Euro-Dollars in the Liquidity and Reserve Management of United States Banks

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During the last decade, the large commercial banks in the United States have exhibited a remarkable degree of imagination and initiative in broadening their access to pools of liquid funds. Their success in attracting corporate and institutional balances through the issue of negotiable certificates of deposit (C/D's) is a case in point. Other examples are their issue of "consumer" investment certificates and the flotation of unsecured notes and debentures in the capital market. More recently this increased readiness of banks to rely on what has become known as "liability management" in the adjustment of liquidity and reserve positions has been demonstrated by their large-scale use of balances acquired through their overseas branches in the Euro-dollar market. The overseas branches became active in this market soon after it emerged in the late 1950's, and have gradually become the most important participants. But only since the midsixties have several of the major United States banks employed large amounts of Euro-dollar balances for adjustments of their money positions in response to changing needs for funds, and more and more banks have opened overseas branches to gain access to the Euro-dollar market.

For some of the large money market banks, Euro-dollars have now become a major source of funds for loans and investments; in certain instances, the head office's dollar liabilities to overseas branches exceed or closely approach its outstanding C/D's. Altogether, liabilities of American banks to their overseas branches are now in excess of $6 billion. It is true that this total includes some funds that do not originate in the Euro-dollar market, but on the other hand the United States banks' use of Euro-dollar balances in the management of their portfolios is not limited to the amounts reported as liabilities to their branches. For example, they may use such balances for transfers of loans to overseas branches; or they may conserve head-office resources by referring some loan demands to their branches for financing with Euro-dollars; and those that have no branches overseas may sell loans to foreign banks or borrow from foreign banks directly. The following pages examine the institutional and economic background of the practice of using Euro-dollars in portfolio management, a practice that has greatly increased during the last two years.

THE EURO-DOLLAR MARKET AS A SOURCE OF FUNDS FOR UNITED STATES BANKS

The Euro-dollar market, which centers on London with links in several other major financial centers in Western Europe and elsewhere, is a telephone and telex network through which many of the world's major banks bid for and employ dollar balances. By a generally accepted definition, Euro-dollars come into existence when a domestic or foreign holder of dollar demand deposits in the United States places them on deposit in a bank outside the United States, but the term also applies to the dollars that banks abroad acquire with their own or foreign currencies and then employ for placement in the market or for loans to customers. Compared with other markets used by American banks for adjusting their liabilities, the Euro-dollar market possesses distinctive features which both add to and detract from its usefulness as a source of funds.

By far the greatest merit of the market from the viewpoint of United States banks is that it offers the possibility of obtaining balances that are not subject to the regulatory restrictions applicable to demand and time deposits. Unlike United States banks, the overseas branches may

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pay interest on dollar call deposits and on time deposits with maturities of less than thirty days. Thus, United States banks can gain access, through the overseas branch route, to sizable amounts of funds that they are precluded by various regulations from acquiring directly from foreign depositors. In addition, balances payable at overseas branches are not subject to Regulation Q rate ceilings, a factor of great significance when rates for money market instruments in the United States or Euro-dollar rates rise above the ceiling rates payable on deposits. And, finally, branch balances placed in head offices are not subject to member bank reserve requirements or to the fees of the Federal Deposit Insurance Corporation (FDIC). Indeed, especially during periods of tight money, the differential between Euro-dollar rates and time deposit rates in the United States tends to reflect this saving.

Another advantage of the market is its broad scope. Actual and potential Euro-dollar sources are diverse and widely dispersed geographically. They include countless banks and corporations in many parts of the world as well as monetary authorities and international financial institutions. When conditions in some countries restrict offerings by suppliers, conditions elsewhere typically free more resources for Euro-dollar placements. Monetary authorities and international institutions may add to their offerings when commercial banks and corporations pull back theirs. In short, there is a high degree of supply flexibility in the Euro-dollar market.

It must not be thought, however, that the market is always a stable source of funds for United States banks. On the one hand, there may be problems of oversupply—because of relative ease in the money markets of major supplier countries or because foreign customers' demand for loans has been weak or their established credit lines have been filled. At such times the branches will quote defensively, but even so some of them tend on occasion to take in sizable balances from day to day, as they are loath to refuse offerings by correspondent banks and corporations among their established customers that habitually lay off temporarily excess dollar balances with them. Several of the branches of major banks are in effect the residual takers of foreign banks' liquidity reserves, which tend to converge upon them largely in the form of call deposits. If these balances cannot immediately be employed abroad, the respective head offices tend to use these balances as an alternative to Federal funds purchases. Under such conditions, branch deposits in head offices may rise above the targets set by the money-desk or portfolio-management departments.

