FOR AGENDA

SM/83/157

July 11, 1983

To: Members of the Executive Board

From: The Acting Secretary

Subject: Considerations Relating to a Possible Proposal for an Allocation of SDRs in the Current Basic Period

There is attached for consideration by the Executive Directors a paper on considerations relating to a possible proposal for an allocation of SDRs in the current basic period.

It is proposed to bring this subject to the agenda for discussion on Monday, August 1, 1983.

If Executive Directors have technical or factual questions relating to this paper prior to the Board discussion, they should contact Mr. Rhomberg, ext. 73751.

Att: (1)

Other Distribution:
Department Heads

Considerations Relating to a Possible Proposal for an Allocation of SDRs in the Current Basic Period

Prepared by the Research Department

(In consultation with the Legal Department and the Treasurer's Department)

Approved by R. R. Rhomberg

July 8, 1983

The third basic period for SDR allocation, which began on January 1, 1978, ended on December 31, 1981. An allocation of approximately SDR 4 billion was made on January 1 in each of the last three years of that period, bringing the cumulative allocation of SDRs since their introduction in 1970 to SDR 21.4 billion. No SDR allocation has so far been made in the fourth basic period, which began on January 1, 1982.

At its twentieth meeting, held in Washington, D.C., on February 10 and 11, 1983, the Interim Committee considered again the question of the allocation of SDRs in the fourth basic period. The committee noted the developments bearing on this issue that have occurred since its nineteenth meeting in Toronto in September 1982 and agreed that the matter of SDR allocation

> ... should be re-examined as soon as possible. It, therefore, requested the Executive Board to review the latest trends in growth, inflation and international liquidity, with a view to enabling the Managing Director to determine, not later than the next meeting of the Interim Committee, whether a proposal for a new SDR allocation could be made that would command broad support among members of the Fund. 1/

The purpose of the present paper is to provide a basis for the review requested by the Interim Committee. The paper starts with a brief historical survey of SDR allocation and of the factors and developments that were considered relevant in discussions on allocation in the first four basic periods (Section I). It then describes recent changes in the world economic and financial situation and their implications for the assessment of the need to supplement existing reserves through SDR allocation (Section II). The paper concludes with a list of topics for discussion (Section III).

1/ Press Communique of the Twentieth Meeting of the Interim Committee of the Board of Governors of the International Monetary Fund, Washington, D.C., February 10-11, 1983, Press Release No. 83/11, p. 4.

I. Historical Review of SDR Allocation

1. Requirements for SDR allocation

In decisions on SDR allocation, the Fund is required by its Articles of Agreement to take several elements into account. There must be a long-term global need to supplement existing reserve assets. Also, SDR allocations must promote the attainment of the Fund's purposes and be consistent with the objective of avoiding economic stagnation and deflation as well as excess demand and inflation in the world. 1/ In addition to these requirements, the objective of making the SDR the principal reserve asset in the international monetary system must also be recognized. 2/

2. Grounds for decisions in four basic periods 3/

First basic period. A decision was taken in 1969 to allocate close to SDR 3 1/2 billion at the start of 1970 and SDR 3 billion each at the beginning of 1971 and 1972. It was noted in the Managing Director's Proposal

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1/ The relevant provision is as follows:

Article XVIII, Section 1(a)--"In all its decisions with respect to the allocation and cancellation of special drawing rights the Fund shall seek to meet the long-term global need, as and when it arises, to supplement existing reserve assets in such manner as will promote the attainment of its purposes and will avoid economic stagnation and deflation as well as excess demand and inflation in the world."

Moreover, the first decision to allocate, which was made with respect to the first basic period, also had to "take into account, as special considerations, a collective judgment that there is a global need to supplement reserves, and the attainment of a better balance of payments equilibrium, as well as the likelihood of a better working of the adjustment process in the future." (Article XVIII, Section 1(b).)

2/ The relevant provisions are as follows:

Article VIII, Section 7--"Each member undertakes to collaborate with the Fund and with other members in order to ensure that the policies of the member with respect to reserve assets shall be consistent with the objectives of promoting better international surveillance of international liquidity and making the special drawing right the principal reserve asset in the international monetary system."

Article XXII--"In addition to the obligations assumed with respect to special drawing rights under other articles of this Agreement, each participant undertakes to collaborate with the Fund and with other participants in order to facilitate the effective functioning of the Special Drawing Rights Department and the proper use of special drawing rights in accordance with this Agreement and with the objective of making the special drawing right the principal reserve asset in the international monetary system."

These provisions were added by the second amendment to the Articles and were thus not considered in the first and second basic periods.

