EURO-DOLLARS AND MONETARY POLICY

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PREFACE

The purpose of my paper is to provide a comprehensive treatment of the relation between monetary policy and the Euro-dollar market. In doing so I treat the effects of Euro-dollars on the monetary policies of the U. S. and of the countries outside the U. S. separately. This was done for the sake of simplicity and clarity, as well as to emphasize the importance of the market for the Federal Reserve.

In the bibliography I have attempted to provide as inclusive a listing of materials bearing on the topic of my paper as possible. This was done in order to provide a starting point for others wishing to study related topics.

I would like to thank Dr. Rudolph Trenton, my thesis adviser, for encouragement as well as his advice regarding the subject matter. My appreciation is also extended to Dr. Frank Steindl who read early drafts of the paper and corrected my tendency to be too cryptic.

Finally, I want to thank my mother for her patience and Bill Deschler for his invaluable assistance and inspiration.

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CHAPTER I

INTRODUCTION

In many works concerning the Euro-dollar market passing reference is made to the effect Euro-dollars have had on the monetary policies of various countries or to the effect that monetary authorities have had on the Euro-dollar market. In all but the rarest instances, however, the treatment has been cursory at best. Einzig included in his book a chapter on the "Attitude of Central Banks" toward the Euro-dollar market in which he discussed ways in which the control of the central banks over their money markets had been weakened by the Euro-dollar market.[1] In that chapter Einzig also commented on the use of Euro-dollars as an aid to the monetary authorities. Einzig, however, did not go into depth nor was he very comprehensive regarding the effects of the Euro-dollar market on U. S. monetary policy. Furthermore, the material he dealt with was pre-1965 and many important developments have occurred since then.[2]

In 1968, Clendenning wrote about the potentially destabilizing effects of the Euro-dollar market, and he advocated that a lender of last resort be set up for the Euro-dollar market through the cooperation

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[1]Paul Einzig, The Euro-Dollar System: Practice and Theory of International Interest Rates (2d. ed., New York: St. Martin's Press, 1965), pp. 112-123.

[2]There is a 1967 edition of The Euro-Dollar System; however, it contains no changes in this chapter.

of the Federal Reserve and the Bank for International Settlements (BIS).[3] He suggested that the BIS have a stand-by agreement with the Federal Reserve, on which it could draw at its own initiative. Clendenning pointed out that the volume of funds available to the BIS would have to be substantial enough to meet a major crisis.

Herbert Christie wrote a brief article for The Banker in 1967 discussing some of the possible effects of Euro-dollars on the payments balances of the United States and the United Kingdom.[4] He points out that the original deposit in the U. S. is a liquid liability to a foreigner; so that an increase in Euro-dollar deposits could increase the deficit in the U. S. balance of payments, measured on a liquidity basis. In actuality Euro-dollar deposits grew through foreigners depositing funds they had already accumulated because the U. S. had been running a payments deficit. He also explains that U. S. borrowing of Euro-dollars leaves total U. S. liquid liabilities to foreigners unchanged because an existing short-term liability to a foreigner becomes a liability to the foreign branch of a U. S. bank.[5] Thus American borrowing of Euro-dollars does not affect the U. S. payments balance measured on a liquidity basis.

There is no comprehensive treatment in the literature of the effects of Euro-dollars on monetary policy or of the effects of monetary policy on the Euro-dollar market. This paper shows that the monetary

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[3]E. Wayne Clendenning, "Euro-dollars: the Problem of Control," The Banker, CXVIII (April, 1968), pp. 321-329.

[4]Herbert Christie, "Euro-dollars and the Balance of Payments, The Banker, CXVIII (January, 1967), p. 40.

[5]Ibid.

authorities should be concerned about the Euro-dollar market for reasons of domestic monetary policy as well as international monetary policy. Having established that Euro-dollars can and do affect the policies of central banks, the paper examines the ways in which the monetary officials may influence the market.

Chapter II contains a general description of the Euro-dollar market in which banks outside the U. S. issue liabilities and acquire claims denominated in U. S. dollars. Participants in the market include commercial banks, businesses and official institutions from throughout the world. Interest rates are determined by the market forces of supply and demand. Through this market significant amounts of capital may flow to and from many countries.

Chapter III, Official Concern With the Euro-Dollar Market, shows that in general the market has made domestic monetary policies more interdependent. Euro-dollars have also added to the threat of speculation by increasing the potential flow of capital from country to country. The possibility that banks faced with large scale Euro-dollar loan defaults could exert pressure on their countries' exchange reserves is also discussed.

Having examined the general influences of the market on the concerns of central bankers, the paper deals with specific effects on the U. S. in Chapter IV. The Euro-dollar market affects U. S. domestic monetary policy by its influence on the money supply, credit, interest rates, velocity, reserve requirements, and Regulation Q. The U. S. balance of payments as defined on a liquidity basis and on an official settlements basis may be affected by the growth of the market. The effects that Euro-dollars have had and might have on exchange rates

and reserves are also examined in Chapter IV.

Chapter V is concerned with the ways in which monetary authorities have made use of Euro-dollars as a tool of monetary policy. The role of Euro-dollars in transferring capital among countries is discussed with reference to effects on domestic monetary policy, as well as on exchange rates and balance of payments.

Central banks have had important effects on the Euro-dollar market. This is the subject of Chapter VI. The discussion includes both indirect influences, through exchange rates, interest rate policy, and general regulations concerning bank competitiveness, and direct influences, such as direct placements or withdrawals, operations in forward markets, and swaps among official institutions.

The final chapter contains the summary and conclusions, along with recommendations for further study.

CHAPTER II

THE EURO-DOLLAR MARKET

Since 1957,[1] a market for dollars has developed in foreign financial centers which has had--and is having--a profound effect on domestic and international finance. Traditional money markets--New York, London, Paris, Zurich--may have served international customers, but they were tied to a national credit structure. The monetary authorities of the different countries could control and regulate their markets; and conditions in the markets were strongly influenced by economic situations in the respective nations. In the new market "institutions operating in the market acquire claims and issue liabilities in a currency other than that of their country of residence."[2] The Federal Reserve System cannot regulate the rates that London or Paris will pay on their dollar deposits and loans; nor may other central bankers regulate any but their own nationals' activities in the market. As a whole, the market is beyond the control or regulation of any national monetary authority, and in that way is not tied to any domestic credit structure as other markets are.

Since banks from many countries participate, the rates in the market are not determined by events in one country alone, but by forces

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[1]Einzig, The Euro-Dollar System, p. 2.

[2]Alexander K. Swoboda, The Euro-Dollar Market: An Interpretation (Princeton University Essays in International Finance, No. 64, Princeton University Press, 1968), p. 1.

in all the major industrial countries. The United States' financial situation does have great importance for the market, but the fact that investors and borrowers can obtain rates different than those in New York has been the reason for the existance and growth of the market.

Participants in the market are from all over the world, Europe, Japan, Latin America, even Russia.[3] United States' commercial banks also participate in the market through their foreign branches. In 1964, the Bank for International Settlements estimated that over thirty percent of the final borrowers were from outside Western Europe and North America.[4]

The three most noteworthy features of the new market are: first and foremost, the international character of the interest rates, which has been discussed above; secondly, the degree of competitiveness in the market; and finally, the relation of the market and the role of the dollar in world finance.

The competitive nature of the market is an outstanding feature because it contrasts with the restricted and regulated nature of many domestic money markets. The new market is free from artificial restrictions on interest rates imposed by national governments or self-imposed by lenders within various countries. In Europe, cartel agreements or gentlemen's agreements regarding traditional banking business prevents banks from competing with one another through interest rates or from poaching on one another's preserves. In the market for foreign

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[3]Einzig, The Euro-Dollar System, pp. 29-31.

[4]Thirty-fourth Annual Report, Bank for International Settlements (Basle, 8th June 1964), p. 135.

dollar deposits these agreements do not exist.[5] Furthermore, since competition for deposits and loans is not confined within the borders of any country, cartel agreements between members of any one banking community would prove unworkable. Borrowers or lenders in the market are able to circumvent artificial rigidities imposed by local bankers by turning to banks abroad.[6]

Most money markets are competitive to some degree; however, the new market is so much more so that its competitiveness is a distinguishing characteristic.

The dollar obviously plays an important part in the international monetary system. It is used as a reserve unit by most countries; other exchange rates are pegged in terms of dollars; exporters and importers carry on a great deal of trade in dollars.[7] Alexander Swoboda claims that the new market in dollars is part of the "expanding vehicle-currency status of the dollar."[8] Putting it more strongly, Ernest Bloch asserts that the dollar, in this new form, is becoming "a truly international money supply."[9]

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[5]Einzig, The Euro-Dollar System, pp. 99-100, 146, and 150; "Sustained Expansion in Eurodollar Banking," Monthly Economic Letter, First National City Bank of New York (October, 1968), p. 119.

[6]Einzig, The Euro-Dollar System, pp. 99-100.

[7]Thirty-fourth Annual Report, Bank for International Settlements, p. 133.

[8]Swoboda, p. 29.

[9]Ernest Bloch, "Eurodollars: An Emerging International Money Market," The Bulletin, New York University, Graduate School of Business Administration, C. J. Devine Institute of Finance XXXIX (April, 1966), p. 10. Somewhat contradictorily, Bloch states, "In this competition for funds, Eurobanks behave like conventional financial intermediaries in this country; the E$ market as a whole can thus be viewed as yet another layer in the process of financial intermediation within the United States economy." p. 6.

Creation of Euro-Dollars

The market described above is known as the Euro-dollar market, primarily because it was in Europe where foreign deposits of dollars first began to be lent and borrowed. A Euro-dollar[10] deposit comes into existence when a holder of dollars, either in the U. S. or abroad, places them with a bank which deals in the market, a Euro-bank. The original dollars may be in the form of currency, but for the most part they are held in the form of demand deposits with U. S. banks. A demand deposit with a U. S. bank becomes a Euro-dollar deposit when a Euro-bank accepts the deposit for a period of time. As far as the U. S. banking system is concerned, the only change is a transfer of the title of ownership of the demand deposit in the U. S. from the original holder to the Euro-bank. For the Euro-banks, the formation of a Euro-dollar deposit is shown by an increase in their liabilities and assets in the same amount. (See Figure 1-A.) The liability is the claim the original holder has on the Euro-bank while the asset is the claim the Euro-bank has on the American banking system. Note that both the liabilities and assets of the foreign bank are denominated in dollars, the unit of account of the U. S.

The Euro-bank seeks to make a profit on its deposits by lending at a rate higher than the one it is paying to its depositors. A loan of Euro-dollars is shown by a decrease in the Euro-banks' claims

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[10]It should be noted here that currencies other than the dollar are dealt in in the same manner and together with dollars form the "Euro-currency market." However, Euro-dollars are the mainstay of the Euro-currency market. The concern of this paper will be with the market for foreign dollar deposits only; although much of what will be said may also be applied to the Euro-currency market.

Euro-Dollar Deposits
Tables 1 (a-c)

(b) U. S. Banking System

assets	liabilities
	Demand Deposits
	Original Lender −
	Euro-bank +

(c) Euro-bank

assets	liabilities
Deposits with U. S. Banks +	Time Deposits +

(a) Original Lender

assets	liabilities
Deposits with Euro-bank +	
Deposits with U. S. banks −	

Figure 1-A. Creation of Euro-Dollars

Figure 1. Euro-Dollar Deposits and Loans

(a) U. S. Banking System

assets	liabilities	
	Demand Deposits	
	Euro-bank	-
	Final Borrower	+

(c) Euro-bank

assets		liabilities
Deposits with U. S. Bank	-	Time Deposits
Loans	+	

(f) Final Borrower

assets		liabilities	
Deposits with U. S. Bank	+	Loan from Euro-bank	+

Figure 1-B. Relending Euro-Dollars

Figure 1. Euro-Dollar Deposits and Loans

on U. S. banks (cash assets) and an increase in its claim on the final borrower. (Figure 1-B.)

In this illustration, the only case considered is that in which the bank lends to the final borrower. In practice, it is common for Euro-dollars to be loaned several times before they reach the end user.

Size of the Euro-Dollar Market

O. L. Altman wrote in 1963 that any estimate of the size of the Euro-dollar market would have to be a guess, and probably a wild one.[11] While this is perhaps too strong a statement, it is true that statistical problems do prevent a precise picture of the market from being drawn.

The primary problem in estimation of the size of the market for Euro-dollar deposits is the lack of agreement on the definition of Euro-dollars. The reason for considering them as distinct from ordinary dollars on deposit in the United States is the function performed by Euro-dollars and their significance for the world monetary system. The Euro-dollar market constitutes an international money market, with rates determined by international forces and capital allocated internationally. It is in this that the significance and distinguishing feature of Euro-dollars lie.

Some have applied the definition, all dollar deposits held at non-American banks, to Euro-dollars;[12] but this includes funds which do

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[11]O. L. Altman, "Recent Developments in Foreign Markets," International Monetary Fund Staff Papers, X (March, 1963), p. 49.

[12]Swoboda, p. 1; "The Turnaround in World Interest Rates," Monthly Economic Letter, First National City Bank of New York (February, 1967), p. 21.

not form part of the international money market. Dollar deposits were held in Canadian banks for a long time and yet never constituted an international money market because they were used mainly for relending in New York.[13] Many dollar deposits are excluded from the market because only large amounts are traded.[14] Deposits may be held in the form of dollars in foreign banks simply as working balances, for instance, the dollars held by an importer to clear accounts. Finally, all banks outside the U. S. are not participants in the Euro-dollar market.

The Bank of England's "implied" definition of Euro-dollars is "dollar deposits held by non-residents."[15] This again is too broad since dollar deposits may be held which the owner does not lend to anyone.

An even more encompassing definition is that put forth by the Wall Street Journal, "dollars owned by governments, businesses or individuals residing outside the U. S."[16] This would include as Euro-dollars all the dollars held as reserves by monetary authorities,[17] dollars held in the form of currency, dollars held by persons or firms

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[13]Einzig, The Euro-Dollar System, pp. 1-2. "Traditionally, they [Canadian commercian banks] have employed them in U. S. markets; during recent years, they have also channeled short-term U. S. dollar deposits into the Euro-dollar market." "Trends in the Eurodollar Market," Monthly Economic Letter, First National City Bank of New York (July, 1966), p. 81.