On the other hand, there are occasionally supply stringencies, notably during periods of heavy seasonal pressures. Moreover, restrictive monetary policies in major supplier countries may reduce offerings by foreign banks. Individual branches may then be unable, at a given rate, to replace maturing deposits. If such deposits account for a sizable proportion of a branch's aggregate balances, its deposits at the head office may drop off sharply, to be built up again when the branch has been authorized to offer more competitive rates. Timing is often important, as other branches and other banks abroad may absorb early in the day major portions of the funds offered. It is true that central banks have increasingly been prepared to supply funds to the Euro-dollar market when it is exposed to pressures, but there are still occasions when the branches are forced to withdraw balances placed in their head offices, thereby forcing the latter to seek additional funds in the United States money market.

At times, the demand for Euro-dollars for use in foreign money and loan markets is so pressing that rates rise to levels that are out of line with those quoted in markets for comparable funds in the United States, thereby inducing the head offices not to renew maturing deposits. This situation is subject to reversal, because the head offices normally absorb so large a proportion of aggregate Euro-dollar deposits that any reduction of their takings will tend to bring rates down. In any event, Euro-dollar rates, especially those for call money and other short-dated funds, which are less suited than the more distant maturities for use in commercial loan markets abroad, are highly sensitive to conditions in the United States money market.

It is true, of course, that banks must allocate a major part of their branches' aggregate Euro-dollar resources to the loan and investment transactions of the branches themselves. The banks cannot disregard the demand for branch loans that comes from the affiliates abroad of important head-office accounts. And the branches must accommodate their own customers with whom they have developed close deposit and loan relationships. But the needs of the branches themselves do not appear to have restricted head-office use of the market for its own requirements. The head offices can almost always obtain additional balances in the market, at a price, if they are pressed for funds. The market has proved to be highly interest-rate elastic, and thus, as rates escalate, offerings rise at a very rapid pace. This was demonstrated during the credit crunch in the summer and fall of 1966, when United States banks by raising their bids pulled very large additional amounts into the market. The Euro-dollar pool is not inexhaustible, but it can be replenished by a large variety of funds held in several types of assets and currencies. Therefore, relatively small shifts from other uses within and to the Euro-dollar market can satisfy a rise in the demand for funds.

There are some negative aspects of the Euro-dollar market from the viewpoint of money position management. The market is far away, and because of the time difference between London and New York (not to mention Chicago or San Francisco) opportunities for immediate and direct head-office communication with it is confined to a few hours during the morning. Moreover, due to the settlement and clearing periods involved, several days pass before a head-office decision to take on Euro-dollars is reflected in available funds in the banks' reserve accounts. Meanwhile, conditions in domestic money markets may have changed significantly. Closely connected with the distance factor is the problem of adequate information. Because of the diverse conditions prevailing in the several major areas where dollar supplies originate, it is not always easy for the branches to obtain accurate knowledge of prospective market factors that might affect rates and amounts offered. And, in turn, head-office money position managers have not always found it easy to convey to their London offices their exact needs in terms of amounts and maturities, since their desire to draw on the market is partly conditional on the rates at which balances in various maturity sectors become available, and the rates change in response to market conditions.

The large banks with overseas branches differ greatly in their appraisal of the merits of the market as a source of funds for head-office use. A few banks look upon the market as one of their preferred methods of portfolio adjustment and have made very heavy use of it almost continuously. For most large banks, however, Euro-dollars appear to be only a second choice. Several of these banks have used the market on a substantial scale solely during periods of severe reserve pressure.

By far the largest part of branch placements with head offices is held in New York, but several banks in other financial centers also absorb relatively sizable balances from their branches. A few New York banks—and several banks elsewhere that have only recently opened overseas branches—have not yet made any large-scale use of Euro-dollar deposits.

The banks differ substantially in the proportion of their branches' aggregate dollar resources that they take into their own positions. At present, almost half of the branches' aggregate dollar balances, excluding interbranch deposits, are held in head offices, but for the branches of a few banks the figure is in excess of 60 per cent while for others it is below 40 per cent.

