Treasury and Federal Reserve Foreign Exchange Operations*

By CHARLES A. COOMBS

In 1970, the official settlements balance of the United States swung into a deficit of $10.7 billion from a surplus of $2.7 billion in 1969. This deterioration was primarily attributable to short-term capital outflows in response to interest rate differentials. As United States money rates and credit conditions progressively eased in 1970, European rates lagged well behind and short-term money flowed in heavy volume from the United States to the Euro-dollar market and on from there to the national money markets and central bank reserves of Europe.

These outflows of dollars were naturally attracted to the highest foreign bidders. Through most of the period, German short-term rates exerted the strongest pull, with the result that German banks and industrial firms in seeking an escape from stringent credit conditions in Germany borrowed well over $6 billion abroad in 1970, thereby more than accounting for the $6.3 billion reserve gain of the German Bundesbank. Other major recipients of the overflow from the Euro-dollar market were the United Kingdom, France, Italy, Belgium, the Netherlands, and Switzerland.

Financing by the United States of the unusually high official settlements deficit in 1970 was facilitated by the fact that a substantial part of dollar reserve gains abroad favored those countries which were in the process of rebuilding depleted dollar reserves or were content to accumulate dollars in anticipation of scheduled debt repayments to United States agencies or to the International Monetary Fund (IMF). As of the end of 1970, Federal Reserve swap debt amounted to no more than $810 million. Market confidence in the dollar was surprisingly well sustained.

Early in 1971, however, the international financial markets began to sense an impending crisis of the dollar. As interest rate differentials between the United States and Europe widened out still further, outflows of short-term funds to the European markets accelerated and forced most European currencies hard against their ceilings. Despite Federal Reserve and Treasury efforts to slow down or offset the repayment of United States bank debt to the Euro-dollar market, $3.3 billion more of such debt was repaid during the first quarter of 1971. Even more ominous, the severe slump of the United States trade surplus during late 1970 persisted into early 1971 and aroused increasing apprehension of a loss of United States competitive strength in world markets. As the weekly figures of dollar reserve gains abroad confirmed the generalized weakness of the dollar and the prospect that the United States deficit was rising well above the abnormally high level of 1970, overt speculation began to appear in the exchange markets in March, further swelling the torrent of dollars flowing to foreign markets.

Although the developing weakness of the dollar was generalized across the European currency exchanges, the German mark was particularly exposed to speculative buying pressure in view of the continuing strength of Germany's trade surplus, a severely restrictive credit policy which kept German interest rates well above international levels, and the lack of restraints on German industrial

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borrowing abroad. During the period February-April 1971, German corporate borrowing abroad amounted to roughly $2.5 billion, nearly equivalent to total business lending by the entire German banking system over the same period. In February, the Bundesbank tried to squeeze out the interest-arbitrage incentive to short-term capital inflows by driving the forward mark to a sizable discount through forward sales conducted through the agency of the Federal Reserve Bank of New York. This experiment proved excessively costly and was quickly abandoned. With speculation beginning to appear in late March and early April, the Bundesbank initiated a new program of forward mark sales in Frankfurt, with the objective of reassuring the market on the stability of the mark parity. This operation succeeded in temporarily restoring a fragile measure of confidence, but the German government remained confronted with the dilemma of how to make its restrictive credit policy effective while simultaneously allowing its business corporations unfettered access to the Euro-dollar market.

Early in May, a report by the main German economic research institutes, recommending either a floating of the mark rate or revaluation as the best solution to this and other policy dilemmas, was greeted sympathetically by certain high-ranking German officials. The market seized on this apparent shift of policy, and speculative funds flooded into Germany. The Bundesbank was forced to buy dollars in mounting volume, more than $1 billion on May 3-4 and a further $1 billion in the first forty minutes of trading on May 5, at which point it withdrew from the market.

To protect themselves against the backwash of the German move, the central banks of the Netherlands, Switzerland, Belgium, and Austria similarly terminated official support of the dollar that same morning. Over the weekend, the Swiss franc and the Austrian schilling were revalued by 7.07 percent and 5.05 percent, respectively, while the German mark and Dutch guilder were allowed to float. The Belgian market was reopened on the basis of the previous intervention limits, but with a further separation between the official and financial franc markets. The revaluations of the Swiss franc and Austrian schilling did little, however, to bring about a spontaneous return flow of speculative funds as the foreign exchange markets remained highly nervous. In particular, the flotation of the mark and guilder aroused widespread fears in the market that other countries might take similar action. Furthermore, as the mark and guilder floated upward (see Chart I), they tended to become barometers of weakening confidence in the dollar. Meanwhile, current statistics on the performance of the United States economy failed to measure up to earlier hopes, and the foreign trade balance slipped into a deepening deficit in April and subsequent months. According to Department of Commerce figures, the trade deficit for the second quarter was $1.0 billion, while the overall United States payments deficit for the first half of the year soared to $11.6 billion on an official settlements basis. In July and early August, events moved inexorably toward their climax as speculative anticipations reached throughout the full range of trade and investment decisions in the market.

On Friday, August 6, a Congressional subcommittee report asserted that the dollar had become overvalued and called for corrective action through a general exchange rate realignment. That same day, the United States Treasury reported a loss of gold and other reserve assets totaling more than $1 billion, mainly as a consequence of British and French repayment of debt to the IMF. Over the following week, the flight from the dollar sharply accelerated as $3.7 billion moved across the exchanges and into central bank hands. On Sunday, August 15, President Nixon announced a major new program of domestic and international economic measures. Using powers available under the Economic Stabilization Act of 1970, the President ordered a ninety-day freeze on wages and prices and, in order to stimulate a more rapid expansion of production and employment, recommended new tax measures. With respect to international payments, the President introduced a 10 percent temporary surcharge on dutiable imports into the United States, and announced a temporary suspension of convertibility of the dollar into gold and other reserve assets.

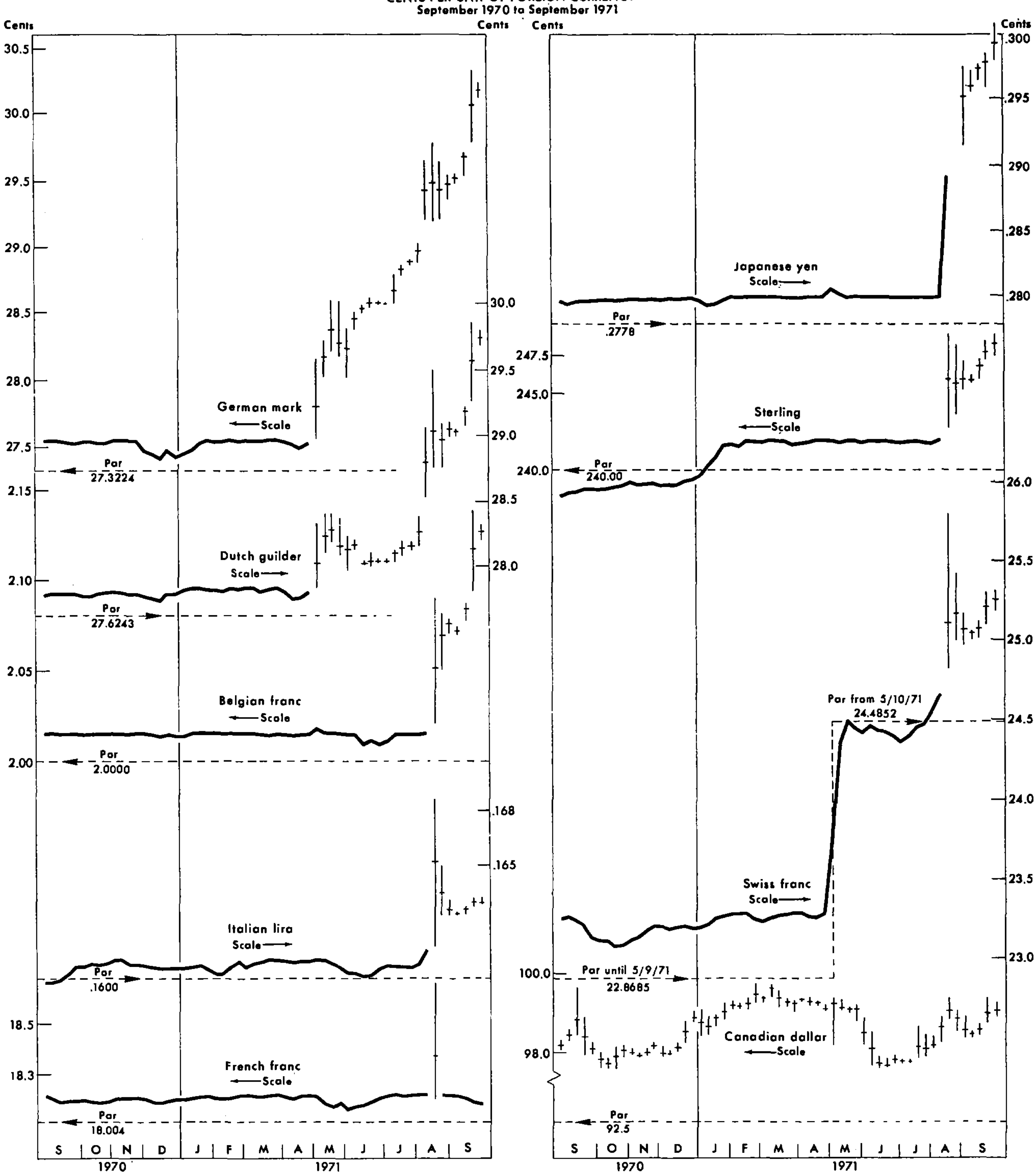
The major European governments kept their exchange markets closed all of the following week, as they sought to develop some joint policy response to the United States measures. These negotiating efforts failed, and on Monday, August 23, European governments reopened their exchange markets on an uncoordinated basis. While each government continued to adhere to its pre-August 15 parity, all but the French government suspended their commitments to defend the previous upper limits of their exchange rates. Such continuing intervention by the Bank of France was confined, however, to a segregated market for commercial transactions, while all other transactions were diverted to a financial franc market which was allowed to find its own level. The Japanese government initially sought to maintain the rate for the yen by continuing to intervene at the ceiling, but was swamped by an inflow of dollars, which by the month end had swollen official reserves by $4.4 billion. On August 28, official intervention at the ceiling for the yen was suspended, and the yen immediately rose 4.7 percent; in subsequent weeks the yen moved gradually higher. By October 8, the

Chart I

EXCHANGE RATES

CENTS PER UNIT OF FOREIGN CURRENCY*

September 1970 to September 1971



Note: A solid line indicates weekly averages of noon rates during periods when a foreign central bank was intervening within the prescribed limits. Rate movements in periods when a currency was allowed to float, or was effectively floating, are indicated as follows: High / Average noon rates / Low

*New York offered rates.

rates of the major trading currencies of the world had moved to the following percentage premiums over their former official ceilings:[1]

Currency	*Premium over ceiling*
German mark	9.5
Japanese yen	7.6
Dutch guilder	7.0
Canadian dollar	6.4
Belgian franc:	
Commercial	6.4
Financial	6.3
Sterling	2.9
Italian lira	1.4
Swiss franc	1.1
French franc:	
Commercial	−0.3
Financial	1.7

The exchange rate structure thus emerging after August 15 was, in most instances, the product of controlled rather than free floating. Many central banks continued to intervene on an *ad hoc* basis, while the market was further strongly influenced by a wide variety of new exchange controls, the United States import surcharge, and sharply conflicting official appraisals of an appropriate realignment of parities.