[14]Einzig, The Euro-Dollar System, p. 32.

[15]Ibid., p. 172.

[16]The Wall Street Journal, February 7, 1969, p. 4.

[17]This is not to say that all dollars owned by governments are not in the market. In the early formation of the Euro-dollar market, central bankers were the main suppliers of funds.

not in the remotest way connected with any international money market.

The Bank for International Settlements (BIS), which compiles data on the market for central banks, has endorsed a narrower definition of a Euro-dollar which states that it is "a dollar that has been acquired by a bank outside the United States and is used directly or after conversion into another currency for lending to a non-bank customer, perhaps after one or more redeposits from one bank to another."[18] As the BIS points out, this definition implies that not all dollar assets or all dollar liabilities can be considered Euro-dollars.[19] It was noted previously that banks may have dollar deposit liabilities for purposes other than lending them in the market. On the other hand, a bank may have dollar assets, for example as desired reserves, which are not available to borrowers. At the same time, there is no class of assets or liabilities which is per se exempt from the Euro-dollar market,[20] because with a change in rates, or another variable, these assets and liabilities may become Euro-dollars. For example, assume a bank which had been holding dollars as desired reserves is faced with a rise in the Euro-dollar rate. The opportunity cost of holding dollars as reserves has increased because the rate of return on Euro-dollars, an alternative investment, has increased. Therefore, the bank may adjust its portfolio. These dollars held on the margin as desired reserves may be lent in the form of Euro-dollars.

It is also noted in the BIS's discussion that banks may have

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[18] Thirty-fourth Annual Report, Bank for International Settlements, p. 127.

[19] Ibid.

[20] Ibid.

dollar holdings which were not obtained by accepting a dollar deposit; banks may convert other currency deposits into dollars. Similarly, a bank may change its dollar deposits into another currency before loaning the funds out.[21] Therefore, discrepancies may exist between dollar assets and liabilities (which would disappear if all foreign currencies were taken together).

Since neither all assets nor all liabilities may be considered Euro-dollars; and since some dollars that the bank lends may not show up on the liability side of its balance sheet and some dollars that are accepted by the bank may not show up on the asset side; it follows that Euro-dollars cannot be considered as exclusively deposits or as exclusively loans. Both assets and liabilities must be taken into account.[22]

This definition of the BIS's is in one respect too restrictive, for it excludes all dollars which are not lent to a non-bank customer. However, many dollar deposits are circulated simply among banks and yet they do form part of the international market for dollars.[23] One example may be dollars which are forwarded to head offices by European branches of American banks. The BIS points out that banks do use Euro-dollars for investing in money market instruments.[24]

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[21]Ibid., pp. 127-129.

[22]Ibid., p. 129.

[23]Einzig, The Euro-Dollar System, p. 172; O. L. Altman, "Euro-Dollars: Some Further Comments," International Monetary Fund Staff Papers, XII (March, 1965), pp. 3-4.

[24]Thirty-fourth Annual Report, Bank for International Settlements, p. 132; Thirty-sixth Annual Report, Bank for International Settlements (Basle, 13th June 1966), p. 146.

Paul Einzig has defined Euro-dollars as "time deposits in terms of dollars lent and borrowed in financial centres outside the U. S."[25] This obviously is not in line with the thought of the BIS that dollar liabilities alone do not include all the funds in the Euro-dollar market. It is broader than the BIS's definition in that it encompasses dollar deposits placed with and accepted by banks alone. Furthermore, the phrase "in financial centres" seems to get at the crux of the matter, that is the funds being in the international money market. It seems possible that there might be cases in which dollars might be lent and borrowed outside the U. S. without their being part of the money market.

Since differing definitions of Euro-dollars are in widespread use, when figures are quoted regarding these funds it is important to note which definition is being used.

Furthermore, the more restrictive definitions do not lend themselves to measurement. There are statistics available on dollar liabilities and assets of foreign banks, but not on which of these are "lent and borrowed" (Einzig's definition), nor on which are lent to "a nonbank customer" (the BIS's definition).

Double-counting and different methods of reporting[26] must also be taken into account. Since Euro-dollars may be lent among banks several times before reaching their final user, the same funds may show up on the balance sheets of two or more banks. In the BIS data this

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[25]Paul Einzig, A Textbook on Foreign Exchange (New York: St. Martin's Press, 1966), p. 236.

[26]Thirty-sixth Annual Report, Bank for International Settlements, p. 147.

possibility is reduced because the fifteenth of each month is the reporting date for all countries contributing statistics to the BIS,[27] but it is not eliminated.[28]

In the words of the BIS, "The best that can be done is to present data on the banks' foreign currency liabilities and assets and then to arrive at some reasonable approximation of the most likely volume of funds in the Euro-currency market."[29] Estimates have to be made of the proportion of dollar assets and liabilities which serve purposes different than those of Euro-dollars, for example, pure interest arbitrage.[30]

Using this method, the BIS estimated the size of the market to be about $16 billion at the end of 1967,[31] which is approximately $11 billion greater than at the end of 1963. (The BIS estimated the size of the Euro-dollar market in September, 1963 as $5 billion.[32]) In

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[27]The following countries report Euro-dollar statistics to the BIS: Belgium-Luxemburg, France, Germany, Italy, Netherlands, Sweden, Switzerland, United Kingdom, Canada, Japan. Euro-dollar credits which are not channeled through the banks of one of these countries do not show up in the BIS data. Thirty-eighth Annual Report, Bank for International Settlements (Basle, 10th June 1968), pp. 146 and 153-154.

[28]Einzig, The Euro-Dollar System, p. 17; Thirty-fourth Annual Report, Bank for International Settlements, p. 129; Thirty-eighth Annual Report, Bank for International Settlements, p. 153.

[29]Thirty-fourth Annual Report, Bank for International Settlements, p. 129.

[30]Einzig, The Euro-Dollar System, p. 173; Thirty-eighth Annual Report, Bank for International Settlements, p. 153.

[31]Thirty-eighth Annual Report, Bank for International Settlements, p. 145.

[32]Thirty-fourth Annual Report, Bank for International Settlements, p. 130.

October of 1968, the First National City Bank of New York estimated the market to be approximately $20 billion.[33] More recently, in the latter part of March, 1969, The Wall Street Journal put the total of dollars held in European banks or owned by Europeans at $23 billion.[34] The value of the estimates lay not in the precise dollar amount; rather it indicates the order of magnitude of the market and that large sums can be lent or borrowed without causing great fluctuations in market rates.

Participants in the Euro-Dollar Market

Lenders and borrowers of Euro-dollars vary with changing economic conditions and political tensions. For instance, during the credit crunch of 1966, American banks absorbed approximately three-fourths of the $3 billion increase in the size of the Euro-dollar market. Foreign branches of American banks borrowed heavily in the market and then forwarded the funds to their parent banks. In 1967, when monetary policy was easier in the U. S., banks there absorbed only one-fourth of the $3 billion increase in new funds from the previous year.[35] During the Middle East crisis in June of 1967, the supply of

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[33]The First National City Bank uses the definition "U. S. dollars held on deposit with banks outside the United States." However, that bank quotes the same figure of $16 billion, as the BIS does, for the size of the market at the end of 1967. "Sustained Expansion in Euro-dollar Banking," p. 116.

[34]The Wall Street Journal, March 18, 1969, p. 32.

[35]Thirty-eighth Annual Report, Bank for International Settlements, p. 145. See also Figure 3, p. 21.

Euro-dollars was reduced sharply as "precautionary withdrawals" were made.[36]

Up to 1963, the main sources of Euro-dollars were official institutions, central banks and international financial organizations.[37] Since then, private individuals, businesses and commercial banks have supplied the major portion of Euro-dollars.[38] Exporters and importers are large users of Euro-dollars since much of world trade is carried on in dollars and in many cases Euro-dollar loans are easier and less expensive to obtain than loans in domestic currencies.[39]

Figure 2, which gives a breakdown of sources and uses of Euro-dollars by groups of countries, shows that the U. S. is in general a net borrower while countries outside Western Europe are net lenders. The noteworthy feature of this chart is that it shows that Euro-dollars are lent and borrowed throughout the world.

One of the most important developments in the market has been the growing participation of U. S. commercial banks through overseas branches. In the last two years, 1967 through 1968, the number of foreign branches has jumped from 244 to 388, an increase of 159 percent.[40] Head offices in the U. S. can lend or borrow Euro-dollars by

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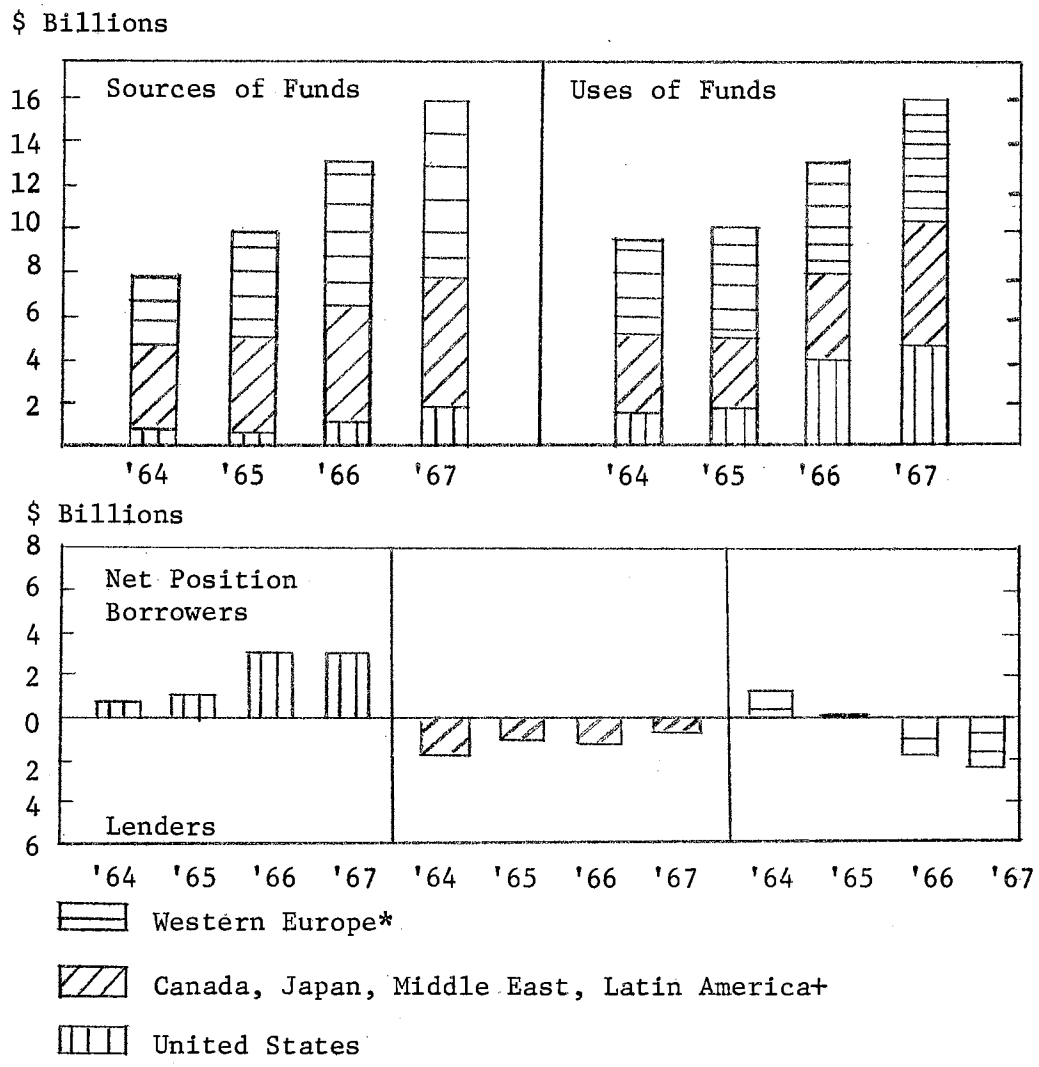
[36]Annual Report, Board of Governors of the Federal Reserve System (1967), pp. 14-15 and 279.

[37]Einzig, A Textbook on Foreign Exchange, p. 156; Werner M. M. Makowski, "The Euro-Dollar Market," The Challenge of International Finance, ed. Guenter Reimann and Edwin F. Wigglesworth (New York: McGraw-Hill, 1966), p. xix.

[38]"Sustained Expansion in Eurodollar Banking," p. 117; Makowski, p. 95.

[39]"Sustained Expansion in Eurodollar Banking," p. 118; Thirty-fourth Annual Report, Bank for International Settlements, p. 134.

[40]The Wall Street Journal, March 18, 1969, p. 32.



*Major Western European countries whose commercial banks' foreign exchange assets and liabilities are reported to the BIS, namely, Belgium, France, Germany, Italy, the Netherlands, Sweden, Switzerland, and the United Kingdom. + Includes also Eastern Europe and certain Western European countries not reporting to the BIS.

Source: "Sustained Expansion in Eurodollar Banking," Monthly Economic Letter, First National City Bank of New York (October, 1968), p. 117.

Figure 2. Euro-Dollar Borrowing and Lending According to Region

lending to their branches, which lend to foreigners, or by accepting deposits from their branches. Figure 3 shows the growth in liabilities of U. S. banks to foreign branches, which has been phenomenal. In the first two and a half months of 1969, it has been estimated that U. S. banks borrowed another $3 billion in the Euro-dollar market.[41] U. S. banks have gone more heavily into the market in recent years because demands for credit have pushed interest rates in the U. S. so high that the Regulation Q ceiling on deposit rates has kept them at artificially low levels. Therefore, the U. S. banks have obtained funds in the Euro-dollar market through their branches who are not subject to Regulation Q. Also, the absence of reserve requirements against liabilities to foreign branches has made the Euro-dollar market a profitable way for banks to increase their reserves.