The bulk of Euro-deposits taken for head-office use is obtained through branches in London. These branches are of course a conduit for funds from many parts of the world. In fact, some banks have instructed their branches in other Euro-dollar centers to redeposit excess dollar balances in London offices. United States banks also obtain sizable funds directly from their Paris branches and, to a lesser extent, from their branches in Nassau. Direct placements in United States head offices by branches elsewhere are generally quite small.

MAJOR HEAD-OFFICE USES OF BRANCH BALANCES

Conceptually, the funds of overseas branches in head offices may be separated into three main categories: (1) balances borrowed by the head offices on a more or less continuous basis for the purpose of enlarging the banks' reserves, (2) balances acquired for short-term adjustments of reserve positions, and (3) working or operating balances to accommodate adjustments between head-office and branch accounts. The boundaries between the three categories are, at least for some banks, somewhat blurred; often the same balances serve all three functions, and clearly, whatever their maturity or the ultimate objective of their acquisition, they all add to the resources of the borrowing banks. Apart from these three categories, Euro-dollars are also used by foreign banks and overseas branches for the purchase of loans from United States banks and to finance loans that otherwise would have been made directly by American banks.

CONTINUOUS BORROWING FOR ENLARGING RESERVES. The major motive of United States banks in using Euro-dollar funds has been to obtain balances for enlarging or maintaining their credit potential. In their efforts to locate and solicit additional loanable funds, the banks have become increasingly attracted by the continuous availability in the Euro-dollar market of very large amounts of funds in a broad maturity range. Although a large part of these funds are call and short-dated deposits, experience has demonstrated that over extended periods even the call component remains quite steady in the aggregate. Thus the presence in, or availability to, the Euro-dollar market of very large interest-rate-sensitive funds provides the banks with an attractive alternative means of meeting demands on their liquidity positions and adding to aggregate deposit stability.

Rate advantages explain, of course, much of the heavy use of Euro-dollar deposits. During recent years, they have been for extended periods less expensive, or at least not more expensive, than domestic deposits. Even when rates in the Euro-dollar market are nominally higher than those in the C/D market, it may be advantageous to increase holdings of branch balances, relative to sales of

C/D's, because of their exemption from reserve requirements and FDIC fees. A further saving associated with the acquisition of branch balances arises from technical factors. When a bank obtains Euro-dollar balances from its branch, it may benefit from reduced reserve requirements, while clearing the transaction, for at least one day —and for more if the date of the acquisition is followed by a holiday or a weekend. The reason is that the check received by a bank in connection with the transfer of a Euro-dollar deposit acquired by its branch increases cash items in the process of collection, which are deductible from demand deposits in computing reserve requirements even though the branch balance does not add to deposits subject to such requirements. This saving arises only if the Euro-dollar deposit is repaid by a so-called "bills payable" check. Outstanding checks of this type need not be included in deposits subject to reserve requirements in contrast to checks issued by banks for purposes other than borrowings. The initial saving would cancel out at maturity of the funds if they were repaid with a check not exempt from reserve requirements.

As noted, the head offices may stand ready to accommodate important suppliers, even if Euro-dollars are offered at rates somewhat above those quoted for comparable domestic funds. Generally, the large banks are very much aware of the advantages of regular contacts and dealings in the market. Some of them have concluded that a continuous readiness to accept large amounts irrespective of immediate needs permits the overseas branches to improve their feel of the market and their information on prospective trends. Moreover, if needs for overseas balances are less urgent at a particular time, they may well rebound in the not too distant future. Keeping a hand in the market makes it a more reliable source of funds. In short, a number of United States banks believe that complete withdrawal from the market when domestic funds can easily be substituted for Euro-dollars would not serve their longer run interest, and on occasion they have been quite willing to pay a price, albeit small, for continued participation.

The head offices issue directives to the branches concerning the amounts they wish to take and the rate limits, either for specific maturities or for a "package" of maturities. During periods of rapidly mounting or declining pressures, head-office instructions to the branches regarding targets and rates are often changed from day to day. If money market conditions in the United States are relatively stable, the directives are issued for extended and sometimes indefinite periods ahead. Because the rising yield curve for Euro-dollar deposits often makes the more distant maturities too expensive relative to C/D rates for corresponding maturities, there is a tendency for head offices to concentrate on the shorter maturities among the balances that branches tap in the Euro-dollar market. Moreover, substantial offerings in the market generally carry short maturities. On occasion, the banks have instructed their branches to reach out for rather distant maturities, so that the banks' loan and investment portfolios can be financed on a more secure basis. Sometimes, the banks acquire longer term Euro-dollars from their branches and invest them in liquid assets in order to maintain a comfortable cushion against the possibility of losing C/D money if open market rates should exceed the Regulation Q ceilings.