During the period under review, the Federal Reserve made frequent and sizable drawings on several of the swap lines in order to absorb temporarily foreign official dollar gains that might otherwise have been converted into gold or other reserve assets. (See Table I for the listing of the swap arrangements and Table II for the swap operations described in this report.) As of the beginning of 1971, Federal Reserve debt under the swap lines amounted to $810 million. Through August 13, new drawings amounted to $3,565 million, while repayments of $1,330 million were effected through Treasury sales of gold and special drawing rights (SDRs), United States borrowings from the IMF, Treasury issuance of foreign currency securities, and use of foreign currency balances. The residual swap debt commitments outstanding as of August 13 thus amounted to $3,045 million. No further drawings on the swap lines either by the Federal Reserve or foreign central banks have been made since August 13. As individual swap drawings have matured they have been rolled over, except for a $35 million Belgian franc drawing that was repaid in early October with francs purchased in the market. Thus, as of October 14, $3,010 million of swap debt remained outstanding. Most of this debt was incurred to offset speculative flows of funds which in due course will presumably reverse themselves and so permit repayment of the swap debt outstanding.

Of the Federal Reserve's total swap commitments, $1.6 billion is outstanding under the Swiss franc swap lines with the Swiss National Bank and the Bank for International Settlements (BIS). As of the beginning of 1971, Federal Reserve swap debt to the Swiss National Bank amounted to $300 million and rose further to $450 million on March 1. This debt was fully liquidated in early March through a Treasury sale of gold and Swiss franc securities to the Swiss National Bank, together with an outright purchase of Swiss francs by the Federal Re-

Table I

FEDERAL RESERVE RECIPROCAL CURRENCY ARRANGEMENTS
October 14, 1971
In millions of dollars

Institution	Amount of facility
Austrian National Bank	200
National Bank of Belgium	600
Bank of Canada	1,000
National Bank of Denmark	200
Bank of England	2,000
Bank of France	1,000
German Federal Bank	1,000
Bank of Italy	1,250
Bank of Japan	1,000
Bank of Mexico	130
Netherlands Bank	300
Bank of Norway	200
Bank of Sweden	250
Swiss National Bank	1,000
Bank for International Settlements:	
Swiss francs-dollars	600
Other authorized European currencies-dollars	1,000
Total	11,730

[1] The appreciation of floating currencies is measured throughout this report as the percentage premium of the midpoint between bid and offered rates over the former official ceiling, all in cents per unit of foreign currency. Since the currencies concerned had been at, or close to, the official upper intervention limits for some time before being allowed to float, this is the most meaningful measure of the actual appreciation of the rates. Many reports covering the recent period have used the percentage premium over parity as the common point, and a reasonable approximation of that value can be calculated by adding 0.75 percentage point to the premiums quoted in this report. In the case of the Swiss franc, however, 1.8 percentage points should be added.

Table II

FEDERAL RESERVE SYSTEM DRAWINGS AND REPAYMENTS UNDER RECIPROCAL CURRENCY ARRANGEMENTS

In millions of dollars equivalent

Transactions with	System swap drawings outstanding on January 1, 1971	Drawings (+) or repayments (—) 1971 I	II	III	October 1-14	System swap drawings outstanding on October 14, 1971
National Bank of Belgium	210.0	{+335.0 {−125.0	{+125.0 {−205.0	+ 260.0	− 35.0	565.0
Bank of England	-0-			+ 750.0		750.0
German Federal Bank	-0-		+ 60.0			60.0
Netherlands Bank	300.0	{+130.0 {−300.0	{+120.0 {−250.0			-0-
Swiss National Bank	300.0	{+150.0 {−450.0	+250.0	+ 750.0		1,000.0
Bank for International Settlements (Swiss francs)	-0-			+ 600.0		600.0
Bank for International Settlements (Belgian francs)	-0-			+ 35.0		35.0
Total	810.0	{+615.0 {−875.0	{+555.0 {−455.0	+2,395.0	− 35.0	3,010.0

serve from the Swiss National Bank. No further drawings on the Swiss National Bank were made until May 17, when the Federal Reserve made a $250 million equivalent drawing in order to assist return flows to the New York market of speculative funds that had moved into Switzerland in anticipation of the revaluation of the Swiss franc on May 9. During the first half of August, the Swiss National Bank was forced to absorb a massive inflow of dollars. In response to a Swiss request, the Federal Reserve drew the remaining $350 million equivalent available under the $600 million swap line with the National Bank and, after that facility had been enlarged to $1 billion on August 12, drew in full the additional $400 million of Swiss francs thus provided. Furthermore, the System drew the entire $600 million equivalent available under the Swiss franc-dollar swap line with the BIS, thereby increasing System commitments in Swiss francs to a total of $1.6 billion.

As of October 14, $600 million of Federal Reserve drawings in Belgian francs remained outstanding on the swap lines with the National Bank of Belgium and with the BIS. Such swap debt stood at $355 million on January 27 but was reduced to $230 million on January 29 by a United States Treasury drawing of $125 million of Belgian francs from the IMF. As Euro-dollar rates fell sharply during the first quarter, an influx of short-term funds into Belgium necessitated new Federal Reserve drawings which rose to a total of $450 million equivalent by early April. The speculative crisis culminating in the floating of the mark in early May forced the Federal Reserve to draw an additional $95 million on the Belgian franc swap line, which was offset to the extent of $55 million by repayments financed by United States Treasury sales of SDRs to the National Bank. On June 21, the Belgian franc swap debt of the Federal Reserve was reduced from $490 million to $340 million through a United States Treasury drawing of $150 million of Belgian francs from the IMF. Again in late July and August, however, heavy speculative flows of funds into Belgium necessitated $160 million of new drawings by the Federal Reserve, thereby exhausting the $500 million line with the National Bank. On August 12, the facility was enlarged to $600 million and the additional $100 million of Belgian francs thus made available was fully drawn. Finally, on August 13, the Federal Reserve drew $35 million of Belgian francs from the BIS under the $1 billion reciprocal line which provides for swaps of dollars against certain European currencies other than Swiss francs. This drawing brought the Federal Reserve swap commitments in Belgian francs to $635 million equivalent. Then, in October, the Federal Reserve liquidated a maturing swap drawing of $35 million by purchasing the necessary francs in the exchange market, thereby reducing the debt outstanding to $600 million.

As previously noted, the German Bundesbank initiated in early April 1971 a series of forward mark operations in an effort to strengthen market confidence in the mark parity. The Federal Reserve Bank of New York, dealing for System account, participated in these forward mark sales to the extent of $75.7 million. Cover for these Federal Reserve commitments to the market was provided partly by balances on hand and partly by swap drawings totaling $60 million equivalent on the Bundesbank. These drawings remained outstanding as of October 14.

The remaining $750 million of Federal Reserve swap debt is accounted for by a drawing in this amount on the swap line with the Bank of England, executed on August 13. Here again, this swap debt remained outstanding as of October 14.

Finally, the Federal Reserve was indebted as of the beginning of 1971 to the full extent of the $300 million available under the swap line with the Netherlands Bank. During the first quarter of 1971, this $300 million of Federal Reserve debt, plus another $25 million of surplus dollars on the books of the Netherlands Bank, was fully liquidated in a series of special transactions involving (1) a Federal Reserve sale of $75 million equivalent of German mark balances to the Netherlands Bank, (2) a United States Treasury sale of $25 million of gold and $100 million of SDRs to the Dutch authorities, and (3) a United States drawing of $125 million equivalent of guilders from the IMF. Again in the late spring, however, the speculative crisis leading up to the floating of the mark as well as other factors necessitated new Federal Reserve drawings on the Netherlands Bank in the amount of $250 million equivalent. When the Dutch government allowed the guilder to float on May 10, the Netherlands Bank, in accordance with prior understandings governing the swap arrangement with the Federal Reserve, immediately sold sufficient guilders to the System to enable it to liquidate the $250 million equivalent swap commitment. This repayment procedure naturally added to the uncovered dollars on the books of the Netherlands Bank, and the United States Treasury subsequently absorbed an equivalent amount of such dollars through a $150 million sale of SDRs on May 21 and a drawing of $100 million equivalent of guilders from the IMF on June 21.

Despite such heavy swap drawings by the Federal Reserve during the period under review, the United States stocks of gold and other reserve assets were severely eroded by the flow of dollars into foreign central banks. From January 1 through mid-August a total of $3.1 billion in such assets was paid out, including $864 million of gold, $394 million of foreign exchange, $480 million of SDRs, and $1,362 million taken down against the United States IMF position.

This substantial use of reserve assets was supplemented by new issues of United States Treasury foreign-currency-denominated securities (see Table IV). In March the Treasury issued $249.7 million of Swiss-franc-denominated certificates of indebtedness to the Swiss National Bank in order to help repay System swap commitments of $450 million, and in August it issued a $333 million equivalent note to that bank to cover the Swiss National Bank's dollar purchases of August 13. As of October 14, the total

Table III

DRAWINGS AND REPAYMENTS BY FOREIGN CENTRAL BANKS AND THE BANK FOR INTERNATIONAL SETTLEMENTS UNDER RECIPROCAL CURRENCY ARRANGEMENTS

In millions of dollars

Banks drawing on Federal Reserve System	Drawings on Federal Reserve System outstanding on January 1, 1971	Drawings (+) or repayments (—) 1971			Drawings on Federal Reserve System outstanding September 30, 1971
		I	II	III	
Bank for International Settlements (against German marks)	-0-	{+21.0 {−21.0	{+ 6.0 {− 6.0		-0-
Total	-0-	{+21.0 {−21.0	{+ 6.0 {− 6.0	-0-	-0-

Table IV

UNITED STATES TREASURY SECURITIES FOREIGN CURRENCY SERIES

In millions of dollars equivalent

Issued to	Amount outstanding on January 1, 1971	Issues (+) or redemptions (−) 1971 I	II	III	Amount outstanding on October 14, 1971
German Federal Bank	539.6				539.6
German banks	135.5				135.5
Swiss National Bank	540.6	+249.7	−790.5† +831.7†	+333.0	1,173.2
Bank for International Settlements*	150.0		−150.0† +157.5†		158.1
Total	1,365.7	+249.7	−940.5† +989.3†	+333.0	2,006.4

Note: There were no issues or redemptions during the period October 1-14.
Discrepancies in totals result from minor valuation adjustments and from rounding.
* Denominated in Swiss francs.
† Transactions related to activation by the Swiss National Bank of the revaluation clause covering all outstanding Swiss-franc-denominated securities of the United States Treasury at the time of the Swiss franc's revaluation in May.

of such securities outstanding amounted to $2,006 million. The Treasury's only swap operation during the period was under a special $100 million facility with the National Bank of Belgium, entered into and drawn upon in full in May and liquidated at maturity in early August.

As shown in Table III, drawings on the Federal Reserve by its swap partners during the period were confined to purely routine use by the BIS of one of its lines in connection with overnight cash needs.

GERMAN MARK

Inflationary trends in Germany, reflecting both demand and wage-push pressures, have been a major concern of the German government since early 1970. Although some fiscal measures were introduced in the second half of 1970, the major burden of the anti-inflationary effort was assumed by the monetary authorities, who used both interest rates and reserve requirements to restrain monetary and credit expansion. With domestic credit demand pressing against the restricted supply of domestic funds, German banks began early in 1970 to repatriate foreign balances and to borrow additional funds from abroad to meet their customers' needs. Starting in the spring of 1970 the German Bundesbank had moved to curb such inflows, largely through marginal reserve requirements on the growth of the banks' foreign liabilities, and these measures were strengthened over the course of the year. Full freedom remained available, however, for German business corporations to borrow directly abroad, particularly in the Euro-dollar market, to meet their credit needs. These inflows of short-term funds are estimated by the Bundesbank to have totaled some $6.6 billion for the year, more than Germany's reserve gain of $6.3 billion for that period.

