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BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D.C. 20551

October 14, 1980

STRICTLY CONFIDENTIAL
CLASS I - FOMC

TO: Federal Open Market Committee

FROM: Murray Altmann

Attached is a memorandum presenting background material on proposed changes in terms of Federal Reserve swap drawings, dated October 10, 1980, prepared in the Board's Division of International Finance at the request of Chairman Volcker. It is contemplated that this subject will be discussed at the Committee meeting on October 21, under agenda item 2D.

Attachment

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CLASS I - FOMC

October 10, 1980

TO: Edwin M. Truman

FROM: John E. Morton

SUBJECT: Backgound Material on Proposed Changes in Terms on Federal Reserve Swap Drawings.

This paper sets forth considerations relevant to proposed changes in the terms under which the Federal Reserve draws on swap lines with foreign central banks. Two changes are proposed.

First, the risk-sharing provision, under which any profits or losses resulting from Federal Reserve swap drawings are shared equally by the foreign central bank drawn upon, would be eliminated.

Second, the interest paid by the Federal Reserve when it borrows foreign currency through a swap drawing would be based on a foreign interest rate rather than, as at present, the U.S. Treasury bill rate.

These changes were previously considered by the FOMC at its meeting of October 17, 1978 and approved in principle. However, it was felt then that prevailing conditions of large-scale U.S. intervention in support of the dollar involving potentially substantial foreign exchange losses made approval at that time inappropriate, and formal action was deferred.

The historical background relevant to the proposed changes is discussed below (section I), along with their potential impact on the cost of Federal Reserve foreign exchange market operations (section II).

I. Historical Background

The Federal Reserve bore the entire exchange rate risk on its swap drawings before July 1973. The adoption of the risk-sharing provision with

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several foreign central banks at that time reflected the changed conditions resulting from the breakdown of the Bretton Woods fixed exchange rate system. Under the fixed rate system, foreign central banks had primary responsibility to intervene in order to maintain dollar exchange rates within specified margins around par values. Subsequent to the advent of the flexible exchange rate regime in the spring of 1973, the United States was urged by foreign central banks to undertake swap-financed intervention to support a then declining dollar. The risk-sharing provision was a key element in the agreement by U.S. authorities to intervene beginning in July 1973, and served as an inducement to the United States to incur the foreign exchange risk involved in intervention undertaken at the urging of -- and in this sense on behalf of -- foreign central banks, which otherwise might have felt compelled to undertake this intervention and its associated risk themselves. The risk-sharing provision has been incorporated in all swap agreements under which the Federal Reserve has drawn since 1973 (with the Belgian, Dutch, French, German, Japanese, and Swiss central banks).*/ Treasury drawings under its swap line opened with the Bundesbank in January 1978 have also carried a risk-sharing provision.

From the time of its inception, the risk-sharing provision has been objected to by foreign central banks on the grounds of its asymmetry; swap agreements carry no risk-sharing provision for drawings by foreign central banks, including swap partners that share the risk on our drawings.**/ The

*/ The Federal Reserve does not have a risk-sharing provision in the swap agreements with its 8 other partner central banks, those of the United Kingdom, Italy, Canada, Austria, Denmark, Mexico, Norway, Sweden, nor with the Bank for International Settlements (BIS).

**/ However, none of the six central banks that currently share the risk on Federal Reserve drawings have drawn on the swap line since July 1973. Drawings by the Bank of Japan were approved in principle in the spring of this year, but none were made.

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force of this objection has tended to strengthen over time, as the scope and nature of U.S. intervention operations have evolved. The scale of U.S. intervention has increased in recent years relative to that of foreign central banks, and independent U.S. policy objectives, rather than the urging of foreign central banks, have increasingly motivated U.S. foreign exchange market operations.