BORROWING TO FINANCE WEEKEND RESERVE POSITIONS. United States banks seldom use Euro-dollar balances for specifically adjusting day-to-day cash and reserve positions except over weekends. The Euro-dollar market is generally not suited to immediate reserve adjustment needs. One reason is the distance factor: In the morning hours, London time, when the branch officers would need to obtain indications of immediate head-office needs in the light of current offerings, United States banks have not yet opened for business; by noon, New York time, when the evolving cash needs of banks are becoming evident, the London market is closing up shop. Of still greater significance is the fact that the normal delivery period for Euro-dollars is two days, and even if arrangements can be made early in the morning London time to acquire dollars for same-day delivery in New York, these balances become available as bank reserves in Federal Reserve accounts only the next day (see below). Moreover, banks find it difficult to estimate changes in reserve positions for more than a few days in advance. For these reasons, banks generally consider the Federal funds market far superior to the overnight sector of the Euro-dollar market for very short-term adjustments of reserve positions. Yet, a few banks appear to be quite prepared for a variety of reasons to make continuous use of overnight deposits as a substantial core of relatively low cost funds.

An important use of the Euro-dollar market as a tool of short-term reserve management is for the financing of weekend reserve positions. In fact, most of the banks with branches employ overnight deposits each Thursday as a partial substitute for Federal funds purchases on Friday. Because of New York check-clearing practices, overnight borrowing in the Euro-dollar market value-Thursday for repayment on Friday can serve as bank reserves for three days—from Friday through Sunday. Euro-dollar transactions are generally settled through checks on New York banks. Unlike Federal funds transactions, which are recorded in Federal Reserve accounts immediately, these checks must pass through the New York Clearing House, and it is not until the following business day that they become balances in the Federal Reserve accounts of member banks. Thus, a check drawn on bank A and deposited on Friday in bank B in repayment of a Euro-dollar deposit does not draw down A's reserves until Monday; the same applies if the check is deposited on the day before a holiday.

These weekend and holiday clearing delays are reflected in the rates that head offices must pay for Euro-dollar balances. For a one-day Euro-dollar deposit on Thursday, a United States bank in need of funds to meet its reserve requirements will be willing to pay a rate close to three times the anticipated Federal funds rate on Friday; and it will pay a corresponding multiple when the settlement date for these overnight balances precedes any other period when the New York money market is closed for one business day or longer. Thursday-Friday transactions have become so common that the rates have adjusted themselves almost fully to the anticipated Federal funds rate on Friday. Nevertheless, the banks continue to have their London branches engage in these transactions on a large scale —often for purely defensive purposes—because any bank that does not bid for overnight dollars offered value-Thursday is likely to suffer sizable losses in its Federal Reserve account as other American banks take advantage of the Thursday deposit offerings.

The money-desk managers of United States banks that wish to acquire Thursday-Friday money must make their basic decisions on amounts and rates at the end of the preceding week, or at the latest on Monday, on the basis of projections of supplies and rates in the Federal funds market the following Friday. Within limits further adjustments can be made on Tuesday or Wednesday, but the bulk of the available funds has been spoken for by that time. Actual conditions on Friday may well be and often are different from those projected. By Wednesday, however, the money-desk manager knows the amount of Euro-dollar overnight deposits that will be available on Friday, and in the light of this information he can adjust his Federal fund and dealer loan operations during the closing days of the week.

No statistical information is extant on the volume of Thursday-Friday transactions by the overseas branches of United States banks. Aggregate branch balances in their head offices tend to increase on Thursday by amounts in the $100 million to $300 million range, depending in part on conditions in the Federal funds market. But the overall volume of Thursday-Friday transactions is in excess of this range, which does not reflect balances that mature or are called on Thursday and are placed again for one day.

There are other categories of Euro-dollar deposit transactions that take advantage of the delay in the clearing of checks in New York. For instance, a foreign bank may accept an overnight Euro-dollar deposit on Thursday and make arrangements to sell the resulting Federal funds on Friday through its United States correspondent. For foreign banks, however, such transactions are less attractive than direct dealings with American banks' overseas branches, and have come into disuse with the branches' increasing activity in the Thursday-Friday market on behalf of their head offices.

