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It is a pleasure to testify before these subcommittees today on behalf of the Federal Reserve Board. You have asked for our views on the rapidly growing and now sizable Eurodollar market and on the possible need for legislation to deal with it.

U.S. monetary authorities have monitored the development of the Eurodollar market since its birth in the 1950s and its expansion into a market for several Eurocurrencies. The Federal Reserve obtains data from affiliates of U.S. banks operating abroad and has worked with foreign central banks and the Bank for International Settlements to develop a reporting network that provides information on the market as a whole. The Federal Reserve and Comptroller of the Currency also obtain information as bank supervisors. Thus, we are well placed as an institution to observe the working of the market and to assess both the benefits it provides and the problems it poses.

I would like first to address some general questions about the Eurocurrency market that are often asked. I will then turn to the possible need for better control of the market from a monetary policy standpoint since the issues raised in your invitation to present testimony relate primarily to monetary policy. In addition, since concern is also expressed from time to time regarding the adequacy of supervision to assure the safety and soundness of banks participating in Eurocurrency banking, I shall briefly touch on this aspect.

Principal features of the Eurocurrency market

The Eurocurrency market is an international banking market in deposits and loans denominated in currencies other than the currency of the country where the bank is located -- for example, dollar deposits and loans of banking offices in London. The phrase Eurocurrency developed because the market originated in Europe, chiefly as a market for Eurodollars. Eurodollars still account for about three quarters of the Eurocurrency market, with about half of the remainder being Euromarks. Some deposits in the market are also denominated in pounds sterling, Swiss francs and other major currencies. I will focus my comments on the Eurocurrency market as a whole with the reminder that at present it is largely, but not exclusively, a market in dollars.

What is now considered the Eurocurrency market extends beyond Europe to include banking activities in major industrial countries worldwide and in offshore banking centers such as the Bahamas, the Cayman Islands, Hong Kong, and Singapore. Still, the Eurocurrency market does not embrace all of international banking activity. Traditionally international banking has been conducted through the taking of deposits from foreigners and lending to foreigners in the currency of the country where the bank has been located. This form of banking continues. On the other hand, some Eurocurrency activity is not international at all and occurs within a country's domestic market; deposits are taken from residents and loans made to residents denominated in dollars or other foreign currencies.

The Eurocurrency liabilities of banks usually take the form of time deposits of large size. Eurocurrency deposits are not in general used

to make payments directly, and only a relatively small part are in immediately available funds that can be used directly to economize on conventional checking account balances. Thus for the most part they cannot be considered money in the narrow sense of M-1. The closest analogy, within U.S. monetary statistics, is perhaps with large, negotiable certificates of deposit, which are included in M-4. However, negotiable CDs can be issued by U.S. banks only with a maturity of one month or more while one-third of all Eurocurrency deposits have a remaining maturity of less than one month. Thus Eurocurrency deposits may be said to have more of a money-like quality than large CDs.

How large is the Eurocurrency market?

The scale of the Eurocurrency market is often misunderstood. For instance, one measure of size often cited -- its so-called gross size -- represents the total of foreign currency liabilities of banks in industrial countries reporting to the BIS plus those of certain offshore branches of U.S. banks. This figure exceeded \$800 billion at the end of 1978. However, it is inflated by a large volume of interbank activity that neither contributes to the liquidity of the nonbank public, nor is associated with any extension of credit to nonbanks. In U.S. domestic money and credit aggregates we exclude interbank liabilities such as correspondent balances and federal funds on these grounds. One should similarly adjust downward the stock of Eurocurrency liabilities. Commonly cited measures produced by the BIS and others put the net size of the Eurocurrency market in the neighborhood of \$400 billion. However, these measures still overstate the

monetary significance of the market because they net out only banks' liabilities to other banks within the reporting area. Eliminating, insofar as possible, liabilities to banks and central banks outside the reporting area yields a measure of net monetary liabilities in the Eurocurrency market of roughly \$150 billion - \$175 billion as of the end of 1978. Of this amount, about 1/3 is counted in the monetary statistics of some country. Thus, today the so-called stateless money in the Eurocurrency market, that which is not counted in national monetary statistics, is on the order of \$100 billion - \$120 billion.

The net credit provided to nonbanks through the Eurocurrency market, estimated at about \$225 billion - \$250 billion as of the end of 1978, is larger than its net monetary liabilities. The difference arises largely because of sizeable deposits of central banks in the market. While these deposits do not constitute part of the net monetary asset holdings of nonbanks, they do provide a source of funds that can be used to make loans and, to the extent that they are largely deposits of central banks of smaller countries, they are more likely to be shifted among currencies.

The numbers I have cited tend to shrink one's perception of the Eurocurrency market compared with the impression that is often conveyed, but the importance of the market should not be underestimated. The absolute numbers involved are large. Moreover, Eurocurrency holdings and credits have been growing more rapidly than the domestic monetary and credit aggregates of the United States and of most other countries. For example, from the end of 1974 to the end of 1978, Eurocurrency liabilities to

nonbanks are estimated to have grown at an average annual rate of about 18-1/2 percent, compared with growth in M-1 and M-4 in the United States at average annual rates of 6.3 percent and 8.5 percent respectively over the same four-year period. This trend can be expected to continue unless checked. Thus the existence of the Eurocurrency market increasingly will have to be taken into account in formulating and executing domestic monetary policies; issues of surveillance, supervision, and control of the Eurocurrency market will continue to be in the foreground of domestic and international financial policy.

Is the Eurocurrency market out of control?

Because Eurocurrency banking is not subject to reserve requirements or various other restrictions, such as liquidity ratios or credit ceilings, which various monetary authorities employ to facilitate the execution of domestic monetary policies, it is often alleged that the Eurocurrency market is a source of uncontrolled liquidity. However, because of its close links with domestic markets for bank funds, the Eurocurrency market is, in fact, directly subject to the influence of domestic monetary policies in important financial countries.

Observation of interest rates confirms the prediction of economic theory that Eurocurrency interest rates should be closely tied to interest rates in the domestic market for comparable assets denominated in the corresponding currency. Relatively stable differentials are normally observed that reflect costs in the domestic market arising from reserve requirements and other regulations that do not exist in the Eurocurrency market.

These close links between domestic and Euro interest rates are maintained by flows of funds between domestic markets and the Eurocurrency market. For example, when domestic U.S. interest rates rise, depositors have an incentive to switch funds from Eurodollar deposits to domestic U.S. bank deposits and commercial paper. Some borrowers shift their borrowing to the Eurodollar market and banks themselves move funds raised in that market to the U.S. credit market. These responses put upward pressure on Eurodollar interest rates until the normal relationship with domestic U.S. rates is restored. In practice, the adjustment is virtually instantaneous. Thus the dampening effect of higher U.S. interest rates on credit demand and spending is felt in the Eurodollar market as well as in the U.S. market.