On some occasions in the past, objections by foreign central banks to the risk-sharing provision have delayed the possible initiation of a new sequence of Federal Reserve swap drawings, as the partner central banks held out in an effort to achieve symmetry. The Bank of France initially resisted the risk-sharing provision, and the Bank of England has refused to permit risk-sharing on Federal Reserve drawings. On other occasions, after a series of drawings had been initiated by the Federal Reserve, the Bundesbank has attempted to restrict the use of the swap line, using the argument that since it bears half of the risk on intervention financed by U.S. swap drawings, it should agree fully on the appropriateness of that intervention.

In July 1978 the Bundesbank proposed removing the risk-sharing provision from its swap agreement with the Federal Reserve. In conjunction with this change, and reflecting informal discussions between Federal Reserve and Bundesbank officials, the Bundesbank also proposed that the System pay the German interest rate on new swap drawings, rather than paying the U.S. Treasury bill rate, as had previously been the case.*/ At its meeting in

*/ Exactly which German interest rate was to be used was not specified. Further negotiation between the Bundesbank and the Federal Reserve would be needed to arrive at a mutually satisfactory approximation to the German equivalent of the U.S. Treasury bill rate. Institutional arrangements for paying this interest would also have to be developed. One possibility would be to continue paying the U.S. Treasury bill rate, but suitably adjust the forward exchange rate on the swap so as to yield the Bundesbank a net return equal to the German interest rate.

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October 1978 the Committee considered and approved these changes in principle, but formal action was deferred. The Treasury felt that it would have been politically costly to drop the risk-sharing provision at that time, since the United States was in the midst of large-scale intervention operations which so far had led to substantial losses. The Treasury indicated, however, that it might be sympathetic to the proposal under more favorable circumstances in the future.

Present conditions appear more favorable to adoption of the proposed changes. The Treasury has no swap drawings outstanding, and Federal Reserve swap debt to the Bundesbank has been reduced to about $150 million equivalent. If the German proposals were accepted, similar terms would be negotiated with other foreign central banks, extending the amended provisions to all Federal Reserve swap arrangements. The changes would, of course, depend on the agreement of the Treasury, which would have to make similar changes in its own swap arrangement with the Bundesbank. It is anticipated that consultation with Congressional leaders would also be necessary.

II. Changes in the Costs of Federal Reserve Exchange Market Operations

In considering the gains or losses arising from intervention financed by Federal Reserve swap drawings, it is useful to split total gains or losses into two components, interest rate gains or losses and exchange rate gains or losses. If the Federal Reserve wished to intervene to support the dollar against, for example, the mark, it might borrow marks and sell the marks in the foreign exchange market. It would then invest the dollar proceeds of this operation in U.S. Treasury bills until the intervention was reversed, i.e., the dollars were used to buy back marks in the foreign exchange market, and

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the original mark borrowing was repaid. The difference between the interest paid on the mark borrowing and the interest received on the dollar investment would determine the interest rate gain or loss. The difference between the exchange rate at which the marks were originally sold in the market and the rate at which they were subsequently bought back would determine the exchange rate gain or loss. The total gain or loss from the operation would be the sum of the interest rate and exchange rate gains or losses.

If all transactions were at market rates, the implied "market expectation" of total gains or losses would be zero. In the case of a currency, such as the mark, where the German interest rate was below the U.S. interest rate, there would be an interest rate gain. However, this would tend to be offset by an exchange rate loss due to an expected depreciation of the dollar relative to the mark. The offset would be exact in the unlikely event that the dollar's depreciation exactly corresponded to market expectations, as embodied in the forward rate.*/

Swap-financed Federal Reserve intervention under the current swap terms differs from a borrowing at market rates in two respects. First, the interest rate paid on the swap drawing is the U.S. Treasury bill rate rather than the (normally lower) German interest rate. This means that, under current swap terms, the Federal Reserve forgoes the interest rate gain it would receive if it borrowed marks at the lower German interest rate -- a clear disadvantage for the Federal Reserve. Second, the Federal Reserve

*/ This assumes that the market forward rate is equal to the expected future spot rate, and that the current spot rate differs from the forward rate by an amount equal to the difference between Eurodollar and Euro-DM interest rates. In these circumstances the implied expected depreciation of the dollar is equal to the forward discount on the dollar, i.e., the interest differential.