Euro-Dollar Rates

Interest rates on Euro-dollars vary with the maturity of the time deposit, with the type of borrower, with estimates of risk, with the estimated total of borrowing, and so on.[42] However, the individual Euro-dollar rates are all interrelated and move together in response to specific influences. Since the entire structure of Euro-dollar rates is affected in the same manner by different factors, it is possible to substitute one variable for the whole complex of rates and to talk about what happens to "the" Euro-dollar rate when this or that happens.

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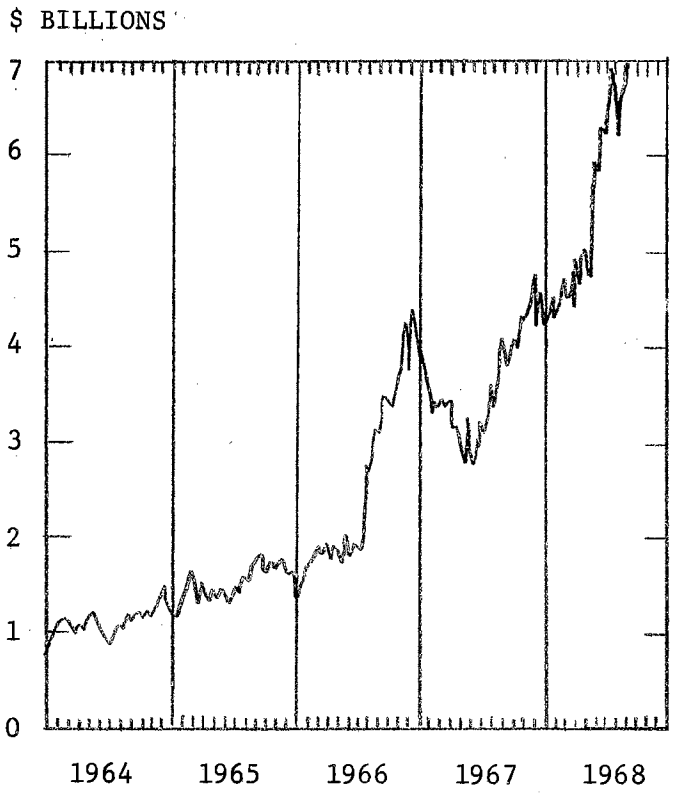
[41]Ibid.

[42]Einzig, The Euro-Dollar System, pp. 75-79; Altman, "Recent Developments in Foreign Markets," pp. 71-78.



Note: The data include funds that do not originate in the Euro-dollar market; but, U. S. banks' use of Euro-dollar balances is not limited to the amounts reported as liabilities to their branches.

Source: "Sustained Expansion in Eurodollar Banking," Monthly Economic Letter, First National City Bank of New York (October, 1968), p. 118.

Figure 3. Liabilities of U. S. Banks to Their Foreign Branches

This proxy variable is not the average of all rates but is simply a representative rate. The theoretical concept may be easy to grasp, but in empirical work it is somewhat more difficult since if the Euro-dollar rate is not an average of all--or some--rates, then what is it? It is the rate paid on "transactions of normal size by borrowers of first rate standing who, in the estimation of the market, have not borrowed exclusively."[43]

All this is not to say that nothing can happen to widen differentials between certain Euro-dollar rates without affecting the whole structure. It does mean that general influences will be felt by the market as a whole. For instance, a change in a bank's estimate of the credit-worthiness of a given borrower might alter the differential between the rate charged to that borrower and to another one, but both would be affected in a similar manner by a lightening of credit in the U. S.

> While the cost of credit is of prime significance in any financial market, for Euro-currencies its importance is critical. In effect, the opportunity to operate profitably inside existing rate spreads, national and international, has been the basic incentive for the banks to develop the Euro-currency business.[44]

In the Euro-dollar market, most participants are well-known; so default risk is minimized, and paperwork (credit checks and so forth) is minimized. The size of the units dealt in is very large--usually $1 million--therefore the average cost of handling Euro-dollars is very low. Furthermore, the fierce competition in the market reduces profit

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[43]Einzig, The Euro-Dollar System, p. 78.

[44]Thirty-fourth Annual Report, Bank for International Settlements, p. 135.

margins. All these factors make the margins between rates paid to depositors and those charged to borrowers small.[45]

In general, the rate on Euro-dollars tends to fall between the rates paid on time deposits in the U. S. and the effective rate of interest on loans in the United States.[46] Holders of dollar deposits would not accept a lower return on their funds in the Euro-dollar market than they could obtain in New York; nor would borrowers pay more for foreign dollar deposits than they would have to pay for dollar deposits acquired in New York. However, the latter rate may cease to be an upper limit if borrowers in the U. S. absorb the main portion of American dollars. Since early 1965, the business conditions in the U. S. and the balance-of-payments guidelines have made this the case.

In the previous discussion, mention was made of the "effective" rate in the U. S. Borrowers in New York are required to maintain a certain percentage of the amount of their loan in the bank (10 to 20 percent)[47] while borrowers of Euro-dollars are not required to keep compensating balances.[48] Thus the actual rate in New York is higher than that quoted, and any comparison of rates on dollars in New York and rates in the Euro-dollar market must take into account this fact.

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[45]Einzig, The Euro-Dollar System, pp. 61-65. There appears to be some disagreement as to just what interest margins are prevalent. Witness the following two quotations: "...the differentials in the Euro-dollar market are of the order of 1/4 percent...." Ibid., p. 159; "It may be concluded that an interest markup of 3/4 percent to 1 1/2 percent would apply to the vast majority of dollar loans." Altman, "Recent Developments in Foreign Markets," p. 74.

[46]G. Carroll Martenson, The Euro-Dollar Market (Boston: Bankers Publishing Co., 1964), p. 1.

[47]Altman, "Recent Developments in Foreign Markets," p. 72.

[48]Makowski, p. 164.

Rates in the Euro-dollar market are closely related to rates obtainable on comparable dollar instruments in New York. Certificates of deposit in the U. S. differ from Euro-dollars in the degree of risk and in the fact that certificates may be sold on the market; they are more liquid than Euro-dollar deposits. Nevertheless these two facilities are looked upon as alternative investment media, and thus the differential between the two is regarded as an indicator of the tightness in the Euro-dollar market.[49] The ceiling on rates paid on certificates of deposit in the United States, imposed by Regulation Q of the Federal Reserve, at times keeps rates below that at which supply and demand are equated. When this happens investors place their funds in other media, and commercial banks and businesses turn to the Euro-dollar market to seek funds. The increased demand increases Euro-dollar rates, widening the gap between them and the ceiling deposit rates in the U. S. (See Figure 4.)

Summary

The amount of funds channeled through the Euro-dollar market is large; interest rates are determined almost solely by competitive market forces; banks, businesses, official institutions and other financial organizations throughout the world lend and borrow Euro-dollars. The Euro-dollar market is an important international market which exists along side and competes with domestic money markets and which can influence international finance. How Euro-dollars affect monetary policy will be considered in the next chapter.

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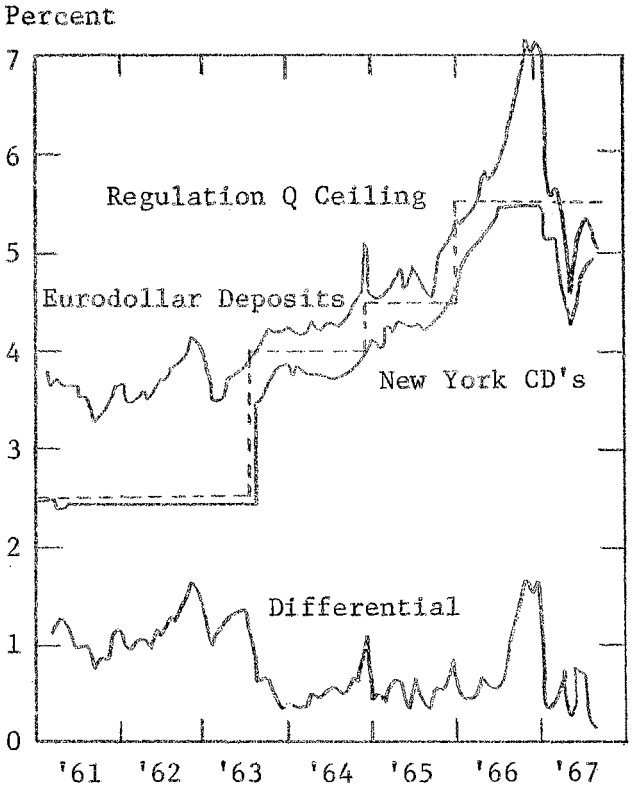
[49] Thirty-sixth Annual Report, Bank for International Settlements, p. 151.



Source: "Eurodollar and International Capital Markets Today," Monthly Economic Letter, First National City Bank of New York, (August, 1967), p. 89.

Figure 4. Interest Rates on Euro-Dollars and Certificates of Deposit

CHAPTER III

OFFICIAL CONCERN WITH THE EURO-DOLLAR MARKET

The various monetary authorities have in recent years become increasingly concerned with the Euro-dollar market and have shown it in many ways, the most striking of which is their direct intervention to stabilize the market. The market has grown large enough to have an important impact on three areas of vital concern to monetary officials: domestic monetary policy, exchange rates and reserves, and balance of payments. By channeling short-term capital into or out of a country the Euro-dollar market can affect these three areas.

Domestic Monetary Policy

Monetary policy may be helped or hindered by Euro-dollars. In Europe, some central bankers have used dollar deposits as a tool to aid them in domestic policymaking while other officials have tried to restrict the use of Euro-dollars to foreign trade financing.

It has always been true that international capital mobility has affected domestic interest rates and that central bankers have had to give weight to international considerations. But, by significantly increasing the channels through which capital can flow, the Euro-dollar market has reduced the possibility of policymakers being able to isolate domestic money markets and to pursue independent national monetary policies. Businesses or banks may turn to Euro-dollars for funds

when interest rates are high in their countries; and when conditions are slack at home, banks may place funds abroad in order to earn a higher return. Thus, the Euro-dollar market has made monetary policies more interdependent.[1]

Euro-dollars have been a boon to some monetary authorities in that it provided an outlet for their large holdings of dollars and "enabled them to use their exchange reserves as an effective monetary instrument with which to check capital flow and domestic liquidity."[2] As noted previously, central banks were originally the main source of Euro-dollars, and they are still substantial suppliers. Dollar deposits placed in the Euro-dollar market generally earn a higher return than dollars placed in deposits in New York or in U. S. Treasury bills. (See Figure 5 and Figure 6.) Central bankers may, therefore, employ dollar reserves in the Euro-dollar market for profit considerations.

On the other hand, national monetary officials may indirectly supply funds to the Euro-dollar market for reasons connected with monetary policy. They may do this through swaps or deposits with their commercial banks.

Suppose that a central bank encourages its commercial banks to hold dollars by swapping dollars with them at favorable rates. In other words, the central bank sells dollars spot and buys them forward at a forward exchange rate at par with the spot rate or lower than the

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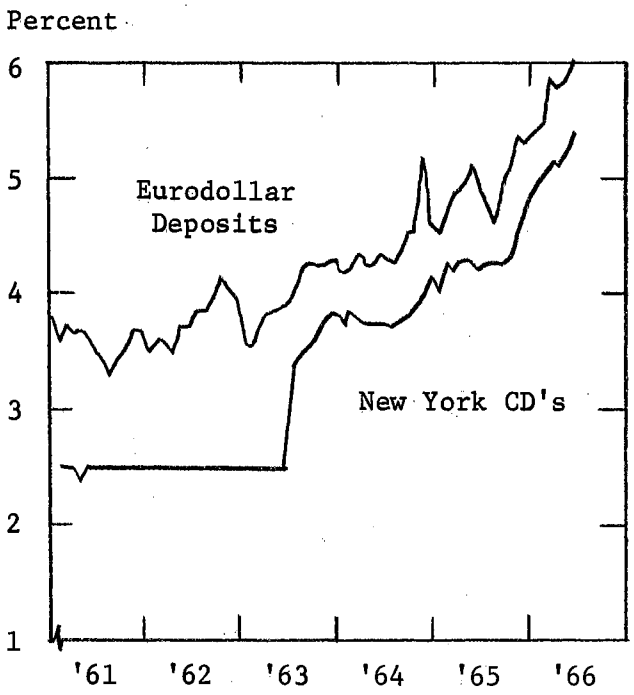
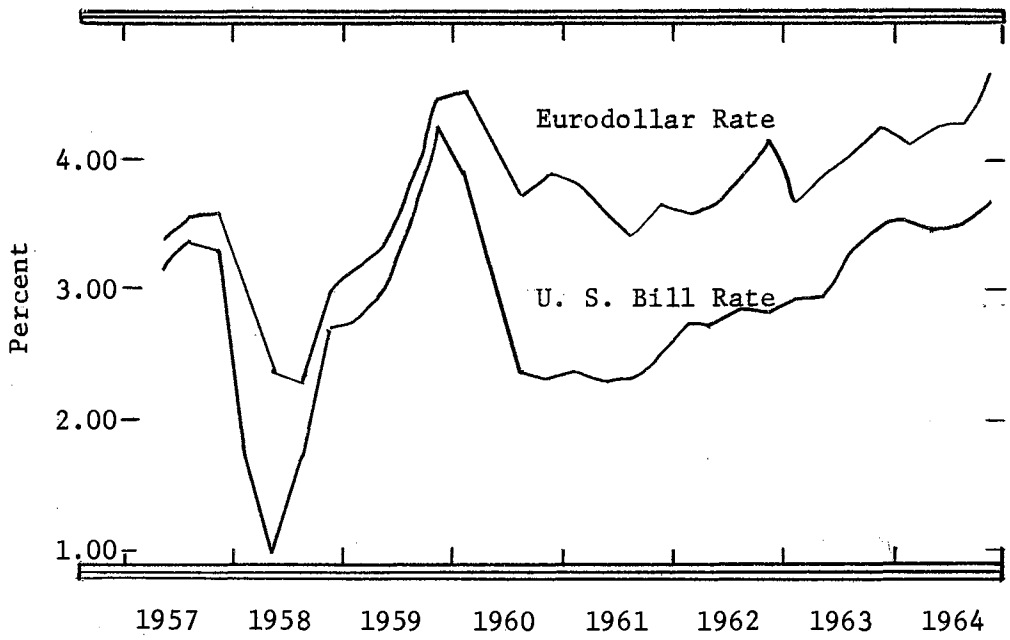
[1]Einzig, A Textbook on Foreign Exchange, p. 154; Makowski, p. 162; Clendinning, p. 325; Swoboda, p. 35; Stephen H. Axilrod and Ralph A. Young, "Interest Rates and Monetary Policy," Federal Reserve Bulletin, XLII (September, 1962); p. 1127; Altman, "Recent Developments in Foreign Markets," p. 88.

