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Reserve-Free Bases for Banks Using an Historical Base

<u>Bank</u>	<u>Reserve-Free Bases</u>		
	<u>May</u> <u>1969</u>	<u>Computation period</u> <u>ended Sept. 30, 1970</u>	<u>Change</u>
First National, Boston	448.1	448.1	--
New England Merchants	17.0	-- <u>1/</u>	-17.0
State Street Bank	24.8	24.8	--
The Bank of New York	84.1	79.2	-4.9
Bankers Trust	998.3	810.9	-187.4
Chase	2,239.2	2,239.2	--
Chemical	853.4	853.4	--
FNC, N.Y.	1,453.4	1,453.4	--
Irving Trust	828.9	722.8	-106.1
Manufacturers Hanover	583.5	583.5	--
Marine-Midland	280.9	270.3	-10.6
Morgan	1,269.8	1,249.6	-20.2
Provident, Phila.	20.8	20.8 ^{*/}	--
Mellon	175.7	175.7	--
Union Bank, L.A.	93.6	93.6 ^{*/}	--
Bank of America	678.1	678.1 ^{*/}	--
First National, Chicago	485.6	347.6 ^{2/}	-138.0
Continental Illinois	679.4	670.0	-9.4
Total	11,214.6	10,721.0	-493.6

1/ Switched to 3 per cent of deposits base in computation period ended September 2, 1970.

2/ Reduced after negotiation with the Board as of the computation period ended June 10, 1970.

*/ N.A., assumed unchanged from the previous period.



Net Liabilities of U.S. Banks to Foreign Branches Plus Assets Sold to Foreign Branches
(Four Week Computation Period Ending September 30, 1970)
(millions of dollars)

	Reserve-free base ^{1/}		Change from previous computation period	Four weeks ending:			
	May 1969	Computation period ending ^{2/}		September 30, 1970		Sept. 2, 1970	
		9/2/70		9/30/70	Daily average outstanding		Excess over reserve-free base
<u>Banks using historical base</u>							
First National Boston	448.1		--	448.7	0.6	4.4	
New England Merchants	17.0 ^{4/}						
State Street Bank	24.8		--	32.3	7.5	8.3	
The Bank of New York	84.1	79.2	--	109.6	25.5	3.2	
Bankers Trust Company	998.3		810.9	-187.4	810.9	--	15.5
Chase Manhattan	2,239.2			--	2,242.3	3.1	24.7
Chemical	853.4			--	854.2	0.8	1.4
First Nat'l. City, N.Y.	1,453.4			--	1,462.6	9.2	7.9
Irving Trust Company	828.9	731.6	722.8	-8.8	722.8	--	--
Manufacturers Hanover	583.5			--	586.4	2.9	57.7
Marine-Midland Grace	280.9	270.3		--	280.4	10.1	13.9
Morgan Guaranty	1,269.8	1,249.6		--	1,255.0	5.4	10.0
Provident N.B., Phila.	20.8			--	26.6 ^{*/}	5.8 ^{*/}	5.8
Mellon	175.7			--	182.7	7.0	13.1
Union Bank, L.A.	93.6			--	93.6 ^{*/}	--	--
Bank of America	678.1			--	799.4 ^{*/}	121.3 ^{*/}	121.3
First National, Chicago	485.6	^{3/} 347.6		--	348.1	0.5	10.5
Continental Illinois	679.4		670.0	-9.4	670.0	--	1.3
Total	11,214.6	10,926.6	10,721.0	-205.6	10,925.6	199.7	299.0

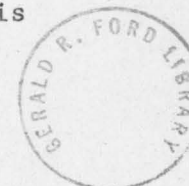
^{1/} Four week daily average of net liabilities to foreign branches plus assets sold to foreign branches. For purposes of reserve requirement calculations this base is reduced by the amount of "direct borrowings" in the current computation period. Among the above banks, only Irving Trust Company (\$6.4 million) and Morgan Guaranty (\$16.3 million) had "direct borrowing" in the September 2 computation period.

^{2/} No entry indicates that the reserve-free base in the previous period shown was still in use.

^{3/} Reduced to \$347.6 million as of the computation period ending June 10, 1970, as a result of negotiations with the Board.

^{4/} Bank began using 3 per cent of deposits base in the computation period ended September 2, as this exceeded the historical base for the first time.

^{*/} Not yet available, assumed unchanged from previous computation period.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Admin. marking DATA

CONFIDENTIAL (FR)

October 13, 1970.

TO: Chairman Burns
FROM: Robert Solomon
SUBJECT: Bank Attitudes toward their Eurodollar
Liabilities.

On October 8-9, I visited with senior officials (list attached) of seven large New York banks to learn their present attitudes toward their liabilities to their branches and to try to form a view as to how their attitudes might be affected by a suspension of the remaining ceilings on CD's under Regulation Q.

In general I found a fair degree of diversity in present attitudes toward Eurodollar positions. Three of the banks had already decided to let their liabilities fall significantly below their bases. The other four are prepared to preserve their bases for the time being but, because of the costs involved, are likely to re-examine this view and possibly to change it soon. There was no evidence that the latter four banks are yet aware of the extent to which the other three have decided to give up their Eurodollar positions.

Some suggestions were made for modifying the Board regulation on Eurodollar liabilities so as to make it less onerous. If the Board were to decide to use moral suasion to discourage further large repayments of Eurodollar liabilities, the adoption of one or more of these proposals would be a suitable quid-pro-quo, apart from any action to suspend Regulation Q on large CD's.



To: Chairman Burns

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There follows a brief report on each of the banks, in the order in which I visited them.

First National City Bank

This bank, which has a Eurodollar base of almost \$1.5 billion, has decided to reduce its liabilities by \$300 million in October and by \$200 million each in November and December. The main reasons for this decision is that Eurodollars now cost about 3/4 per cent more than domestic CD's, the bank expects short-term rates to be relatively low for some time, and it thinks another Regulation Q squeeze is unlikely. Furthermore, loan demand has been quite weak recently and the bank is prepared to repay Eurodollars out of the proceeds of net loan repayments here in the United States.

Manufacturers Hanover Trust

I was told that this bank views its Eurodollar base as "sacred," even though domestic funds (Federal funds and CD's) are cheaper. The bank does not regard the suspension of Regulation Q on shorter-term CD's as being permanent. Even a suspension of Q for the rest of the maturity spectrum would not change the bank's attitude toward its Eurodollar base, unless "Washington" provided some assurance that the suspension was permanent. The bank is willing to trade off the higher cost of funds in the short-run for the longer range benefit of reserve free funds from the Eurodollar market, par-



To: Chairman Burns

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ticularly in view of the bank's heavy loan commitments. This view of the Eurodollar position is unlikely to change within the next six months.

The bank regards its Eurodollar base as being small relative to its size. It feels that it was being cooperative in limiting its Eurodollar borrowings in early 1969 and was penalized by the Board regulation, which took May 1969 borrowings as a base.

The Chase Manhattan Bank

This bank has not reduced its liabilities below its base because of (1) a sense of responsibility for safeguarding the balance of payments ("cooperation with the U.S. Treasury"), and (2) a concern that giving up the base may be costly in the future. Their calculations put a high value on the base, as against the present cost of maintaining it, unless either Regulation Q or the Eurodollar regulations are administered more flexibly in the future.

A suspension of the remaining Q ceilings on large CD's would have little effect: with market rates tending to fall, the present ceilings are almost "academic." But an "elimination" of Q ceilings would lead the bank to let a substantial part of its Eurodollar base go.

One of the motivations for holding on to the base now is that Chase's foreign branches may need substantial amounts of funds in the future to meet loan demands abroad. Thus the Chase officials feel that they are saving the base, though at a cost, for this possible use.



To: Chairman Burns

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Three specific suggestions were made for modifying Regulation M: (1) reduce the 10 per cent reserve requirement to 6 per cent (sic: they no doubt meant 5 per cent); (2) permit banks to go below their bases for a period of time without losing the base; (3) rotate computation periods among the banks so that they are not all trying to adjust at the same time in maintaining average liabilities equal to the base.

The Chase officials feel that the Eurodollar regulation is an artificial restraint on the free movement of funds. Without it, funds would flow more freely to the Eurodollar market and would quickly "equalize" rates as between that market and the United States. Though I pointed out that several billion dollars had flowed back to the Eurodollar market already and that heavy demands from Europe were also influencing rate differentials, they persisted in the view that the flow might stop quickly if the "artificial" restraint were removed.

Bankers Trust Company

This bank has recently decided to let its Eurodollar liabilities decline from its base of about \$1 billion to \$800 million, replacing with CD's and commercial paper. It may go further but it will re-examine its position carefully before giving up more of the base.



To: Chairman Burns

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The cost of holding on to the base represented too large an insurance premium, though the bank regards itself as taking a calculated risk. One reason it is taking the risk is that it regards its Eurodollar base as being rather higher relative to its size. On the other hand the bank's "economic model" shows an easing this year but a tightening of credit conditions next year. Hence, there is hesitancy in giving up more of the Eurodollar base.

A "relaxation" of the rest of Regulation Q would be a "plus factor" in leading the bank to repay more Eurodollars, but it would not be an overriding influence. The bank wants to keep all its options open.

Morgan Guaranty Trust Company of N.Y.

This bank is not ready to give up any of its Eurodollar base but a growing minority on the bank committee responsible for this policy is leaning in that direction. In a month or two, Morgan may be ready to drop from its base of \$1.25 billion to about \$1 billion. Meanwhile, the bank is borrowing shorter and shorter-term Eurodollars in order to maintain its base. It expects either that the rest of the Regulation Q ceilings on large CD's will be suspended or that market rates will make it possible to issue CD's in ample volume. Furthermore, loan demand has been quite weak recently.

Among all the officials with whom I spoke, Mr. Leach of Morgan Guaranty revealed the clearest understanding of the balance



To: Chairman Burns

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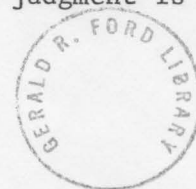
of payments problem associated with massive repayment of Eurodollars. He wondered whether the banks could be given some incentive or "subsidy" to induce them to hold on to Eurodollars--for example, a credit to required reserves (which, I told him, is ruled out by the Federal Reserve Act) or a special issue of Treasury securities at a rate favorable enough to cover the cost of holding the Eurodollars (which, I told him, might be ruled out by Mr. Patman).

Mr. Leach also recommended that the banks be given greater latitude in moving below (and above) their bases.

Irving Trust Company

This bank went below its base during the summer and is in the process of giving up more of the base. For one thing, it regarded its base as too large for its size. Also, it is unwilling to pay insurance premiums for a contingency that cannot be specified. In any event, a consensus exists that the Fed will not again use Regulation Q as it did in 1969.

How far the bank will reduce its Eurodollar position is unsure. Next week the bank is likely to decide to let its base drop from \$730 million to about \$500 million. It will always be prepared to hold on to Eurodollars if the differential cost (now between 1/2 and 1 per cent) narrows or disappears. At some point, between \$200 million and \$400 million, the bank would hold on to its Eurodollars as a hedge against the possibility that its present judgment is wrong.



To: Chairman Burns

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One explanation for the difference in behavior among banks, according to Mr. Stone, may lie in their differential experience in 1969-70 in being required to hold reserves against liabilities over the base. Irving had never gone much above its base and did not therefore feel the 10 per cent reserve requirement very heavily.

Mr. Stone is the originator of a proposal that the banks be permitted to let their Eurodollar liabilities fall to 75 per cent of their bases without losing the base.

Chemical Bank

This bank has no present plan to go below its base. If Regulation Q were suspended, it "would be tempted." If the management decides that the base must be preserved despite the costs, Chemical might follow other banks in shortening the maturity of its Eurodollar takings. But this might simply flatten the yield curve.

RS

Attachment.



OFFICIALS VISITED

First National City Bank

Mr. John J. Larkin, Senior Vice President
Mr. G. A. Costanzo, Executive Vice President and
2 associates

Manufacturers Hanover Trust

Mr. David J. Barry, Vice President and Treasurer

The Chase Manhattan Bank

Mr. George Roeder, Vice Chairman of the Board
Mr. Robert Rivel, Executive Vice President
Mr. James Bergford, Senior Vice President
Mr. Roger Lyon, Senior Vice President

Bankers Trust Company

Mr. Edmund F. Ebert, Senior Vice President and
two associates

Morgan Guaranty Trust Company of N.Y.

Mr. Ralph F. Leach, Vice Chairman of the Board and
one associate

Irving Trust Company

Mr. Robert W. Stone, Senior Vice President

Chemical Bank

Mr. Duane Saunders, Vice President and
three associates



From AMERICAN BANKER, October 15, 1970.

FED ENCOURAGING LARGE NEW YORK BANKS TO RETAIN A HIGH BASE OF
EURO-DOLLARS

By Ben Weberman

A Federal Reserve Board official last week visited the money managers of all the New York City banks that have Euro-dollar reserve-free bases to discuss the attitude of these banks toward continued use of the foreign ~~foreign~~ funds and ~~which~~ succeeded in reversing a planned reduction in dependence on this source, it has been learned.

The trip was made by Robert Solomon, Adviser to the Federal Reserve Board, who watches over the central banks' balance of payments policies, among other duties.

As a result of his tour, there is no longer any willingness among bankers to advocate a reduction in Euro-dollars used for domestic operations.

Mr. Solomon scheduled his trip to New York after First National City Bank of New York had decided to cut its base--but before he was aware of such a change.

He did know, however, that two other New York banks previously had trimmed their dependence on Euro-dollars substantially and that many of the other banks were considering such a move.

The Solomon trip may well have stopped cold any further contemplation of how to get along with fewer Euro-dollars.



While policy officials currently give the huge balance of payments deficit a lower order of priority than domestic considerations, they are not indifferent to the growing size of the negative data.

All that Mr. Solomon asked was for a description of bankers' ideas toward their Euro-dollar holdings.

But to the bankers who were interviewed--a routine procedure--the inference was that the FRBoard would be unhappy to see abandonment of Euro-dollars as a source of funds largely because of the adverse balance of payments impact of such a development.

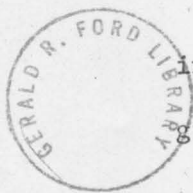
They agree that even if such a suggestion was not made by Mr. Solomon, they believe the concept behind the visit was in that vein and it will influence money market considerations in the future.

One factor came through in the informal talks: It could be more costly over the long run to permit Euro-dollar rates to run down for current rate savings if credit starts to tighten again in the next year or two and there still is a 10 per cent reserve requirement on Euro-dollars used here in excess of the reserve-free base.

The problem has arisen because domestic CD's now can be placed in substantial amounts at an interest cost of 6-3/4% which rises to a gross cost of 7-1/8%, while Euro-dollars cost 7-3/4% to 8-1/8%, net.

A. W. Klausen, President, Bank of America NT&SA, confirmed in Florida at the ABA convention that his bank has no intention to permit a drop in its reserve-free base of about \$500 million.

Another source in the FRSystem who was not aware of the Solomon tour declared that it would be worth while for bankers to take into account the risk of running down the Euro-dollar base if the economy revives and the market tightens as the result of greater demand for credit and a concurrent shift towards restraint by the Fed.



It was suggested also that at some time in the future if balance of payments pressures grow severe the Fed may wish to take measures to force banks back to the Euro-dollar market.

Those with reserve-free bases would be in a much better competitive position than those who must create a 10% reserve on foreign funds used here.

> The Fed, it was explained, could terminate the suspension on Regulation Q ceilings for deposits maturing between 30 days and 89 days or it could make access to the commercial paper market more difficult.

And a more subtle approach also could be taken directly in policy decisions. ~~Thus~~ Thus, if domestic policy considerations call for possible tightening but not clearly so, a shift in priority to place credit emphasis on balance of payments ~~needs~~ needs would swing the balance in favor of restraint.

It was noted on Wednesday that data used recently by Fed Governor Andrew F. Brimmer in a speech in Canada, interpreted to show that 6 of 24 banks with historic bas^es already had dropped some of the reserve-free base were exaggerated.

While the numbers were correct, 5 of the 6 banks showed small, insignificant cuts due largely to clerical errors or difficulties in balancing out amounts at the end of a computation period when the goal was to end just above the base.



October 17, 1970.

A PROPOSAL

It is proposed that the Board amend Regulation D to establish a special incentive for banks to retain Eurodollar borrowings. The proposed amendment would permit banks to maintain reserves of 10 per cent (rather than 17-1/2 per cent) against demand deposits, up to an amount of demand deposits equal to a bank's Eurodollar borrowings, whether borrowed directly from foreign banks or through foreign branches. The incentive to retain borrowings would be increased if the special reserve requirement applied only to borrowings up to the amount of a bank's reserve-free base (either the historical base or the minimum bases under Regulations M and D) and if banks expected the amendment to be a relatively permanent feature.

The proposal would release 7-1/2 cents of reserves for each dollar of Eurodollar borrowings covered; at the present cost of reserves, a bank would save roughly 40-50 basis points on each dollar of such borrowings. Thus, the cost of retaining Eurodollar borrowings would be reduced by close to 1/2 percentage point. At present most banks are probably paying 1/2-1 percentage point more for Eurodollars than for domestic funds (CD's or Federal Funds). Banks' decisions to repay Eurodollar borrowings are made on the basis of projections of future costs, but it is probable that the proposed incentive of ~~close~~ to 1/2 percentage point would represent a significant saving in relation to either cost calculation.



If banks expected to be able to obtain the lower reserve requirement on future borrowings under ~~the~~ reserve-free base (but not on other borrowings), there would be an additional benefit from retention of the reserve-free base, equal to the expected reserve savings (discounted)--e.g., something less than 1/2 percentage point.

The justification for the amendment is the balance of payments benefit; for any given reduction in borrowings (balance-of-payments cost), there would result greater scope for divergence in relative monetary conditions here and abroad. In principle, there would be scope for greater monetary easing in this country, should domestic conditions warrant.

Among the issues to be considered are the balance of payments **benefit**, the precedent-setting nature of the amendment, and the potential release of reserves involved.



October 17, 1970.

Pros and Cons Regarding an Adjustment of Reserve Requirements
Based on the Volume of Eurodollar Liabilities

The proposal under discussion is to let banks hold a lower percentage of required reserves against demand deposits to the extent of their liabilities to branches.

PRO

1. In a world of high mobile capital, many central banks are seeking ways to preserve some autonomy for their monetary policies. In other words, central banks would like to have greater leeway to use their powers to affect domestic credit and monetary conditions without large balance of payments repercussions that might be undesirable in themselves and might undermine the intent of the domestic monetary policy actions.

The Federal Reserve may find it useful to have a mechanism, in addition to the existing 10 per cent marginal reserve requirement on Eurodollar borrowings, to regulate Eurodollar flows to and from U.S. banks. Even if Eurodollar flows have little undermining effect on U.S. monetary policy, there is a strong case for providing some insulation of the balance of payments from changes in U.S. monetary conditions. Such insulation can be regarded as softening a balance of payments constraint on domestic monetary policy or as softening the balance of payments impact of changing monetary policies, or both.



2. In present circumstances continued or intensified ease in U.S. monetary policy plus a suspension of Regulation Q ceilings on large CD's could lead to a massive outflow of short-term funds to the Eurodollar market. The case for avoiding this flow is discussed in another paper.

CON

1. Adoption of a selective reserve requirement based on Eurodollar liabilities might make it more difficult for the Board to resist proposals for special reserve requirements based on desirable social purposes--for example, a lower reserve requirement to the extent that banks finance housing. The only answer to this is that the present proposal applies only to the composition of bank liabilities and has no effect on the composition of assets. Another point is that the present proposal is designed, in part, to prevent deleterious balance of payments effects from a suspension of Regulation Q ceilings and from a desirable easing of monetary policy and therefore should not be looked at in the same way as proposals for special treatment of bank assets.

2. The proposal looks a little gimmicky. The only answer is that in today's complex world some degree of selectivity is necessary if major objectives are to be met.



October 17, 1970.