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shares any exchange rate gain or loss equally with the Bundesbank. This may be an advantage or disadvantage from the Federal Reserve's standpoint, depending on subsequent exchange rate movements. On average, for a currency such as the mark an exchange rate loss might be expected, and risk sharing alone would therefore appear to be advantageous to the Federal Reserve. However, unless exchange rate movements were unusually adverse for the dollar (i.e., worse than implicit in forward rates), the expected advantage from the risk-sharing provision would be outweighed by the disadvantage of the foregone interest rate gain. This means that Federal Reserve intervention sales of marks could, on average, be financed more advantageously through borrowing at market rates rather than by a swap drawing on the Bundesbank at current swap terms.

The proposed changes in the terms of Federal Reserve swap drawings would eliminate the risk-sharing provision and change the interest rate on borrowings to the German rate from the U.S. rate. For the reasons outlined above, therefore, the proposed changes could be expected, on average, to be to the advantage of the Federal Reserve in terms of the total gains or losses arising from swap financed intervention. However, such a result would not be guaranteed in every case.

The argument that the proposed changes in the terms under which the Federal Reserve would make future swap drawings would be advantageous from the standpoint of profits or losses tends to be reinforced by an _ex post_ examination of past swap operations. If the proposed changes had been in effect for previous Federal Reserve swap drawings, the Federal Reserve would have gained.

Between July 1973 and the end of 1977, a period when U.S. intervention was relatively light and, as shown in Table 1, Federal Reserve swap

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Table 1

System Swap Drawings on Partners
1973 - present
(millions of dollars)

Period	Average Outstandings[1/]
German mark:	
2/73	105
7/73 - 10/73	116
2/74 - 8/74	220
10/74 - 7/75	458
2/76 - 5/76	90
12/76 - 1/77	15
7/77 - 8/77	35
10/77 - 10/78	1,007
11/78 - 4/79	3,109
6/79 - 3/80	2,547
4/80 - present	589
Japanese yen:	
11/78 - 2/79	122
Swiss franc:	
12/74 - 4/75	81
1/78 - 5/78	71
6/78 - 2/79	324
6/79 - 8/79	34
9/79 - 11/79	22
1/80	23

Period	Average Outstandings[1/]
Belgian franc:	
7/73	6
8/74	2
11/74	10
12/74	3
2/75 - 4/75	8
5/75 - 6/75	13
French franc:	
7/73 - 8/73	47
5/75 - 7/75	43
4/80 - present	106
Netherlands guilder:	
10/73	3
7/74	2
8/74	5
11/74 - 7/75	30
2/76 - 3/76	20

1/ Estimated by averaging month-end figures when there were outstanding commitments.

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drawings were relatively small, foreign-exchange profits of $26.8 million were recorded. Half were shared with foreign central banks according to the risk sharing provision. As shown in Charts 1-3, appended, interest rates in the countries of the major central banks drawn on were sometimes above and sometimes below U.S. interest rates during this period. In the aggregate the proposed new swap terms would have produced a small interest rate loss, but this would have been less than the additional exchange rate profit gained from the elimination of the risk sharing.

The results for the more recent period are somewhat mixed, but the overall conclusion is the same. Data for the period between the end of 1977, when the Federal Reserve began intervening on a large scale, and October 8 of this year are shown in Table 2. As indicated in column 2 of the table, a net exchange rate loss of $98.3 million was realized on swap drawings over this period, with losses on mark drawings outweighing smaller profits on yen and Swiss franc drawings. The risk-sharing provision enabled the Federal Reserve to share half of this net loss with foreign central banks (column 3). Thus the lack of risk sharing would have cost the Federal Reserve $49.1 million on balance. However, foreign interest rates were below the U.S. Treasury bill rate over this period, as shown in Charts 1-3. Interest payments actually paid on swap drawings at the U.S. Treasury bill rate totaled $451.6 million over this period (column 4). Had interest been paid at the lower foreign rates, as under the proposed procedure, total interest payments would have been cut to an estimated $284.7 million (column 5), a savings of $166.9 million (column 6). On balance, therefore, the proposed new swap terms would have resulted in a net gain for the Federal Reserve of about $118 million (the