Limitations on the free flow of funds internationally, such as the Voluntary Foreign Credit Restraint program -- in effect until January 1974 as part of the U.S. balance-of-payments program of the 1960s -- can weaken the tie between Eurocurrency and domestic interest rates. But because controls on capital movements inevitably have significant leakages, a fairly close correspondence can usually be observed even when such measures are in force.

While the transmission of domestic monetary influences to the Eurocurrency market is very real and effective, there is a somewhat paradoxical tendency for the growth of the market to accelerate relative to the domestic banking market when monetary policy becomes more restrictive and interest rates rise. In the case of Eurodollars this phenomenon is a consequence of two features of the U.S. monetary system: first, requirements that member banks hold noninterest-bearing reserves and, second, restrictions on

deposit interest rates (particularly the prohibition of interest payments on deposits of less than 30 days maturity).

As a result of reserve requirements, member banks incur additional costs in bidding for large deposits domestically compared with the costs of raising funds in the Eurodollar market, since a portion of funds raised at home must be held in non-earning form. Monetary restraint in the United States, either in the form of a higher federal funds rate or in the form of higher reserve requirements, pushes up these additional costs of domestic banking and induces banks to shift their funding efforts to the Eurodollar market even though deposit interest rates for dollars in that market may rise by at least as much in the domestic market. With higher market interest rates generally, demand deposits tend to be attracted from the U.S. banking system to the Eurodollar market since such deposits cannot, by law, earn interest in the United States. Similar reactions occur in the response to monetary tightening in other countries although the specific factors differ from country to country. These effects constitute one reason, although by no means the only reason, why the Eurocurrency market has grown so rapidly over the past decade when inflation has risen and brought with it historically high nominal interest rates.

As interest rates rise, the Eurocurrency market is not the only financial channel that gains a competitive advantage. Domestic U.S. financial flows through channels not subjected to member bank reserve requirements or interest rate restrictions -- such as the commercial paper market, finance companies, and money-market mutual funds -- are also favored.

Despite the tendency of the Eurocurrency market to grow relatively more rapidly when domestic interest rates rise, it is still true that monetary restraint is effective. When the Federal Reserve tightens monetary policy, it forces interest rates to rise and growth of domestic member bank deposits to slow. The expansion of the Eurodollar market will slow less than that of the domestic market in response to higher interest rates, and the Eurodollar market may grow faster than it otherwise would if enough banking activity shifts to it from the U.S. market. Nevertheless, it will normally be the case that the application of domestic restraint will reduce the growth of the two markets taken together.

Does the Eurocurrency market create problems for domestic monetary policy?

While the Eurocurrency market is linked to domestic markets and subject to control through the impact of domestic monetary policy on interest rates, it does pose problems for monetary policy. My judgment is that these problems have been of only moderate significance to date, but they are increasing. Moreover, the Eurocurrency market adds to inflationary pressures because liabilities to nonbanks in this market are rising faster than domestic money supplies. In the present inflationary environment we must look closely at every source of inflationary tendency.

Let me identify some of the ways in which the Eurocurrency market complicates the execution of monetary policy. The presence of a Eurocurrency market confronts domestic monetary authorities with a dilemma. They could, in principle, act in such a way as to provide for the desired growth of liquidity, taking account of both the domestic market and the Eurocurrency market. One problem that the Federal Reserve would encounter in following

such an approach would arise because we cannot gauge well the extent to which growth in the Eurocurrency market affects spending in the United States. Dollars held or borrowed in the Eurocurrency market could be spent anywhere in the world, not just in the United States. On the other hand, it is likely that growth in the non-dollar portion of the market would stimulate spending in the United States at least marginally. Other monetary authorities face the same uncertainties.

Perhaps an even more serious problem in carrying out a monetary policy that takes explicit account of the Eurocurrency market would arise because of the uneven effects of restrictive policy on the domestic and Eurocurrency markets. Those smaller domestic banks and their customers that have less access to the Eurocurrency market than the large international banks and their U.S. and foreign customers would absorb a disproportionate share of the burden of a restrictive policy. This inequity, in turn, would undermine support for an appropriate counter-inflationary monetary policy.

Moreover, if monetary authorities focus exclusively on the growth of domestic aggregates, ignoring the effects of the more rapid growth of liabilities to nonbanks that is occurring in the Eurocurrency market, they may facilitate more expansionary and more inflationary conditions than they intend, or may be aware of. Indeed, there is a risk that, over time, as the Eurocurrency market expands relative to domestic markets, control over the aggregate volume of money may increasingly slip from the hands of central banks. Thus, it would be prudent to have available instruments for controlling the Eurocurrency market as we have for controlling domestic monetary aggregates.

This is one of the principal reasons for seriously considering the need for reserve requirements against Eurocurrency deposits on an international basis.

What role does the Eurocurrency market play in exchange-rate developments?

The existence of the Eurocurrency market as a liquid and efficient mechanism for international financial dealings has certainly had an important influence on exchange-rate developments in recent years. It would be wrong, however, to view the market itself as having given rise to new stabilizing or destabilizing forces. Rather it has acted as a conduit and amplifier through which both stabilizing and destabilizing financial flows have been felt in exchange markets with greater speed and intensity.

In recent years the size of current account deficits has been unprecedented. Without an efficient international financial market to channel funds from countries in surplus to those in deficit, exchange-rate pressures at times would have been much greater even than they were. The Eurocurrency markets have played an important role in moving excess savings to private and official borrowers in countries with current account deficits.

At other times international capital flows have exacerbated pressures in exchange markets that have arisen to some extent from the need to finance current account deficits. In some of these episodes the capital movements undoubtedly have reflected a reasonable market view that authorities were attempting to maintain untenable exchange-rate relationships. In other episodes, however, market psychology has appeared to drive exchange rates

to unwarranted levels -- movements that have subsequently been reversed. The international character and the liquidity of the Eurocurrency market have tended to swell the volume of funds moving through exchange markets at such times.

What measures could be taken to deal better with the Eurocurrency market?

The thrust of my discussion of the Eurocurrency market has been to reject as unfounded the extreme view that the market is an unrestrained source of monetary and exchange market instability but to recognize that its existence makes the execution of monetary policy more difficult. There is a danger that, if measures are not taken to moderate the growth of the Eurocurrency market, the problem will grow over time and the prospects for controlling inflation will correspondingly worsen. Thus careful monitoring of the Eurocurrency market is in order, and careful consideration should be given to making monetary restraints operating on the Eurocurrency market move more in parallel with restraints on domestic markets. In considering various approaches we should be mindful of several considerations.

First, any approach adopted should take account of and seek to preserve the benefits that flow from the existence of the market. I have only alluded to these benefits, but they are considerable. The market is extremely competitive and efficient. It facilitates movements of large volumes of funds from savers to investors across national borders at low cost. In doing so it helps to finance temporary current account imbalances and improves the efficiency of investment worldwide. It also exerts competitive pressure on domestic banking systems to be more responsive to their customers and to become more efficient.