In early 1971, the continuing decline in Euro-dollar rates opened wider arbitrage incentives in favor of the mark (see Chart II) and German corporations further increased their heavy recourse to foreign financing. By late January the Bundesbank was again absorbing substantial amounts of dollars from the market. Toward the end of February, the uncovered arbitrage incentives in favor of Germany stood at around 2 percentage points on a three-month comparison while the discount on the forward mark was only about 1¼ percent per annum. As an alternative to cutting domestic interest rates, but still seeking to close this differential, the Bundesbank in late February asked the Federal Reserve Bank of New York to offer three-month forward marks in the New York market for the account of the Bundesbank. This operation had the immediate effect of moving the spot mark rate away from its ceiling and halting the spot inflow into German reserves, and within a few days the forward mark discount widened to nearly 2 percent. In the meanwhile, however, the underlying interest differential had also widened to around 2½ percent, mainly owing to a further decline of Euro-dollar rates, and it soon became clear that massive sales by the Bundesbank would be required to maintain the forward mark at a sufficient discount. Accordingly, the operation was phased out by mid-March after $537 million of forward mark sales. As the spot rate moved back to its ceiling, the Bundesbank was again forced to take in dollars.

On March 31 the Bundesbank Council, in a long-awaited move, cut the central bank's discount and "Lombard" rates by 1 full percentage point to 5 percent and 6½ percent, respectively, effective April 1. At the same time, however, the Council reinforced credit restraint by reducing the banks' rediscount quotas by 10 percent. With little easing of domestic liquidity conditions thus in prospect, bidding for marks surged with strong speculative overtones. Within three days, the Bundesbank took in more than $1.3 billion in holding the spot mark at the ceiling and swapped some $600 million of this inflow out in the market for three months' delivery.

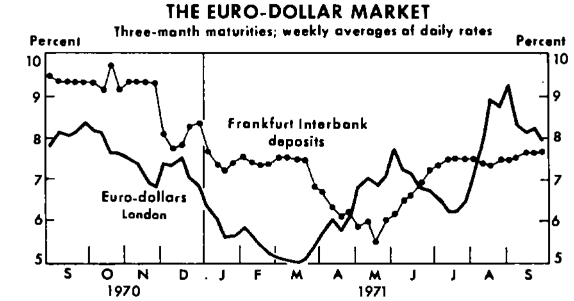
In this atmosphere of mounting apprehension, the Bundesbank sought to reassure the market by initiating on April 2 a new series of forward operations, offering three-month marks at the spot ceiling rate. The Federal Reserve Bank of New York, dealing for System account, joined in the operation by offering forward marks at the same rate in New York after the Frankfurt market had closed. This concerted intervention had a calming effect on the market over the next few weeks, and the spot rate for the mark soon moved away from the ceiling as funds began to flow out of Germany on a covered basis. The earlier influx had helped to produce ample liquidity conditions in Germany and, with short-term money market rates declining there while Euro-dollar yields were now turning upward, near-term arbitrage incentives shifted in favor of Euro-dollar placements. Underlying market nervousness surfaced from time to time during the month, however, and the Bundesbank and the Federal Reserve continued the operation through most of April, offering forward marks on the same basis and doing business nearly every day. By late April, these forward sales by the Bundesbank had reached $1.5 billion equivalent, while those by the Federal Reserve amounted to $75.7 million. Cover for these Federal Reserve commitments to the market was provided partly by balances on hand and partly by swap drawings totaling $60 million equivalent on the Bundesbank. On April 28, the Bundesbank Council decided that the time had come to withdraw its offer of forward marks at a fixed rate and to let the forward rates reach their own level. The market, already beset by rumors of a developing rift among European Economic Community (EEC) nations following a meeting of the Finance Ministers a few days earlier, reacted sharply, and both spot and forward marks were heavily bid.

On April 30, German reserves stood at $16.7 billion, representing a gain of nearly $3.0 billion for the first four months of 1971, while the forward dollar contracts of the Bundesbank had risen to $2.7 billion. Over the same period, German corporations raised close to $4 billion abroad, representing roughly half of their total credit needs.

On Monday, May 3, the main German economic research institutes issued a report calling for a prompt floating or revaluation of the mark. Sympathetic reactions to this report by high-ranking German officials persuaded the market that some such move would soon be forthcoming. In holding the spot rate at the ceiling, the Bundesbank was accordingly flooded with offers of dollars against marks. Over the two days May 3-4, the bank had to absorb more than $1 billion, and on the morning of Wednesday, May 5, a further $1 billion was taken in within the first forty minutes of trading. At that point the Bundesbank suspended its market operations. Although German banks were legally free to continue to deal if they wished, there was no official fixing and trading virtually ceased in the Frankfurt market for the rest of the week. The mark was still traded elsewhere during the three days, however, and in New York the rate rose to around $0.2800, or some 1.6 percent above the previous ceiling.

On Sunday, May 9, after an inconclusive meeting of the EEC Finance Ministers, the German authorities an-

Chart II
INTEREST RATES IN GERMANY AND THE EURO-DOLLAR MARKET
Three-month maturities; weekly averages of daily rates



nounced that, as an anti-inflationary measure, the trading limits for the mark would be suspended temporarily—effectively allowing the mark rate to float—although the official parity was to remain unchanged. It was also announced that other measures to fight inflation were being prepared; these included the reimposition of a ban on interest payments on large deposits held by nonresidents, the barring of foreigners from buying German money market paper, and the freezing of some Federal and state government spending. The Frankfurt market reopened on May 10 and the mark traded well above its former ceiling, fluctuating sharply in response to both facts and rumors. Traders generally doubted that the rate would return to within its old limits, and the possibility was widely discussed that the German authorities would begin to sell dollars in the market at rates well above the former official ceiling. By May 24 the spot mark had risen to a premium of 3.7 percent above the previous ceiling but then began to settle back, as rising Euro-dollar rates increased the cost of holding speculative mark positions. On June 1 the spot rate dropped sharply but, when the mark weakened further on the morning of June 2 in Frankfurt, the Bundesbank offered to sell dollars in small amounts at the equivalent of about $0.2803. This led to an abrupt reversal in the market, but the Bundesbank nevertheless began to sell dollars the next morning. These sales were not at fixed levels but on the basis of the most acceptable rates to the Federal Bank at any given point of time. The operation was pursued over the following weeks, resulting in a progressive ratcheting upward of the mark rate. By mid-June, the authorities had sold $1.7 billion, considerably more than they had taken in under maturing forward contracts from the operations in February-March, and the spot mark had advanced to a 3.6 percent premium over the former ceiling.

The heavy outflow of funds from Germany helped to tighten domestic money market conditions considerably, and this tightening was supported by other actions, including a substantial increase in the banks' minimum reserve requirements. On June 2, requirements against domestic liabilities were raised across the board by 15 percent, while the requirements against foreign liabilities were lifted to twice the level of the new domestic rates. With large tax payments reducing domestic liquidity further, German interest rates advanced sharply, and by late June, when the stringency had become acute, they moved above Euro-dollar rates for comparable maturities, maintaining a substantial edge through July. These arbitrage considerations, along with the continuing view in the market that the prospects were still strong for an even further rise in the mark rate, kept the rate buoyant, and it sometimes moved above levels at which the Bundesbank was then willing to sell dollars. Beginning in mid-July, however, the Bundesbank progressively lowered its selling rate for dollars and the mark rate spiraled upward. Overall, from June 3 through the end of July, the Bundesbank sold $4.8 billion in the spot market while it took in a total of $2.7 billion through maturing forward contracts. Thus, on balance, its reserves fell by some $2 billion to $17.0 billion at the end of July.

By late July the spot mark had leveled off again, to around $0.2890, a 4.9 percent premium. But a new upsurge in the rate developed in early August, when generalized speculation against the dollar developed in full force. As the mark rose, the Bundesbank stopped offering dollars. On August 12, with the market beset by rumors of a new parity being set at even a higher level, the rate jumped to a premium of 7.6 percent, and the Bundesbank stepped in on the other side of the market and purchased a modest amount of dollars.

After President Nixon's address on August 15, formal exchange dealings were suspended in Germany through the full week of August 16-20. During the week, consultations proceeded within the EEC countries as to the basis under which the markets would be reopened. With no agreement reached among the EEC members on a common exchange policy, the German government reopened the market on August 23 with the mark rate floating as before. With trading volume continuing at generally reduced levels, the mark rate fluctuated closely around a premium of 7 percent until mid-September, after which it rose sharply to as high as a 10 percent premium prior to the IMF meeting. The Bundesbank then began to intervene in both spot and forward markets to moderate the rise in the rate. By early October the mark rate had backed off somewhat to a premium of around 9.5 percent.

STERLING

Sterling showed increasing strength as 1971 began, with the spot rate moving in January from below parity to near its $2.42 upper limit. Britain's current-account balance of payments was still in surplus, and seasonal factors are favorable early in the year. The dominant source of demand for sterling, however, was a growing inflow of interest-sensitive funds, coupled with the pressures arising from heavy tax payments against the background of a severe credit squeeze and reduced corporate liquidity. Domestically, economic activity had turned sluggish, but at the same time the United Kingdom authorities were faced with sharply rising wages and prices. To counter the inflationary pressures, the authorities had been maintaining

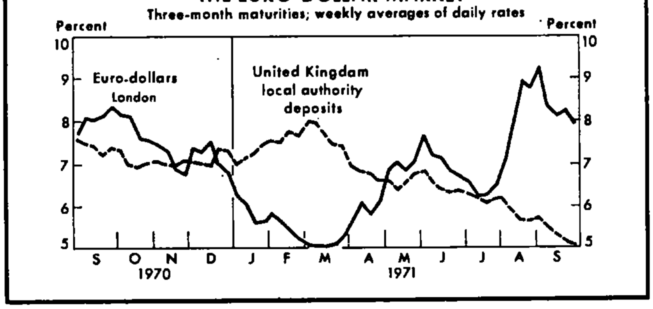


Chart III
INTEREST RATES IN THE UNITED KINGDOM AND THE EURO-DOLLAR MARKET
Three-month maturities; weekly averages of daily rates

a firm grip on domestic monetary conditions, and British interest rates moved up in early 1971. At the same time, interest rates elsewhere were declining, particularly in the United States and in the Euro-dollar market. By late 1970, Euro-dollar rates already had moved below rates on comparable sterling instruments, and the further decline in early 1971 widened the gap even more (see Chart III). In January, the British authorities moved to reduce the resulting inflows of funds by modifying the exchange control regulations so as to restrain new foreign currency borrowings by British corporations for domestic use. Throughout the first quarter, with persistent rumors that the Bank of England's discount rate would be cut (it had been held at 7 percent since April 1970), heavy demand developed for British government securities, while seasonal tax payments further absorbed liquidity. The inflows from abroad continued and, with sterling holding near its upper limit, the Bank of England took in a large volume of dollars through February and March.

From the reserve gains in the first quarter, the United Kingdom authorities were able to repay more than $1.6 billion of international credits, thereby fully liquidating their indebtedness to all monetary institutions other than the IMF. Among the repayments made during the quarter were the remaining $226 million of credits under the 1966 Basle arrangement (of this, $76 million was shared equally by the United States Treasury and the Federal Reserve) and $99 million to the same United States agencies representing the last portion of sterling which had been held on a covered or guaranteed basis. In addition, on March 31 the United Kingdom liquidated prior to maturity $685 million of its obligations to the IMF. Even after these very large repayments, British official reserves rose during the first quarter by $190 million, excluding the $299 million allocation of SDRs and $500 million that was transferred into later months through special arrangements.