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Table 2

Profits or Losses on Federal Reserve Swap Drawings
October 1977 - October 1980
($ million)

Currency Drawn and Period of Drawing (1)	Realized Exchange Rate Profits or Losses: Without Risk Sharing (2)	Realized Exchange Rate Profits or Losses: With Risk Sharing (3)[=0.5x(2)]	Interest Payments at: Actual U.S. Rate 1/ (4)	Interest Payments at: Hypothetical Foreign Rate 2/ (5)	Hypothetical Interest Rate Profits or Losses (6)[=(4)-(5)]	Total Profits or Losses: Actual (7)[=(3)]	Total Profits or Losses: Hypothetical (8)[=(2)+(6)]
German mark:							
10/5/77 - 10/31/78	-84.2	-42.1	60.7	35.6	25.1	-42.1	-59.1
11/1/78 - 4/27/79	21.5	10.8	144.2	66.7	77.5	10.8	99.0
6/20/79 - 3/13/80	-76.3	-38.2	202.4	156.0	46.4	-38.2	-29.9
4/8/80 - 10/8/80	-8.1	-4.0	21.8	25.2	-3.4	-4.0	-11.5
Total DM	-147.0	-71.5	429.1	283.5	145.6	-71.5	-1.5
Japanese yen:							
11/6/78 - 1/31/79	8.5	4.3	2.4	0.4	2.0	4.3	10.5
Swiss franc:							
6/27/78 - 2/22/79	36.2	18.1	19.3	0.6	18.7	18.1	54.9
1/27/79 - 1/24/80	4.1	2.1	0.8	0.2	0.6	2.1	4.7
Total SF	40.3	20.2	20.1	0.8	19.3	20.2	59.6
Total (DM, SF and J¥)	-98.3	-49.1	451.6	284.7	166.9	-49.1	68.6

1/ Three-month U.S. Treasury bill rate.
2/ Three-month foreign rates used were the interbank rate for the mark and euro-rates for the Swiss franc and Japanese yen.

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difference between columns 8 and 7). On the German marks drawn and repaid between October 1977 and October 1978, shown in the top line of the table, exchange rate losses were large enough to outweigh the interest rate gain and make the actual outcome more favorable than the hypothetical outcome under the proposed swap terms. The most recent series of drawings would have shown, to date, small realized exchange rate losses and small interest rate losses.

Treasury drawings on its swap line with the Bundesbank in 1978 would have been even more profitable under the proposed terms. The Treasury had exchange rate profits of $5.8 million, half of which it shared with the Bundesbank under the risk-sharing provision. In addition, payment of interest on borrowings at the lower German interest rate would have resulted in gains to the Treasury of $25.4 million.

Several qualifications should be mentioned in connection with the apparent advantage of the proposed swap terms in respect to profits and losses.

First, drawings under the proposed terms would be expected to be more profitable only in cases where the central banks drawn on had lower interest rates. If drawings were made in currencies where nominal interest rates were above those in the United States (for example, Italy or the United Kingdom), the reasoning used previously would suggest the proposed new swap terms would prove less favorable on average than those currently in existence, i.e., the certain interest rate loss would normally outweigh any benefit arising from not sharing an expected exchange rate gain. Since most likely future Federal Reserve drawings would be on central banks with relatively low interest rates, however, this qualification is reduced in importance.

A second factor to consider is that foreign exchange related profit or loss figures officially reported by the Federal Reserve are what has been called in this paper "exchange rate profits and losses"; swap related interest

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rate gains or losses are not included in the published figures. While the proposed changes in swap terms would normally be beneficial in terms of interest rates, the dropping of the risk-sharing provision might result in larger reported losses on foreign exchange operations. To the extent that the Federal Reserve would encounter increased criticism from larger reported foreign exchange losses, this might be a potential drawback of the proposed swap terms. This drawback could be overcome, however, by amending the published figures to show total gains and losses (including interest rate gains) related to foreign exchange operations.