Second, any approach adopted should have a good prospect of contributing significantly to controlling the volume of international liquid assets and credit broadly. Little would be achieved, and a great burden would be placed on some institutions, if part of the market were restricted and another part were left unrestrained to take up the slack, or if Eurocurrency banking activity could easily be shifted into new unrestricted forms. Similarly, any burden imposed should be as low as possible and should apply equally and equitably to all banks operating in the Eurocurrency market. Thus, for example, it has not seemed desirable to restrict the scale of U.S. banks' participation in the Eurocurrency market so long as banks of other major countries were unfettered.

The Federal Reserve has, of course, the responsibility to consider the safety and soundness of U.S. banks abroad when reviewing proposals of banks to expand their international operations. Together with the Comptroller of the Currency, the Federal Reserve also examines the lending, funding, and management of U.S. banks abroad and considers the consolidated worldwide positions of U.S. banks in assessing their overall condition. Foreign central banks often seem to have felt that they do not have the authority to oversee the foreign operations of their banks as closely as we do in the United States, but they are moving, in some cases with the support of new grants of authority, to adopt approaches similar to ours.

Third, measures that were applied only to Eurodollars and not all Eurocurrencies would have limited effectiveness and might well introduce new instabilities into international financial markets. Although Eurodollars,

Euromarks, or Eurosterling are seen as quite different by depositors and bankers and they are not indifferent among them, forward markets in foreign exchange offer a ready means of achieving any desired foreign exchange position regardless of the actual currency of a deposit. Hence restrictions on the availability of one Eurocurrency would induce some who wished to hold that currency to move into deposits denominated in other currencies and then to acquire the desired currency through a forward contract.

Taking account of these considerations, the Federal Reserve has been examining the advantages and disadvantages of various ways that the Eurocurrency market might be brought under greater control. One technique we have explored would entail placing reserve requirements on the Eurocurrency liabilities of banks' head offices, branches, and affiliates no matter where located. Those countries whose banks and banking affiliates have a significant, or potentially significant, presence in international markets would be expected to act in concert with respect to their banks. Deposits accepted from banks that were subjected to the requirement could be exempted. The objective would be to slow down the growth of deposits from outside the covered banks and the corresponding growth of credit by putting the Eurocurrency market more nearly in a position of competitive equality with domestic banking markets. If this approach were accepted by the important countries, it would minimize the likelihood that large, parallel, but reserve-free markets would emerge through banks with head offices in non-participating countries. I am submitting with my testimony a paper prepared by the Federal Reserve Board staff that explores this approach in more detail.

The reserve requirement approach seems to be the most effective of several that might have merit. An alternative, unilateral approach would be to reduce the competitive advantage of the Eurocurrency market by removing reserve requirements and interest rate restrictions on those domestic deposits for which Eurocurrency deposits are close substitutes. However, this would have the disadvantage of giving up an important monetary policy instrument. Other possible international approaches might be to impose special restraints on Eurocurrency loans or deposits in relation to capital, or to specify some kinds of liquidity ratios that would have to be observed in Eurocurrency banking.

Federal Reserve representatives have discussed our thinking concerning the use of reserve requirements in the Eurocurrency market with representatives of other central banks of the Group-of-Ten countries and Switzerland. These central banks have shown a willingness to discuss this and other possibilities. A plan of work has been established to examine reserve requirements and other techniques over the next several months. The technical difficulties are considerable. Neither the Federal Reserve nor other central banks will be in a position to decide whether reserve requirements or any of the alternatives are sufficiently promising to press for their adoption until the work now underway is completed.

What legislative initiatives would facilitate better control over the growth of the Eurocurrency market?

At the present time the Federal Reserve has no firm basis on which to make recommendations concerning legislation to enable U.S. participation in an international program to control better the growth of the Eurocurrency

market. The work we will be doing and the discussions we will be engaged in with other central banks over the coming months may give us a better basis on which to make such recommendations in the future.

H.R. 3962, introduced by Congressman Leach, envisions a system of reserve requirements that would be adopted in concert by major countries. To this extent, the bill parallels the thinking in the Federal Reserve on how the issue of the growth of the Eurocurrency market might be addressed. However, to embed in legislation a specific approach based on reserve requirements at this stage could impede efforts to reach agreement on an international solution. While not favoring specific legislative limitations with respect to Eurocurrency reserve requirements, the Board does believe that its reserve requirement authority over banks in the international sphere should be broadened, given the rapid and unpredictable changes that can occur in international markets. The Federal Reserve has been given the authority by Congress in past legislation to place reserve requirements on foreign branches and affiliates of member banks. This authority should be extended to branches of U.S. banks that are not members of the Federal Reserve System, as is provided in H.R. 7

H.R. 3962 contains two other provisions in addition to those concerning reserve requirements on Eurocurrency deposits. It would call for the Federal Reserve Board to prepare a report to Congress on the role of U.S. banks and other financial institutions in the Eurocurrency market and in foreign exchange markets. I would like to assure the subcommittees that even without legislation the Board will assess carefully all of the related issues in formulating its approaches to Eurocurrency markets and exchange markets and will keep the Congress informed through regular channels.

The bill would also prohibit Board approval of the establishment of any International Banking Facility in the United States before December 31, 1980 and require the Board to report to Congress prior to June 30, 1980 on the advisability of adopting such proposals. The Board has not yet considered what action it should take with respect to the International Banking Facility proposal. It intends to do so soon, and when it does, it will weigh all the factors that affect the competitive position of U.S. banks, large and small, relative to foreign banks. The Board should be free to give due weight to matters of equity, monetary control, and relations with foreign banking institutions in considering what action to take.

These hearings and the introduction of H.R. 3962 demonstrate well-directed Congressional interest in the problems posed by the Eurocurrency market. I hope my presentation will prove useful to the members of the subcommittees in the conduct of your oversight responsibilities and in the further consideration of legislation. In view of the discussions among central banks, which I have indicated will be proceeding in the coming months, you may wish to ask the Federal Reserve to inform Congress of progress in this area at the start of the next session of Congress. We would welcome the opportunity to do so.

**A DISCUSSION PAPER CONCERNING
RESERVE REQUIREMENTS ON
EURO-CURRENCY DEPOSITS**

Federal Reserve Board Staff

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A DISCUSSION PAPER CONCERNING RESERVE
REQUIREMENTS ON EURO-CURRENCY DEPOSITS

I. The Euro-currency market and the need for reserve requirements

The Euro-currency market is an international banking market in deposits and loans denominated in currencies other than the currency of the country of location of the bank. The phrase "Euro-currency" has developed because the market originated in Europe, chiefly as a market for Euro-dollars. However, deposit and loan markets denominated in foreign currencies have also developed rather extensively outside Europe, and the phrase Euro-currency should be understood to encompass these markets as well.