3/ A fuller discussion of this subject can be found in "The Evolving Role of the SDR in the International Monetary System" (SM/82/107, June 4, 1982).

for SDR Allocation 1/ that, since the early 1950s, reserves had declined by 50 per cent relative to world trade but that the effect of this development in impairing reserve ease had been offset, if not outweighed, by a marked improvement in the distribution of reserves up to the mid-1960s. This redistribution of reserves had been the result of a shift in holdings from countries (notably the United States) with excessively high reserves to other countries with less than adequate holdings. Possibly, also, the magnitude of payments imbalances might have shown some decline relative to international transactions. Since about 1964, however, the situation had changed: the growth of reserves had been markedly reduced, the ratio of reserves to trade had declined more rapidly than in the years before 1964, the transfer of reserves from deficit to surplus countries had ceased to act as a force tending to equalize reserve ratios, and international credit had increasingly been resorted to as a means of relieving the tightness of reserves.

The main evidence of a reduction in reserve adequacy lay in the increased reliance on restrictions of international transactions and the greater recourse to international financial assistance for meeting payments deficits and sustaining reserves. After due consideration, less weight was given to evidence that could have suggested that reserve levels were adequate or even excessive, such as high levels of domestic demand, rising rates of inflation, and the absence of competitive or excessive devaluations. It was also expected that the U.S. balance of payments deficit would be eliminated, thus drying up a source of international reserve supply that had been important in the 1950s and 1960s. On balance, the conclusion was reached that some supplement to existing reserves was required.

Second basic period. As it turned out, official foreign exchange holdings actually grew at an unprecedented rate during the first basic period. Even without the cumulative allocation of SDR 9.3 billion, the growth of non-gold reserves by some 150 per cent over a three-year period would clearly have been excessive rather than inadequate. In view of this unexpectedly rapid growth of reserves and of rising inflation during the early 1970s, no allocations were proposed for the years 1973-78, which covered all five years of the second basic period and the first year of the succeeding period. The symptoms of reserve ease were acknowledged to predominate over those of stringency.

Third basic period. The changes in the reserve creation process that had taken place in the 1970s were taken into account when the decision was taken to allocate SDR 4 billion in each of the last three years of the third basic period, 1979-81. In particular, experience showed that countries wanted to increase their reserves as the level of their international

1/ The International Monetary Fund 1966-1971: The System Under Stress, Volume II. Documents, Margaret G. de Vries, ed., Washington, D.C., 1976, pp. 251-65.

transactions rose, but most countries actually had a means for satisfying their need for reserves when access to international capital markets was as free as it was at that time. Thus, SDR allocations could not be justified by finding that the long-term global need for reserves could not be met except by allocation. It was considered, however, that a case could be made for SDR allocation--even though needed increases in reserves could be achieved through the growth of other reserve assets--on the ground that such allocations may improve the quality of reserves by changing their composition. For instance, a system in which countries added to their international indebtedness as their gross reserves increased involved the need for periodic refinancing of reserve holdings, a difficulty that did not arise when additions to net reserves were made through SDR allocations. Another consideration was the objective of making the SDR the principal reserve asset in the international monetary system, as set out in the amended Articles. In view of these considerations, the conclusion was reached that the allocation of SDRs be resumed. The possible effects on expectations with respect to inflation also had to be taken into account, with the result that the allocations were modest in terms of both annual size and the length of the period for which they were made.

Fourth basic period. During 1981, before the expiration of the third basic period at the end of that year, active consideration was given to the question of SDR allocation in the fourth basic period. Early in 1981, two staff memoranda on SDR allocation were discussed in the Executive Board. 1/ There were further discussions on this subject in August and December of 1981. 2/ These discussions were held against the background of economic and financial developments then in view. The principal assumptions and projections made in 1981 in this context were that

--despite the recession in economic activity in 1980, economic growth at the rate observed in the second half of the 1970s would soon be resumed;

--inflation had reached record levels in 1980-81, inflationary pressures were strongly entrenched, and even determined anti-inflationary policies in the industrial countries were unlikely to reduce them quickly;

--non-gold reserves, as well as the market value of gold reserves, had risen rapidly in recent years, particularly in 1980; and

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1/ "Considerations Relating to the Size of SDR Allocations in the Fourth Basic Period," SM/81/4, January 7, 1981 and Correction 1, January 19, 1981; and "Further Considerations Relating to the Size of SDR Allocations in the Fourth Basic Period," SM/81/74, April 1, 1981 and Supplement 1, April 14, 1981. Discussion of these papers is summed up in Buff 81/18 (1/10/81) and Buff 81/71 (4/22/81).

2/ The first of these discussions are summed up in Buff 81/156.

--although a number of countries with external deficits might have had only limited access, or no access, to international capital markets, the required financing of balance of payments deficits consistent with efficient external adjustment was on the whole being accomplished without problems through these markets.

In the light of this outlook, "Directors felt that, given the gravity of inflationary pressures in the world, it was important for the Fund to adopt a somewhat cautious attitude toward further allocations" (Buff 81/71, p. 1). Some Executive Directors stressed the abundance of international liquidity at that time, an abundance that stemmed in part from the rise in the price of gold and the functioning of the capital markets, in particular the banking sector (see Buff 81/156, p. 1). Some Directors also cautioned that the Fund should not give a wrong--i.e., inflationary--signal through SDR allocation while at the same time emphasizing the importance of anti-inflationary domestic policies (Buff 81/71 and Buff 81/156) and that conditional rather than unconditional financing would be most conducive to adjustment.