Relative Costs to Banks of Holding Eurodollars

Banks that are retaining Eurodollar borrowings in order to preserve the reserve-free historical base (or for that reason together with a desire to act in the public interest) are at present paying about 1/2 - 1 percentage points more than would be paid on domestic funds.

A survey of the positions of the 17 banks using historical bases indicates that if banks expected to have to pay 1/2 percentage point more for Eurodollar borrowings than for domestic funds over the coming year, and to pay this additional cost on borrowings equal to 50 per cent of their historical bases, they would generally incur net (after-tax) interest costs equal to about 1 or 2 per cent of net operating earnings after-taxes (net operating earnings are earnings before taking account of profits and losses on securities transactions). The percentages vary, depending generally on the relative extent to which the individual banks have relied on Eurodollars as compared to other sources of funds. (The percentage would, of course, be doubled, if one assumed a 1 percentage point differential.) It should be noted that although the costs (except perhaps for Irving Trust Company) are quite small as percentage of total profits of the banks, after taxes but before security transactions, they may represent more significant proportions of the profits generated by the banks' money desk operations.



Relative Costs to Banks of
Holding Eurodollars

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POSITIONS OF SEELECTED BANKS

<u>Bank</u>	<u>Projected Cost of Eurodollar Borrowings as Per Cent of Net Operating Earnings */</u>
Irving Trust Company	5.8
Marine Midland	2.5
Chase Manhattan	2.4
Bankers Trust	2.2
Morgan Guaranty	2.2
Chemical	2.0
First National City	1.4
Continental Illinois	1.6
Manufacturers Trust	1.1
First National Chicago	0.9
Bank of America	0.6

*/ After tax comparisons, assuming a net additional cost of Eurodollars of 1/2 percentage point for one year on borrowings equal to 50 per cent of historical base. (First National City has projected a decline in its borrowings to 50 per cent of its base.)



October 17, 1970.

The Case for and against Increasing the Marginal Reserve
Requirement on Eurodollar borrowings above
10 per cent at the Present Time

1. The principal ~~and~~ advantage of that action would be to indicate clearly to the banks that the reserve-free historical base could be more valuable to the banks in the future; if banks have been assuming a future marginal requirement of 10 per cent in calculating the costs and benefits of retaining the reserve-free base, Board action might change their calculations, and increase incentives to retain the base.

2. Much, if not all, of this advantage might be achieved through a speech by a Board Member, indicating current thinking of the Board and the scope for Board action in this area.

3. Board action to increase the rate of marginal requirement would tend to induce repayment of Eurodollar borrowings on which reserves were being maintained. In the computation period ending September 30, 1970, banks were maintaining reserves against almost \$500 million of Eurodollar borrowings. Some of these borrowings may have since been repaid, but it would appear likely that an increase in the rate of requirement at the present time would induce repayment of at least several hundred million dollars of borrowings.



4. Even if banks were at or below reserve-free bases, there would still be a small balance-of-payments cost involved in a higher rate of requirement. With a higher rate of requirement, banks would increasingly manage their Eurodollar positions to ensure that any miscalculations would be on the side of reducing borrowings. Thus, over time, there would occur some erosion of the historical bases of banks that in principle planned to retain such bases.

Conclusions: In the light of the probable balance-of-payments costs, it would be preferable for the Board to indicate its future intentions regarding the rate of requirement through a speech rather than through an increase in the rate.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Admin. meeting DM
CONFIDENTIAL (FR)

October 19, 1970.

To: Chairman Burns
From: Robert Solomon
Subject: Additional Views of Banks on
Eurodollar Positions.

I have spoken with officials of the two largest banks in Chicago and the Bank of America. What is reported here supplements the report in my memorandum of October 13 on this subject.

Continental Illinois National Bank
and Trust Company

This bank is still maintaining its base, despite the cost, estimated by the bank on October 15 at 1 percentage point. The bank is worried about a future squeeze under Regulation Q and is willing to pay an insurance premium to maintain reserve-free access to the Eurodollar market. But there is doubt that it is willing to bear the existing cost for long.

The bank feels that it and other banks are playing a guessing game regarding Federal Reserve intentions regarding both future monetary policy actions and Eurodollar regulations. In particular, the bank is concerned that the Fed might relax the Eurodollar regulations in a way that penalized banks that decide to keep their liabilities at the base level while giving an advantage to banks that drop below the base.



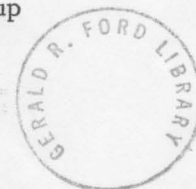
The First National Bank of Chicago

The bank is worried that the Board might reimpose Regulation Q in order to stem the repayment of Eurodollars. This is one reason it is holding on to its base. It figures the present net cost of holding Eurodollars at between 1/4 and 1/2 per cent. Another reason for holding on is that this bank regards its base as being relatively low. It too feels that it was penalized for having been cooperative in early 1969 and not building up its Eurodollar borrowings on a large scale.

Concern was expressed that the Board might, at some point, take an action that would be to the advantage of banks that go below their base. The example used was the possibility that the 10 per cent reserve requirement might be lowered so that banks giving up their bases would not lose much.

Bank of America

The official to whom I spoke is probably not the most sophisticated of the bank's officers. He said that the bank is holding its position but is concerned about the cost--which it figures at 1-1/2 percentage points. It feels in a dilemma because it is not sure that the Fed will not revise the regulation so as to make the base less valuable. The Fed's position is not clear, according to this official. It might adjust the regulation so that banks that give up a part of their bases do not lose much.



OFFICIALS CONTACTED BY PHONE

Continental Illinois National Bank
and Trust Company

Mr. Donald C. Miller, Senior Vice President

The First National Bank of Chicago

Mr. A. Robert Abboud, Senior Vice President

Bank of America

Mr. Chance



DraftCONFIDENTIAL (FR)

October 20, 1970.

TO: Board of Governors
FROM: Robert Solomon
SUBJECT: Dealing with the Overhang of Eurodollar Liabilities:
Laissez-faire vs. Taking Action to Discourage Outflows.

The differential between U.S. and Eurodollar interest rates has led some banks to decide to give up a part of their reserve-free bases and is leading many other banks to think seriously about doing the same.

The reserve-free base has value to a bank insofar as the bank now believes that it may, in the future, wish to have recourse to the Eurodollar market to meet some of its needs for funds in the United States. From the bank's viewpoint this could come about as the result of a future squeeze under Regulation Q ceilings or as the result of higher costs of funds at home than in the Eurodollar market. Thus the banks are willing to pay some cost--in the form of holding Eurodollars at interest rates higher than those on domestic liabilities (Federal funds, CD's, and commercial paper)--as an insurance premium to preserve all or part of the reserve-free base.

But a number of the banks have decided that the current cost is too high and this is leading them to think seriously about reducing the size of the insurance policy.

Consideration of whether or not the Board should do something to discourage the outflow of funds should be preceded by an estimate of the likely magnitude of the outflow in the absence of Board action.



Magnitude of Potential Outflow

The outlook for the U.S. economy is such that one must expect declining short-term interest rates here for some period of time; at the least, short-term rates, after falling further from present levels, are unlikely to rise substantially for quite a while. Meanwhile, short-term yields in Europe are considerably higher than ours. Even if Europe has reached, or passed, the peak of intensity in the use of tight money during this cyclical upswing, the easing of monetary conditions there is likely to lag ours by a substantial margin. Thus European countries (notably but not only Germany and Italy) will be exerting a demand on the Eurodollar market for some time. This is a major reason why the \$5 billion of Eurodollar repayments that has already occurred this year has not eliminated the differential between U.S. and Eurodollar yields.

Whether further repayment of Eurodollar liabilities by U.S. banks would be self-arresting, as the result of a decline in Eurodollar rates, thus depends importantly on the strength of demand for Eurodollar in other countries.

While no one can be sure about the duration of tight money in Europe, it is not to be ruled out that a significant differential in short-term interest rates between the United States and Europe would persist for at least a year--and possibly much longer.



A related question is this: assuming a persisting differential in interest costs between the United States and the Eurodollar market, is there a level below which the banks would hesitate to reduce their liabilities to branches and, correspondingly, their reserve-free bases?

One consideration here is that more and more banks are likely to come to the view that Regulation Q will not be used in the future as it was in 1966 and 1968-69. If the Board lifts the remaining ceilings on large CD's, and even if it uses the term "suspension," the view is more than likely to spread that the suspension is permanent. As this happens, banks will reduce what they regard as a minimum desirable reserve-free base.

On the other hand, banks are unlikely to reduce their Eurodollar liabilities to zero. For one thing, their branches need a balance with the head office, and as the magnitude of Eurodollar transactions grows, the size of this balance also grows. Furthermore, the future is uncertain and banks will hedge their bets regarding the probable reimposition of Regulation Q ceilings.

In 1967, when credit conditions eased here, banks reduced their liabilities to branches--which had grown from \$1.7 billion in January 1966 to \$4 billion at the end of 1966--only moderately, from a peak of \$4 billion to \$3 billion. On the other hand, that period of ease was rather short-lived and it is therefore difficult to draw reliable conclusions as to bank behavior from it.



Even if there is an upward trend in the long run in liabilities to branches, banks could temporarily dip below that trend when interest rate differentials make that course profitable, just as they went far above the trend in 1969.

All things considered, it is possible to imagine a potential outflow of as much as \$6 billion from the present level of \$10 billion. The term "potential" is used here for more than one reason: (1) to denote a possible outer-limit, (2) to indicate what could happen in the absence of an effect of this very outflow of U.S. funds on European interest rates. It is possible that the outpouring of U.S. funds, by flooding the Eurodollar market and in turn European money markets, would drive down short-term rates abroad before \$6 billion flows out. But one of the presumed U.S. objectives, as discussed below, is to avoid flooding European money markets in a way that undermines the efforts of European central banks to combat inflation.

Thus while a \$6 billion outflow may not be the most likely estimate, because European rates will decline more than European central banks wish them to decline, it is a possible outflow that U.S. banks might be willing to tolerate if the differential cost of Eurodollars remains relatively high.

Advantages and Disadvantages

Assuming a possible outflow over a period of 6 to 12 months of, say \$6 billion--or even \$4 billion--what are the disadvantages to



the United States of permitting it to happen?

Disadvantages

The official settlements deficit has amounted to \$7 billion in the first 9 months of 1970. This is much larger than the official settlements surplus in 1968 and 1969 combined (\$4.3 billion). After 5 years--1965-69 inclusive--in which the official settlements deficit averaged out at zero, we have suddenly provided reserves to the rest of the world, in 9 months, at a rate equal to more than three-fourths of the SDR creation agreed to for a three-year period.

If this enormous rate of deficit should go on for a considerable period of time--another six months or a year--several unfortunate consequences can be foreseen.

1. Heavy conversions of foreign dollar accruals into U.S. reserve assets (IMF position, SDR, gold) which could in turn trigger off a burst of speculation against the dollar. If this happened, the reflow of dollars to foreign official reserves from the Eurodollar repayments would be magnified, since forward discounts on the dollar would encourage greater reconversions by Europeans out of Eurodollars into their own currencies and since interest arbitrage reflows would be supplemented by speculative inflows into European currencies.



2. The chances of getting agreement on further creation of SDRs by January 1973 (which requires negotiations in 1972) would become very slim. This in turn would lead to a growing view that the SDR experiment had failed and that an increase in the price of gold is necessary--not only to let the United States pay off its debts but also to put the monetary system on a "sound" basis. The progress that has been made in recent years in de-emphasizing gold and moving the international monetary system toward a managed basis might be lost.

Apart from these dire results, the United States cannot turn its back on a commitment it accepted when it promoted the SDR agreement: we accepted and, in fact, supported the proposition that the international monetary system should not depend heavily on further additions to official dollar reserves. It was agreed that it is neither in the U.S. interest nor in the interest of other countries that our official dollar liabilities should continue to increase rapidly.

3. Europeans already feel resentment at being buffeted in a magnified way by U.S. monetary policy. In 1968-69, we imposed pressures on them when we let our banks drive Euro-

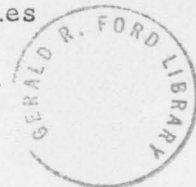


dollar interest rates up to as high as 13 per cent. Now we will be pushing rates down, undermining their tight money policies and adding to their holdings of official dollar reserves.

This resentment has been a catalyst in the drive toward European monetary integration. Whether or not such integration is advantageous to the United States, the anti-American impulses behind it are not.

There are many reasons why the United States should make some effort to maintain cordial and cooperative relations with Europe and Japan. If we sit by and permit a further outflow of \$4-6 billion without being seen to have tried to stem it, there will be a growing acceptance of the view, already held in Europe, that the United States has adopted the Friedman-Haberler-Houthakker prescription that our only duty is to try to contain inflation and maintain full employment, while the rest of the world adjusts to whatever volume of dollars flows out of the United States.

One result of a deterioration in the cooperation attitude of the Europeans--which may occur anyway if the Mills' bill gets through Congress and is signed by the President--would be less willingness of European countries to revalue their currencies when in substantial surplus.



The balance, in European minds, would tend to be tipped against such action and toward actions or non-actions that put increasing pressure on the United States.

4. Finally, it can be argued that the medium-term outlook for the U.S. balance of payments is rather favorable (see my submission to the Commission on Trade and Investment).^{1/} One can imagine a gradual working down of the Eurodollar overhang over the next 2 or 3 years as the rest of our balance of payments improves. Given this prospect, one can also argue against letting the Eurodollars flow out now in massive volume. Providing an incentive to hold does not saddle us with these liabilities forever.

The very fact that the medium-term outlook is favorable argues for preventing a crisis atmosphere from being created now. After our poor domestic management in 1965-69, we may be on the road back to a sounder domestic economy and a stronger balance of payments. But we can't persuade the Europeans and the markets of this. We can only demonstrate it and that takes time. Between now and when the demonstration becomes evident there is something to be said for temporary measures to hold things (including confidence in the dollar) in place.



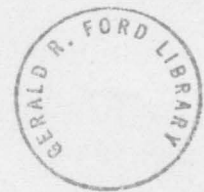
^{1/} Trade, Investment and the Balance of Payments Adjustment Process, August 6, 1970, Washington, D. C.

Advantages

Is there a case in favor of doing nothing and letting the Eurodollar liabilities run off?

1. It can be argued that, having accumulated the overhang, we have to face repayment eventually and we ought to get it behind us. A variant of this argument is that we ought to get a part of the repayment behind us, by standing still for a further outflow of, say \$2 billion or so, hoping meanwhile that this will narrow the interest rate differential between U.S. and Eurodollar rates.

2. Another consideration relates to the distribution of foreign official dollar gains resulting from Eurodollar repayments by U.S. banks. A very large proportion of the increase in U.S. liabilities to foreign monetary authorities in 1970 is accounted for by Germany and Canada. For a part of 1970 Germany may have welcomed the additions to its reserves, following the enormous decline in reserves it experienced following the October 1969 revaluation. Even if Germany no longer welcomes additions to its dollar holdings (and ignoring the undermining of the Bundesbank's policy referred to earlier) there is little that Germany can do about it. Apart from buying back the \$500 million of gold that it sold to the United States in the fourth



quarter of 1969, Germany is bound by the Blessing letter not to buy gold from the United States. Given the touchiness of the problems regarding U.S. troops in Europe, Germany is unlikely to ask for a revision of the Blessing letter now.

Other European countries would also share in the reserve gains reflecting a further massive outflow of Eurodollars. Belgium, Holland, Italy, Switzerland--even France and possibly Britain--could experience sizable reserve increases if another few billion of Eurodollars were repaid. But we do have reserve assets and should be ready to use them.

Conclusions

A weighing of these arguments can lead to the following judgments:

1. The concern about the undermining of monetary policy abroad is not allayed by the fact that Germany can do little about converting unwanted dollars into gold. In fact, if it became evident that the U.S. was leaning heavily on this constraint on Germany, that fact itself would worsen our cooperative relations with the rest of the world.

Numerous contacts with Bundesbank officials indicate that they would be disturbed by a massive outflow of Eurodollars from the United States, which would provide financing to German companies that find credit unavailable or too expensive in Germany.



2. The argument that the United States should be seen to be trying to moderate the impact that its changing policies have on the rest of the world is hard to challenge. When we finally announced the Eurodollar reserve requirement in mid-1969 we gained some good will and put an end to an acrimonious debate.

3. If a balance of payments crisis should occur--for whatever reason--the United States will be in a better position to deal with Europeans and therefore to see to it that the outcome of the crisis favors our long-run interests if we have a record of taking actions within our power. No one abroad in a responsible position is asking the United States to deflate excessively in order to strengthen our balance of payments. But neither European nor Japanese officials regard restrictions on capital flows as undesirable and in some circumstances they advocate such restrictions. Absence of any action by the United States to shore up a crumbling Eurodollar regulation could lead officials of other countries to believe that we think the world is on a dollar standard and do not concern ourselves with our balance of payments. If they come to this belief, they would be more likely to follow those in Europe who would like to push the continental countries back toward a gold bloc. This would hardly be a congenial environment in which to try to work out of a crisis--or, for that matter, to work on a day-to-day basis even if there is no crisis.

4. The existing attitude toward the dollar is hardly a healthy one. The improvement we see in the underlying balance of payments--and in its prospects--is not evident yet to the rest of the world or to the markets. Since we must expect some deficit next year even if there is no repayment of Eurodollars--and the deficit could be aggravated temporarily if Europe slumps after its current boom--we have a good reason to restrain dollar outflows where and when possible. This need not mean simply a delay in facing the music--if we are right in our optimistic view of the medium-term outlook. And even if we are wrong, the chances of inducing revaluations by surplus countries in Europe will be greater if we are seen to do what we can to hold down our overall deficit.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

CONFIDENTIAL (FR)

October 20, 1970.

TO: Chairman Burns
FROM: Robert Solomon
SUBJECT: Your meeting with the New York
Clearing House Bankers.

On the subject of Eurodollars, you may want to cover the following points:

1. The pros and cons of letting the funds flow out (discussed in my paper of October 17, entitled "Dealing with the Overhang of Eurodollar Liabilities: Laisser-faire vs. Taking Action to Discourage Outflows."). I should think that you would want to leave the impression that there is concern here about a massive outflow.

2. Leave them in continued doubt regarding the possibility of a future squeeze, as a result of Regulation Q ceilings or otherwise, in which they would want to borrow Eurodollars again.

3. Let them know that the 10 per cent marginal reserve requirement could be raised in the future, making preservation of the reserve-free base more valuable.



You will probably be presented with proposals to make the present Federal Reserve Eurodollar regulation more flexible--for example, by letting the banks go some distance below their bases

without losing them. An objection to this proposal is that it would accommodate the banks that have decided to reduce their Eurodollar positions and penalize the banks that have held their positions.

On the underlying U.S. balance of payments, one can take a relatively favorable view of the prospects, although the improvement may be concealed by short-term capital outflow just as the deterioration of 1968-69 was concealed by the inflow. This view of balance of payments does not, unfortunately, relieve us of being concerned about the outflow. If it had not been for the inflow of Eurodollars, we might have had to deal with a crisis earlier. But the favorable outlook in the medium-term provides some comfort, in that it projects a situation in which we can gradually work off these excess liabilities.

RS



91st Congress }
2d Session }

JOINT COMMITTEE PRINT

LETTERS OF TRANSMITTAL

FEBRUARY 20, 1970.

ECONOMIC POLICIES AND PRACTICES

PAPER No. 12

THE EURO-DOLLAR MARKET AND ITS PUBLIC POLICY IMPLICATIONS

MATERIALS PREPARED FOR THE
JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES



FEBRUARY 25, 1970

Printed for the use of the Joint Economic Committee

U.S. GOVERNMENT PRINTING OFFICE

34-494

WASHINGTON : 1970

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 20 cents

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JOINT ECONOMIC COMMITTEE

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(II)

LETTERS OF TRANSMITTAL

FEBRUARY 20, 1970.