The gross size of the Euro-currency market as measured by the total of reported Euro-deposits in all currencies was about \$750 billion as of September 30, 1978.^{1/} After exclusion of inter-bank deposits among banks that are included in the reporting network, the net size of the Euro-currency market, estimated by the Bank for International Settlements, was about \$430 billion. Of this amount, liabilities to nonbanks amounted to about \$115 billion, with the remainder representing liabilities to banks (and central banks) outside the reporting network.

In recent years, the Euro-currency market has played an especially important role in recycling the massive surpluses of the oil-exporting countries and has increased international banking competition. Nonetheless, the market has periodically been a source of concern among policy-making authorities. A number of issues have been raised.

^{1/} A more detailed description of the Euro-currency markets is provided in the Appendix.

First, it has been argued that the rapid growth of the Euro-currency market has meant that the monetary and credit aggregates employed as indicators of the stance of monetary policy have provided misleading signals and that monetary policy has often been more expansionary than the authorities realized. Or, to put it another way, the Euro-currency market represents a source of credit that is generally less expensive than domestic credit, and therefore the existence of the market tends to place a little greater burden on domestic markets and interest rates to achieve any given degree of overall restraint that may be desired by the authorities. Thus, it may be reasonable to include at least some, if not all, Euro-currency deposits and loans in the domestic monetary and credit aggregates used as operating guides by the monetary authorities and also to make them subject to some form of control by the authorities.

Second, it has been pointed out that national banking systems are at a disadvantage in competing with the Euro-currency banks and that it would be desirable to reduce this disadvantage, partly on grounds of competitive equity and partly to reduce inequities in implementation of monetary policy.

Third, a common view is that the existence of the extensive and efficient Euro-currency market has greatly facilitated undesired speculative switches among currencies, which have led to unwanted changes in international reserves under pegged exchange rates and to unwelcome exchange rate movements under managed floating exchange rates.

Fourth, concern has been expressed that the Euro-currency market encourages unsound banking practices since Euro-market lending is not subjected to the same degree of regulation and supervision as lending by national banking systems.

These concerns have led to consideration of at least two general regulatory approaches to the Euro-currency market. First, proposals for more comprehensive statistical reports and more thorough supervision procedures for determining whether or not the consolidated operations of banks meet standards of prudence are being considered by the involved central banks both individually and collectively. These proposals are not discussed here.

Second, proposals for establishing reserve requirements on Euro-currency deposits have been put forward. One proposal would have envisioned a regulated geographical area within which a reserve requirement would be applied by the host country to all Euro-currency liabilities. Such a proposal has never appeared practical, however, because it would depend on participation by a very large number of countries, or on construction of an administratively complex tax (bardepot) on borrowings of nonbanks located within the participating area from outside the area.

Another, somewhat different, approach to establishing a reserve requirement on Euro-currency deposits is discussed in this paper. The organizing principle of this approach is the application by each participating country of a reserve requirement on the Euro-currency liabilities of its banks' head offices, branches, and affiliates no matter where located.

The success of such an approach would depend mainly on participation of those countries with banks and banking affiliates active in international markets. For example, participation by G-10 countries plus Switzerland would appear to provide broad enough coverage so as to minimize the likelihood that large, parallel, but reserve-free markets would emerge through banks with head offices in non-participating countries.

Of course, the more countries that participate, the more effective would be the approach.^{1/}

This approach to reserve requirements on Euro-currency deposits would have a number of advantages.

(1) It would better enable individual countries to influence the total size of bank liabilities denominated in their currencies at home and abroad through measures affecting the volume of bank reserves, should they wish to do so, and would in some degree limit erosion of domestic monetary restraint through actions of lenders and borrowers in the Euro-market.

(2) It would help provide assurance to the public that the concerned countries were willing and able to take concerted action, during an inflationary period, that might lead to more restrained expansion of global money and credit and less scope for destabilizing international capital flows. In that degree, reserve requirement action might work, in part through its effect on market psychology, to help contain inflation and stabilize exchange markets.

(3) It would provide a mechanism whereby authorities could act to influence the total size of the Euro-currency market, or possibly to influence the maturity structure of that market (for example, if reserve requirements were applied only to short-dated deposits).

(4) Banks would be encouraged to avoid unsound practices since an agreed-upon reserve requirement would demonstrate the authorities' concern with the market and would raise the possibility that the reserve requirement could be increased substantially.

^{1/} The G-10 countries are Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Sweden, United Kingdom, and the United States. These countries and Switzerland are in the reporting network for Euro-currency liabilities published by the BIS. Other countries in that network include Austria, Denmark, Ireland, and Luxembourg.

(5) It would involve the collection of comprehensive data on Euro-currency operations of banks.

It should be pointed out, however, that while a system of Euro-currency reserve requirements would have these advantages, such a system should be viewed as a supplement to, and not a substitute for, appropriate overall monetary and financial policies and international cooperation in bank supervision and regulation.

II. Features of a reserve requirement structure applicable to Euro-currency deposits

The principal features of the Euro-currency reserve requirement approach of this paper are set out in this section and discussed in detail, along with certain alternatives, in the following section.

A. Each participating country would instruct banks with head offices in that country to ensure that they and all their branches, subsidiaries, and consortium banks in which they participate would maintain reserves on Euro-currency deposits. Further, each participating country would also instruct branches, subsidiaries, and consortium banks of banks with head offices in non-participating countries located in that country to comply.

B. Deposits due central banks, other official institutions, and other nonbanks would be subject to the reserve requirement. In addition, deposits due offices of banks of non-participating countries that are located outside the participant area would be subject to the reserve requirement.

C. At least initially, the minimum reserve requirement would be the same for all deposits regardless of currency denomination, except that each country would retain the right to impose higher

reserve requirements on foreign-currency liabilities of banks located within its borders. The reserve requirement might vary by maturity, or might not be imposed at all on longer maturities. The reserves would be denominated and held in the same currency as the deposits.

D. The minimum reserve requirement would be set at an agreed level of between 2 and 5 per cent, which in part would represent a compromise between reserve requirements on competing national currencies that are lower--e.g. zero--and those that are higher.

E. The reserves could be held in the account of the central bank of either the home country, host country, or the country in whose currency the deposit is denominated. The choice depends on a variety of considerations, including monetary control, the distribution of earnings from reserve holdings, and organization of the information flow.

F. The reserve requirement would probably be changed infrequently.

G. Access by commercial banks to the interbank money markets for reserves denominated in various currencies would make for an efficient reserve adjustment process. No change would be anticipated in current rules regarding access to discount windows in participating countries.