Other Directors referred to the long-term need for international reserves, which was likely to grow with the value of trade and other international transactions. Considerations of the quality of reserves, as distinct from their quantity, suggested to these Directors that there was room for reserves that were provided through a collective and co-operative approach in response to the needs of members. They pointed to shortcomings, in part with respect ot the distribution and the quality of reserves, of a mechanism of reserve generation that relied unduly on the monetary policies of reserve currency countries and on international credit extension through the private capital markets. (See Buff 81/71 and Buff 81/156.) Many of these Directors considered it important for the Fund to avoid inadvertently sending another kind of inappropriate signal by interrupting SDR allocations, namely, one that could be interpreted as indicating the end of the process of collective provision of reserves through SDR allocation. These Directors also stressed that a period without SDR allocations would mark a retreat from the objective of making the SDR the principal reserve asset in the international monetary system. (See Buff 81/156.)

In weighing these different views expressed by Executive Directors in April, 1981, the Managing Director concluded, and reported, that he would not be in a position, by June 30 of that year, to make a proposal for allocations of SDRs in the fourth basic period that would command broad support among the members of the Fund in accordance with the Articles. The further discussions on this subject in August and December of 1981 did not alter the situation. Accordingly, the fourth basic period started as an "empty period," i.e., a period without allocations, on January 1, 1982.

The following section will review salient changes in economic and financial developments in the period of eighteen months to two years since these discussions on SDR allocation were held.

II. Recent Economic Developments and Their Effects on International Liquidity

This section deals with changes in economic and financial conditions since 1981 so far as they are relevant for an assessment of the state of international liquidity and the case for SDR allocation. This discussion takes cognizance of the fact that a description of the situation envisaged in 1981 must be based largely on data for 1980 and perhaps the early months of 1981, together with forecasts made in 1981, just as the present (1983) situation is analyzed on the basis of data for 1982 and, to some extent, the early months of 1983, together with present forecasts and expectations for the years to come.

Developments in three areas are taken up in turn: economic activity and inflation, official reserves, and international bank lending.

1. Economic activity and inflation

In the period since the Board considered the question of an SDR allocation in early 1981, economic activity has been weaker, and inflation has receded faster, than was generally projected at that time. In the World Economic Outlook document considered by the Board in 1981 (Occasional Paper 4, June 1981) the Fund staff projected a growth of output in industrial countries of 1 1/2 per cent in 1981 and 2-2 1/2 per cent in 1982. No explicit projection was made for 1983, but it may be inferred from the "scenario" exercise undertaken at the time that growth of 3-3 1/2 per cent was considered a central estimate. It was thus expected that total output in the industrial countries would be some 7-7 1/2 per cent higher in 1983 than in 1980. In the latest World Economic Outlook (Occasional Paper 21, May 1983), the growth that is now estimated over this three-year period is of the order of 2 1/2 per cent, i.e., 4 1/2-5 per cent less than was foreseen in early 1981. The corresponding "gap" between actual and projected output is even greater for the non-oil developing countries (about 8 1/2 per cent) and the oil exporting countries (20 per cent). Thus, overall world output in 1983 is now expected to be about 5 1/2-6 per cent less in volume terms than was foreseen in the third quarter of 1981.

Price performance has also diverged significantly from earlier expectation. As in the case of output, an explicit forecast for 1983 was not made in the 1981 World Economic Outlook paper referred to above. However, the language used in the paper suggests that, following a projected decline in inflation for 1982, a further decline of about the same magnitude was foreseen for 1983. This would have implied an average rate of increase in the GNP deflator among industrial countries of just over 7 per cent in 1983. Currently, a rate of about 5 1/2 per cent is being forecast for 1983. In the developing countries, it is more difficult to characterize inflation experience, since the weighted average figures were heavily influenced by the unrepresentative experience of a few large countries with very high rates of price increase. The result was that the weighted-average inflation rate for developing countries as a group has continued

to remain high (and above earlier projections), while the median rate has come down.

These divergences of actual from forecast developments in the world economy have several implications for the question of an SDR allocation. The value of world output is an important determinant of the level of world trade and thus of payments imbalances, which are financed through the use of international liquidity. This is considered in more detail below. In addition, the economic situation in the world (and in particular the balance between inflationary and deflationary forces) is a consideration that must be taken into account in any decision with respect to an SDR allocation. The weaker trend in output and the more rapid progress against inflation has presumably changed this balance from what it was perceived to be two years ago. To the extent that an allocation directly or indirectly stimulates demand, such a consequence would presumably be less unwelcome in the circumstances now prevailing than in those that had been anticipated earlier.

Moreover, to the extent that the lack of support for an SDR allocation in 1981 had been based on a reluctance to contribute indirectly to inflation by giving an inflationary signal to the world economy in the circumstances envisaged at that time, the substantial and rapid reduction of inflation in many major industrial countries since 1981 may have reduced the force of this obstacle to a resumption of SDR allocation.