On March 30, the British government presented to Parliament a moderately expansionary budget, which was generally well received in the market. The fiscal measures were to be accompanied by a small relaxation of the ceilings on bank credit expansion. Subsequently, on April 1, the Bank of England cut its discount rate from 7 percent to 6 percent. The bank noted that the move was intended to bring British domestic yields into closer harmony with rates abroad (which had fallen substantially since the beginning of the year). British interest rates immediately came down and, with Euro-dollar rates simultaneously firming, the gap between domestic and international rates was sharply reduced. The subsequent easing in the spot sterling rate was only short-lived, however, as demand arising from oil royalty and tax payments soon pushed the rate to the ceiling again.

Meanwhile, the United Kingdom's current-account position was improving strongly, from the strike-reduced $82 million surplus of the first quarter to a record of $792 million for the second quarter. Although this swing reflected in part a distortion of the trade figures as a result of strikes, such deferred commercial demand for pounds kept sterling buoyant at a time when it usually begins to ease with the passing of favorable seasonal factors. Fluctuations in the sterling rate during that period mainly reflected the changing relationship between domestic interest rates and rates in the Euro-dollar market. With interest rates holding fairly steady in London, the tightening of the Euro-dollar market late in May exerted some downward pressure on the pound, but when Euro-dollar rates moved lower in June sterling came into demand again.

During the second quarter, British reserves posted a further gain of $303 million, while $1.2 billion was shifted into later months again through special arrangements. These gains, and the continued strength of sterling, enabled the United Kingdom to make a further paydown on its IMF obligations. On July 19, Chancellor Barber announced that the United Kingdom would repay the remaining $614 million owed to the IMF under the June 1968 drawing. The repayment was carried out on August 9, concurrently with a large French repayment to the Fund. This left outstanding only the $1 billion drawn by the United Kingdom under the 1969 standby arrangement with the IMF.

Trading in sterling remained orderly in July, but in the first days of August the pound was caught up in the general wave of speculative demand that hit all major foreign currencies. With the sterling rate pressed against its upper limit, the Bank of England had to absorb large amounts of dollars from the market. To provide cover for this inflow, on August 13 the Federal Reserve activated the swap line with the Bank of England, drawing $750 million equivalent of sterling.

On the Monday following President Nixon's statement of August 15, the British authorities closed their market by prohibiting their banks from dealing in foreign exchange, and the prohibition was extended each day of that week. As an interim measure, however, the Bank of England allowed banks to lend foreign currencies to residents for payment to nonresidents. During that week trading in sterling was very thin in New York and on the Continent, with wide swings in quotations. On Monday, August 23, the London market was reopened on the basis of the $2.42 upper limit being suspended temporarily, while the parity of the pound and the lower limit remained unchanged. On subsequent days, with trading gradually recovering, the sterling rate moved to as high as $2.4830 on August 26, a premium of 2.5 percent over the ceiling, before backing off.

Following the floating of the Japanese yen, the British authorities feared a renewed speculative influx into sterling. Consequently, the Bank of England announced on August 27 new measures to deter hot money inflows. These included a prohibition of interest payments by banks in the United Kingdom on increases in sterling balances held by nonsterling-area depositors, and a complete ban on additional nonresident deposits with other financial institutions and local authorities. Nonresidents were also prohibited from purchasing additional sterling certificates of deposit as well as government, government-guaranteed, and local authority securities maturing before October 1, 1976. Finally, permission for the banks to swap foreign currency deposits into sterling for lending to residents was withdrawn. The sterling rate fell sharply after that to around $2.45½, about 1.5 percent above the previous ceiling. On the following Thursday, September 2, the Bank of England reduced its discount rate from 6 percent to 5 percent. (On the same day, the reserve figures for the end of August were released, indicating a gain of $937 million after the $614 million repayment to the IMF.) The bank rate cut was followed by a drop in domestic interest rates, but Euro-dollar rates fell even more rapidly. This may have contributed to keeping sterling firm, the spot rate fluctuating around $2.46 until mid-September. By that time the volume of current commercial business had recovered, but transactions related to capital movements, in contrast, had practically dried up. With the approach of the IMF meetings, however, the sterling rate strengthened, and in September British official reserves rose by $206 million. Also in September the British Treasury announced the renewal for two years of the $2 billion second sterling-balances arrangement of 1968 with the BIS, under which the Bank of England can obtain credits to offset reductions in the sterling balances (both official and private) of sterling-area countries.

The upswing in the sterling rate continued into early October, when, in active trading, the spot rate rose above $2.49 to a 3 percent premium over the previous ceiling. On October 6, the British authorities announced a further tightening of the exchange controls introduced at the end of August. The earlier ban on additions to the holdings by nonsterling-area residents of specified securities was extended to all such securities, irrespective of maturity, as well as to sterling acceptances, commercial bills, and promissory notes. After a brief dip in response to these steps, sterling moved back close to the $2.49 level.

SWISS FRANC

The Swiss franc rate rose steadily in early 1971, as strong domestic credit demand absorbed bank liquidity while a continuing decline in Euro-dollar rates reduced the incentive to place funds abroad. By late February the franc rate reached the ceiling and the Swiss National Bank had to absorb $150 million. To provide cover for this intake, on March 1 the Federal Reserve drew an equivalent amount of francs under the swap arrangement with the Swiss National Bank; since $300 million drawn under the swap line in October 1970 was still outstanding, this brought the System's Swiss franc commitments to $450 million. This debt was liquidated in early March through a combination of a United States Treasury sale of $75 million of gold and $250 million of Swiss-franc-denominated securities to the National Bank, which also agreed to sell outright $200 million equivalent of Swiss francs to the Federal Reserve. The System was thereby able to pay off the entire $450 million equivalent of swap drawings outstanding.

Even after the injection of liquidity resulting from the National Bank's purchase of dollars in late February, the Swiss franc rate remained strong throughout March. Late in the month, the National Bank helped the Swiss banks meet their quarter-end needs by entering into a total of $470 million of swaps and also rediscounting domestic paper for them. Despite this assistance, however, the spot rate moved to the National Bank's intervention point by the end of the month.

When the German mark became subject to speculative pressure in the first days of April, speculative demand developed for the Swiss franc as well. On April 1 the Swiss Parliament transferred to the government the authority to change the franc's parity, and there were rumors that the government would immediately avail itself of this new power by revaluing the franc. As a result, the National Bank had to purchase \$390 million, net, in the first half of the month, before tensions moderated somewhat. The easing was short-lived, however, as the exchange market atmosphere deteriorated sharply late in April when the Swiss franc was caught up in the wave of speculation centered on the mark.

Since a large share of Swiss trade is with Germany, the prospect of a further possible revaluation of the mark, or of a rising floating rate, led many traders to expect that the Swiss government, already struggling with inflation, would follow a German move. With the spot franc driven to the ceiling in early May, the National Bank's dollar purchases mounted rapidly. On the morning of May 5 the National Bank took in \$600 million and, when the German Bundesbank suspended its operations, the Swiss authorities immediately did the same. Later that day, in New York, the spot franc rose in heavy trading to around \$0.2400 and fluctuated widely over the following two days, as the market awaited the decisions that might emerge over the weekend.

On Sunday, May 9, the Swiss authorities announced a 7.07 percent revaluation of the franc to a new par value of \$0.2448½, the first change of the franc's external value in thirty-five years. The new intervention limits were formally set at \$0.2403⅞ and \$0.2493¾, or at 1.8 percent on either side of the new par. The change in the Swiss franc's parity activated the revaluation clauses on all Swiss-franc-denominated United States Treasury securities issued to the Swiss National Bank, either in its own name or that of the Swiss Confederation, and to the BIS. Consequently, the National Bank sold to the United States Treasury SF4,110 million at the franc's old ceiling (\$0.2328¼) for \$956.9 million. The Treasury, in turn, redeemed all its Swiss-franc-denominated securities, and replaced them simultaneously with new securities for the same Swiss franc amounts, selling the franc proceeds to absorb \$989.3 million from the National Bank.

When the market reopened on May 10, the spot franc traded just below the new parity, but there was no reversal of the earlier large inflows. The exchange markets remained very uneasy and, despite extremely liquid monetary conditions in Switzerland, Swiss banks were reluctant to shift funds into the Euro-dollar market. In view of the potentially wide swings of the spot rate, uncovered placements were risky, while forward cover was not available in large amounts at attractive rates. Under these conditions, the National Bank sought means of exerting a calming influence on the market and of absorbing excess Swiss franc liquidity.

As a first step, an arrangement was worked out between the National Bank and the Federal Reserve, using the BIS as intermediary. On May 17, the National Bank sold \$250 million to its commercial banks on a three-month swap basis, on the understanding that the banks would deposit these funds with the BIS which, in turn, would invest them in certificates of deposit (CDs) of United States banks, thereby avoiding an increase in the supply of Euro-dollars. Cover for this operation was provided by means of a Federal Reserve swap drawing of \$250 million equivalent on the line with the Swiss National Bank. (The National Bank was not authorized at that time to undertake forward market operations on its own account; a bill authorizing it to do so had been proposed to Parliament and was subsequently passed in late June.) Late in May, the National Bank gave assurance to the banks that it would maintain an effective ceiling for the Swiss franc of \$0.2463 and a floor of \$0.2433 (0.6 percent above and below par, respectively). With their potential spot exchange risks thus reduced, the banks began to purchase substantial amounts of dollars from the central bank. Moreover, with Euro-dollar yields rising sharply toward the month end, additional funds flowed out of Switzerland, and the franc rate dropped sharply until it almost reached the informal lower intervention level on June 1.

On June 2, however, after the German Bundesbank offered to sell dollars at a rate well above the previous mark ceiling, the Swiss franc rebounded along with other European currencies and held close to par until mid-June. Then, as some covering of short dollar positions developed, an easier tone set in and the spot rate declined markedly. (Following its normal practice, the National Bank provided swaps to assist the banks over the midyear statement period, the total in June reaching \$607 million.) Nevertheless, the rate did not reach the point at which the National Bank had indicated it would sell dollars. During that month, and again in July, in two transactions of \$50 million each the United States Treasury sold gold to the National Bank to absorb some of the dollars the bank had purchased in May.

There was little change in the market atmosphere in July. Overall, in the two months that followed its revaluation, the Swiss franc had been little affected by the various speculative forays in other exchange markets, but this relative quiet was broken in early August. With other major Continental currencies partly insulated by either exchange controls or floating rates, the Swiss franc began to bear the brunt of the speculative attack against the dollar. On August 4, after the French authorities moved to halt inflows to their country, demand for Swiss francs surged and the rate moved quickly from par to the level at which the Swiss National Bank was prepared to buy dollars. Demand swelled further on the following day, and the National Bank took in a total of more than $400 million. Meanwhile, however, the National Bank had negotiated an agreement with the Swiss banks under which, in the event of massive speculative inflows, it could prohibit the payment of interest on additional short-term deposits in francs by nonresidents and require the banks to hold up to 100 percent reserves against such funds; this arrangement was to go into effect on August 20. On Monday, August 9, the National Bank announced that the franc proceeds of any further dollar sales to it would be placed in blocked accounts for ten days—that is, until the agreement with the banks to sterilize inflows would be implemented—but the Swiss authorities were faced with further massive offers of dollars on every day that week, during which they absorbed a further $1.7 billion. In response to the National Bank's request to cover these inflows, the Federal Reserve drew the remaining $350 million equivalent available under the $600 million swap line with the National Bank and, after that facility had been enlarged to $1 billion on August 12, drew in full the additional $400 million of Swiss francs thus provided. Furthermore, the System drew the entire $600 million equivalent available under the Swiss franc-dollar swap line with the BIS. These drawings raised System commitments in Swiss francs to a total of $1.6 billion. Finally, to absorb the National Bank's intake of August 13, the Treasury issued to it a $333 million Swiss-franc-denominated note.