III. Discussion of the major features and some alternatives

A. Participation. In order to assure reasonably complete coverage of Euro-currency deposits, each participating country (1) would instruct banks with head offices in that country to ensure that they and all of their branches, subsidiaries, and consortium banks comply with the reserve

requirement, and (2) would also instruct branches, subsidiaries, and consortium banks in that country affiliated with banks with head offices in non-participating countries to comply. Offices of non-participating banks located outside the participating countries would not be covered. If coverage of participating countries encompassed major industrial and financial nations, this omission would probably not lead to any substantial development of the Euro-currency market outside of the reserve requirement system. Banks of non-participating countries operating in those countries would not be well known internationally, and non-resident depositors, for a variety of reasons, are not likely to take the financial risk of placing large amounts of funds with them. In any event, deposits of such non-participating banks in participating banks would be covered, as explained in section B below.

Potential participating countries have varying legal authority to apply reserve requirements to their own banks operating outside their borders as well as to banks within their borders. Application of reserve requirements to banks operating abroad through subsidiaries and consortia particularly appears to raise jurisdictional questions. Thus, implementation of the approach to Euro-currency reserve requirements of this paper might require either additional enabling authority or it might depend to a certain degree on voluntary compliance--a compliance that may be more readily obtained to the extent that the number of participating countries was reasonably large and included all of the countries whose banks presently are most active in international markets. In practice, the authorities in many countries have been able to obtain the cooperation of banks in achieving their objectives without resorting to explicit legal measures.

B. Coverage of deposits. Deposits due to nonbanks, central banks, and other official institutions would be subject to the reserve requirement.^{1/} To avoid pyramiding reserve requirements, deposits by one participating bank in another participating bank would not be subject to the reserve requirement. However, negotiable certificates of deposits or similar negotiable instruments issued to participating banks would have to be subject to reserve requirements since they could subsequently be sold to nonbanks.

In order to avoid round-about evasion of the reserve requirement, deposits in participating banks held by offices of non-participating banks outside the participant area would be subject to the requirement. If these deposits were not reservable, offices of non-participating banks outside the participant area could accept a deposit and redeposit the proceeds at an office of a participating bank. The participating bank could then loan funds that had not been subject to reserve requirements at any point.

C. Structure of reserve requirements. The approach to Euro-currency reserve requirements of this paper envisions a minimum reserve ratio that is uniform for Euro-currency deposits of all denominations, and also assumes that bank reserves required against Euro-currency deposits would be denominated in the same currency as the deposit. Other alternative reserve structures appear less promising, either because they are more complex and difficult to administer; do not adequately strengthen the

^{1/} The precise definition of deposits under this proposal would have to be worked out in light of the present and prospective practices of the Euro-currency market, but presumably would include a wide range of bank liabilities such as promissory notes and other forms of borrowing.

relationship between Euro-markets and national monetary policies; or raise difficult collateral issues.

One alternative reserve structure would involve setting the reserve requirement for each Euro-currency at a ratio equal to the reserve ratio on the equivalent liability in the home banking market of the currency. However, this approach would encourage banks to denominate Euro-currency deposits in the currency with the lowest reserve requirement, and thus the relationship between the domestic banking system and the related Euro-currency would be obscured.

If, for example, a higher reserve requirement were set for Euro-Deutschemark deposits than for Euro-dollar deposits, banks would tend not to offer Euro-Deutschemark deposits. Instead, they would offer their customers a Euro-dollar deposit and an accompanying forward exchange contract with the same maturity. The forward exchange contract would be a promise to deliver DM and accept dollars when the forward contract and the Euro-dollar deposit matured. By offering their customers this package the banks would be offering the equivalent of a Euro-DM deposit but would be obliged to hold only the amount of reserves required for a Euro-dollar deposit; thus, they could afford to give the depositor a return on the package that is higher than the Euro-DM interest rate.

It would be difficult to prevent the development of such packages. Doing so would require specifying that a bank could not enter into forward contracts with those market participants from whom it had also accepted deposits. This would amount to a type of exchange control, but it would be a control that could easily be avoided. The bank and its customer could arrange the same package with the help of a third party, either

another bank or a foreign exchange broker. In order to block this method of putting together the package even more elaborate exchange controls would be required.

Similar round-about, cost-minimizing transactions might also evolve to take advantage of differentials in national money market interest rates. Even if reserve requirements were uniform, banks would have some incentive to denominate their liability in the currency where the cost of obtaining reserves, as indicated by national money market rates or overnight Euro-currency rates, is least expensive.

Such possibilities suggest a second alternative approach to reserve structure under which reserve ratios by currency denomination would be set differentially so as to equalize reserve costs. This would involve differences in reserve ratios for each individual Euro-currency that offset differences in national money market rates. Because differentials among national money market rates change constantly, however, the criterion of equal reserve costs would require a system of continuously changing reserve requirements that would be difficult to understand and administer.

In any event, round-about, cost-minimizing transactions related to money market interest rate differentials are not likely to develop to any great extent. A relatively low minimum reserve requirement, in conjunction with money market interest differentials among key currencies that are not extremely wide over an extended period of time, would leave little incentive for banks to engage in the transactions.^{1/} Nonetheless, a careful monitoring

^{1/} For instance a 5 percentage point differential in money market rates and a 2 per cent reserve requirement would yield only a 10 basis point incentive for the transactions--an incentive that probably does not compensate for the administrative and other transactions costs.

of both assets and liabilities of Euro-currency banks would be needed to help determine the effectiveness of the reserve requirement structure and to assess the need for adjustments in it.

Yet another alternative would be to hold all Euro-currency reserves in a single national currency, or a multi-currency unit. The money market interest rate on that currency or unit would, together with a uniform reserve ratio, produce the same reserve cost for Euro-currencies regardless of the denomination of a bank's deposit liability. However, this alternative raises questions about ultimate control of the "reserve base" against such currencies and tends to complicate the linkage between national and Euro-currency markets.

Thus, on balance, it would be simplest, and reasonably effective, to establish a uniform, minimum reserve requirement for all Euro-currencies regardless of denomination and to require that the reserves be held in the currency in which the liability is denominated. This approach would, however, permit differences in reserve requirements by maturity of the deposit. Longer-term liabilities may, from the holder's point of view, be more like an investment than like money; thus a case can be made for imposing no, or a very low, reserve requirement on such funds. Shorter-term liabilities, though, are much closer to money, to some extent serve to support transactions, and in any event are highly liquid and potentially volatile. On those grounds, they should be subject to a higher reserve ratio than longer-term liabilities.

The Euro-currency reserve structure would not affect a country's freedom of action with respect to other reserve requirement adjustments, with one exception. To help assure effectiveness of the Euro-currency requirement, participating countries would need to agree that each would set its

reserve requirement on deposits denominated in its domestic currency that are held by foreigners and are also close substitutes for Euro-currency deposits at a ratio no lower than the agreed-upon Euro-currency reserve requirement. Such an agreement would avoid disruptive attempts by any individual country to capture Euro-currency business.^{1/}

Individual countries would, of course, retain the right to establish reserve requirements on Euro-currency liabilities of banks within their borders that are higher than the internationally agreed requirement. This would enable countries to discourage, if they wish, the local development of a Euro-currency market.