[2]Makowski, p. 192.



Source: "Trends in the Eurodollar Market," Monthly Economic Letter, First National City Bank of New York, (July, 1966), p. 83.

Figure 5. Interest Rates on 3-Month Eurodollars in London and CD's in New York



Source: P. H. Hendershott, "The Structure of International Interest Rates: The U. S. Treasury Bill Rate and Eurodollar Deposit Rate," Journal of Finance, XXII (September, 1967), p. 456.

Figure 6. Quarterly Average U. S. Bill and the Eurodollar Deposit Rates

forward exchange rate in the forward exchange market. The counterpart of this transaction is that the commercial banks sell the domestic currency spot and buys the domestic currency forward. If the definition of reserves in that country includes dollars then the reserves of the country's banking system are the same--only their composition has changed. Domestic credit will probably be reduced because leakages in the form of foreign investment or loans to residents of foreign countries will probably be greater from the dollar reserves than from the domestic currency reserves. This is because the cost of hedging has been reduced or eliminated for the commercial banks, thus enabling them to earn a higher return on dollar investments than otherwise. If dollars are not considered part of legal reserves then the central bank has reduced the reserve base of the country's banking system through its swap operations.

If the monetary officials stipulate that the dollars must be invested outside of the home country, then the commercial banks who bought dollars must decrease their loans to residents in their country. Thus domestic liquidity is contracted. There may be some feedback of dollars to the country through borrowing of dollars by firms of that country from foreigners, but there is no reason to believe that this feedback would equal the outflow.

National monetary authorities may also place dollar deposits with their commercial banks. Everything else being equal, this would increase the reserves of the country's banking system. Some of the funds might flow abroad, but some of the dollars could be used for loans to finance domestic credit expansion.

The dollars which the commercial banks obtain from their central bank may not necessarily be used for investment in the Euro-dollar market. Some funds may be placed in the U. S. money market; however, as long as yields are relatively high in the Euro-dollar market it will attract some of these dollar funds.

International Monetary Policy

Central bankers have reason to be concerned not only with the effect of Euro-dollars on domestic policy, but also with their effect on policy in the international sphere.

Exchange Rates and Reserves

By increasing the potential flow of capital from country to country, the Euro-dollar market has added to the threat of speculative pressure on foreign exchange rates and reserves. When serious payments imbalances exist, capital flows can force exchange rate changes. There is much concern that, in times of international exchange crises, Euro-dollars might be a significant source of financing for hot money flows.[3]

Wayne Clendenning discussed the possibility that commercial banks might place large demands on the reserves of their nation if they were faced with a shortage of dollars with which to honor their commitments.[4] This might arise from one of two situations: one, if the

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[3]Clendenning, p. 326; Einzig, A Textbook on Foreign Exchange, p. 161; Altman, "Recent Developments in Foreign Markets," p. 87.

[4]Clendenning, pp. 322-325.

bank converted a large amount of Euro-dollars into domestic currency; two, if foreigners defaulted on their Euro-dollar debts.

Suppose a commercial bank accepted a time deposit of dollars for thirty days and then lent dollars for sixty days, expecting to be able to secure another dollar deposit in thirty days. If the bank's expectations proved false, it might have to obtain the dollars in the foreign exchange market when time came for repayment of the Euro-dollars. Similarly, if a foreign borrower defaulted on a Euro-dollar loan, the bank holding the loan would probably have to buy the dollars in the foreign exchange market. If the amounts involved were substantial, downward pressure on the exchange rate would occur, and the national monetary authorities would have to use their dollar reserves in order to keep the rate from falling. "If foreign exchange reserves were seriously depleted this could lead to a run on the currency."[5]

The possibility that this could happen definitely exists since Euro-dollar loans are, for the most part, unsecured credits. The banking participants in the market, all of whom are of very high standing, and the large international business firms are never asked for collateral or guarantees. Banks require security only from commercial firms who are not of first rate standing,[6] and even then

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[5]Clendenning, p. 325.

[6]Altman claims that behind the pyramiding of Euro-dollar credits there is a network of "stand-by agreements, lines of credit and banking guarantees" which may expose commercial banks and central banks to market risks which they do not suspect. Altman, "Euro-Dollars: Some Further Comments," p. 8.

safeguards may not be very strict.[7] The chances of participants defaulting on unsecured loans or of over-extending themselves are small due to the quality of banks and businesses in the market;[8] but, on the other hand, risks are enhanced by the fact that there is no way for the lender to know the total amount of Euro-dollar credits a borrower might have outstanding.[9] In any case, the risks inherent in any misconduct are magnified by the extent of relending; one default might cause a chain reaction. For example, suppose a French bank had borrowed three-month Euro-dollars from an English bank and on the same day loaned three-month Euro-dollars to a German business concern, expecting to repay the English bank with the proceeds from the German loan. If the German firm defaulted and the amount of the loan were very large, the French bank might not be able to obtain the dollars with which to honor its commitment to the English bank.

The real danger arises not from potential default by a particular borrower, but from "the very real if remote possibility of wholesale default by all debtors in one of the countries which have borrowed a high proportion" of Euro-dollars.[10] Imposition of exchange controls, an economic crisis, or political tensions might bring on such a situation.

Perhaps the most serious risk is that exchange controls might prevent residents of a country from meeting its international

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[7]Einzig, The Euro-Dollar System, pp. 64-65.

[8]Ibid., p. 66.

[9]Ibid., pp. 66-67.

[10]Ibid., p. 149.

liabilities in Euro-dollars. As evidence that bankers are aware of this possibility there is

> "the well-known fact that American bank branches in London are usually able to borrow Euro-dollars at rates that are fractionally lower than those paid by first-class British or other Western European banks.[11]

Einzig argues that the discount given to American banks is "because" in their case it is inconceivable that the dollars required for the repayment of maturing deposits should ever become unavailable.[12]

There is also the fact that as the estimated total of Euro-dollars borrowed by one country grows, the rate quoted on Euro-dollar loans to that country rises. The explanation is that the rise in rates is a risk premium to cover the possibility that exchange restrictions might be imposed.[13]

Further evidence in support of the point that banks might not be able to obtain enough dollars in foreign exchange to honor commitments is the warning given by the Bank of France to French commercial banks that permits for replacement of Euro-dollars lost through a default of their debtors would not necessarily be granted.[14]

In Europe, some central bankers have recognized that Euro-dollars can be used to help check capital flows.[15] For instance, the monetary officials could keep down an unwanted influx of short-term capital by

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[11]Ibid., p. 150.

[12]Ibid., p. 419.

[13]Ibid., pp. 67-68.

[14]Ibid., p. 149.

[15]Makowski, p. 165.

making dollars available through swaps with their commercial banks at rates advantageous to the banks.

Balance of Payments

In the international sphere, policymakers are also concerned with the effects Euro-dollars can have on the balance of payments. They may serve as a means of financing the deficit; or they might aggravate a payments imbalance by adding to capital outflows. United States' officials are especially attentive to the potential impact of Euro-dollars in this area.

CHAPTER IV

THE EFFECT OF EURO-DOLLARS ON THE UNITED STATES

The Federal Reserve has shown increasing awareness of Euro-dollar market and its implications for U. S. monetary policy. This chapter deals with the reasons why the Federal Reserve should be concerned with Euro-dollars. Their effect on monetary policy in both the international and domestic spheres will be investigated.

Domestic Monetary Policy

The Euro-dollar market affects U. S. domestic monetary policy by its influence on several variables: the money supply, credit, interest rates, velocity, reserve requirements, and Regulation Q. Each of these is examined separately.

The market offers banks an alternative way of obtaining reserves, analogous to the Federal Funds market where banks borrow the excess reserves of other banks. In borrowing Euro-dollars, American banks do not increase the total of high powered money in the American banking system, but they redistribute it. The size of the money supply is affected because by (1) channeling reserves to banks who will use them as a base for deposit expansion the potential money multiplier is more closely approached by the actual. The money supply is also (2) affected because the reserve to deposit ratio is lowered when American banks borrow Euro-dollars through their branches since U. S. banks are not

required to hold reserves against liabilities to their branches.

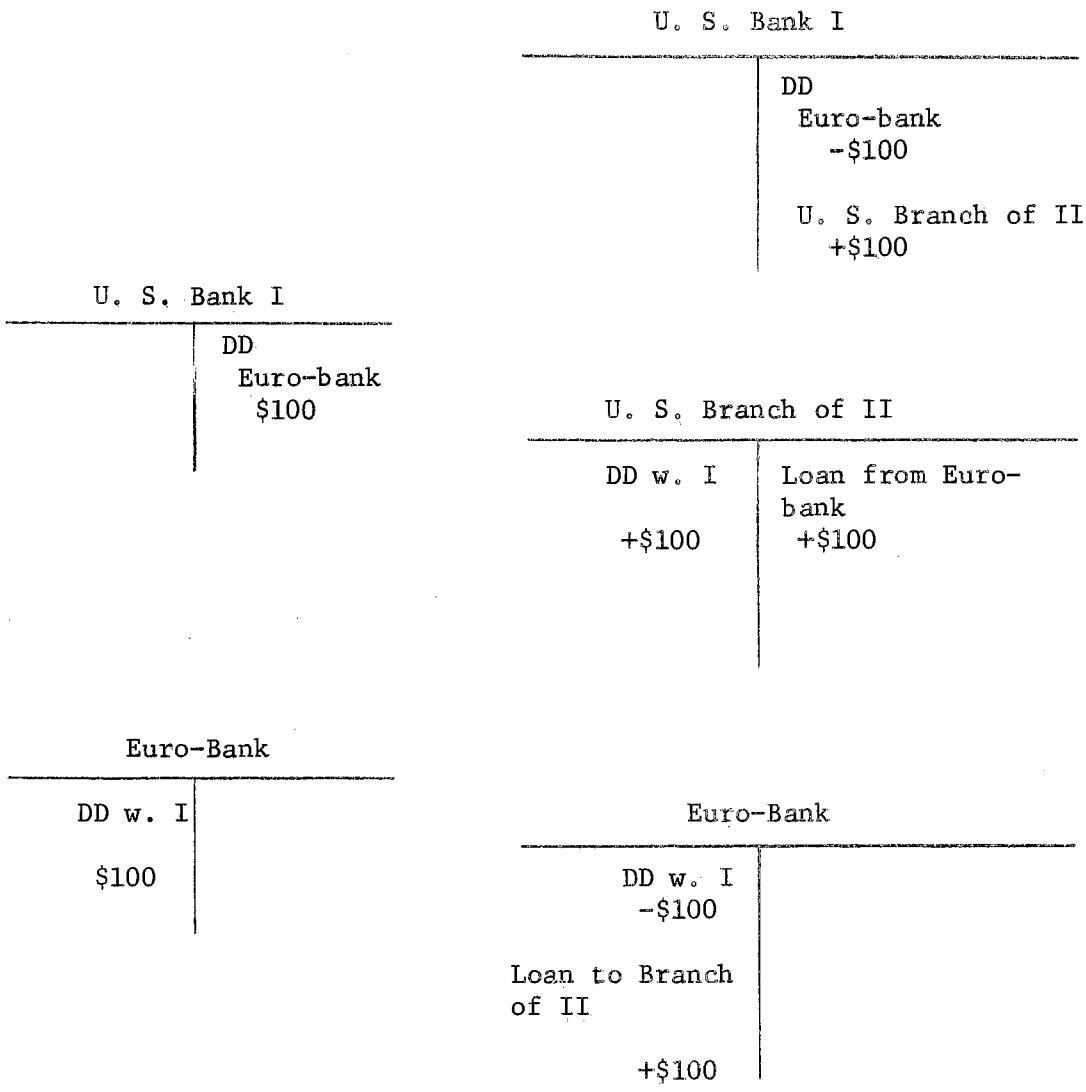
Figure 7 shows how the transactions involved in an American bank's borrowing Euro-dollars might show up on the balance sheets of the various banks concerned. First of all, the Euro-dollar deposit is shown on the records of the Euro-bank and the American bank (I). See Figure 7-A. Suppose then that the Euro-bank lends the deposit to the branch of another American bank (II). This is recorded on the balance sheet of the first American bank by a transfer of ownership from the Euro-bank to the branch of the second U. S. bank. The Euro-bank's deposits with I go down by $100 and its loans go up by $100. The branch bank has a claim on I of $100 and a liability to the Euro-bank in the amount of $100. See Figure 7-B.

Assume that the branch bank forwards the Euro-dollars to its head office in New York as shown by Figure 7-C. The branch decreases its deposits with I by $100 and increases its claims on the parent bank which increases its liabilities to foreign subsidiaries and increases its deposits with II. The first bank decreases its deposits with the branch and increases its deposits with II.

The final step in the transaction is shown in Figure 7-D, when the second bank collects the funds from the first. The reserves in II go up while they decrease for I. Interbank deposits decrease for both banks.

Netting out all these transactions, shows the total reserves of the American banking system to be the same as before Euro-dollars were borrowed; the reserves have merely been redistributed among banks.

This is not to say that the money supply remains the same.