After the United States measures of August 15, the Swiss National Bank suspended its exchange operations during the week of August 16-20, although commercial banks carried on limited dealings among themselves for immediate needs. When the other European markets were opened on August 23, the Swiss National Bank kept its market officially closed; this left the Swiss franc effectively floating, since the commercial banks remained free to trade in foreign currencies. In the general uncertainty and nervousness that prevailed in the markets, the franc rate rose sharply to 3 percent over the previous informal ceiling by August 26. That day the National Bank announced it had reached an agreement with the three large Swiss banks to discourage speculative inflows. Under the terms of this agreement, the banks would buy a daily maximum of $2 million from any one customer when the spot rate was between $0.2525¼ and $0.2531⅝ and $1 million at rates of $0.2531⅝ or higher. The franc proceeds of any sale in excess of these amounts would be blocked in noninterest-bearing accounts for three months. The following day the National Bank reached an agreement with the Swiss Bankers Association to extend the interest payment ban on foreign funds that had flowed into Switzerland since July 31 to all franc placements; originally, the ban had applied only to funds with a maturity of less than six months. These and earlier restrictions on dealing in francs, along with the uncertainties generated by an effectively floating rate, kept both the size and number of transactions far below normal. Speculative flows especially were sharply curtailed by the National Bank's regulations. In addition, with the rise in Euro-dollar rates and the downward drift of the German mark, the spot franc backed away sharply, reaching by September 1 the $0.2500 level. On September 8 the Swiss government asked Parliament for emergency authority to take various additional measures to defend the franc if this should again become necessary, including the power to impose negative interest rates on hot money inflows and to declare the present voluntary agreement with the large banks to be legally binding on all Swiss banks. The franc rate firmed in mid-September, but trading remained generally quiet through early October.

DUTCH GUILDER

In 1970 the Dutch economy continued to suffer from inflationary wage and price trends, leading to a deterioration in the current account of the balance of payments. As in other European countries, the Dutch authorities had relied heavily on monetary policy to curb excess domestic demand. While credit conditions were thus kept tight in the Netherlands, interest rates in the Euro-dollar market were declining. On several occasions during the autumn and winter months, the short-term uncovered interest-arbitrage comparison shifted in favor of guilder placements. Moreover, in the second half of 1970, heavy foreign demand had developed for guilder-denominated bond issues being floated in the Dutch and international capital markets. Therefore, even though the Dutch current account was moving into deeper deficit, a massive inflow of both short- and long-term capital held the spot guilder rate at or near its ceiling through most of the second half of 1970, and Dutch official reserves grew by $551 million in that period. As was related in the preceding report, the Federal Reserve provided cover for the central bank's dollar intake by drawing, during the second half of 1970, the full $300 million equivalent available under the swap facility with the Netherlands Bank. In view of the sustained strength of the guilder during the course of the first quarter of 1971, this $300 million of Federal Reserve debt—plus another $25 million of surplus dollars on the books of the Netherlands Bank—was fully liquidated in a series of special transactions involving (1) a Federal Reserve sale of $75 million equivalent of German mark balances to the Netherlands Bank, (2) a United States Treasury sale of $25 million of gold and $100 million of SDRs to the Dutch authorities, and (3) a United States drawing of $125 million equivalent of guilders from the IMF.

Early in 1971, liquidity in the Dutch market remained tight, contrary to the usual seasonal easing, and the spot guilder rate held close to the ceiling. Under these circumstances the Netherlands Bank initiated a new series of swaps with Dutch commercial banks, offering to buy dollars spot against sale for delivery in three months' time at rates favorable to the banks. These market swap transactions were continued into early March and amounted to some $380 million. At that point the Amsterdam money market turned more liquid and, with Dutch interest rates falling sharply in mid-March while Euro-dollar rates stabilized, the uncovered arbitrage incentives shifted substantially against guilder placements, leading to a softening of the spot rate.

Even though the Netherlands Bank was thus able to avoid intervening in the spot market for a considerable period of time, it acquired a substantial amount of dollars on March 31 when, in connection with the United Kingdom's repayment to the IMF, the Bank of England purchased $110 million of guilders from the Dutch authorities. At that time, the Federal Reserve reactivated its swap line with the Netherlands Bank, drawing $130 million of guilders to provide cover both for the dollars bought from the Bank of England and for $20 million of balances which were in excess of the Netherlands Bank's usual level of uncovered holdings.

In early April, when bidding for German marks surged, with strong speculative overtones, the guilder also came into demand. The spot guilder returned to the ceiling, and the Netherlands Bank was obliged to intervene. The Federal Reserve covered the intake through an additional swap drawing of $40 million equivalent. In order to reduce the incentive for further inflows, effective April 5 the Netherlands Bank lowered its discount rate from 6 percent to 5½ percent. With the Amsterdam money market highly liquid following the earlier influx, the spot guilder moved away from its $0.2783½ ceiling and traded at lower levels for a few weeks. This liquidity began to be reabsorbed, however, when Dutch banks had to pay guilders over to the central bank at the maturity of the swaps entered into early in the year; although the guilder exchange rate firmed as a result, the central bank did not have to purchase dollars outright.

In the last days of April, however, the guilder was caught up in the spreading speculative demand for European currencies. The spot guilder rose to the ceiling, and on May 3-4 the Netherlands Bank absorbed dollars on a rapidly rising scale. These were covered by a Federal Reserve drawing of $80 million, which brought System swap commitments to the Netherlands Bank up to $250 million. In the heavy trading of the morning of May 5, the Netherlands Bank purchased $240 million before halting market intervention. Formal trading remained suspended in the Netherlands for the remainder of the week, while in New York the guilder floated to a slight premium over its ceiling.

On Sunday, May 9, the Dutch government, following a similar move by Germany, announced that the Netherlands Bank was temporarily withdrawing its buying and selling rates for the dollar, effectively allowing the guilder to float. Simultaneous with the Dutch government's decision to float the guilder, the Netherlands Bank, in accordance with understandings governing the swap arrangement with the Federal Reserve, sold sufficient guilders to the System to enable it to liquidate the $250 million equivalent of swap commitments. This repayment procedure added to the uncovered dollars on the books of the Netherlands Bank, and the United States Treasury subsequently absorbed the dollars through a $150 million sale of SDRs on May 21 and a drawing of $100 million equivalent of guilders from the IMF on June 21.

When the Dutch exchange market reopened on May 10, the guilder began trading at a premium of 1.8 percent over the previous ceiling but, even though the Amsterdam money market was extremely liquid, virtually no unwinding of speculative positions took place. In the next few weeks the guilder moved in sympathy with the German mark, although at much smaller premiums, fluctuating in the New York market between 1.0 percent and 2.0 percent over its previous ceiling. Late in May, with the Dutch money market remaining easy and Euro-dollar rates rising sharply, the guilder rate eased back toward its previous ceiling. At that time the major Dutch banks agreed to cease paying interest on nonresident demand deposits, and on June 1 the Dutch authorities moved further to discourage inflows of foreign short-term funds by barring nonresidents from purchasing Dutch Treasury paper and guilder-denominated bankers' acceptances.

When the German Bundesbank entered its market as a seller of dollars early in June, the guilder strengthened in sympathy with the sharp upward reaction of the mark rate. The Netherlands Bank remained out of the exchange market, however, and the guilder rate thereafter fell back even though the mark moved progressively higher. After further fluctuations, the guilder rate settled at around 0.7

percent above the former ceiling from mid-June through early July.

By that time the Netherlands Bank still held nearly $250 million of surplus dollars, most of which had been purchased on May 5. In order to absorb part of these dollars the United States Treasury sold to the Dutch authorities $100 million of SDRs on July 16, and it absorbed a further $150 million in connection with a larger drawing of guilders from the Fund on August 9. On that day, the British and French repayments to the IMF included a large allotment of Dutch guilders, amounting to $297 million equivalent, which would be purchased from the Netherlands Bank and would result in a further increase in the bank's dollar reserves. Consequently, the Treasury agreed to draw a total of $447 million equivalent of guilders from the Fund.

In July and early August, with the general deepening of uncertainties in the exchanges, the guilder rate began to rise again, reaching 4.3 percent over the previous ceiling on August 13. In the week of August 16-20, the Dutch exchange market was closed, and Dutch and foreign banks dealt guilders only in limited amounts to meet customers' immediate needs. In New York, the rate touched $0.2950, 5.3 percent over the ceiling at one point. The Dutch authorities continued to permit the guilder rate to float when the Amsterdam market reopened on August 23, but under an agreement between the Netherlands and Belgium the central banks of the two countries stood ready to intervene in order to maintain the cross rates between their currencies within the limits of 1.5 percent on either side of the official parities. By early September, the guilder rate was holding at just over $0.2900—some 4.2 percent above the former ceiling—while, operating under the new agreement providing for the linking of the Benelux currencies, the Netherlands Bank supported the cross rate by buying Belgian francs.

In September the Dutch authorities took additional steps to discourage capital inflows. Effective September 6, a so-called "closed circuit for bonds" was introduced, whereby purchases by nonresidents of guilder-denominated bonds can be effected from residents only with guilders obtained through the sale of such bonds by nonresidents to residents. Effective September 15, the Netherlands Bank lowered its discount rate by ½ percentage point, to 5 percent, explaining that the reduction had been made in support of the measures directed at countering foreign capital inflows. The spot guilder rate nevertheless rose strongly in the second half of September, moving up along with most other European currencies, and it held around $0.2975, almost 7 percent over the former ceiling, through early October.

BELGIAN FRANC

Through most of 1970, the Belgian franc had been bolstered by a growing payments surplus on current account and by an influx of short-term funds. The Belgian authorities, struggling to contain inflation, kept interest rates firm in the face of declining rates abroad. Late in the year, however, the National Bank cut its discount rate twice, but in early 1971 the renewed decline of Euro-dollar rates again opened wide interest differentials in favor of Belgium. The Belgian authorities then moved to absorb, mainly through domestic borrowings by the Belgian Treasury, some of the domestic liquidity which was being created by the capital inflows, and took the opportunity to reduce further Belgium's official borrowings in foreign currencies. The National Bank's dollar reserve gains continued, however, and the Federal Reserve covered these gains by drawings on the swap arrangement. As noted in previous reports, the System had initiated drawings on the Belgian franc line in June 1970, and at the year-end such drawings stood at $210 million. After rising to $355 million by January 27, the System's swap debt was reduced to $230 million on January 29 through use of $125 million equivalent of Belgian francs drawn by the United States Treasury from the IMF. By early March, the System's swap commitments had again risen to $420 million equivalent.