Countries would also retain the right to establish higher reserve requirements on Euro-currency liabilities of their banks operating outside their borders. However, the higher requirement might not in practice be effective, or completely effective, in restraining Euro-currency depositors of the particular currency if banks of other participating countries continue to offer such deposits and pay no more than the agreed minimum reserve requirement. Even if all countries agreed to raise the requirement on the particular currency denomination above the minimum, round-about transactions through the forward market, as noted above, would tend to reduce the effectiveness of the higher requirement.

It should also be understood that this approach to Euro-currency reserve requirements would not alter the ability of an individual country to adjust the reserve requirement of banks located within its borders on liabilities to residents denominated in its local currency--whether they

^{1/} It would, for example, imply that the reserve requirement on deposits held in the Domestic International Banking Facility that has been discussed for U.S. banks be no lower than the Euro-currency reserve requirement.

are liabilities similar in maturity to Euro-currency liabilities or other liabilities. Adjustments in such domestic reserve requirements, given the fixed Euro-currency reserve requirements would influence the attractiveness of domestic relative to Euro-currency markets, and would thereby affect international flows of funds. Effects would be particularly noticeable if domestic reserve requirements were changed on instruments which are close substitutes for Euro-currency deposits.

D. Level of reserve requirement. Introduction of reserve requirements into the area of international banking clearly needs to be done with great care, since large amounts of volatile funds are involved and given the uncertainties about how banks and their customers might respond. Prudence would argue for an initial reserve requirement level that is relatively modest, but that would also provide the authorities with a reasonable basis for assessing the practical impact of the new reserve structure.

The uniform minimum reserve requirement might be set initially at an agreed level within the range of 2 to 5 per cent. If the reserve requirement were set much above this level it might have an undesired impact on the profitability of Euro-currency banking^{1/} and encourage large immediate shifts of funds to other Euro-markets, including Euro-security markets and offices of banks of non-participating countries located outside participating countries, as well as shifts to national banking systems. If the reserve requirement were set below this level it would be virtually meaningless.

^{1/} Unless a market interest rate were paid on the reserves held at central banks. It is not clear that all central banks have the authority to do so. Moreover, payment of a market rate on Euro-currency reserves, but not domestic reserves, would tend to offset the restraining effect on Euro-markets of any reserve requirement.

At present a number of major industrial and financial countries have domestic reserve requirements below the 2 to 5 per cent range--in many cases a zero requirement. After establishment of the new Euro-currency reserve ratio, there would be some incentive to shift Euro-currency business to these countries. Deposits would be accepted in the currency of these countries, and forward contracts with the same maturity as the deposit would be arranged so that the deposit was denominated in the currency desired by the deposit holder. However, as noted in section C above this incentive would be reduced if all countries agreed to make the Euro-currency ratio the minimum ratio for deposits of foreigners held in their country in competitive deposits.

To avoid market disturbances the reserve requirement should be phased in over a long period, say two to four years.

E. Location of bank reserves. There are several possible alternative locations at which bank reserves might be held, each of which has certain advantages.

The reserves might be held at the central bank of the country in whose national currency the deposit is denominated; thus, reserves against Euro-DM deposits would be held at the Bundesbank regardless of the country in which the deposits are located or the country in which the bank's home office is located. Holding reserves in this way would enable the central bank whose currency is involved to monitor developments in that currency most efficiently, and the Euro-liabilities denominated in its currency denomination could be effectively integrated with national monetary policy.

The reserves could be deposited in the central bank either directly by the commercial bank or by being passed through the central bank in which

the home office of the commercial bank is located.^{1/} A pass-through approach would have the advantage of giving the central bank of the commercial bank's home office prompt access to information about the world-wide Euro-currency activities of its banks.

A second alternative for holding reserves would be to place them in the central bank of the commercial bank's home office. That central bank would then invest its dollar reserve liabilities in dollar assets, its DM reserve liabilities in DM assets, etc. It would thereby earn a return on the Euro-currency reserves of its banks. By contrast, under the alternative noted above it would earn a return only on Euro-currency reserves denominated in its own currency.^{2/}

A third alternative would be for the reserves to be held in the central bank of the host country. In that case, the host country would receive earnings that might, in a sense, compensate for losses in tax revenues which may result from imposition of reserve requirements.

Yet another approach that might be considered would be to hold reserves in a multilateral institution. However, this approach would appear to raise unnecessary complications, including questions about ultimate control of the volume and cost of reserves behind Euro-currency deposits.

Regardless of whether reserves are held in the host, home, or currency country central bank, effective monetary control and bank regulation on

^{1/} Or it could be through the central bank in which the office of the bank is located--that is, the central bank of the host country.

^{2/} Of course, under the first alternative noted, central banks of either host or home countries could earn a return on Euro-currency reserves of their commercial banks if arrangements were made to redistribute earnings from one central bank to another.

the part of all participating countries will depend on rapid dissemination among them of information on Euro-currency deposits and reserves. Thus, implementation a Euro-currency reserve structure would involve development of a means for efficiently collating and distributing such data.

F. Frequency of change. It would be possible to change the reserve ratio as often as necessary to encourage or discourage expansion of the Euro-currency market. However, it might not be practical to change the ratio frequently because of procedural problems in reaching an agreement involving a large number of countries. Furthermore, even if it were practical to change the reserve requirement frequently, it would probably not be desirable or feasible to do so. Economic and financial conditions usually differ enough among countries that it is unlikely that countries would often have the same view about how or in what direction to affect the volume of Euro-deposits.

In addition, frequent changes in the reserve requirement would probably result in disruptive shifts of banking business back and forth between the Euro-currency market and national banking systems. Adjustments in the reserve ratio should probably be reserved for occasions when a more permanent structural adjustment is needed--for example, if a general upward movement in reserve ratios domestically is being accompanied by undesired expansion in the Euro-market--or for such special instances as when the Euro-market may be subject to sizable speculative flows.

G. Access to domestic money markets. Banks covered by the Euro-currency reserve requirement system would find reserve adjustments facilitated by access to interbank money markets for reserves denominated in various currencies. Without such access, the costs of reserve adjustment

to banks may be increased as they would have to work through correspondents or make portfolio adjustments in responding to changes in reserve needs.

The reserve requirement system could function with no change in current rules regarding access to discount windows in participating countries. Thus, the Euro-currency reserve requirement structure need not entail any change in existing international understandings regarding lender of last resort responsibilities with respect to Euro-currency banks.