Note: DD = Demand Deposits

Figure 7-A.
Euro-Dollar Deposit

Figure 7-B.
Loan of Euro-Dollars to Branch of U. S. Bank

Figure 7. American Bank's Borrowing of Euro-Dollars through Foreign Branch

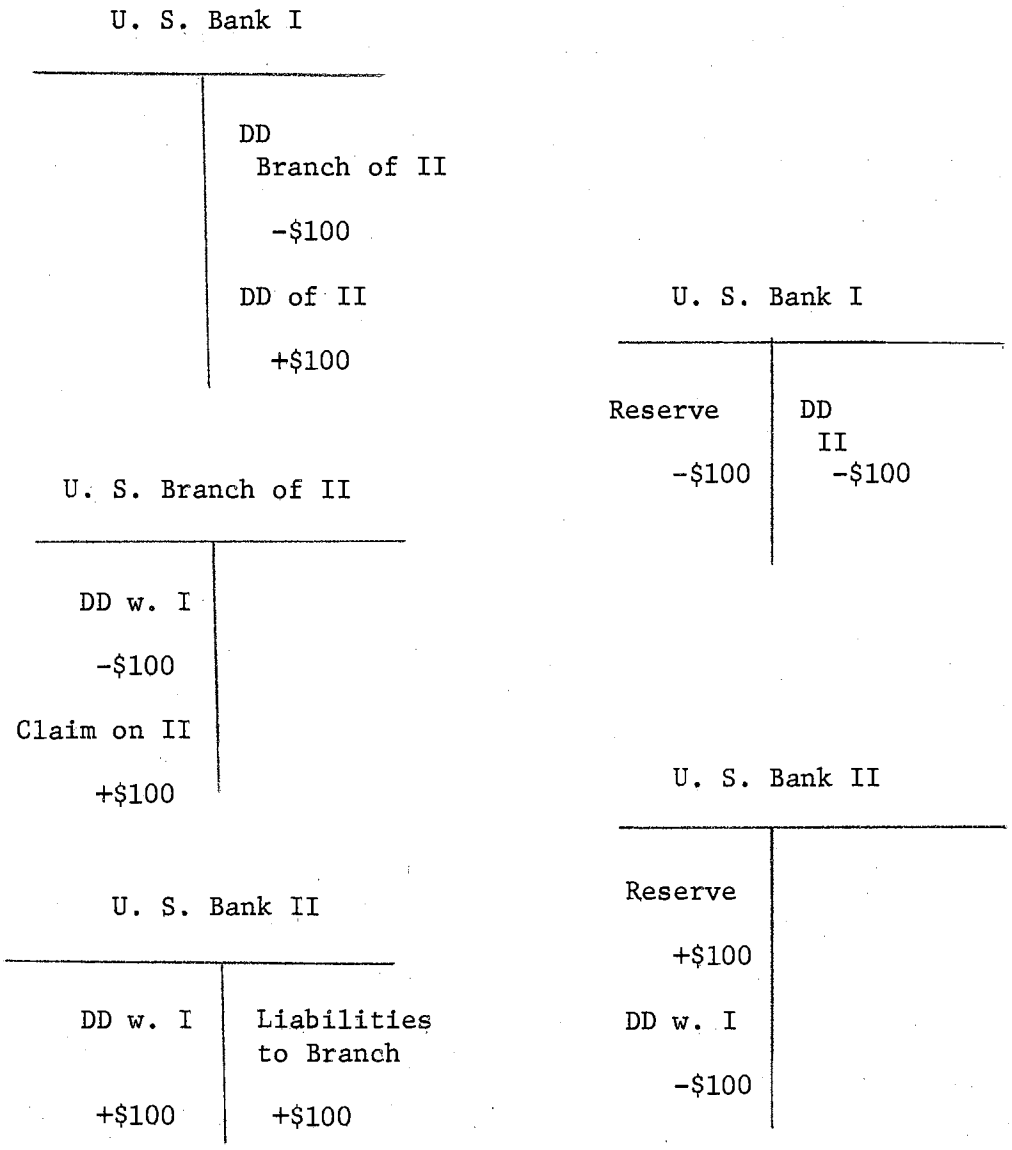


Figure 7-C.
Branch Forwards Dollars
to Head Offices

Figure 7-D.
Parent Bank Collects
Dollars

Figure 7. American Bank's Borrowing of Euro-Dollars Through Foreign Branch

Presumably, the reason the parent bank accepted the Euro-dollar deposit from its subsidiary was to increase its lending power by enlarging its reserve base. Thus the money supply is increased because the same reserve base is supporting a larger amount of demand deposits.

The size of the money supply which can be supported on a given reserve base is also increased by the Euro-dollar market, due to the effect on required reserves of a head office's use of Euro-dollars obtained from its foreign branch. United States banks are not required to hold any reserves against liabilities to their foreign branches.[1] Thus commercial banks which obtain deposits through their subsidiaries abroad have increased their deposit expansion potential without increasing the amount of reserves they are required to hold.

It has been argued that in practice the Euro-dollar market tends to decrease deposit expansion by making the deposits in American banks more volatile and thereby causing banks to hold a higher precentage of reserves against demand deposits.[2] The idea is that as far as individual banks are concerned, dollars that previously had been left on deposit for long periods may now be subject to frequent shifts due to employment in the new market. However, Goldstein has pointed out that although the turnover in deposits may have increased, it is highly probable that losses and gains by the individual New York banks connected with the market would even out.[3]

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[1]Christie, p. 40.

[2]Einzig, The Euro-Dollar System, pp. 55-56; Martenson, pp. 75-76.

[3]H. N. Goldstein, Review of The Euro-Dollar Market, G. Carroll Martenson, Journal of Finance, XX (September, 1965), pp. 560-561.

Martenson noted that to the extent that the Euro-dollar market has caused a shift from time deposits to demand deposits, a higher proportion of deposits must be held in the form of reserves. This is due to the higher reserve requirements against demand deposits than against time deposits.

Ernest Bloch, in 1966, wrote about the use of Euro-dollars by New York banks to improve their lending capacity.[4] He demonstrated that banks could borrow overnight Euro-dollars on Thursday and get the same increase in reserves as if they had borrowed in the Federal Funds market for three days. The explanation is that the funds borrowed on Thursday are collected and recorded on Friday morning by the borrowing bank. The Euro-dollars which are repaid on Friday are not collected until Monday since the clearinghouse is closed on the weekends. Figure 8 shows the T-accounts he used to explain what happens.

Bloch showed that increased use of the market for this purpose drove the rates on overnight Euro-dollars on Thursdays up from six percent to eleven percent in the year from March of 1964 to March of 1965.[5] During the same period, the difference between the cost of reserves obtained through use of the Federal Funds market and through use of Euro-dollars decreased from five percent to less than one percent.[6] Competition decreased the profit margin on this use of Euro-dollars.

Bloch was working with data going through 1965; however, as Figure 3 shows, it was not until 1966 that banks really began to expand their

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[4]Bloch, pp. 15-22.

[5]Ibid., Table 2, p. 12.

Thursday Eurobank		Friday Eurobank		Saturday-Sunday Eurobank	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
DD at N. Y. Bank B -10 Loan to N. Y. Bank A +10		DD at N. Y. Bank B +10 Loan Repaid			
New York Bank A		New York Bank A		New York Bank A	
Clearinghouse Funds +10	Borrowed Euro$	Clearinghouse Funds -10 Deposit, N. Y. Fed. +10	Repay Euro$ -10	Deposit N. Y. Fed. +10	
New York Bank B		New York Bank B		New York Bank B	
	DD Eurobank -10 DD Bank A +10	Deposit N. Y. Fed. -10	DD Euro$ +10 DD Bank A -10	Deposit, N. Y. Fed. -10	
F.R.B. New York		F.R.B. New York		F.R.B. New York	
			DD Bank A +10 DD Bank B -10		DD Bank A 0 DD Bank B 0

DD = demand deposit (Balance sheet changes in millions of dollars

Source: Ernest Bloch, "Eurodollars: An Emerging International Money Market," The Bulletin, New York University, Graduate School of Business Administration, C. J. Devine Institute of Finance, XXXIX (April, 1966) p. 18.

Figure 8. Reserve Effects of Thursday Overnight Deposits of Eurodollars in New York

use of Euro-dollar funds through their branches. It was then that the banks were faced with a credit squeeze because the Federal Reserve held the ceiling on rates paid on time deposits well below money market levels.[7] The banks tried to cushion this by increasing sharply their liabilities to their foreign branches. (See Figure 3, page 21.)

Since 1966 Euro-dollars have become increasingly important in the portfolio management of the large banks, especially when they are faced with a shortage of liquid funds. One reason for this is that portfolio managers who were driven into the Euro-dollar market by the extreme shortage of funds in 1966 became familiar with the market and the advantages it had to offer. Klopstock, in his article "Euro-dollars in the Liquidity and Reserve Management of the United States Banks," had divided head office uses of branch banks' funds into three main categories: continuous borrowing for enlargement of reserves, borrowing to finance weekend reserve positions, and maintenance of operating balances for branch banks.[8] Banks borrow Euro-dollars regularly because of rate advantages, to keep a hand in the market, and because Euro-dollars are not subject to reserve requirements or Federal Deposit Insurance Corporation fees. They are not used for day-to-day adjustment of reserve positions because the time difference between New York and London, the main channel for Euro-dollars flowing to the U. S., is such that when American banks are becoming aware of their need for reserves the London market is closing.

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[7]"Sustained Expansion in Eurodollar Banking," p. 118.

[8]Fred H. Klopstock, "Euro-Dollars in the Liquidity and Reserve Management of United States Banks," Monthly Review, Federal Reserve Bank of New York, L (July, 1968), p. 136.

Furthermore, usual delivery on Euro-dollars is two days and even those delivered the same day do not become available as reserves until the next day due to the mechanics of clearing funds. Most banks with branches abroad use overnight Thursday Euro-dollars as a partial substitute for Federal Funds. Any U. S. head office not bidding for Thursday overnight Euro-dollars may suffer sizable losses as other banks do. According to Klopstock, aggregate branch balances in head offices increase on Thursday by $100 million to $300 million--which does not include balances that may be renewed for Thursday.[9] Operating balances of branch banks are not an important source of funds for head offices. Euro-dollar deposits, obtained through branches abroad have come to be routinely considered as part of portfolio management.

Euro-dollars may be used by U. S. banks to expand or contract bank credit. By borrowing Euro-dollars through their branches abroad, American banks may increase their liquid resources with which to increase loans. Conversely, a plentiful supply of short-term funds and low interest rates in the U. S. could lead American banks to place funds abroad in the Euro-dollar market, thus reducing bank credit in the U. S.

The Federal Reserve has computed a bank credit proxy on the basis of daily average total member bank deposits. This series does not include the liabilities of U. S. banks to their foreign branches; i.e., acceptance of Euro-dollar deposits by American banks, because they are nondeposit liabilities. In 1968 when U. S. banks increased their holdings of Euro-dollars dramatically (Figure 3, p. 21), the Federal

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[9]Ibid., p. 134.

Reserve began to compute an alternative bank credit proxy adjusted to include daily averages of U. S. bank liabilities to foreign branches.[10] Table 1 shows both the bank credit proxy and the adjusted bank credit proxy. The inclusion of Euro-dollars yielded a larger figure for every month except November. (The figures for December are not complete.) The explanation for the effect of Euro-dollars during November may be that end of year withdrawals from the market produced such a tightening in the market that American banks were not willing to pay the increased rates which they would have had to in order to attract funds. In the other months for which figures are available, Euro-dollars served to expand bank credit in the U. S. beyond what it would have been otherwise.

The events of 1966 point up that a U. S. monetary policy which focuses on interest rates is hampered by the Euro-dollar market. In that year the Federal Reserve, as part of its tight monetary policy, used Regulation Q to reduce the maximum interest rates payable on time deposits.[11] At the same time the credit crunch drove other money market rates well above the Regulation Q ceilings, which led large investors to reduce their holdings of certificates of deposit and to increase their holdings of other money market instruments. The

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[10]"Record of Policy Actions of the Federal Open Market Committee," Federal Reserve Bulletin, LV (April, 1968), p. 350.

[11]In July the Fed decreased from 5 1/2 to 5 percent the maximum rates payable on multiple maturity time deposits with maturities of 90 days or more and decreased to 4 percent the ceiling on those with maturities of less than 90 days. In September the Fed decreased to 5 percent from 5 1/2 percent the maximum rate of interest payable on time deposits under $100,000. "Announcements," Federal Reserve Bulletin, VII (September, 1966), p. 1338 and (July, 1966), p. 980.

TABLE I

MONTHLY INCREASES IN CREDIT PROXY
AND ADJUSTED PROXY

	Credit Proxy*	Proxy With Euro-Dollars **
1968 April	-4.5%	-3.5%
May	1.5%	5.0%
June	6.0%	
July	9.0%	10.5%
August	21.0%	21.5%
September	9.0%	10.5%
October	11.9%	11.5%
November	13.0%	11.5%
December		11.5%
1969 January	-3.0%	-- /

* The credit proxy is the daily average of total member bank deposits.

** This is the credit proxy adjusted to include Euro-dollars which are nondeposit liabilities.

/ Less than $50 million.

Source: "Record of Policy Actions of Federal Open Market Committee," Federal Reserve Bulletin, LIV (February, 1968) through LV (April, 1969).

commercial banks, not able to attract domestic deposits through interest rates and faced with a sizable drain on liquid resources, had to either reduce their earning assets or find another source of funds. Those banks with overseas branches turned heavily to the Euro-dollar market where they were not bound by Regulation Q. Their foreign subsidiaries acquired funds at the going rate in the market and then forwarded them to their head offices. As is evident from Figure 3, page 24, there was a dramatic increase in the liabilities of U. S. banks to their foreign branches; they rose over $2 billion in the last half of the year.

> 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 takings from branches.[12]

The Euro-dollar market hindered the Federal Reserve's policy of affecting credit expansion through interest rates in two ways. First, it enabled commercial banks to circumvent the Regulation Q ceilings on interest rates. Secondly, the high interest rates in the U. S. attracted funds from the Euro-dollar market when the Fed was attempting to limit the growth of credit. In a situation where the Federal Reserve was keeping interest rates low in order to encourage credit expansion, the Euro-dollar market could cause an efflux of funds from the U. S. if Euro-dollar rates were significantly higher.

Especially in view of the international payments constraint, interest rate policy is made more difficult by a large international money market which increases capital mobility. Domestic policies may not give rise to an inflow or an outflow of capital which would not

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[12]Klopstock, "Euro-Dollars," pp. 135-136.

be consistent with equilibrium in the international balance of payments. A payments deficit could be aggravated by a capital outflow stemming from an easy money policy of low interest rates. Conversely, a domestic policy of high interest rates could give rise to an influx of funds that would add to a payments surplus.