In addition, use of the foreign exchange market to take advantage of the United States check-clearing procedure is quite common. For instance, a foreign bank, using a foreign currency, may purchase dollars in New York value-Thursday for resale value-Friday. Although the dollars it buys and sells are not "good money" until the following business day, the foreign currency is immediately available to the buyer for investment, because in foreign financial centers checks deposited before a designated hour are cleared the same day. Thus on Friday, when its Thursday dollars become available as "good money", a foreign bank can put them to weekend use in the Federal funds market and also use its Friday repurchase of local exchange for payments needs or for investment over the weekend in a foreign market. Of course, a bank engaging in such a transaction forgoes earnings on Thursday. Or a United States bank buyer of foreign exchange value-Friday can employ the funds abroad over the weekend and also retain its weekend use of the dollars with which it paid for them, since the check deposited for the settlement of the transaction is not debited against its reserve account until Monday. These and similar operations have been reflected in spot and forward exchange rate distortions and erratic flows of funds from foreign money markets.

OPERATING BALANCES OF BRANCHES. The third type of liabilities to overseas branches consists of balances carried with head offices for operating purposes. This item has no direct relationship to the branches' overall dollar liabilities. Actually there may be no necessity for a branch to carry an operating balance in its head office if it is authorized to overdraw its account at its head office in case of need, or if the various components of its assets carry maturities of the same length as those of its corresponding deposit liabilities. Moreover, branches are ordinarily able, at a price, to obtain additional balances in foreign currency deposit markets. But the voluntary credit restraint program has made it undesirable for head offices to expose themselves to sudden branch overdrafts for meeting deposit liabilities that cannot be replaced at the time of maturity without costly rate sacrifices. Some branches have been willing to build their asset portfolios on deposits that carry somewhat shorter maturities than loan and deposit placements abroad: it is not easy, and is at times impossible, to match dollar loans to corporations with dollar deposits of similar maturities. Branches also need operating balances to discharge obligations under letters of credit and to take care of a variety of payments orders by customers, and they need contingency reserves in view of their large outstanding loan commitments.

Dollar balances at head offices have on occasion served also as contingency reserves for the branches' deposit and loan operations in sterling. Because of the swings in confidence in the pound, sterling deposits have typically been short dated. On the other hand, the branches' commercial loans in sterling—made both to United Kingdom firms and to European affiliates of United States corporations—are usually for extended periods. At times, though less so recently, the branches have preferred to draw down and convert their dollar balances at head offices in lieu of meeting their sterling liabilities through other more costly portfolio adjustments.

EURO-DOLLAR FINANCING OF LOAN TRANSACTIONS. There is, finally, the special category of Euro-dollar transactions represented by head-office loan transfers to branches. To some extent these entail the sale of outstanding loans under repurchase agreements. Such sales appear to arise mainly from efforts of head offices to maintain their outstanding claims below the quota ceilings set by the voluntary credit restraint program. The sales wipe out any simultaneous increase in branch placements in head offices that have resulted from branch acquisitions of deposits abroad for the specific purpose of purchasing the loans, but the head offices obtain funds for further loans. Of course, the head office does not acquire additional funds if the loan is paid for out of existing branch deposits. In that case the head office reduces its outstanding loans and its liabilities ("due to" branches) by the same amount. Its overall balance sheet thus contracts.

The large banks do not appear to have employed repurchase agreements with branches as a device for obtaining funds for additional domestic loans. Those banks that have considerable credit leeway under the restraint program have made several sizable sales of loans to branches. Under these circumstances, however, the purpose appears to have been to enable individual branches to acquire earning assets with funds that they had taken in to accommodate important nonbank accounts on their books.

Of greater importance than such sales, in terms of dollar amounts involved, are loans made by branches to meet loan demands on their head offices. For these loans to head-office customers the branches employ deposits obtained in the Euro-dollar or other foreign currency deposit markets. It is, of course, possible that a branch would have increased its Euro-dollar liabilities even in the absence of this particular loan demand and would have placed additional balances in its head-office account.

It should be mentioned again that many United States banks without branches sell substantial amounts of their foreign loans to foreign banks under repurchase agreements, primarily in order to hold their foreign claims below the credit restraint program ceilings; the foreign banks finance these loan purchases largely with Euro-dollars. And there are indications that an increasing number of banks without branches have made arrangements to borrow Euro-dollars directly from foreign banks. These two types of transactions are analogous to, and have the same liquidity and reserve effects as, the corresponding transactions between head offices and their overseas branches.