To Members of the Joint Economic Committee:

Transmitted herewith is a study presented as No. 12 in our series on economic policies and practices in industrial countries and entitled "The Euro-Dollar Market and Its Public Policy Implications." This analysis was prepared by Ira O. Scott, Jr., professor of finance and dean of the Arthur T. Roth School of Business Administration at the C. W. Post Center of Long Island University, Brookville, N. Y.

As a nontechnical survey of the origins of the Euro-dollar market and its current operation and status, this study is relevant to any consideration of U.S. balance-of-payments problems and of how the U.S. banking system participates in the international transfer and utilization of internationally mobile capital.

The views expressed in this paper are, of course, exclusively those of the author and do not necessarily represent the views of the Joint Economic Committee, individual members thereof, or its staff.

Sincerely,

WRIGHT PATMAN,
Chairman, Joint Economic Committee.

FEBRUARY 19, 1970.

HON. WRIGHT PATMAN,
*Chairman, Joint Economic Committee,
U.S. Congress, Washington, D.C.*

DEAR MR. CHAIRMAN: Transmitted herewith is an analysis of "The Euro-Dollar Market and its Public Policy Implications." Recently the Euro-dollar market has expanded rapidly in size, and its impact on the U.S. balance of payments has grown correspondingly. Deposits attracted by U.S. banks via the Euro-dollar market expanded so rapidly in 1969 that the Federal Reserve came to view the market as a mechanism for circumventing its stringent domestic monetary policies. It consequently imposed reserve requirements on deposits from abroad similar to those specified for deposits by U.S. residents. Moreover, by attracting funds formerly held by official foreigners, U.S. banks operating in the Euro-dollar market have at least temporarily reduced our payments deficits. But a possible reflux of the same funds might worsen the U.S. external position in the future. Thus, this study of the Euro-dollar market is extremely relevant to current economic issues.

The study has been prepared by Ira O. Scott, Jr., professor of finance and dean of the Arthur T. Roth School of Business Administration at the C. W. Post Center of Long Island University, Brookville, N. Y. The paper is presented as prepared by Dean Scott and does not necessarily represent the view of the committee, individual members thereof, or of any staff member.

(III)

At the request of the full Joint Economic Committee, this study of the Euro-dollar market was commissioned by the Subcommittee on International Exchange and Payments and is presented as No. 12 in the Committee's series on Economic Policies and Practices. This series was instituted several years ago as a means of making information on economic institutions in industrial countries more easily available to Members of Congress and the general public. Since Dean Scott's paper includes a nontechnical description of the origins of the Euro-dollar market, how it operates, its current stage of development, and the policy questions its existence has raised, his study is a logical addition to this series.

Sincerely,

HENRY S. REUSS,
 Chairman, Subcommittee on International
 Exchange and Payments.

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 Chairman, Joint Economic Committee.

FEBRUARY 19, 1970

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THE EURO-DOLLAR MARKET AND ITS PUBLIC POLICY IMPLICATIONS*

By O. Scott, Jr.

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(v)

The purpose of this study is to provide Members of Congress with a review of the developments and structure of the Euro-dollar market and an analysis of its implications.

The next section of the study is devoted to the structure of the market, sources and uses of funds, and the market mechanism described.

The Bibliographical Appendix (p. 35) for a number of references to the Euro-dollar market.

**With the caveat that the author accepts full responsibility expressed in this paper, he wishes to acknowledge his debt to the following: Dr. George Bolton, Lawrence Commission; John C. Berry, John B. Henderson, Bernd H. Karl, John K. Rocke, Warren D. McClure, Donald H. MacDonald, Herold H. Meyer, Thomas Roche, Robert L. Johnson, and Sir John Stevens.



In the third section of the study, the special role of U.S. commercial banks in the market is examined in greater detail. Also considered are the implications of the growth of the market for international capital flows, the U.S. balance of payments, and the U.S. monetary policy.

Finally, policy issues growing out of the study's findings are examined.

II. STRUCTURE OF THE EURO-DOLLAR MARKET

1. A DEFINITION, AND THE ELEMENT OF RISK

Like the Holy Roman Empire, which was neither holy, Roman, nor an empire, the so-called Euro-dollar market is neither European nor a market for dollars. It is, rather, the market for bank deposits which are denominated in foreign currencies. In other words, the deposits are in the form of currencies other than that of the country in which the bank is located.² The list of foreign, or "guest", currencies include the pound sterling, the Swiss franc, the German mark, the Dutch florin, the French franc, and the Italian lira. The basis for the appellation, "Euro-dollar," lies in two factual aspects of the market.

First, most of the banks who accept these nonresident funds in the form of foreign currency deposits are located in Europe. Second, the great preponderance of such deposits is denominated in U.S. dollars. Consequently, transactions in the Euro-dollar market consist primarily of purchases and sales by European banks of the demand liabilities of U.S. banks.³ The present study will, in any case, focus on the U.S. dollar sector of the market.

The element of risk permeates any money market, and the Euro-dollar market is no exception. It was born of the fear that dollars owned in Eastern Europe but left on deposit in the United States might be attached by U.S. residents with claims against Eastern European governments. It is nurtured by differentials in rates of return that take account of the risk of potential currency restrictions. Thus, a Euro-dollar deposit must be distinguished from the deposit liability of a U.S. bank. This is because of the risk that exchange restrictions might be imposed by the "host" country impairing the owner's control over the disposition of the "guest" currency. This risk is presumed to be greater than that created by the possibility of exchange controls in the United States. In any case, the former risk would probably be compounded by the latter.⁴

² Some analysts, on the other hand, do carefully restrict the use of the phrase, "Euro-dollar market," to the market for U.S. dollars centered in Europe.

³ Thus, acceptance by a foreign bank of dollar deposits in a U.S. bank at a certain rate of interest may be thought of as a purchase, while the placement of funds in the market may be considered a sale of dollar deposits. The repayment or withdrawal of funds might then be treated as a repurchase.

A foreign bank which receives funds has a dollar liability to the depositor or seller. Since the funds received or purchased are the deposit liabilities of a U.S. bank, the receiving bank counts among its new assets a claim on a U.S. bank. The receiving bank may then place the funds with another foreign bank. Afterwards, the original receiving bank has a liability to the depositor and a claim on another foreign bank. The latter bank, in turn, now owns the claim on the U.S. bank.

⁴ The Euro-dollar market thus presents an enigma—an exception to the Schumpeterian dictum that "a dollar is a dollar is a dollar?"

Indeed, a distinction must even be made between U.S. bank deposit liabilities to residents and non-residents. That is, the odds in favor of exchange controls are presumably greater than those in favor of a bank holiday at home. And, again, the former risk is likely to be compounded by the latter.

2. ORIGINS OF THE MARKET

The Euro-dollar market is, by any standard, the freest sector of the international money market. It is ironical, therefore, that the origin of the market is attributed by some to the placement by various State banks in the Soviet Union and elsewhere in Eastern Europe of U.S. dollars with two Soviet-owned banks, the Moscow Narodny Bank, of London, and the Banque Commerciale pour L'Europe du Nord, of Paris. These State banks apparently preferred to place their holdings of U.S. dollars with the Soviet-owned banks as a means of reducing the risk of having their funds blocked. In any case, a number of factors may be cited as contributing to the development of the Euro-dollar market.

The fundamental economic reason for the emergence and growth of the Euro-dollar market is that the participating European banks⁵ have been able to establish competitive spreads between creditor and debtor rates of interest. On the creditor side,⁶ European banks have been able to offer competitive rates of interest because—unlike their U.S. counterparts—they are not subject to cash reserve requirements, deposit insurance assessments, regulation Q,⁷ or to a prohibition on the payment of interest on demand deposits with a maturity of less than 30 days.⁸ They have also been able to compete with nonbank investment media in the New York money market.

On the debtor side,⁹ European banks have often been in a position to undercut, in their dollar loan operations, interest-rate floors established by local cartels or official bodies which govern accommodations in domestic currencies.

Restrictive covenants growing out of the U.S. balance-of-payments control program and which apply to the overseas lending operations of banks in the United States also account in part for the advantageous position of the European banks.

Dollar lending operations outside the United States were made feasible by the general return to currency convertibility in 1958. Toward the end of 1958, the United Kingdom merged American-account and transferable-account sterling. Simultaneously, Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, and Portugal moved toward current account convertibility for nonresidents. Increasing prestige and authority enjoyed by the International Monetary Fund (IMF) and the European Economic Community (EEC) instilled increasing confidence in the viability of the fixed exchange rate system.

Technical leadership of the Euro-dollar market was easily captured by the British overseas, foreign, and merchant banking houses of the city of London. This role was assured by their longstanding position of dominance in the international money market. It was also promoted by the British restrictions of 1957. At that time, sterling loans in the form of trade credits beyond the normal financing periods and to finance third party trading activities were prohibited. Shut out of

⁵ These include the overseas branches of U.S. banks.

⁶ That is, in attracting deposits.

⁷ This regulation, promulgated by the Board of Governors of the Federal Reserve System, places ceiling limitations on the rates of interest which U.S. banks may pay on time and savings deposits liabilities to U.S. residents.

⁸ These European banks, are, of course, subject to various controls imposed by the governments of the countries in which they operate.

⁹ That is, in making loans.



a traditional area of operation, the international deposit-taking banks in London eagerly developed the EURO-dollar market as a substitute financing mechanism.

With its economic basis, feasibility, and technical aspects provided for, the market mechanism lacked only the fuel, which was to be liberally supplied by continued deficits in the U.S. balance of payments.¹⁰

3. SUPPLIERS OF FUNDS

The primary suppliers of funds to the EURO-dollar market have been commercial banks, central banks, international monetary institutions, nonfinancial institutions, and individual investors. Commercial bank recipients of dollar deposits in countries without organized money markets utilize the EURO-dollar market as an outlet for short-term funds. Those in countries having some semblance of a money market are still attracted to the EURO-dollar market when rates of return there are high relative to those obtainable from investment in domestic money market instruments.

Central banks have also been important suppliers of dollars to the market. When they receive dollars through their normal foreign exchange operations, these dollars may be placed in the market in several ways. First, they may be loaned to commercial banks in the central bank's own country, or the dollars may be sold to these banks against domestic funds.¹¹ The same dollars might then enter the EURO-dollar market through commercial bank placement.

Second, a central bank may place the dollars indirectly in the market through the Bank for International Settlements (BIS). Finally, a central bank may place the dollars directly in the market through their deposit with a foreign, non-U.S. commercial bank.

International monetary institutions, such as the BIS and the European Investment Bank (EIB), make short-term foreign currency deposits with participating commercial banks. The BIS is reportedly a major market operator in disposing of dollars deposited with it by member central banks.

The large American nonfinancial corporation with important foreign operations quickly grasped the opportunities afforded by the EURO-dollar market as a substitute for the investment of short-term funds in New York. The market appealed similarly to multinational corporations based in other countries and to wealthy individual investors in disparate parts of the globe.

U.S. companies that float foreign dollar bonds through their Delaware subsidiaries are forced for tax reasons to keep the proceeds of these issues outside the United States until used to finance overseas investments. The proceeds are thus regularly placed in the EURO-dollar market.

Finally, from varied sources, the market is, on occasion, deluged by short-dated funds of a speculative character.

The market has, as well, long been a haven for expatriate wealth seeking refuge from local political risks and tax exposure.

¹⁰ The relationship between the EURO-dollar market and the U.S. balance of payments will be discussed in greater detail later.

¹¹ Preferential swap facilities have been offered to their banks by central banks in Germany, Italy, the Netherlands and Switzerland.

4. DEMANDERS OF FUNDS

The final users of funds in the EURO-dollar market include commercial banks, securities brokers and dealers, exporters and importers, finance companies, governmental units, and international corporations. The foreign branches of U.S. commercial banks have transferred dollar deposits to their head offices as a means of shoring up the latter's cash positions. Canadian commercial banks have used the proceeds of U.S. dollar deposits to make "street" loans in New York.¹² Commercial banks generally have used dollars to make loans to exporters, importers, and to local customers.

London banks have channeled funds raised in the EURO-dollar market, and swapped into sterling, to the U.K. hire-purchase companies and local governmental authorities. The former supply consumer credit. The latter finance the construction of housing, schools, sewers, and waterworks. Belgian banks have raised funds in the market to be used in financing the budget deficit of the Belgian central government.

International corporations—especially those in petroleum, chemicals, minerals, and other commodities widely traded internationally—are among the major borrowers of EURO-dollars. The Norwegian shipping industry, Japanese companies, Italian concerns and German industrial houses have all received loans originating in the EURO-dollar market. American companies doing business abroad rely on the market as a means of complying with the provisions of the U.S. balance-of-payments control program.

5. THE SIZE OF THE MARKET

There are no available statistics which measure the volume of transactions in the EURO-dollar market. An indication of the size, relative importance, and growth of the market may, however, be gained from figures for assets and liabilities of European banks which are denominated in foreign currencies. Such figures are gathered by the BIS from banks in Belgium-Luxembourg, France, Germany, Italy, the Netherlands, Sweden, Switzerland, and the United Kingdom. The assets and liabilities reported are denominated in U.S. dollars, British sterling, Swiss francs, Deutsche marks, French francs, Dutch florins, and Italian lire. These asset and liability figures are inflated both by a substantial amount of redepositing between banks and by certain positions which are not related to EURO-dollar market transactions. At the same time, they do not include positions vis-a-vis residents nor the intake or placement of dollars in the form of swaps. In table 1, an allowance is made for these various factors. These figures represent BIS estimates of the scale of activity in the market on the basis of the principal sources and uses of funds for the eight reporting European countries.

¹² This particular type of transaction was common before the development of the EURO-dollar market.

TABLE 1.—ESTIMATED SIZE OF THE EURO-DOLLAR MARKET
[Yearend figures in billions of U.S. dollars]

Items	1964	1965	1966	1967	1968
Sources:					
Outside area:					
United States and Canada.....	1.5	1.3	1.7	2.6	4.5
Japan.....	—	—	—	—	.1
Eastern Europe.....	.3	.3	.4	.5	.6
Other.....	2.8	3.3	4.0	4.8	6.6
Total.....	4.6	4.9	6.1	7.9	11.8
Inside area:					
Nonbanks.....	1.8	2.2	2.8	3.9	5.2
Banks.....	2.6	4.4	5.6	5.7	8.0
Total.....	4.4	6.6	8.4	9.6	13.2
Grand total.....	9.0	11.5	14.5	17.5	25.0
Uses:					
Outside area:					
United States and Canada.....	2.2	2.7	5.0	5.8	10.2
Japan.....	.4	.5	.6	1.0	1.7
Eastern Europe.....	.5	.5	.7	.8	.9
Other.....	.9	1.5	1.9	3.0	4.2
Total.....	4.0	5.2	8.2	10.6	17.0
Inside area:					
Nonbanks.....	2.3	3.3	3.7	4.1	4.7
Banks.....	2.7	3.0	2.6	2.8	3.3
Total.....	5.0	6.3	6.3	6.9	8.0
Grand total.....	9.0	11.5	14.5	17.5	25.0
Net:¹					
Outside area:					
United States and Canada.....	+ .7	+ 1.4	+ 3.3	+ 3.2	+ 5.7
Japan.....	+ .4	+ .5	+ .6	+ 1.0	+ 1.6
Eastern Europe.....	+ .2	+ .2	+ .3	+ .3	+ .3
Other.....	- 1.9	- 1.8	- 2.1	- 1.8	- 2.4
Total.....	- .6	+ .3	+ 2.1	+ 2.7	+ 5.2
Inside area:					
Nonbanks.....	+ .5	+ 1.1	+ .9	+ .2	- .5
Banks.....	+ .1	- 1.4	- 3.0	- 2.9	- 4.7
Total.....	+ .6	- .3	- 2.1	- 2.7	- 5.2

¹ A plus sign indicates that the area or grouping in question is a net user of Euro-dollar funds, whereas a minus sign indicates that it is a net supplier.

Source: Bank for International Settlements, 39th Annual Report, Apr. 1, 1968-Mar. 31, 1969 (Basle, June 9, 1969), p. 149.

The BIS divides the sources and uses of EURO-dollars between those inside and those outside the eight reporting countries. The "outside" components, in turn, are divided between those in the United States and Canada, Japan, Eastern Europe, and those located elsewhere outside the reporting area. "Inside" sources and uses are classified according to whether the reporting bank has (1) received dollars from, or loaned them to individuals or nonbank institutions located within the reporting area, or (2) received dollars, or loaned them to banking institutions within the reporting area.

Certain conceptual difficulties hamper any attempt to quantify the size and structure of the EURO-dollar market. One difficulty concerns the treatment of dollar positions vis-a-vis the United States. Long before the market was established, foreign banks had dollar liabilities arising out of the use of credit lines established with U.S. banks and dollar assets in the form of working balances and money market media of various kinds. Since these items do not form a part

of the EURO-dollar market, they are excluded, on the basis of rough estimates, from the figures presented in table 1.¹³

According to the BIS estimates, the EURO-dollar market has expanded from about \$9.0 billion in 1964 to \$25.0 billion in 1968.¹⁴ During this period, a marked change occurred in the structure of the market. At the beginning of the period, the United States and Canada, Japan, Eastern Europe, and the reporting European area were all net users of funds. The "other outside area" was the only net supplier. This area consists mainly of the Middle East, Latin America, and "other Western Europe."

By the end of the period, the relative importance of the "other outside area" as a net supplier had decreased; while the reporting area itself had become the chief supplier of EURO-dollar funds. At the same time, the importance of North America as a user of funds had increased dramatically.

Looking to the sources side of the market, EURO-dollar funds supplied by North America have expanded significantly. This has been the case in spite of the U.S. balance of payments control program. There was a \$0.2 billion decline in 1965, the year the program was introduced. But by 1968, supplies from North America had risen to \$4.5 billion. About \$2.5 billion of this increase was vis-a-vis the United States and largely reflected the deposits by U.S. companies of funds raised in European financial markets.

On the uses side, North America accounted for an increase of \$8.0 billion, or roughly half of the growth of the market since 1964. These increased takings were particularly pronounced in 1966 and 1968 as a result of borrowing by U.S. banks. In 1968, moreover, direct EURO-dollar borrowing by U.S. companies appears to have achieved considerable importance.

6. THE MARKET MECHANISM

A number of parallels may be drawn between the EURO-dollar market and the market for Federal funds in the United States. In the Federal funds market, commercial banks which are members of the Federal Reserve System trade demand deposits held with the Federal Reserve banks. These deposits serve as legal reserves, but also as working balances which may be converted into earning assets through placement with other member banks or through conversion into loans or investments. The Federal funds market is an over-the-telephone market.¹⁵ Transactions are noncollateralized. Transactors are mainly banks. Some of these banks make a market by taking positions. Others enter the market only to serve their own immediate needs. Transactions are large—in million dollar blocks for the most part.

Responsibility for these market decisions falls upon the shoulders of the officer who manages his bank's money desk. Money brokers serve on a commission basis, as go-betweens for buying and selling banks.

¹³ For a discussion of these and other conceptual and statistical difficulties, see Bank for International Settlements, 39th Annual Report, Apr. 1, 1968-Mar. 31, 1969, pp. 147-149.

¹⁴ On June 19, 1969, BIS Manager D. H. MacDonald put the size of the market at \$30 billion. (See *The New York Times*, June 20, 1969.)

¹⁵ Teletype facilities are also used.

In the EURO-dollar market, foreign commercial banks, for the most part, are trading demand deposits held with commercial banks in the United States. These deposits are converted into earning assets through interest arbitrage operations with other foreign banks or through direct conversion into loans or investments. The EURO-dollar market is an over-the-telephone market. Deposits are received without the pledge of collateral. Trading units are usually in blocks of \$1 million or more. Some banking participants play an accommodating role as intermediaries, bridging the gap between the supply and demand sides of the market. Some banks are mainly users of deposits, converting them immediately into end-use loans. The manager of the bank's money position determines his bank's position in the EURO-dollar market.