Nominal rates in the Euro-dollar market may be high, but the effective rate is lower due to the fact that reserves are not required against liabilities to foreign branches and due to the technicalities involved in clearing funds. In addition, there are no fees for deposit insurance. Furthermore, U. S. banks may prefer to concentrate competition for dollars through deposit rates in the Euro-dollar market since

> a rise in U. S. deposit rates would raise the cost to the U. S. banks of nearly all their deposits whereas a rise in Euro-dollar rates would raise the cost of only those deposits which were held there, a small fraction of the total.[13]

The Federal Reserve not only places a ceiling on deposit rates that may be paid but also regulates the periods for which they may be paid. U. S. banks are prohibited from paying interest on deposits maturing in less than thirty days. U. S. banks can escape this rule legally by acting through their branches abroad in the Euro-dollar market.

Interest rate policy may also be impinged upon by the Euro-dollar market due to the fact that large corporations who find rates at home too high may go through the Euro-dollar market for their financial needs. Similarly, large corporations which find Euro-dollar rates more profitable may place their deposits abroad.

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[13]Christie, p. 41.

The Euro-dollar market affects the velocity of money by increasing the turnover in deposits. The original placement and subsequent lending of Euro-dollars increase the velocity of circulation of deposits.

International Monetary Policy

> When international flows of credit and capital are consistent with over-all payments balance, the impact of international considerations on domestic financial policies tends to be minimized. On the other hand, when such outflows are a factor in a persisting payments imbalance, not only are they a conditioning influence upon a country's financial policy..., but they also carry the threat of activating speculative movements of funds, which could only aggravate the international payments problem.[14]

The primary economic objective of the United States in the international sphere is to attain equilibrium in the international balance of payments. In the meantime however, in order to maintain a "sound dollar,"[15] the Fed is very much concerned with alleviating temporary speculative pressures and other disequilibrating capital flows and with reducing "the potential demand for monetary gold by lessening foreign official reserve gains."[16] The key financial position of the dollar in international trade and finance makes it imperative that both goals be achieved; at the same time, the wide use of the dollar

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[14]Axilrod and Young, pp. 1132-1133.

[15]William McChesney Martin, "Monetary Fund Resources and the International Payments System," Federal Reserve Bulletin, XLVIII (March, 1962), p. 281.

[16]"Capital Flows and International Payments," Federal Reserve Bulletin, XLVIII (March, 1962), pp. 277-278. See also: Martin, p. 281; Axilrod and Young, p. 1133; "Treasury and Federal Reserve Foreign Exchange Operations," Federal Reserve Bulletin, XLVIII (September, 1962), pp. 1150-1151; Annual Report, Board of Governors of the Federal Reserve System, (1966), p. 35.

makes their achievement more difficult. The possibilities for speculation against the dollar through leads and lags, putting forward or delaying the payments for imports or exports, are especially great.[17]

United States monetary authorities have reason to be concerned with the Euro-dollar market's effect on their international policy objectives. Euro-dollars may have favorable or detrimental effects on capital flows and therefore on the balance of payments.

Defining the U. S. balance of payments on a liquidity basis, i.e., in terms of changes in U. S. reserve assets and in liquid liabilities to all foreigners, the U. S. balance is not affected by the trading of Euro-dollars among foreigners; there is a transfer of ownership of dollars but no net increase or decrease in dollars owned by foreigners. As Altman points out, foreigners have obtained dollars because of the U. S. balance of payments deficit and where they deposit them does not change that result.[18]

When Americans deposit dollars with Euro-banks, there is an increase in foreign claims on the U. S., i.e., the balance of payments deficit rises. On the other hand, if loans to foreigners in the form of Euro-dollars take the place of loans in U. S. dollars to foreigners, the payments balance is improved.

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[17]"...the pressure on the dollar that could be caused by even a minor shift in the rate of payments to and from the United States (leads and lags) would be greater than the amount of speculation that could be financed by the Euro-dollar markets." Altman, "Recent Developments in Foreign Markets," p. 87. See also Einzig, A Textbook on Foreign Exchange, p. 90.

[18]Altman, "Recent Developments in Foreign Markets," p. 83.

The market is in and of itself neither a help nor a hindrance; the question is an empirical one. According to the liquidity definition, the American balance of payments deficit is increased by the growth of the Euro-dollar market if "depositors substitute Euro-dollar deposits for other U. S. dollar assets to a greater extent than borrowers substitute Euro-dollar loans for loans from American banks."[19]

Borrowing of Euro-dollars by American banks does not affect the U. S. balance of payments measured on a liquidity basis because the original U. S. liability to a foreigner is changed to a liability to another foreigner, a foreign branch of an American bank.[20] However, the U. S. balance of payments may be helped by American borrowing of Euro-dollars if the payments balance is measured according to the official settlements definition. This defines the balance of payments deficit in terms of changes in reserve assets and in liquid and non-liquid liabilities to foreign official monetary institutions. If increased demand on the part of American banks raises interest rates sufficiently enough to attract dollar holdings of central banks into the market, U. S. liabilities to foreign official monetary institutions would decrease and U. S. liabilities to foreign commercial banks would increase.

In general, the growth of the Euro-dollar market has undoubtedly lessened the flow of dollars to foreign central banks, thus benefiting the U. S. balance of payments on an official settlement basis.[21]

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[19]Swoboda, p. 25

[20]Christie, p. 40.

[21]Christie mentions this effect on p. 41.

Furthermore, to the extent that central banks hold a proportion of their reserves in the market, the U. S. deficit is reduced according to the official settlements definition of the balance of payments.

The pressure of a U. S. payments deficit on official reserves and thus on exchange rates may definitely be lessened by the Euro-dollar market since it provides a lucrative outlet for foreign holders of dollars. Individuals and firms which might have sold accumulated dollars to their central banks and central banks who might have sold dollars to the U. S. for gold may now choose to supply the dollars to the U. S. Euro-dollar market. In this connection, the monetary authorities may choose to hold dollars rather than gold in order to use the Euro-dollars as a tool of monetary policy.

The counterpart of this favorable result is that in times of crisis the Euro-dollar market may serve to intensify pressure on the U. S. gold stock by increasing the facilities and resources available for speculation. "This cannot be prevented unless the government concerned resorted to the extreme measure of blocking foreign deposits."[22]

This chapter has dealt exclusively with the effect of Euro-dollars on U. S. monetary policy. Other countries' monetary policies may also be affected by the Euro-dollar market.

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[22]Einzig, A Textbook on Foreign Exchange, p. 161.

CHAPTER V

THE EFFECT OF EURO-DOLLARS ON COUNTRIES OUTSIDE THE U. S.

Monetary officials in countries outside the United States have become increasingly aware of, and concerned with, the Euro-dollar market and its ramifications for their policies. To some central bankers the market has proved a help while to others it has been a hindrance; and to many it has been both.

Domestic Monetary Policy

In three countries in particular, Euro-dollars have been used to increase domestic liquidity in order to finance economic expansion.[1] These are West Germany, Italy, and Japan.

The Deutsche Bundesbank carries out "open market operations with dollars"[2] by offering dollar swaps to its commercial banks. The Bundesbank sells dollars spot and buys them forward at rates which are adjusted to encourage or discourage the commercial banks to hold dollars.[3] Originally, the banks were allowed to place the dollars where they chose; and since the Euro-dollar market was most profitable, the

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[1]Einzig, The Euro-Dollar System, pp. 41 and 111.

[2]Altman, "Recent Developments in Foreign Markets," p. 85.

[3]Einzig, The Euro-Dollar System, p. 120.

greatest portion of the dollars found their way there.[4] In 1964, the Bundesbank began to limit the maturities of the swaps to three months or more and stipulated that the dollars obtained through swaps be invested in U. S. Treasury bills.[5] The reason for this was that Euro-dollars had been used for speculation in favor of the mark.[6] The dollar funds which the central bank had been supplying had been used for investment in the Euro-dollar market where speculators borrowed dollars and then converted them into marks. Later, in different circumstances, the Bundesbank supplied funds without stipulating where they should be placed.[7]

The Banca d'Italia has on various occasions used dollars to finance expansion of domestic liquidity, partly by the use of swaps and partly through deposits with the Italian commercial banks.[8] After 1962, the Italian authorities allowed their commercial banks to borrow Euro-dollars to finance domestic trade.[9] At times the amount of Euro-dollars borrowed by Italy represented "an appreciable proportion of

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[4]Ibid.

[5]Thirty-fourth Annual Report, Bank for International Settlements, p. 132.

[6]Einzig, The Euro-Dollar System, pp. 117 and 121.

[7]Thirty-seventh Annual Report, Bank for International Settlements (Basle, 12th June 1967), p. 144; Annual Report, Board of Governors of the Federal Reserve System (1967), pp. 281, and 295, and 297. However, as the BIS points out, "The authorities' swap commitments with their own banks do not necessarily mean that an equivalent amount of dollars is being placed in the Euro-market." Thirty-fourth Annual Report, Bank for International Settlements, p. 133.

[8]Einzig, The Euro-Dollar System, pp. 120-121.

[9]Ibid., p. 40.

their total domestic borrowing."[10] As a case in point, at the end of March of 1963, the

> Italian banking system had borrowed $527 million in the Euro-currency market on a net basis and converted this amount into lire assets. Other things equal, the reserve base of the Italian banking system would have been $527 million smaller had the banks not had access to the Euro-currency market.[11]

Thus by allowing Italian banks to borrow in the market, the Banca d'Italia made expansion of domestic liquidity possible.

In Japan Euro-dollars are used to finance foreign and domestic trade, either in the form of dollars or in yen, after being converted from dollars.[12] In 1963, Altman estimated that as much as one-half of the Euro-dollars in Japan were used to finance domestic transactions.[13]

The focus has been on Euro-dollars used to increase credit, but they may also be used for the opposite reason. The same central banks that have encouraged use of Euro-dollars have discouraged it; and when rates are low in a country, funds may flow from that domestic market to the Euro-dollar market.[14]

Although Germany, Italy, and Japan are important examples of the use of Euro-dollars for domestic purposes, they are not the only ones. The local authorities in Britain make extensive use of Euro-dollars.

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[10]Ibid., p. 99.

[11]Swoboda, p. 2.

[12]"Sustained Expansion in Eurodollar Banking," p. 118; "Trends in the Eurodollar Market," Monthly Economic Letter, First National City Bank of New York (July, 1966), p. 82; Einzig, The Euro-Dollar System, pp. 38 and 41.

[13]Altman, "Euro-Dollars; Some Further Comments," p. 71.

[14]Eurodollar and International Capital Markets Today," Monthly Economic Letter. First National City Bank of New York (August, 1967), p. 91.

However, some countries, notably France, limit the use of Euro-dollars to financing foreign trade.[15]

By making credit available in countries with an inadequate supply of capital, Euro-dollars may have served to lower national interest rates;[16] but, by the same token, they have made it harder for central banks to make effective use of interest rates in controlling credit.[17] Even the central bankers who have used Euro-dollars as a tool of monetary policy, have at times found their policymaking made more difficult by flows to and from the Euro-dollar market.[18]

Due to the unrestricted nature of Euro-dollars, the market has transmitted interest rate competition and "scrambles for liquidity" from country to country.[19] If interest rates rise and a shortage of funds develops in one country, it will cause funds to flow into that country from the Euro-dollar market. Since rates on Euro-dollars are determined primarily by supply and demand, any significant outflow of funds will cause them to rise sharply, which will attract funds from other countries to the Euro-dollar market. Thus, "scrambles for liquidity" and high interest rates are transferred from one country to another.[20]

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[15]"Trends in the Eurodollar Market," p. 82; Altman, "Euro-Dollars: Some Further Comments," p. 2.

[16]Einzig, The Euro-Dollar System, p. 99.

[17]Ibid., p. 115; Altman, "Recent Developments in Foreign Markets," pp. 75 and 86; "Euro-Dollars: Some Further Comments," p. 1.

[18]Einzig, The Euro-Dollar System, pp. 114-115.

[19]Clendenning, p. 325.

[20]Ibid.

International Monetary Policy

As might be expected, the Euro-dollar market has significant implications for the international monetary structure and for central bankers who support that structure. The market has provided additional international credit with which to finance increased foreign trade; it has been a profitable outlet for reserves and sometimes a source of reserves; and it has offered some officials a supplement to their means of controlling capital flows. But hot money flows and other disequilibrating capital flows have also been facilitated by the development of Euro-dollars.

The monetary authorities first became concerned with Euro-dollars because they had accumulated large amounts of dollars due to the continuing payments deficits of the U. S.; Euro-dollars offered a lucrative, as well as flexible, investment medium for their supplies of dollars. As discussed previously, in the early years of the Euro-dollar market central bankers were the primary source of dollars; they are still net lenders although the proportion of official dollars in the market has declined.[21]

Euro-dollars may be used to increase official reserves, particularly by less important central banks or by underdeveloped countries. Records of this type of use of Euro-dollars are not available, but, according to Einzig, "This is believed to have been actually done by some of the weaker Central Banks...."[22] Somewhat similarly, Euro-

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[21]"Sustained Expansion in Eurodollar Banking," p. 117.

[22]Einzig, The Euro-Dollar System, p. 118; M. J. Wasserman, "The Euro-Dollar System: Past, Present and Future," Commercial and Financial Chronicle, CCVI (July 13, 1967), p. 147.

dollars may reduce the drain on official reserves. For instance, in Italy Euro-dollars have been used extensively to finance foreign trade and increases in domestic liquidity which would have been a drain on official reserves had Euro-dollars not been available.[23]

Payments deficits or budget deficits may be financed by borrowing in the Euro-dollar market. In Belgium, there is a ceiling on the advances which may be made from the National Bank to the Treasury. When pressing against the ceiling, the Belgian Treasury has availed itself of Euro-dollar and Euro-currency facilities in order to finance its deficits.[24] Britain is another example of a country using foreign currency liabilities (not just Euro-dollars) to finance payments deficits.[25] East European governments are also net borrowers.[26] Due to inadequate data it is difficult to distinguish between Euro-currency financing and financing through other liabilities in foreign currencies; nevertheless Euro-dollars are involved.