HEAD-OFFICE USE OF BRANCH BALANCES, 1964-68

Before 1964, relatively few of the banks with overseas branches made much use of the Euro-dollar market for their head-office operations. Not until the summer of that year did aggregate head-office liabilities to branches remain continuously above $1 billion. Through most of 1965, they were substantially below $2 billion, as shown in the chart. The majority of the banks with branches apparently preferred other options for obtaining funds, either because of cost considerations or because head-office portfolio managements had not yet developed a close liaison with overseas branch managements.

During the first half of 1966, as Federal Reserve pressures on the banks' reserve positions mounted, borrowings gradually increased and the aggregate due to branches approached the $2 billion level. The increased resort to the Euro-dollar market during this period represented primarily an attempt to obtain resources over and above those available in domestic deposit markets and thereby to lessen susceptibility to reserve pressures.

Toward the end of June 1966, the pace of borrowing through branches quickened even more. The large money market banks then used the Euro-dollar market to cushion the effects of another weapon in the Federal Reserve's armory of credit control—administration of Regulation Q. With the Reserve System using Q as a deliberate means of reducing the rate of credit expansion, the banks were virtually priced out of the national C/D market. But about four fifths of the loss in outstanding C/D's suffered during the summer and fall of 1966 by the twelve banks with overseas branches was offset by increased Euro-dollar tak-

LIABILITIES OF UNITED STATES BANKS
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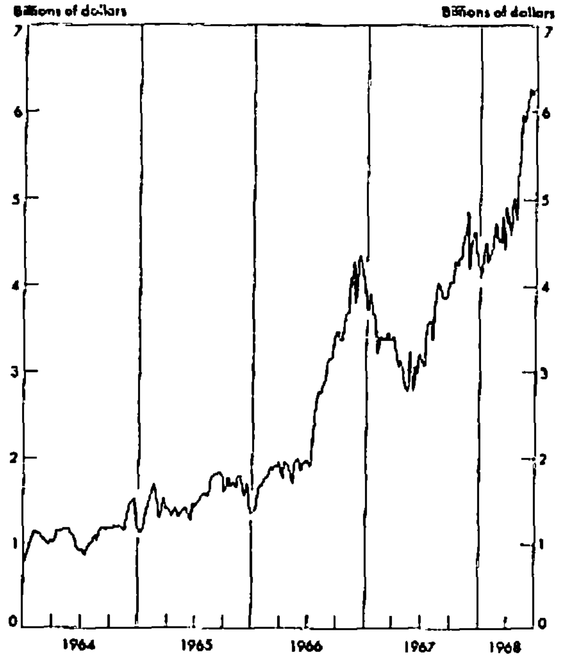

Source: Board of Governors of the Federal Reserve System.

ings from branches. Euro-dollars at that time were in ample supply, partly because of large-scale shifts of funds out of sterling into dollars. By mid-December, aggregate redeposits in head offices, which had then reached \$4.3 billion, amounted to substantially more than half of the twelve banks' outstanding C/D's, compared with less than one fifth in mid-1966.

Thus, during the summer and fall of 1966, Euro-dollar balances played an important role in banks' efforts to meet loan demands and commitments, offset losses of other resources, and reduce the need to liquidate securities at distressingly low prices. Moreover, the banks were then experiencing an increase in demand deposits relative to time deposits, and the resultant effects on required reserves were cushioned by the acquisition of balances not subject to reserve requirements.

Late in 1966 and early in 1967, when a large movement of foreign funds into the London money market coincided with a considerable easing of money market conditions in the United States, the use of branch balances by head offices fell rapidly, and by May 1967 it had dropped by about \$1.5 billion from the peak level reached in December 1966. The figure then began to rise, however, and in November 1967 it began to exceed the amount outstanding during the 1966 credit crunch. During the short span of six months beginning in the middle of May 1967, aggregate borrowings from branches rose by about \$2 billion.

This 1967 surge of branch deposits occurred in a market atmosphere quite different from that prevailing in the second half of 1966. During the latter part of 1967 the demand for business loans was relatively weak. The Federal Reserve supplied bank reserves quite liberally until late in the year, and banks were able to make considerable progress in improving their liquidity positions. There was little, if any, need to reach out for funds in Europe to compensate for shortages of funds in the United States. It appears, therefore, that there was a fundamental change in the banks' attitude with respect to taking Euro-dollars from their branches. Before the summer of 1966, several of them approached the Euro-dollar market with some hesitation, looking on it merely as a marginal source of funds. In general, they discovered the market's full potential only after having been virtually forced into it. As they became familiar with its breadth and depth, they lost their skepticism and came to regard the market as another normal source of funds to be tapped whenever the price was right.