Whereas the Federal funds market is an overnight or over-the-weekend market, EURO-dollar commitments vary from call to 7 days, to 1 month, 3 months, and longer.

Negotiable time certificates of deposit (CD's) are also issued in EURO-dollars, usually for maturities of 30 days or longer.

The international character of the EURO-dollar market is accentuated by the integral role played by the foreign exchange market in the transformation of EURO-dollar deposits into loans of a domestic currency. The efficiency of the EURO-dollar market depends, in large measure, upon the existence of an efficient forward exchange market. Whenever a holder of dollars converts them into another currency—to finance a loan, an investment, or a transaction in international trade—the forward exchange market provides the means of eliminating the exchange risk. The manager of the money desk of a large European bank may, therefore, serve also as the bank's chief foreign exchange trader.

The simplest form of a EURO-dollar transaction consists of an interest arbitrage operation on the part of a European bank which pays one interest rate for a deposit and puts the funds received on deposit with another bank at a slightly higher rate of interest.¹⁶ Such a sequence of interbank deposits may involve a number of banks before the chain is broken by a loan to a nonbank borrower.

EURO-dollar loans by European banks to nonbank borrowers may take several forms. EURO-dollars may be borrowed to finance imports from the United States when this method of financing is cheaper than drawing bankers' or trade acceptances, borrowing from an American bank, or obtaining a foreign currency loan, the proceeds of which are converted into dollars through the foreign exchange market. Eventually, the dollar obligation will be liquidated through the acquisition of dollars in the foreign exchange market.

EURO-dollars may be borrowed to finance imports from countries other than the United States. Settlement may be made in dollars, or the borrowed dollars may be converted into the third country's currency.

Exporters to the United States may borrow EURO-dollars and buy their domestic currency in the spot market. Given a deep discount on the forward dollar, this may be less expensive than borrowing the domestic currency and selling dollars forward.

¹⁶ The existence of an interest rate differential that permits such an arbitrage operation may stem from the risk of exchange control, a lower credit standing of the second bank, or from the fact that the second bank has an opportunity to use the funds more profitably than the first.

EURO-dollars may be borrowed to finance long positions in other foreign currencies or in gold.¹⁷

A commercial bank may borrow EURO-dollars, convert them to the domestic or a third currency, and make a customer loan. To avoid the exchange risk in such a transaction, the bank will buy dollars forward at the same time it sells them spot.

The New York agencies of Canadian banks invest funds in the New York money market which have been deposited with their European branches or with their head offices in Canada.

In addition to accepting EURO-dollar demand and time deposits, some foreign branches of U.S. banks issue CD's to foreign banks, companies, and individuals. These CD's are offered in denominations of \$25,000 or greater, for minimum maturities of 30 days, and at rates of interest sometimes below the EURO-dollar rates on deposits of corresponding maturities. Unlike their domestic counterparts, EURO-dollar CD's are not subject to regulation Q; they are not sold to U.S. citizens; and they are not redeemable in New York. There is, however, a secondary market for them in London. This market enhances the liquidity of the CD as a money market instrument and accounts for the fact that they may be issued at rates of interest less than those available on EURO-dollars.

The interest arbitrage operations of EURO-dollar banks give rise to a pyramiding of interbank deposits. In virtually every instance of an interbank EURO-dollar deposit, there is a transfer on the books of a bank in the United States. The account of the depositing bank is debited; that of the accepting bank credited. There may, therefore, be a pyramiding of a number of interbank deposits on the basis of a given dollar deposit in a bank which is located in the United States.

The European banks which form the interbank deposit chains tend to maintain the same, or nearly the same, dollar asset and liability maturities. This correspondence of maturities reduces the need to maintain a precautionary cash reserve with a U.S. bank. Those banks, however, which are actively engaged in EURO-dollar trading operations do carry small balances with their American correspondents. These are compensating balances which serve to defray the cost of clearing the deposit transfers that are the U.S. counterparts of the EURO-dollar chains. Interest rate margins earned on these arbitrage operations are narrow. Hence, they would be rendered unprofitable by anything more than minimal deposit balances in the United States.

The potential expansion of interbank deposits on a given U.S. deposit base is virtually unlimited. However, a chain may, at any point, be broken by a bank which finds it more profitable to lend the funds to a nonbank borrower rather than redeposit them with another bank. Moreover, some banks will accept funds only if they can serve end-use purposes.

The interest rate margin earned by the deposit-placing bank presumably includes a risk premium. This risk premium may be due to the relatively small size of the receiving bank's aggregate resources, or it may reflect the relative weakness in its local currency. The risk element may grow at each successive stage. At the point it fully absorbs the profit margin, the pyramiding process comes to an end.

¹⁷ Cf. James R. Hambleton, "Gold Rush Financing Debt—and Dangerous," *American Banker*, March 22, 1968.



These redeposit chains probably enhance the efficiency with which capital is allocated by the international banking system. Interbank time-deposit assets do not, however, contribute directly to the financing of expenditures. Only when a loan is made to a nonbank borrower are total expenditures and the level of economic activity affected.¹⁸

The EURO-dollar loan mechanism must be distinguished from the interbank deposit pyramid. A loan to a nonbank borrower will be made, for example, either through a credit to the borrower's account, an overdraft facility, or through a credit to the borrower's account in the United States. To use the funds, the borrower may draw checks on his dollar account or instruct the lending bank to convert the proceeds of the loan into specified foreign currencies. If the dollars which have been borrowed and spent are redeposited with a European bank, they may be re-lent again; and the cycle repeats itself.

The loan deposit sequence described above has been likened by Geoffrey Bell¹⁹ and others to the money expansion process characteristic of the United States and other banking systems. The EURO-dollar expansion multiplier is potentially large, because many European banks are not required to hold dollar cash reserves with their central banks.²⁰ Nor do the European banks have more than a minimal need for contingency reserves. The multiplier concept is, in any case, useful only as an explanatory device and in an *ex post* sense. There is no theoretical limit to the multiplier in an open system.

For time deposits, the need for reserves is virtually nil, because the maturity dates of the deposits are, for the most part, known in advance. For call or current account balances, a number of substitutes for dollar cash reserves may be used. Local currency cash balances may be converted into dollars should the need arise. Credit lines may be maintained with American banks. Finally, contingency balances are typically placed at call with the overseas branches of American banks, Canadian banks, or other foreign banks with agencies or branches in the United States.²¹

The expansion process may be fueled in several ways. Multinational companies, foreign affiliates of American corporations, and nonbank financial institutions abroad may maintain EURO-dollar accounts, from which disbursements are made and into which some of the proceeds of EURO-dollar loans may well be paid. The proceeds of medium-term dollar loans may be placed in the EURO-dollar market. Finally, some of the dollars put into the market by central banks may have originated in EURO-dollar loans.

¹⁸ Even in this case, economic aggregates would be affected only if the loan would not otherwise have been made. If it were not for the availability of a credit in the EURO-dollar market, central banks might have provided easier domestic monetary policies.

¹⁹ Cf. Geoffrey L. Bell, "Credit Creation Through EURO-dollars?" *The Banker*, August 1964, pp. 2-8.

²⁰ There may, of course, be reserve requirements of a conventional sort.

²¹ American banks with overseas branches mingle these funds with their other short-dated assets, including those obtained in the Federal funds market. Canadian and other foreign banks with agencies or branches in New York may place these balances in the call loan market in New York, usually for the purpose of financing securities brokers and dealers.

On the basis of such an expansion process, Bell estimates the multiplier to be well in excess of 1.²² Klopstock, on the other hand, puts the EURO-dollar multiplier in the 0.50 to 0.90 range.²³ Klopstock argues that leakages from the system are large. As noted before, the borrower may immediately convert the proceeds of his dollar loan into another currency. If dollars are actually paid out by the borrower, the recipient of the funds may well be a resident of the United States who deposits funds in his U.S. bank account rather than in an account with a European bank. If the recipient of the funds is a foreigner, he more than likely will immediately convert the dollars into another currency. It is true that dollars which are sold against a European currency may end up in the hands of a European central bank which puts the dollars back, directly or indirectly, into the EURO-dollar market. On the other hand, the European central bank may convert the dollars into gold or invest them in the New York money market. The existence of such leakages, of course, limits the size of the expansion multiplier.

The impact of the EURO-dollar market upon world liquidity is not restricted, however, to the multiplier process. EURO-dollar deposits have a remarkable growth record. But much of this growth is due to the strong competitive position of the European banks. They do not have to maintain cash reserve requirements or pay deposit insurance fees on deposit liabilities. They may pay interest on deposits with a maturity of less than 30 days. They are usually not subject to ceiling limitations on interest rates paid on foreign currency deposits with a maturity of 30 days or more. They have often benefited from advantageous terms in swap arrangements with central banks. Regardless, therefore, of leakages in the multiplier process, European banks have been able to replenish and expand their dollar liabilities with great success.

III. THE ROLE OF THE EURO-DOLLAR MARKET IN U.S. COMMERCIAL BANK OPERATIONS

1. MANAGEMENT OF A COMMERCIAL BANK MONEY DESK

The manager of the money position of a commercial bank in the United States is responsible for maintaining a legal reserve position for his bank. Depending upon the structure of interest rates, the bank's size, and the past and present policies of its management, this officer will select one or more sources to satisfy a need for cash. These sources of funds include the Federal funds market, the Federal Reserve discount window, the issuance of CD's, the purchase of EURO-dollars, the sale of securities, borrowing from a correspondent, the sale of commercial paper through one-bank holding companies, the sale of loan participations, the arrangement of repurchase agreements, and the curtailment of loans. The maturity of the funds acquired will be determined, in part, by official regulations, market rates of interest, and the length of time it is anticipated the funds will be needed. The commercial bank thus provides a key link between the markets for these various sources of funds. In turn, the EURO-dollar market, among others, may play a key role in the money position management of a commercial bank.

²² See Bell, *op. cit.* In other words, according to the Bell estimate, the initial deposit of a dollar in the EURO-dollar market would eventually give rise to more than a dollar in EURO-dollar deposits as a result of the redeposit of the proceeds of EURO-dollar loans.

²³ Cf. Fred H. Klopstock, *The EURO-dollar Market: Some Unresolved Issues*, Essays in International Finance, Princeton University, No. 65 (March 1968).

2. THE EFFECT OF REGULATION "Q"

The Federal Reserve System has, in recent years, effectively employed the ceiling limitation on time deposits as an instrument of anti-inflationary monetary policy. First, through the open market account, money market rates of interest are driven above the ceiling on interest rates which banks may pay on CD's. As a result, investors may permit their CD's to mature and invest the proceeds in higher yielding money market paper. The banking system thus finds a shift in its liabilities from the time to demand category. Since reserve requirements for demand deposits are higher than those for time deposits, this shift is equivalent to raising the weighted, or effective, cash reserve requirement which must be maintained by the banking system. As a result, the banks are forced into a deflationary posture.

A severe runoff in CD's of this kind occurred during the second half of 1966. There was a 5½-percent ceiling on interest rates which could be paid on large time deposits.

By September 1966, on the other hand, Treasury bills were yielding 5.36 percent, finance paper 5.67 percent, bankers' acceptance 5.75 percent, and dealer paper 5.89 percent. The effective rate of return to the investor on CD's is actually greater than the stated rate, because the latter is computed on a 360-day, rather than a 365-day, basis. (See table 2.) However, given their risk characteristics, rates of return on these money market instruments were competitive with the 5.576 percent effective return which could be realized on a 5½-percent CD. In view of the higher rates afforded by alternative investments, corporate treasurers and other investors began shifting from time deposits to money market media. As a result, total CD's outstanding fell from \$18,272 million on July 27, 1966, to \$15,460 million on November 30, 1966. (See table 3.)

TABLE 2.—CERTIFICATE OF DEPOSIT RATE COMPARISON

Stated rate ¹	Effective rate ²	Effective cost ³	Stated rate ¹	Effective rate ²	Effective cost ³
4½%	4.562	4.879	5.30	5.374	5.730
4.55	4.613	4.931	5.35	5.424	5.790
4.60	4.664	4.986	5.40	5.475	5.843
4.65	4.715	5.039	5.45	5.526	5.897
4.70	4.765	5.097	5.50	5.576	5.951
4.75	4.816	5.147	5.55	5.627	6.004
4.80	4.867	5.201	5.60	5.677	6.058
4.85	4.917	5.254	5.65	5.728	6.111
4.90	4.968	5.308	5.70	5.779	6.166
4.95	5.019	5.362	5.75	5.829	6.220
5.00	5.069	5.415	5.80	5.880	6.273
5.05	5.120	5.464	5.85	5.931	6.327
5.10	5.171	5.512	5.90	5.956	6.354
5.15	5.196	5.549	5.95	5.981	6.380
5.20	5.222	5.575	6.00	6.032	6.434
5.25	5.272	5.629		6.083	6.487
5.30	5.323	5.683			

¹ Rate of interest paid on the CD.
² Rate of interest received by the investor calculated on a 365-day basis.
³ Effective rate adjusted for FDIC assessments and a 6-percent reserve requirement.
 Source: Chase Manhattan Bank. A 6-percent reserve requirement is assumed.

TABLE 3.—MATURITY DISTRIBUTION OF OUTSTANDING NEGOTIABLE TIME CERTIFICATES OF DEPOSIT

Date	Total outstanding (in millions of dollars)	Percentage maturity within 5 months	Date	Total outstanding (in millions of dollars)	Percentage maturity within 5 months
May 20, 1964	11,736	72	Aug. 30, 1967	20,741	78
Aug. 19, 1964	12,193	77	Sept. 27, 1967	19,899	78
Nov. 18, 1964	12,740	84	Oct. 25, 1967	20,108	79
Feb. 17, 1965	13,747	80	Nov. 29, 1967	21,132	82
May 19, 1965	15,058	76	Dec. 27, 1967	20,328	83
Aug. 18, 1965	16,009	79	Jan. 31, 1968	20,919	82
Nov. 17, 1965	16,368	82	Feb. 28, 1968	21,086	83
Feb. 16, 1966	16,356	81	Mar. 27, 1968	20,554	84
May 18, 1966	17,724	75	Apr. 24, 1968	19,789	84
June 29, 1966	17,898	73	May 29, 1968	19,453	80
July 27, 1966	18,272	77	June 26, 1968	19,269	76
Aug. 31, 1966	18,192	80	July 31, 1968	21,449	70
Sept. 28, 1966	16,968	80	Aug. 28, 1968	22,306	77
Oct. 26, 1966	15,891	81	Sept. 25, 1968	22,258	78
Nov. 30, 1966	15,460	82	Oct. 30, 1968	23,303	79
Dec. 28, 1966	15,633	80	Nov. 27, 1968	24,307	80
Jan. 25, 1967	17,850	74	Dec. 25, 1968	23,500	78
Feb. 22, 1967	18,553	75	Jan. 29, 1969	21,032	76
Mar. 29, 1967	19,300	73	Feb. 26, 1969	19,971	79
Apr. 26, 1967	18,581	74	Mar. 26, 1969	18,787	79
May 31, 1967	19,076	74	Apr. 30, 1969	17,622	82
June 28, 1967	19,151	73	May 28, 1969	16,973	82
July 26, 1967	19,695	76	June 25, 1969	15,270	(1)

¹ Not available.
 Source: Board of Governors, Federal Reserve System. These figures are based upon the maturity structure of CD's in denominations of \$100,000 or more outstanding at weekly reporting banks.

3. ROLE OF THE EURO-DOLLAR MARKET

It was this credit "crunch" of 1966 that projected the Euro-dollar market into the role of being a major source of funds for leading U.S. banks. These banks, primarily through their branches in London and other major international financial centers, dramatically increased their use of the market as a means of improving their reserve positions. On July 27, 1966, total liabilities of U.S. banks to their foreign branches amounted to \$2,786 million. (See table 4.) By December 28 of the same year, these liabilities had reached a total of \$4,036 million.



TABLE 4.—LIABILITIES OF U.S. BANKS TO THEIR FOREIGN BRANCHES

[In millions of dollars]

Year	Month	Amount	Year	Month	Amount
1964	Jan. 29	1,040	1967	Jan. 25	3,653
	Feb. 26	1,077		Feb. 22	3,396
	Mar. 25	1,046		Mar. 29	3,412
	Apr. 29	1,146		Apr. 26	3,047
	May 27	1,132		May 31	2,776
	June 24	917		June 28	3,166
	July 29	1,008		July 26	3,660
	Aug. 26	1,166		Aug. 30	3,976
	Sept. 30	1,166		Sept. 27	4,059
	Oct. 28	1,198		Oct. 25	4,322
	Nov. 25	1,380		Nov. 29	4,206
	Dec. 30	1,183		Dec. 27	4,241
1965	Jan. 27	1,358	1968	Jan. 31	4,259
	Feb. 24	1,592		Feb. 28	4,530
	Mar. 31	1,431		Mar. 27	4,920
	Apr. 28	1,433		Apr. 24	5,020
	May 26	1,432		May 29	5,888
	June 30	1,436		June 26	6,241
	July 28	1,572		July 31	6,183
	Aug. 25	1,792		Aug. 28	7,025
	Sept. 29	1,611		Sept. 25 ²	7,131
	Oct. 27	1,719		Oct. 30	7,080
	Nov. 24	1,697		Nov. 27	7,273
	Dec. 29	1,345		Dec. 25	6,976
1966	Jan. 26	1,688	1969	Jan. 29	8,725
	Feb. 23	1,902		Feb. 26	8,947
	Mar. 30	1,879		Mar. 26	9,743
	Apr. 27	1,909		Apr. 30	9,617
	May 25	2,003		May 28	10,041
	June 29	1,951		May 25	13,609
	July 27	2,786		July 23	14,522
	Aug. 31	3,134			
	Sept. 28	3,472			
	Oct. 26	3,671			
	Nov. 30	3,786			
	Dec. 28 ¹	4,036			

¹ Break in series occurred with December 28 figures of 4,050 and 4,036.² Break in series occurred with September 18 figures of 7,999 and 7,610.

Source: Board of Governors, Federal Reserve System. The data shown in this table cover gross liabilities of U.S. banks to their branches in foreign countries. After December 1966 the data exclude military facility branches, but include certain overdrafts for the first time. The data are not directly comparable to the weekly series on assets and liabilities of large banks, primarily because the latter liabilities to foreign branches (included in "other liabilities") are on a net rather than gross basis. These data also differ from the monthly data on liquid liabilities to foreigners because they include certain liabilities that are classified as long-term or official in the monthly series.

The attractiveness of the EURO-dollar market as a source of funds for U.S. banks was enhanced by the fact that borrowings from foreign branches were not subject to reserve requirements or assessments for deposit insurance. In addition, checks in the process of collection which were issued in connection with Euro-dollar transactions could be deducted from gross demand deposits for reserve computation purposes. Taking these savings into account, and depending upon the mixture of simultaneous sales and borrowings and the day of the week, U.S. banks might pay up to 250 basis points more for deposits taken from their overseas branches than for domestic time deposits. An individual bank in the United States could thus increase its reserves by borrowing from an overseas branch. The reserves that one bank gained, of course, were lost by another. Therefore, such EURO-dollar borrowings did not increase the level of reserves for the banking system as a whole. But required reserves fell. Hence, the level of excess, and, therefore, free reserves, was increased by this means.²⁴

²⁴ Given member bank borrowings from the Federal Reserve System. That is, free reserves equal excess reserves minus member bank borrowings from the Fed. Excess reserves equal actual reserves minus required reserves. The cost of Euro-dollar borrowings was, of course, increased with the institution of marginal reserve requirements against net liabilities to foreign branches. The change in regulations also required that checks issued by or on behalf of a foreign branch against its account with the home office be included in gross demand deposits as is the case with ordinary official checks. Cf. "Euro-dollar Float," *U.S. Banking Developments*, Chemical Bank, August 11, 1969. (See texts of amendments to Regulations D and M, *Federal Reserve Bulletin*, pp. 656-657, August 1969.) U.S. bank demand for Euro-dollars, however, appears to be quite inelastic. (Cf., e.g., "Trends in the Euro-dollar Market," *Continental Comment*, Continental Illinois National Bank and Trust Company, November 7, 1969; and "Euro Money Market Tight Again," *Monthly Economic Letter*, Frankfurter Bank, December, 1969.)