The Euro-dollar market has increased international liquidity. The efficiency with which funds are channeled from lender to borrower and from country to country has been improved by the market. Funds which previously may have remained where there was a relative surplus of capital are now used in countries where the demand is greater. In general, the extremely competitive conditions in the market direct

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[23]Altman, "Euro-Dollars: Some Further Comments," pp. 2-3.

[24]Einzig, The Euro-Dollar System, pp. 36 and 119; Thirty-fourth Annual Report, Bank for International Settlements, pp. 67-68 and 135.

[25]Swoboda, pp. 2-3.

[26]Einzig, The Euro-Dollar System, p. 71.

funds to where the marginal productivity of capital is highest. The rate of turnover of funds, i. e., the velocity of circulation of foreign dollar deposits has increased. The Euro-dollar market--and in general the Euro-currency market--has increased the willingness of residents of one country to hold the currency of another. But the problem with the market, as with many facets of the international monetary mechanism, is that while it works well and to the benefit of many when things are normal, in times of stress the market may act in the opposite manner.

The market has enabled certain central banks to influence unwanted inflows or outflows of capital. The Swiss Bank has provided forward cover for its commercial banks so that they might hold dollars when there have been tendencies for speculative capital to flow into Switzerland.[27] Germany has also used dollar swaps to encourage its banks to hold dollars when there were large-scale conversions into marks.[28] More will be said about this later, but the important point is that central bankers have become attentive to the possibilities of using Euro-dollars as a means of controlling international flows of capital.

It may be argued that the various monetary authorities could have carried out dollar swaps with their commercial banks even in the

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[27]"Capital Flows and International Payments," p. 278; Thirty-fourth Annual Report, Bank for International Settlements, p. 133.

[28]"Treasury and Federal Reserve Foreign Exchange Operations" (September, 1962), pp. 1141-1143; "Treasury and Federal Reserve Foreign Exchange Operations," Federal Reserve Bulletin, LV (March, 1969), p. 214. The U. S. has aided the Swiss in some of the transactions.

absence of the Euro-dollar market.[29] However, it would have been more expensive for the central banks to have their commercial banks hold dollars to the extent that rates in the U. S. money market have been lower than those in the Euro-dollar market.[30] Furthermore, U. S. monetary officials may not have wanted the U. S. to absorb the resultant capital inflow, and may have taken measures to check it. As it is the Federal Reserve has frequently aided central banks who have carried out swap operations in dollars by providing all or part of the dollar exchange or by covering the forward exchange risk.

The West Germans, who have made extensive use of the Euro-dollar market in many areas, have partially financed construction in underdeveloped countries through Euro-dollars. This is facilitated by the ease with which renewals of Euro-dollar deposits may be made.[31]

A substantial portion of Euro-dollars is lent to exporters and importers. This has been important in view of the slow growth in the international gold stock; expansion of world trade must be financed, and Euro-dollars have been important in meeting this need by increasing the amount of credit that can be based on a given reserve base.

> Even if the total of Euro-dollars employed in a way as to add to the liquid international resources is a bare fraction of total annual value of foreign trade, owing to the easy availability and high velocity of Euro-dollar deposits the extent to which they contribute towards meeting

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[29]Henry N. Goldstein, Review of The Euro-Dollar System, Paul Einzig, Journal of Finance, XIX (September, 1964), pp. 570-571.

[30]Ibid.

[31]Einzig, The Euro-Dollar System, p. 170.

requirements is well in excess of the proportion suggested by the bare amount.[32]

While Euro-dollars have been a boon in that they have increased the amount of credit available to foreign traders, monetary officials may be dismayed because they have thus lost part of their control over the financing of imports. To the extent that the growth of the market has lessened the authorities' control over domestic demand, it has decreased their ability to correct payments imbalances through discouraging imports.

The most potentially harmful aspect of the development of Euro-dollars would exist in times of international financial crisis. Under the present system of fixed exchange rates, speculation can be a particularly dangerous phenomenon. When normal conditions and confidence prevail, speculators perform a useful economic function by channeling funds to those uses which are most profitable and productive. When uncertainty is the order of the day, however, speculation can cause panic and wreak havoc on international monetary arrangements. Ultimately, the blame for this capability of speculators lies with those officials who allow fundamentally disequilibrating payments imbalances to exist uncorrected for extended periods of time.[33] But, the Euro-dollar market does add to the facilities and resources available to speculators, thus increasing their power to put pressure on exchange rates and reserves.

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[32]It must be noted that the growth of the Euro-dollar market has been accompanied by a decline in acceptances, though not of the same magnitude. Einzig, The Euro-Dollar System, pp. 60 and 110.

[33]The Euro-dollar market itself may contribute to these officials' tendencies to let such imbalances continue since it increases the means available for financing deficits.

Speculators may either sell a weak currency forward or borrow the currency and sell the spot exchange. Before the advent of Euro-currencies monetary authorities had considerable control over the foreign borrowing of their currencies, but now holders of devaluation-prone Euro-currencies may lend them to speculators. The amount of foreign owned deposits available to speculators and the interest charged on them is much more favorable to speculation since the development of Euro-currencies.

As far as the revaluation-prone currencies are concerned, Euro-currencies may enable speculators to earn relatively high interest rates on speculative balances. Central bankers previously could control interest rates paid on foreign owned deposits.[34]

In 1961, when there was expectation of further revaluations of the German mark and Dutch guilder, the market enhanced speculation in favor of the mark. The demand for Euro-dollars increased sharply. They were converted into marks which were then sold forward.[35] A similar situation occurred in the last half of 1968.[36] In 1967, the Euro-currency markets contributed to the pressure on the pound that led to devaluation on November 18.[37] In the wake of the devaluation of sterling, speculators purchased large amounts of gold partially

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[34]For a discussion of speculation and the Euro-currency markets see Einzig, A Textbook on Foreign Exchange, pp. 100-102 and 161.

[35]"Capital Flows and International Payments," pp. 277-278.

[36]"Treasury and Federal Reserve Foreign Exchange Operations," LV (march, 1969), p. 214.

[37]Thirty-eighth Annual Report, Bank for International Settlememts, p. 126.

financing their buying through the Euro-dollar market.[38] These are some of the more notable examples which demonstrate the potentially destabilizing nature of the Euro-dollar market.

The last three chapters have explained how the Euro-dollar market affects monetary policy. The following chapter will investigate how monetary policy may affect the Euro-dollar market.

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[38]Ibid., p. 160.

CHAPTER VI

OFFICIAL INTERVENTION IN THE EURO-DOLLAR MARKET

The previous chapter explained why the monetary authorities are, and should be, concerned with the Euro-dollar market. This chapter will consider how officials have influenced the market.

The international character of the market has put it outside the regulation or control of national authorities; nevertheless central banks have had important effects on the market ever since its inception. They have affected it both indirectly and directly.

The first part of the chapter will be concerned with indirect influence through such things as general regulations regarding bank competitiveness, exchange controls, and interest rate policy. The discussion of direct intervention includes direct placements or withdrawals, operation in forward markets, and swaps among official institutions.

Indirect Intervention

Any central bank can make policies which can affect the competitiveness of its banks in the international market. For instance, since American banks are not required to hold reserves against, or pay deposit insurance on liabilities to their foreign branches, they can pay higher rates on deposits obtained in the Euro-dollar market than on deposits acquired in the U. S. Also, American banks are not

subjected to the interest rate regulations on time and amount when they borrow through the Euro-dollar market. By allowing them this freedom the Federal Reserve has enabled U. S. banks to be competitive abroad.

Other countries have varying reserve requirements which affect the flow of Euro-dollars through their banks. The Bundesbank at one time imposed diverse reserve requirements (up to 30 percent) on Euro-dollar deposits in German commercial banks, depending on whether they were used to finance domestic or foreign trade.[1] Japanese banks have had to hold 20 percent of dollar deposits loaned domestically in "liquid form," and they are subject to restrictions on the interest they may pay.[2] (Regulations like these definitely affect the volume of Euro-dollar business a bank can do since Euro-banks in other countries can loan Euro-dollars to Japanese and German banks at lower rates if they are not subject to the same reserve requirements.) Italy, on the other hand, does not require its banks to hold reserves against Euro-dollars, but it does limit their conversion to lire.[3] French commercial banks may lend Euro-dollars to Frenchmen only to finance foreign trade while Swiss banks are required to place in foreign currencies the counterpart of any Swiss franc deposit by a non-resident.[4] These regulations can cause large differences in the volume of Euro-dollars flowing through a country.

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[1]Swoboda, p. 38; Einzig, The Euro-Dollar System, p. 122.

[2]Einzig, The Euro-Dollar System, p. 122.

[3]Ibid.

[4]Ibid., pp. 122-123.

Central banks, particularly the Federal Reserve, may have significant effects on the market through their interest rate policies. Witness these statements by the Federal Reserve:

> With midyear [1968] pressures out of the way and expectations of easier monetary conditions in the United States following passage of the tax surcharge, Euro-dollar rates subsequently eased considerably....[5]

> Although Euro-dollar rates rose further in the latter part of December [1968], the increase reflected by and large the higher U. S. rates....[6]

In 1966 the Fed's sharply restrictive monetary policy increased the demand for Euro-dollars by American banks which led to higher rates.[7] (See Figure 3 in Chapter II and Figure 9.) Early in 1967, rates in the Euro-dollar market decreased following the easing of U. S. monetary policy.[8] In the first quarter of 1969, Euro-dollar rates have gone up to over eight percent as U. S. banks have made extensive use of Euro-dollars to accommodate domestic demand for credit.[9] High interest rates on short-term funds in the U. S. exert a pull on European short-term rates in general,[10] but the Euro-dollar market is

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[5]"Treasury and Federal Reserve Foreign Exchange Operations," Federal Reserve Bulletin, LIV (September, 1968), p. 742.

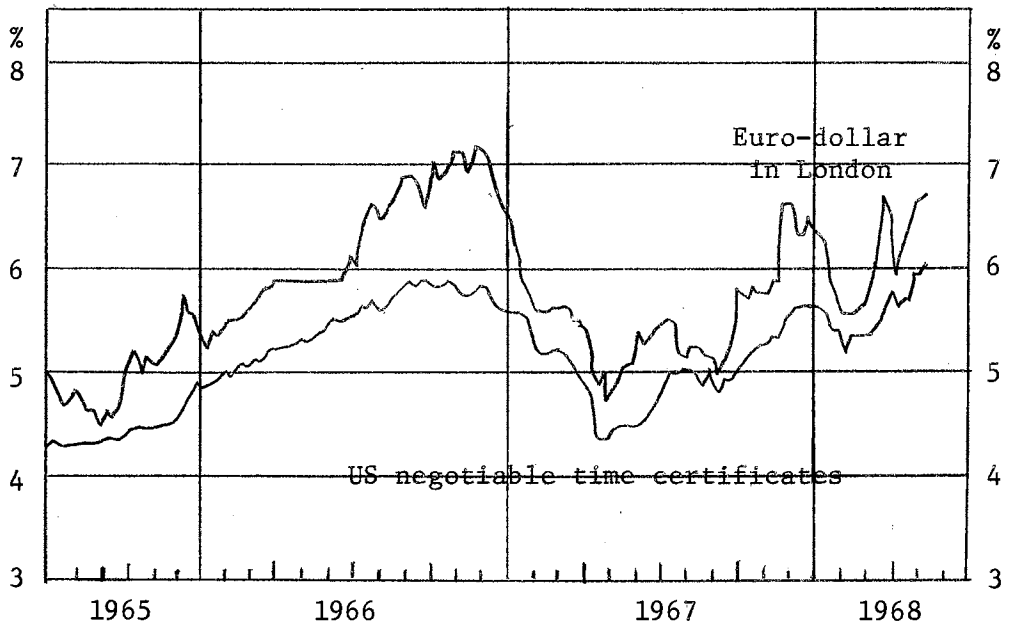
[6]"Treasury and Federal Reserve Foreign Exchange Operations," (March, 1969), p. 227.

[7]Annual Report, Board of Governors of the Federal Reserve System (1966), p. 270.

[8]Annual Report, Board of Governors of the Federal Reserve System (1966), p. 270.

[9]"Treasury and Federal Reserve Foreign Exchange Operations" (March, 1969), p. 227.

[10]"Treasury and Federal Reserve Foreign Exchange Operations," (September, 1968), p. 742.



Note: Rates are weekly and in percentages per annum

Source: Thirty-Eighth Annual Report, Bank for International Settlements (Basle, 10 June 1968), p. 158.

Figure 9. Three-month Rates of Interest in London and New York

particularly affected due to the large number of U. S. banks which have branches operating in the market on their behalf.

Interest rates in other countries influence Euro-dollars also. Low rates in national money markets can cause an outflow of funds to Euro-dollars, e. g., in 1968 funds moved from Germany where "inter-bank loan rates were 3 1/2 to 3 3/4 percent" to the Euro-dollar market.[11] High national rates can bring about a reduction in the supply of Euro-dollars through a flow of funds to local markets. When the pound was under pressure, officials had to intervene in order to keep high rates in England from drawing Euro-dollar rates upward.[12]

Exchange controls, "voluntary" guidelines, and other pressures may be used by the monetary authorities to affect their commercial banks' activity in Euro-dollars. The variety of such measures is infinite, ranging from such extreme measures as blocking of foreign deposits to requesting banks not to engage in Euro-dollar transactions.

One example of pressures that can be brought to bear by officials has occurred in Canada. In April of 1968, The Banker reported that

> the central bank of Canada has requested commercial banks and other financial organizations not to facilitate swapped deposit transactions--described as the main link between the Canadian short-term interest rate structure and rates prevailing in the Euro-dollar market.[13]

The officials hoped that by isolating Canadian banks from the market

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[11]Ibid.

[12]Annual Report, Board of Governors of the Federal Reserve System (1967), pp. 288-289.

[13]"International Review," The Banker, CXVIII (April, 1968), p. 365.

they could keep Euro-dollar rates from drawing up those in Canada.[14]

U. S. authorities can have significant effects on the market through their interest rate policy, by decreasing the alternative credits granted by commercial banks in the U. S., or by increasing American demand for Euro-dollars. It has already been pointed out how domestic policy encourages or discourages Americans from using the Euro-dollar market as a source of credit and liquidity. Similar effects can be produced by means of exchange controls and voluntary guidelines.