2. Recent changes in international reserve holdings

The figures on official holdings of non-gold reserves at the end of 1980 that were available in the early part of the following year, when an allocation of SDRs for the fourth basic period was being considered, showed a continuation of an upward trend that had become well established. When these reserves are valued in SDRs as the unit of account, their growth over the two years 1979 and 1980, for example, had been at an average annual rate of 15 per cent.

Developments from that time on, however, have differed markedly from the past pattern. The growth of non-gold reserves during 1981 slowed to about 5 per cent. Most of that gain was lost in the first half of 1982, when a widespread decline set in. Subsequent changes through the end of April 1983 have been predominantly in an upward direction but have been rather small. These most recent figures show reserves still no higher than they had been 16 months earlier, that is, at the end of 1981.

The relative stability of the aggregate figures for non-gold reserves masks some movements in their composition and in their distribution that are offsetting. One of the largest changes in composition was in holdings of Fund-related assets--SDRs and reserve positions in the Fund--which increased from SDR 29 billion at the end of 1980 to SDR 48 billion at the end of April 1983. This form of reserves, therefore, was entirely responsible for such growth as occurred during this period, as foreign exchange

holdings declined slightly from SDR 297 billion at the beginning of the period to SDR 293 billion at the end.

As to the distribution of non-gold reserves, the experience of individual countries differed widely but the changes for the major groups were all quite small. Both the industrial countries and the non-oil developing countries recorded increases of roughly 4 per cent from the end of 1980 to the end of April 1983, while the reserves of oil exporting countries as a group declined by some 1 per cent during the period.

The mere fact that reserves have grown very little over the past two years is not by itself sufficient to conclude that the reserve situation has become more stringent. If the stagnation of reserves had merely reflected demand factors associated with the recent world recession, the adequacy of reserves might not have changed. However, if changes in the conditions of reserve supply had further depressed the reserve holdings of countries, a different conclusion might be indicated. For this reason, it is important to examine to what extent the departure from the past upward trend in non-gold reserves can be ascribed to changes in factors affecting the demand and those affecting the supply of reserves.

The changes in demand factors affecting SDR-denominated reserves that occurred during the period under review, particularly the stagnation in the volume of world imports, the decline in their U.S. dollar-based unit value index, and the appreciation of the U.S. dollar against all other currencies in the SDR, are discussed more fully in the Appendix. It turns out that demand factors can explain almost all of the slowdown in the growth of reserves of industrial countries but not of developing countries. Hence there is evidence, developed in the Appendix and summarized below, that recent changes in supply factors have affected the non-gold reserve holdings of developing countries.

The non-gold reserves of developing countries, like those of industrial countries, changed little from the end of 1980 to the end of 1982. By the latter date, however, these holdings were considerably lower than would have been implied by changes in demand factors alone. In other words, if borrowed reserves had been available under the same conditions as before 1981, the reserve holdings of developing countries would have been expected to be larger than they turned out to be at the end of 1982. The amount of the deviation of actual reserves from the past (demand-determined) pattern of reserve accumulation was SDR 27 billion for developing countries as a group, with non-gold reserves 16 per cent less than expected in view of actual developments in demand. The discrepancy that remains after adjusting for changes in demand factors can therefore be taken as evidence of a reduction in the level and in the elasticity of the supply of reserves to many developing countries compared with the situation that prevailed in the 1970s.

A global inadequacy of reserves can be said to exist if reserve holdings, and opportunities for augmenting them, are so constrained for

a number of countries as to create a drag on economic recovery and to impede a return to sustained noninflationary growth for the world as a whole. The shift in the availability of liquidity to developing countries appears to entail the possibility of such a consequence.

The development of the ratio of non-gold reserves to merchandise imports over recent years does not give a telling indication of growing reserve stringency (Table 1). In 1982, for example, this ratio increased for non-oil developing countries from the historically low level reached at year-end 1981 because the SDR value of their imports declined by 9 per cent from the fourth quarter of 1981 to that of 1982 and not because their reserves rose over this period. Other ratios are more revealing of reserves no longer providing significant cover for adverse contingencies affecting the external accounts, or, indeed, for the orderly servicing of their external debt.

For instance, the ratio of foreign exchange reserves to external debt for major countries of the Western Hemisphere was reduced to unusually low levels, mainly by the unsustainably rapid rise in indebtedness in 1980, 1981, and in the first half of 1982 (Table 2). Subsequent reductions in the reserves of these countries were concentrated in Fund-related assets. At the end of 1982, non-oil developing countries in the Western Hemisphere, whose share in SDR allocations is 8 per cent, thus held only 2 per cent of the SDRs in the hands of all countries, while industrial countries, with a quota share of 61 per cent, held 79 per cent of this total. Argentina, Brazil, and Mexico, which, between them, had accounted for three fourths of all SDR holdings in the group of non-oil developing countries of the Western Hemisphere at the end of 1980, reported only negligible holdings at the end of 1982. Other reserve components were reduced less by these and most other countries in greatest need.