By that time, however, the value-added tax, introduced in Belgium at the beginning of the year, started to have its expected effects on Belgian trade. Prior to the tax, importers had run down their inventories and now they were rebuilding them, with the result that the trade account had swung into deficit in February. Moreover, the large injections of liquidity resulting from capital inflows had eased domestic money market conditions and, with Euro-dollar rates bottoming out in mid-March, demand for Belgian francs eased somewhat. On March 24, the National Bank of Belgium moved to limit future inflows of funds—and their effects on domestic credit expansion—by reducing its discount rate ½ percentage point to 6 percent, by asking the banks to exercise restraint in enlarging their net external liability positions, and by extending through September its quantitative restrictions on the expansion of short-term bank credit.

Late in March, however, the Belgian franc was caught up in the general speculation in European currencies, and the National Bank again began to absorb dollars from the market. On April 7 the Federal Reserve drew an additional $30 million equivalent on its swap line with the National Bank to cover part of the inflow, thereby increasing total drawings to $450 million. In addition, the

National Bank acquired $50 million through a sale of Belgian francs to the Bank of England, which needed the francs in connection with a debt repayment to the IMF on March 31. The United States Treasury absorbed these dollars by selling $25 million of SDRs and $25 million of gold to the National Bank.

Exchange market uncertainties led to new inflows in the latter part of April and in early May. The underlying situation had not changed—Belgian trade was still in deficit on a customs basis—but leads and lags built up in favor of the franc, holding the official rate at the National Bank's intervention point and adding to official reserve gains. The pressures came to a head on Wednesday, May 5, when the National Bank took in $100 million before joining several other continental European central banks in suspending trading. The Brussels market remained closed until the following Tuesday when the Belgian authorities announced modifications in the two-market exchange system for the franc, resulting in a complete separation of commercial and financial transactions. The National Bank would maintain the existing official intervention levels for commercial transactions, but all capital flows, whether inward or outward, as well as private transfers and tourist transactions were to pass through the financial franc market, which would not be supported. (Previously, capital imports could be converted through either the official or the financial franc markets, although capital exports by residents were permitted to move only through the latter.)

Meanwhile, there was the question of dealing with the reserve gains of the National Bank in late April and early May, which amounted to more than $250 million. This was accomplished through a series of transactions between May 10 and May 24: (1) the United States Treasury sold $55 million of SDRs and $85 million of gold to the National Bank of Belgium; (2) the Treasury established and drew in full a special $100 million swap facility with the National Bank; (3) the Federal Reserve made two swap repayments and one new drawing which resulted in a $10 million net increase in drawings outstanding. Then at the end of the month, when there was a further inflow of funds to Belgium, the System made an additional drawing of $30 million, bringing total swap commitments outstanding under the Federal Reserve line to $490 million equivalent.

Market expectations of a revaluation of the Belgian franc were on the wane at the end of May. Moreover, ample liquidity conditions in Brussels began to exert a drag on the franc rate and, as Euro-dollar rates rose, very large uncovered differentials opened up over Belgian money market rates. Then, on June 3, the National Bank requested that any increase in the Belgian commercial banks' net external liability positions above the levels prevailing at the end of May be matched by noninterest-bearing Belgian franc deposits with it. The Belgian banks accordingly began to shift funds abroad as offsets to their liabilities. In the official market the spot franc rate dropped to par by June 17, at which point the National Bank intervened in the market with a small sale of dollars to halt the decline. The financial franc, which had commanded a premium of roughly 1 percent over the official franc ceiling in mid-May, fell even further until it was trading at par with, and at times below, the official franc rate.

The Belgian franc rate stayed below the ceiling through early July. Trading was very thin, however, and did not provide an opportunity for a reduction in the Federal Reserve's swap drawings. In order to enable the Federal Reserve to liquidate some of its commitments, the United States Treasury acquired on June 21, in a multicurrency drawing from the IMF, $150 million of Belgian francs; these francs were used to reduce System swap drawings on the National Bank to $340 million equivalent.

The wave of speculation that hit the exchanges later in July and continued into the first half of August spilled over into the Belgian franc market and, with the franc rate pushed back to the ceiling, the National Bank of Belgium was obliged to absorb nearly $350 million. Moreover, on August 9, the British and French repayments to the IMF included a large allotment of Belgian francs, amounting to $315 million equivalent. Since the francs would be purchased from the National Bank, thereby increasing the bank's dollar reserves, the Treasury agreed to absorb the dollars by a simultaneous drawing on the Fund. The Treasury also agreed to repay at the same time the $100 million equivalent drawn in May under its special swap line with the National Bank, using additional francs drawn from the IMF, so that the total Fund drawing amounted to $415 million. To cover the National Bank's large dollar intake from the market, the System drew $65 million on the swap line in late July and a total of $95 million in early August, thereby exhausting the $500 million line with the National Bank. On August 12 the facility was enlarged to $600 million, and the additional $100 million of Belgian francs that thus became available was drawn in full. Finally, to cover the dollar gains of the National Bank on August 13, the Treasury sold $50 million of SDRs and the Federal Reserve drew $35 million of Belgian francs from the BIS, under the $1 billion reciprocal line which provides for swaps against certain European currencies other than Swiss francs. This drawing brought the Federal Reserve's swap commitments in Belgian francs to $635 million equivalent.

Following President Nixon's speech on August 15 the

Belgian authorities closed their exchange market, and it remained closed for the following week. After the EEC decision to open markets again on August 23, the Belgian government decided to allow the official franc as well as the financial franc to float. Once the market opened, the rates in the two tiers tended to come together for an effective appreciation above the former official ceiling of a little more than 2.5 percent. In addition, Belgium entered into an agreement with the Netherlands to limit the variation in the cross rate between the Belgian franc and the guilder to 1.5 percent on either side of their official parities.

Trading in the Belgian franc turned quieter during the remainder of August and through mid-September. In view of the changed conditions since the floating of the Belgian franc, the National Bank suspended on September 15 its request of last June that any increase in the Belgian commercial banks' net external liability positions be matched by noninterest-bearing Belgian franc deposits with it, and the funds that had been blocked under that measure were returned to the banks. Similarly, the earlier request, made in March, that the banks exercise restraint in their foreign borrowing was also suspended. A few days later, the National Bank announced that the quantitative restrictions on the expansion of short-term bank credit, which in March had been extended through the end of September, would be allowed to expire at that time since the risk of inflationary excess demand for goods and services had been sharply reduced. Finally, the National Bank lowered its discount rate from 6 percent to 5½ percent, effective September 23. In the latter part of September the franc rate advanced to a premium of around 6 percent over the former ceiling, largely in response to the general bidding-up of European currency rates as a hedge against a possible realignment of currency values during the IMF annual meeting, and remained firm in early October. On October 12, the Federal Reserve reduced its swap indebtedness to the National Bank by $35 million, to $565 million equivalent, using francs purchased in the market.

FRENCH FRANC

The French balance of payments on a cash basis had been in sizable surplus in 1970, on both current and capital accounts, and continued strong as 1971 began. Although the repatriation of French funds from abroad had tapered off over the course of last year, additional inflows had developed in response to favorable interest-arbitrage incentives. The French authorities had moved cautiously to ease monetary policy but, with Euro-dollar rates falling sharply, wide differentials opened on several

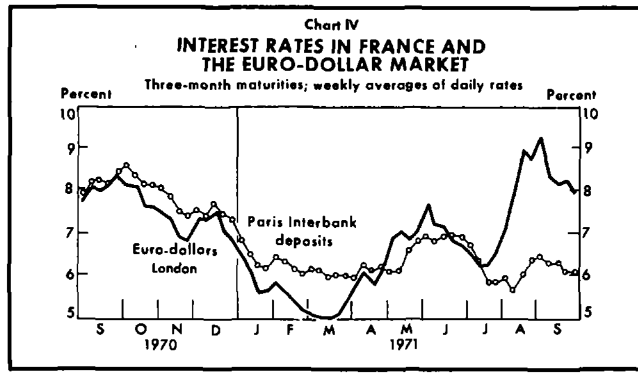


Chart IV
INTEREST RATES IN FRANCE AND THE EURO-DOLLAR MARKET
Three-month maturities; weekly averages of daily rates

occasions in favor of franc placements over Euro-dollars. In late 1970 and early 1971 the Bank of France repeatedly reduced its domestic intervention rates to narrow the interest-arbitrage spreads. Even so, the combination of the strong underlying payments position and the continuing inflows led to fairly persistent demand for French francs in the exchanges in the early months of 1971. The franc rate fluctuated in a narrow range near its upper limit throughout the first quarter, during which French reserves rose by $369 million, excluding the allocation of SDRs.

An easier tone developed for the franc in early April, as the French authorities allowed the rise in Euro-dollar rates to reduce the arbitrage incentives in favor of franc placements (see Chart IV). Toward the end of April, however, the usual month-end demand for francs was augmented by hot money inflows, reflecting mounting tensions in the exchange markets. The spot franc rate was pushed to the ceiling and the central bank had to absorb dollars in mounting volume. Nevertheless, the rush into francs was not overwhelming, mainly reflecting leads and lags, and the Bank of France did not withdraw from the exchange market on May 5 when several other continental European central banks suspended intervention in their markets. On subsequent days the flows halted and, as Euro-dollar rates rose sharply, some reflux of funds developed. With francs now offered on the market, the spot franc dropped away from the ceiling. On May 10, on the basis of the large reserve gains since the preceding fall, France made a further repayment to the IMF against earlier drawings. The repayment amounted to $375 million (with a substantial portion, $282 million, required in gold which was purchased from the United States Treasury), and France's indebtedness to the Fund was thereby reduced to a little over $600 million.

During May, the French authorities took a series of steps to ward off renewed speculation in the franc and to absorb excess domestic liquidity created by earlier inflows. On two occasions, the Bank of France raised its reserve requirements for French banks. Moreover, the National Credit Council authorized the Bank of France to raise reserve requirements on nonresidents' deposits to 100 percent, if this became necessary, and warned that it had the power to prohibit or limit the payment of interest on such deposits. These moves, along with the clearly stated intention of the French authorities not to revalue the franc or allow it to float, prevented speculative pressures from developing at that time. Consequently, with arbitrage incentives still well in favor of Euro-dollars, the Bank of France raised its own rates on discounts and secured advances by ¼ percentage point to 6¾ percent and 8¼ percent per annum, respectively. The French franc nevertheless had a softer tone through the rest of May and into June. For the second quarter as a whole, French reserves rose by a further $165 million.

In the last days of June and in early July, there was a dramatic shift in the market atmosphere and the franc came into heavy demand. At first the pressure reflected the movement of funds in response to yet another reversal of interest differentials in favor of France and to the usual bunching of export proceeds around the month end. Then, after an inconclusive meeting of the EEC's Finance Ministers on July 1-2, rumors began to circulate in the market that the French government might agree to a widening of the trading margins of all EEC currencies against the dollar. For the first time during the prolonged period of unsettlement, the speculative focus now shifted to the French franc and, as the spot rate was driven to the ceiling, the Bank of France had to absorb dollars from the market on a large scale. To deal with these flows, the Bank of France lowered its domestic intervention rates considerably—thereby pushing French money market yields well below similar Euro-dollar quotations—and raised its minimum reserve requirements further. Nevertheless, the strong demand continued through July, and the Bank of France recorded a reserve gain of $498 million for the month. On August 9 France prepaid in full its remaining indebtedness to the IMF, totaling $609 million. In discharging this obligation, the Bank of France purchased $191 million of gold from the United States.