Other factors also contributed to the surge in the use of Euro-dollars during 1967. Foreign investors shifted substantial amounts of their short-term sterling investments into the Euro-dollar market in response to the Middle East crisis in June and the weakening of sterling in the fall of 1967 prior to its devaluation. In addition, market relationships had been established, with considerable effort, and the banks desired to maintain them. Several felt that a withdrawal from the market because domestic funds could be easily substituted for Euro-dollars would not serve their longer run interest, even if continued participation sometimes involved a rate sacrifice.

In the spring of 1968, as money market conditions in the United States tightened, aggregate balances held for overseas branches passed the \$5 billion mark, and toward the end of June they amounted to more than \$6 billion. Sizable dollar losses by the Bank of France contributed importantly to Euro-dollar availabilities during the closing weeks of the month.

IMPLICATIONS FOR MONETARY ANALYSIS AND POLICY

United States banks' initiative in attracting hitherto untapped liquid funds—their gradual shift from a passive to an active role in acquiring funds through incurring liabilities—has raised important issues for monetary analysis and policy. And their recently increased use of balances obtained by the overseas branches from foreign sources has added to both the number and the complexity of the issues with which analysts and policy makers need be concerned. The success of the banks' efforts to acquire additional funds abroad has implications that touch on many aspects of the financial mechanism, including the country's balance of payments, the distribution of bank reserves and the banks' response to reserve pressures, the foreign ownership of United States money market instruments, and monetary policy.

One of the major consequences of the vast increase in the intermediation of overseas branches for head-office account has been a sizable substitution of United States bank liabilities to their branches for foreign central bank holdings of United States money market assets, and with it an improvement in the United States balance-of-payments position as defined on the official reserve transactions basis. To the extent that foreign-owned dollar balances are placed with United States banks instead of being used in foreign deposit and loan markets, the dollar supply offered on foreign exchange markets abroad is reduced, and thus also for the time being the potential offerings of dollars to foreign monetary authorities. Those authorities' holdings of dollars may even decline, as foreigners' demand for dollars to deposit in the Euro-dollar market may cause central banks to supply dollars to their exchange markets. Since foreign central banks tend to invest the bulk of their dollar holdings in United States Treasury securities, either a diversion of potential dollar balances from monetary authorities or a diminution of their existing holdings occurs largely at the expense of foreign official investments in Treasuries. Moreover, the retention or expansion of dollar balances in the hands of private holders benefits the official reserve transactions balance of the United States. However, some foreign central banks may suffer unwelcome losses in their own reserves as a result of developments in the Euro-dollar market. And if they take monetary action in an effort to reduce the outflows of funds, rates in their own money markets may escalate to levels that are undesirable for domestic reasons.

These substitutions and balance-of-payments effects are also likely to occur when central banks decide on their own initiative for reasons of domestic or international monetary policy either to deposit funds in the Euro-dollar market or to enter into swap transactions with their commercial banks. Especially if attractive swap rates are available, foreign commercial banks will make substantial use of such facilities and convert large amounts of domestic-currency assets into dollar balances. Such injections of foreign official funds into the market often add significantly to supply availabilities and tend to reduce upward pressures on Euro-dollar rates or even to lower rate levels. As a result, United States banks are likely to take on larger Euro-dollar balances through their branches than they would have acquired in the absence of these official injections of funds. Thus, the monetary reserves of foreign central banks are channeled through the Euro-dollar market to United States banks, and this country's official reserve transactions balance is thereby improved.[1]

The transformation of demand deposits into branch balances in head offices does not change United States banks' total reserves, but it does reduce the level of their aggregate required reserves, since overseas branch balances in head offices are not subject to reserve requirements. This fact has to be taken into account if, as is often done, current changes in bank credit are estimated on the basis of changes in deposits subject to reserve requirements. Moreover, the banking system as a whole can carry a somewhat larger amount of earning assets on the basis of a given amount of reserves. Since the banks that obtain balances from their branches typically are in a net reserve deficiency position and tend fully to employ available funds, their additional reserves are likely to be reflected immediately in a bank credit increase or reduced borrowings from other sources rather than in larger excess reserves. In other words, these banks' acquisition of reserves through the Euro-dollar operations of their branches increases the utilization of the banking system's reserve base, as do Federal funds purchases from those banks that are less fully invested.