Should the present pattern of SDR holdings persist, non-oil developing countries would be expected to retain less than one third of the SDRs allocated to them. However, to the extent that developing countries now have unsatisfied demand for reserves and intend to rebuild reserves as the worldwide recovery progresses, they would likely desire to augment their SDR holdings along with other reserve assets, as they have done in the past.

3. Changes in international capital markets 1/

In the last months of 1981 and throughout 1982, disturbances in financial markets contributed to a serious reduction in the availability of international credit and a redistribution of credit flows among the

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1/ Information provided in this section is based on "International Capital Markets: Developments and Prospects, 1983," SM/83/74, May 10, 1983; "International Capital Markets - Recent Developments," SM/83/117, June 7, 1983.

Table 1. Non-Gold Reserves in Per Cent of Merchandise Imports for All Countries and Groups of Countries, Year-End 1970 to 1982 1/

	All Countries	Industrial Countries	Oil Exporting Countries	Non-Oil Developing Countries
1970	17.7	16.0	39.4	19.7
1971	26.9	26.4	62.4	22.5
1972	28.6	26.2	66.9	30.2
1973	22.8	19.8	57.8	27.3
1974	20.8	15.3	112.0	19.2
1975	22.1	16.1	90.5	19.0
1976	21.5	14.4	89.5	23.6
1977	24.9	17.8	81.7	27.4
1978	23.3	18.8	50.6	28.2
1979	20.1	15.3	58.5	24.7
1980	21.5	17.0	64.9	20.4
1981	20.6	16.0	55.6	19.2
1982	21.7	17.1	55.0	20.8
Average	22.5	18.2	68.1	23.2

1/ The annual rate of imports in the fourth quarter is the divisor of the stock of reserves at year's end.

Table 2. Ratio of Non-Gold Reserves or of Foreign Exchange Reserves to External Debt to Banks 1/ for Groups of Non-Oil Developing Countries and Individual Countries, First Quarter 1980 to Fourth Quarter 1982 2/

(In per cent)

	1980				1981				1982			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
(a) Non-gold reserves in per cent of external debt												
Africa	23	24	23	20	22	18	17	17	17	17	15	15
Asia	46	45	45	38	35	33	29	30	27	28	29	31
Europe	12	11	11	12	11	11	12	10	8	7	8	8
Middle East	118	115	112	96	97	91	89	79	76	67	74	75
Western Hemisphere	15	13	13	12	10	9	9	9	8	7	6	6
Argentina	64	51	46	35	18	18	18	14	14	13	13	11
Brazil	19	14	13	13	13	12	12	13	13	12	8	7
Mexico	7	7	7	7	7	6	6	7	5	3	2	--
Memorandum item 3/												
Western Hemisphere	29	25	25	23	20	18	17	18	15	14	12	11
(b) Foreign exchange reserves in per cent of external debt												
Africa	21	21	21	19	20	16	14	15	15	15	14	13
Asia	44	42	42	36	33	31	28	28	26	26	27	30
Europe	12	10	11	12	11	10	11	10	7	7	8	8
Middle East	117	113	110	94	95	89	88	77	75	66	73	74
Western Hemisphere	14	12	12	11	9	9	8	8	7	7	6	5
Argentina	60	46	42	32	15	15	15	11	11	10	12	11
Brazil	17	12	11	12	11	10	10	12	11	10	7	6
Mexico	6	7	6	7	7	5	5	7	5	3	2	--
Memorandum item 3/												
Western Hemisphere	27	23	23	21	18	17	16	16	14	13	11	10

1/ External claims of banks in the BIS reporting area on the countries or groups of countries shown. The BIS reporting area comprises the Group of Ten countries; Austria, Denmark, Ireland, and Switzerland; and the offshore branches of U.S. banks in the Bahamas, Cayman Islands, Hong Kong, Panama, and Singapore.

2/ Percentages supplied by the Bureau of Statistics.

3/ Percentages exclude offshore centers in the Western Hemisphere, i.e., Panama, the Bahamas, Netherlands Antilles, and Cayman Islands, which have large foreign liabilities to banks in the BIS reporting area. This exclusion would be inappropriate to the extent onlending by banks other than branches of U.S. banks in these offshore centers is to countries in the Western Hemisphere.

groups of industrial, oil exporting, and non-oil developing countries. This section considers some of the factors which led to these disturbances and the impact of changes in the availability of international bank credit on the adequacy of international reserves.

Although international bank lending continued to expand in 1982, the net flows of these credits declined from $165 billion in 1981 to $95 billion in 1982. Net bank lending to the non-oil developing countries, which had reached about $50 billion in 1980 and 1981, declined to $25 billion in 1982, with only $6 billion occurring in the second half of the year. International bank lending to industrial countries also fell from $99 billion in 1981 to $57 billion in 1982; and the outstanding bank debt of centrally planned economies was reduced by $4 billion in 1982.