In early August the French authorities took further steps to counteract the domestic effects of the latest inflows and to ward off further flows. Reserve requirements were again raised, and there was some relaxation of existing exchange controls. In addition, on August 4 the banks were instructed not to increase their net external indebtedness or decrease their net claims *vis-à-vis* nonresidents from the levels prevailing on August 3. In this connection, the banks were expected to refrain from selling francs to nonresidents whose motivation for buying francs appeared to be speculative. With the franc already in strong demand, this measure was immediately seized upon by the market as evidence of the French authorities' unwillingness to accumulate additional dollars, and, in the confusion, quotations for francs in markets outside France moved above the official ceiling. On August 5, the Bank of France quickly moved to clarify the instructions and the market quieted somewhat. At that time the banks agreed to stop paying interest on nonresident deposits of less than ninety-one days, and this ban was later made mandatory by the authorities. Nevertheless, in the general run on the dollar taking place at the time, the demand for francs was unrelenting, and the Bank of France continued to take in dollars on a daily basis through Friday, August 13.

Following President Nixon's speech, the French exchange market was closed for the week of August 16-20. The French government reopened the market on Monday, August 23, on the basis of a two-tier exchange system. The Bank of France would defend the franc at the prescribed intervention points only in the official market, through which trade and trade-related service transactions would be effected. All capital transfers, as well as tourist and most other nongovernmental service transactions, would henceforth be strictly segregated in a financial market where the franc rate would be allowed to find its own level. At the same time, measures were taken to prevent leads and lags from developing in the future, including a requirement that imports (other than equipment goods) be paid for within three months from their entry into France, and importers were given one month to comply with this new rule. Given the complexity of these exchange regulations, trading in the official franc market was very limited at first, with wide spreads in quotations, but commercial business picked up fairly rapidly. Trading was slower to develop in the financial franc market, where the rate moved to a 2.5 percent premium over that of the official franc. In the wake of the floating of the yen on August 27, renewed demand developed for the official franc—the only major currency still kept within its prescribed limits—and the Bank of France again had to absorb dollars. French official reserves rose by $1,087 million in August.

In September, there was some reversal of the previous flows into francs, as the French exchange regulations, which were further elaborated, began to bite. In particular, French exporters and importers had to unwind some of the leads and lags built up prior to mid-August. With the official franc rate dropping below the ceiling, the Bank of France sold substantial amounts of dollars over the course of the month, and reserves declined by $333 million for September as a whole. The financial franc rate, which had reached a premium of 4.0 percent over the official rate, gradually eased off to a premium of 2.1 percent in early October.

ITALIAN LIRA

The lira continued its recovery through the first months of 1971, drawing its strength from large capital inflows, including sizable Euro-dollar borrowings by Italian corporations and official entities. Labor unrest remained a major concern in Italy, however, and with export production still sluggish the current account showed little underlying improvement. The Bank of Italy, which had already moved toward a somewhat easier monetary policy in the fall of 1970, took advantage of the sustained capital inflow to encourage business activity by reducing its rate on secured advances in January and its discount rate in early April, both from 5½ percent to 5 percent. Demand for lire remained strong in April, however, and for the first four months of the year as a whole official reserves rose by $794 million, excluding the new allocation of SDRs.

While the lira was also affected by the growing speculation in European currencies leading up to the crisis of early May, Italy's continuing domestic difficulties served to dampen the demand for lire, and the pressures consequently were not as great as in other major currencies. Thus, when several continental European central banks suspended operations on May 5 and some governments subsequently floated or revalued their currencies, the Italian authorities kept the lira market open and rode through the storm. Later in May the Italian lira rate began to ease, as Euro-dollar rates rose relative to domestic interest rates. With labor unrest mounting anew and provincial elections adding new uncertainties, the lira fell to around par in early June. The lira developed a better tone toward the end of June, however, and held above par through July. Nevertheless, even though the current-account trend in the balance of payments was improving, Italian reserves declined on balance by $103 million in the May-July period.

Early in August, the lira was caught up in the mounting speculation against the dollar; the spot rate rose to the ceiling on August 9, and the Italian authorities had to intervene on a number of days during that week. After President Nixon's speech on August 15, the Italian authorities also kept their exchange market closed during the week of August 16-20, while intensive consultations took place within the EEC. The lira rate moved up substantially in New York, but trading was extremely thin and the range between bid and offered rates very wide. When Italy reopened its exchange market on August 23, the authorities announced that they would no longer intervene at the official limits, although they might enter the market at other rates if this seemed advisable. Demand for lire was quite strong at first as the tourist season was in full swing, receipts had been backed up during the week of August 16-20, and leads and lags had shifted in Italy's favor. The lira rate held at a premium of roughly 1.5 percentage points over the official ceiling, before settling back somewhat. For the month as a whole, Italian reserves rose by $424 million.

In mid-September, in view of the high rates prevailing in the Euro-dollar market at that time, the Italian Electricity Authority (ENEL) decided to prepay in November the $300 million Euro-dollar loan it had contracted in May 1970. Additional Euro-dollar loans of minor amounts were also beginning to be repaid by Italian entities, which had been very heavy borrowers during the preceding year and a half. This imparted a somewhat softer tone to the lira market, and the rate remained fairly steady even though other European currencies rose strongly against the dollar later in September.

JAPANESE YEN

For several years leading up to 1971, Japan had experienced balance-of-payments surpluses on the order of $1-2 billion, based largely on a growing trade surplus. Japanese exports had proved to be increasingly competitive in world markets, with particular success in the United States (exports to this country rose by 20 percent in 1970 alone) but also with significant inroads into European markets as well. Japan's overall balance-of-payments surplus amounted to $1.4 billion in 1970 and would have been even larger except for efforts by the Japanese authorities to trim the total. In 1970, along with some easing of trade restrictions and capital controls, the authorities had encouraged Japanese banks and trading companies to shift away from dollar financing to yen financing of imports. One technique employed by the authorities was to make special credit facilities available to Japanese banks under terms which enabled the banks to offer yen financing at preferential rates. Moreover, the Japanese government made some $200 million of additional funds available to the World Bank and other international lending agencies for development aid. Even with these efforts, however, there was a growing belief in the markets that the yen was fundamentally undervalued.

A slowdown in the rate of growth of the Japanese economy, which began in mid-1970 and became more pronounced in early 1971, came at a time when other industrial countries were struggling with inflationary pressures and served to aggravate the international imbalance in the early months of this year. Import growth slowed but exports expanded even more rapidly than before. On the domestic front the Japanese authorities turned to more stimulative policies, and the Bank of Japan made a further cut in its lending rates in January. Even so, the decline in Japanese interest rates did not match that in the United States and in the Euro-dollar market. Consequently, there was a risk that the earlier yen shift might be reversed and the Japanese authorities took further measures to preclude this, including a doubling of the availabilities to the Japanese banks to cover 30 percent of their import credits. The authorities also eased some of the controls on outflows of funds, and constructed additional barriers against inflows. Demand for yen remained strong, however, and Japanese reserves rose by $931 million in the first quarter, not counting the allocation of SDRs.

With market expectations of a possible yen revaluation already strong, the Japanese currency was also caught up in the wave of speculation that hit the European markets in late April and early May. Leads and lags resulted in a large influx of funds to Japan; in particular, there were sizable yen prepayments for ships under construction in Japanese yards. The Japanese authorities kept the market open, however, and moved to deal with the problem by tightening their exchange regulations and reducing domestic interest rates further. (Effective May 8, the Bank of Japan lowered its rates on discounts and secured advances by ¼ percentage point to 5½ percent and 5¾ percent, respectively.) With demand for yen continuing strong in both the spot and forward markets, amounts actually transacted were constrained by Japan's exchange control mechanism. Under the circumstances, it became difficult for Japanese exporters, whose receipts were almost entirely denominated in dollars, to obtain forward cover. In June, the authorities moved to alleviate this shortage of cover, again through the technique of placing dollars at the disposal of the foreign exchange banks, in two allotments totaling $500 million. Despite the efforts of the Japanese authorities to curb the demand for yen, official reserves rose by $1,902 million in the second quarter. As in the year before, the Japanese government made additional funds available to the World Bank, amounting to $200 million in the first half of 1971.

The demand pressure for yen continued unrelenting in July, and on July 22 the Ministry of Finance made a further deposit of some $300 million with the Japanese banks. Moreover, effective July 28, the Bank of Japan cut its discount rate by a further ¼ percentage point to 5¼ percent. Japanese official reserves nevertheless rose by another $328 million in July.

The worldwide speculation against the dollar building up in late July and early August led to even greater demand pressures on the yen than before. Even though the Bank of Japan was holding the yen rate at its upper limit by absorbing dollars daily, the exchange control apparatus left much of the demand for yen unsatisfied, and the apparatus itself was subjected to great strain. Because of the time difference, when President Nixon announced the United States measures on Sunday night, August 15, it was already Monday morning in Tokyo and the market was open for trading. The Japanese authorities nevertheless kept the market open the remainder of that day and through the rest of the week as well.

With dealers all around the world now convinced more than ever that a revaluation of the yen was imminent, the Bank of Japan had to absorb dollars on a massive scale over the following days, despite reinforcement of exchange control policies. Japanese banks, in particular, liquidated their long positions in dollars by converting into yen the dollars they were borrowing from every possible source in the United States as well from the Euro-dollar market. Finally, after further very large exchange gains on August 26 and 27, the Japanese authorities decided to "suspend temporarily the existing fluctuation margin for buying and selling quotations of foreign exchange, while maintaining the present parity of the yen". The vast inflow during August was reflected in a $4.4 billion gain in official reserves for the month as a whole.

In Tokyo, on August 28, the spot yen immediately rose to a premium of 4.7 percent over the ceiling. The rate pushed gradually higher through September, despite substantial further purchases of dollars by the Japanese authorities and some additional tightening of exchange control measures. With the tightening of the controls, Japanese banks found themselves unable to accept yen payments into the so-called free-yen accounts of foreign banks on their books and, in some cases, reportedly felt it necessary to convert balances in such accounts into dollars. This meant that the foreign banks in many cases were involuntarily short of yen and were unable to meet their commitments to customers on maturing forward contracts or to guarantee delivery on new spot transactions. With this failure in the payments mechanism, trading in Japanese yen dropped to nominal levels in New York, and in early September the yen was suspended from official trading in Frankfurt, Germany.

The Japanese authorities subsequently eased their restrictions slightly, but some payments problems persisted through September. By early October, the yen rate had risen to a premium of almost 8 percent over the previous ceiling.

CANADIAN DOLLAR

The Canadian dollar continued strong early in 1971, largely on the basis of a still buoyant trade surplus and substantial long-term capital inflows. Furthermore, with the fall of interest rates in the United States, uncovered arbitrage incentives opened in favor of Canada, while the decline in Euro-dollar rates may have led to some repatriation of previous outflows to that market from Canada. The spot rate—floating since June 1970—moved above $0.99 in late January, and there were widespread expectations in the market that it might rise above parity with the United States dollar. Meanwhile, the Canadian authorities were in the process of stimulating the domestic economy and were reluctant to see the Canadian dollar rate advance much higher. Among other measures, the Bank of Canada cut its discount rate in February and, by mid-March, Canadian interest rates had moved below corresponding rates in the United States, which were beginning to turn around. At the same time Euro-dollar rates also leveled off and, although the Canadian dollar continued to fluctuate above $0.99, the market seemed to move into better balance.

The Canadian dollar was little affected by the turmoil in the Continental exchanges in late April and early May. The market was active, but no cumulative rise in the Canadian dollar rate developed. Instead, the subsequent rise in Euro-dollar and United States interest rates in May further widened the arbitrage incentives against placements in Canadian instruments, and the Canadian dollar rate drifted downward. Moreover, continued large wage settlements in Canada had already raised fears of a revival of inflationary pressures, and there were market rumors that an expansionary budget would be presented in mid-June. Indeed, when the rate dropped below the $0.99 level at the end of May, commercial firms and banks began to reduce their long Canadian dollar positions, or even in some cases to go short, and these sales of Canadian dollars added to the downward momentum of the rate. By June 10 the spot rate had fallen below $0.98 in heavy trading and, less than a week later, it reached $0.9755, the lowest point in eight months. On June 18, Finance Minister Benson presented a moderately expansionary budget, which was well received in the market. Subsequently, the Canadian dollar held fairly steady through the end of June and into July.