The 1966 experience was repeated during the latter part of 1968 and the first half of 1969. (See tables 3 and 4.) On November 27, 1968, outstanding CD's amounted to \$24,307 million. By June 25, 1969, this total had fallen to \$15,270 million. During the same period, U.S. bank liabilities to their foreign branches nearly doubled, going from \$7,273 million to \$13,609 million.

Almost synonymous with the new role of the EURO-dollar market in U.S. banking operations has been the role of the city of London. This achievement has been realized in spite of one of the most severe straitjackets—via United Kingdom exchange controls—ever to be imposed upon a free market. But the City flourishes in the entrepôt role.

Table 5 depicts the role of London in the EURO-dollar market. In 1965, United Kingdom banks accounted for 47 percent of the total external liabilities in U.S. dollars incurred by the reporting European banks. By 1968, the United Kingdom share had grown to 57 percent.

TABLE 5.—ROLE OF LONDON IN THE EURO-DOLLAR MARKET

[Year-end figures for external liabilities denominated in U.S. dollars]

Year	Reporting European banks ¹ £ millions	United Kingdom banks		United States banks in the United Kingdom	
		£ millions	Percent of reporting banks	£ millions	Percent of United Kingdom banks
1965	4,107	² 1,879	47	849	44
1968	11,196	³ 6,408	57	43,766	59

¹ Source: Bank for International Settlements, 39th annual report, Apr. 1, 1968, to Mar. 31, 1969 (Basle, June 9, 1969), p. 143. The 8 European countries which report to the BIS are Belgium, Luxembourg, France, Germany, Italy, Netherlands, Sweden, Switzerland, and the United Kingdom.

² Bank of England, Quarterly Bulletin, vol. VI, No. 1 (March 1966), table 84, p. 19.

³ Bank of England, Quarterly Bulletin, vol. 9, No. 1 (March 1969), table 19, p. 110.

⁴ Bank of England, Quarterly Bulletin, vol. 9, No. 1 (March 1969), table 10, p. 96. Figures are for currencies other than sterling.

Prominent in the city of London are the branches of U.S. commercial banks. In 1965, they accounted for 44 percent of the United Kingdom banks' external liabilities in currencies other than sterling, mainly U.S. dollars. (See table 5.) In 1968, the U.S. bank share had expanded to 59 percent.

The question of the importance of U.S. banks in the city may also be considered the other way around, namely, the importance of the city to the U.S. banks. Table 6 shows the assets and liabilities of the overseas branches of Federal Reserve member banks.²⁵ There it may be seen that the largest percentage expansion during 1968 in overseas branch assets occurred in the United Kingdom, with the number of United Kingdom branches increasing from 25 to 35.

²⁵ Member banks account for more than four-fifths of total commercial bank assets in the United States.

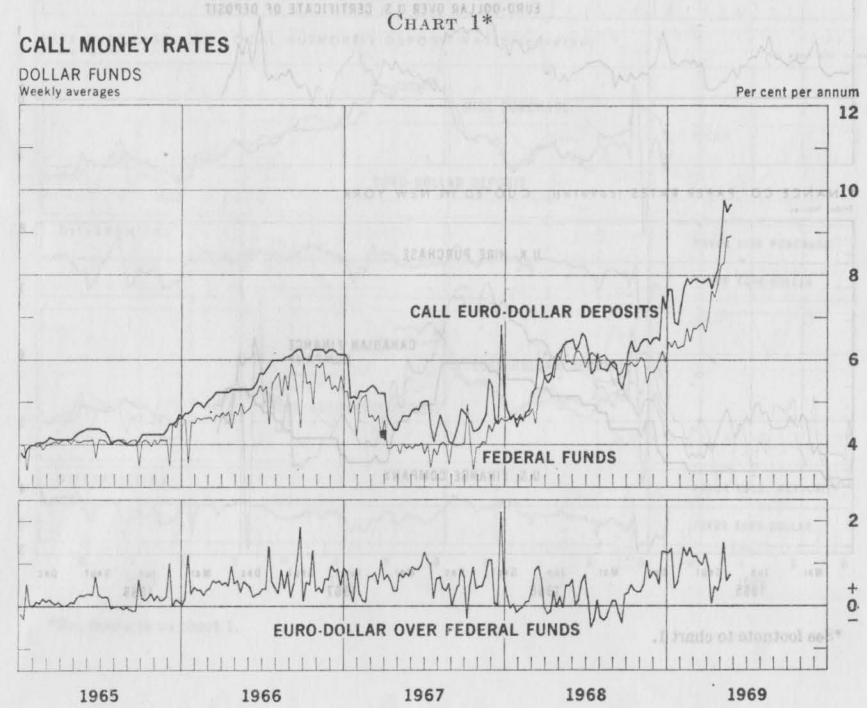
TABLE 6.—ASSETS AND LIABILITIES OF OVERSEAS BRANCHES OF MEMBER BANKS OF THE FEDERAL RESERVE SYSTEM
[Year-end figures in millions of U.S. dollars]

Items	England and Ireland		Continental Europe		Latin America		Far East		U.S. overseas areas and trust territories		Other		Total	
	1967	1968	1967	1968	1967	1968	1967	1968	1967	1968	1967	1968	1967	1968
Number of branches	25	35	46	34	133	178	63	72	31	35	9	9	295	375
Assets:														
Cash	1,543	2,201	638	441	212	251	137	150	43	42	21	53	2,397	3,335
Loans	3,155	4,933	1,416	1,120	591	880	1,047	1,308	500	551	137	137	6,551	9,225
Due from head offices and U.S. branches	2,712	4,291	1,923	1,359	119	97	4,422	4,118	411	411	21	7	4,045	6,147
Other	768	1,752	1,144	801	348	508	660	787	11	33	78	87	2,665	4,311
Total	8,178	13,177	4,121	2,721	1,270	1,736	2,267	2,663	965	1,037	257	284	15,658	23,018
Liabilities:														
Deposits:														
Demand	838	1,343	623	569	511	570	439	513	245	294	103	100	2,705	3,443
Time	6,534	10,501	2,283	1,454	372	638	777	839	492	505	338	166	9,767	14,932
Due to head offices and U.S. branches	774	1,269	1,110	669	334	376	842	1,118	15	15	16	17	2,650	3,905
Other														
Total	8,178	13,177	4,121	2,721	1,270	1,736	2,267	2,663	965	1,037	257	284	15,658	23,018

Source: Board of Governors, Federal Reserve System.

IV. THE INTEGRATION OF NATIONAL MONEY MARKETS THROUGH THE MARKET FOR EURO-DOLLARS

The EURO-dollar market is an international money market—an international market for dollar-denominated obligations at short term. Confidence in the continued freedom of short-term capital movements and the fixity of exchange rates, plus the availability of efficient forward exchange markets, have greatly reduced fears of losses on the part of short-term investors and permitted the expansion of the EURO-dollar market. The existence of such an international money market should provide a communications link between national markets. This link should be forged by the international flow of short-term capital. Its effect would be manifested in the sympathy of movement of national money market rates of interest. The purpose of this section is to examine the evidence which might point to the existence of such an international linkage provided especially by the EURO-dollar market. The evidence is presented in charts 1-7.

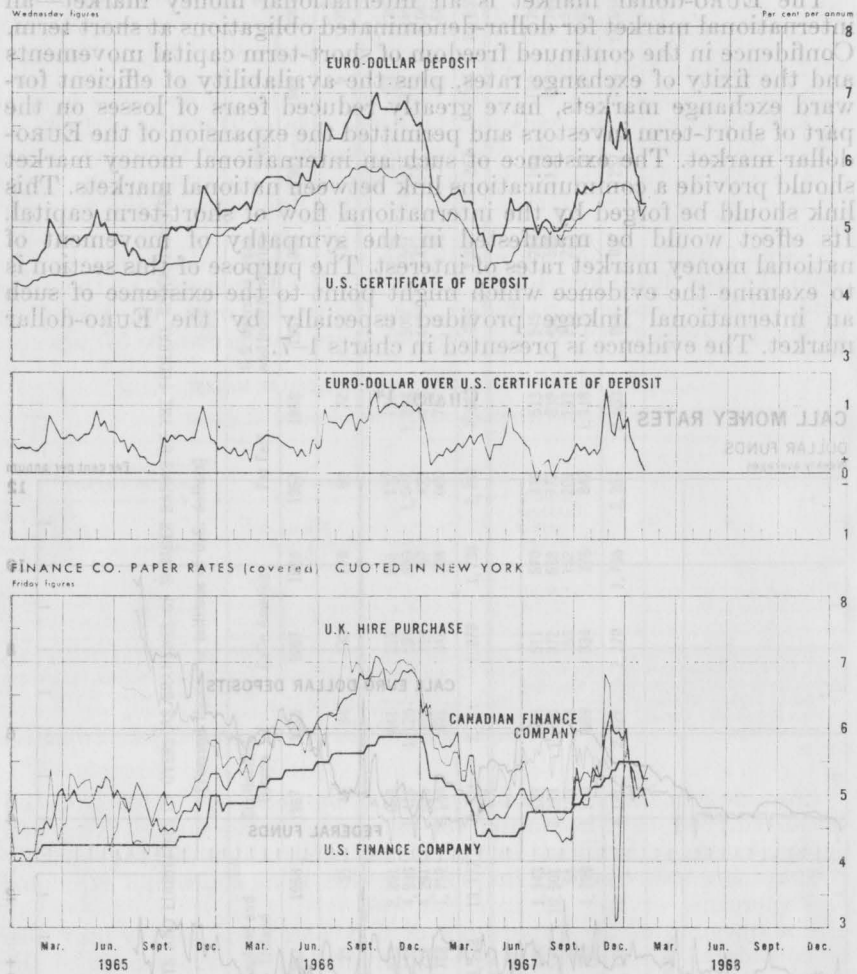


*Source: Board of Governors, Federal Reserve System. See Statistical Appendix for underlying figures.



CHART 2*

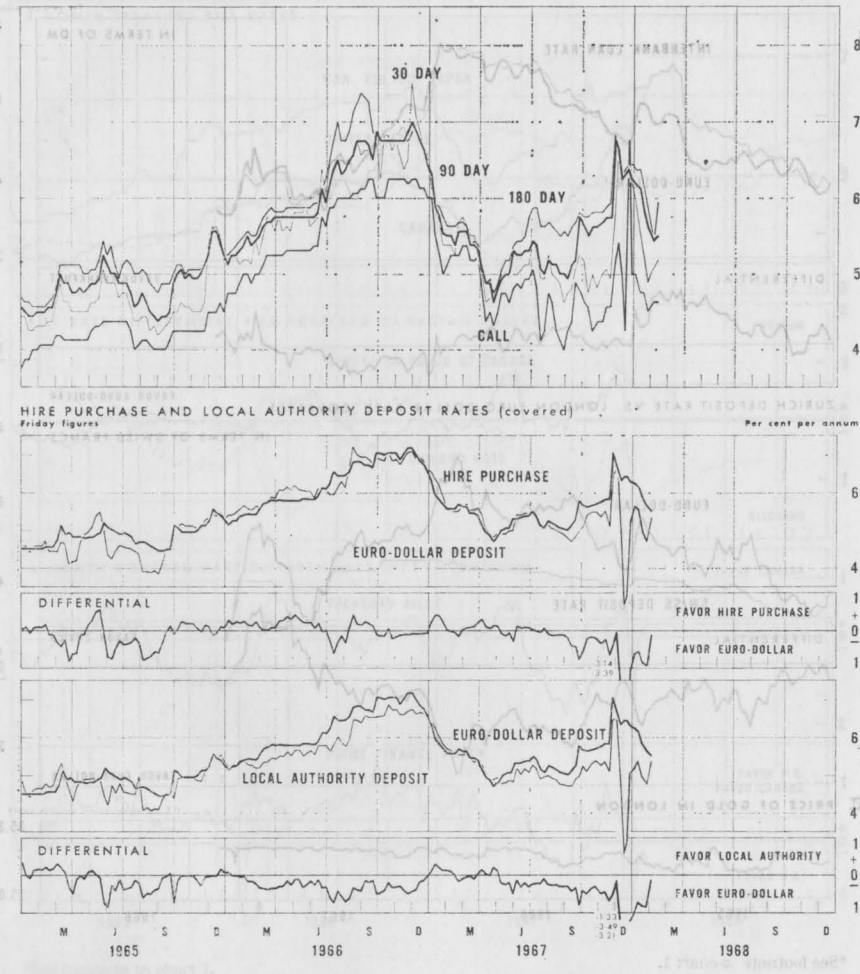
NEW YORK, LONDON, MONTREAL:
 YIELDS FOR U.S. DOLLAR INVESTORS ON 3-MONTH FUNDS
 DOLLAR DEPOSIT RATES: NEW YORK-LONDON



*See footnote to chart 1.

CHART 3*

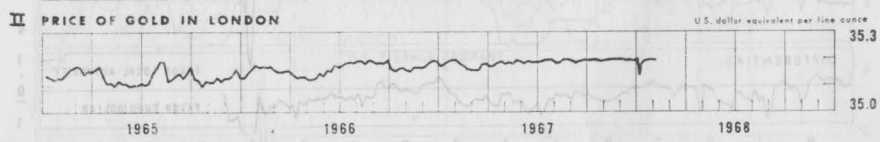
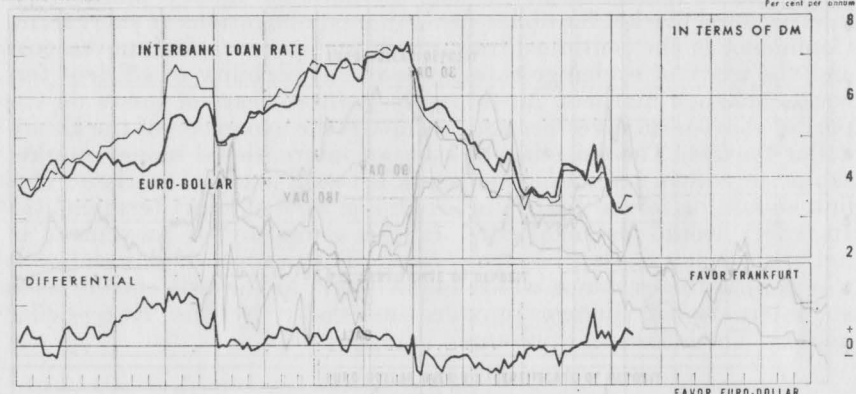
LONDON: YIELDS FOR U.S. DOLLAR INVESTORS ON 3-MONTH FUNDS
 EURO-DOLLAR DEPOSIT RATES



*See footnote to chart 1.

CHART 4*

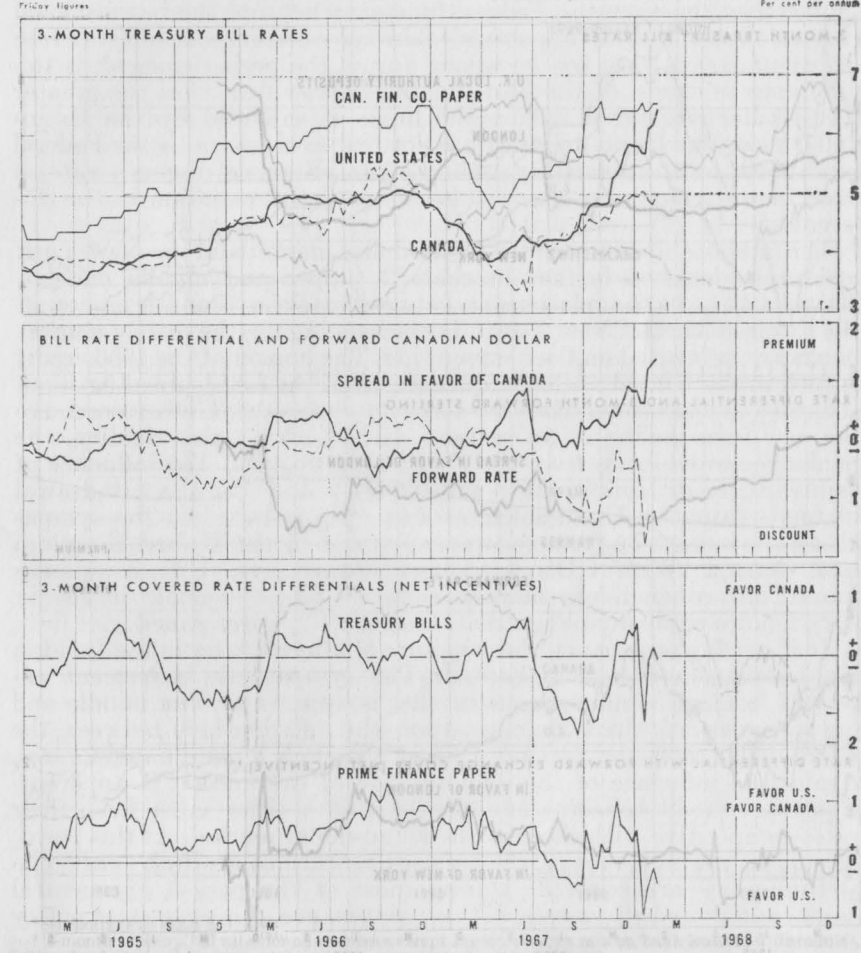
INTEREST ARBITRAGE: FRANKFURT/LONDON, ZURICH/LONDON
FRANKFURT INTERBANK LOAN RATE VS. LONDON EURO-DOLLAR RATE (COVERED)



*See footnote to chart 1.

CHART 5*

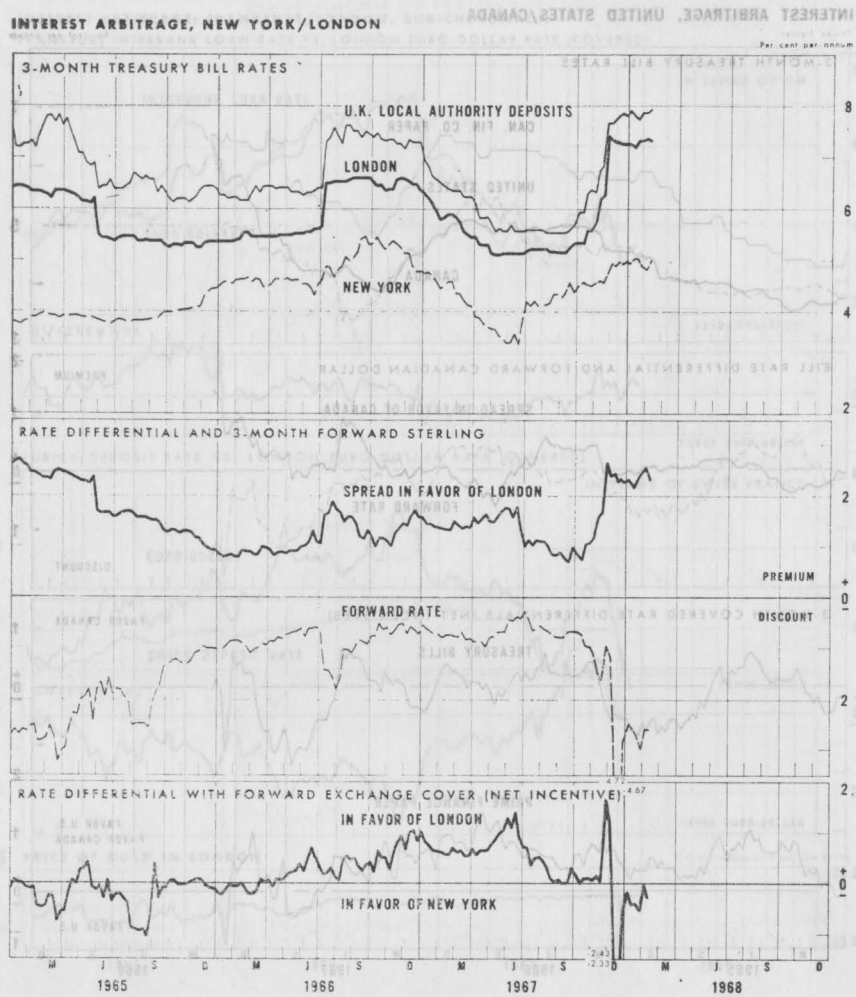
INTEREST ARBITRAGE, UNITED STATES/CANADA



*See footnote to chart 1.