The decline in the flow of international bank credit primarily reflected the reduced willingness of banks to lend to certain countries. The risks associated with international bank lending were affected by a number of disturbances in financial markets in both industrial and developing countries during 1982. The prospect of bankruptcy for a few of the most heavily indebted corporations created the potential for sizable losses on domestic loans for some banks, and a few financial institutions failed or were reorganized. During the second half of the year, the debt-servicing problems of countries, such as Mexico and later Brazil, further strained financial markets. In response to these disturbances, loan maturities shortened and the spreads between the London interbank offered rate (LIBOR) and loan rates increased, especially to certain developing countries. However, the primary adjustments of international financial markets to these disturbances involved sharp reductions in the availability of credit to specific borrowers.

The adjustment process was strongly affected by the reduction in the rate of growth of international bank credit. Deteriorating export performance, increased debt-servicing costs associated with high interest rates and greater reliance on short-term maturities, and worsening fiscal positions all contributed in varying degrees to the emergence of debt-servicing problems in a number of major debtor countries. The rapid decline in the availability of international credit to a number of developing countries created the prospect, in the absence of multilateral official action, of an adjustment process involving severe reductions in output, income, and imports. Given the scope of the repayment problems faced by some of the major debtor countries, a series of special steps were therefore taken in order to ensure a more orderly adjustment process. These measures included bridging loans obtained from the Bank for International Settlements and backed by central bank guarantees, the rescheduling of existing loans, and programs supported by Fund resources often accompanied by commitments of commercial banks to new lending.

The reduced access of many countries to international financial markets may have altered countries' perceptions of their reserve situation. During the late 1970s and early 1980s, a number of countries often relied

on borrowing in the international capital markets as an alternative to owning reserves. Developments during the last six months of 1982 have indicated, however, that a country's access to international capital markets can change rapidly during periods of financial disturbance, and reliance on borrowing capacity instead of owned reserves can result in rapid depletion of reserves when access to capital markets is restricted. This applies especially to debtor countries with short-term external liabilities that are large relative to their reserve holdings.

In the absence of significantly greater access of many developing countries to international financial markets, any improvement in their reserve position would require a swing toward current account surpluses, which may be difficult or impossible to generate simultaneously for many developing countries. SDR allocations could alleviate this difficulty and contribute to orderly adjustment, particularly as countries currently most likely to be major net users of any new allocations are already subject to Fund conditionality and surveillance, which is inherently comprehensive.

III. Topics for Discussion

Against the background of the discussions on SDR allocation held in the Executive Board in 1981, chiefly in the first eight months of that year, the preceding section of this paper has described the developments over the last two years in those features of the world economic situation and the position of member countries that have a particular bearing on SDR allocation. Executive Directors may wish to address themselves to some of the implications of these developments for a possible resumption of SDR allocation in the fourth basic period. *Inter alia*, the following questions would seem to deserve consideration.

1. In current circumstances, is there a material risk that an SDR allocation would incite inflation?

2. What are the implications for the desirability of SDR allocation of the supply of international liquidity having been significantly reduced as a result of changes in international capital markets during the last year?

3. Do elements indicating reserve stringency currently outweigh indications of reserve ease, either for the world economy as a whole or for important segments of it?

4. Is there a significant risk that for a large number of countries the availability of reserves is so restricted as to create a drag on worldwide economic recovery and an impediment to orderly adjustment?

Factors Affecting Reserve Holdings Since 1980

This Appendix attempts to quantify first how changes in exchange rates, trade volumes, and import prices would have altered the quantity of non-gold reserves demanded, and their SDR value, compared with earlier projections. It then compares actual reserve holdings with the holdings expected if reserves had remained demand determined or if there had been no major changes in the conditions of supply for borrowed reserves from the 1970s. It finds that, for developing countries at least, changes in supply have also become an important influence on reserve holdings.

From the end of 1980 to the end of 1982, the U.S. dollar increased in value by almost 50 per cent when measured in French francs and pound sterling, by 21 per cent in deutsche mark, and by 16 per cent in Japanese yen. As a result, the SDR value of the U.S. dollar rose by 16 per cent over this period. The index of the unit value of world imports in terms of U.S. dollars not only ceased rising at the double-digit rates observed for several years prior to 1980 but actually declined both in 1981 and in 1982. At the end of the most recent year, it stood 8 per cent below the level recorded two years earlier. Even the volume of world imports showed a net decline of 1 per cent over this period.

Had these developments been anticipated correctly on the basis of the incomplete or preliminary data for 1980 and the forecasts which were available when the previous staff study dealing with "Further Considerations Relating to the Size of SDR Allocations in the Fourth Basic Period" (SM/81/74) was prepared in early 1981, they would have had dramatic effects on the estimate of non-gold reserves demanded in the early 1980s. This Appendix attempts to quantify what those effects would have been at year-end 1981, just before the start of the fourth basic period, and at the conclusion of its first year at the end of 1982.