In the latter part of July, with the onset of the period of seasonal strength for Canada's balance of payments, the spot rate began to firm, moving again above $0.98. Early in August the Canadian dollar began to respond to the general turmoil in the exchange markets and, with heavy advance covering by Canadian exporters, the spot rate moved close to $0.99 by August 13. On August 16, following announcement of President Nixon's new economic program, the rate rose further, with trading active in New York as well as in the Canadian exchanges, which stayed open. After surging to $0.9943 on the morning of August 17, the rate eased sharply, falling to $0.98½ one week later as the market became increasingly concerned over the possibility that the 10 percent import surcharge imposed by the United States Government might cut deeply into Canada's exports. In a move aimed at softening the blow of the United States import surcharge on domestic business activity and employment, the Canadian government announced on September 7 the establishment of a Can.$80 million fund from which payments of up to two thirds of the surcharge would be made to individual companies meeting certain conditions. During September and early October the rate held mainly in a range of $0.98½ to $0.99¼.

EURO-DOLLAR

With only brief interruptions, Euro-dollar rates declined fairly steadily throughout the second half of 1970 and in early 1971. Although many factors contributed to this slide, it reflected mainly the marked easing of liquidity conditions and domestic credit demand in the United States. With short-term interest rates falling sharply here, United States banks rapidly repaid Euro-dollar borrowings that they had built up through their branches during the previous period of monetary stringency in this country. Outstanding liabilities of United States banks to their foreign branches, which had reached a peak of $15 billion in October 1969, were reduced to less than $8 billion at the close of 1970 and continued to fall in early 1971. (See Charts V and VI.)

Meanwhile, most European countries were still pursuing policies of monetary restraint and were reluctant to allow domestic rates to decline, or at least to fall as swiftly as rates in the United States or in the Euro-dollar market. Consequently, wide interest-arbitrage incentives opened in favor of domestic European markets over both the United States money market and the Euro-dollar market, and large amounts of dollars were taken up by European borrowers—banks and nonbanks—for conversion into local currencies. German business firms in particular were heavy borrowers, but there were sizable flows to other countries as well. With many currencies at or near their upper intervention points, European central banks were obliged to absorb the dollars offered on the exchanges, which added to their international reserves while simultaneously expanding domestic liquidity and thereby tending to negate their policies of restraint. As described above, several central banks reduced their discount and lending rates and tried other techniques either to prevent the inflows by regulation or to absorb the domestic liquidity generated by the inflows.

For their part, the United States authorities attempted to moderate the pace of repayment by United States banks and to prevent these repayments from adding further to the reserve gains of foreign central banks. At the end of November 1970, the Federal Reserve raised its marginal reserve requirements against such borrowings in excess of reserve-free base levels, thereby inducing the banks to take a second look at the possible cost of borrowing should they need to have recourse to the Euro-dollar market in the future. The banks' repayments resumed after the year-end, however, and in January and February the Export-Import Bank offered to the foreign branches of United States banks $1.5 billion of special three-month securities which the banks could count toward maintenance of their reserve-free Euro-dollar bases. Thus, while United States banks continued to cut back their recourse to Euro-dollar financing—banks' liabilities to their own foreign branches fell by almost $5 billion in the first quarter to just under $3 billion—the securities issued reduced the amount of funds actually repaid to the market by about $1.5 billion.

Chart V
INTEREST RATES IN THE UNITED STATES AND THE EURO-DOLLAR MARKET

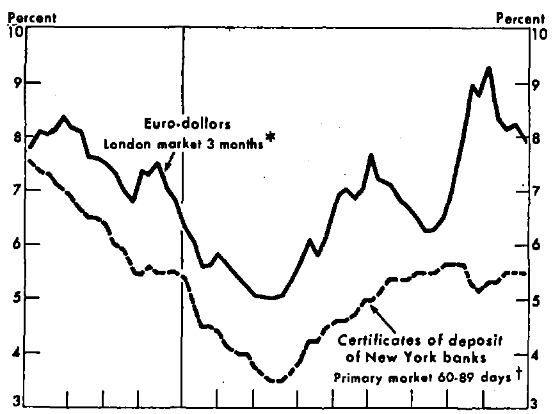
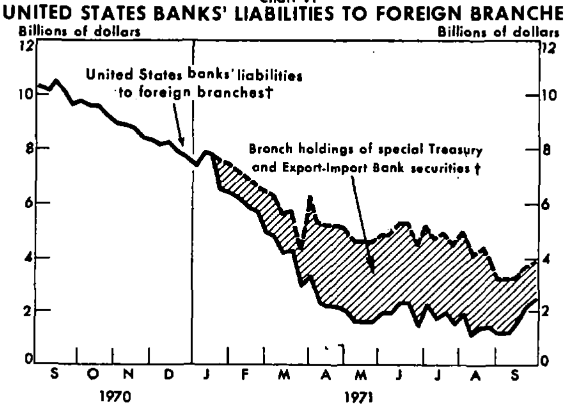


Chart VI
UNITED STATES BANKS' LIABILITIES TO FOREIGN BRANCHES



*Weekly averages of daily rates.
†Wednesday data.

Euro-dollar rates bottomed out in March. During that month, United States short-term interest rates leveled off and then began to rise once again. At the same time the considerably higher yields available in the British and German money markets continued to exert upward pressure on Euro-dollar rates. Consequently, Euro-dollar quotations, which for three-month deposits reached as low as 5 percent per annum in early March, began to turn upward. Rates tended to rise further on quarter-end demand, and this strength was maintained into early April as the pace of repayment by United States banks began to slow. In addition, the United States Treasury followed up the Export-Import Bank's earlier borrowings by itself issuing $1.5 billion of three-month certificates of indebtedness to the foreign branches of United States banks.

By this time, however, the growing uncertainties in the exchanges began to be reflected in the Euro-dollar market. In normal times, the Euro-dollar market serves as an international intermediary both for depositors seeking higher rates of return on their money and for borrowers seeking lower cost credit than they can obtain at home; such flows, which depend on the expectation of orderly international financial relations, had been the dominating factor through 1970 and early 1971. At other times, the Euro-dollar market has served as a staging area for international currency speculation—with funds pouring in from currencies which are expected to fall in value or moving out to currencies which are expected to appreciate.

In late March and early April the flows out of the Euro-dollar market began increasingly to assume a speculative character. At that point several foreign central banks cut their discount rates and, with Euro-dollar rates on the rise, interest-arbitrage spreads in favor of domestic European markets were narrowed or even reversed. Even so, the increasing expectation of drastic changes in currency relationships led to snowballing purchases of most European currencies. Much of this flow reflected leads and lags or consisted of direct transfers of funds, particularly out of the United States. But some of these flows were financed by borrowing Euro-dollars at short term, with the dollars sold against other currencies and the Euro-dollar borrowings subsequently rolled over as long as the short positions were maintained. At the same time, there was a great deal of discussion of the possibility that individual governments would place controls on their own banks' operations in the market. Rumors also developed that central banks, which were reviewing the role of their own placements in the Euro-dollar market, would come to an agreement which would have the effect of pushing up Euro-dollar rates. Consequently, as currency speculation swelled in April and early May, Euro-dollar rates moved up sharply, with wide day-to-day fluctuations reflecting the volatile moods in the exchanges: the three-month rate climbed to around 7½ percent and overnight rates at times to 45 percent or more. Euro-dollar yields receded a bit through mid-May after the speculative onslaught abated but, in the absence of any significant reversal of speculative positions, the rates remained at levels well above those prevailing before the run-up.

By late May, however, there were growing expectations that the Euro-dollar market would tighten further. In part, this was based on continuing rumors of coordinated central bank efforts to raise Euro-dollar rates. At the same time, United States money market rates were rising, and United States banks' liabilities to their foreign branches had leveled off at between $1½ billion and $2 billion. (With the United States Treasury beginning to take over maturing Export-Import Bank notes, and later renewing its own obligations as well, the full $3 billion of official United States borrowings in the Euro-dollar market was still outstanding.) The tightening of the Euro-dollar market pushed the three-month rate briefly to as high as 8 percent by June 1. On June 2, however, the German Bundesbank began offering to sell dollars in the exchange market. This move provoked a sharp reaction in the Euro-dollar market, and rates immediately broke downward. Subsequent spot sales by the Bundesbank soon exceeded the amounts being taken in by the German authorities under maturing forward contracts, thus augmenting the supply of Euro-dollars. By mid-June, the three-month rate had fallen back to just over 7 percent per annum.

From their discussions, the central banks reached a common view of some of the features of the Euro-dollar market, including the role of official placements. On June 14, Dr. Jelle Zijlstra, President of the Netherlands Bank, addressing the annual general meeting of the BIS in his capacity as President of that institution, said:

> It is becoming increasingly clear that the Euro-currency market needs guidance and supervision. The group of Governors meeting regularly in Basle decided to set up a study group under my chairmanship to analyze the problem and to work out terms of reference for a standing group which might suggest policies to be adopted by the Governors. I am confident that the Governors will be able to bring the Euro-currency market into better harmony with the proper functioning of the international monetary system. I may say, in fact, that we have already decided for the time being not to place additional official funds in the market and even to withdraw funds when such action is prudent in the light of market conditions.

The gradual falling back of Euro-dollar rates was halted briefly in the last days of June, when the usual midyear squeeze developed. The decline nevertheless resumed through the first half of July, with the three-month rate dropping below 6½ percent. Meanwhile, the Bundesbank had been selling substantial amounts of dollars virtually daily, often in amounts larger than were being taken in under maturing forward contracts.

Late in July and into early August, the Euro-dollar market was again caught in the backwash of currency speculation as there was substantial use of the Euro-dollar market to finance conversions into European currencies or Japanese yen. With little money coming into the Euro-dollar market, rates were bid up strongly and, on August 17 (the settlement date for currencies purchased on Friday, August 13), three-month deposits were at 10 percent per annum, seven-day funds at 20 percent, and overnight funds reached above 40 percent at one point. After these heavy commitments were met, Euro-dollar rates receded somewhat. Nevertheless, with the widespread uncertainties over the ultimate outcome of the negotiations to resolve the many issues raised by the United States measures of August 15, investors were unwilling to make new placements in Euro-dollars, and the rates remained several percentage points above those on comparable investments in major financial centers. An acute squeeze developed at the month end, with quotations on overnight Euro-dollars driven briefly as high as 200 percent.

With Euro-dollar rates at relatively high levels, there was further liquidation of borrowings in the Euro-dollar market. In August the United States Treasury began to repay the $3 billion of special certificates it had placed with the foreign branches of United States banks. By mid-October, only some $550 million of the Treasury's certificates remained outstanding. Not all of this was returned to the Euro-dollar market, however, since United States banks reabsorbed some of the funds by increasing their own liabilities to branches from about $1.5 billion in early August to around $2.5 billion by the end of September. Among European borrowers, the Italian Electricity Authority (ENEL) announced in September it would repay $300 million of its earlier longer term borrowings in the Euro-dollar market. Toward the end of September, however, the various quarter-end pressures subjected the market to a further squeeze before rates eased early in October, when the three-month rate dipped to around 7 percent.