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Chart 1

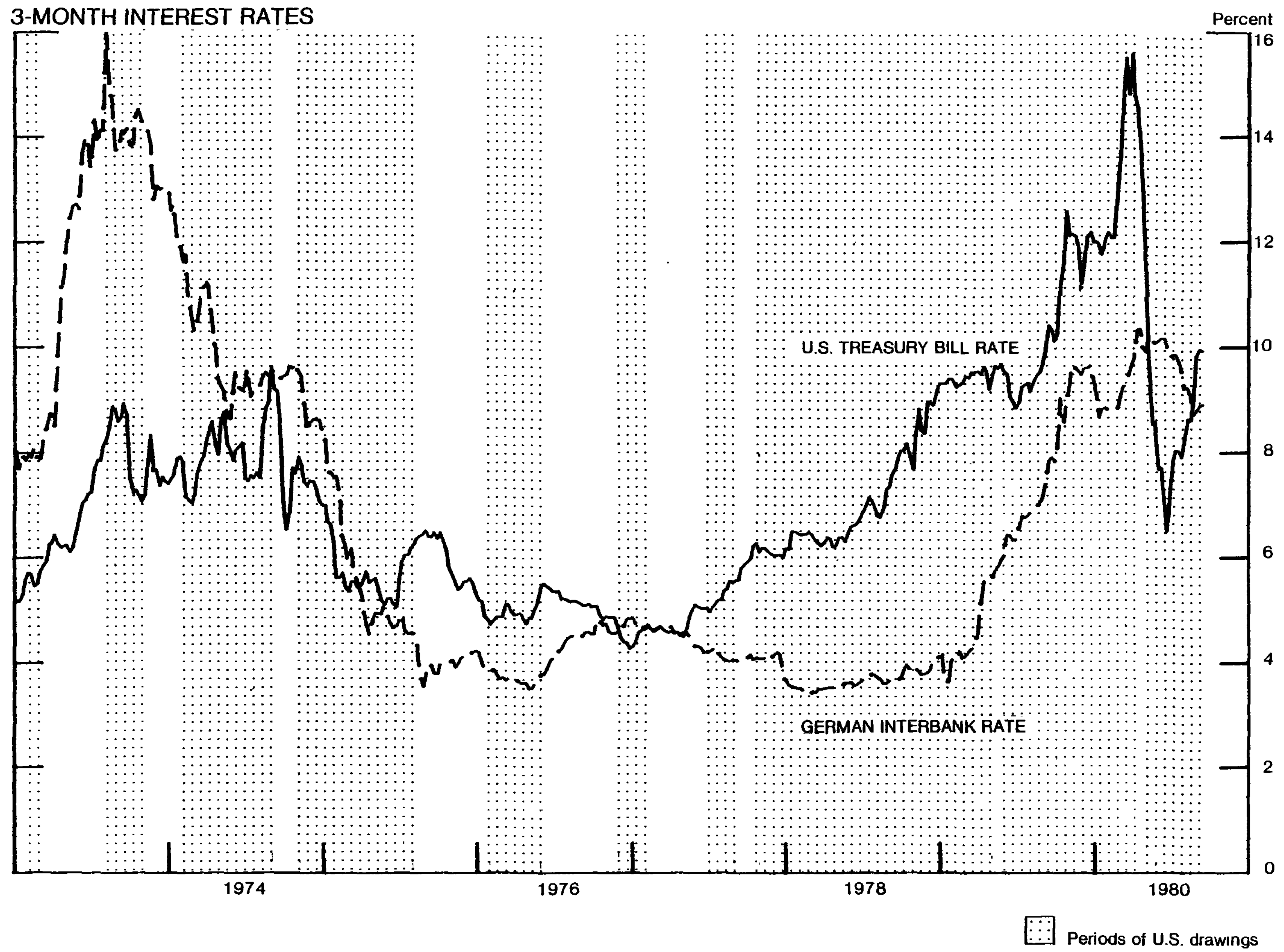

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Chart 2

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Chart 3