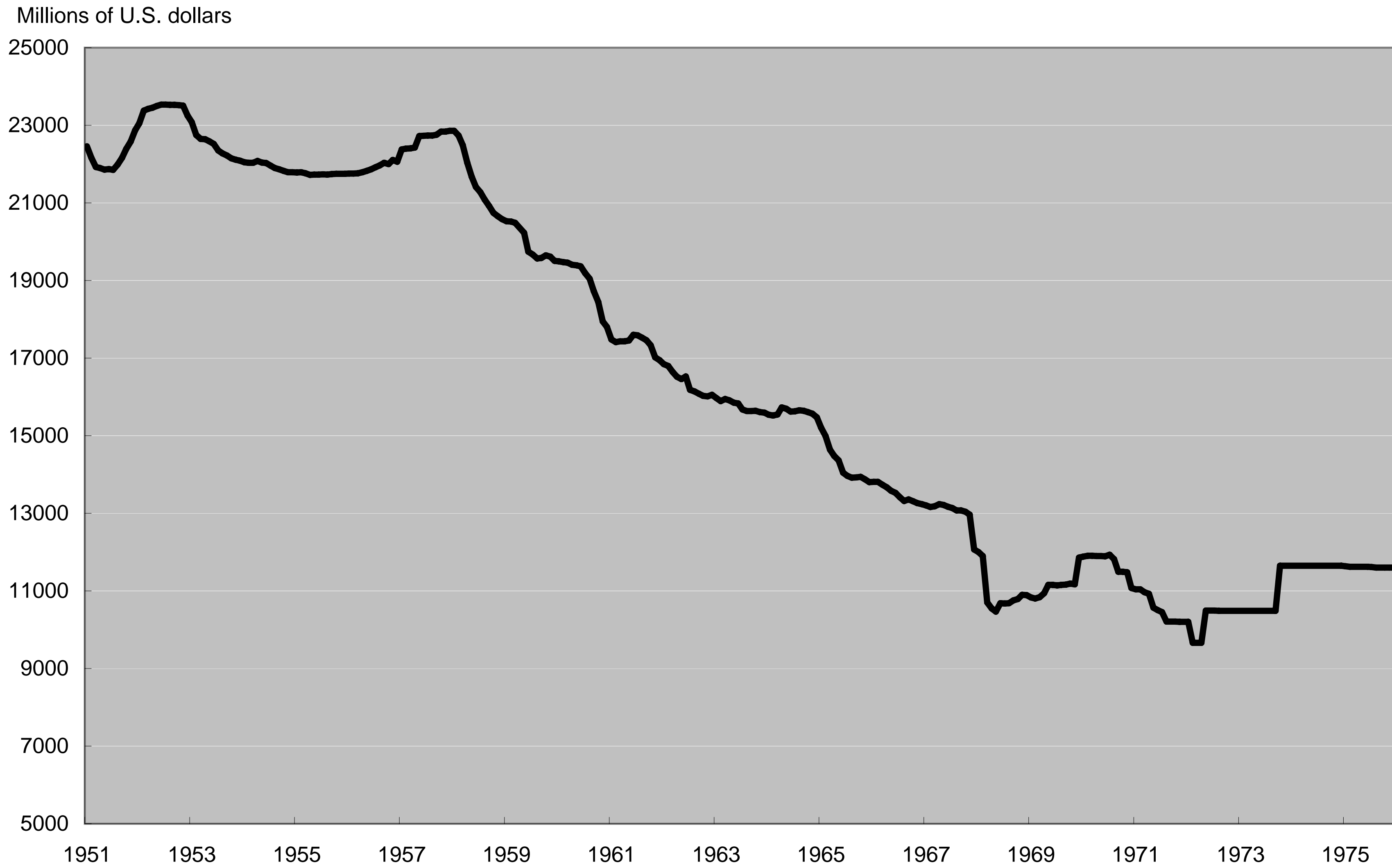


Figure 4: U.S. Gold Stock, 1951-1976
Millions of U.S. dollars
25000
23000
21000
19000
17000
15000
13000
11000
9000
7000
5000
1951
1953
1955
1957
1959
1961
1963
1965
1967
1969
1971
1973
1975
Source: Federal Reserve Bulletin