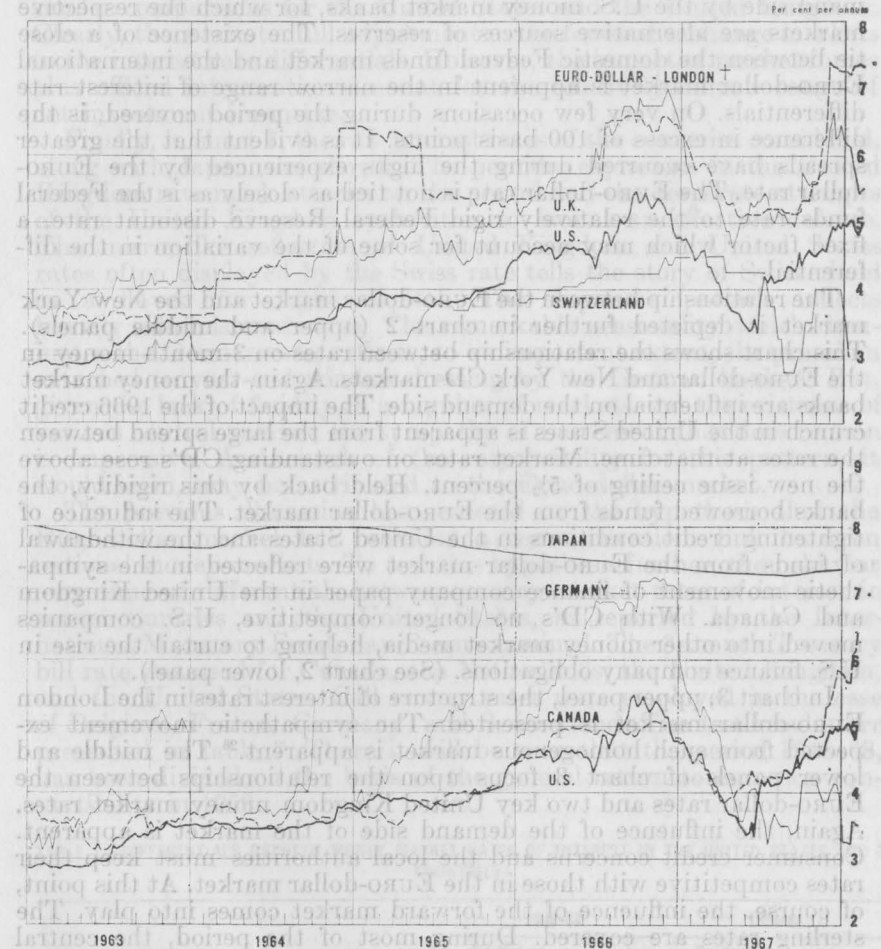
CHART 6*



*See footnote to chart 1.

CHART 7*

SHORT-TERM INTEREST RATES**



*See footnote to chart 1.
 **3-month treasury bill rates for all countries except Japan (average rate on bank loans and discounts), Switzerland (3-month deposit rate), and Germany (Interbank Loan Rate).
 †3-month rate for U.S. dollar deposits in London.



In chart 1, there are presented interest rates on EURO-dollar call money and Federal funds. These rates are both affected on the demand side by the U.S. money market banks, for which the respective markets are alternative sources of reserves. The existence of a close tie between the domestic Federal funds market and the international EURO-dollar market is apparent in the narrow range of interest rate differentials. On very few occasions during the period covered, is the difference in excess of 100 basis points. It is evident that the greater spreads have occurred during the highs experienced by the EURO-dollar rate. The EURO-dollar rate is not tied as closely as is the Federal funds rate to the relatively rigid Federal Reserve discount rate, a fixed factor which may account for some of the variation in the differential.

The relationship between the EURO-dollar market and the New York market is depicted further in chart 2 (upper and middle panels). This chart shows the relationship between rates on 3-month money in the EURO-dollar and New York CD markets. Again, the money market banks are influential on the demand side. The impact of the 1966 credit crunch in the United States is apparent from the large spread between the rates at that time. Market rates on outstanding CD's rose above the new issue ceiling of 5½ percent. Held back by this rigidity, the banks borrowed funds from the EURO-dollar market. The influence of tightening credit conditions in the United States and the withdrawal of funds from the EURO-dollar market were reflected in the sympathetic movement of finance company paper in the United Kingdom and Canada. With CD's no longer competitive, U.S. companies moved into other money market media, helping to curtail the rise in U.S. finance company obligations. (See chart 2, lower panel).

In chart 3, upper panel, the structure of interest rates in the London EURO-dollar market is presented. The sympathetic movement expected from such homogenous market is apparent.²⁶ The middle and lower panels of chart 3 focus upon the relationships between the EURO-dollar rates and two key United Kingdom money market rates. Again, the influence of the demand side of the market is apparent. Consumer credit concerns and the local authorities must keep their rates competitive with those in the EURO-dollar market. At this point, of course, the influence of the forward market comes into play. The sterling rates are covered. During most of the period, the central bank contributed effectively to the maintenance of interest-rate parity through operations in the forward exchange market. During the troubled times of late 1967, however, this was not the case.

The four panels of chart 4 relate covered EURO-dollar rates to domestic rates of interest in Germany and Switzerland. Generally sympathetic movements are discernible. However, neither country possesses a money market which is comparable in resiliency to those in London and New York. Moreover, both countries have employed various selective measures to impede the inflow, or promote the outflow, of short-term capital.²⁷ The effect of these devices is especially apparent in the case of Zurich.

²⁶ There is also some evidence that short-term rates tend to be relatively high when rates are high generally. This pattern characteristic is consistent with the expectations theory of the term structure.

²⁷ Cf. the concluding section of this paper for an enumeration of such techniques.

Chart 5 depicts the close relationships which exist between money market rates in Canada and the United States, while chart 6 presents similar comparisons for the United States and the United Kingdom. Clearly, there is not a full adjustment in the forward exchange markets to the interest rate differentials. However, the impact of market forces plus official intervention account for the relatively narrow range of net investment incentive.

Finally, in chart 7, the raw interest rates of the countries considered, along with Japan, are shown. The periodic explosions in the United Kingdom rate mark attacks on the pound and the desperate attempts of the United Kingdom authorities to mount an effective defense. The mirror-like reflection of United Kingdom and United States rates often displayed by the Swiss rate tells the story of Switzerland as a haven for flight capital. The Japanese pattern reflects heavily administered rates. The remarkable seasonality which dominates the German rate, reflects, to an important extent, the premium attached to year-end window-dressing by the German banks.²⁸ But, given the lack of fluidity in a number of markets and the existence of various control policies, the sympathy of movement that does remain is impressive. And, much of the responsibility for this pattern, it would seem, may be attributed to the EURO-dollar market.

The previous discussion has centered on the hypothesis that the EURO-dollar market has provided a communications link between national money markets. To test this hypothesis further, the behavior over time of differentials between money market rates of interest in seven countries and the United States, as reported by the International Monetary Fund, have been examined. The 3-month Treasury bill rate was used for Canada, the Netherlands, the United Kingdom, and the United States. Call money rates were employed in the case of Belgium, France, Germany, and Switzerland. The test results are presented in table 7. There it will be seen that the period 1948-68, has been divided on the basis of the general return to currency convertibility in 1958.

TABLE 7.—DIFFERENTIALS BETWEEN MONEY MARKET RATES OF INTEREST IN THE UNITED STATES AND 7 COUNTRIES¹

	1948-58		1959-68	
	Coefficient of trend (percent)	Correlation coefficient	Coefficient of trend (percent)	Correlation coefficient
Belgium.....	-4.3	0.881	-1.0	0.521
Canada.....	11.6	.841	-1.4	.871
United Kingdom.....	21.2	.786	-2.0	.740
Netherlands.....	1.0	.753	5.3	.926
Germany.....	² -28.9	² .188	-5.1	.290
Switzerland.....	² -1.5	² .843	2.5	.728
France.....	(³)	(³)	-4.0	.916

¹ These statistics were computed by my colleague, Lawrence Chimerine, whose assistance is gratefully acknowledged.

² Computed for 1950-58 only.

³ Data not available.

The coefficients of trend were derived by regressing the percentage differential between the money market rate for each of the seven coun-

²⁸ Based on correspondence with Franz Scholl. See also "Recent Trends in Short and Medium-Term Interbank Relations Classified by Banking Groups," *Monthly Report of the Deutsche Bundesbank*, Vol. 19, No. 12 (December 1967).



tries and the United States. The rate for the United States was subtracted from that of the other country, and the difference was divided by the United States rate. Thus, for example, the -4.3 percent coefficient of trend for Belgium means that during the period, 1948-58, the Belgian rate less the United States rate, as a percentage of the United States rate, declined by an average of 4.3 percent a year.

In general, if the level of interest rates in a foreign country is above that in the United States and the differential decreases, the trend coefficient will be negative. If the differential increases, the coefficient of trend will be positive. On the other hand, the level of interest rates in the foreign country may be below that of the United States. In this case, if the differential increases, the trend coefficient will be negative. If the differential decreases, the coefficient of trend will be positive.

The correlation coefficients represent simple correlations between the rates of each country and the United States during the indicated time periods.

The development of the Euro-dollar market was, to say the least, facilitated by the moves toward currency convertibility in 1958. Consequently, the impact of the Euro-dollar market as a link between national money markets should have been greater during the 1959-68 period. The test results are in part consistent, and in part inconsistent, with the thesis that the Euro-dollar market provided such a national money market link.

Five of the seven trend coefficients estimated for the second period are negative. This result is consistent with the hypothesis being tested. Moreover, the two countries with positive trends were the Netherlands and Switzerland, two countries which have generally experienced lower interest rate levels than the United States.

In the five countries with negative trends, only Belgium has recorded rates usually lower than those of the United States. In this instance, the case of Belgium, the empirical result fails to support the theory being advanced. The empirical validation of the theory also is subject to qualification because the results lack statistical significance.²⁹ In about one-half of the cases, the trend coefficients for the 1959-68 period are not significantly different from zero. Those for France and the Netherlands are clearly significant. Those for Germany and Switzerland are of marginal significance. The statistics for the remaining countries are not significantly different from zero.

With regard to differential behavior for the two periods, the results are also mixed. The United Kingdom pattern is a consistent one, since United Kingdom-United States differential tended to widen during the earlier,³⁰ and narrow during the later, period.³¹ The Swiss case is also consistent. Swiss money rates have usually been below those in the United States; and differentials widened during the former,³² and narrowed during the latter, period.³³ The Canadian result also tends to favor the hypothesis. For the other countries, however, the theory fails the test.

²⁹ This statement is based upon the 0.05 level of significance. That is, given the number of observations, the correlations were so low that they could have occurred more than 5 times in 100 samples drawn from an uncorrelated population. The inference is drawn, therefore, that there is little, if any, correlation.

³⁰ Becoming more positive.

³¹ Becoming less positive.

³² Becoming more negative.

³³ Becoming less negative. In other words, since Swiss rates were less than those in the United States, a narrowing of the differential would reduce the negative difference.

Finally, correlation coefficients may be compared for the two periods. For only three countries were the correlation coefficients higher in the postconvertibility period. For the other three³⁴ countries, correlations with the U.S. rates were greater during the preconvertibility period. This result may seem inconsistent with the basic hypothesis, since better linkage supposedly results in higher correlation. On the other hand, a lower correlation may have been a necessary concomitant of a negative trend differential in a case where the level of foreign interest rates was higher than the U.S. level. That is, it would have been necessary for foreign and U.S. rates to move in opposite directions in some years to reduce the differential, a rate pattern that would also reduce the correlation. It follows that the comparison of correlation coefficients is not a wholly satisfactory test.

A fundamental difficulty confronts any attempt to measure the influence exerted by the Euro-dollar market upon international interest rate differentials. This difficulty arises from the theory of interest rate parity, according to which national interest rates *corrected for foreign exchange risk* will tend toward equality. In other words, *covered* interest rates will tend toward equality. Inasmuch as forward exchange markets are subject to speculative movements and central bank intervention, the extent to which uncovered rates of interest will reflect the impact of international money flows may be limited. Hence, it was not unexpected to find that the econometrics produce less than fully satisfactory results. Indeed, it is surprising that the results were as good as they were.

V. THE EURO-DOLLAR MARKET AND THE U.S. BALANCE OF PAYMENTS

1. THE EFFECT OF THE EURO-DOLLAR MARKET UPON THE U.S. BALANCE OF PAYMENTS

Since balance-of-payments equilibrium is an important policy objective, any consideration of U.S. policy vis-a-vis the Euro-dollar market must take into account the effects of the market upon the U.S. balance of payments. An attempt to assess these effects will be made next.

Initially, the market probably induced an outflow of funds. During the market's formative years, rates of return on investment and interest rate levels were higher in most countries of Western Europe than in the United States. Most European countries did not have money markets which facilitated international capital movements. The development of the Euro-dollar market provided an outlet for short-term funds that responded to the higher rates of interest outside the United States but did not involve the illiquidity of poorly structured money markets, such as those found in many foreign countries.

Once established, however, the market absorbed funds that might otherwise have fallen into official hands. As official holdings rise, some foreign central banks are increasingly subject to political pressures at home to convert all but a working balance into gold. However, the amount of dollar balances which fall into the hands of official institutions may be reduced in a number of ways and for a variety of reasons:

³⁴ French data were not available for the earlier period.

(a) U.S. commercial banks may borrow EURO-dollars through foreign branches and other foreign banks to help satisfy legal reserve requirements.

(b) Foreign banks may acquire EURO-dollars and relend them in the New York money market. Klopstock has estimated that outstanding foreign agency and branch securities' loans in New York have been in the \$700 million to \$1 billion range in recent years.³⁵

(c) Foreign banks have borrowed EURO-dollars and reloaned them at long term, as well as short term, to companies in the United States. Klopstock has estimated that about \$500 million, of such loans were outstanding at year-end 1967.³⁶

(d) Foreign banks with branches and agencies in New York have employed EURO-dollars as operating funds rather than drawing upon their U.S. correspondents.

(e) To some, though minor, extent, foreign banks have added to their working balances with U.S. banks to compensate the latter for clearing services.

(f) Though the need for contingency reserves is a modest one, foreign banks do hold some balances in the United States for this purpose.

(g) Foreign banks and the foreign branches of U.S. banks borrow in the EURO-dollar market and relend to European and other foreign companies and the European and other foreign affiliates of American companies, thus reducing their own and their customers' demand for bank loans in the United States.

(h) Foreign monetary authorities may conduct dollar swap operations with their commercial banks which bring downward pressures on the EURO-dollar rate structure through interest rate subsidies and increases in supply. Such interest rate effects will tend to increase private holdings in the United States and thus reduce the level of official dollar balances.

Taking all of these factors into account, Klopstock has estimated that foreign private dollar holdings in the United States would be about \$3.5 billion less than their present level were it not for the existence of the EURO-dollar market.³⁷ In other words, if the EURO-dollar market had not existed, these dollars might have found their way into official hands and thus affected adversely the U.S. balance of payments on an official settlements basis.

With regard to the impact of the market upon the balance of payments on a liquidity basis, there is a certain asymmetry in the effect of inflows and outflows. When, for example, a U.S. company transfers dollars from an account with a U.S. bank to an Italian bank, the deficit on a liquidity basis increases. The deficit on this basis is not affected if the Italian bank redeposits the funds with the London branch of another U.S. bank. Nor is it reduced when the London branch relends the dollars to its head office in New York.³⁸

³⁵ See Klopstock, *op. cit.*

³⁶ See *ibid.*

³⁷ See *ibid.* Also see Fred H. Klopstock, "Impact of Euromarkets on the United States Balance of Payments," *Law and Contemporary Problems*, vol. 34, No. 1 (winter, 1969), pp. 157-171.

³⁸ The balance of payments on the official settlements basis is not changed by any of these transactions.

2. THE EFFECT OF THE U.S. BALANCE OF PAYMENTS UPON THE EURO-DOLLAR MARKET

Since the policies designed to bring the U.S. balance of payments into equilibrium have an impact upon European money and capital markets, their specific impact upon the EURO-dollar market should also be considered. All would agree, presumably, that the supply of dollars to foreigners through past deficits in the U.S. balance of payments has made an important contribution to the development and growth of the EURO-dollar market.³⁹ These deficits have led to a sharp rise in U.S. banks' liabilities to nonresidents, including foreign central banks, commercial banks, nonfinancial corporations, and individuals. Whether U.S. balance of payments equilibrium would lead to the drying up of the market is, however, problematical.

The answer to the latter question depends upon the structure of the U.S. balance of payments as it reaches equilibrium. Suppose, for example, that there is a Vietnamese peace settlement combined with an increase in the current-account surplus. Suppose further that these favorable developments result in the elimination of all direct controls over capital movements. In these circumstances, and given relatively high interest rates in the EURO-dollar market, it is quite possible that the market would flourish.

Even with a continuation of direct controls over capital movements, a number of factors point to the viability of the market. The absorptive capacity of the market compares favorably with the narrow money markets found in most countries. Foreign banks and corporations have few alternative outlets to the EURO-dollar market. And, in fact, a large proportion of placements in the EURO-dollar market are made by investors who acquire the necessary dollars in the foreign exchange market.⁴⁰ Finally, American banks and companies would continue to utilize this recently developed and expanded source of funds.

It must be concluded, therefore, that equilibrium in the U.S. balance of payments would not necessarily cause a contraction in—let alone destroy—the EURO-dollar market. It would most likely remain in substantially its present form and size. Consequently, many of the policy implications of its existence would remain.

VI. POLICY IMPLICATIONS OF THE EURO-DOLLAR MARKET

1. THE CHALLENGE TO MONETARY POLICY

The existence of the EURO-dollar market has greatly complicated the environment in which central banks operate. The market has had a direct impact upon the level of interest rates and the availability of credit in individual countries. Domestic banks may, for example, accept dollar deposits from the market, convert the proceeds of these deposits into the local currency, and make local currency loans to domestic borrowers. Foreign banks may obtain funds from the EURO-dollar market and make foreign or local currency loans to domestic companies. Domestic banks and corporations may liquidate existing

³⁹ It is true, of course, that the reverse would have been the case had U.S. deficits substantially dimmed the long term prospects for the dollar.

⁴⁰ Foreign investors could, of course, simply place these dollars in the United States. However, placing the dollars in Europe has a certain, if illusory, appeal to many foreign lenders.

placements in the EURO-dollar market in much the same way as they would liquidate short-term investments in order to provide funds for expansion.

As has been noted in some detail earlier, commercial banks in the United States have, from time to time, relied heavily upon the EURO-dollar market as a source of funds. The acquisition of such funds by domestic banks may tend to offset the effect of a restrictive monetary policy. Similarly, in periods of expansionary monetary policy, domestic banks and companies may absorb liquidity through the placement of funds in the EURO-dollar market. Such placements counteract or offset the effort of the central bank to expand liquidity at home. Thus, the EURO-dollar market has added another dimension to the problem of domestic monetary management.⁴¹

2. USE OF DIRECT CONTROLS

Central banks in a number of countries have employed various direct controls to prevent banks and nonfinancial corporations from pursuing policies that are inconsistent with central bank objectives. Such policies, of course, have to some extent been employed or are being employed in the United States. Others might be adapted for use in the United States. Some of the individual controls which may or are being used are as follows:

- (a) EURO-dollar or foreign-currency loans by domestic companies may be prohibited outright, subjected to licensing arrangements, or rationed administratively according to the type of borrower to be accommodated.
- (b) Various kinds and degrees of restrictions may be placed upon corporate borrowings from foreign banks.
- (c) The placement of dollars in the EURO-dollar market by domestic banks or companies may be prohibited or subjected to quotas.
- (d) Restrictions may be placed upon the conversion of EURO-dollars into local currencies or an outright prohibition may be enforced. Such conversions may also be subjected to control through adjustments in the terms of swap arrangements with domestic banks.
- (e) Domestic banks may be prohibited from incurring net liabilities in a foreign currency. Such a prohibition prevents the bank from holding domestic currency loans as assets behind EURO-dollar liabilities.