Appendix

A Portrait of the Euro-currency Market

The Euro-currency market is an international banking market dealing in deposits and loans denominated in "Euro-currencies," i.e., currencies other than the currency of the country of location of a participating bank. Banks' Euro-currency transactions may involve either residents or non-residents. While originally confined to Europe--hence the name--Euro-currency activities are now conducted on a large scale in a number of other locations as well. Customers of these markets are located in almost all countries of the world, and include central banks and nonbanks as well as commercial banks. Interbank redepositing accounts for a high percentage of total gross Euro-currency business. The U.S. dollar is the principal currency of denomination, but other currencies have been of increasing importance in recent years. The growth of banks' Euro-currency activities has outpaced that of their domestic-currency activities largely because the absence of certain regulations, notably reserve requirements and interest rate ceilings, has given Euro-banking a competitive advantage that is still attracting customers away from their more traditional banking practices. Participation in the market by foreign branches of U.S. banks is substantial but varies greatly as among the different national centers.

Geographical Distribution of Euro-Currency Liabilities

Reported outstanding Euro-currency liabilities at the end of September 1978 amounted to about \$750 billion equivalent, of which about 40 per cent were redeposits between banks within the BIS reporting area (and therefore

not a source of funds to the reporting banks taken as a whole). Hence, \$750 billion indicates the approximate gross size of the Euro-currency market on September 30, 1978, whereas a figure of about \$430 billion would indicate what is often referred to as the net size of the market.^{1/}

Banks in Western Europe, Canada and Japan (including branches and subsidiaries of U.S. banks in those countries) were the recipients of \$626 billion of the total gross deposits outstanding, the United Kingdom being the largest single center. (See appended Table 1.) The remaining \$122 billion was held at branches of U.S. banks in six offshore banking centers -- the Bahamas, Cayman Islands, Panama, Hong Kong, Singapore and Bahrain. Total unreported Euro-currency deposits may have amounted to about \$60 billion, of which about one-half were probably located in the Caribbean.

Currency Composition of Transactions

The U.S. dollar, which is a Euro-currency for operations of banks in all countries except the United States, has always been the most widely used currency for the denomination of Euro-currency transactions. Dollar-denominated Euro-currency (i.e., Euro-dollar) deposits in September 1978 were reported at \$523 billion (excluding those in Japan), an amount equal to 72 per cent of the \$722 billion equivalent of total reported Euro-currency deposits outside Japan. (See Table 1.) For the U.S. branches in offshore centers (the Bahamas, the Cayman Islands, Panama, Hong Kong, Singapore, and Bahrain) the dollar share was 92 per cent. The share of the dollar in total Euro-currency assets is nearly the same as its share

^{1/} These figures exclude Japanese Banks' Euro-currency claims on domestic residents and their long-term Euro-currency claims on both residents and nonresidents, for which data are lacking.

in the liabilities in reflection of the limited extent in which Euro-banks as a group take open spot positions in any Euro-currency.

After the U.S. dollar, the most widely used Euro-currencies are the German mark and the Swiss franc, which together accounted for 25 per cent of all Euro-currency deposits in September 1978 that were held by non-resident depositors at banks in 11 European countries. (The equivalent percentage for the U.S. dollar in those countries was 67 per cent.)

Type of Customer

Banks in the Euro-currency market have three types of customers that supply and borrow funds: nonbanks, central banks, and other commercial banks; the latter may be inside or outside the area defined as "the market" (i.e., the reporting area). Nonbanks are much more important as borrowing customers than as suppliers of funds; the September 1978 data show that claims on nonbanks were 28 per cent of total Euro-currency assets of all reporting banks (outside Japan), while deposits from nonbanks accounted for only 16 per cent of those banks' Euro-currency liabilities. (See Table 2.) In contrast, central banks are much more important as depositors in the Euro-currency market than as borrowers from it. About 40 per cent of the assets and liabilities were redeposits among commercial banks within the reporting area, while commercial banks outside the reporting area (mostly in the United States, the developing countries, and Eastern and Southern Europe) and central banks accounted for about 30 per cent of the funds borrowed and 40 per cent of the funds received (including U.S. banks' head-office placements with foreign branches).

Growth and Importance of Euro-Currency Activity

The rate of growth of banks' Euro-currency activities has been very rapid since the inception of the market over 20 years ago, and it continues to be so. For example, Euro-currency assets and liabilities of the reporting European banks increased at an average rate of about 20 per cent per year from mid-1975 to September 1978. As a result, Euro-currency business has become an important part of the total business of banks in most of the industrial countries, and in some countries accounts for over one-half of total bank assets or liabilities. On the liabilities side, for example, available data suggest that Euro-currency liabilities to nonresidents amounted in September 1978 to 77 per cent of total bank liabilities (excluding domestic interbank transactions) in Luxembourg, 66 per cent in the United Kingdom, 41 per cent in Belgium, and 18-26 per cent in Canada, France, and the Netherlands. (See Table 3.) These percentages would be higher if Euro-currency liabilities to domestic residents were included. The lowest percentages were for Italy (9 per cent) and Germany (3 per cent). Germany is the only major country to impose reserve requirements on Euro-currency liabilities of banks located within its borders. It should be pointed out, however, that in all countries a substantial portion of these Euro-currency liabilities consist of interbank deposits from banks in other countries; the ratios would be much lower if only transactions with nonbanks and central banks were considered.

U.S. Bank Foreign Branch Participation

The shares of the U.S. foreign branches in Euro-dollar assets and liabilities in Europe are highest in the United Kingdom (about one-third of the total) and France (around 15 per cent); these are also the countries

where the absolute size of U.S. bank activity is greatest. The shares appear to be lowest in Luxembourg (1 per cent) and Switzerland (2-4 per cent). In the offshore banking centers, estimates suggest that U.S. branches have about two-thirds of the total.

If only transactions with nonbanks are considered, the share of U.S. banks' foreign branches in Euro-dollar assets and liabilities is smaller than in the cases of transactions with all types of customers, and may be estimated at around 25 per cent for assets and 30 per cent for liabilities. The much lower share on the assets side, compared with the share in claims on all types of customers, reflects the smaller role of lending to nonbanks by U.S. branches in the United Kingdom.

Maturity Distribution of Euro-currency Liabilities and Assets of Foreign Branches and Subsidiaries of U.S. Banks.

Demand, or call, Euro-currency deposits constituted 18 per cent of the liabilities of the foreign branches and subsidiaries of U.S. banks as of mid-1978. 50 per cent of the liabilities of these banks had maturities of less than one month. Demand, or call, Euro-currency assets were 12 per cent of total assets. 35 per cent of assets had maturities of less than one month. These data are roughly consistent with data reported by the Bank of England on the maturity distribution of liabilities and assets of Euro-currency banks located in the United Kingdom.