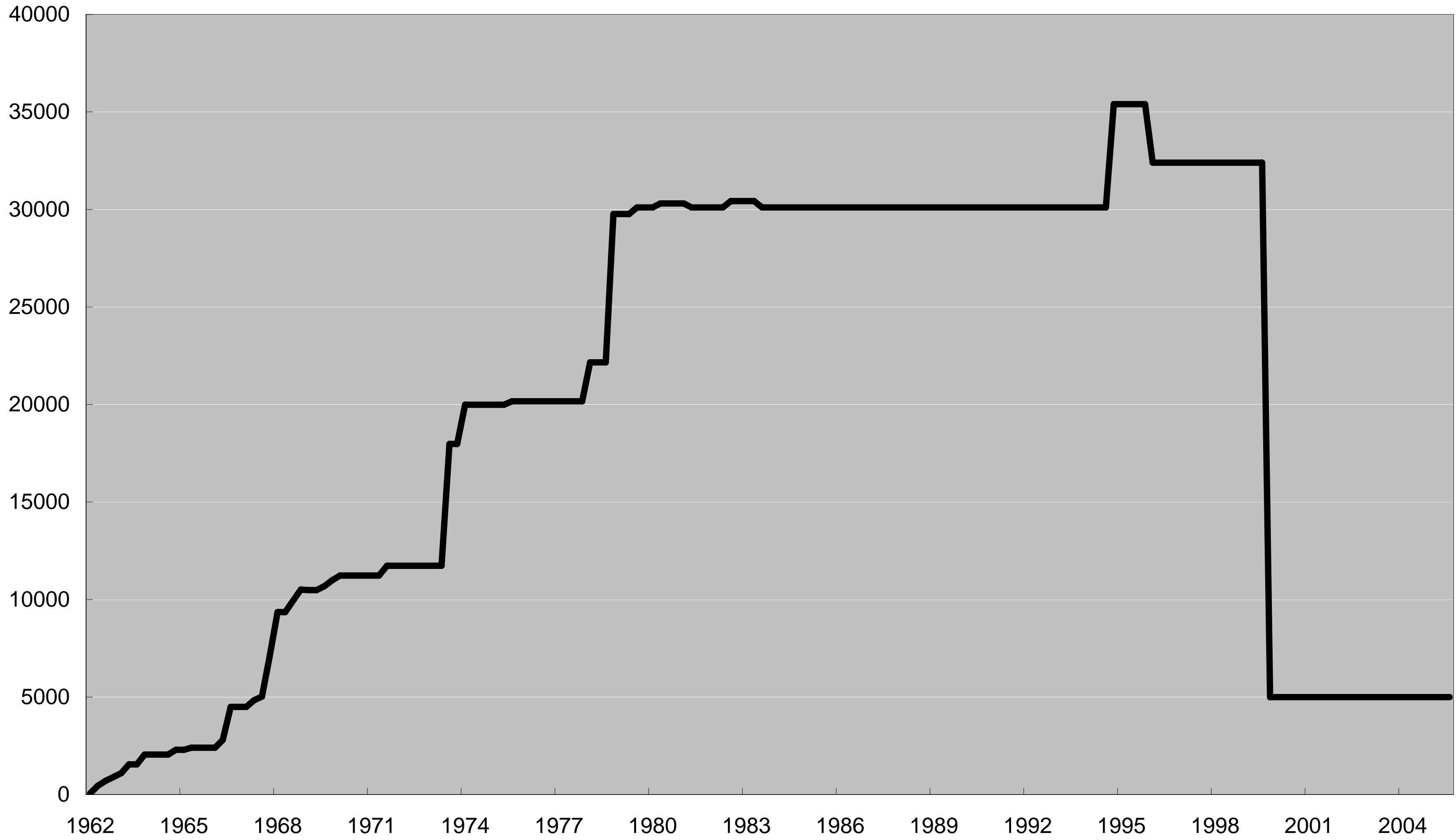


Figure 5: Swap Lines
Millions of U.S. dollars
40000
35000
30000
25000
20000
15000
10000
5000
0
1962
1965
1968
1971
1974
1977
1980
1983
1986
1989
1992
1995
1998
2001
2004
Source: Board of Governors of the Federal Reserve System

Table 1: FEDERAL RESERVE RECIPROCAL CURRENY AGREEMENTS, 1962

Party to Agreement	Amount *($ -- millions)*	Date of Original Agreement	Term *(months)*
Bank of France	50	March 1, 1962	3
Bank of England	50	May 31, 1962	3
Netherlands Bank	50	June 13, 1962	3
National Bank of Belgium	50	June 20, 1962	6
Bank of Canada[a]	250	June 26, 1962	3
Bank for International Settlements[b]	100[C]	July 16, 1962	3
Swiss National Bank	100	Junly 16, 1962	3
German Federal Bank	50	Augsut 2, 1962	3
Bank of Italy	150	October 18, 1962	3
Austrian National Bank	50	October 25, 1962	3
TOTAL	900		

Notes:
a Announced on June 24, 1962
b In Swiss francs
c Increased to $150 million on December 6, 1963

Source: Federal Reserve System