These and other types of regulations and exchange controls have been employed in a number of countries—notably the United Kingdom and Italy—and have undoubtedly hindered to some extent the growth of the EURO-dollar market. In the United States, present day restrictions upon foreign lending by banking and other financial institutions

⁴¹ Given free international capital movements, similar problems would arise even without the existence of a EURO-dollar market. Holders of EURO-dollar deposits would have the alternative of holding direct claims on the United States if the EURO-dollar market did not exist. Domestic banks would borrow money from abroad—payable either in their own, the lender's, or a third currency—in order to cushion the effect of a restrictive monetary policy. Thus, the problems posed by the EURO-dollar market differ only in degree—not in kind—from those presented by the liberalization of international capital movements. That there is a difference in degree is accounted for by institutional factors such as the key currency role of the dollar, the relative liquidity of EURO-dollar investments, and the network of foreign branches of U.S. commercial banks.

and direct controls on EURO-dollar placements by American companies are examples of the kinds of direct controls that may be used to prevent international capital flows which are facilitated by the existence of the EURO-dollar market. These measures have been taken in this country in an effort to reduce the balance of payments deficit. However, the same measures also affect the environment in which domestic monetary policy operates.⁴²

3. IMPLICATIONS FOR EXTERNAL POLICY

(a) Balance-of-payments effects

The balance-of-payments effects of the EURO-dollar market are not easily assessed. However, the existence of the market may well attract foreign dollar holders. Consequently, they may place dollars in the market rather than converting them immediately into local currencies. As has been seen in the earlier description of the market mechanism, the dollars may eventually be converted and fall into the hands of a central bank.

Nevertheless, the postponement in time of the fact of conversion does result in the temporary absorption of U.S. dollars by a foreign market. Hence, the balance-of-payments effect on an official settlements basis is favorable, and the threat to the U.S. gold stock is lessened. Otherwise, general shifts of funds into and out of the United States are determined largely by expected rates of return.⁴³ Relatively low interest rates in America may induce a general exodus, relatively high rates of return a reverse flow.

(b) The market and speculation in gold or foreign currencies

During attacks on the dollar, low-margin financing requirements for gold purchases have been met by EURO-dollar credit. The collateral is high grade. It is not surprising, therefore, to find EURO-dollars seeking such an outlet. As in the case of the Deutsche Mark, the EURO-dollar market has also been used as a vehicle for speculating in a foreign currency. The basic problem has many ramifications. A direct approach, which has already been implemented to an important extent, calls for the imposition of high margin requirements by national monetary authorities upon this specific kind of lending activity.

(c) The market and the pound sterling

Monetary management on an international scale is affected by movements into EURO-dollars from weak currencies. Such movements, under the present regime of international surveillance and mutual support, add still another dimension to monetary management. Thus, the 1966 credit crunch in the United States resulted in the conversion of sterling investments into EURO-dollars, which were then called home by U.S. banks. The Federal Reserve, in turn, was asked to lend to the Bank of England. This cycle, to some degree at least, meant that the Federal Reserve was replacing, through the London circuit, the same dollars it was destroying through open market policy at home. The existence of such a cycle does not neces-

⁴² Congressman Reuss has called upon the Federal Reserve System to issue guidelines for a voluntary freeze on bank credit. See the *New York Times*, June 20, 1969.

⁴³ These include allowances for risks of various kinds including the risk of devaluation.

sarily completely vitiate domestic monetary policy. Policy impacts may be effective in a dynamic process, even though they would be fully neutralized should a long-term static equilibrium ever come into being.

In any event, the existence of such a phenomenon is hardly more than a present-day symptom of the closer ties between national capital markets. The earlier discussion with regard to the related problem of monetary management at the domestic level has a bearing in the present context.

(d) *The use of direct controls*

The widespread impact of the EURO-dollar market as a communications link between national capital markets could be effectively eliminated through the reinstatement of a thorough-going system of exchange controls. As is patently clear from the historical record, the elimination of exchange controls on most short term capital movements was a basic ingredient in the inception and refinement of the EURO-dollar system. Their reinstatement could do much to destroy the institutional fabric of the market. The international position of the dollar and the benefits to be gained through the liberalization of international capital movements must, on the other hand, be weighed in the balance.

(e) *The use of indirect policies*

The effective employment of a high interest rate policy—combined, if necessary, with an expansionary fiscal policy—would do much to temper the need for direct controls on capital movements. Unilateral transfers, foreign aid, and military outlays must be considered. The question of the parity relationships of the dollar is pertinent. Nevertheless, the problem of capital flows, itself, could be handled largely by a rational administration of the policy mix. Moreover, if the indirect policy approach were successfully implemented as far as the balance of payments is concerned, more rapid progress might be made in the area of international monetary reform, and longer run pressures in the gold market⁴⁴ might be relieved.

4. THE POLICY MIX AND THE FLEXIBILITY OF FISCAL POLICY

The key to further progress—perhaps, at this juncture, even the maintenance of the status quo—consists of the flexible administration of the policy mix. And the key ingredient in a flexible policy mix is flexible fiscal policy.⁴⁵ In the absence of fiscal policy flexibility and given the view that the use of direct controls to regulate international capital movements is a lesser evil than employing them to achieve domestic economic objectives, monetary policy is burdened with domestic stabilization goals while controls direct over capital movements are used to assure balance-of-payments equilibrium. Flexibility

⁴⁴ In terms of dollars.

⁴⁵ This statement should not be construed as implying that if fiscal policy is flexible, monetary policy may thereby be flexible. Quite the contrary, it is precisely the condition of fiscal policy flexibility that permits the flexible use of monetary policy as an instrument of external equilibrium.

Cf. Ira O. Scott, Jr., *European Capital Markets*, Office of the Comptroller of the Currency, Washington, D.C., 1968, ch. 10.

of the fiscal instrument would, therefore, provide a necessary condition for the liberalization of capital movements.⁴⁶

Even with fiscal policy flexibility, central bankers may fear the loss of control over the level of domestic interest rates. Interest rate policy at home will necessarily reflect, or be influenced by, monetary policies abroad, as a central bank protects its country's external position. Finance ministers may be equally apprehensive if a restrictive monetary policy, dictated by high interest rates in foreign money and capital markets, makes politically costly inroads into the mortgage market and housing industry. Nevertheless, if fiscal policies in different countries were generally flexible, central bankers would be free to concentrate upon the external position. They might, in turn, through cooperative efforts and effective coordination, be able to keep interest rates at a relatively low level. Such a policy, generally adhered to, would obviate the necessity for defensive monetary actions on as grand a scale as would be required in the absence of such cooperation and coordination. Moreover, such policies of international cooperation oriented toward coordinated efforts to keep interest rates relatively low would relieve pressures on the mortgage market and construction industry.

Relatively low interest rates would also be conducive to higher rates of growth, thus, compensating to some extent for the unfavorable effect on growth of restrictive fiscal policies pursued during periods of strong inflationary pressures at home. Indeed, greater flexibility of the fiscal instrument and coordination of national monetary policies would reduce the need for some forms of cooperation, such as the use of swap arrangements,⁴⁷ which sometimes complicate the problem of domestic monetary management. The Federal Reserve has, for example, done swaps with the Bank of England to buoy up the pound. It has entered into similar arrangements with the BIS to cool the EURO-dollar market and thus decrease its attractiveness to international investors. But, the existence of such arrangements is symptomatic of a need for a greater degree of flexibility at the domestic policy level. Greater flexibility at that level would thus decrease the importance of flexibility in international relationships.

Fiscal flexibility is, nevertheless, not a sufficient condition for the elimination of the need for direct controls on capital movements. The spatial distribution of rates of return may be such that, in spite of the coordination of monetary policies, private capital may be exported rather than flow into domestic uses which have been given high social priorities. In this event, the avoidance of direct controls may depend upon the willingness of the governments involved to adopt other selective devices, such as tax incentives, subsidies, and the like, to assure the achievement of domestic resource allocation objectives.⁴⁸ Only

⁴⁶ As Katz has put it in his study of E.E.C. central banking:

"... the European central banks sought primarily to attain domestic economic goals, even when such policies conflicted with the requirements of international balance. As a result, we find general tendencies, both in Europe and outside, toward the use of direct controls to check international flows of capital . . ."

See Samuel I. Katz, *External Surpluses, Capital Flows, and Credit Policy in the European Economic Community, 1958 to 1967*, Princeton Studies in International Finance, No. 22 (1969), p. 44.

⁴⁷ Cf. "Central Bank Swaps—A Bulwark of International Monetary Cooperation," *Federal Reserve Bank of Atlanta Monthly Review* (December 1967).

⁴⁸ Cf. Francesco Forte and Ira O. Scott, Jr., "The Use of Selective Taxes as a Means of Achieving Balance of Payments Equilibrium," *National Banking Review*, Vol. 3, No. 4 (June 1966), pp. 439-447.

then can a rather heavy reliance upon direct controls in the area of international capital movements be circumvented.⁴⁹

⁴⁹ The "bard of economics" expresses his view of the matter as follows:

In cents and dollars, pounds and pence,
There is a Liquid Turbulence,
And large financial integration
Leads to excessive speculation,
Whereas in Marks and Francs and Lire,
The market's smaller, trade is dearer,
So European Gnomes or Elves
Expend their savings on themselves—
Though people now are growing fond
Of Eurodollar and Eurobond
For Love of Money Finds a Way
When Greeks and Arabs come with pay.

If capital is free to flow,
The State may find itself in tow
(Humiliating Circumstance!)
Behind the Tug of High Finance.
With many hands on many tillers,
And ten Charybdises and Scyllas,
And strong Propensities for Wrecks,
The wonder is we save our necks,
And yet the politicians shudder
To think of one hand on one rudder,
Because nobody can agree
On whose the guiding hand should be.
So Integration, all can see,
Is Good—for everyone but me.

Do flexible exchange rates spell
Descent into some kind of hell?
No, when exchange is Freed, man rises
To high Miltonian Paradises,
Where Trade is obviously meant
To substitute for Government,
And the whole Universe is planned
By heaven's non-existent hand.

This "verse" has been quoted from Kenneth E. Boulding, "The Ditchley Bank Anthology," *Michigan Business Review*, Vol. XXI, No. 2 (March 1969), p. 17.

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BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

DATE 10/21

TO Chairman Burns

FROM ROBERT SOLOMON

This message reports Ansiaux's
views on the need for the EEC to
"create a counterweight to the dollar."

RS

Attachment.)Airgram - A-478, Amembassy,
Brussels, 10/13/70)

J



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TO : Department of State

INFO: Amembassies BONN, LONDON, PARIS, ROME, THE HAGUE

FROM: Amembassy BRUSSELS DATE: October 13, 1970

SUBJECT: Ansiaux on the International Monetary Situation

REF: CERP D

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In a speech given in Brussels on October 1, Baron Ansiaux, Governor of the Banque Nationale de Belgique, commented sourly on the role of the dollar in the international monetary system, pointed to SDR creation as preferable to increased dollar holdings as the means for financing trade expansion, and looked forward to the Common Market's creation of a counterweight to the dollar.

Ansiaux said that for the dollar to provide for the necessary expansion of international reserves means that the United States must have a perpetual balance of payments deficit. This has been the case since 1957-58 and the consequences have been the erosion of the dollar and of confidence in it. But if the United States should reach equilibrium in its balance of payments or run a surplus, how would other countries accumulate the needed increases in reserves? The answer has been the creation of SDRs. If, however, the United States balance of payments deficit persists, there may be no need to increase SDR creation (after the initial three year's issue) since increased dollar holdings abroad might cover the need for additional reserves. The actual need for more SDRs should therefore be carefully examined in 1973.

Ansiaux said that no country whose currency is a reserve instrument should have a balance of payments current account debit; the role of such a country is to distribute abroad its current account surplus. The United States still has a modest current account surplus but not enough

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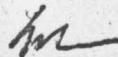
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Brussels A-478
Page 2.

to finance the capital account deficit. An overall deficit is an important failing for the United States. Nevertheless, it continues, for several political reasons. The United States engages in financial operations incompatible with its small current account surplus, it suffers from excessive domestic demand, and its exports no longer attain the level required for a healthy current account surplus. Ansiaux noted that Europeans also have problems with inflation, made worse by that in the United States, and that it has become very difficult to correct them.

The real solution for Europe, according to Ansiaux, is for the Common Market, by the enlargement of its economic territory, the solidarity of its members and the coordination of its national policies, to create a counterweight to the dollar.

EISENHOWER



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DRAFT:RS:nss
10/21/70

The U.S. balance of payments is showing a deficit of unprecedented size this year. As our monetary policy has eased, our short-term interest rates have fallen relative to European interest rates, and short-term funds have flowed to Europe in enormous volume, enlarging our overall deficit.

In 1968-69, when our trade surplus declined and almost disappeared because of inflationary pressures, the worsening of our underlying balance of payments was masked by a large inflow of short-term funds. This occurred as American banks borrowed heavily in the Eurodollar market in an attempt to escape from the Federal Reserve's restrictive monetary policies. Now that process is being reversed. Although our trade surplus is growing again, that improvement is more than offset as the banks repay the funds they borrowed earlier.

The result is that dollars are flowing into the reserves of foreign central banks very rapidly--\$5 billion in the first nine months of this year.

If this process continues, we face the possibility of an international monetary crisis in the months ahead. But even if a crisis is averted, the United States has a responsibility to get control of its balance of payments and thereby to strengthen the international standing of the dollar.



The Persistent Balance of Payments Problem

Our balance of payments has been weak for more than a decade. Whatever the reasons--and not all of them are our own fault--this weakness has had an effect on the prestige and on the foreign policy of the United States. For too long now, American officials have been telling the world that a better balance of payments is just around the corner. Meanwhile, the U.S. Government has at times been forced to adopt policies that are hardly in keeping with the position it would like to maintain in the world.

There is one view--held by some in Washington and by many economists in the universities--that the rest of the world has no choice but to adjust to our balance of payments. It is said that the special role of the dollar in the international monetary system puts other countries in the position where they must either accept the dollars that are generated by our payments deficits or they must revalue their currencies enough to eliminate their surpluses (which are the counterpart of our deficits).

Quite apart from the technical aspects of this proposition, it represents an attitude that can only breed poor relations--economic and political--with other countries. It smacks of dollar imperialism, and generates resentment and protective reactions elsewhere. Certainly some of the anti-American (or at least anti-dollar) impulses that lie behind the current efforts of the Continental Europeans to transform the Common Market into an economic and monetary union



can be traced to the widely-held view abroad that the United States is concerned only about its domestic economy and is prepared to ignore the effects it has on the rest of the world through its balance of payments.

If we are to avoid a crisis and if we are to change the view of other countries regarding our intentions, we need a positive approach to the balance of payments.

What follows is the outline of such an approach.

Dealing with the Balance of Payments

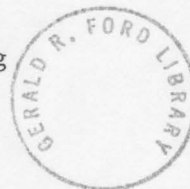
1. The inflation that took hold in this country after 1964 had two related effects on our payments balance: it raised the prices of our goods relative to prices abroad and it drew in an enormous volume of imported goods (in 1968 alone our imports increased by 23 per cent). Now that excess demand has been eliminated from the economy, imports have levelled off. Furthermore, inflation has broken out in other industrial countries. With costs and prices rising rapidly abroad, we have an opportunity to recapture some of the competitive ground we lost earlier. But to do this, we must do something about the strong upward thrust of wages. While our productivity is increasing again, we cannot expect it to rise at a rate anywhere near the current advance in wages as reflected in new wage settlements.



Thus for international as well as domestic reasons, we need a strong incomes policy that is designed to decelerate the wage-price spiral as quickly as possible.

2. Although excess demand has been eliminated and the immediate prospects for economic expansion are not strong, it is essential to avoid a resumption of excess demand. This fiscal year's budget deficit is not of serious concern in this respect, since it reflects to a large degree the shortfall of revenues that accompanies the shortfall in GNP. But the budget for fiscal 1972 ought to be designed in a way that not only fits domestic needs but also inspires confidence, at home and abroad, that inflationary tinder will not be rekindled. This can best be accomplished by limiting the increase in expenditures to the amount of the normal increase in revenues of a fully-employed economy.

3. The restraints on private capital outflows that your administration inherited (the Interest Equalization Tax, the Commerce Department's program on corporate direct investment overseas, and the Federal Reserve program to restrain lending abroad by banks and other financial institutions) were quite properly relaxed in the spring of 1969, that action not only lightened the burden of these controls on the business and financial community but also transmitted a message: that your Administration wished to dismantle these controls as soon as possible.



But one does not destroy a dam on the grounds that one has not seen a flood since it was built. In the present balance of payments circumstances, described in the early part of this memorandum, I strongly recommend that the restraints on capital outflow be held intact for the year 1971 and that the announcement of this standstill be coupled with an expression of your deep concern about the balance of payments.

4. Finally, the Federal Reserve could take an action to restrain the short-term capital outflow from American banks to the Eurodollar market, without interfering with our current domestic objective of encourage orderly, non-inflationary expansion of the economy. This action would make sense as part of a package designed to improve the rest of the balance of payments. Furthermore, it would be welcomed abroad as a cooperative act.

This program, parts of which are desirable on domestic grounds anyway, could go a long way toward improving the international standing of the dollar and, hence the international strength of the United States.



The 1950's were the years of the so-called "dollar shortage," when the dollar was pre-eminent internationally. In the 1960's, the dollar was generally weak. It is not at all unreasonable to think that in the 1970's the dollar will once again be a strong currency. A major pre-requisite to bring that about is to damp down the wage-price spiral and to prevent the resurgence of excess demand in the United States. Points 1 and 2 in the approach outlined above are aimed at these goals. Points 3 and 4 are designed to protect the balance of payments while the underlying elements of strength in our payments position re-assert themselves.



BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM

Office Correspondence

Date October 21, 1970.

To Chairman Burns

Subject: _____

From Robert Solomon

The attached memorandum was written a week ago, before we had thought of the reserve requirement inducement to banks to hold their Eurodollars. It explores the proposal to let banks go to 90 or 80 per cent of their bases.

I believe that one can exaggerate the power of an amendment that permitted banks to go to 90 or 80 per cent without loss of base but provided for loss of base if banks went below the stated percentage. As compared with the present situation, I see little additional incentive for the banks not to go below 90 or 80 per cent. In either case, the base would fall to the new level of borrowings. The only change is that banks would feel free to go down to 90 or 80 per cent. At that level they might think twice but, having seen the Board reduce the base once, they might feel more free to go below the minimum percentage in the expectation that the Board would reduce it again.

RS

Attachment.



BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM

Office Correspondence

Date October 14, 1970

To Mr. Robert Solomon

Subject: A Possible Amendment to the Lock-
in Effect of Board's Euro-dollar Regulations

From Robert F. Gemmill

CONFIDENTIAL (FR)

This memorandum considers the feasibility of amending the Board's Euro-dollar regulations to permit banks to reduce Euro-dollar borrowings somewhat below the level of the historical base without any loss of that reserve-free base. Two variants of the general amendment will be examined:

(1) Permitting borrowings to decline (in two steps) to 90 per cent of the historical base during 1970, and to 80 per cent of the historical base by mid-1971;

(2) Permitting borrowings to decline to 80 per cent of the historical base by the end of 1970.