1. Exchange rate effects

Since non-gold reserves are estimated in SDRs but composed largely of U.S. dollars and other national currencies, and since imports are estimated in U.S. dollars before being converted into SDRs, the first major change that would have called for adjustments in the previous estimates of reserves is the rise in the SDR-value of the U.S. dollar. The assumption made in SM/81/74 was that this rate, which had been SDR 0.784 at the end of 1980, would stabilize in subsequent years at SDR 0.77, a value equal to the 1979-80 average. Instead, the dollar strengthened against the other four currencies in the SDR so that the SDR value of the dollar reached SDR 0.85914 at the end of 1981 before rising further to SDR 0.90653 at the end of 1982. The first question to answer is therefore what the estimates of the SDR value of non-gold reserves in SM/81/74 would have been if the dollar value of imports, both real and nominal, had been precisely as estimated before, but changes in the SDR value of the U.S. dollar had been correctly anticipated.

A rise in the SDR value of the dollar not only raises the conversion factor applied to given sums reckoned in dollars but contributes to changes in the amounts of foreign exchange holdings to be converted for most groups of countries. For instance, major industrial countries (other than the United States) may reduce their foreign exchange holdings if the authorities intervene in the exchange market so as to "lean against the wind" or, at least, acquire foreign exchange at a much slower rate when the dollar is appreciating than when it is stable or depreciating against their currencies. The demand relations estimated with quarterly data from 1973 to 1980 in the preparation of SM/81/74 reflect this tendency. Applying them to the two most recent years, the strengthening of the dollar would raise the SDR value of non-gold reserves for industrial countries only by about one fifth as much as the rise in the SDR value of the U.S. dollar, but for oil exporting countries in the same proportion as that rise. For non-oil developing a strengthening of the dollar and the policies contributing thereto would normally raise interest payments and reduce their terms of trade, current account balances, and reserves so much as to lower the SDR value of the remaining reserves. This would occur even though the remaining reserves consist in good part of dollars worth more in SDRs. Although the ratio of reserves to imports would not be affected permanently by a one-time change in the SDR value of the U.S. dollar in any group of countries, in non-oil developing countries, unlike others, the valuation gain is overwhelmed by other effects in the year in which it occurs.

The estimates of non-gold reserves in SM/81/74, adjusted for the unanticipated changes in the SDR value of the dollar that have actually occurred, are shown in Table 3. Instead of holdings of SDR 381 billion and SDR 428 billion being projected for year-end 1981 and year-end 1982 in the low-growth, low-inflation scenario (SM/81/74, p. 9), SDR 396 billion and SDR 486 billion turn out to be the figures that have to be contrasted with actual reserve holdings of SDR 342 billion and SDR 338 billion on account of recent changes in the SDR value of the U.S. dollar. Not surprisingly, therefore, adjusting previous estimates for the rise in the SDR value of the dollar would make the SDR value of non-gold reserves even higher, if dollar-based import prices and volumes had not changed, leaving even more of a difference to be explained by changes in demand factors other than exchange rates, and, possibly, by changes in the conditions of supply.

Table 3. Estimates of Non-Gold Reserves for Year-End 1981 and Year-End 1982 in SM/81/74 Adjusted for Changes in the SDR Value of the U.S. Dollar

(In billions of SDRs)

	Year-End 1981		Year-End 1982	
	SM/81/74	Valuation adjusted	SM/81/74	Valuation adjusted
Industrial countries	186	192	202	228
Oil exporting countries	98	109	119	140
Non-oil developing countries	93	89	103	111
Sum of above	377	390	424	479
All countries	381	396 a/	428	486 a/

a/ The SDR 6 (SDR 7) billion excess of "all countries" over "sum of above" is equal to the actual difference reported for the end of 1981 (1982) in IFS.

2. Price level and volume effects

In fact these other demand factors, import price and volume, have also changed drastically. For instance, as Table 4 shows, by the end of 1982, the unit value of world imports was 22.3 per cent below the value projected for that index in SM/81/74, and the volume was 13.0 per cent lower than projected. The reduction in unit value relative to forecast would be expected to lower the nominal value of non-gold reserves demanded proportionately, from SDR 486 to SDR 378 billion. 1/ The volume reduction would have a less than proportional effect since, in SM/81/74, non-gold reserves demanded, expressed in dollars of constant purchasing power over imports, were estimated to change by only half as much as real imports for all groups except the non-oil developing countries. Hence a 13 per cent reduction in world import volume would be expected to reduce reserves

1/ The aggregate derived in Table 5 by doing this calculation separately by groups of countries with the percentage differences in the dollar-based import unit value indexes applicable to each (the export unit value index of industrial countries being used in lieu of the unavailable import unit value index of oil exporting countries) is very similar, namely, SDR 380 billion.