> In 1965 President Johnson's appeal to Americans to abstain from transferring their funds abroad produced a spectacular effect on the market. There was an immediate contraction in the supply of Euro-dollars and their rates rose sharply.[15]

Exchange controls to curb bank lending abroad, such as those initiated in January, 1968,[16] may also affect the Euro-dollar market by altering the substitutes for Euro-dollar deposits and thus the demand for Euro-dollars.

The Bank of France has taken a step regarding the market which is especially serious for those who are concerned about possible chain reactions that might result from defaults. After indiscriminate lending led to heavy losses by one of France's leading banks, the French officials declared that French commercial banks would not automatically be granted permission to replace dollars lost through

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[14]Ibid.

[15]Einzig, The Euro-Dollar System, p. 86.

[16]Thirty-eighth Annual Report, Bank for International Settlements, pp. 27-28.

default.[17] Thus, if French banks were faced with large-scale defaults on their Euro-dollar loans, they might not be able to honor their commitments in dollars.

Direct Intervention

It was not until recently that the monetary authorities began to intervene in the Euro-dollar market as a means of influencing the market itself; however, from the very beginning of the Euro-dollar market they have had an important part in it.

Originally central banks were the main source of funds for the Euro-dollar market. They encouraged its growth because the market opened up a valuable outlet for their large and increasing dollar holdings; however, they seemed to be blissfully unaware of the difficulties it would pose in their policymaking. Up to 1963 central banks, treasuries, and other official institutions were the largest owners of Euro-dollars.[18] Gradually, however, the monetary officials began to realize that the growth of the market could weaken their control over money markets and some began to withdraw their funds from the Euro-dollar market.[19] This is not to say that governments have withdrawn completely from Euro-dollars; central banks still are

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[17]Einzig, The Euro-Dollar System, pp. 74 and 149.

[18]Makowski, p. 95.

[19]Einzig, The Euro-Dollar System, p. 86; and A Textbook of Foreign Exchange, p. 194. In fact, "...semi-official agreements have been made within the framework of the International Monetary Fund to limit the amount of dollars placed by European central banks in the Euro-dollar market." Makowski, p. 190.

"substantial suppliers,"[20] and governments use Euro-dollars, for example, British local authorities and the Belgian federal government.[21]

More recently, monetary officials have placed funds in the Euro-dollar market in order to stabilize it.

The Bank for International Settlements has intervened in the market on an increasing scale to alleviate pressures. The first time that BIS intervention became apparent was in the latter part of 1966, when sterling was weak. Fearing that usual year-end withdrawals of funds would increase the Euro-dollar rate and exert a pull on other currencies, especially the pound, the BIS deposited $275 million in the market.[22] In June of 1967 when the Middle East crisis brought a sharp rise in rates, the BIS again supplied funds to the market in order to mitigate the rise in interest rates.[23] In the last quarter of that year, when the pound came under increasing pressure which finally led to devaluation, the BIS added to the supply of Euro-dollars in order to keep interest rates in the market from drawing funds out of sterling.[24]

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[20]"Sustained Expansion in Eurodollar Banking," p. 117.

[21]Makowski, p. 95.

[22]Annual Report, Board of Governors of the Federal Reserve System (1966), p. 272.

[23]Annual Report, Board of Governors of the Federal Reserve System (1967), p. 279.

[24]Ibid., pp. 281 and 295. Total placements by the BIS in November 1967 were $106 million; in December they were $240 million. Thirty-eighth Annual Report, Bank for International Settlements.

The BIS does not publish its annual report for 1968 until mid-1969; thus, data for that year is not available. Paul Einzig, however, stated on April 25, 1968

> until a few months ago their volume [Euro-dollar deposits lent by the BIS] was relatively small. It is only during recent months that they assumed considerable importance. Today official operations in Euro-dollars by the BIS are looked upon in the same way as operations in dollars were looked upon before devaluation--as a major factor which is liable to influence the trend of the market considerably.[25]

These placements by the BIS are estimated to have kept interest rates in the Euro-dollar market 1/2 to 1/4 percentage points below what they would have been otherwise on April 25.[26]

He also points out that the BIS does not place dollars in short-term deposits but only in longer term ones; because shorter-term Euro-dollars are frequently used for speculative purposes.[27]

The Swiss National Bank has placed funds in the Euro-dollar market on occasion. The dollars were usually obtained through swaps with Swiss commercial banks. In the latter part of 1966 and in March of 1967, the Swiss National Bank channeled funds into the Euro-dollar market after swapping Swiss francs for dollars with its commercial banks.[28]

The monetary authorities can have important effects on the Euro-dollar market through their operations in foreign exchange markets.

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[25]Paul Einzig, "The Euro-Dollar Market Stabilized by the B.I.S.," Commercial and Financial Chronicle, CCVII (April 25, 1968), p. 1670.

[26]Ibid.

[27]Ibid.

[28]Annual Report, Board of Governors of the Federal Reserve System (1966), p. 272, (1967), p. 300.

As explained above the Swiss National Bank swapped forward Swiss francs for spot dollars and placed the proceeds in the Euro-dollar market. Other central bankers have used swaps alone to affect the flow of funds to and from the market;[29] still others have operated directly in foreign exchange markets for the same ends.

As early as 1961 the German Bundesbank initiated policies in exchange markets which had an effect on the Euro-dollar market. Following the revaluation of the Deutsche mark and Dutch guilder in the first of March, speculation on further changes in exchange rates--especially a further revaluation in the mark--led to massive flows of funds into marks. The premium on the forward mark jumped to four percent

> The limited availability of forward cover, even at such expensive rates, diverted commercial hedging demands into foreign purchases of spot marks to cover future mark contracts and German borrowing of dollars both in New York and in the Euro-dollar market as a hedge agains dollar receivables.[30]

Communications between the Bundesbank and the Fed led to sales of forward marks by the Fed for the Treasury in order to decrease the premium on the forward mark, i. e., to decrease the discount on the forward dollar. The German Bundesbank provided cover for the Treasury.[31] This foreign exchange operation

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[29]Swaps in this context are purchases of spot exchange against sale of forward exchange, or sale of spot exchange against purchase of forward exchange.

[30]"Treasury and Federal Reserve Foreign Exchange Operations," (September, 1962), pp. 1140-1141.

[31]Ibid.; "International Payments Imbalances and Need for Strengthening International Financial Arrangements," Hearings Before the Subcommittee on International Exchange and Payments of the Joint Economic Committee, Congress of the United States (May 16, June 19, 20, and 21, 1961), pp. 100-101.

> had the further important result of providing an alternative to German borrowing in New York, or the Euro-dollar market, in order to hedge against future dollar receipts.[32]

Similar transactions were carried out in guilders and Swiss francs which were also under the influence of expectations of appreciation.[33]

In addition, the Bundesbank encouraged its commercial banks to hold foreign assets by selling forward marks against purchases of spot marks at forward rates lower than those prevailing in the market. This reduced the cost of hedging to the commercial banks by decreasing the cost of forward cover. To some extent the banks used the spot exchange obtained from the Bundesbank to purchase Euro-dollars.[34]

In recent years the monetary authorities have begun to intervene in the forward market in order to influence trends in the Euro-dollar market. Intervention first "became apparent" in early 1965 when the voluntary U. S. guidelines put a severe strain on the market.[35] The Italian Exchange Office, supported by the U. S. Federal Reserve and Treasury, swapped substantial sums of dollars ($1,170 million) against lire without cost to the Italian commercial banks.[36] The banks used the funds to make loans in the Euro-dollar market and to reduce their

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[33]"Treasury and Federal Reserve Foreign Exchange Operations," pp. 1142-1150.

[34]"Capital Flows and International Payments," p. 277.

[35]Clendenning, p. 328.

[36]Thirty-sixth Annual Report, Bank for International Settlements, p. 24.

indebtedness there.[37] U. S. officials covered the exchange risk undertaken by the Italian Exchange Office.

This flow of funds from Italy was in direct contrast with the reduction in supply coming from the U. S. Interest rates in the Euro-dollar market increased during 1965, but undoubtedly not as much as they would have in the absence of official intervention.[38] (See Figure 9.)

The more notable instances of central banks that have affected Euro-dollars through foreign exchange operations are those in Germany, Italy, Switzerland, and France.[39] By influencing forward rates they have been able to affect the flow of Euro-dollars to and from their countries. The Bundesbank, the Swiss National Bank, and the Italian Exchange Office have primarily used swaps with their commercial banks to influence forward rates.[40] The Bank of France operates directly in the foreign exchange market.[41]

Foreign exchange operations by the Federal Reserve have been facilitated by reciprocal currency agreements, i. e., swaps

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[37]They reduced dollar liabilities to countries other than the U. S. by $310 million, increased dollar assets vis a vis non-residents by $600, and increased lending to residents--mainly in marks and Swiss france--by $260 million. Ibid., pp. 24, 138, 141, and 144.

[38]The total of dollars supplied by the Italian Exchange Office was $1.5 billion at the end of 1965. At that time the new size of the market was $9.5 billion. Ibid., pp. 138, 149-150.

[39]Einzig, The Euro-Dollar System, pp. 121-122.

[40]Ibid., p. 120.

[41]Ibid., p. 121.

> under which a central bank agrees to exchange on request its own currency for the currency of the other party up to a maximum amount over a limited period of time....[42]

Whereas other central banks participate directly in the foreign exchange market, the Fed, for the most part, transacts exchange operations directly with other officials.[43] These swap facilities of the Federal Reserve have had an important influence on the Euro-dollar market because many of the actions by other official institutions to affect the market have been carried out with dollars acquired from the Fed.[44] Also, the Federal Reserve has frequently covered the forward exchange risk incurred by other central banks when they have swapped their currency forward for spot dollars.

The BIS which, as previously mentioned, has carried out extensive stabilizing measures in the Euro-dollar market, has done so to a large extent with dollars obtained from the Federal Reserve.[45] The Fed's reciprocal currency agreement with the BIS amounted to $1,600,000 as of March 10, 1968.[46] This represents the amount of dollars the BIS may obtain from the Fed upon request.

The Federal Reserve, along with the Treasury, has provided cover

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[42]"Treasury and Federal Reserve Foreign Exchange Operations," (September, 1962), p. 1147.

[43]Ibid., p. 1149.

[44]The swap facilities amount to $10,505 million as of March 10, 1969. "Treasury and Federal Reserve Foreign Exchange Operations," (March, 1969), p. 212.

[45]Annual Report, Board of Governors of the Federal Reserve System (1966), p. 272; (1967), pp. 279, 281, 295.

[46]"Treasury and Federal Reserve Foreign Exchange Operations" (March, 1969), p. 212.

for some of the swaps carried out by Italian and German central bankers with their commercial banks.

CHAPTER VII

CONCLUSIONS

The Euro-dollar market is a large international market for dollar deposits outside the United States. The market is very competitive; so that the Euro-dollar rates are determined by the market forces of supply and demand. Participators in the market come from many countries throughout the world.

The purpose of this paper is to show that the monetary officials should be concerned with the Euro-dollar market because it has important effects on the variables that monetary policy focuses on. Furthermore, the impact of Euro-dollars is not limited to the international sphere but extends to domestic monetary policy as well. The paper also demonstrates that the monetary authorities can have significant effects on the market.

By increasing capital mobility among countries, the Euro-dollar market has made monetary policies more interdependent. At the same time the market has provided central bankers with an additional means of checking capital flows or affecting domestic credit. Particularly important for central bankers wishing to maintain fixed exchange rates have been the increased facilities for speculation offered by the Euro-dollar market.

The control of the U. S. monetary authorities over the domestic credit structure has been weakened by the access of U. S. commercial

banks to the Euro-dollar market. They may circumvent reserve requirements and Regulation Q by acquiring Euro-dollars. They are also in a position to obtain liquid funds from the Euro-dollar market when the Federal Reserve is attempting to restrict credit expansion.

In the international sphere, the Euro-dollar market may have favorable or harmful effects on the U. S. balance of payments as defined on a liquidity basis. The market per se is neutral, and the question of its effects is an empirical one. The market has probably decreased the U. S. deficit measured according to the official settlements definition by decreasing the proportion of dollars held by foreign central banks in the U. S. The dollar exchange rate may be subjected to additional speculative pressure in times of crisis due to the credit facilities provided by the Euro-dollar market.

In some countries outside the U. S., the monetary officials have used Euro-dollars as a supplementary tool in expanding or contracting domestic liquidity. Germany, Italy, and Japan have made the most extensive use of Euro-dollars for domestic purposes.

The Euro-dollar market transmits interest rate competition and scrambles for credit from country to country. Thus the growth of the market has made the monetary policies of countries more interdependent.

Central bankers outside the United States have used the Euro-dollar market as a profitable outlet for their large holdings of dollars while for some central banks the market has provided a source of reserves. The growth of Euro-dollars has added to the international credit available to finance foreign trade, but it has also augmented the financing available to speculators. Euro-dollars have been used by the monetary officials in some countries as an aid in checking

capital flows.

Central bankers can have--and have had--effects on the market. The monetary authorities have important influences on their commercial banks' activities in the market through regulations affecting bank competitiveness, for example, reserve requirements. Exchange controls and interest rate policies have indirect effects on the market. The Federal Reserve in particular strongly affects the market through its interest rate policy.

In recent years the official monetary institutions have become increasingly aware of the market's effects on their monetary policies and have intervened to influence Euro-dollar rates by supplying funds both directly and indirectly. On various occasions the Bank for International Settlements has stabilized the market by supplying dollars obtained from the Federal Reserve.

The possibilities for establishing a single definition of a Euro-dollar and for improving the statistics available on Euro-dollars should be investigated. The BIS has made significant progress in this area, but much remains to be done. Only eleven countries report to the BIS. Furthermore, it does not publish very comprehensive data; for instance, it would be valuable to have tables of Euro-dollar rates for various maturities. However, the BIS usually only publishes a graph of three-month Euro-dollar rates. It would be interesting to see how Euro-dollar rates vary among countries, but this information is unavailable. Attention should also be focused on coming up with a more satisfactory definition of a Euro-dollar or refining one of the

existing ones, in order that data supplied by different institutions would be comparable.

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