The banks that have direct access to the Euro-dollar market through their foreign branches are in a position to increase their share in total member bank reserves. If they were to abstain from absorbing Euro-dollar balances, most of the underlying funds would be invested by foreign central banks in the United States money market and would therefore be more widely dispersed throughout the banking system. Of course, to the extent that foreign central banks place their dollar gains in

[1] Some branch funds in head offices may originate in shifts of private foreign investments from the New York money market to the Euro-dollar market. In that event, the official reserve transactions balance would not be improved. But the evidence indicates that such shifts are not likely to occur when rates in the New York money market are relatively high. And when money market rates in this country are low in relation to Euro-dollar rates, the banks have little incentive to increase their liabilities to their branches.

time deposits with American banks, these balances would be largely held with the same banks that acquire funds through their branches. To be sure, banks without branches may borrow Euro-dollar balances from foreign banks, and such borrowings are also exempt from Regulation Q ceilings and reserve requirements. But the branch route to Euro-dollars is more convenient and, in the long run, probably less expensive. Moreover, it allows access to a much larger volume of funds than banks can or would wish to secure through borrowings abroad. And only the larger banks in the United States have the credit standing that would enable them to obtain sizable dollar balances from foreign banks.

For individual banks with overseas branches, the availability of still another liability market of great breadth provides additional elbow room for portfolio and reserve adjustments. Inasmuch as the Euro-dollar market is subject to influences emanating from prevailing climates in foreign money markets, its supply-demand balance at any one particular point in time may differ greatly from that in the New York money market. Money market tightness here may be accompanied by relative ease in the Euro-dollar market. United States banks that find it undesirable or are unable to liquidate securities at such times, or are unable to add to their outstanding C/D's because of interest rate limitations by the Federal Reserve, may find a ready alternative source of funds in branch balances. But, even in the absence of pressure or regulatory interference in domestic money markets, access to Euro-dollars offers additional opportunities to minimize portfolio adjustment costs—as does resort to the national C/D market. Moreover, the very knowledge that they are able to fall back on the Euro-dollar market, and to use it in addition to or as an alternative to other liability markets, may induce portfolio managers to carry larger amounts of loans relative to aggregate deposits, and fewer liquid assets relative to aggregate assets, than they would otherwise consider prudent.

Monetary policy has had to take into account the buildup of overseas branch deposits in United States banks, and now continuously weighs the various implications and consequences of current and prospective changes in these placements. During periods of balance-of-payments pressure, the effect of branch deposits in head offices on the net demand for the dollar in foreign exchange markets is, of course, a matter that deserves particular attention. Nor can policy makers overlook the ways in which their decisions are transmitted through branch operations in the Euro-dollar market to foreign money markets and reflected in foreign monetary reserve changes, notably in countries that are under balance-of-payments pressure themselves. Now that banks in this country have become a major receptacle for the liquidity reserves of foreign commercial banks, the United States authorities have added reason to take an interest in foreign money market conditions. Similarly, they have additional reason to concern themselves with the Euro-dollar operations of those central banks that use the market as a major channel for making adjustments in their own monetary reserve positions. Indeed, prospective developments in the Euro-dollar market are now regularly discussed at the monthly meetings of central banks at the Bank for International Settlements (BIS) in Basle. The Federal Reserve's interest in the market is also demonstrated by the fact that Reserve credit has repeatedly been provided to the market through activation of the System's swap line with the BIS which now amounts to $1 billion. Under this arrangement the BIS can draw dollars from the Reserve System for placement in the Euro-dollar market.[2]

On the domestic side, the Federal Reserve System must be concerned with the redistribution of reserves arising from the access of banks with overseas branches to balances that other banks find it difficult or impossible to attract. It must also take into account shifts in the banks' aggregate demand for reserves as they acquire reserve-exempt balances. Furthermore, it must make allowance for the increased ability of the money market banks—the major source of business loans to large corporate borrowers—to fall back on the Euro-dollar market whenever the interest rate ceilings impair the banks' ability to obtain funds in the national market for C/D's. Indeed, now that some of the major commercial banks in the United States look beyond this country's borders for funds with which to make adjustments in their liquidity and reserve positions, a new and significant dimension has been added to central banking in the United States.

[2] For a description of these operations, see Charles A. Coombs, "Treasury and Federal Reserve Foreign Exchange Operations", this *Review* (March 1968), pages 38-52.