Either of these variants would be combined with an appeal to the banks not to permit borrowings to go below the special levels established by the Board. Either amendment would represent a quid pro quo for the banks. In fact, the provision of a quid pro quo would appear to be the main justification for the amendment, although as noted below there would also be some shift involved in the cost benefit calculations confronting an individual bank in determining the profitability of retaining Euro-dollar borrowings.

The Broad Policy Issues. The rationale for the amendment and for the accompanying appeal to the banks would be the need on grounds of balance of payments policy to limit the reduction in Euro-dollar borrowings over the next few months, and perhaps over the next year. Moreover, it would appear likely that whatever effect the amendment had in stemming repayments of Euro-dollar borrowings would be a relatively short-term one. Avoidance of a crisis through short-term measures can, of course, yield long-term benefits.

The potential costs of the amendment involve the uncertainty as to its impact, and also the longer-term disadvantage of perpetuating the special position of the large money market banks as the only banks with significant amounts of reserve-free liabilities. The uncertainty of the impact may cast doubt on the potential balance-of-payments benefit, and it also raises a question as to the advisability of Board adoption of a proposal that might be regarded as a "gimmick" if that proposal were to prove ineffective.

These issues are considered in more detail below.



The Potential Balance-of-payments Impact

The balance-of-payments impact should be defined broadly, to include not only the effect of Board measures on the net reduction of Euro-dollar borrowings but also the effect of those measures and of the resulting repayments on the policies of foreign authorities. Large-scale repayments of borrowings would result in substantial further reserve gains by foreign authorities, and in substantial additions to domestic liquidity abroad. Failure of the United States to take what were regarded abroad as strong measures to hold the repayments to manageable proportions would tend to undermine the cooperation that is essential for successful functioning of the international financial system.

The amendment of the lock-in effect would permit a reduction in borrowings with no loss of historical base by the banks, in the expectation of preventing an even larger reduction in borrowings through a combination of changed financial incentives (a changed cost-benefit calculation) and of moral suasion. Some illustrative calculations based on simplified assumptions are presented below. They suggest that any amendment of the lock-in effect that involved sanctioning a relatively sizable reduction in borrowings (e.g. to 80 per cent of the historical base) would produce foreign reserve gains sufficiently large to be incompatible with our balance-of-payments objectives for the remainder of 1970 and early 1971. If a very substantial further repayment of Euro-dollar borrowings were to occur, it would be desirable that it occur without specific sanction by Board action. Moreover, as demonstrated in the section on cost-benefit calculations (pages 4 and 5 below) there is clearly a risk that a Board-sanctioned reduction (through amendment) could exceed the market-induced reduction of borrowings that might occur if the Board maintained its regulations unchanged; the nature of that risk depends upon assumptions concerning the effects of repayment on Euro-dollar interest rates.

Illustrative calculations. Following are illustrative calculations regarding potential repayments of borrowings under alternative assumptions. The principal conclusion to be drawn is that unless one assumes (1) that banks generally are planning very large-scale repayments (Case #4 below) and (2) that such repayments would occur without producing changes in Euro-dollar interest rates that would change banks' plans, there would be little or no balance-of-payments gain realized from an amendment of the lock-in effect. Moreover, even under these assumptions, much of the balance of payments saving would disappear unless banks' plans could be changed by a relatively modest amendment of the lock-in effect (Case #1 rather than Case #2). Case #1 indicates that even a modest amendment to the lock-in effect would involve a reduction in Euro-dollar borrowings almost as large as might be expected to occur without the amendment on what appear to be reasonable assumptions (Case #3).



Case #1. If the Board permits banks using historical bases to reduce average borrowings to 90 per cent of the current historical base with no loss of historical base, there would result a net reduction in borrowings of \$1.3 billion by the 17 banks using historical bases. (Aggregate historical bases were about \$10.7 billion in the computation period ending September 30, but in that period some banks were still maintaining borrowings above their bases.)

Case #2. If the Board permits banks using historical bases to reduce borrowings to 80 per cent of those bases, the aggregate decline in borrowings would be about \$2.5 billion.

Case #3. If the Board takes no action, and repayments are made according to schedule (a) by those four banks known to have already scheduled them, and (b) by other banks that have a ratio of Euro-dollar deposits to total deposits (net) of 15 per cent or more, in amounts sufficient to reduce the ratio of borrowings to net deposits to 15 per cent, there would be a net reduction in Euro-dollar borrowings of \$1.5 billion.

In this calculation, it is assumed that banks that have announced no plans for change would hold to that view. The assumptions for Case #3 are consistent with the argument that use of high-cost Euro-dollars has a larger impact on profits for banks making relatively heavy use of Euro-dollars; of the four banks known to have scheduled reductions in Euro-dollar borrowings, three have relied very heavily on Euro-dollars. First National City plans to reduce borrowings to 8 per cent of net deposits from the present level of 16 per cent; but other three banks planning reductions all have high ratios of Euro-dollar borrowings to net deposits--between 30 and 37 per cent--and plan to reduce borrowings to roughly 25 per cent of net deposits.

Case #4. If the Board takes no action and repayments are made by all banks using historical bases, relinquishing 30 per cent of the historical base (the average percentage reduction scheduled by the four banks known to have planned reductions), total borrowings would decline by \$3.2 billion.



One may reasonably question whether, in the light of the probability that such a large repayment would reduce Euro-dollar rates to some extent, and of the cost-benefit calculation confronting an individual bank (see the following section), the plans of individual banks would in fact be realized.

Changed Cost-Benefit Calculations. An amendment of the lock-in effect would change the cost-benefit calculations of an individual bank in two ways. These can best be illustrated by comparison with the cost-benefit calculation associated with the lock-in effect under the Board regulations as they now stand.

First, consider the effect on the calculation where the bank, under present regulations, plans to reduce borrowings to a level below that sanctioned by the amendment.

Bank A is assumed to have an historical base of \$100 million and borrowings of the same amount. If this bank expects that over the next year Euro-dollar rates will average 1 percentage point higher than the rate on alternative domestic liabilities, and if in the absence of the lock-in effect, the bank would reduce its outstanding Euro-dollar borrowings to \$60 million in the coming year, the bank's expected cost of retaining the historical base for the coming year would be \$0.4 million (1 per cent of \$40 million). If the bank expects to have to resort to Euro-dollar borrowing again in the second year, retention of the historical base would save it roughly 1 percentage point (assuming market rates on alternative sources of funds of roughly 10 per cent) on those expected Euro-dollar borrowings of \$40 million for a year--that is, about \$0.4 million.

Under these circumstances, the bank would doubtless decide that the investment of \$0.4 million to retain the historical base was worthwhile, since the investment required to retain the historical base might well yield returns beyond the second year as well as the return of \$0.4 million in that year. But, if the bank had only a relatively remote expectation of using Euro-dollar borrowing in the second year--perhaps only a 50 per cent chance--then the expected return would be less: if the bank weighted the return by the probability, the return might be estimated at \$0.2 million. Under these circumstances, the bank might decide that the immediate cost of retaining the historical base was too high.



An amendment of the automatic downward adjustment feature that would permit Bank A to reduce borrowings to 80 per cent of its historical base, without loss of any part of that base, would reduce the cost to the bank of retaining the full historical base. It thus might induce the bank to cut its Euro-dollar borrowings to \$80 million, rather than going all the way down to \$60 million. If the bank reduced its borrowings to \$80 million, the cost of retaining the reserve-free historical base would be \$0.2 million (1 percentage point applied to the \$20 million of Euro-dollar borrowings retained for the purpose of holding the historical base.) The expected benefit from possible future use of the historical base would be unaffected.

If one were sure that, in the absence of an amendment of the automatic downward adjustment feature, bank A would reduce its Euro-dollar borrowings to \$60 million--and that other banks would soon follow--there would probably be a balance of payments saving to be obtained from amendment of the automatic downward adjustment. In the above case, the saving would be \$20 million for Bank A.

If the process of repayment of Euro-dollar borrowings involved a reduction in Euro-dollar interest rates, as it would after some point if banks generally were making repayments, the cost calculation under both the present and the possible amended version of the lock-in effect would be altered, but the changes would be symmetrical in the two cases.

However, in the case where borrowings are not reduced to the level sanctioned by an amended lock-in effect, the cost calculations confronting an individual bank are different. Declines in Euro-dollar interest rates that might be sufficient to cause a bank to cease making repayments under present regulations would not necessarily cause it to cease repayments under an amended lock-in effect. Thus, the potential repayment under an amended lock-in effect could well be larger than that under present regulations if the process of repayment resulted in relative declines in Euro-dollar rates. An illustration follows:

Under present regulations, a relative decline in Euro-dollar interest rates lowers the cost to Bank A of retaining part of its base, without affecting the potential benefits of the reserve-free base. At some point--e.g. a reduction to 1/2 percentage point in the margin of Euro-dollar rates over alternative domestic rates--the expected cost of retention of the base would be reduced sufficiently to cause the bank to cease repayment.



However, under the possible amendment to the lock-in effect, there is no benefit to the bank in maintaining Euro-dollar borrowings above the lowest level to which they may be reduced without loss of any part of the historical base. Hence Bank A would cut its borrowings to 80 per cent of its base unless Euro-dollars actually became cheaper than alternative sources of funds. Its repayments could well be larger than under present regulations.

Moral suasion. Given uncertainty as to the significance of the changed cost-benefit calculations resulting from a modest amendment of the lock-in effect (sanctioning reductions of borrowings to 90 per cent of the historical base)--and of the large balance of payments impact of a substantial amendment (sanctioning reductions to 80 per cent of base)--it appears that the prospects for success of an amendment of the lock-in effect would be greatest if coupled with moral suasion. The amendment would represent a quid pro quo for bank restraint in repaying borrowings.

It is hard to evaluate the prospects for success of moral suasion under these conditions. Banks that have already scheduled repayments (as well as other banks) might well argue that the quid pro quo was inadequate. Banks might also take the fact that the Board proposed an amendment (to 90 per cent of base) as an indication that the Board might progressively reduce this percentage, and they might try to force the Board's hand in this matter by continuing to make repayments.

On the other hand, if banks viewed the process of relinquishing reserve-free bases as a case of oligopolistic competition, they might welcome the certainty provided by a Board amendment of the lock-in effect accompanied by moral suasion. In the absence of Board "supervision" of an orderly reduction in borrowings, many or most individual banks may want to avoid leading the parade, in the process reducing the costs to their competitors of maintaining their reserve-free bases intact. If many banks take this view, Board action, including moral suasion, might be successful in limiting a reduction in borrowings to a specified amount--but that amount might be greater than banks would in fact repay if the Board retained the present version of the lock-in effect and the banks had to operate in a climate of greater competitive uncertainty.



Other considerations

An amendment of the lock-in effect would involve some potential costs, in addition to those that might arise as a result of the balance-of-payments impact of the measure. The amendment should be evaluated against a long-term objective of placing all banks on the same footing with respect to reserve-free liabilities--and probably ultimately eliminating all reserve-free bases--as soon as this could be achieved without sacrificing an important policy goal. The Board has no reason to provide large money market banks with "permanent" reserve-free bases, apart from balance-of-payments objectives. Thus, a reduction in borrowings of \$2 billion that resulted from failure of the Board to take action (and that resulted in a corresponding reduction in reserve-free bases of the banks involved) would clearly be preferable to a reduction of \$2 billion under an amended lock-in effect that left the historical bases intact.

Because the amendment in question can be justified only by its possible balance-of-payments impact--and is otherwise inconsistent with long-term Board objectives--the Board would want to be reasonably sure that the amendment would be effective before proposing it.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

DATE 10/22/70

TO Chairman Burns

FROM ROBERT SOLOMON

Here is a more complete analysis of the costs to banks of retaining Eurodollar liabilities. Some of the numbers in the earlier preliminary paper I gave you have been revised.

RS

Attachment.



BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM

Office Correspondence

Date October 19, 1970.

To Mr. Robert Solomon

Subject: Estimates of Gross Interest Costs

From Robert Bradshaw

to Banks of Retaining Historical Bases

Our intention here is to arrive at a rough approximation of the amount by which the 17 banks may expect their total interest expenses to be increased over the course of the next year under the assumption that they retain their current historical bases (rather than substituting lower cost domestic sources of funds for Euro-dollars). Basically, the costs are calculated as the product of a) various cost differentials (between Euro-dollars and domestic sources of funds) which the banks might expect to prevail, on average, over the course of a one year period and b) various amounts by which the banks' might have expected to reduce their reserve-free bases in the absence of loss-of-base considerations. For example, assume that Bank A now has a reserve-free base of \$1.0 billion and concludes (in view of its expectations about various developments in foreign and domestic money markets) that, were it not for the loss of base, it would probably reduce its reserve-free base to \$0.5 billion and estimates that the average differential between the cost of Euro-dollars and the cost of domestic alternatives during the year to come^{1/} will be 3/4 per cent. Under these assumptions the bank's estimate of the marginal cost of retaining its reserve-free base would be equal to 3/4 per cent of \$0.5 billion, or \$3.75 million.

^{1/} Which, of course, would influence the probable level of reserve-free base calculation.

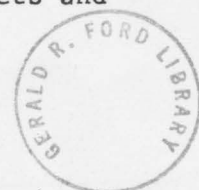


It should be emphasized that we are referring to expected costs as of the present time. Whether or not these expected costs will be realized is another matter, about which we can say very little. We are not trying to predict what the banks will do -- we are only trying to establish a reasonable range of estimates of the expected costs, as seen by the banks at this time, of retaining their bases. We do, however, compare various expected cost estimates with data on individual bank net operating income to try to determine the order of significance of these costs to the bank's overall profit picture. These comparisons may give some indication which of the banks may be likely to consider the cost of retaining their bases to be excessive.

Some largely arbitrary judgments must be made about the two elements in the cost calculation referred to above -- the amount (or per cent) of Euro-dollar liabilities that the bank would expect to replace with domestic funds^{1/} were no loss of base incurred and the expected average cost differential between the alternative sources of funds.

The former we will refer to as "excess Euro-dollars" and the latter simply as the "cost differential." In the examples given we assume the banks' estimates of "excess Euro-dollars" to range from 50 per cent of the current base to 25 per cent of the current base. The latter

^{1/} We assume, in effect, dollar for dollar substitution of domestic funds for Euro-dollars and no change in the size of total assets and liabilities.



percentage, we believe, is probably more realistic than the former. First National City of New York, in confidence, "projected" a 50 per cent reduction, but the other banks with whom discussions were held were speaking in the 15 per cent to 30 per cent range. These projections, however, were only for the balance of this year, and not a full year ahead. Moreover, these projections may not be a good proxy for these banks' estimates of their "excess Euro-dollars" in that they may still expect future benefits from retaining at least part of their current bases.

Regarding the expected "cost differential", the cost calculations (presented in the table) assume a 1/2 per cent differential between expected Euro-dollar cost and domestic funds cost. Various other differentials may be assumed; cost calculations for alternative differentials can be readily made from the 1/2 per cent calculation.

The table shows, for example, that Bankers Trust Co. currently has a reserve-free base of \$0.8 billion. Assuming this bank to estimate that 50 per cent of this amount (\$0.4 billion) represents "excess Euro-dollars" and that this bank expects the "cost differential" to average 1/2 per cent over the next year, then it's expected addition to total costs (before taxes) of retaining its base is about \$2.0 million. After tax cost, assuming a 50 per cent tax bracket, would be about \$1.0 million. Bankers Trust Co. in 1969 had net operating earnings 1/ of about

1/ After taxes, but before adjustment for capital losses or gains realized on security holdings.



\$42 million. Thus, in this example, this bank's estimated expected cost of retaining its reserve-free base is about 2.4 per cent of after tax profits.

Although a 1/2 per cent "cost differential" is employed in the table we have no strong ~~factual~~ or a priori basis for assuming this to be representative of the differential the banks may expect over the course of the year to come. Expectations, no doubt, differ considerably between the banks. The cost differential between three-month Euro-dollars and 60-89 day CDs (adjusted for the cost of reserve requirements against the latter) was about zero, on average, in August, 1970. This differential widened to well over 100 basis points in late September and early October (primarily as a result of rapidly declining CD offer rates, while Euro-dollar rates remained fairly constant). But in recent days this differential has narrowed to about 80 basis points, as Euro-dollar rates have eased rather markedly.

The differential between shorter maturities of Euro-dollar and domestic sources of funds has narrowed even moreso in recent days. The one-month Euro-dollar rate is now under 7 per cent--roughly $\frac{1}{2}$ per cent above the (adjusted) cost of 30-59 day CD funds to U.S. banks; and the excess of the call Euro-dollar rate over Federal funds has vanished in the last couple of days. The recent narrowing of the above differentials -- again, primarily a result of a rapid decline in



Euro-dollar rates--may or may not be a temporary phenomena, depending largely upon the reasons behind the decline in Euro-dollar rates. There is evidence that a rather marked easing in conditions in certain foreign money market has contributed to the decline, but this may be a temporary development. If this decline in Euro-dollar rates also reflects, or primarily reflects, a decision by U.S. banks to give up part of their reserve-free bases the rate decline may be more permanent, and the banks using historical bases may revise their expectations about the costs of retaining these bases.

Attachment

cc: RFG, JER, Fred Dahl, BB, RWS.



Estimated Costs of Retaining the Current Reserve-free Historical Base,
for 17 Banks, Under Selected Assumptions

Bank	Reserve-free Base ^{1/} (millions of dollars)	Per annum cost (millions of \$) at a ½% "cost differential", assuming various ratios of "Excess Euro-dollars" to current bases ^{2/}		Net Operating Earnings ^{3/} (millions of dollars)	After tax cost ^{4/} as a percent of Net Operating Earnings at a ½% "cost differential", at various ratios of "Excess Euro- dollars" to current base.	
		50%	25%		50%	25%
First Natl., Boston	448	1.12	0.56	38.8	1.4	0.7
State Street Bank	25	0.07	0.04	9.6	0.4	0.2
Bank of New York	79	0.20	0.10	17.4	0.6	0.3
Bankers Trust	811	2.03	1.01	42.2	2.4	1.2
Chase Manhattan	2,239	5.60	2.80	119.5 ^{*/}	2.3	1.2
Chemical	853	2.14	1.07	67.3 ^{*/}	1.6	0.8
First Natl. City, N.Y.	1,453	3.63	1.82	112.8 ^{**/}	1.6	0.8
Irving Trust Co.	723	1.81	0.90	23.7	3.8	1.9
Mfg. Hanover	584	1.46	0.73	68.5 ^{*/}	1.1	0.5
Marine Midland	270	0.68	0.34	13.8	2.5	1.2
Morgan Guaranty	1,250	3.13	1.56	78.1 ^{*/}	2.0	1.0
Provident, Phil.	21 ^{a/}	0.05	0.03	8.9 ^{*/}	0.3	0.2
Mellon	176	0.44	0.22	46.9	0.5	0.2
Union Bk., L.A.	94 ^{a/}	0.24	0.12	13.1	0.9	0.5
Bank of America	678 ^{a/}	1.70	0.85	146.1 ^{*/}	0.6	0.3
First Natl. Chicago	348	0.87	0.44	50.8 ^{*/}	0.9	0.4
Continental Ill.	670	1.68	0.84	52.7	1.6	0.8
Total	10,721	26.85	13.43			

^{1/} In the computation period ended September 30, 1970, except those footnoted ^{a/} which are for the previous computation period.

^{2/} The cost calculated for a 50% ratio of "Excess Euro-dollars" to current base, for example, assumes that the bank expects that it would--were loss of base considerations not relevant--replace 50% of its Euro-dollar reserve-free base with domestic sources of funds expected to cost ½% less, on average, over the course of the next year. See text for a more complete discussion.

^{3/} After taxes but before gains or losses realized on security transactions; annual for 1969 or 1968 (marked with an asterisk), or 1967 (marked with a double asterisk). Source: Moody's Bank and Finance Manual, April 1970. Data are for bank operations, rather than for parent holding company.

^{4/} Assuming a 50% tax bracket for simplicity.