Table 1. Distribution of Euro-Currency Assets and Liabilities, September 30, 1978
(in billions of dollars)

Banks located in:	Assets			Liabilities		
	Total	U.S. dollar	Other currencies	Total	U.S. dollar	Other currencies
I. <u>11 European Countries</u> ^{1/}						
Vis-à-vis nonresidents	441	296	145	448	299	149
Vis-à-vis residents	<u>146</u>	<u>103^{e/}</u>	<u>43^{e/}</u>	<u>123</u>	<u>83^{e/}</u>	<u>40^{e/}</u>
Subtotal	587	399 ^{e/}	188 ^{e/}	571	382 ^{e/}	189 ^{e/}
II. <u>Canada</u>	27	26	1	29	28	1
III. <u>Japan</u>						
Short-term, vis-à-vis nonresidents only	18	n.a.	n.a.	26	n.a.	n.a.
IV. <u>U.S. Bank Branches in Offshore Centers:</u>						
Bahamas and Cayman Islands	89	83	6	89	84	4
Panama, Hong Kong, Singapore, and Bahrain	<u>33</u>	<u>29</u>	<u>4</u>	<u>33</u>	<u>29</u>	<u>4</u>
Subtotal	122	112	10	122	113	9
V. <u>Total</u>						
Including Japan	754	n.a.	n.a.	748	n.a.	n.a.
Excluding Japan	736	537	199	722	523	199

^{1/} Austria, Belgium-Luxembourg, Denmark, France, Germany, Ireland, Italy, Netherlands, Sweden, Switzerland, United Kingdom.

^{e/} Estimated from data published by the Bank for International Settlements.

Sources: Bank for International Settlements, Annual Report 1977/78 and International Banking Developments -- Third Quarter 1978; Bank of Canada Review; Bank of Japan, Economic Statistics Monthly; Federal Reserve System.

Table 2. Euro-Currency Assets and Liabilities by Type of Customer,
September 30, 1978
(in billions of dollars)

<u>Banks located in:</u>	<u>Assets</u>	<u>Liabilities</u>
I. <u>11 European Countries</u>		
A. <u>Nonbanks</u>	160	76
B. <u>Commercial and Central Banks</u>	428	495
1. Commercial banks inside reporting area	250 ^{1/}	250 ^{1/}
2. Other banks	178 ^{1/}	245 ^{1/}
C. <u>Total</u>	588	571
II. <u>11 European Countries, Canada, U.S. Bank Branches in Offshore Centers</u>		
A. <u>Nonbanks</u>	203	114
B. <u>Commercial and Central Banks</u>	533	608
1. Commercial banks inside reporting area	315 ^{2/}	315 ^{2/}
2. Other banks	218 ^{2/}	293 ^{2/}
C. <u>Total</u>	736	722

^{1/} Estimated from data published by the Bank for International Settlements.

^{2/} Estimated from data published by Morgan Guaranty Trust Co.

Sources: Bank for International Settlements, International Banking Developments -- Third Quarter 1978; Bank of Canada Review; Federal Reserve System; Morgan Guaranty Trust Co., World Financial Markets.

**Table 3. Share of Euro-Currency Business with Nonresidents in
Overall Bank Assets and Liabilities, September 30, 1978**
(in billions of dollars)

<u>Location of banks:</u>	<u>Assets</u>			<u>Liabilities</u>		
	(1) <u>Overall</u>	(2) <u>Euro- currency</u>	(3) <u>2:1 (in %)</u>	(4) <u>Overall</u>	(5) <u>Euro- currency</u>	(6) <u>2:1 (in %)</u>
Austria	64.6	8.7	13	60.2	11.1	18
Belgium	76.4	28.5	37	74.1	30.5	41
Denmark	20.5	2.8	14	18.7	2.1	11
France ^{1/}	253.1	62.2	25	244.3	63.0	26
Germany	686.5	18.4	3	624.4	15.7	3
Italy ^{2/}	213.9	11.2	5	201.3	17.6	9
Luxembourg	65.2	52.0	80	62.5	48.4	77
Netherlands	121.7	31.0	25	115.5	29.1	25
Sweden	43.2	3.4	8	37.7	4.4	12
Switzerland ^{3/}	191.1	29.3	15	180.0	23.6	13
United Kingdom	313.7	185.7	59	297.0	196.0	66
Canada	113.0	19.5	17	107.1	19.4	18

General note: Overall assets and liabilities refer to all commercial banks or, where available, all deposit money banks. They exclude domestic interbank assets and liabilities. Assets and liabilities each exclude certain relatively minor entries not available on a gross basis. The Euro-currency entries are for reporting banks that are by and large the same set of reporters as in the case of overall assets and liabilities. Intercountry comparisons of the percentages in columns (3) and (6) cannot be precise but indicate orders of magnitude.

^{1/} Data are for December 1977.

^{2/} Data are for March 1978.

^{3/} Overall assets and liabilities include domestic interbank items.

Sources: Overall assets and liabilities are taken from International Monetary Fund, International Financial Statistics, and converted from local currency to dollars at the current exchange rate. Euro-currency assets and liabilities are taken from Bank for International Settlements, International Banking Developments -- Third Quarter 1978. For Switzerland the overall data are taken from the monthly bulletin of the Swiss National Bank.

**Table 4. U.S. Bank Foreign Branches' Shares of Euro-Dollar
Assets and Liabilities, September 30, 1978**
(in billions of dollars)

<u>Location of banks:</u>	<u>Euro-Dollar Assets</u>			<u>Euro-Dollar Liabilities</u>		
	(1) All banks	(2) U.S. branches	(3) 2:1 (in %)	(4) All banks	(5) U.S. branches	(6) 5:4 (in %)
I. <u>Transaction with All Customers</u>						
A. 11 European countries	399 ^{1/}	85	21	382 ^{1/}	85	22
B. Canada	26	0 ^{2/}	0	28	0 ^{2/}	0
C. Offshore banking centers ^{3/}	<u>170^{4/}</u>	<u>112</u>	<u>66</u>	<u>170^{4/}</u>	<u>113</u>	<u>66</u>
Total	595	197	33	580	198	34
II. <u>Transactions with Nonbanks</u>						
A. 11 European countries	107 ^{1/}	14	13	51 ^{1/}	16	31
B. Canada	11	0 ^{2/}	0	18	0 ^{2/}	0
C. Offshore banking centers ^{3/}	<u>42^{4/}</u>	<u>28</u>	<u>66</u>	<u>27^{4/}</u>	<u>18</u>	<u>66</u>
Total	160	42	26	96	34	35

^{1/} Estimated from data published by the Bank for International Settlements.

^{2/} U.S. banks do not have branches in Canada.

^{3/} Bahamas, Bermuda, Cayman Islands, Netherlands Antilles, Panama, Bahrain, Hong Kong, and Singapore.

^{4/} Estimate. For transactions with nonbanks it was assumed that the share of these in total transactions was the same for all banks as for the U.S. branches.

Sources: Bank for International Settlements, Annual Report 1977/78 and International Banking Developments -- Third Quarter 1978; Bank of Canada Review; Federal Reserve System. The estimates for offshore banking centers also make use of data published in the Quarterly Bulletin of the Monetary Authority of Singapore, the Hong Kong Monthly Digest of Statistics, and the Quarterly Statistical Bulletin of the Bahrain Monetary Agency.