Table 4. Import Unit Value Indexes (IUV), Real Imports (MR), and Import Values (MV) Projected for SM/81/74 for Year-Ends 1980-82 Compared with Actual Data 1/

	SM/81/74 2/				Actual				Percentage Difference			
	Industrial countries	Oil exporting countries	Non-oil developing countries	World	Industrial countries	Oil exporting countries	Non-oil developing countries	World	Industrial countries	Oil exporting countries	Non-oil developing countries	World
Year-end 1980												
IUV (1975=100)	186	167	173	182	180	160	179	178	-3.2	-4.2	3.5	-2.2
MR (1975 $ bil.)	778	91	246	1,127	741	92	232	1,076	-4.8	1.1	-5.7	-4.5
MV ($ bil.)	1,448	152	426	2,052	1,333	147	415	1,916	-7.9	-3.3	-2.6	-6.6
MV (SDR bil.)	1,135	119	334	1,609	1,045	115	325	1,502	-7.9	-3.4	-2.7	-6.7
Year-end 1981												
IUV (1975=100)	201	181	187	196	171	154	174	170	-14.9	-14.9	-7.0	-13.3
MR (1975 $ bil.)	803	105	257	1,177	737	105	232	1,086	-8.2	0.0	-9.7	-7.7
MV ($ bil.)	1,614	190	481	2,306	1,261	162	403	1,847	-21.9	-14.7	-16.2	-19.9
MV (SDR bil.)	1,243	146	370	1,776	1,083	139	346	1,587	-12.9	-4.8	-6.5	-10.6
Year-end 1982												
IUV (1975=100)	216	195	201	211	164	146	172	164	-24.1	-25.1	-14.4	-22.3
MR (1975 $ bil.)	829	120	269	1,227	735	100	221	1,067	-11.3	-16.7	-17.8	-13.0
MV ($ bil.)	1,791	234	541	2,588	1,205	146	380	1,750	-32.7	-37.6	-29.8	-32.4
MV (SDR bil.)	1,379	180	417	1,993	1,092	132	344	1,586	-20.8	-26.7	-17.5	-20.4

1/ Import volumes and values are centered at year-ends by taking the average of data for surrounding quarters at annual rates. Hence the actual data for year-end 1982 are estimates based on incomplete data.

2/ The low-growth, low-inflation combination of assumptions is used.

by another 9.2 per cent, from SDR 378 to SDR 343 billion. The last figure is only SDR 5 billion, or less than 2 per cent, above the actual level of non-gold reserves reported for the end of 1982, well within the 4.7 per cent standard error on the ratio of imports to reserves encountered in the statistical estimates underlying SM/81/74.

3. Conclusion

While it was estimated that the global excess demand for reserves amounts to only SDR 5 billion at year-end 1982, the same estimation procedure reveals an excess supply of SDR 13 billion at the end of 1981 (Table 5). A swing of SDR 18 billion from reserve ease to stringency, amounting to more than 5 per cent of total non-gold reserves, in the span of one year can be disruptive even if the degree of stringency resulting at the end is not especially high by past standards for the world as a whole.

Because stringency and ease are currently distributed particularly unevenly, a clearer picture emerges from less aggregative analysis. The demand equations by groups of countries, which are more likely to merit behavioral interpretation than the equation for the aggregate, do not indicate that reserve supply is nearly as close to demand as it appears to be on a global basis. Rather, as Table 5 shows, at the end of 1982, non-gold reserves were 13 per cent greater than estimated for industrial countries, while the reserves of oil exporting countries and non-oil developing countries were 21 per cent and 9 per cent smaller than estimated, respectively. The close fit of the aggregate is therefore due to large offsetting deviations in its components. Industrial countries still hold an estimated SDR 21 billion more reserves than expected on the basis of past relationships, while developing countries now hold SDR 27 billion less. Since developing countries held only SDR 146 billion of non-gold reserves at the end of 1982, this 16 per cent contraction of reserves below the low level (estimated as SDR 173 billion) they would normally desire to hold in relation to cyclically-depressed imports after allowing for the rise in the SDR value of the U.S. dollar is very sizable indeed.

Table 5. Comparison of Non-Gold Reserves Demanded, Re-Estimated with Actual Import Data, and the Actual Level of Such Reserves, Year-Ends 1981 and 1982

(In billions of SDRs)

Column	Valuation Adjusted 1/ (1)	Further Adjusted for Import: Price level (2)	Further Adjusted for Import: Volume 2/ (3)	Actual (4)	Difference: SDR bil. (4)-(3)	Difference: Per cent of (3)
			(a) Year-end 1981			
Industrial countries	192	163	156	185	29	19
Oil exporting countries	109	93	93	80	-13	-14
Non-oil developing countries	89	83	74	71	-3	-4
Sum of above	390	339	323	336	13	4
All countries	396	345	329	342	13	4
			(b) Year-end 1982			
Industrial countries	228	173	163	184	21	13
Oil exporting countries	140	105	96	76	-20	-21
Non-oil developing countries	111	95	77	70	-7	-9
Sum of above	479	373	336	330	-6	-2
All countries	486	380	343	338	-5	-1

1/ See Table 3.

2/ Calculations based on Table 4 and the following elasticities of demand for real reserves with respect to real imports for the three groups of countries in the order shown: 0.5, 0.5, and 1.1. After proportional adjustment in reserves demanded for import price level differences from forecast, the further adjustment for import volume differences yields the final estimate (column (3)) consistent with the methods used in SM/81/74.